Planning Commission/BCC Exhibit List
In The Matter of File No. Z0437-25 & Z0438-25

Ex. No.	*Date Received*	*Author or source*	*Subject & Date of document*
1*	10/21/25 & 03/09/26	Applicant & Planning Staff	Submitted application | 10/21/25 & 03/09/26
2*	---	Planning Staff	Staff additions - background documents • Notices • Maps: Statewide Wetlands Inventory; • Land use files: Z0721-97-E; Z0245-05-E; Z0408-06-E; Z0716-06-E; Z0472-13-E
3*	07/06/26	Christian Snuffin, County Engineering	Comments related to applicants traffic study, includes discussion with staff about recommended conditions of approval
4**	07/24/26	Applicant	Additional information • Traffic study addendum to correct building square footage error in original study • Property owner declaration and information about past environmental clean-up
5**	7/27/26	Christian Snuffin, County Engineering	Comments regarding traffic study addendum; concurs with findings
6			
7			
8			
9			
10			

* Exhibits received prior to or during 07/06/26 Planning Commission (PC) hearing

** Exhibits received after 7/06/26 PC hearing and prior to or during 08/04/26 BCC hearing

CLACKAMAS COUNTY

Planning and Zoning
Department of Transportation and Development
Development Services Building
150 Beavercreek Road | Oregon City, OR 97045
503-742-4500 | zoninginfo@clackamas.us
www.clackamas.us/planning

STAFF USE ONLY

Rec'd resubmittal 3/9/26

Z0437-25 & Z0438-25

Staff Initials: *File Number:*

Land use application for:

COMPREHENSIVE PLAN MAP AMENDMENT & ZONE CHANGE

Application Fee: $15,347 (+$154 for expanded notification area if the property is in the AG/F, EFU, FF-10, FU-10, RA-1, RA-2, RC, RI, RR, RRFF-5, or TBR zone)

APPLICANT INFORMATION

Applicant name: M & S Investments LLC	Applicant email: Andrew.Stamp@vf-law.com	Applicant phone: 503-819-7995	
Applicant mailing address: PO Box 845	City: Molalla	State: OR	ZIP: 97038
Contact person name (if other than applicant): Andrew Stamp	Contact person email: Andrew.Stamp@vf-law.com	Contact person phone: (503) 684-4111	
Contact person mailing address: Andrew.Stamp@vf-law.com	City: Lake Oswego	State: OR	ZIP: 97035

PROPOSAL

Brief description of proposal: PAPA from AG (Agriculture), EFU to RI (Rural Industrial)	Pre-application conference file number: ZPAC0113-25

SITE INFORMATION

Site address: 33532 S Kropf Rd, Molalla	Comprehensive Plan designation: Agriculture	Zoning district: EFU
Map and tax lot #: *Township:* 5S *Range:* 1E *Section:* 21 *Tax Lot:* 01000 *Township:* _____ *Range:* _____ *Section:* _____ *Tax Lot:* _____ *Township:* _____ *Range:* _____ *Section:* _____ *Tax Lot:* _____		Land area: 20.79 Acres
Adjacent properties under same ownership: *Township:* 5S *Range:* 1E *Section:* 21 *Tax Lot:* 01100 *Township:* _____ *Range:* _____ *Section:* _____ *Tax Lot:* _____		

Printed names of all property owners:	Signatures of all property owners:	Date(s):
M & S Investments LLC: Mitchell Magenheimer, Sara Magenheimer	Frederick Mitchell Magenheimer Sara Magenheimer	9-5-25 9/5/25

I hereby certify that the statements contained herein, along with the evidence submitted, are in all respects true and correct to the best of my knowledge.

Applicant signature: Frederick Mitchell Magenheimer Date: 9-5-25

A. Complete a pre-application conference:

You must attend a pre-application conference with Planning and Zoning staff before filing this application. Information about the pre-application conference process and a request form are available from the Planning and Zoning website.

B. Review applicable land use rules:

This application is subject to the provisions of Section 1202, *Zone Changes* of the Clackamas County Zoning and Development Ordinance (ZDO).

It is also subject to the ZDO's definitions, procedures, and other general provisions, as well as to the specific rules of the subject property's zoning district and applicable development standards, as outlined in the ZDO.

C. Turn in the following:

☑ **Complete application form:** Respond to all the questions and requests in this application, and make sure all owners of the subject property sign the first page of this application. Applications without the signatures of *all* property owners are incomplete.

☑ **Application fee:** The cost of this application is **$15,342 plus a $154 notification surcharge if an expanded notification area is required by ZDO Section 1307**. Payment can be made by cash, by check payable to "Clackamas County", or by credit/debit card with an additional card processing fee using the *Credit Card Authorization Form* available from the Planning and Zoning website. Payment is due when the application is submitted. Refer to the FAQs at the end of this form and to the adopted Fee Schedule for refund policies.

☑ **Vicinity map:** Provide a map of the area around the property, drawn to scale, that shows the uses and location of improvements on adjacent properties and properties across any road.

☑ **Site plan:** Provide a site plan (also called a plot plan). A *Site Plan Sample* is available from the Planning and Zoning website. The site plan must be accurate and drawn to-scale on paper measuring no larger than 11 inches x 17 inches. The site plan must illustrate all of the following (when applicable):

- Lot lines, lot/parcel numbers, acreage/square footage of lots, and contiguous properties under the same ownership;
- All existing and proposed structures, fences, roads, driveways, parking areas, and easements, each with identifying labels and dimensions;
- Setbacks of all structures from lot lines and easements;
- Significant natural features (rivers, streams, wetlands, slopes of 20% or greater, geologic hazards, mature trees or forested areas, drainage areas, etc.); and
- Location of utilities, wells, and all onsite wastewater treatment facilities (e.g., septic tanks, septic drainfield areas, replacement drainfield areas, drywells).

☐ **Service Feasibility Determinations:** Request that the property's water provider, sanitary sewer provider, and surface water management authority, as applicable, each complete a Preliminary Statement of Feasibility and include those completed statements with your application. If the proposed development will be served by an onsite wastewater treatment system (e.g., a septic system), include an approved Site Evaluation or Authorization Notice from the Septic & Onsite Wastewater Program attesting to the feasibility of your proposal.

☑ **Transportation impact study:** Refer to the information provided at the pre-application conference regarding the need for a transportation impact study. Include a copy of any required study with your application submittal.

☑ **Any additional information or documents advised of during the pre-application conference**

D. Answer the following questions:

1. What Comprehensive Plan designation are you requesting for the subject property?

Requested Plan designation: Rural Industrial

2. What zoning district designation are you requesting for the subject property?

Requested zoning district: Rural Industrial

3. If the zoning designation you requested in response to Question 2 cannot be approved because the property doesn't meet the approval criteria, would you like an alternate zoning district designation to be considered?

☑ NO

☐ YES, and the alternate zoning district designation(s) I would like is/are:

_____

4. Are you filing this Comprehensive Plan Map amendment and zone change application with another application (e.g., an application for a partition or subdivision)?

☑ NO, this application is being filed alone.

☐ YES, this application is being filed with another application. That other application requests the following:

_____

D. Respond in a narrative:

Your application submittal must include a narrative that fully responds to the following. Due to the technical nature of these requirements, guidance on how best to respond will be provided during the required pre-application conference.

1. How is your proposal consistent with applicable Statewide Planning Goals?

2. How is your proposal consistent with the applicable goals and policies of the County's Comprehensive Plan?

3. If relevant, how is your proposal consistent with Metro's Urban Growth Management Functional Plan?

4. If development under the proposed zone would need public services (sanitary sewer, surface water management, and water), could the need be accommodated with the implementation of the applicable service provider's existing capital improvement plan? The cumulative impact of the proposed zone change and development of other properties under existing zoning designations must be considered.

5. Explain how the transportation system is adequate and will remain adequate with approval of the proposed zone change. This explanation should take into consideration the following:

    a. "Adequate" means a maximum volume-to-capacity ratio (v/c), or a minimum level of service (LOS), as established by Comprehensive Plan Tables 5-2a, *Motor Vehicle Capacity Evaluation Standards for the Urban Area*, and 5-2b, *Motor Vehicle Capacity Evaluation Standards for the Rural Area*.

    b. Conduct the evaluation of transportation system adequacy pursuant to the Transportation Planning Rule (Oregon Administrative Rules 660-012-0060).

    c. Assume that the subject property is developed with the primary use, allowed in the proposed zoning district, with the highest motor vehicle trip generation rate.

    d. The methods of calculating v/c and LOS are established by the Clackamas County Roadway Standards.

    e. The adequacy standards apply to all roadways and intersections within the impact area of the proposed zone change. The impact area is identified based on the Clackamas County Roadway Standards.

    f. A determination of whether submittal of a transportation impact study is required is made based on the Clackamas County Roadway Standards, which also establish the minimum standards to which a transportation impact study shall adhere.

    g. (d) through (f) above do not apply to roadways and intersections under the jurisdiction of the State of Oregon. Instead, motor vehicle capacity calculation methodology, impact area identification, and transportation impact study requirements are established by the

ODOT Transportation Analysis Procedures Manual for such roadways and intersections.

6. Explain how the safety of the transportation system is adequate to serve the level of development anticipated by the proposed zone change.

FAQs

What is a Comprehensive Plan Map amendment and zone change?
All land in the County has been divided into mapped Comprehensive Plan designations, each of which corresponds to one or more zoning districts. A Comprehensive Plan Map amendment and zone change results in a property switching from one Comprehensive Plan Map designation and zoning district to another designation and zoning district, which may change allowed uses, minimum lot size, and other development standards.

What is the permit application process?
Comprehensive Plan Map amendments and zone changes that are *not* related to the Historic Landmark, Historic District, and Historic Corridor overlay district are subject to a "Type III" land use application process, as provided for in Section 1307 of the ZDO. Type III decisions include notice to owners of nearby land, the Community Planning Organization (if active), service providers (sewer, water, fire, etc.), and affected government agencies, and are reviewed at public hearings before the Planning Commission and the Board of County Commissioners (BCC). If the application is approved, the applicant must comply with any conditions of approval identified in the decision. The County's decision can be appealed to the Oregon Land Use Board of Appeals (LUBA).

What is needed for the County to approve a land use permit?
Comprehensive Plan Map amendments and zone changes *may* be permitted after an evaluation of applicable standards by staff, the Planning Commission, and the BCC. The applicant is responsible for providing evidence that their proposal does or can meet those standards. In order to address the standards, the information requested in this application should be as thorough and complete as possible. A permit will only be approved or denied after a complete application is received and reviewed. The BCC approves an application only if it finds that the proposal meets the standards or can meet the standards with conditions.

How long will it take the County to make a decision about an application?
A final decision on an application for a Comprehensive Plan Map amendment and zone change is generally issued within 24 weeks (168 days) of when we deem the application to be complete. However, these applications are often highly complex and may take longer to process.

If an application is submitted and then withdrawn, will a refund be given?
Please see Planning & Zoning Fee Schedule under "Other Fees" here. The $5 Technology Fee is non-refundable.

Who can help answer additional questions?
For questions about the County's land use permit requirements and this application form, contact Planning and Zoning at **503-742-4500** or zoninginfo@clackamas.us. You can also find information online at the Planning and Zoning website: www.clackamas.us/planning.

Clackamas County is committed to providing meaningful access and will make reasonable accommodations, modifications, or provide translation, interpretation or other services upon request. Please contact us at 503-742-4545 or drenhard@clackamas.us.

503-742-4545: ¿Traducción e interpretación? | Требуется ли вам устный или письменный перевод? 翻译或口译？| Cần Biên dịch hoặc Phiên dịch? | 번역 또는 통역?

VF Law

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Admitted to practice in:
Oregon

March 6, 2026

VIA EMAIL nhart@clackamas.us

OR-22-19014-005

Ms. Martha Fritzie,
Clackamas County Planning and Zoning
Department of Transportation and Development
Development Services Building
150 Beavercreek Road
Oregon City, OR 97045

RE: *Response to Incompleteness Letter, M&S Investments, LLC; Clackamas County File No.: Z0437-25 / Z0438-25*

Dear Ms. Fritzie,

This firm represents M&S Investments, LLC ("Applicant") regarding the above-referenced Type-III land use application. This letter responds to the County's November 5, 2025 Notice of Incomplete Application for File No. Z0437-25 / Z0438-25 ("Incompleteness Notice").

The Applicant hereby submits some of the additional materials identified below but declines to submit other material. With receipt of this electronic submittal, the application is deemed complete under ORS 215.427(2)(b) as of March 6, 2026, and should proceed with processing under the applicable timelines. Applicant requests written /email confirmation that the staff received this response and the enclosed materials.

I. Submittal Summary

Enclosed please find a revised application narrative and an updated complete set of exhibits. This submittal includes new supplemental materials responding to each of the County's identified incomplete items (Items A-C).

II. Response to Incompleteness Items

A. Preliminary Statement of Feasibility – stormwater management: Section 1202.03(B) of the county's ZDO requires demonstration that development that could occur under the proposed zoning district designation could be accommodated by the needed public services. This demonstration is provided through a signed Preliminary Statement of Feasibility.

Applicant Response: The subject property is served by a private well and septic. *See* Hydrogeologic Review (Exhibit 5). The Applicant submits a signed preliminary statement of feasibility. (Exhibit 11).

B. Abandoned or diminished mill: it is unclear when and if the "mill, plant or facility engaged in processing or manufacturing of wood products", was abandoned or "diminished", as per ORS 197.719. Although the application asserts that the mill was "abandoned" in 2000, the application materials also contain copies of several land use approvals to alter the nonconforming uses on the property which, as late as 2006, state that it had been demonstrated that the property had an existing "wood/processing/lumber milling facility" or "wood products manufacturing facility" use that was established in 1941 and was currently in operations.

Applicant Response: The Applicant submits a Revised Application Narrative ("RAN") with additional information regarding the previous land use applications involving the property. *See* RAN, pg. 1-7. The RAN provides additional context regarding the prior land use approvals cited in the record and explains how those approvals described the use at the time they were issued.

The RAN also identifies and summarizes the tenants that leased portions of the Mill Site after the mill's closure, and it includes declarations from former employees with firsthand knowledge of the historical operations from 1941-1999 and on-site operations from 2003 to the present. *See* Lapp and Wilson Declarations (Exhibits 12 and 13).

Lastly, the RAN adds a focused discussion of the legislative history of ORS 197.719(1), including testimony addressing the Legislature's intended meaning and scope of the phrase "processing or manufacturing of wood products." (Exhibit 14-17). The RAN also provides industry-reference materials describing the general meaning and manufacturing processes associated with the statute's enumerated wood products (e.g., plywood, veneer, hardboard, panel products, pulp, and paper). *See* (Exhibits 18-20).

C. Area proposed for Comprehensive Plan map amendment and zone change: Please provide a map clearly identifying the area that is proposed for the Comprehensive Plan map amendment and zone change. This area must contain only the portion of the property on which the abandoned or diminished mill site was/is located and "may include only those areas that were improved for the processing or manufacturing of wood products." (ORS 197.719(6)(a)).

Applicant Response: The Applicant submits a scaled site plan prepared by Advanced Remediation Technologies, Inc. ("ART"). (Exhibit 2B). The ART site plan depicts the subject property TL 1000, with the area that is proposed for the Comprehensive plan map amendment and zone change. *See* pink outlined area labeled "Zone Change Area" (Exhibit 2B). This area includes the thirteen buildings originally part of the Mill Site prior to January 1, 2003.

III. Conclusion

The applicant hereby deems the application complete upon receipt of this letter, revised narrative and exhibits. Thank you for your attention to this matter.

Sincerely,

VF LAW

/s/ *Spencer L. Petrauski*

Spencer L. Petrauski
Associate

SPET/ASTA/sshc
cc. T Beau Ellis
Mitch Magenheimer

APPLICATION FOR
POST ACKNOWLEDGEMENT PLAN MAP AMENDMENT
&
ZONING MAP AMENDMENT
(MILL SITE CONVERSION)

M & S INVESTMENTS LLC
PO BOX 845
MOLALLA, OR 97013

OCTOBER 16, 2025

REVISED MARCH 6, 2026

PREPARED BY:

ANDREW H. STAMP, ESQ.
SPENCER PETRAUSKI, ESQ.
VF LAW
6000 MEADOWS, SUITE 500
LAKE OSWEGO, OR 97035

F. MITCHELL "MITCH" MAGENHEIMER
M & S INVESTMENTS LLC
PO BOX 845
MOLALLA, OR 97038

POST ACKNOWLEDGMENT PLAN AMENDMENT & ZONE CHANGE APPLICATION

BURDEN OF PROOF STATEMENT

CLACKAMAS COUNTY, OREGON

COUNTY FILE NO.	Z0437-25 / Z0438-25
APPLICATION DATE	October 16, 2025, Revised March 6, 2026
REQUEST	PAPA and Zone Change To RI
APPLICANT/ OWNER	Mitch Magenheimer M&S Investments LLC P.O. Box 845 Molalla, OR 97038
APPLICANT'S REPRESENTATIVE	Andrew H. Stamp, Esq. Spencer Petrauski, Esq. VF Law 6000 Meadows Road, Ste 500 Lake Oswego, OR 97035 Phone: 503.684.4111 Email: andrew.stamp@vf-law.com Email: spencer.petrauski@vf-law.com
LOCATION:	T5S, R1E, Section 21 TL 1000
SITE ADDRESS	33532 Kropf Rd., Molalla, OR
SITE AREA	20.79 acres +
CURRENT COMPREHENSIVE PLAN DESIGNATION	AG (Agricultural)
CURRENT ZONING	Exclusive Farm Use (EFU)

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LIST OF EXHIBITS

Ex. 1A	Application Form - Type III Comp Plan and Zone Change
Ex. 1B	Pre-Application Comments ZPAC-0113-25
Ex. 2A	OR Maps, Topography, Building Layout
Ex. 2B	Final Site Plan
Ex. 3	Mill Site Land Use Files Combined 3A - File # Z0092-93-E 3B - File # Z0721-97-E 3C - File # Z0254-05-E 3D - File # Z0408-06-E 3E - File # Z0716-06-E
Ex. 4	Warranty Deed – M&S Investments (2015)
Ex. 5	Hydrogeologic Review – Evren Northwest Inc.
Ex. 6	Current Mill Site Conditions Photographs
Ex. 7	Historical Mill Site Photographs
Ex. 8	Oregon State Wetland Inventory Map
Ex. 9	Clackamas County ZDO and TPR Analysis - Mackenzie
Ex. 10	NRCS Soil Map and Soil Types
Ex. 11	Mill Site Preliminary Statement of Feasibility
Ex. 12	Scott Lapp Declaration
Ex. 13	Scott Wilson Declaration
Ex. 14	Senate Transportation & Economic Development Committee Agenda 4-16-03
Ex. 15	Senate Transportation & Economic Development Committee Exhibits (A-9 through A-12 Amendments)
Ex. 16	Enrolled HB 2691-B - 5_8_2003
Ex. 17	Enrolled HB 2614 - 8_7_2003
Ex. 18	10.5 Plywood Manufacturing
Ex. 19	EPA Pulp Paper Sector Notebook - 11_2002
Ex. 20	10.6 Hardboard and Fiberboard Manufacturing

I. PROPOSAL SUMMARY.

A. Application Overview.

VF Law represents the Applicant and property owner, M&S Investments LLC. The Applicant submits combined Comprehensive Plan Map and Zoning Map amendment applications to rezone a portion of a 20-acre property from Exclusive Farm Use (EFU)-80 to Rural Industrial (RI). The proposed zone change requires a concurrent Post Acknowledgement Plan ("PAPA") amendment, from EFU to RI. This document is the revised application narrative. The complete application form is attached as Exhibit 1A.

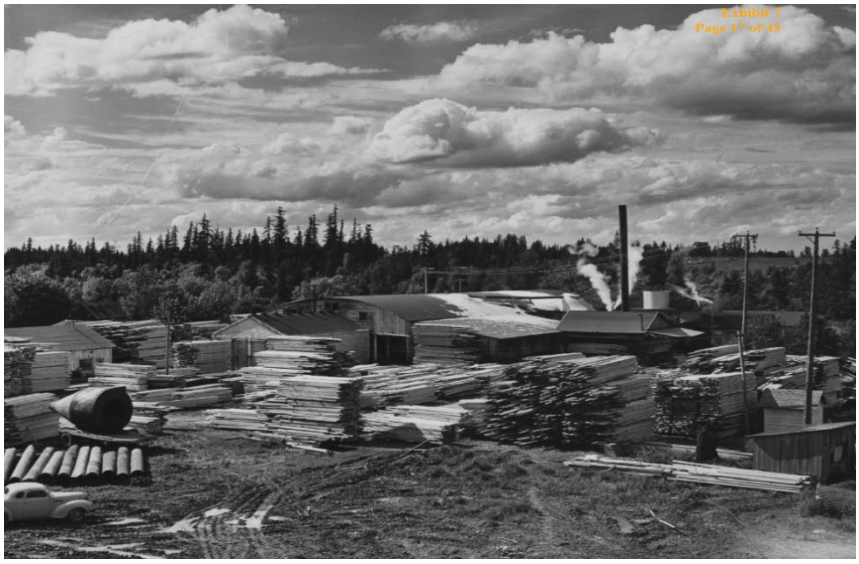
B. History & Prior Land Use Actions.

1. The Ivan Kropf Years: Operations from 1941 to 1999.

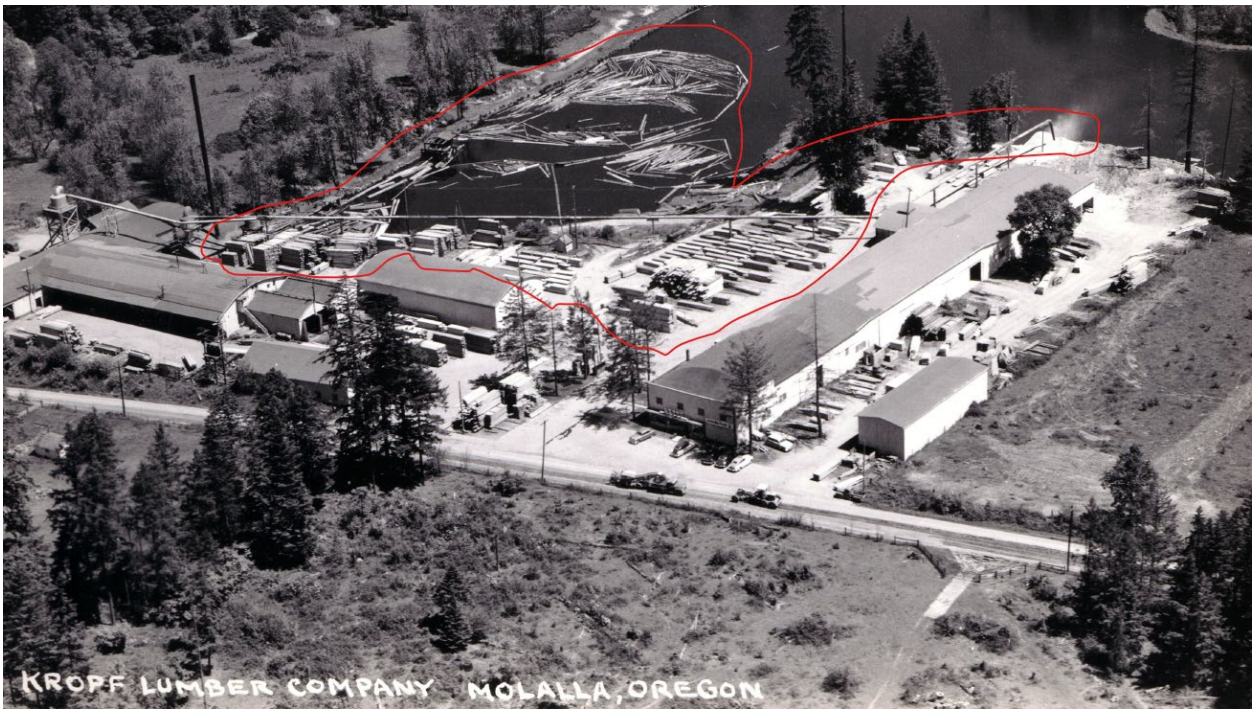
Sawmill operations commenced on the current Rock Creek Mill site in 1941, when its founder, Mr. Ivan Kropf, moved his existing mill from his farm on Gibson Road to the subject property. (Exhibit 7). He began on site operations as a sawmill with a dry kiln. *See* Planning File Z0092-93-E. (Exhibit 3A).

Around 1965, a fire broke out at the mill, and portions of the sawmill site burned to the ground. (Exhibit 7, pg. 19-40) Undaunted, the sawmill was re-built and milling operations resumed. (Exhibit 7, pg. 41) In fact, the dry kiln was doubled in size, and Ivan Kropf added the resaw and milling operations sometime thereafter. The primary business was expanded to include resawing lumber and making molding, trim, bead board, shiplap, and other value-added lumber. (Exhibit 7, pg. 41).

The County first zoned the property "EFU" on September 1, 1976. Ivan Kropf's Grandson, Scott Lapp, worked at the site from 1978 to 1999. In a recent interview, he noted that at its peak operations during the 1980's, the mill was capable of drying up to 200,000 board feet of wood a week. Exhibit 12 (Scott Lapp Declaration). Typically, they would dry and process approximately 100,000 -140,000 board feet a week through the kiln and then through the planer. (Exhibit 12).



(Exhibit 7, pg. 17).



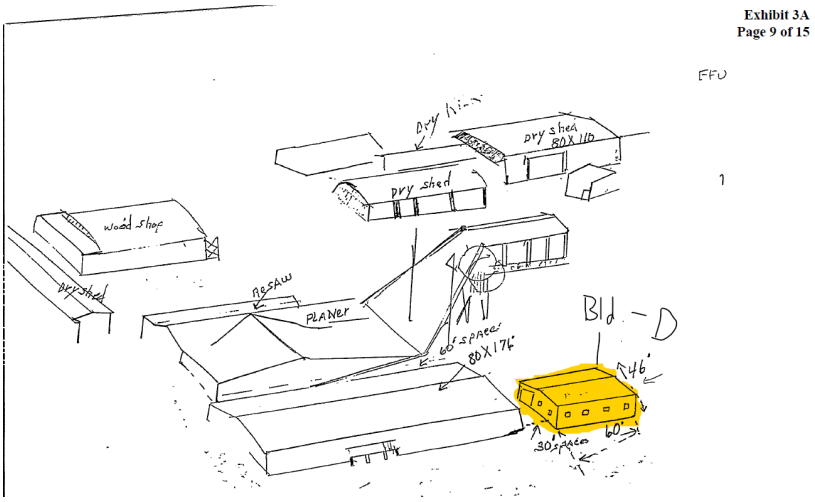
(Exhibit 7, pg. 18).

During their peak operating years, Kropf Lumber Mill employed between 14 and 20 full-time employees. Ivan Kropf also was operating a lumber/hardware store from the Molalla location. He also owned a mill and hardware store in Oakridge, Oregon, and another in the state of Kansas. Ivan Kropf also manufactured pickup campers and pickup canopies from the property. (Exhibit 12, pg. 2).

In 1993, Ivan Kropf added a wood pellet mill to his operation, Building "D" of TL 1000. The County approved the wood pellet mill as an "Alteration of a Non-Conforming Use." Permit File Z0092-93-E. (Exhibit 3A). As part of the application, the applicant stated:

> "[d]ue to changing economic conditions in the forest products industry, a pellet mill will help keep the operation economically feasible. The specific problem is the current shortage of raw logs to mill into lumber. The pellet mill uses a more consistent and reliable source of raw materials, and therefore, is a more economical operation."

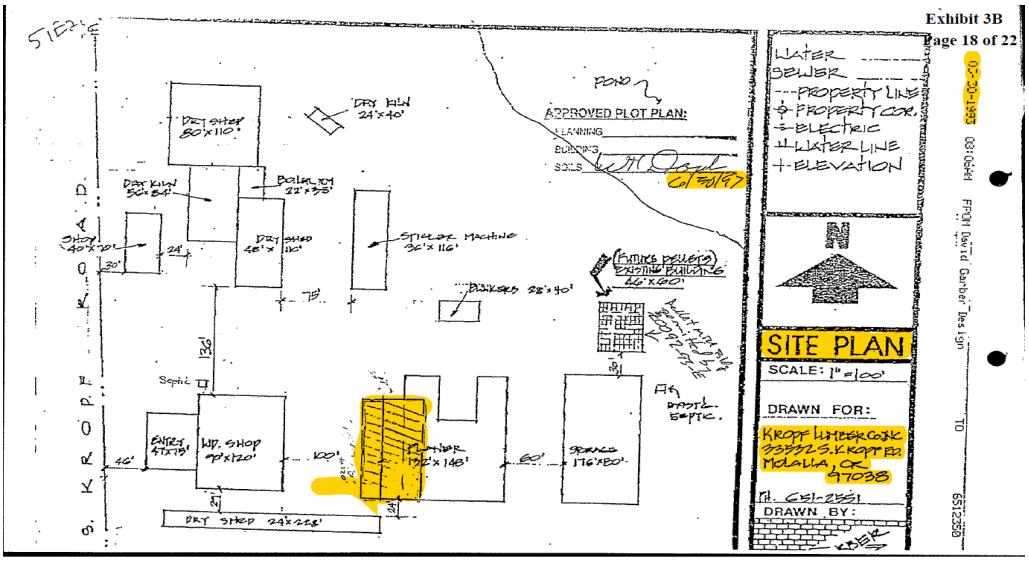
Id at pg. 6.



(Exhibit 3A, pg. 9).

The shortage of raw logs never improved significantly. However, the pellet mill ran successfully for a number of years beginning in 1993. Since the addition of the pellet mill in Building "D," four other permit actions have been approved on the Mill Site and the adjacent parcel (TL 1100).

In 1997, the County approved an addition to the planer building as an "alteration of non-conforming use. Permit File Z0721-97-E filed 6/30/1997. (Exhibit 3B). The majority of the proposed construction involved the re-roofing of the planer building. The staff found that the proposed alteration was reasonably necessary to continue the existing use. No other changes to the existing buildings were included in this permit. The County approved the permit with conditions.



(Exhibit 3B, pg. 18).

Ivan Kropf passed away on December 15, 1999 at the age of 92. In Ivan's estate, he left the property to the Mennonite Foundation. The Kropf family shut down all mill operations after Ivan's death in 1999 including on-site sawing of logs. In part, this was driven by the slowdown in the forest products industry. *See* Scott Lapp Declaration (Exhibit 12).

Contemporaneous correspondence from Jeff O'Mealy, a potential buyer of the subject property, confirms that, by October 2000, "[t]he sawing of logs has not been done for many years, but lumber drying, planing and shaping has continued." The email attributes that continued activity to leasing tenants. Accordingly, while certain wood-related activities persisted, the integrated "processing or manufacturing of wood products" as that term is articulated in ORS 197.719(1) did not resume. *See* Email from Jeff O'Mealy, Oct. 11, 2000 (Exhibit 3B, pg. 4).

The Mennonite Foundation had no use for the property, and they put it up for sale.

2. The McIntire Years: 2001 to 2005.

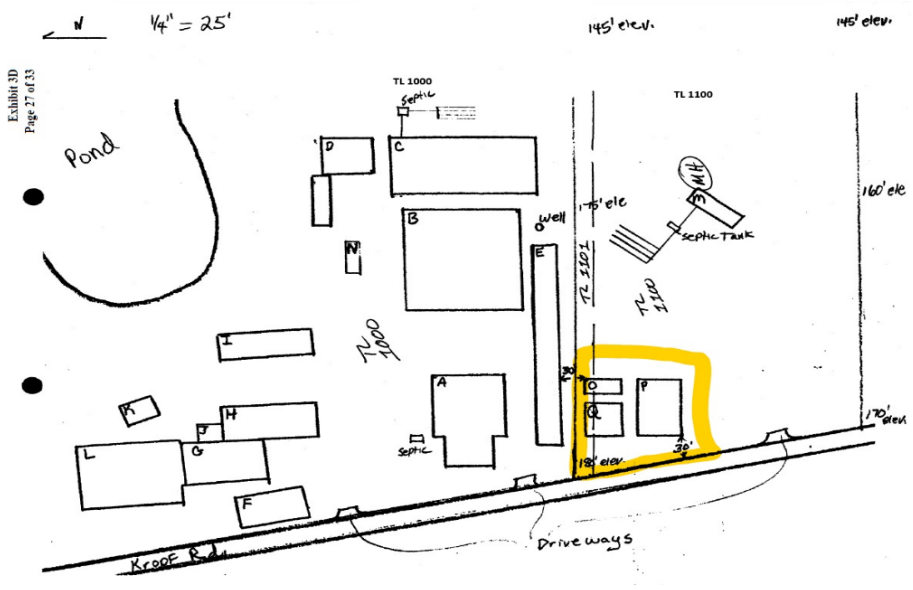
Jerry and Beverly McIntire purchased the Mill Site from the Mennonite Foundation in November of 2001.

a) Land Use Approvals and Expansion.

In 2005, the County approved an alteration of the Mill Site's nonconforming use to allow replacement of a manufactured home located on TL 1100 for over 20 years with a manufactured dwelling on the same parcel. (Exhibit 3C, pg. 5). The purpose of the new dwelling was to support on-site management and security of the facility on Tax Lots 1000 and 1101 (now just TL 1000). The Planning Division emphasized that the approval did not authorize an expansion of wood processing activities; it only changed the status of the existing manufactured home and allowed replacement with a manufactured home or site-built dwelling for an employee or operator providing on-site management and security.

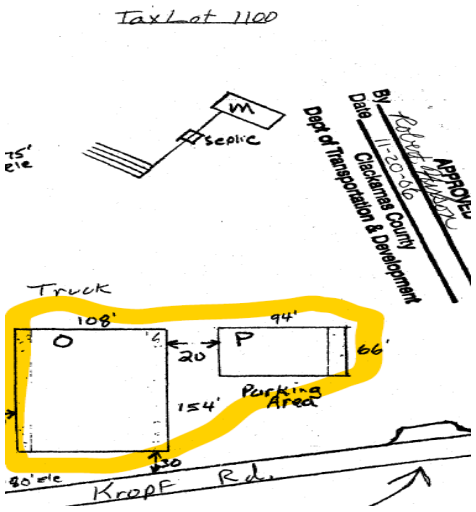


In 2006, the County approved an alteration of a nonconforming use for a Mill Site to permit construction and operation of three new structures for a Pellet Mill, a 600 s.f. infeed hopper building, a 5,000 s.f. raw materials storage building, and a 1,200 s.f. building housing a new pellet mill. (Exhibit 3D). These new uses occurred on a different tax lot, TL 1100.



(Exhibit 3D, pg. 27).

Later in 2006, the County approved a major modification (Planning File No. Z0716-06-E) of the prior 2006 approval (Planning File No. Z0408-06-E). The new approval allowed the applicant to enlarge the approved, but not yet constructed, raw materials storage building to 12,320 s.f. of enclosed area. This included 4,312 s.f. of lean-to covered storage area on each side. The approval also allowed the applicant to enlarge the pellet mill building to 4,312 s.f. of enclosed area with 924 s.f. of lean-to covered storage area on each side. (Exhibit 3E).



(Exhibit 3E, pg. 10).

b) Post 2000 Description of Tenants and their Operations

Starting in 2001, the McIntire's converted the site over to a rental property of specialty wood products companies. However, the Mill Site as it existed during its peak of operations never resumed that level of production capacity and transitioned to specialty wood products and storage uses. *See* Scott Lapp and Scott Wilson Declaration (Exhibit 12 and 13).

Their first tenant was Mullin Lumber, which began its operation in 2001. Mullin Lumber resawed 2x4 and 2x6 material into finish trim and molding. Mullin worked from already-milled dimensional lumber and performed secondary profiling and finishing, so its operation did not reflect the type of primary, industrial wood-products manufacturing that ORS 197.719 targets when it speaks to a "diminished mill site." Mullin began renting Building C and eventually building E for storage on TL 1000. This business would regularly employ between 8 to 12 employees. Mullin operated onsite from 2001 until 2019, at which time, he shut his business down and retired. *See* Scott Wilson Declaration (Exhibit 13).

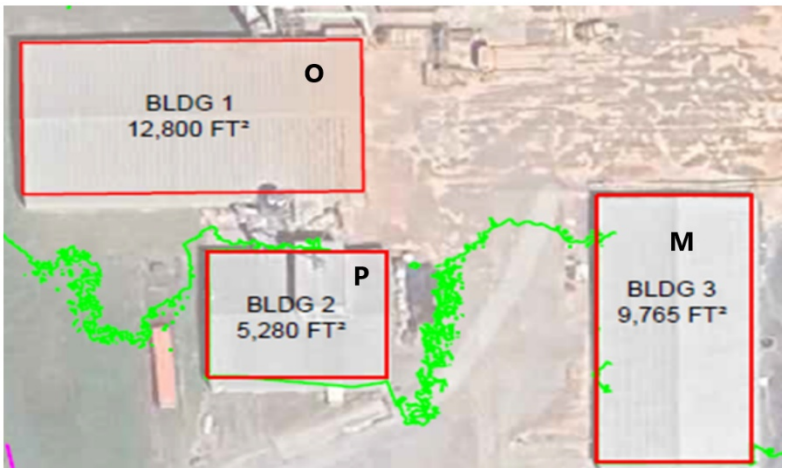
The second tenant was Precision Drying, which rented all the dry kiln buildings (G, I, J). They used the dry kilns to "season" lumber, pallets and power poles. Precision Drying remains to this day, provides kiln-drying and uses building for storage. They do not operate a production line that manufactured the industrial wood products associated with a diminished mill site, such as plywood, veneer, hardboard, panel products, pulp, or paper. Moreover, buildings (F, H, L) are used for storage and office space. Precision Drying is still in operation at the mill today. They typically will employ between 4 and 8 employees on the site. *See* Scott Wilson Declaration (Exhibit 13).

The third tenant was Pacific Timber Products. They operated out of Building A, D and N from 2002 until 2022. At that time, they moved their operations to Lyons, OR. Pacific Timber Products would generally employ between 8 and 15 employees on site. They manufactured custom/specialty wood products. Typical products would include crane mats, trusses, bridges, flag poles, and picnic tables. Their machinery was capable of turning logs up to 80' in length. Pacific operated as a custom fabrication shop using pre-processed wood inputs, and it did not operate a sawmill or a facility producing plywood, veneer, hardboard, panel products, pulp, or paper within the meaning of ORS 197.719(1). *See* Scott Wilson Declaration (Exhibit 13).

In 2006, Traeger Wood Pellet Grills leased a portion of TL 1000, Building "D." Traeger started manufacturing Hardwood BBQ pellets on site in 2006. Due to the growth and demand of their product, they needed to expand their operation. Jerry McIntire purchased the adjacent 10-acres, known as TL 1100. The County allowed Traeger Wood Pellet Grills to expand and move the operations to that site. *See* Permit File Z0408-06-E filed 7/27/06. (Exhibit 3D); Scott Wilson Declaration (Exhibit 13). The Pellet Mill produced a wood-fuel product and not plywood, veneer, hardboard, wood-based panels, pulp, or paper. Furthermore, the County approved it as a separate, later expansion onto TL 1100 rather than a continuation of the Mill Site's historic operation of 13 buildings on TL 1000.

Traeger Wood Pellet Grills occupied buildings, (O, P, M), which currently exist on Tax Lot 1100. Traeger shut down their operations in September of 2025. Traeger closed operations citing natural gas, power, labor and regulation costs being too high in Oregon and it made more

sense to produce their pellets outside of Oregon. The space previously leased by Traeger is exclusively on TL 1100 (Buildings O, P, M) and is not part of this PAPA and Zone Change to Rural Industrial (RI) under ORS 197.719(6)(a). *See* Scott Wilson Declaration (Exhibit 13).



Only TL 1000 is part of this request as the buildings on TL 1100 were not part of the original 13 buildings on the Mill Site. *See* below (Exhibit 2B, Buildings A-L & N).



(Exhibit 2B).

3. The M&S Investments, LLC Years: 2015 to Present

In 2015, Jerry and Beverly McIntire sold the Mill Site to Mitch and Sara Magenheimer of M&S Investments, LLC. (Exhibit 4). Mitch and Sara have continued to operate the property as a rental property. (Exhibit 6). The tenants leasing the buildings previously part of the "diminished mill site" between 2015-present include:

- Precision Drying: Annual Lease agreement that renews annually (Buildings F, G, H, I, J and L)
- Woodburn Pocket Door: 3 year lease that started in 2023 and expires or renews in 2026 (Building D)
- Mullin Lumber between 2015-2019 that leased (Buildings C, and E)
- Currently in 2026 Buildings A, B, the structure attached to D, K and N are vacant. Buildings C, E, F, H and L are used for storage.

Woodburn Pocket Door began leasing Building D on the Mill Site in 2023 to fabricate pocket door frames. Woodburn's work uses pre-processed lumber and purchased hardware to assemble finished framing components for installation in buildings. This use did not reestablish the site as a "mill, plant or other facility" engaged in the kind of wood-products processing or manufacturing ORS 197.719(1) contemplates, such as a sawmill or a facility producing plywood, veneer, hardboard, panel products, pulp, or paper. See Scott Wilson Declaration (Exhibit 13).

Wilco Farmers Coop began leasing Buildings C and E in 2025 for storage and warehousing of farm store products, including fence posts, water tanks, and miscellaneous inventory. Wilco's occupancy involves receiving, staging, and distributing finished goods, and it does not involve production activity in the permanent buildings used for wood-products manufacturing. This use therefore does not constitute the type of wood-products processing or manufacturing described in ORS 197.719(1) for an "abandoned or diminished mill site." *See* Scott Wilson Declaration (Exhibit 13).

C. Land Use Information.

County planning staff held a pre-application conference on October 1, 2025. (*See* Exhibit 1B, File No. ZPAC0113-25). Staff identified several relevant laws, regulations, code provisions, and ordinances that will be key in establishing that this parcel of land qualifies for its plan amendment and zone change. Applicant's responses to all relevant criteria are below.

II. SITE CHARACTERISTICS.

This site is situated outside of the nearby urban areas of Molalla, Canby and Woodburn. The area around the subject property is characterized by large acreage farming uses, and some rural residential uses that are also sited on larger parcels. Larger acreage parcels provide buffers for the impacts that result from the subject property. Operations of a rural industrial nature have been occurring at this site for around 80 years. These uses have not caused significant impacts on the surrounding lands. Minor and expected environmental impacts occurring at the subject site include air quality impacts from truck and vehicle movements; and manufacturing noise. Each of these impacts would be equal to the impacts of other industrial, manufacturing, and processing

sites located in similar Exclusive Farm Use (EFU) zoned areas.

A. **Access:** Access is via S. Kropf Rd. As identified in the application, aerial photos and maps, the property consists of a 9.95-acre paved area with ten buildings, power, and a stormwater retention system.

B. **Topography:** The property sought to be rezoned is generally flat. The overall site has less than 10 meters of elevation change between any two points. (Exhibit 2B).

C. **Natural Features:** The north boundary of the property is marked by Rock Creek. There are no other wetlands or significant natural drainages. Note that the log pond and its surrounding natural resource areas is not included as part of the zone change and comprehensive plan designation of TL 1000. (Exhibit 2A, 2B and Exhibit 8).

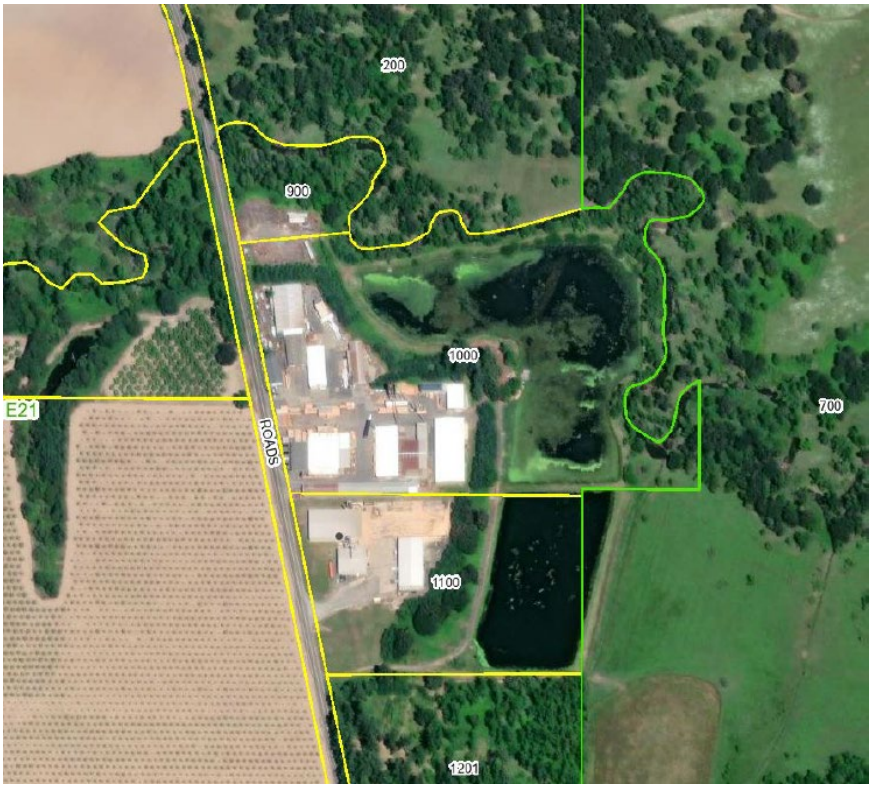
D. **Natural Hazards:** The property does not contain any identified flood hazard or landslide hazard areas.

E. **Well / Septic:** The subject property (TL 1000) contains one well (CLAC 51843) and two septic systems.

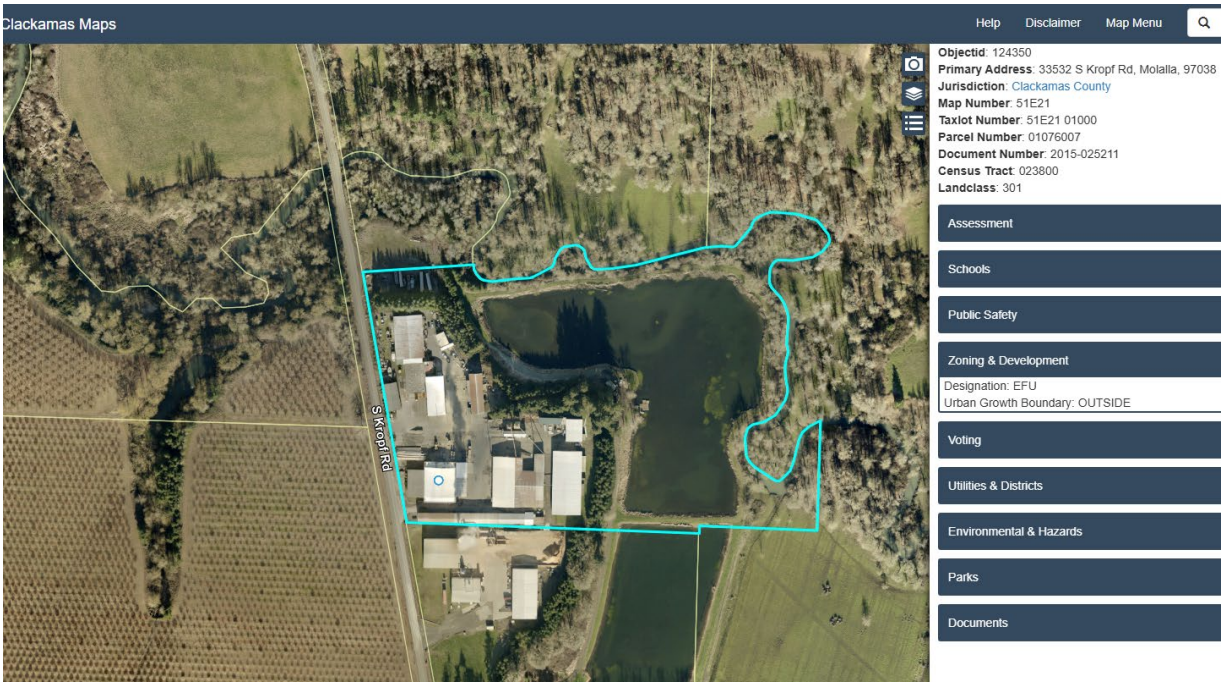
F. **Surrounding Land Use:** The subject property is in an area that is generally forested or in agricultural use and that does not include any high-density residential or commercial use. There are no residential uses on any adjacent property. The following aerials show the property location, the subject property, and the area zoning.

G. **Wildlife Habitat:** The portion of the property to be rezoned does not contain any significant fish, riparian, bird, or big game habitat areas.

Property Location (TL 1000)



Clackamas County Zoning



Surrounding Properties



III. STATE Approval Standards FOR MILL SITE CONVERSIONS.

197.719 Industrial use of abandoned or diminished mill sites; amendment of comprehensive plans and land use regulations; sewer facilities.

(1) As used in this section, "abandoned or diminished mill site" means a mill, plant or other facility engaged in the processing or manufacturing of wood products, including sawmills and facilities for the production of plywood, veneer, hardboard, panel products, pulp and paper, that:

Applicant's Response: ORS 197.719(1) defines the term "abandoned or diminished mill site" by reference to a general term "wood products" followed by a list of specific examples: "plywood, veneer, hardboard, panel products, pulp and paper."

The enumerated list in ORS 197.719(1) was intentionally specific. Chris Crean, Deputy Legislative Counsel, testified that the legislature adopted this enumerated list to provide a clear, scope for the term "wood products," after rejecting broader phrasing that turned on concepts such as "primary" and "secondary" processing. Senate, Transportation and Economic Development Committee, Tape 89, Side A, testimony of Chris Crean. *See* (Exhibit 14-16, Dash 9-12 Amendments to HB 2691, Enrolled HB 2691 & HB 2614-B). Mr. Crean described the change as follows:

> Dash 9 Amendments - (Section 2) begins with a definition. We defined these mill sites as 'mill, plant or other facility engaged in the processing or manufacturing of wood products,' and a list of the type of mills, 'including sawmills and facilities for the production of plywood, veneer, hardboard, panel products, pulp and paper.'
>
> We tried to go with a more broad definition of things engaged in primary [and secondary] processing [of wood products], but no one really knew what that meant, what that included, what that excluded so we thought we would go with just a clear list.

Sen., Transpo. and Econ. Dev. Comm., Tape 89, Side A, testimony of Chris Crean. (25:20 – 26:15).

Furthermore, the statutory language raises questions as to the scope of the term "wood products." Although the term is undefined, the list of examples informs the reader as to its scope and intent. There is a rule of construction called "*ejusdem generis*," which is Latin for "of the same kind or class." It is a logical tool that courts have used to interpret the text of a statutory provision by means of its context.

As the court of appeals has explained, *ejusdem generis* is "the rule of statutory construction which 'allows the general terms of an act [i.e., a catch-all phrase] to be modified and limited by the enumeration of specific examples preceding [or following] the general language.'" *State v. Hutchins*, 214 Or App 260, 267, 164 P3d 318 (2007), *rev. granted*, 344 Or 280 (2008) (quoting *State v. Tucker*, 28 Or App 29, 32, 558 P2d 1244 (1977), *rev den* 346 Or 590, 214 P3d 822, 2009. In other words, "the general words are not to be construed in their broadest sense, but are to be limited to conduct of the same kind or class" as the specific examples. *Hodges*, 40 Or App at 247.

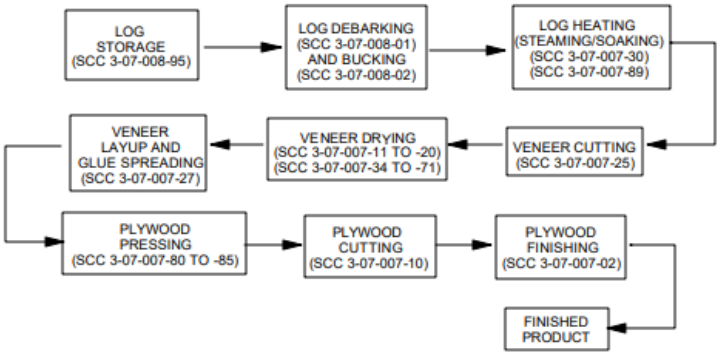
As a textual aid, *ejusdem generis* provides a tool for interpreting which persons or things fall within the purview of a statute's catch-all phrase. *State v. Hutchins,* 214 Or App 260, 267, 164 P3d 318 (2007), *rev den*, 346 Or 590 (2008). In its classic application, *ejusdem generis* applies to statutes when a list of specific examples is followed by a general catch-all phrase. *Hutchins*, 214 Or App at 267. However, the court has applied *ejusdem generis* when the catch-all phrase precedes the list of specific items. *See, e.g., Liberty v. ODOT,* 342 Or 11, 20, 148 P3d 909 (2006) (relying on *ejusdem generis* in interpretation of statutory definition in ORS 105.672(5), which provided "'[r]ecreational purposes' includes, but is not limited to, outdoor activities such as hunting, fishing [and other specified activities]"). *Ejusdem generis* therefore generally applies when the statutory provision includes both a specific list of items that have a common trait or characteristic and a general catch-all phrase as well as when the issue presented is in the scope or meaning of the general catch-all phrase.

As applied here, the *ejusdem generis* maxim indicates that the phrase "wood products" must be limited in scope by the listed examples provided in the statute: "plywood, veneer, hardboard, panel products, pulp and paper." Moreover, the legislative history confirms that the legislature

used the enumerated list to clarify the intended scope of the general term "wood products," and to avoid case-by-case disputes about what "primary" or "secondary" processing might include. All of these terms have a well-understood meaning in the wood products industry:

- Plywood is a structural material made by gluing thin sheets of wood (veneers) together, with the grain of adjacent layers typically arranged at right angles for strength, and is used in a variety of applications, from construction to furniture.

    - The manufacture of softwood or hardwood plywood consists of nine main processes: log storage, log debarking and bucking, heating the logs, peeling the logs into veneers, drying the veneers, gluing the veneers together, pressing the veneers in a hot press, plywood cutting, and other finishing processes such as sanding. Figure 10.5-1 provides a generic process flow diagram for a plywood mill.



(Exhibit 17, pg. 1-2).

- Veneer refers to thin slices of wood and sometimes bark that typically are glued onto core panels (typically, wood, particle board or medium-density fiberboard) to produce flat panels such as doors, tops and panels for cabinets, parquet floors and parts of furniture. veneer comes from peeling logs into thin sheets of wood. The production of veneers is one step of the process for producing plywood. *See* (Exhibit 17, pg. 1-3).

- Hardboard, also called high-density fiberboard (HDF), is a type of fiberboard, which is a pressed wood or engineered wood product. It is used in furniture and similar products.

    - General - Fiberboard is a low-density insulation board used for housing, roofing, and office furnishings. Hardboard is similar to fiberboard, except that hardboard is more dense than fiberboard. Hardboard is used for applications in housing (e.g., exterior siding, garage doors, and interior door facings), furniture, store fixtures, automotive interiors, and toys. The most frequently used raw material for production of fiberboard products is wood chips which are first softened in a pressurized steam vessel (digester) and then refined or pulped into wood fibers. The fibers may then be mixed with resin, formed into mats, and pressed and/or dried to form panel products.

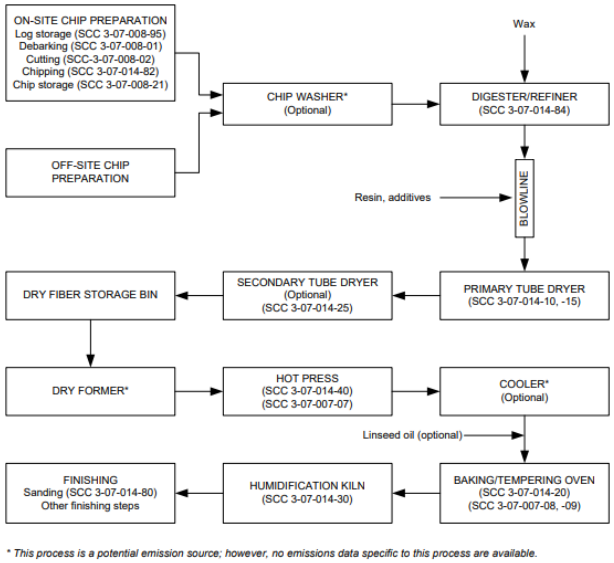


Figure 10.6.4-1. Dry hardboard manufacturing processes.

(Exhibit 20, pg. 1-4)

- Wood-based panels are widely used construction materials, consisting traditionally of some form of wood bound together by tongue and groove or a glue / resin using heat and pressure. As engineered products, they have reduced variability in some properties compared with natural solid wood, making them a more predictable product.

- Pulp is a fibrous lignocellulosic material prepared by chemically, semi-chemically or mechanically producing cellulosic fibers from wood.

    - The pulp and paper industry produces primary products – commodity grades of wood pulp, printing and writing papers, sanitary tissue, industrial-type papers, containerboard and boxboard – using cellulose fiber from timber or purchased or recycled fibers. The two steps are pulping and paper or paperboard manufacturing. (Exhibit 19, pg. 16).

    - Pulping is the process of dissolving wood chips into individual fibers by chemical, semi-chemical, or mechanical methods. The particular pulping process used affects the strength, appearance, and intended use characteristics of the resultant paper product. *Id*.

- Paper is a material manufactured in thin sheets from the pulp of wood or other fibrous substances, used for writing, drawing, or printing on, or as wrapping material.

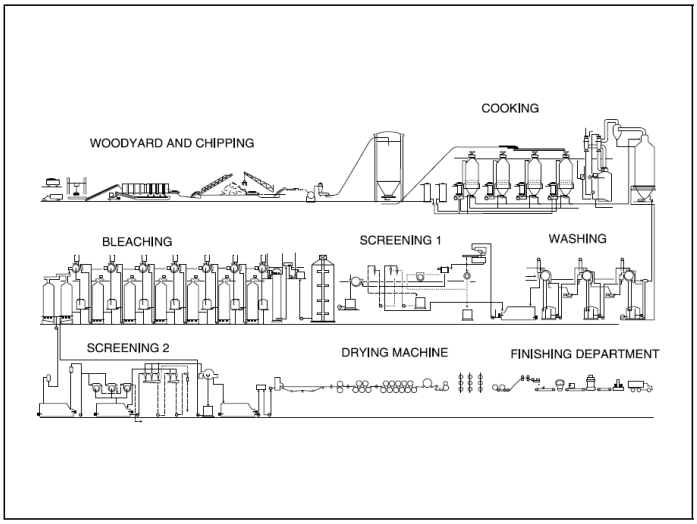
    - Paper mills. Paper mills primarily are engaged in manufacturing paper from wood pulp and other fiber pulp, and may also manufacture converted paper products. Establishments primarily engaged in integrated operations of producing pulp and

manufacturing paper are included in this industry if primarily shipping paper or paper products. (Exhibit 19, pg. 13).

- Paper and Paperboard Manufacturing. The paper or paperboard manufacturing process is similar for all types of pulp. In this process, pulp is spread out as a wet mixture, or slurry, onto a screen. Water is removed by gravity and vacuums, and the resulting layer of fibers is passed through a series of rollers that compress the material into sheets. Paper and paperboard manufacturers use nearly identical processes; the difference is that paperboard is thicker (more than 0.3 mm). (Exhibit 19, pg. 18).

Pulp and Paper Industry **Industrial Process Description**

Figure 6: Simplified Flow Diagram: Integrated Mill (Chemical Pulping, Bleaching, and Paper Production)



(Exhibit 19, pg. 27).

Because the Mill Site no longer operates as a sawmill or as a facility producing the wood products identified in ORS 197.719(1), and instead has been occupied only by downstream specialty wood products companies, and other storage uses, the site qualifies as a "diminished mill site" under ORS 197.719(1).

(a) Is located outside of urban growth boundaries;

Applicant's Response: The subject property is located outside of a UGB. The closest UGB is located approximately four (4) miles away.

(b) Was closed after January 1, 1980, or has been operating at less than 25 percent of capacity since January 1, 2003; and

Applicant's Response: Ivan Kropf used the subject property as a sawmill starting in 1941. The sawmill use closed in 1999. The "abandoned mill site" has continued to be used for ancillary forest product uses that do not involve the production of plywood, veneer, hardboard, panel products, pulp or paper, and therefore do not constitute the "processing or manufacturing of

wood products within the meaning of ORS 197.719(1). *See* definitions for wood product terms (Exhibit 18-20).

In the alternative, even if the County concludes that some of the tenants specialty wood products operations qualify as "processing or manufacturing of wood products" under ORS 197.719(1), the Mill Site has nevertheless been operating at less than 25 percent of capacity since January 1, 2003.

The record establishes that the post-1999 activities were intermittent and give not involve the production or manufacturing of plywood, veneer, hardboard, panel products, pulp or paper. Thus, the tenants between 2001- 2025 did not reestablish the integrated, primary sawmill operations that existed historically. The declarations from Scott Wilson and Scott Lapp confirm that, since the mill shut down in 1999, the Mill Site has not returned to its 1990s level of productivity. (Exhibit 12; Exhibit 13). Furthermore, based on their firsthand observations, the Mill has operated at less than 25 percent of the Ivan Kropf Mill operational capacity.

The applicant also applied a conservative square-footage metric to quantify the portion of the historic mill complex devoted to active wood-products manufacturing, while excluding general warehousing and storage-only uses from the "active capacity" calculation. The improved Mill Site on Tax Lot 1000 totals approximately 94,682 square feet of building area (Buildings A–L and N, plus the 1,404 square-foot attachment to Building D, excluding the 528 square-foot office attached to Building C). (Exhibit 13).

Between January 1, 2003 and the present, the only tenant that produced products similar to those defined in ORS 197.719(1) is Mullin Lumber. Mullin Lumber made some types of panel products such as trim and molding. Strictly speaking however, trim and molding is not plywood, veneer, hardboard, panel products, pulp or paper. The buildings associated with Mullin Lumbers active wood-products processing functions are limited to Building C, with storage in Building E. The active production occurred only in Building C, totaling approximately 14,760 square feet. So even if "trim and molding" falls within the definition, it only represents 15.6 percent of the historic mill building area, which is below the 25 percent threshold. (Exhibit 12 and 13).

(c) Contains or contained permanent buildings used in the production or manufacturing of wood products.

Applicant's Response: The site features thirteen (13) permanent buildings that were historically used in the production or manufacturing of wood products as defined in ORS 197.719(1). While the buildings, paved areas, and improvements to the property make it unsuitable for farm usage under its current zoning and Plan designation, they are well-suited for rural industrial uses.

(2) Notwithstanding statewide land use planning goals protecting agricultural lands or forestlands or administrative rules implementing those goals, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for industrial use.

Applicant's Response: Statewide Land Use Planning Goal 3 (Agricultural Land) and Goal 4 (Forest Land), and their implementing statutes, administrative rules, and local land use regulations, are intended to protect farm and forest lands for farm and forest uses. Typically, a "Goal Exception" is required to develop land identified in the County's acknowledged Comprehensive Plan as "agricultural" or "forest" land with nonconforming industrial development. However, ORS 197.719(2) provides that the land use regulations in support of Goal 3 and Goal 4 do not apply to an abandoned or diminished mill site meeting the standards of ORS 197.719(1). Therefore, industrial development of a qualifying site does not require a determination of compliance with, or an "exception" to, Statewide Land Use Planning Goal 3, Goal 4 or Goal 14. Because the site satisfies the criteria in ORS 197.719(1), the application satisfies the criterion in ORS 197.719(2).

The portion of the property to be rezoned is limited to the area that was previously improved for the processing or manufacturing of wood products. *See* Site Plan (Exhibit 2B). Other agricultural land on the site will not be developed; therefore, the application is found to comply with Goal 3 and Goal 4 with respect to those other lands. The application therefore satisfies the criterion in ORS 197.719(2), in that those other farm or forest lands are not proposed to be rezoned to industrial use.

(3) Notwithstanding a statewide land use planning goal relating to urbanization or administrative rules implementing that goal, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for any level of industrial use.

Applicant's Response: Similar to ORS 197.719(2), if land is determined to comply with ORS 197.719(1), Statewide Planning Goal 14 (Urbanization) does not apply even if the applicant were to seek an urban industrial use, a Goal Exception would not be required to rezone the land for such use. Here, a Goal 14 Exception would not be required in any event because the applicant is requesting a change to another rural zone, the "Rural Industrial" zone. The application therefore satisfies the criterion in ORS 197.719(3).

(4) Notwithstanding a statewide land use planning goal relating to public facilities and services or administrative rules implementing that goal, the governing body of a county or its designee may approve:

(a) The extension of sewer facilities to lands that on June 10, 2003, are zoned for industrial use and that contain an abandoned or diminished mill site. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.
(b) The extension of sewer facilities to an abandoned or diminished mill site that is rezoned for industrial use under this section only as necessary to serve industrial uses authorized for the mill site.
(c) The establishment of on-site sewer facilities to serve an area that on June 10, 2003, is zoned for industrial use and that contains an abandoned or diminished mill site or to serve an abandoned or diminished mill site that is rezoned for industrial use under this section. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

Applicant's Response: The application does not propose the extension of sewer facilities to the site, because no such sewer facilities exist on nearby lands.

The site contains existing "on-site sewer facilities" in the form of septic systems. The sewer facilities will continue to serve only authorized industrial uses. All future site development will require an approved site development plan, which will ensure all development complies with ORS 197.719(4) and other Clackamas County land development requirements. The requirements of ORS 197.719(4) either do not apply to the proposed and permitted development of the property, or are satisfied by the application of existing land use regulations.

(5)(a) A local government, as defined in ORS 174.116, may not authorize a connection to any portion of a sewer facility located between an urban growth boundary or the boundary of an unincorporated community and the boundary of the mill site or the industrial zone containing the mill site, except as provided under a statewide land use planning goal relating to public facilities and services or under ORS 197.732.

Applicant's Response: There is no sewer facility available between an urban growth boundary or unincorporated community and the boundary of the proposed industrial-zoned land. All site development will require an approved site development plan, which will ensure all development complies with ORS 197.719(5)(a) and other Clackamas County land development requirements. The application therefore satisfies the requirements of ORS 197.719(5)(a).

(b) Sewer facilities approved under subsection (4) of this section shall be limited in size to meet the needs of authorized industrial uses and may not provide service to retail, commercial or residential development, except as provided under a statewide land use planning goal relating to public facilities and services or under ORS 197.732. The presence of the sewer facilities may not be used to justify an exception to statewide land use planning goals protecting agricultural lands or forestlands or relating to urbanization.

Applicant's Response: The existing conditions map, included in Exhibit 2, pg. 5-6, identifies the onsite sanitary systems and the proposed industrial use of the property. Pursuant to statute and county regulations, site development is limited to an approved onsite sanitary system properly sized to accommodate the industrial uses approved for the site. ORS 197.719(5)(b) and other Clackamas County land use regulations prohibit the use of the property for retail, commercial or residential development. The application satisfies the requirements of ORS 197.719(5)(b).

(6)(a) The governing body of a county or its designee shall determine the boundary of an abandoned or diminished mill site. For an abandoned or diminished mill site that is rezoned for industrial use under this section, land within the boundary of the mill site may include only those areas that were improved for the processing or manufacturing of wood products.

Applicant's Response: The application includes an aerial photograph, a tax map and a site plan that show the boundary of the proposed industrial zone, along with an explanation of how and why the boundary was determined. (*See* Exhibit 2A and 2B, TL 1000). The area identified as the Mill Site consists of the 13 buildings and structures located solely on TL 1000. The buildings on TL 1100 are not included in the proposed rezone. Considering the identified developed area of the properties and the location of the required access, and in consideration of applicable property

development standards, the proposed boundary on the site plan meets the criterion in ORS 197.719(6)(a). (Exhibit 2B).

(b) For an abandoned or diminished mill site subject to subsection (2), (3) or (4) of this section, the governing body of a city or county or its designee may approve a permit, as defined in ORS 215.402 or 227.160, only for industrial development and accessory uses subordinate to such development on the mill site. The governing body or its designee may not approve a permit for retail, commercial or residential development on the mill site.

Applicant's Response: The application does not propose any new commercial or residential development on the property. All proposed alterations will require a future approved site development plan. The site development permit being submitted with this application will not authorize any use other than those permitted by ORS 197.719 and other applicable land development regulations. The application therefore complies with the requirements of ORS 197.719(6)(b).

(7) For land that on June 10, 2003, is zoned under statewide land use planning goals protecting agricultural lands or forestlands and that is rezoned for industrial use under subsections (2) and (3) of this section, the governing body of the county or its designee may not later rezone the land for retail, commercial or other nonresource use, except as provided under the statewide land use planning goals or under ORS 197.732. [2003 c.252 §2; 2003 c.688 §3]

Applicant's Response: The requirements of ORS 197.719(7) apply only to future proposed land use actions. In accordance with ORS 197.719(7), the site shall not be rezoned for retail, commercial or other non-resource use, except as provided under the statewide land use planning goals or under ORS 197.732. This can be made a condition of approval.

IV. CLACKAMAS COUNTY ZONING AND DEVELOPMENT ORDINANCE APPROVAL STANDARDS.

The Applicant and County staff have identified CCZDO provisions and Plan chapters that apply in this case. Applicant's responses to the applicable approval criteria are found below.

1202.02 SUBMITTAL REQUIREMENTS
In addition to the submittal requirements identified in Subsection 1307.07(C), an application for a zone change shall include a site plan of the subject property showing existing improvements, and a vicinity map showing the relationship of the subject property to the surrounding area.

Applicant's Response: An existing conditions map, vicinity map and site plans are provided in Exhibit 2A and 2B.

1202.03 GENERAL APPROVAL CRITERIA
A zone change requires review as a Type III or IV application pursuant to Section 1307, Procedures, and shall be subject to the following standards and criteria:

A. The proposed zone change is consistent with the applicable goals and policies of the Comprehensive Plan.

Applicant's Response: Identified relevant goals and policies of the Comprehensive Plan are discussed in Section V below.

B. If development under the proposed zoning district designation has a need for any of the following public services, the need can be accommodated with the implementation of the applicable service provider's existing capital improvement plan: sanitary sewer, surface water management, and water. The cumulative impact of the proposed zone change and development of other properties under existing zoning designations shall be considered.

Applicant's Response: Public services are not needed under the proposed zoning district designation. The site has an existing well to provide water; two septic systems to provide for sanitary sewer needs; and a storm water runoff management system for surface water management. As the site is already built in a way that is incompatible with its current zoning and Plan designation. No impact to or from other properties is expected.

C. The transportation system is adequate and will remain adequate with approval of the proposed zone change. For the purpose of this criterion:

1. Adequate means a maximum volume-to-capacity ratio (v/c), or a minimum level of service (LOS), as established by Comprehensive Plan Tables 5-2a, Motor Vehicle Capacity Evaluation Standards for the Urban Area, and 5-2b, Motor Vehicle Capacity Evaluation Standards for the Rural Area.

Applicant's Response: Per Table 5-2b, the v/c target at the intersections of Kropf Road with Highway 211 and Highway 213 is 0.75. The LOS standard at the intersection of Kropf Road and Monte Cristo Road is LOS E. Per our transportation engineer's analysis, the respective performance measures are v/c of 0.63, v/c of 0.22 and LOS B for the horizon year. (Exhibit 9, pg. 3). Full capacity results and traffic counts are included in Exhibit 9. This requirement is met.

2. The evaluation of transportation system adequacy shall be conducted pursuant to the Transportation Planning Rule (Oregon Administrative Rules 660-012- 0060).

Applicant's Response: OAR 660-012-0060.1(c) states that a plan amendment significantly affects a transportation facility if any of the following occur as a result of the update:

A. Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;

Applicant's Response: Kropf Road is classified as a minor arterial. Per Rural Industrial Policy 4.LL.3.4, an RI site must have access to a road of at least arterial classification. The land use and

presumed type of travel are consistent with the functional classification. Per Clackamas County Comprehensive Plan (CCCP), minor arterials carry a "moderate" traffic volume. The increase in roadway volume is estimated to be greatest to the north of the site at 37 PM peak hour trips in both directions, for a total of approximately 182 vehicles in the PM peak hour, which is consistent with the "moderate" traffic volume for minor arterials. Per Clackamas County Roadway Standards Table 2-2, the minimum access spacing on a minor arterial is 400'. The access spacing at the site is approximately 415' to the driveway to the south. The access is consistent with the functional classification, so this threshold is not triggered. (Exhibit 9).

B. Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan;

Applicant's Response: As discussed under ZDO requirement 1, this threshold is not triggered.

C. Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan.

Applicant's Response: During discussion with County staff, no concern about Kropf Road or any of the intersections in the influence area was raised. This threshold is not triggered.

As sections A through C of OAR 660-012-0060 are not triggered, a finding of "no significant effect" can be made for the new use using the existing transportation facilities. (*See* Exhibit 9).

3. It shall be assumed that the subject property is developed with the primary use, allowed in the proposed zoning district, with the highest motor vehicle trip generation rate.

Applicant's Response: As previously discussed, the applicant proposes to limit the site to the existing building size of 87,100 SF, with a manufacturing use having the highest trip rate for allowed uses that would occupy a building of that size. This requirement is met with a condition of approval.

4. The methods of calculating v/c and LOS are established by the Clackamas County Roadway Standards.

Applicant's Response: Volume to capacity (v/c) and Level of Service (LOS) were calculated using Synchro 12 software, which uses HCM 7 methodology. Clackamas County Roadway Standards Section 295.8 requires the use of the most recent version of HCM methodology to calculate performance measures for unsignalized intersections. This requirement is met.

5. The adequacy standards shall apply to all roadways and intersections within the impact area of the proposed zone change. The impact area shall be identified pursuant to the Clackamas County Roadway Standards.

Applicant's Response: Per section 295.3.b of the Clackamas County Roadway Standards, the impact area is determined via conversation with county staff on a case-by-case basis. Our conversations with county staff identified the intersections included in this analysis. This requirement is met.

6. A determination regarding whether submittal of a transportation impact study is required shall be made based on the Clackamas County Roadway Standards, which also establish the minimum standards to which a transportation impact study shall adhere.

Applicant's Response: Per Clackamas County Roadway Standards section 295.2, the requirement of a TIS is based on Clackamas Country Roadway Engineering assessment. Our traffic engineer completed preliminary capacity calculations as part of this TPR analysis and found no intersections to be over capacity with the increase in trips. Therefore, no additional analysis nor a full TIS would be required. (*See* Exhibit 9).

7. Notwithstanding Subsections 1202.03(C)(4) through (6), motor vehicle capacity calculation methodology, impact area identification, and transportation impact study requirements are established by the ODOT Transportation Analysis Procedures Manual for roadways and intersections under the jurisdiction of the State of Oregon.

Applicant's Response: As noted above, v/c and LOS were calculated using Synchro 12 software, which uses HCM 7 methodology, which is also consistent with requirements of the ODOT Analysis Procedures Manual (APM). Additionally, ODOT requires volumes to be seasonally adjusted for analysis of their intersections. The adjustment was made as required in the APM, using data from ATR 03-013, which is located near the intersection of Highway 213 and Kropf Road. This requirement is met.

As requirements 1 through 7 for adequacy are all met, the overall standard is met. The transportation facilities are adequate to support the proposed zone change.

D. Safety of the transportation system is adequate to serve the level of development anticipated by the proposed zone change.

Applicant's Response: South Kropf Road is a Minor Arterial in the County's transportation system. It is a continuation of County Road 170, the Canby Marquam Highway, south of Highway 211, connecting Canby to the unincorporated town of Marquam (*See* County Transportation System Plan, Map 5-11e). The Capital Improvement Plan for Clackamas County does not show any plans for improvement of the roadway in the area of the Subject Property, with the exception of replacement of the Rock Creek Bridge. There has been work at the interchange of Kropf Rd/Canby-Marquam Hwy and OR 211, but this is more than a mile away to the north.

This roadway currently carries a level of traffic that is compatible with its rural character, with farm products trucks, log trucks, and farm service vehicles as the traffic with the most impact.

The roads in this area have been carrying the traffic from the existing wood processing operations without causing the roads to become loaded beyond the volume-to-capacity ratio for this roadway. Historical crash data reported for the study area intersections were evaluated to identify patterns that might indicate a safety concern. Crash data for the 5-year period of 2018 through 2022 were obtained from ODOT's online crash data system and used to review crash patterns and estimate intersection crash rates.

The crash evaluation is summarized in Table 2 below. The raw crash data is provided in Exhibit 9.

TABLE 2 – INTERSECTION CRASH RATES

Intersection (Traffic Control Type)	Year					Total Crashes	ADT	Crash Rate
	2018	2019	2020	2021	2022			
Highway 211/ Kropf Road (TWSC)	9	4	2	1	3	19	11,268	0.77
Monte Cristo Road/ Kropf Road (TWSC)	0	0	0	0	0	0	2,376	0.00
Highway 213/ Kropf Road (TWSC)	0	0	1	1	2	4	8,916	0.20

Intersection Crash Rates
Intersection crash rates were calculated as a measure of the number of crashes occurring per one million entering vehicles (MEV) per year. The intersection crash rate is calculated by dividing the average number of crashes per year by the MEV per year. An average daily traffic (ADT) volume was estimated by multiplying the PM peak hour volume at each intersection by a peak-to-daily factor, or k-factor, of 12 obtained from ODOT ATR 03-013. All intersections have crash rates below 1.0 MEV; therefore, no further analysis is recommended based on crash rate.

ODOT SPIS List
The intersection of Highway 211 and Kropf Road is listed on the 2022 ODOT Safety Priority Index System (SPIS) list as a 95th to 99th percentile intersection. This is due to the relatively large crash volume in 2018 and the fact that a fatal crash occurred at this intersection in 2018. In 2019, an intersection safety improvement project was completed by Clackamas County. As the decreased crashes post 2019 demonstrate, this intersection's safety has improved.

With the small potential increase in traffic volumes associated with the zone change, safety of the transportation system is adequate.

> ***604 RURAL INDUSTRIAL DISTRICT (RI)***
> ***604.01 PURPOSE Section 604 is adopted to implement the policies of the Comprehensive Plan for Rural Industrial areas.***

Applicant's Response: While this ZDO provision was identified by Staff in the pre-application notes as being important to this application, it is not worded as a mandatory approval criterion.

1006 UTILITIES, STREET LIGHTS, WATER SUPPLY, SEWAGE DISPOSAL, SURFACE WATER MANAGEMENT, AND EROSION CONTROL

1006.01 GENERAL STANDARDS

A. The location, design, installation, and maintenance of all utility lines and facilities shall be carried out with minimum feasible disturbance of soil and site consistent with the rules and regulations of the surface water management regulatory authority.

B. All development that has a need for electricity, natural gas, and communications services shall install them pursuant to the requirements of the utility district or company serving the development. Except where otherwise prohibited by the utility district or company, all such facilities shall be installed underground.

C. Coordinated installation of necessary water, sanitary sewer, and surface water management and conveyance facilities is required.

D. Easements shall be provided along lot lines as deemed necessary by the County, special districts, and utility companies. Easements for special purpose uses shall be of a width deemed appropriate by the responsible agency.

Applicant's Response: No new development is sought at this time. Should new development be sought in the future, it will be required to comply with the ZDO as part of site plan review. A condition of approval is warranted to effectuate this requirement.

1006.03 WATER SUPPLY

E. The following standards apply outside the Portland Metropolitan Urban Growth Boundary, Government Camp, Rhododendron, Wemme / Welches, Wildwood/Timberline, and Zigzag Village:

1. Applicants shall specify a lawful water source for the proposed development, such as a public or community water system, certificated water right, or exempt-use well.

Applicant's Response: A well is present on Tax Lot 1000. A well report is attached to Exhibit 5 (Well ID L10567, CLAC 51843). This well is an exempt-use well, as the property lies within the *Gladtidings Groundwater Limited Area*, where groundwater from basalt aquifers is classified for exempt uses under OAR 690-502-0180(1). Exempt uses do not require permit applications for the use of ground water for "[s]ingle or group domestic purposes not exceeding 15,000 gpd" or "[a]ny single industrial or commercial purpose in an amount not exceeding 5,000 gallons per day" (ORS 537.545(1)(d) and (f)). The continued domestic use of the subject well on TL 1000 will remain within the limit for the exempt domestic use. This criterion is met.

2. If use of an exempt-use well is proposed, subdivisions—as well as the following types of development in a sensitive groundwater area: partitions, Type II replats, and industrial, commercial, or institutional development—must affirmatively demonstrate that:

a. The subject aquifer is capable of sustaining the proposed development with sufficient potable water.

b. The proposed development is not likely to unreasonably interfere with existing wells. "Unreasonably interfere" means that a proposed development will result in one or more senior groundwater appropriators being unable to obtain either the permitted or the customary quantity of groundwater, whichever is less, from a reasonably efficient well that fully penetrates the aquifer where the aquifer is relatively uniformly permeable. However, in aquifers where flow is predominantly through fractures, full penetration may not be required as a condition of finding substantial or undue interference.

c. The proposed development is not likely to contribute to the overdraft of the affected aquifer.

Applicant's Response: A lawful water source exists on Tax Lot 1000 in the form of an exempt-use well (Well ID L10567, CLAC 51843). EVREN Northwest Inc. prepared a Hydrogeologic Review for the site, which evaluated the aquifer capacity, potential interference with surrounding wells, and long-term groundwater sustainability within the designated *Gladtidings Groundwater Limited Area.* (Exhibit 5).

The review demonstrates compliance with ZDO 1006.03(E)(2)(a–c) as follows:

a. Aquifer capacity: The basalt aquifer that the TL 1000 well (CLAC 51843) obtains water from is capable of sustaining the water needs support of the subject property. TL 1000 has historically been, and is currently being, supplied primarily by the onsite domestic well CLAC 51843. (CLAC 51843) was completed to, and draws water from, a significantly greater depth than the others and is the only well suggested by drillers logs to have encountered sandstone and basalt suggestive of the interbedded nature of the Scotts Mills Formation.

   Based on well log information, CLAC 51843 has the potential to produce large quantities(> 100-gpm) for at least one hour. The facility's anticipated water demand can be met by the on-site domestic well and the associated water infrastructure identified by EVREN Northwest, Inc.. Based on these features and the hydrogeologic conditions documented in the record, the available groundwater supply is adequate to serve the facility's current needs.

b. No unreasonable interference: Review of all known wells within a ¼-mile radius shows no evidence that the proposed use will impair existing wells. Static water levels are stable, and no drawdown or impairment trends are expected. The anticipated water use for the site is expected to be consistent with domestic water purposes and domestic use is consistent with the intended use of the study area wells. Moreover, TL 1000's well (CLAC 51843) Based on current conditions and uses, well interference is not an issue.

c. No overdraft contribution: Available pump test data, groundwater monitoring, and regional studies confirm that the proposed use will not contribute to overdraft of the aquifer.

The Hydrogeologic Review further compiled nearby well logs, estimated local groundwater demand, and evaluated geologic conditions, as required by CCZDO 1006.03(E)(3)(a)(i–x). Given the relatively low production capability of the four area wells (CLAC 51354 CLAC 157, CLAC 2604, and CLAC 2605) completed within the shallower alluvial aquifer, it appears unlikely that draws on the deeper basalt aquifer via (CLAC 51843) for domestic purposes will unduly stress the natural system. The degree to which this stress will affect area aquifers and existing wells cannot be determined without knowing the location, pumping schedules, and pumping rates of all area wells, and the hydraulic characteristics of the aquifer(s) to be developed. However, ENW's interpretation of available well log data and anecdotal information suggest that prolonged heavy pumping of wells within the study area (i.e., industrial or agricultural uses) is unlikely. The hydrogeologic review demonstrates that sufficient potable water is available to meet demand, that the proposed use will not adversely impact existing wells, and that the aquifer is capable of sustaining long-term use. This criterion is met.

3. Except for land divisions in which all proposed lots are already developed with the maximum number of dwelling units that would be allowable following the land division (excluding potential temporary dwellings for care), and except for industrial, commercial, and institutional development demonstrated to have no statistical increase in water usage, an applicant for any proposed development subject to Subsection 1006.03(E)(2) shall submit a hydrogeologic review with the subject application. The purposes of a hydrogeologic review are to provide information and professional analysis regarding the geology and hydrogeology of the area in the immediate vicinity of the proposed development for the County to determine compliance with Subsection 1006.03(E)(2). Study findings, maps, and conclusions shall be presented in a clear and understandable report.

a. A hydrogeologic review report shall include sufficient evidence and analysis to demonstrate compliance with Subsection 1006.03(E)(2), and at a minimum, shall include the following information:

i. A map showing all lots and parcels within at least one-quarter mile of the proposed development;

ii. The location, as determined by publicly available information, of all known wells on all lots or parcels within at least one-quarter mile of the proposed development, and the quantity of water permitted to be used;

iii. The estimated use of groundwater within at least one-quarter

mile of the proposed development, including but not limited to, 400 gallons per day of household use for each lot and parcel, 2,000 gallons per day for lawn and landscape irrigation from June through September, and water use from permitted wells. The estimated use of groundwater shall include any development or tentative land division which has been approved by the county, and shall assume development of a single-family residence on each undeveloped lot or parcel;

iv. The quantity of water the proposed land use will utilize. If the proposal is for residential use, water use shall be calculated as 400 gallons per day per household and 2000 gallons per day for lawn and landscape irrigation from June through September. If the proposal is for a land division for residential purposes, all proposed lots or parcels shall be included in the calculation, and the calculation shall assume that the remainder of the tract will be developed at its allowed density;

v. Identification of aquifers in the area of the subject property;

vi. Compilation and review of available geologic and hydrogeologic studies of the review area;

vii. Compilation and evaluation of available well deepening and replacement well information in the review area;

viii. Compilation and analysis of existing geologic information, including representative well logs, physical location of representative wells, and an evaluation of the local stratigraphy and geologic structure in the review area;

ix. Compilation and analysis of existing and available water level and pump test information including evaluation of long-term stability and sustainability of groundwater levels (heads); and

x. Interpretation of the information gathered for Subsections 1006.03(E)(3)(a)(i) through (ix), including preparation of geologic and hydrogeologic maps and cross sections necessary to support and/or illustrate the interpretation.

b. A hydrogeologic review shall conclude that there is sufficient information to demonstrate compliance with Subsection 1006.03(E)(2), and may need to be based on draw down tests or other physical measurements where necessary.

c. The Planning Director may, at the Director's discretion, allow an applicant to modify the water use assumptions used in the

hydrogeologic review where an applicant proposes enforceable water conservation and/or reuse measures, including but not limited to:

- ***i. Gray water use;***
- ***ii. Water conserving appliances and fixtures;***
- ***iii. Landscaping with drought resistant plants; or***
- ***iv. Rainwater harvest and/or the use of cisterns. To be deemed enforceable, any conservation or reuse measure must be approved by County Counsel.***

Applicant's Response: The Applicant submitted a Hydrogeologic Review, which evaluates the site's groundwater resources and potential impacts on surrounding wells within one-quarter mile of the subject property. (Exhibit 5). The review contains the information and analysis required under ZDO 1006.03(E)(3)(a–c). Specifically:

- (i) The report includes a map showing all lots and parcels within at least one-quarter mile of the subject property.
- (ii) It identifies the location of all known wells within that area, using publicly available data, and notes the associated permitted uses.
- (iii) The report estimates total groundwater use within the one-quarter mile review area, applying County assumptions of 400 gallons per day per household and 2,000 gallons per day for irrigation, as well as accounting for permitted wells.
- (iv) The anticipated water use for the proposed industrial development is calculated and shown to be within the statutory exempt-use allowance of 5,000 gallons per day.
- (v) The alluvial and basalt aquifers serving the subject property are identified.
- (vi–viii) The review compiles and evaluates existing geologic and hydrogeologic studies, nearby well deepening and replacement records, and representative well logs, including evaluation of the local stratigraphy and structure.
- (ix) Available water level and pump test information are analyzed to assess long-term aquifer stability and sustainability.
- (x) The report provides interpretive maps, cross-sections, and professional analysis integrating this information to demonstrate compliance with the aquifer adequacy and interference standards in ZDO 1006.03(E)(2).

Consistent with subsection (b), the review concludes that sufficient information has been provided to show adequate potable water supply, no unreasonable interference with existing wells, and no contribution to overdraft. Subsection (c) regarding enforceable conservation measures is not applicable here, but the Applicant is willing to consider water-conserving appliances, drought-resistant landscaping, or other conservation measures if requested by the County.

Accordingly, the Hydrogeologic Review meets the requirements of CCZDO 1006.03(E)(3) and demonstrates compliance with CCZDO 1006.03(E)(2)(a–c). For more comprehensive information regarding the Hydrogeologic Review see Exhibit 5. This criterion is met.

V. Clackamas County Comprehensive Plan.

Clackamas County Comprehensive Plan Chapter 3: NATURAL RESOURCES AND ENERGY

Applicant's Comments: County staff identified that this Plan chapter would apply to the log pond on TL 1000 lying to the north and east of the property for which this application is submitted. The Applicant, however, has elected to apply only for a zone change and comprehensive plan designation of the portion of the TL 1000 property that excludes the log pond and its surrounding natural resource areas. Therefore, there is no applicable provision under Chapter 3 for this application to address.

3.G Groundwater Policies

3.G.1 Cooperate with appropriate state and federal agencies to inventory and catalog groundwater resources and their uses to assess groundwater potentials and establish management criteria and priorities to protect and maintain this natural asset.

Applicant's Response: This is directive to staff, not a mandatory approval standard for development or zone changes.

3.G.2 Investigate the feasibility of maintaining or subsidizing a groundwater testing service, available to the County's citizens (upon request for a nominal fee) to assist in assuring adequate well water quality.

Applicant's Response: This is directive to staff, not a mandatory approval standard for development or zone changes.

3.G.3 Cooperate in the monitoring of groundwater levels and quality with the Oregon Water Resources Department.

Applicant's Response: This is directive to staff, not a mandatory approval standard for development or zone changes.

3.G.4 Protect groundwater supplies in rural, agricultural, and forest areas.

Applicant's Response: This standard is fully implemented by ZDO 1006.03.

3.G.4.1 Implement large-lot zoning.

Applicant's Response: This is directive to staff, not a mandatory approval standard for

development or zone changes.

3.G.4.2 Regulate all subdivisions utilizing groundwater as a potable water source to promote long-term sustainability of groundwater supplies.

Applicant's Response: This standard applies to subdivisions, and is fully implemented by ZDO 1006.03.

3.G.4.3 Regulate all development and land divisions utilizing groundwater as a potable water source located in areas classified by the State of Oregon as a groundwater limited area, critical groundwater area or other area where new groundwater appropriations are restricted by the State of Oregon, to promote long-term sustainability of groundwater supplies.

Applicant's Response: This standard is fully implemented by ZDO 1006.03.

3.G.5 Develop programs to encourage the conservation of groundwater.

Applicant's Response: This is directive to staff, not a mandatory approval standard for development or zone changes.

Clackamas County Comprehensive Plan Chapter 4: LAND USE

RURAL INDUSTRIAL
RURAL INDUSTRIAL GOALS

- ***To provide for the continuation of industrial uses in non-urban areas having an historical commitment to such uses.***
- ***To provide for the industrial redevelopment of abandoned or diminished mill sites.***
- ***To implement the goals and policies of this Plan for industrial development in Unincorporated Communities.***

4.LL Rural Industrial Policies

4.LL.1 The Rural Industrial plan designation may be applied in non-urban areas to provide for industrial uses that are not labor-intensive and are consistent with rural character, rural development, and rural facilities and services.

Applicant's Response: The property is located several miles from any urban areas, and has been developed to process wood products. The County's list of uses in the Rural Industrial zone, discussed above as ZDO 604, limits uses to those which meet this requirement.

4.LL.2 The Rural Industrial (RI) zoning district implements the Rural Industrial plan designation.

Applicant's Response: This is directive to staff which is applied at the time of the development and adoption of the zoning code. It is not a mandatory approval standard for development or zone changes.

> ***4.LL.3 Areas may be designated Rural Industrial when the first, the second, or both of the other criteria are met:***
>
> ***4.LL.3.1 Areas shall have a historical commitment to industrial uses; or***

Applicant's Response: ZDO defines the term "industrial uses" in the zoning sense, as "[t]he use of land and/or structures for manufacturing and processing of primary secondary, or recycled materials into a product; warehousing and associated trucking operations, wholesale trade; and related development." The subject property contains buildings that have been used in the past for uses that are industrial in nature, and the infrastructure is more similar to industrial uses than agricultural uses.

In this case, the application can be approved under Policy 4.LL3.1, because the site has a historical commitment to rural industrial uses. The Comprehensive Plan does not really define what is meant by an "industrial use" in this specific context. LUBA has stated that uses can be categories in different ways for different purposes. *Swenson v. DEQ*, 9 Or LUBA 10 (1983) ("The Board is not aware of a prohibition in the goals that a use must be exclusively a farm use or an urban use").

The County can conclude that the subject property has a historical commitment to rural industrial uses because it has been used as a mill-site from 1941 to 2000. While this site does classify as an abandoned or diminished mill site, in this case, pursuing these under the statute relating to abandoned and diminished mill sites creates a different and less desired set of conditions for future development after the zone change and plan designation are achieved. The rezone is appropriate due to the site's historical commitment to rural industrial uses, as demonstrated by the developed mill site which is incompatible with uses allowed by the site's current EFU zone.

In enacting Policy 4.LL3.1, the drafters were seeking to preserve agricultural land for resource uses by limiting rural industrial uses to those areas of the county that have previously been "committed" to activities which are industrial in nature. The policy seeks to ensure that the existing supply of farm land should not be converted to rural industrial use, but areas what are already developed or "committed" to rural industrial uses as a result of past practices should be made available for continued rural industrial use. As discussed in more detail below, the subject property has approximately 87,100 square feet of "industrial" buildings on the property. These building are not well-suited for modern agriculture.

> ***4.LL.3.2 The site shall be an abandoned or diminished mill site, as defined in the Zoning and Development Ordinance, provided that only the portion of the site that was improved for the processing or manufacturing of wood products may be designated Rural Industrial; or***

Applicant's Response: In this case, the application can be approved under Policy 4.LL3.2,

because the site meets the statutory definition of "abandoned or diminished mill-site."

4.LL.3.3 Areas shall be located within an Unincorporated Community; and

Applicant's Response: Although it is not required that the applicant meet this alternative criterion, the site is not incorporated into any unincorporated community.

4.LL.3.4 The site shall have direct access to a road of at least an arterial classification.

Applicant's Response: Although it is not required that the applicant meet this alternative criterion, South Kropf Road is classified as a minor arterial and provides direct access to the site.

Clackamas County Comprehensive Plan Chapter 5: TRANSPORTATION

5.R Policies on Improvements to Serve Development

5.R.1 Require new development to be served by adequate transportation facilities and access points that are designed and constructed to safely accommodate all modes of travel.

5.R.2 For new developments and land divisions, require right-of-way dedication, on-site frontage improvements to the applicable standards as shown in the roadway Cross Sections (Figures 5-1a through 5-1f and Figures 5-2a through 5-2f) and the County Roadway Standards, and off-site improvements necessary to safely handle expected traffic generated by the development and travel by active modes. Where roadway standards are adopted by the County in Special Transportation Plans, those standards shall apply.

5.R.3 Assess anticipated off-site traffic impacts caused by new developments. The developer may be required to participate financially or otherwise in the provision of off-site improvements, dedications or other requirements.

5.R.4 For new development proposed on a site identified on Map 5-6 (Potentially Buildable Residential Sites >5 Acres in UGB), require a conceptual street plan that is consistent with requirements of this section and provides for full street connections at intervals of no more than 530 feet, where feasible.

Applicant's Response: The Applicant relies on the Transportation Engineer's letter and attachments (Exhibit 9), including the Mill Site ZDO compliance review and TPR analysis, for substantive responses. These materials demonstrate consistency with Chapter 5 of the TSP.

5.U.5 Ensure that freight rail lines and truck routes do not have disproportionately negative impacts on sensitive land uses (places where

people with increased risk of adverse impacts from exposure to noise and air pollution are likely to gather, such as schools, senior centers, hospitals, parks, housing). Prioritize mitigation efforts for current sensitive land use areas near freight rail lines and truck routes. Mitigate impacts to sensitive land uses by using vegetative buffers, establishing rail "quiet zones," and coordinating land use plans.

Applicant's Response: As documented in the Transportation Engineer's TPR analysis (Exhibit 9), the proposed zone change would result in only a modest increase of up to 53 PM peak hour trips, with traffic remaining consistent with the functional classification of Kropf Road as a minor arterial. All studied intersections continue to operate within adopted v/c and LOS standards, and no sensitive receptors such as schools, hospitals, or housing are located adjacent to the freight routes serving the site. Accordingly, no disproportionate impacts to sensitive land uses are anticipated. This criterion is met.

5.V Freight Trucking Policies

5.V.1 Support the Truck Freight Route System, while not prohibiting the use of other roads for local pickup and delivery of goods and services. (See Maps 5-9a and 5-9b).

Applicant's Response: This is directive to staff which is applied at the time of TSP development and adoption. It is not a mandatory approval standard for development or zone changes.

5.V.2 Improve and maintain the countywide Truck Freight Route System, the Regional Transportation Plan Freight Routes and Oregon Freight Plan Routes, as shown on Maps 5-9a and 5-9b.

Applicant's Response: This is directive to staff which is applied at the time of TSP development and adoption. It is not a mandatory approval standard for development or zone changes.

5.V.3 Consider Heavy and Oversize Freight Movement requirements on State and County facilities when developing plans for transportation improvements and land use changes along freight routes designated as ORS 366.215 Corridors, as shown on Maps 5-9c and 5-9d.

Applicant's Response: This is directive to staff which is applied at the time of TSP development and adoption. It is not a mandatory approval standard for development or zone changes.

5.V.4 Consider the safety of all travel modes that use the Truck Freight Route System when designing improvements to this system.

Applicant's Response: This is directive to staff which is applied at the time of TSP development and adoption. It is not a mandatory approval standard for development or zone changes.

5.V.5 Accommodate freight travel on the Truck Freight Route System by improving facility design and operations.

Applicant's Response: This is directive to staff which is applied at the time of TSP development and adoption. It is not a mandatory approval standard for development or zone changes.

5.V.6 Identify street improvements to reduce delays and to improve travel time reliability on roadways in the Truck Freight Route system

Applicant's Response: This is directive to staff which is applied at the time of TSP development and adoption. It is not a mandatory approval standard for development or zone changes.

5.V.7 Work to improve the safety of Truck Freight Routes for all transportation modes.

Applicant's Response: This is directive to staff which is applied at the time of TSP development and adoption. It is not a mandatory approval standard for development or zone changes.

5.V.8 Support the development of truck layover facilities/staging areas to reduce the conflicts between parked vehicles and adjoining land uses.

Applicant's Response: This is directive to staff which is applied at the time of zoning code development and adoption. It is not a mandatory approval standard for development or zone changes.

5.V.9 Utilize Intelligent Transportation Systems (ITS) solutions to improve safety and operations of freight movement.

Applicant's Response: This is directive to staff which is applied at the time of TSP development and adoption. It is not a mandatory approval standard for development or zone changes.

VI. COMPLIANCE WITH STATEWIDE PLANNING GOALS.

A Post Acknowledgement Plan Amendment (PAPA) is a planning responsibility under ORS 197.175(1) and is subject to compliance with the statewide planning goals. Thus, to the extent they are applicable, the applicant demonstrates compliance with the Statewide Planning Goals as follows. Goals not addressed have been determined by the applicant to be not applicable.

Goal 1 – Citizen Involvement: To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.

Applicant's Response: Goal 1 is satisfied when the County follows the public involvement procedures set out in statute and in its acknowledged Comprehensive Plan and land use regulations. Citizen involvement is always applicable to quasi-judicial applications such as this. Statewide Planning Goal 1 is met via the implementation of the provisions in the acknowledged Clackamas County ZDO that relate to citizen participation. This application will be reviewed by staff, the Clackamas County Planning Commission, and the Board of County Commissioners. At least two public hearings will be conducted with notice and opportunity to be heard presented,

as required by the ZDO. The property will be posted with notice as well as mailed notice to surrounding property owners and affected governmental agencies. At the public hearings anyone wishing to present relevant testimony or documentary evidence will be allowed to do so. Adequate citizen involvement is therefore guaranteed in this case.

Goal 2 – Land Use Planning: To establish a Land Use Planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.

Applicant's Response: The Plan and ZDO are acknowledged to be in compliance with statewide planning goals and guidelines. Goal 2's coordination obligation will be met because the applicant and County will seek public comment from any affected unit of government, including and any special district whose boundaries overlap with the site. Goal 2 is therefore met.

Goal 3 – Agricultural Lands: To preserve and maintain agricultural lands.

Applicant's Response: Goal 3 defines "agricultural lands" and requires counties to "preserve and maintain" them through zoning that generally restricts uses to farm-related activities and uses supportive of farms. The subject property is designated or zoned as agricultural land. However, as discussed above, the site has long been built as a timber mill site, and is therefore unavailable for any uses allowed by Goal 3 and Clackamas County's ZDO. Typically, a "Goal Exception" is required to develop land identified in the County's acknowledged Comprehensive Plan as "agricultural" or "forest" land with nonconforming industrial development. However, ORS 197.719(2) provides that the land use regulations in support of Goal 3 and Goal 4 do not apply to an abandoned or diminished mill site meeting the standards of ORS 197.719(1). Therefore, industrial development of a qualifying site does not require a determination of compliance with, or an "exception" to, Statewide Land Use Planning Goal 3. An exception to Goal 3 is therefore not sought in this case.

Goal 4 – Forest Lands: To conserve forest lands by maintaining the forest land base and to protect the State's forest economy by making possible economically efficient forest practices that assure the continuous growing and harvesting of forest tree species as the leading use on forest land consistent with sound management of soil, air, water, fish and wildlife resources and to provide for recreational opportunities and agriculture.

Applicant's Response: The subject property does not contain forest land. It was used as a mill site for processing logs for many years, but as stated elsewhere in this application, its tenant has relocated, and due to shifting economic conditions including the increasing centralization of log processing into only a few companies, it is not expected that the site would be able to continue any type of use relevant to Goal 4. Therefore, Goal 4 does not apply to this land.

Goal 5 – Open Spaces, Scenic and Historic areas, and Natural Resources: To identify, inventory, and protect natural resources within the state of Oregon.

Applicant's Response: Goal 5 is established to protect and preserve more than a dozen natural and cultural resources. It establishes a process for each resource to be inventoried and evaluated. If a resource site is found to be significant, a local government has three policy choices: preserve the resource, allow proposed uses that conflict with the resource, or balance the needs of the resource and the conflicting use. The subject property is not designated as an open space, scenic, or historic area and has no natural resources to protect. The proposed zone change and proposed development will occur on the portion of the site that has been previously developed. There are no natural resources located on the portion of the subject property at issue. There are no landslide hazard areas. There are no historic resources or cultural areas located or identified on the site. There are no identified mineral or aggregate resources on the site. The site is not located downtown or in a neighborhood conservation district. Adequate distance from riparian and wildlife areas will be maintained. Therefore, this goal is satisfied.

Goal 6 – Air, Water and Land Resources Quality: To maintain and improve the quality of the air, water and land resources of the State.

Applicant's Response: Goal 6 requires local comprehensive plans and implementing ordinances to be consistent with state and federal regulations affecting noise, air, water, and land resources. The proposed use of this property will be for rural industrial use. This application will not affect in any way the air, water or land resources. Therefore, this goal is met.

Goal 7 – Areas Subject to Natural Disasters and Hazards: To protect people and property from natural hazards.

Applicant's Response: Goal 7 is intended to protect life and property in locations subject to events such as floods, landslides and earthquakes. Goal 7 requires jurisdictions to apply "appropriate safeguards", *i.e.* adopted floodplain ordinance provisions, when developing within a known hazard area.

There are no identified landslide areas, wetlands, or floodplains on the portion of the subject property being proposed for rezoning. The entire property is basically flat and devoid of natural hazards, due to its distance from the nearby creek. Goal 7 is complied with by this application.

Goal 8 – Recreational Needs: To satisfy the recreational needs of the citizens of the State and visitors, and where appropriate to provide for the siting of necessary recreational facilities including destination resorts.

Applicant's Response: Goal 8 directs communities to evaluate recreational needs and resources and to plan for them. In this case, the site is privately-owned agricultural land that has been developed as a mill site, and is not available for public recreation. The proposed development will not diminish local access to recreational opportunities on nearby lands. Therefore, Goal 8 does not apply to the subject property and is not affected by this application.

Goal 9 - Economic Development: To provide adequate opportunities throughout the State for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens.

Applicant's Response: Goal 9 is intended to promote diversification and improvement of the economy. Goal 9 requires jurisdictions with urban and urbanizable land to inventory their commercial and industrial lands urban areas, project future needs for such lands, and plan and zone enough land to meet those needs. Goal 9 does not apply to this application, as Goal 9 only applies to areas within an urban growth boundary. OAR 660-09-0010(1). *Port of St. Helens v. Land Conservation & Development Committee*, 164 Or App 487, 495, 996 P2d 1014 (2000).

Goal 10 – Housing: To provide for the housing needs of the State.

Applicant's Response: This application seeks to change the zoning designation of a site being used for rural industrial purposes, and has no impact on housing. Goal 10 does not apply.

Goal 11 – Public Facilities and Services: To plan and develop a timely and efficient arrangement of public facilities to serve as a framework for Urban and Rural Development.

Applicant's Response: Goal 11 is intended to ensure efficient planning of public services such as sewers, water, law enforcement, and fire protection. Goal 11 directs that public services should be planned in accordance with a community's needs and capacities prior to development, rather than as a response to infrastructure needs as development occurs. OAR 660-011-0005(5). As such, Goal 11 does not apply to this application, a privately-owned business operation.

Goal 12 – Transportation: To provide and encourage a safe, convenient and economic transportation system.

Applicant's Response: Goal 12 requires local governments to "provide and encourage a safe, convenient, and economic transportation system." In the quasi-judicial context, Goal 12 requires a local government, when approving a comprehensive plan amendment,[1] to either demonstrate that "transportation systems"[2] affected by the amendment will be "safe and adequate," or by demonstrating that the proposed change will not result in greater or different transportation demands than those allowed by the existing acknowledged designations.[3]

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[1] Notably, Goal 12 applies directly to comprehensive plan amendments. *Mulford v. Town of Lakeview*, 36 Or LUBA 715 (1999). The fact that the local government has adopted comprehensive plan policies and development approval criteria that are intended to implement Goal 12 and that will be applied to subsequent development proposals does not obviate the need to show goal compliance at the time the plan amendment is finalized. *Bicycle Transportation Alliance v. Washington County*, 127 Or App 312, 873 P2d 452, *on reconsideration*, 129 Or App 98 (1994).

[2] The term "transportation systems" is defined in Goal 12 as "one or more transportation facilities that are planned, developed, operated and maintained in a coordinated manner to supply continuity of movement between modes, and within and between geographic and jurisdictional areas."

[3] *Mulford v. Town of Lakeview*, 36 Or LUBA 715 (1999) (decision which rezones land to allow an industrial use generating 120 truck trips per day through local streets and a state highway must demonstrate compliance with Goal 12); *Gaske v. Lane Co.,* 3 Or LUBA 147 (1981); *Conarow v. Coos Co.,* 2 Or LUBA 190 (1981); *ODOT v. Clackamas County*, 27 Or LUBA 141 (1994); *Salem Golf Club v. City of Salem*, 28 Or LUBA 561 (1995); *ODOT v. Clackamas Co.,* 23 Or LUBA 370, 376-77 (1992); *Marcott Holdings, Inc. v. City of Tigard,* 30 Or LUBA 101, 108-9 (1995); *Hubenthal v. City of Woodburn,* 39 Or LUBA 20 (2000). *See also generally Metro Service Dist. v. Board of County Commr's*, 1 Or LUBA 282, 292 (1980); *Lee v. City of Portland*, 2 Or LUBA 31 (1981).

As demonstrated in the Transportation Engineer's TPR analysis (Exhibit 9), none of these thresholds are triggered. Kropf Road is classified as a minor arterial, and the modest increase of up to 53 PM peak hour trips remains consistent with the "moderate" volumes anticipated for that classification. Capacity analyses confirm that all study intersections continue to meet the v/c and LOS standards in Comprehensive Plan Tables 5-2a and 5-2b, with no facilities degraded below adopted thresholds. Safety analysis shows crash rates well below 1.0 MEV, with recent improvements at Highway 211/Kropf Road further enhancing conditions. Accordingly, the proposed amendment does not result in a "significant effect" under OAR 660-012-0060. ZDO 1202.03(C) requires that the transportation system be adequate to accommodate the proposed change, and subsection (D) requires that system safety be adequate. The attached TPR analysis demonstrates that both criteria are satisfied: the transportation system retains adequate capacity and functional classification, and crash history does not indicate systemic safety concerns. Because the requirements of OAR 660-012-0060 and ZDO 1202.03 are met, the amendment complies with Goal 12's mandate to provide and encourage a safe, convenient, and economic transportation system.

Goal 13 – Energy: To conserve energy.

Applicant's Response: Goal 13 states that: "Land and uses developed on the land shall be managed and controlled so as to maximize the conservation of all forms of energy, based upon sound economic principles." This application presents a positive alternative from an energy consumption and efficiency standpoint, when compared to an economically unfeasible attempt to convert the property to a use allowed under its current zoning and Plan designation.

Goal 14. Urbanization: to provide for an orderly and efficient transition from rural to urban land.

Applicant's Response: ORS 197.719 obviates the need for the applicant to show compliance with Goal 14. The policy behind the statute is to allow urban uses of abandoned mill sites.

VII. CONCLUSION.

The Applicant has demonstrated that the subject property qualifies as an "abandoned or diminished mill site" consistent with ORS 197.719(1), and has been operating at less than 25% capacity since January 1, of 2003. The subject property therefore may be redesignated and rezoned from Exclusive Farm Use (EFU-80) to Rural Industrial (RI).

Under ORS 197.719, lands meeting the definition of an "abandoned or diminished mill site" may be rezoned for industrial purposes without requiring an exception to, or demonstration of compliance with, Statewide Planning Goals 3, 4, or 14. Because those goals and their implementing rules do not apply to qualifying sites, the proposed amendment lawfully enables limited rural industrial redevelopment of this historically industrial property.

The proposal satisfies all applicable state and county standards for a combined Comprehensive Plan Map Amendment and Zoning Map Change. It is consistent with the intent of the Clackamas County Comprehensive Plan, supports rural economic development through the reuse of previously disturbed industrial lands, and ensures that future development will

comply with all applicable site-specific review standards.

Accordingly, the Applicant respectfully requests that Clackamas County approve this application for a Comprehensive Plan Amendment and Zone Change to redesignate and rezone the subject property from EFU-80 to Rural Industrial (RI) in accordance with ORS 197.719.

Planning and Zoning
Department of Transportation and Development

Development Services Building
150 Beavercreek Road | Oregon City, OR 97045
503-742-4500 | zoninginfo@clackamas.us
www.clackamas.us/planning

PRE-APPLICATION CONFERENCE SUMMARY

Permit Type: Comprehensive Plan map amendment & zone change

File No. ZPAC0113-25, minor preapp

Proposal: Comprehensive Plan map amendment from AG (Agriculture) to RI (Rural Industrial) and corresponding zone change from EFU (Exclusive Farm Use) to RI (Rural Industrial) for an "abandoned or diminished mill site"

Staff Contact: Martha Fritzie, 503-742-4529, mfritzie@clackamas.us

Applicant: Andrew Stamp and Spencer Petrauski / M & S Investments LLC

Assessor's Map and Tax Lot Number: 51E21 01000 (& 01100)

Site Address: 33532 S Kropf Rd, Molalla

Zoning: EFU (Exclusive Farm Use)

Pre-application Conference Date: October 1, 2025

Date of this Summary: October 7, 2025

Clackamas County is committed to providing meaningful access and will make reasonable accommodations, modifications, or provide translation, interpretation or other services upon request. Please contact us at 503-742-4545 or drenhard@clackamas.us.

503-742-4545: ¿Traducción e interpretación? | Требуется ли вам устный или письменный перевод? 翻译或口译？ | Cần Biên dịch hoặc Phiên dịch? | 번역 또는 통역?

I. APPLICABLE STATE AND COUNTY STANDARDS

A. Statewide Planning Goals and Oregon Revised Statutes (ORSs) and Oregon Administrative Rules (OARs)

A Comprehensive Plan map amendment and zone change must be consistent with all applicable Statewide Planning (SWP) Goals and implementing Oregon Revised Statutes (ORSs) and Oregon Administrative Rules (OARs).

At the previous preapplication conference (ZPAC0058-23) two possible pathways were discussed (1) "Physically developed" Goal Exception and (2) ORS197.719 "abandoned or diminished mill site." The applicants have stated that they would like to pursue pathway (2). To staff's knowledge, the rules for this option have not changed and therefore the same considerations are relevant.

Applicants also expressed intent to include one taxlot (51E21 01000) in the Comp Plan/zone change request. This taxlot is part of a lot of record that also includes 51E21 01100. Given aerial photography and land use history, the area that was included in the abandoned/diminished mill site likely only included taxlot 1000 and therefore this single taxlot is more likely to qualify under the "abandoned and diminished mill" provisions.

Process considerations under "abandoned and diminished mill" rules:
Comprehensive Plan amendment/zone change does not require an exception to SWP Goal 3. See definition in **ZDO Section 202** and ORS 197.719
• Must include evidence that the *subject property* had a "facility engaged in the processing or manufacturing of wood products, including sawmills and facilities for the production of plywood, veneer, hardboard, panel products, pulp, and paper" that **closed after January 1, 1980, or that has been operating at less than 25% of capacity since January 1, 2003** • Only the **portion of the property** that was "improved for the processing or manufacturing of wood products" can be zoned RI; the remainder would stay EFU • Based on past verifications and alterations of nonconforming uses on property, it is not clear to staff that this site has been operating at less than 25% of capacity. Applicant would need to provide substantial evidence.
Not required to address SWP Goal 14
Comp Plan Policy and Zoning Considerations:
Abandoned/Diminished Mill Site (Comp Plan Policy 4.LL.3.1) See notes above about demonstration that property meets definition of "diminished mill site" and limiting area of zone change
Maximum building floor space per industrial use, as listed in Table 604-2, **would not apply** in areas of abandoned or diminished mill site
ORS 197.719(6)(b) **prohibits** the portion of the property zoned RI under this provision from being used for any **retail, commercial, or residential development**, uses which may otherwise occur in the RI District according to the criteria in ZDO Section 604.

Statewide Planning (SWP) Goals: Please review and address any applicable SWP Goals in the application narrative. In addition to Goal 3, these should, at a minimum, include:

Goal 12, *Transportation*

The applicant will be required to submit a traffic study or similar evidence to demonstrate compliance with requirements of the Transportation Planning Rule (TPR), found in Oregon Administrative Rules 660-012-0060, as well as the requirements of ZDO Section 1202.03 and Chapter 5 of the Comprehensive Plan.

Note: ORS 197.719 specifically exempts an "abandoned or diminished mill site" from having to address Goal 14.

B. Applicable Zoning and Development Ordinance (ZDO) and Comprehensive Plan (Comp Plan) standards

ZDO Section 1202 (Zone Changes)
Zone changes are subject to the approval criteria in Section 1202.03 of the county's ZDO, which requires the zone change to be:
(A) consistent with the Comprehensive Plan,
(B) have adequate services provided,
(C) have no significant impact on the adequacy of the transportation system (links to state transportation planning rule), and
(D) have no significant impact safety of the transportation system.

(A) Comprehensive Plan. Please note that both the Comprehensive Plan amendment and ZDO Section 1202.03(A) require review of Comp Plan and findings to address any applicable policies within the entire Plan. Some of the most relevant Chapters and policies are noted below, but the applicant should review the Comprehensive Plan to identify all policies applicable to the subject site and proposal.

Chapter 3, Natural Resources and Energy

Wetlands: The subject property contains a large area identified as a wetland on the State Wetland Inventory (SWI). As such, Policy 3.F and any other relevant policies will need to be addressed.

Groundwater Limited Area: The subject site is within a sensitive groundwater area (see map of the state's Groundwater Restricted Areas here). Please address applicable policies related to groundwater resources found in Chapter 3.

Chapter 4, Land Use,

Chapter 4 (Land Use) of the Plan contains policies that direct the designation of the Rural Industrial Plan designation. As noted below and discussed in the pre-app, the applicant will need to provide evidence that the site either has an "historical commitment to industrial uses" or is an "abandoned or diminished mill site". (This property is not within and unincorporated community).

4.LL *Rural Industrial Policies*

4.LL.1 The Rural Industrial plan designation may be applied in non-urban areas to provide for industrial uses that are not labor-intensive and are consistent with rural character, rural development, and rural facilities and services.

4.LL.2 The Rural Industrial (RI) zoning district implements the Rural Industrial plan

designation.

4.LL.3 Areas may be designated Rural Industrial when the first, the second, or both of the other criteria are met:

4.LL.3.1 Areas shall have an historical commitment to industrial uses; or

4.LL.3.2 The site shall be an abandoned or diminished mill site, as defined in the Zoning and Development Ordinance, provided that only the portion of the site that was improved for the processing or manufacturing of wood products may be designated Rural Industrial; or

4.LL.3.3 Areas shall be located within an Unincorporated Community; and

4.LL.3.4 The site shall have direct access to a road of at least an arterial classification.

Chapter 5, Transportation

To address this chapter and sections 1202.03(C) and (D) of the ZDO applicants are required to provide a traffic study. Please coordinate with Christian Snuffin (contact below) and see attached notes regarding scope of required traffic study for this site.

(B) Services - storm drainage. This criteria largely relates to public services (water, sewer) that are not available at the subject site, but this criteria as applicable to the subject as it relates to storm water drainage/surface water management. Please submit signed Statement of Feasibility from applicable surface water management provider (contact below).

(C) Adequacy of transportation system

- Applicable OARs for the Transportation Planning Rule
- Policies in Chapter 5 of the Comprehensive Plan
- Specifics in 1202.03(C)

Please consult with **Christian Snuffin (contact below)** and see attached notes regarding scope of required traffic study.

(D) Safety of transportation system

- Consult with **County Engineering staff** (roadway standards, safety standards etc.)
- Policies in Chapter 5 of the Comprehensive Plan

Other Zoning (ZDO) Considerations

- Rural Industrial (ZDO Section 604) -
  - All development requires design review and compliance with ZDO Section 1000s
- Groundwater Limited Area – per ZDO Section 1006, industrial development proposing to use an exempt-use will or wells must also provide a hydrogeologic review (see 1006.03(E)).

II. LAND USE PERMITTING PROCESS

Land use applications are not conceptual. At the time of submittal, the applicant is expected to be at final design stage for all of the following that apply to the particular proposal: site plan, building elevations/materials, access location/width and frontage improvements. **This is important because most changes after land use approval, except as necessary to comply with conditions of approval, will require a new land use application.**

The recommended land use application(s) is/are:

Comprehensive Plan Map Amendment and Zone Change: a "Type III" land use application process, as provided for in Section 1307 of the ZDO. Type III decisions include notice to owners of nearby land, the Community Planning Organization (CPO) if active, service providers (sewer, water, fire, etc.) and affected government agencies, and are reviewed at a public hearing before the County Planning Commission and Board of County Commissioners. If the application is approved, the applicant must comply with any conditions of approval identified in the decision. The County's decision can be appealed to the Oregon Land Use Board of Appeals (LUBA).

- Application form: https://dochub.clackamas.us/documents/drupal/592677ce-53dc-416d-84cc-b0367e1efca9
- Fee: $15,347 Comp Plan Map Amendment & Zone Change + $154 expanded notification area = **$15,501**.
  - Payable by cash, credit card, or check payable to Clackamas County
    - Credit card payment subject to a 2.75% service fee and must be accompanied by the Credit Card Authorization Form

- Timeline:
  - Completeness review: 30 days; within the first 30 days of the application being submitted the Planning Division will review the application materials to ensure that everything required has been turned in. In the event that there are items missing from the application packet, you will be notified of the specific items missing and information on how you can provide staff with the missing documents/information.
  - Notice period: at least 35 days prior to the first evidentiary hearing the County will send a mailed notice to surrounding property owners and other reviewing agencies
  - Staff report: Planning Division staff will write a staff report and make a recommendation to the Planning Commission who will issue a recommendation to the Board of County Commissioners (BCC). These reports are available to the public for review at least one week prior to the hearing.
  - Public hearings: A public hearing is held with the Planning Commission and another with the BCC for the purpose of receiving testimony regarding the application.
  - Decision: The decision authority is the Board of County Commissioners. The Board will issue a decision based on the applicable standards and criteria within 3 weeks of when the record closes.

III. QUESTIONS RAISED BY THE APPLICANT

None

IV. MINIMUM LAND USE APPLICATION SUBMITTAL REQUIREMENTS

The submittal requirements are provided in ZDO 1307.07(C) and 1202.02. In addition, review the applicable criteria listed above while preparing your written narrative and other land use application items. It is the applicant's responsibility to clearly demonstrate how a proposal meets all applicable criteria.

V. AGENCY/DEPARTMENT CONTACT INFORMATION:

This list is provided for the applicant to follow up with relevant service providers, agencies, Community Planning Organization and County staff as needed.

Name / Position / Phone Number / Email

1. County Planning: Martha Fritzie, (503) 742-4529, mfritzie@clackamas.us
2. County Engineering (traffic study): Christian Snuffin, (503) 742-4716, CSnuffin@co.clackamas.or.us
3. County Engineering (stormwater/development review): Ken Kent, (503) 742-4673, Kenken@co.clackamas.or.us or Jonny Gish, (503) 742-4707, JGish@co.clackamas.or.us
4. **Community Planning Organization:** South Canby CPO, not currently active

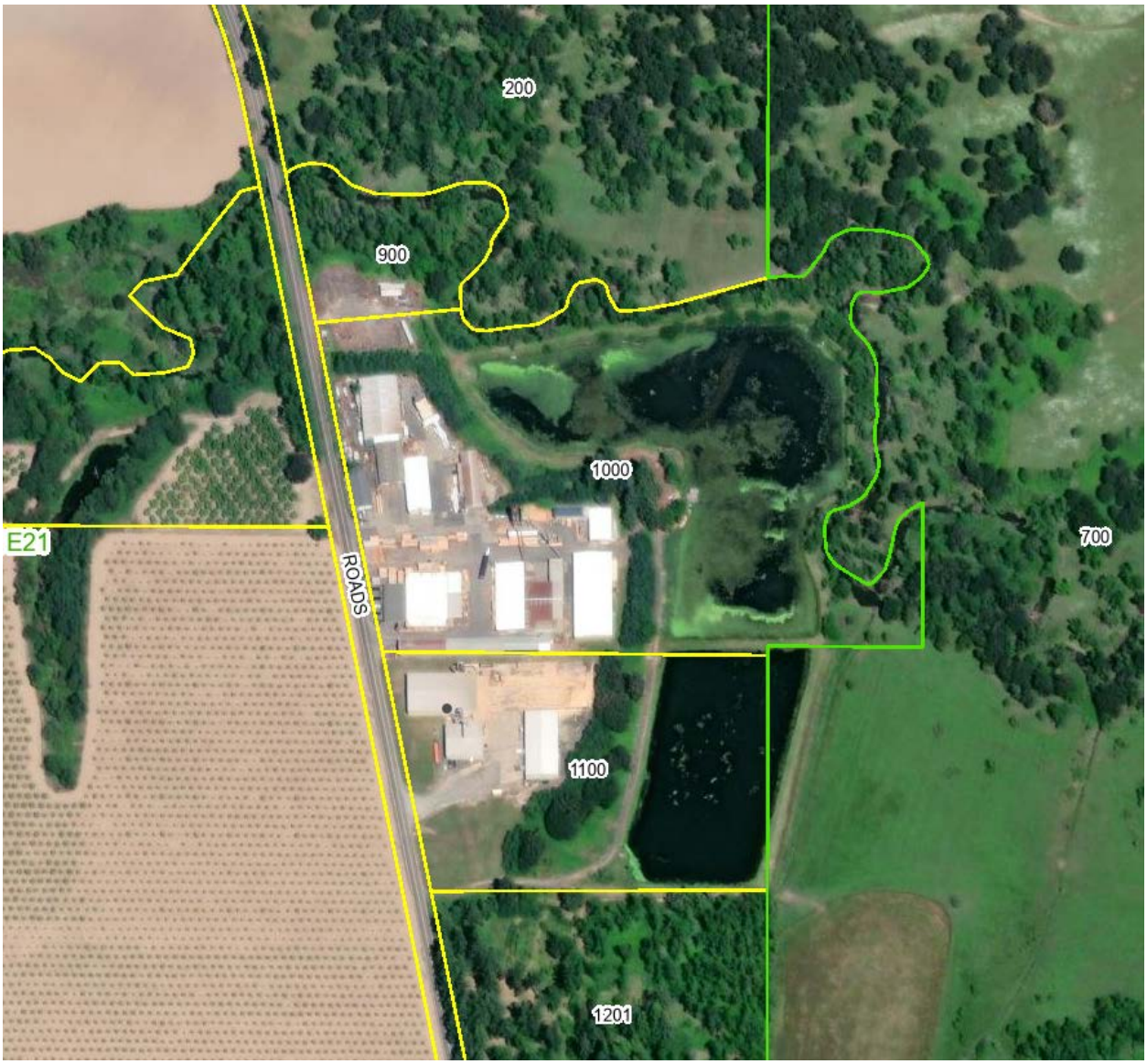

200
900
1000
700
E21
ROADS
1100
1201

Exhibit 2A Page 2 of 4 Updated

5 1 E 21

SECTION 21 T.5S. R.1E. W.M.
CLACKAMAS COUNTY
1" = 400'

35-32

EFU

SEE MAP 5 1E 16

SEE MAP 5 1E 22

SEE MAP 5 1E 28

501 1.89 Ac. 33022
500 37.72 Ac. 33026
100 22.69 Ac. 33003
101 6.42 Ac.
102 30.21 Ac. 33187
601 19.85 Ac. 33186
600 19.85 Ac. 33244
700 69.50 Ac.
701 9.90 Ac. 33212
800 33.85 Ac.
200 51.34 Ac. 33222
900 2.52 Ac.
1000 20.79 Ac. 33532
1100 9.95 Ac. 33632
1201 8.29 Ac.
2000 11.00 Ac. 33916
1500 39.40 Ac. 33684
1400 39.70 Ac.
1300 39.70 Ac. 8313
1200 56.12 Ac.
1600 16.16Ac. 33904
1800 19.40 Ac.
1900 65.84 Ac.
1700 2.64 Ac. 33998

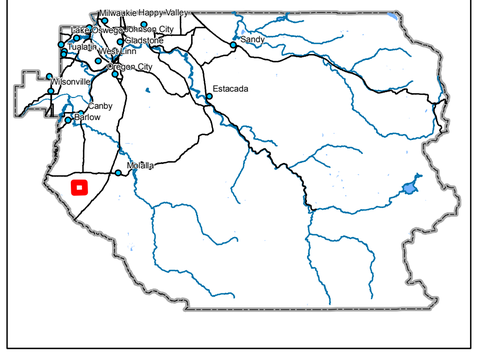
33000
33600
34000

RD (17'/5')
S. GIBSON (DARNELL) ROAD NO. 123
S. FERRY (GRAVES) ROAD
MKT RD NO. 10
S. KROPF RD

Cancelled Taxlots

300
400
1101

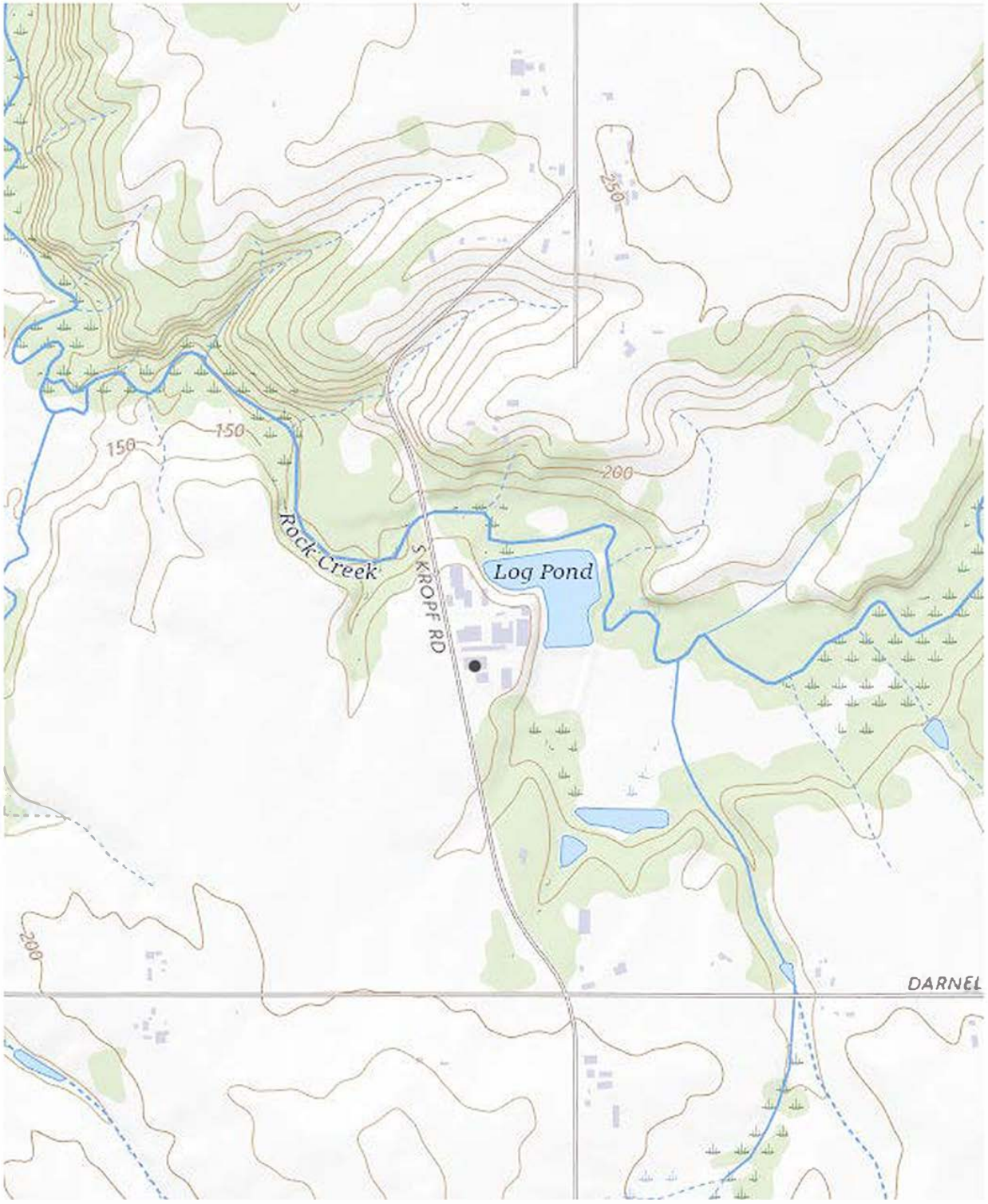
- Parcel Boundary
- Private Road ROW
- Historical Boundary
- Railroad Centerline
- TaxCodeLines
- Map Index
- WaterLines
- Land Use Zoning
- Plats
- Water
- Corner
- Section Corner
- 1/16th Line
- Govt Lot Line
- DLC Line
- Meander Line
- PLSS Section Line
- Historic Corridor 40'
- Historic Corridor 20'



THIS MAP IS FOR ASSESSMENT PURPOSES ONLY

11/1/2016

5 1 E 21


250
150
150
200
Rock Creek
S KROPF RD
Log Pond
200
DARNEL

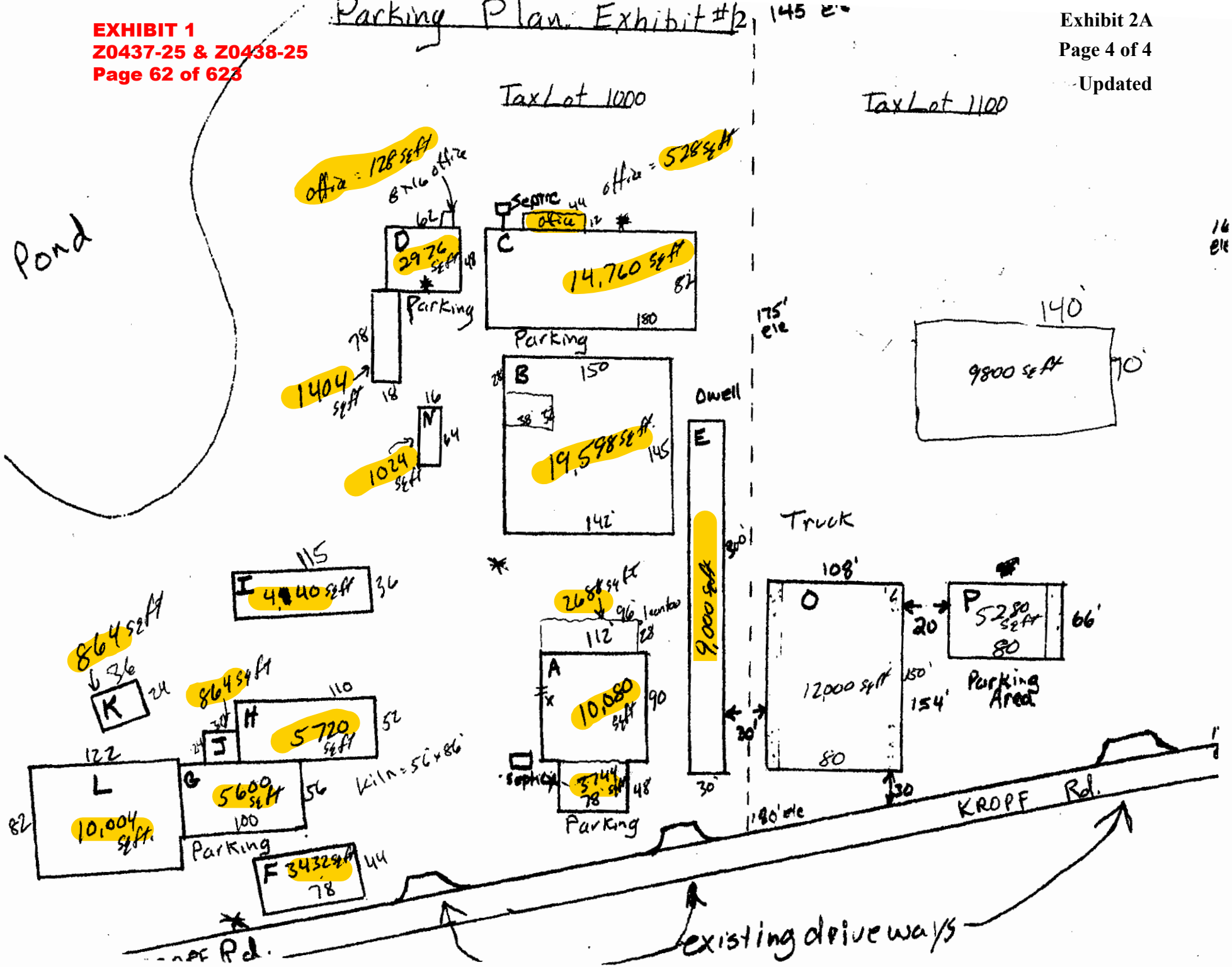
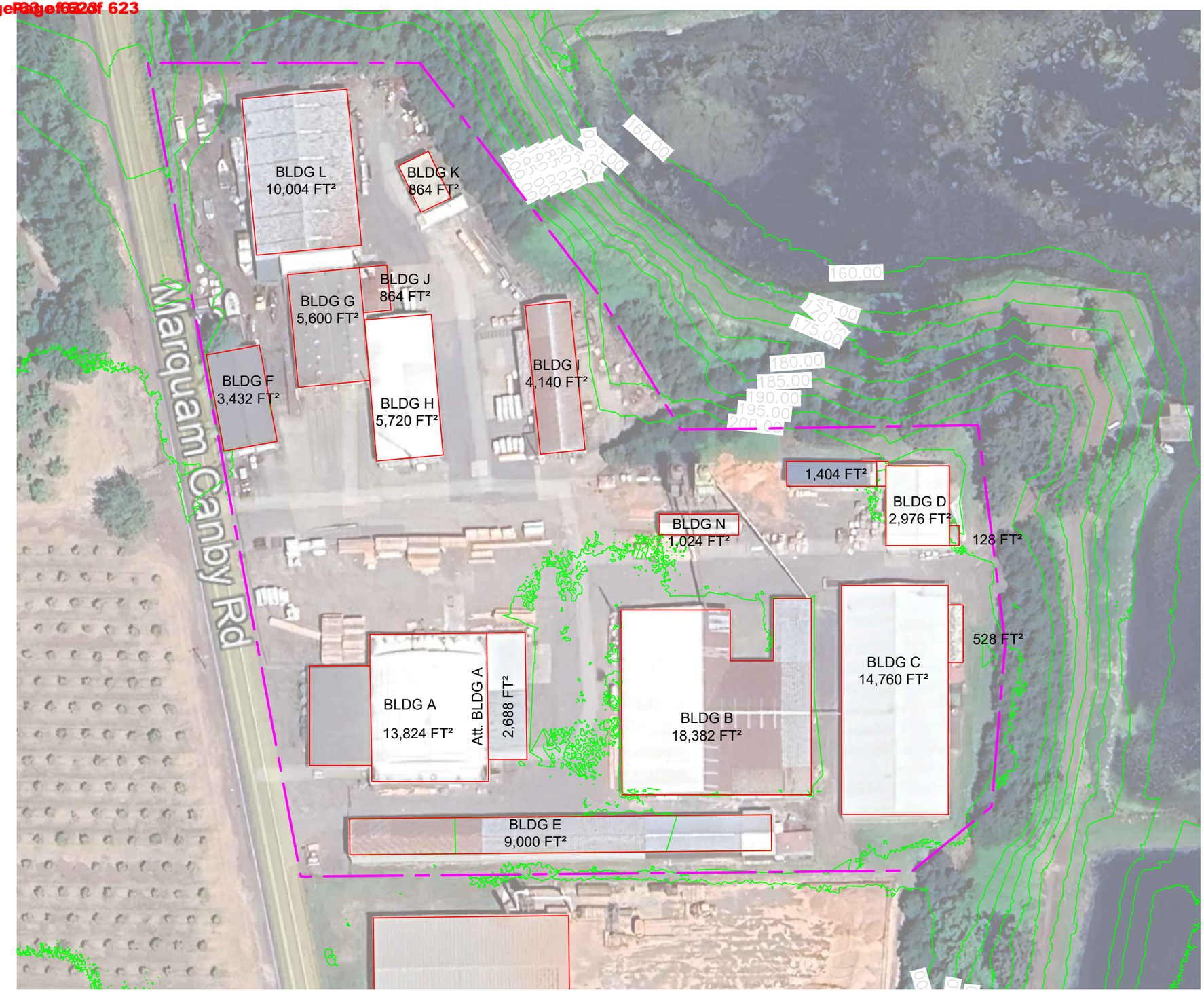

Parking Plan. Exhibit #2
Tax Lot 1000
Tax Lot 1100
Pond
office = 128 sq ft
8'x16' office
D
29.76 sq ft
Parking
1404 sq ft
N
1024 sq ft
Septic
office = 528 sq ft
C
14,760 sq ft
Parking
B
19,598 sq ft
Owell
E
9,000 sq ft
145'
175' ele
140'
9800 sq ft
70'
Truck
I
4140 sq ft
115
36
864 sq ft
K
864 sq ft
H
5720 sq ft
J
L
10,004 sq ft
G
5600 sq ft
Kiln = 56'x86'
F
3432 sq ft
Parking
2688 sq ft
A
10,080 sq ft
Septic
3744 sq ft
Parking
O
12,000 sq ft
108'
154'
P
5280 sq ft
Parking Area
66'
20'
30'
KROPF Rd.
180' ele
existing driveways
Rd.

Exhibit 2B
Page 1 of 1



LEGEND:

- BUILDING
- ZONE CHANGE AREA
- CONTOUR

REVISION INFORMATION			
MILESTONE	DATE	REVIEWING AGENCY	

"PARTNERS IN SERVICE"

Advanced Remediation Technologies, Inc
692 NW 1ST AVENUE, SUITE 119
CANBY, OREGON 97013
(503)-266-2122

MITCH MAGENHEIMER
ROCK CREEK MILL SITE
YODER, OREGON

SITE PLAN

DATE	05/19/23
DRAWN	LAD
DESIGN	LAD
CHECK	KAD
SCALE	1"=20'

SITE PLAN

SHEET 1 OF 1

LAND USE FILES

FILE # Z0092-92-E

LEGAL DESCRIPTION:

5 S 1 E

SEC. 21 TAX LOT 1000

MAP

CLACKAMAS COUNTY
PLANNING DIVISION

902 Abernathy Road Oregon City, OR 97045

655 8521

GREG FRITTS

☐ Zone Change
☐ Non-Conforming Use
☐ Minor Partition
☐ Subdivision
☐ Conditional Use
☐ Variance
☐ Transitional Use
☐ Temporary Permit
☐ Flood Hazard Permit
☐ _____
☐ _____

FOR STAFF USE
Pre-application conf. date
File No. _____ Receipt #
Date Received 2/1/93 $50
Hearing Date
Staff Member GLF
Comp Plan AG
Present Zone EFU-20
CPO _____ Date Rec'd

Add Pellet Mill

Ivan Kropf
33532 S. Kropf City Molalla State Or. 97038
Same Office Phone 651-2551
☒ Legal Owner ☐ Contract Buyer ☐ Option Holder ☐ Agent Home Phone
Sec. 21 T 5 R 1E Tax Lot 1000 Tax 20ac.
Property under your ownership ✱
Will apply for building permits / Will seek permits from other agencies: Building, Electrical

Brief description of proposed timetable for project, and special circumstances:
Add Pellet Mill to existing lumber mill

R/F
7-8-93
FRITTS

Present use of property: LUMBER MILL
Water supply: well
Has pre-application conference been held? ☐ Yes ☐ No ☒ Not consulted
Anticipated filing date: 5-6 Projected 7-8

I hereby certify that the statements furnished above, the attached exhibits and all other information supplied are in all respects true and correct to the best of my knowledge and belief.

X Ivan S Kropf
Applicant's Signature
2-1-93
Date
SAME
Property owner's signature required if applicant is not owner

Address

OFFICE USE ONLY

ALTERATION OR CHANGE OF A NON-CONFORMING USE OR STRUCTURE
CLACKAMAS COUNTY DEPARTMENT OF ENVIRONMENTAL SERVICES
PLANNING DIVISION
902 Abernethy Road
Oregon City, Oregon 97045
Phone: 655-8521

The following information must be submitted with all applications for an alteration and/or change of a non-conforming use or structure. Applications not containing this information are incomplete and cannot be accepted.

A. Completed application form (attached)

B. Application fee of $ 556

C. Site plan of subject property, drawn to scale, showing the following information (see attached example)

1. Property dimensions
2. Size of property (square feet or acres)
3. Roads adjacent to property and road names
4. Access to property from nearest public, county or state road
5. Identification, location and distance from property lines of existing improvements

D. Building profile, drawn to scale, of proposed structures

E. Detailed written description of the existing use and any previous alteration or change since use was first established. Describe any changes in the use over that time. The description of existing and previous uses shall include:

1. Number of employees
2. Days and hours of operation
3. Buildings, vehicles, equipment and materials associated with the use

F. Detailed written description of the proposed changes

G. An alteration and/or change of a non-conforming use or structure requires county approval. Approval will be granted only if all of the conditions listed in Section 1206 of the Clackamas County Zoning and Development Ordinance are satisfied (copy of section available upon request). The following questions are intended to obtain the information needed to satisfy those conditions. Please answer each question as thoroughly as possible.

1. Why is the alteration and/or change of the use or structure reasonably necessary to continue the existing use.

Need to keep operation economically feasible given shortage of raw logs to mill into lumber.

2 [illegible] structure or physical improvements, if applicable, have no greater adverse impact on the neighborhood than the existing structure or improvements?

Existing sawmill is in operation. operation is in enclosed building. Little noise. Does not add substantially to overall noise level of Lumber mill activities.

3 Will the change in use, if applicable, have no greater adverse impact on the neighborhood than the existing use?

NA

1991 UNIFORM BUILDING CODE Chapter 11
AGRICULTURAL BUILDINGS

Scope

Sec. 1107.(a) Nonfarm Agricultural Buildings. This chapter applies to nonfarm agricultural buildings. Nonfarm agricultural buildings may be classified by the building official as Group M, Division 3 Occupancies as specified in Section 501.

(b) Definitions. For the purposes of this chapter, certain terms are defined as follows:

FARM AGRICULTURAL BUILDING is a structure located on a farm and used in the operation of such farm for the storage, maintenance or repair of farm machinery and equipment or for the raising, harvesting and selling of crops or in the feeding, breeding, management and sale of, or the produce of, livestock, poultry, fur-bearing animals or honeybees or for dairying and sale of dairy products or any other agricultural or horticultural use or animal husbandry or any combination thereof, including the preparation and storage of product raised on such farm for human use and animal use and disposal by marketing or otherwise.

Farm agricultural building does not include:

1. A dwelling;
2. A structure used for a purpose other than growing plants in which persons perform more than 144 hours of labor a week;
3. A structure regulated by the state fire marshal pursuant to ORS Chapter 476;
4. A structure used by the public; or
5. A structure subject to Sections 4001 through 4127, Title 42, United States Code (the National Flood Insurance Act of 1968) as amended, and regulations promulgated thereunder (ORS 455.315).

FARM is land used for the primary purpose of obtaining a profit in money by raising, harvesting and selling of crops or by the feeding, breeding, management and sale of, or produce of, livestock, poultry, fur-bearing animals or honeybees or for dairying and the sale of dairy products or any other agricultural or horticultural use or animal husbandry or any combination thereof. "Farm use" includes the preparation and storage of products raised on such farm for human use and animal use and disposed by marketing or otherwise.

NONFARM AGRICULTURAL BUILDING is a structure which by use or character of its occupancy is similar to a farm agricultural building but is not located on a farm.

(c) Exemption of Farm Agricultural Buildings from Structural Specialty Code. Nothing in ORS Chapter 455 is intended to authorize the application of the State Structural Specialty Code to any farm agricultural building.

Plans are not required to be submitted and permits will not be required on farm agricultural buildings.

When the owner, agent or builder of such a farm agricultural building submits plans for review and asks for inspection, such applicant shall pay the fees provided.

AGRICULTURAL BUILDINGS WILL BE ALLOWED WITHOUT BUILDING PERMITS ON FIVE (5) ACRES OR LARGER IN AREAS ZONED RA-1, RA-2, RRFF-5, FF-10, EFU-20, GAD, TBR, AG/FOREST, AND FU-10.

AN AGRICULTURAL BUILDING IS TO BE BUILT ON THE PROPERTY AT

ADDRESS 33532 S. KROPF

T 5 R 1 SECTION 21 TAX LOT 100 AND WILL BE USED EXCLUSIVELY FOR FARM USE. THE PROPOSED STRUCTURE MEETS THE ABOVE DEFINITION, AND IS THEREFORE EXEMPT FROM THE BUILDING PERMIT PROCESS. (SITE PLAN IS ATTACHED.)

I UNDERSTAND THIS EXEMPTION DOES NOT EXCLUDE ME FROM ANY AND ALL OTHER APPLICABLE PERMITS.

OWNER OR AGENT

33532 S. Kropf Rd.
ADDRESS

Molalla, Or. 97038
CITY, STATE, ZIP CODE

651-2551
PHONE

SIGNATURE

Z-0092-93-E
PLANNING DEPARTMENT 12/6/94 DATE

BUILDING DEPARTMENT 12/6/94 DATE

See 888-93
SOILS DEPARTMENT DATE

NA
UTILITIES (EROSION CONTROL) DATE

FOR STAFF USE

- ☐ NWI
- ☐ FLOODPLAIN
- ☐ PRCA
- ☐ SCENIC RIVERS
- ☐ WILLAMETTE RIVER GREENWAY
- ☐ EROSION CONTROL DISTRICT (TBA/SERVICE DISTRICT #1/ OAK LODGE)

NOTICE OF DECISION OF
EXPANSION OF A NONCONFORMING USE – APPROVAL

CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
PLANNING AND ECONOMIC DEVELOPMENT DIVISION
902 Abernethy Road, Oregon City, Oregon 97045
Phone: 655-8521

TO: Applicant, Citizens Planning Organization, Agencies, and Property Owners within 700 feet of this application.

DATE: February 26, 1993

LAST DATE TO APPEAL: MAR 8 1993

FILE NO.: Z0092-93-E

STAFF CONTACT: Greg Fritts

APPLICANT: Ivan S. Kropf

OWNER OF PROPERTY: Same

Date Mailed: 2-26-93
Neighborhood Group ✓
Property owners (250') ✓
Applicant ✓
Attorney
Others:

LOCATION: East side of S. Kropf Rd., approx. 1/4 mile north of S. Gibson Rd.; south of Canby area.

LEGAL DESCRIPTION: T5S, R1E, Section 21, Tax Lot(s) 1100, W.M.

SITE ADDRESS: 33532 S. Kropf Rd.

TOTAL AREA INVOLVED: Approximately 20.4 Acres

PRESENT ZONING: EFU-20, Exclusive Farm Use, 20 Acre District

CITIZENS PLANNING ORGANIZATION FOR THE AREA: South Canby; Mary Lebert; 30621 S. Stuwe Rd.; Canby, OR 97013; 651-2683

PROPOSAL: Expansion of a nonconforming use to allow a pellet mill in conjunction with the lumber mill on the property.

DECISION: Approval

The Planning Division has reviewed this application for an expansion of a nonconforming use. This application is subject to Section 1206 of the Clackamas County Zoning and Development Ordinance. The Planning Division has reviewed this section of the Ordinance with respect to this proposal and makes the following findings:

1. The expansion is reasonable necessary in order to continue the existing use. Due to changing conditions in the forest products industry, a pellet mill will help keep the operation economically feasible. The specific problem is the current shortage of raw logs for milling. The pellet mill uses a more consistent and reliable source of raw materials, and therefore, is a more economical operation.

2. The expansion will have no greater impact on the neighborhood than the existing structure(s) and physical improvements. The site is committed to the lumber mill. The pellet making will occur in an enclosed building. There is little noise associated with the operation. No additional employees are proposed at this time. The level of noise and traffic will not substantially change as a result of the additional activity. Therefore, this criterion is met.

Based on the above findings, it is the decision of the Clackamas County Planning Division staff to approve this application for a expansion of a nonconforming use, subject to the following conditions:

1. All Building Permits, including electrical and plumbing must be obtained from the County Building Services Division.

NOTICE TO MORTGAGEE, LIENHOLDER, VENDOR, OR SELLER: ORS CHAPTER 215 REQUIRES THAT IF YOU RECEIVE THIS NOTICE, IT MUST BE PROMPTLY FORWARDED TO THE PURCHASER.

IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE. IF YOU DISAGREE WITH THESE FINDINGS OR CONDITIONS, YOU MAY APPEAL THIS DECISION TO THE CLACKAMAS COUNTY HEARINGS OFFICER. THE COST OF THE APPEAL IS $100. YOUR APPEAL MUST BE RECEIVED IN THE PLANNING DIVISION OFFICE BY 5:00 ON THE LAST DATE TO APPEAL WHICH IS MAR 8 1993 . THIS PERMIT WILL NOT BE ISSUED UNTIL THE DAY AFTER THE APPEAL DEADLINE.

0226/115a/gf

NOTICE OF APPLICATION FOR
ADMINISTRATIVE ACTION

TO: Building Services

DATE: February 9, 1993

FROM: Clackamas County Planning Division
902 Abernethy Road
Oregon City, Oregon 97045
Phone No. 655-8521

FILE NUMBER & NAME: Z0092-93-E, Ivan S. Kropf

TYPE OF APPLICATION: Expansion of a nonconforming use to allow a pellet mill to operate on the site in conjunction with the lumber mill.

ZONING: EFU-20, Exclusive Farm Use 20 Acre District

CONTACT PERSON: Greg Fritts

The Planning Division would like your comments on the attached application. The application is subject to Section(s) 401 and 1206 of the County Zoning and Development Ordinance. If you do not have a copy of the current ordinance, copies of specific sections are available at the Planning Division office. Please contact us if you need ordinance sections to review this application. Please indicate any information which would assist the county in acting on this application. Comments received by February 24, 1993 will be considered in the Planning Division decision on this application. If more information is needed, please call the Planning Division. PLEASE RETURN THIS FORM ONLY.

Recommendation: OBTAIN ALL BUILDING PERMITS

Signature

Position

Please return to address above.

NOTICE OF APPLICATION RECEIVED BY
CLACKAMAS COUNTY PLANNING DIVISION

902 Abernethy Road, Oregon City, OR 97045
Phone No.: 655-8521

This notice of application is being sent to you, as an adjacent or nearby property owner, for your information and possible comment prior to decision. A decision on this application will be made by County staff based on adopted County criteria. Copies of the decision on this application will also be mailed, and an opportunity given to appeal the decision to the County Hearings Officer.

TO: Property owners within 700 feet

DATE: February 9, 1993

Subject: Alteration of Nonconforming Use

File No.: Z0092-93-E

Applicant: Ivan S. Kropf; 33532 S. Kropf Road; Molalla, OR 97038

Owner of Property: Same

Proposal: Expansion of a nonconforming use to allow a pellet mill to operate on the site in conjunction with the lumber mill.

Ordinance Criteria: Sections 401 and 1206

Location: East side of S. Kropf Road, approximately 1/4 mile north of Gibson Road; South of Canby area.

Site Address: Same

Legal Description: T 5 S, R 1 E, Section 21 , Tax Lot(s) 1100, W.M.

Total Area Involved: Approximately 20.40 acres

Zoning: EFU-20, Exclusive Farm Use 20 Acre District

Citizens Planning Organization For Area: South Canby; Mary Lebert; 30621 S. Stuwe Road; Canby, OR 97013 (651-2683)

This organization has been notified of this application. You are welcome to attend this organization's meeting.

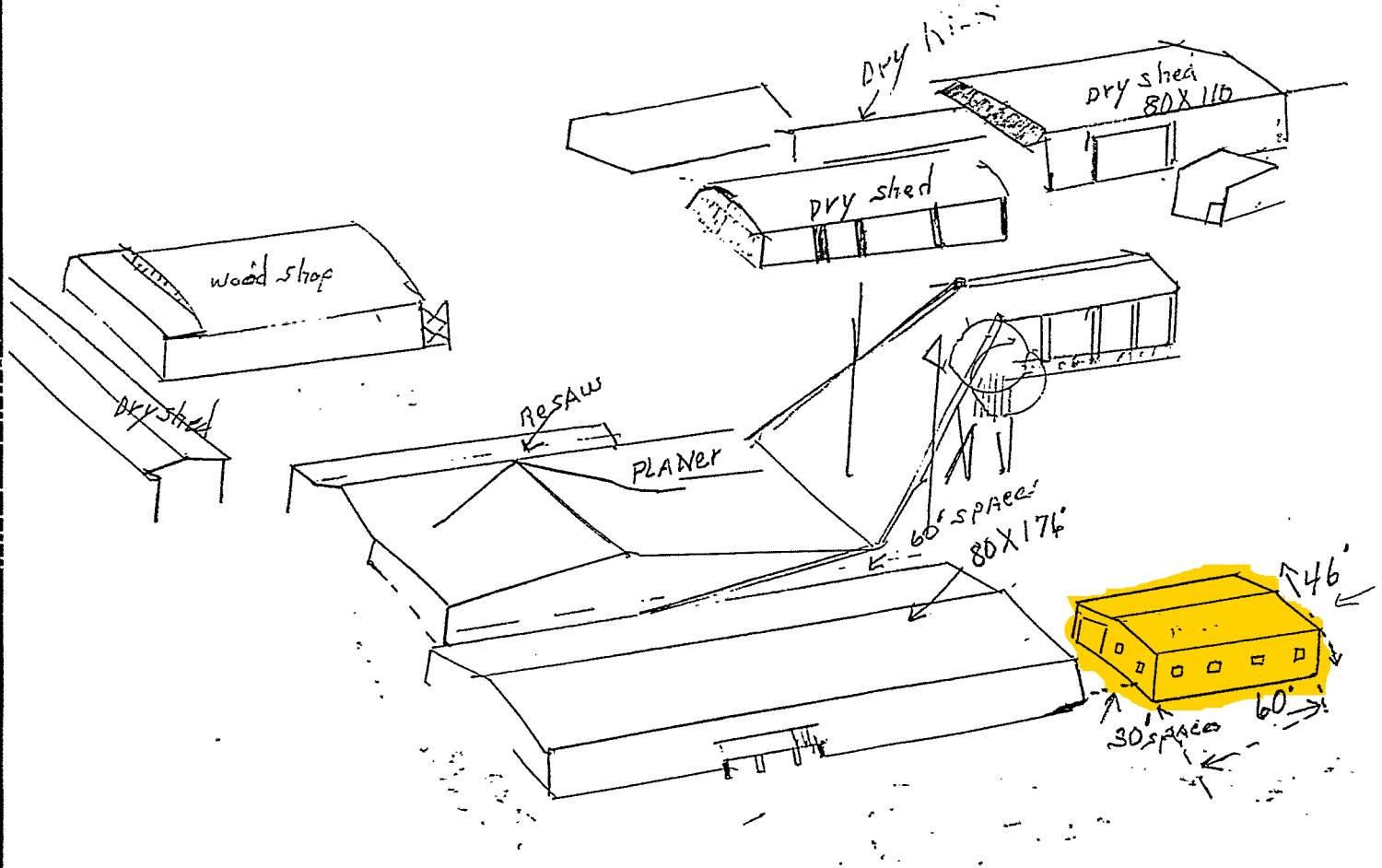
Planning Division Staff Contact: Greg Fritts

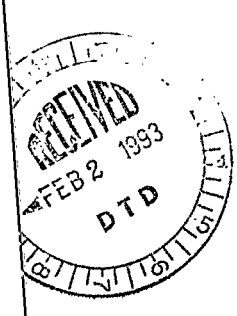
ALL INTERESTED CITIZENS ARE INVITED TO RESPOND BY February 24, 1993 WRITTEN COMMENTS ARE ENCOURAGED.

The ordinance criteria for evaluating this application and all documents and evidence submitted regarding this application are available for inspection and copies may be purchased at the Planning Division office during weekday office hours, 8:00 a.m. to 5 p.m.

0092-93-E/NOA:ap

FFU


Dry kiln
dry shed
80X110
dry shed
wood shop
dry shed
RESAW
PLANER
60' space
80X176'
46'
60'
30' space


RECEIVED
FEB 2 1993
DTD

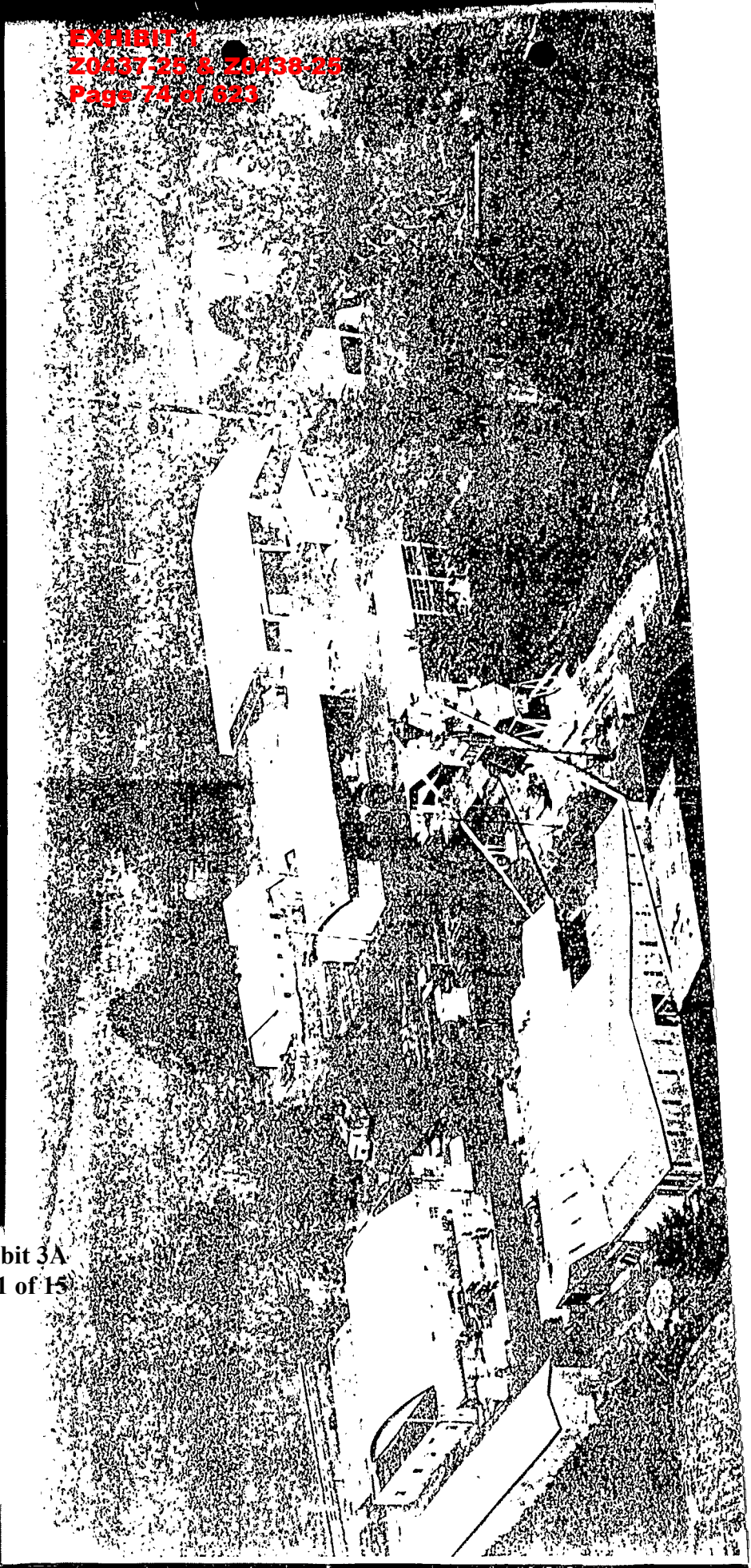


EXHIBIT
Z0437-25
Page 75 o



CLACKAMAS COUNTY, OREGON

Department of Transportation & Development
Building Services Division
902 Abernethy Road, Oregon City, Oregon 97045
Office Phone: (503) 655-8521
Fax Line: (503) 650-3019
Electrical Inspection Line: (503) 655-8699
All Other Inspections: (503) 655-8690

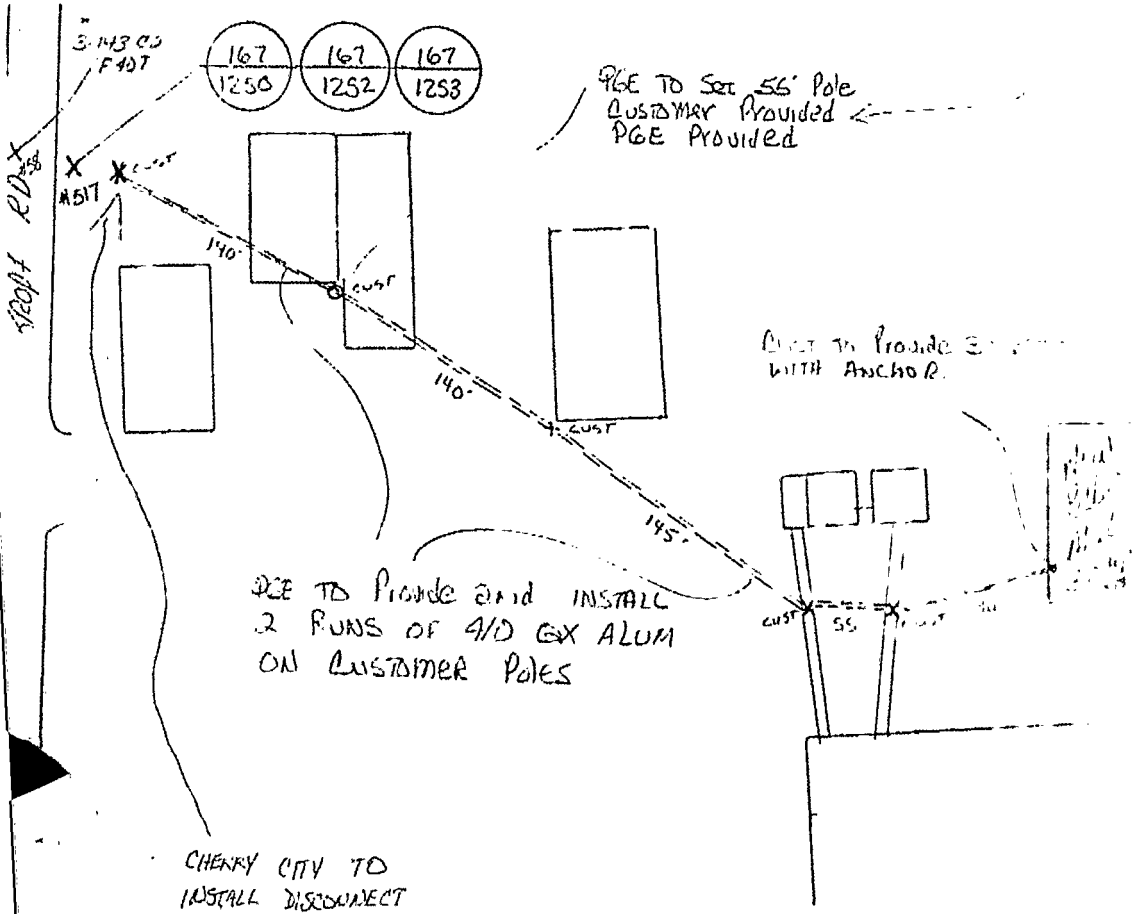
NOTICE Inspections are required and must be requested at least one working day before the day an inspection is needed. Permit Number and type of inspection must be provided with the inspection request. A reinspection fee may be charged when work for which inspection was requested was not ready for inspection or when required corrections had not been made.

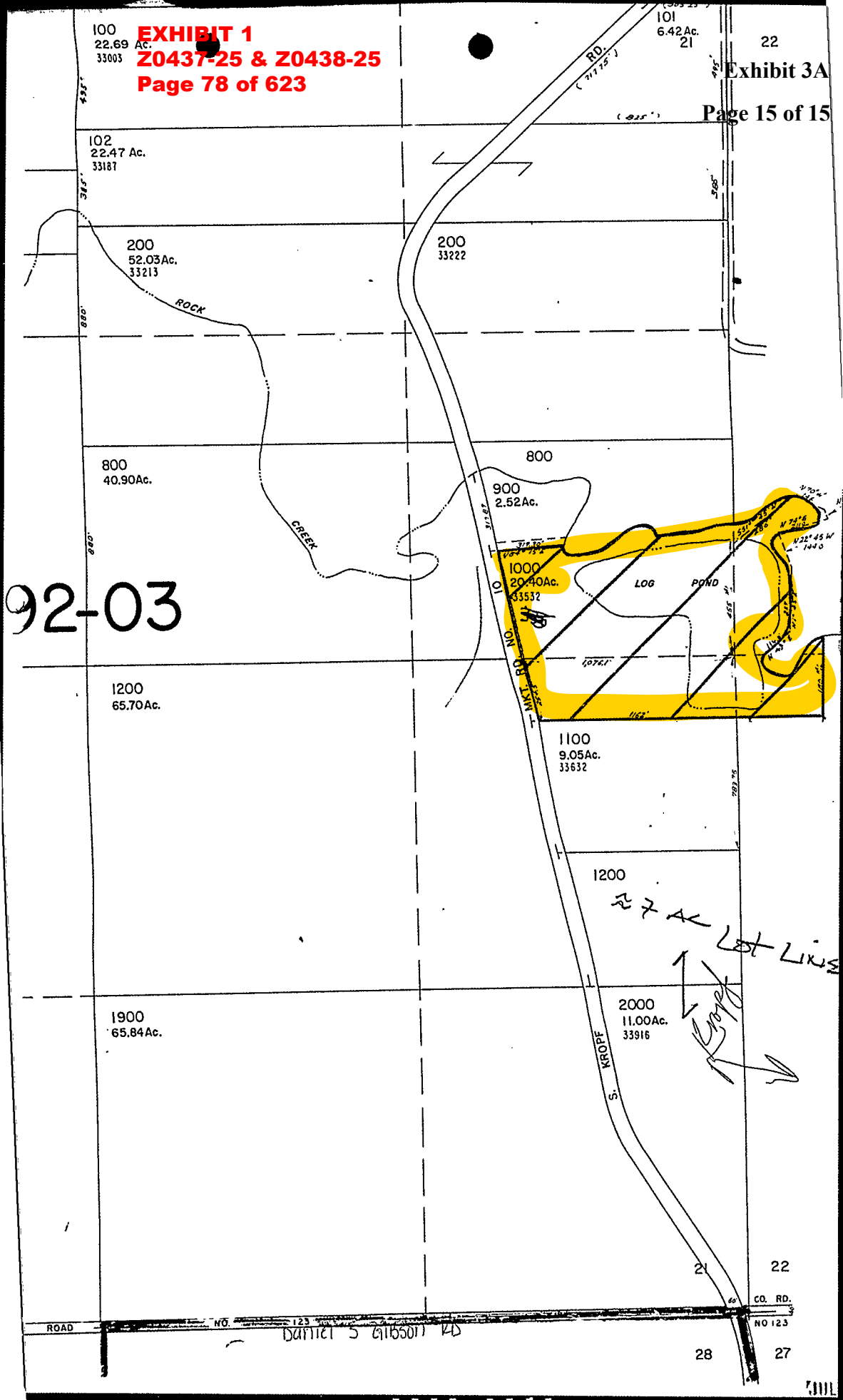
Building, Plumbing, Mechanical, Electrical and Mobile Home Permits become null and void if the work or construction for which the permit is issued is not commenced within 180 days or if work is suspended or abandoned for 180 days after work has begun under this permit. Septic Tank Permits are valid for one year from the date of issuance.

I certify that the information presented by the applicant in support of this permit is true and correct to the best of my knowledge.

SIGNATURE OF APPLICANT

Kropf Lumber Co
33532 S. Kropf Rd
MOLALLA




100
22.69 Ac.
33003
101
6.42 Ac.
21
22
RD.
102
22.47 Ac.
33187
200
52.03 Ac.
33213
ROCK
CREEK
200
33222
800
40.90 Ac.
800
900
2.52 Ac.
1000
20.40 Ac.
33532
LOG
POND
92-03
NO. MKT. RD.
1200
65.70 Ac.
1100
9.05 Ac.
33632
1200
27 AC Lot Line
2000
11.00 Ac.
33916
S. KROPF
1900
65.84 Ac.
21
22
CO. RD.
ROAD
NO. 123
NO 123
28
27

LAND USE FILES

FILE# E0721-97-E

LEGAL DESCRIPTION:

5 S 1 E

SECTION 21

TAX LOT(S) 1000

MAP

Date Application Filed 6-30-97

ADMINISTRATIVE ACTION NOTICE

Applicant 7-1-97
CPO "
Agencies "
Property Owners "
Response Deadline 7-16-97

NOTICE OF DECISION

Decision Date/Mailed 8-5-97
Applicant "
CPO "
Agencies "
Property Owners "
Appeal Deadline 8-15-97
Date Appeal Filed
Computer Entry / Closed 9-2-97

PUBLIC HEARING NOTICE

Hearing Date

Due Date		**Date Mailed**
	Applicant	
	Appellant	
	CPO	
	Agencies	
	Property Owners	
	Newspapers	
	Staff Report	

(Staff report is mailed 7 days prior to hearing)

Hearing Continued
Hearing Continued
Hearing Continued
Oral Decision Date
HO Written Order
Computer Entry/Close

From: jeff@trojanmfg.com
Sent: Wednesday, October 11, 2000 9:02 AM
To: Rick McIntire
Subject: Question on zoning

Hi Rick,

I made the inquiry below to Dan Johnson and he said you were the expert and could answer my questions. Feel free to call me at 503-285-2120 if you need more information.

B

I have a small manufacturing business (13 employees) currently located in Portland. We manufacture saw stands, saw horses, and a few other simular products used by carpenters. Our operations consist of light metal fabrication (cutting, drilling, punching, welding), woodworking, assembly and warehousing. We distribute through lumber, tool and hardware stores throughout the country.

I am considering the purchase of a "non-conforming" use property in rural Clackamas County. The address is 33532 Kropf Road, Molalla, 97038. Information from the Property Tax statement says MAP: 51E21 01000, CODE AREA: 035032, ACCOUNT NO.: 1076007, if that helps. It is on 20.4 acres. There is an unused, old 12 acre log pond and the remaining 8 acres are black topped around 12 buildings (total of 75,000 sq. ft.). Current zoning for the property is EFU, but the property was established as a saw and lumber mill in the 1948 and has been in continuos operation since that time. The sawing of logs has not been done for many years, but lumber drying, planing and shaping has continued. The current tenant, Mullen Lumber, Inc., is in the business of manufacturing different millwork, tongue and groove ceiling boards, closet rods, etc. His manufacturing operation occupies only a portion of the buildings and his lease would continue if I were to buy the property.

I have read through some of the information on Clackamas County's website regarding EFU zoning and non-conforming uses and know that the current manufacturing can continue. What I read seemed to make sense. I could not detect any problem with operating my business from the Kropf facility, but before I spend a bunch of money on moving I thought I'd better make sure that Clackamas County defines manufacturing with the same definition as I found in my Webster's dictionary.

You are obviously far more familiar with these issues than I am and may see conflicts that aren't visible to me. My question to you then is:
What operations can be carried out at this location? Would there be any reason you know of why my operation would run into any zoning problems operating in this location? Are there any steps I would need to take that are required by law in order to operate there?

Thanks for your time Rick. I appreciate the help. Call me if you need to.
Sincerely,
Jeff O'Mealy
Trojan Mfg., Inc.

7:30 - 4:00 pm

Advised Jeff of ENCU requirements for Alteration/Change in use.

Clackamas County

Property Report

KROPF IVAN S
33532 S KROPF RD
MOLALLA, OR 97038

Site Address: 33532 S KROPF RD
Taxlot Number: 51E21 01000

Land Value: 196750
Building Value: 1264050
Total Value: 1460800

Acreage: 20.4
Year Built 1948
Sale Date:
Sale Amount:
Sale Type
Buyer:

Land Class:
Industrial land Improved

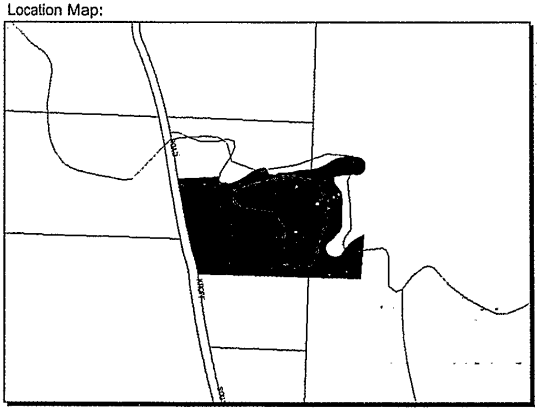
Building Class:

Neighborhood:
IN20

Taxcode Districts: 35032

Fire	Monitor Fire Dist. #58
Park	-
School	Molalla River School Dist. #35
Sewer	-
Water	-

Location Map:

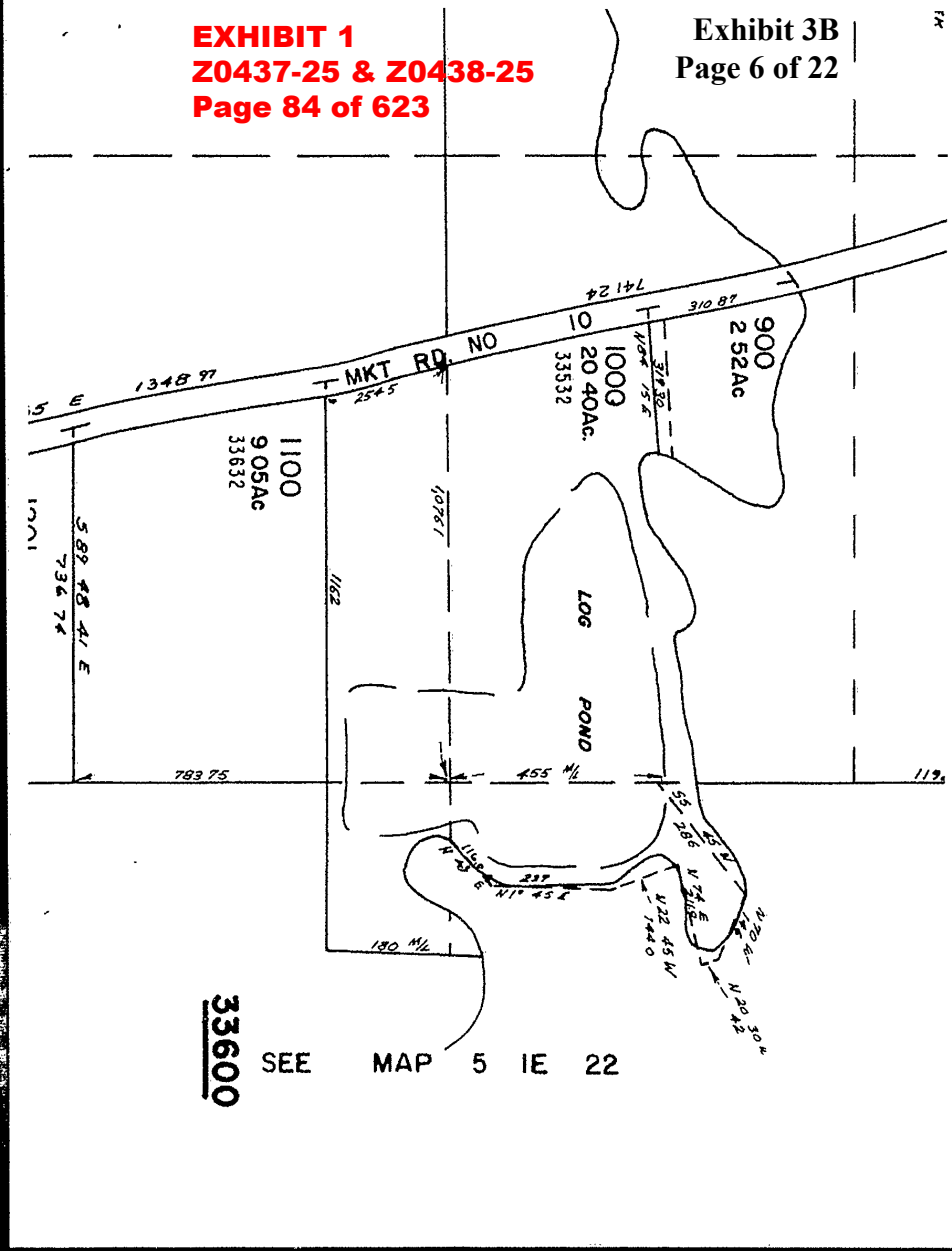


Site Characteristics:

Jurisdiction:	Clackamas
UGB:	Out
CPO:	South Canby
Basin:	WILLAMETTE RIVER
Sub-Basin:	MOLALLA RIVER
Hauler:	United Disposal
Flood Zone:	0%

Zoning Designation(s):

Zone Code:	Acreage:
EFU	19.5754277


MKT RD. NO
1348 97
2545
741 24
310 87
900
2 52Ac
1000
20 40Ac.
33532
1100
9 05Ac
33632
LOG POND
783 75
455 M/L
180 M/L
1102
1076
N 20 30 W
N 20 30 W
N 22 45 W
N 19° 45 E
237
33600
SEE MAP 5 IE 22

Permits Add/Act/Tot Keyword: SPARS User: GREGF 10/11/00
List Activities for a Parcel
Listing Activities for Parcel: 51E21 01000 File: Activity
33532 S KROPF RD

	Act/Pj/Dv	Type		Status		Location
->	V0067-93	V-B		I FINAL	01/12/1993	33532 S KROPF RD
	Z0092-93	ZE		A APPROVED	02/02/1993	33532 S KROPF RD
	B0088893	C		I VOID	03/29/1993	33532 S KROPF RD
	AG012194	AG		A APPROVED	12/06/1994	33532 S KROPF RD
	*0025693	AUTOPROJ	p	A AUTO	01/12/1993	33532 S KROPF RD
	B0229697	C		I EXPIRED	06/30/1997	33532 S KROPF RD
	Z0721-97	ZS2		A APPROVED	06/30/1997	33532 S KROPF RD
	E0113599	E		A PLANCK	02/19/1999	33532 S KROPF RD
	E0195800	E		A APPROVED	03/28/2000	33532 S KROPF RD

* * * No More Activities * * *

Use Arrows, Press SpaceBar to Select, F2=Next 18, ESC=New Parcel & Filters

```
Permits                    Id: ZPROP    Keyword: @ACTD    User: GREGF          10/11/00
Activity Table Processing                                  Staff (E,I,V,F.FHD,R.CR
  File No. : Z0721-97          APPLICANT: KROPF IVAN S
     Status: APPROVED            Address: 33532 S KROPF RD

                                                  Type: ZS2      Vers: 9701 Screen: 01
Base Information
Status: APPROVED       Date Received:  6/30/1997   Decision Date:  8/ 5/1997
  Type: ZE    Alteration/Chg of Non-Conf Use       Date Appealed:   /  /
(ZE,ZI,ZIU,ZV,ZF,ZFHD,        Notice:  7/ 1/1997     Final Date:  8/15/1997
 ZR,ZCR,ZCW)             Hearing Date:   /  /        Date Expires:   /  /
 What is Proposed: ADDITION TO EXISTING BUILDING/Z0092-93E APPR
            Zone: EFU                                Staff Member: TCLP
  Notice Distance: 700  Ft                         Staff Reviewer: RAM
 Active CPO (Y/N): Y                            Code Enforcement #:
       Situs Addr: 33532 S KROPF RD
    Applicant is: LO      Legal Owner
                  (LO,CB,OB,A)                        Area/Acres:      20.40
   Legal Description: 51E21    01000
 Adjacent Properties: NONE
Present Use: LUMBER MFG & SALES
Filed a Floodhazard or dock permit(Y/N):N Setback over 150' from River(Y/N):Y
        Fee:          361.00        Balance Due:             .00
 Enter Table Screen Number:  2 or ESC=Exit Table Processing    F1=List Screens
```

addn & re-roof to exty bldg
Lumber mill facility (planer bldg)

NOTICE OF DECISION OF
ALTERATION OF A NONCONFORMING USE - APPROVAL

CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
LAND USE AND ENVIRONMENTAL PLANNING DIVISION
902 Abernethy Road, Oregon City, Oregon 97045
Phone: 655-8521

TO: Applicant, Citizens Planning Organization, Agencies, and Property Owners within 700 feet of this application.

DATE: August 5, 1997

LAST DATE TO APPEAL: August 15, 1997

FILE NO.: Z0721-97-E

STAFF CONTACT: Rick McIntire

APPLICANT: Ivan Kropf; 33532 S. Kropf Rd., Molalla, OR 97038

OWNER OF PROPERTY: Same

LEGAL DESCRIPTION: T5S, R1E, Section 21, Tax Lot(s)1000, W.M.

SITE ADDRESS: 33532 S. Kropf Rd., Molalla, OR

TOTAL AREA INVOLVED: Approximately 20.4 acres.

PRESENT ZONING: Exclusive Farm Use, 80 acre District

CITIZENS PLANNING ORGANIZATION FOR AREA: South of Canby CPO

PROPOSAL: To re-roof and add to an existing building within the existing nonconforming lumber mill facility.

FINDINGS: The Planning Division has reviewed this application for an alteration of a nonconforming use. This application is subject to Section 1206 of the Clackamas County Zoning and Development Ordinance (ZDO). The Planning Division has reviewed this section of the ZDO with respect to this proposal and makes the following findings:

1. The applicant is proposing to re-roof part of an existing structure housing the planer and extend the new roof along one side of the structure to enclose additional covered storage area. The subject property is currently zoned Exclusive

Farm Use and was initially zoned EFU on Sept. 1, 1976. The lumber mill facility was originally established in 1941. The use is a protected nonconforming use as defined in Sec. 202 of the ZDO.

2. The alteration must be reasonably necessary in order to continue the existing use. The applicant has indicated that the new roof and covered storage area is necessary to replace a leaking roof and provide additional covered storage area for the mill operations. The majority of the proposed construction is the re-roofing of the planer building. The staff finds that the proposed alteration is reasonably necessary to continue the existing use. This criterion is met.

3. The alteration must have no greater adverse impact on the neighborhood than the existing structure(s) and physical improvements. As noted above, the majority of the alteration requested is to re-roof an existing structure within the mill complex. The new roof line will extend out from the existing structure approximately 20-25 ft. to provide additional covered storage area. The building is within the complex and will be screened from the road and nearby properties largely by other existing structures on the site. The proposed construction is well-buffered with respect to adjacent properties by distance and existing evergreen trees surrounding the mill complex. The alteration will not increase traffic or noise or result in any identifiable impacts to the neighborhood. This criterion is met.

DECISION: APPROVAL. Based upon the above findings, it is the decision of the Clackamas County Planning Division staff to approve this application for an alteration of a nonconforming use, subject to the following conditions:

1. This application is approved consistent with the application materials and site plan submitted by the applicant.

2. The applicant shall obtain all necessary permits as deemed necessary by the County Building Services Sec. prior to the commencement of construction.

3. The applicant shall comply with the requirements of the local fire district applicable to the proposed construction.

4. Failure to comply with the conditions of approval may be cause for revocation of this permit.

NOTICE TO MORTGAGEE, LIENHOLDER, VENDOR, OR SELLER: ORS CHAPTER 215 REQUIRES THAT IF YOU RECEIVE THIS NOTICE, IT MUST BE PROMPTLY FORWARDED TO THE PURCHASER.

IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE. IF YOU DISAGREE WITH THESE

FINDINGS OR CONDITIONS, YOU MAY APPEAL THIS DECISION TO THE CLACKAMAS COUNTY HEARINGS OFFICER. THE COST OF THE APPEAL IS $100.00. YOUR APPEAL MUST BE RECEIVED IN THE PLANNING DIVISION OFFICE BY 5:00 ON THE LAST DATE TO APPEAL WHICH IS **AUGUST 15, 1997**. THIS PERMIT WILL NOT BE EFFECTIVE UNTIL THE DAY AFTER THE APPEAL DEADLINE.

CLACKAMAS COUNTY

Department of Transportation & Development

THOMAS J. VANDERZANDEN
DIRECTOR

NOTICE OF PROPOSAL IN YOUR AREA

DATE: 07/01/1997

THIS NOTICE IS MAILED TO: Property Owners within 700 feet, the Community Planning Organization (CPO), Interested Citizens and Agencies

FROM: CLACKAMAS COUNTY PLANNING DIVISION

STAFF: RICK McINTIRE PH # 650-3268

A development is being proposed involving Land Use in your neighborhood which requires formal review. This notice is to inform you of this proposal, explain the process for reviewing it and provide you with opportunities to comment and participate in this process.

CASE FILE NUMBER Z0721-97 SUBJECT: Alteration/Chg of Non-Conf Use

EXPLANATION OF THIS PROPOSAL:
An addition to and re-roof of the planer/re-saw building of an existing non-conforming lumber manufacturing facility.

APPLICANT:
KROPF IVAN S
33532 S KROPF RD
MOLALLA OR 97038

OWNER:
KROPF IVAN S

SITE ADDRESS (IF AVAILABLE): 33532 S KROPF RD

LEGAL DESCRIPTION: (Map & Tax Lot per Assessor) T.R.SEC.TL
51E21 01000

TOTAL AREA: (APPROX.) 20.40 Acres

ZONE: EFU Exclusive Farm Use (80 Ac)

DECISION PROCESS:
In order to be approved, this proposal must meet the approval criteria or standards in the Zoning & Development Ordinance, Section(s) 1206.
A decision on this proposal will be made by the Planning Division. We will consider the criteria as well as any comments and either approve, approve with conditions or deny this proposal. We will mail you a copy of the decision. If you disagree with the decision you may appeal to the Land Use Hearings Officer who will conduct a public hearing. There is a $100.00 Appeal fee.

HOW TO BE HEARD:

1. Return your written comments within 15 days of the date of this notice. Please include the file number in your letter and address your letter to the staff member handling this matter, or if you prefer, use the space provided below for your comments.

2. Return your comments to: Clackamas County Planning Division, 902 Abernethy Road, Oregon City, OR 97045.

3. The following recognized Community Planning Organization (CPO) has been notified of this application. This organization may develop a recommendation on this application. You are welcome to contact this organization and attend their meeting.

COMMUNITY PLANNING ORGANIZATION FOR YOUR AREA:
SOUTH OF CANBY CPO
PAUL IVERSON 634-2879
33988 S MERIDIAN ROAD
WOODBURN OR 97071

*If this Community Planning Organization is currently inactive, and you are interested in becoming involved in Land Use Planning in your area, call Public Affairs at 655-8520.

COMMENTS: _____

_____

_____

_____

_____

_____ _____
Your Name/Organization Phone #

_____
Address

The Ordinance criteria for evaluating this application and all documents and evidence submitted regarding this application are available for inspection and copies may be purchased at the Planning Division Office during weekday office hours, 8:00 AM to 5:00 PM.

Permits Id: ROUT130 Keyword: UACT User: MARCEB 07/01/97
Activity docume[illegible] Maintenance. Staff (E,I,V,F.FHD,R.CR
File No. : Z0721-97 APPLICANT: KROPF IVAN
Status: PENDING Address: 3[illegible] KROPF R
Route: 1 Current Route Line: 6 of

EXHIBIT 1
Z0437-25 & Z0438-25
Page 92 of 623

Packet	Units	Description	Station	Status	Status	Received	Assigned	Complete
ZAPPL		BEGIN/END ROUTE	BEGIN	-	Waiting	07/01/97	../../..	../../.
ZAPPL	6	FIRE DISTRICT	FD	*58	Pending	../../..	../../..	../../.
ZAPPL	2	C P O	CPO	*CPO	Pending	../../..	../../..	../../.
ZAPPL	5	PROPERTY OWNERS	PO	*PO	Pending	../../..	../../..	../../.
ZAPPL	41	BUILDING SERV	BLDG	-TL	Pending	../../..	../../..	../../.
ZAPPL	61	STAFF ACTION	PLAN	-	Pending	../../..	../../..	../../..
ZAPPL		BEGIN/END ROUTE	ENDZ	-	Pending	../../..	../../..	../../.

Exhibit 3B

Page 14 of 22

F1=Help, ESC=Exit current screen.
Route item edit completed.

LAND USE APPLICATION

CLACKAMAS COUNTY PLANNING DIVISION
902 ABERNETHY ROAD, OREGON CITY, OR 97045-1100 • PHONE (503) 655-8521 • FAX (503) 650-3418

• FOR STAFF USE ONLY •

- ☐ TEMPORARY PERMIT FOR CARE (ST) RENEWAL ____
- ☐ TEMPORARY PERMIT USE NOT ALLOWED (ST) RENEWAL ____
- ☐ HOME OCCUPATION (HO) RENEWAL ____
- ☐ NONFARM USE (N)
- ☐ FARM DWELLING ____
- ☐ FOREST DWELLING ____
- ☐ ZONE CHANGE (Z)
- ☐ CONDITIONAL USE (C)
- ☐ SUBDIVISION SHORT (1-10)(SS)
- ☐ SUBDIVISION LONG (11+)(SL)
- ☐ PARTITION (M)
- ☐ VARIANCE (V)
- ☒ OTHER E
- ☐ OTHER ____

Z0092-93E

File No: Z0726-97E
Pre-app: Staff ____ Date ____
Date Received: 6/30/97 Fee $631
Hearing Date: ____
Staff Member: eys
Zone: EFU
Comp. Plan: ____
Flex Lot Involved: ☐ Y ☐ N
Violation # ____
CPO ____

• APPLICANT INFORMATION •

PLEASE TYPE OR PRINT IN BLACK INK ONLY

WHAT IS PROPOSED addition to existing building

NAME OF APPLICANT Kropf (LAST) Ivan (FIRST)

MAILING ADDRESS 33532 S Kropf Rd CITY Molalla ST OR ZIP 97038

APPLICANT IS: ☒ LEGAL OWNER ☐ CONTRACT BUYER ☐ OPTION BUYER ☐ AGENT

NAME OF CONTACT PERSON (If other than applicant) ____

MAILING ADDRESS OF CONTACT ____ ZIP ____

PHONE NUMBERS OF: APPLICANT: WK 651-2551 HM 651-2551 CONTACT PERSON: WK ____ HM ____

SITE ADDRESS 33532 S Kropf Rd Molalla, Or 97038 TOTAL LAND AREA: ____

LEGAL DESCRIPTION: T 5 R 1 SECTION 21 TAX LOT(S) 1000

ADJACENT PROPERTIES UNDER SAME OWNERSHIP: T ___ R ___ SECTION ____ TAX LOT(S) ____

PRESENT USE OF PROPERTY: lumber Mfg + sales

METHOD OF SEWAGE DISPOSAL: Septic tank

WATER SUPPLY: well

OTHER PERSONS (IF ANY) TO BE MAILED NOTICES REGARDING THIS APPLICATION:

NAME	ADDRESS	ZIP	RELATIONSHIP

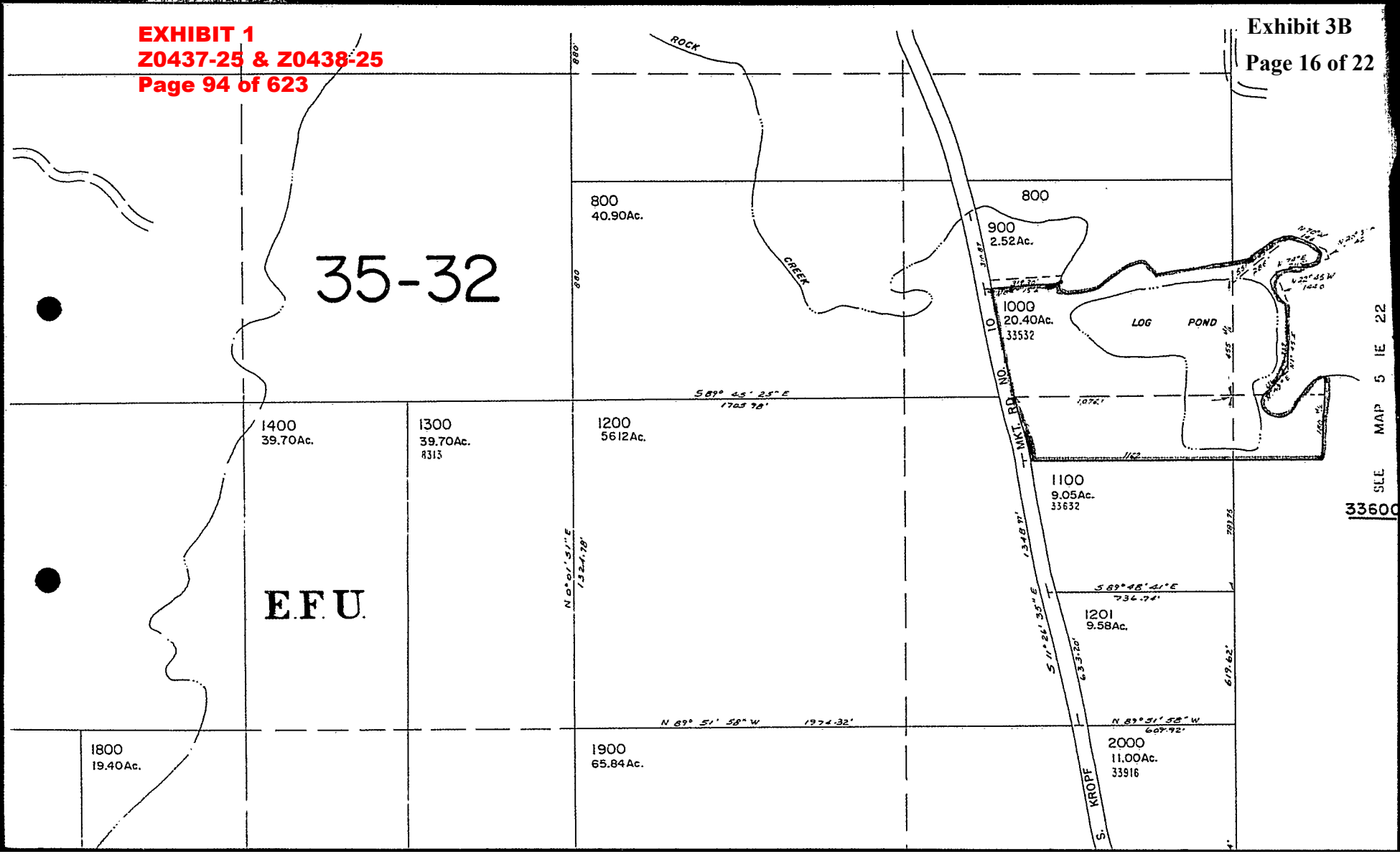
I hereby certify the statements contained herein, along with the evidence submitted, are in all respects true and correct to the best of my knowledge.

OWNER'S SIGNATURE Ivan D Kropf
DATE 6-30-97

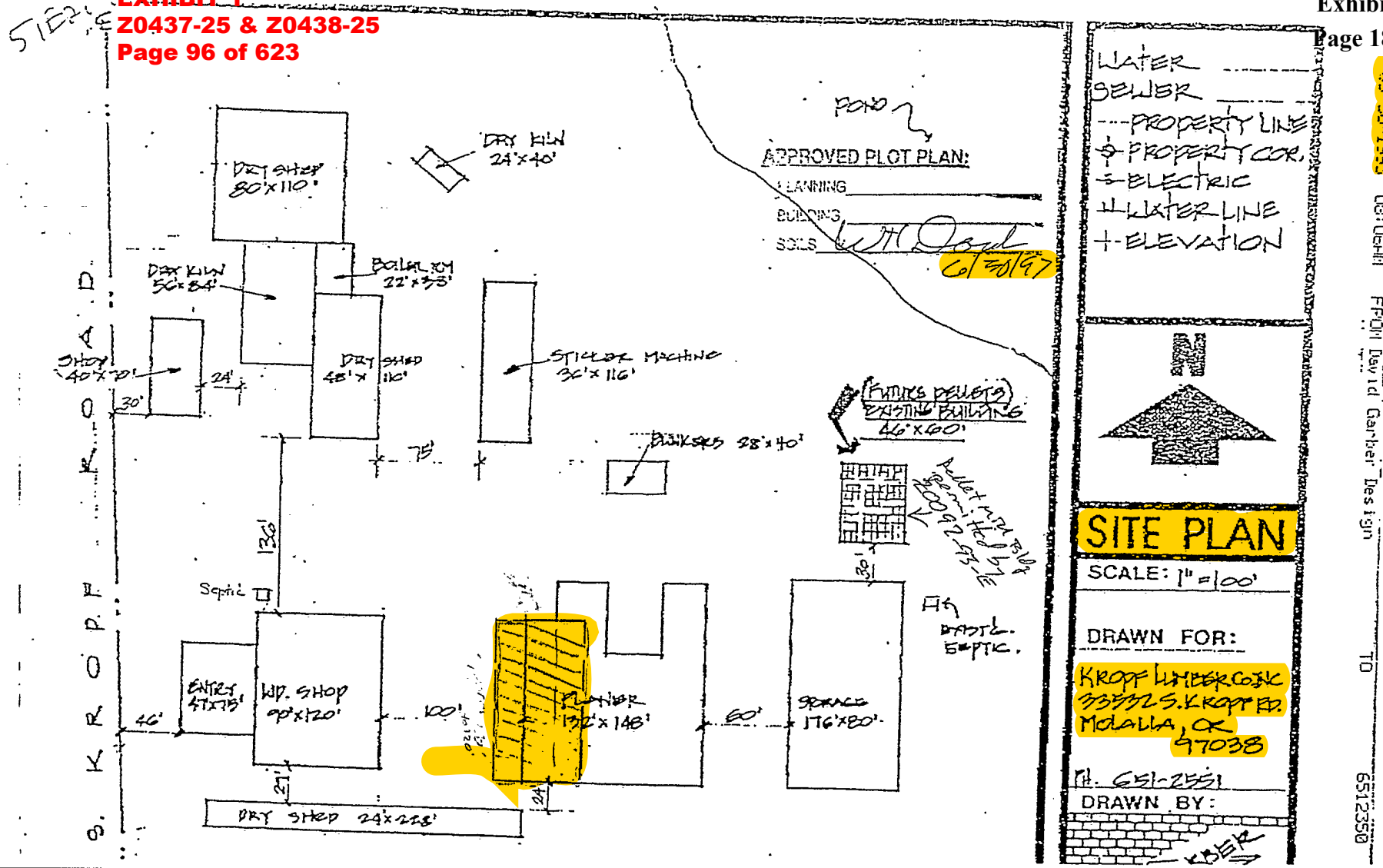
APPLICANT'S SIGNATURE ____
DATE ____

CCP-PL10 (REV 8/94)

PLOT PLAN ASSESSOR MAP SUPPLEMENTAL FORMS CHECKED


35-32
E.F.U.
ROCK
CREEK
800
40.90Ac.
800
900
2.52Ac.
1000
20.40Ac.
33532
LOG
POND
1400
39.70Ac.
1300
39.70Ac.
8313
1200
56.12Ac.
1100
9.05Ac.
33632
1201
9.58Ac.
1800
19.40Ac.
1900
65.84Ac.
2000
11.00Ac.
33916
MKT. RD. NO. 10
S. KROPF
S 89° 45' 25" E
1705.78'
N 0° 01' 51" E
1324.78'
N 89° 51' 58" W
1974.32'
S 89° 48' 41" E
736.74'
N 89° 51' 58" W
609.92'
S 11° 24' 35" E
633.20'
1348.91'
619.62'
SLE MAP 5 1E 22
33600

APPROVED PLOT PLAN:
PLANNING
BUILDING
SOILS
146'
60'
30 spaces
dry shed
80X116
dry shed
dry
60 spaces
80X176'
Proposed addition
planer
wood shop


SITE PLAN
APPROVED PLOT PLAN:
PLANNING
BUILDING
SOILS
POND
DRY KILN 24'x40'
DRY SHED 80'x110'
DRY KILN 50'x84'
BOILER RM 22'x33'
DRY SHED 48'x 110'
STICKER MACHINE 36'x 116'
SHOP 40'x70'
24'
30'
75'
BUNKERS 28'x40'
FUTURE PELLETS EXISTING BUILDING 46'x60'
Pellet Mill Bldg 42'x60'
136'
Septic
30'
FIG
SEPTIC
ENTRY 47x75'
WP. SHOP 90'x120'
46'
100'
PLANER 132'x148'
60'
STORAGE 176'x80'
21'
24'
DRY SHED 24'x228'
S. KROPF
WATER
SEWER
PROPERTY LINE
PROPERTY COR.
ELECTRIC
WATER LINE
ELEVATION
SCALE: 1" = 100'
DRAWN FOR:
KROPF LUMBER CO. INC
33532 S. KROPF RD.
MOLALLA, OR
97038
PH. 651-2551
DRAWN BY:
FROM David Garber Design
TO
6512350
03-30-1993
08:06AM

CLACKAMAS COUNTY

ALTERATION OR CHANGE IN A NONCONFORMING USE

APPLICANT INFORMATION:

Name Ivan Kropf File #_____

WHAT IS A PERMIT FOR ALTERATION OR CHANGE IN A NONCONFORMING USE?

The County Zoning & Development Ordinance (ZDO) allows alteration or change of a nonconforming use. A Nonconforming Use is a dwelling or use which was legally established prior to adoption of any provision of the ZDO with which it does not now comply.

WHAT IS NEEDED FOR APPROVAL?

All nonconforming uses are discretionary and MAY be permitted after evaluation according to criteria in the ZDO. The County must make written findings to support the decision. The applicant is responsible for providing evidence to support the Nonconforming Use request, according to ZDO Section 1206.

WHAT ARE CHANCES FOR APPROVAL?

Staff cannot predetermine the decision on this or any application. A decision of approval or denial will only be made after the complete application is processed. This includes review of citizen and agency comments. The decision is based on criteria appropriate to this application as listed in the ordinance. In order to address the necessary criteria, the information requested in this supplemental application should be as thorough and complete as possible.

APPLICATION PROCESS

Nonconforming Use permits are subject to the Administrative Action process and public notice. Public comments received from the Community Planning Organizations (CPO), property owners, agencies and other interested parties may affect the decision on the application. Special conditions may be attached to any approvals. Any decision on this application can be appealed to the County Hearings Officer and to the State Land Use Board of Appeals (LUBA) by the applicant or any other interested person.

STAFF WILL ATTACH THE FOLLOWING PERTINENT INFORMATION:

_____ Land Use Application

_____ Sample Plot Plan

_____ ZDO Section 1206

_____ CPO Information

_____ Application Process

HOW LONG WILL IT TAKE TO GET A FINAL DECISION ON AN APPLICATION?

Approximately 50 days for Administrative Action applications or 120 days if the initial decision is appealed.

COMPLETE APPLICATIONS REQUIRE THE FOLLOWING:

1. Land Use Application - Information on applicant and land involved in application.

2. Supplemental Application - Information requested on this form. Please be as complete and thorough as possible. Use additional sheets as necessary.

3. Application Fee $836 |

4. Plot Plan drawn to scale on 8.5" x 11" or 8.5" x 14" paper, showing the property and your proposal.

5. Building Profile drawn to scale on 8.5" x 11" or 8.5" x 14" paper, showing proposed structures.

JUSTIFICATION CRITERIA: See ZDO Section 1206 for specific requirements. Then answer the following questions:

A. Existing Use: When was the existing use(s) established?

3 21 41

B. Describe any changes in the existing use since it was first established. Describe the buildings, vehicles, equipment, materials used, and days and hours of operation of the existing use.

No changes Dry Kiln, Planer, Office, Shop, Saw Shop, Storage Shed. Operations 5 days week - 8 hours day

C. Previous Use(s): Describe use(s) of the property prior to establishment of the current use.

pasture

D. Changes: Describe in detail the proposed changes.

add on to existing buildings for more storage area.

E. Need: Describe why the alteration and/or change is reasonably necessary to continue the existing use.

change country roof from leaking

FARM USE APPLICATION
Clackamas County Planning Division
902 Abernethy Rd., Oregon City, Oregon 97045
Phone (503) 655-8521 Fax (503) 650-3418

Type of Application: ZE Alteration/Chg of NoFilenNo:sZ0721-97
Status: PENDING Date Received: Jun 30, 1997
Lots: 000 Hearing Date: 00/00/0000
Flex Lots (Y/N): Decision Date:
Staff Reviewer: KD Expires Date:
Staff Member : TCLP Date Appealed: 00/00/0000
Zone: EFU Final Date:

Comm. Environment #:
Communinty Planning Organization Y/N : N
APPLICANT KROPF IVAN S
, 33532 S KROPF RD, MOLALLA OR 97038
OWNER KROPF IVAN S
, 33532 S KROPF RD, MOLALLA OR 97038
Applicant; Legal Owner
What is Proposed: ADDITION TO EXISTING BUILDING/Z0092-93E APPR
Subdivision Name :
Partition or Plat : #
Site Address: 33532 S KROPF RD
Legal Description: 51E21 01000
51E21 01000 00/00/00

Adjacent Properties
Same Ownership: NONE
Present Use:LUMBER MFG & SALES
Fee : 361.00
Fee Balance Due : .00

Process Actions:

Item: 02000	File Prepared & Ready	Dept: @P@@@@@@	Division: @@
Item: 02100	Notice of Distribution	Dept: @P@@@@@@	Division: @@
Item: 02120	Staff Report or Decision	Dept: @P@@@@@@	Division: @@
Item: 02130	Appeal Rec/Hearing Schedule	Dept: @P@@@@@@	Division: @@
Item: 02140	Hearing Decision & Order Filed	Dept: @P@@@@@@	Division: @@

PLANNING DIVISION

LAND USE FILES

FILE NUMBER: Z0254-05-E

LEGAL DESCRIPTION:

T 5 **S, R** 1 **E, SECTION** 21

TAX LOT(S) 1000, 1100, 1101

NOTICE OF DECISION -
ALTERATION OF A NONCONFORMING USE -**APPROVAL WITH CONDITONS**

CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
LAND USE AND ENVIRONMENTAL PLANNING DIVISION
9101 SE Sunnybrook Blvd., Clackamas, OR 97015
Telephone: 353-4500/4501

TO: Applicant, Citizens Planning Organization, Agencies, and Property Owners within 750 feet of this application.

DATE: June 15, 2005

LAST DATE TO APPEAL: June 27, 2005

FILE NO.: Z0254-05-E ~~Z0245-05-E~~

STAFF CONTACT: Rick McIntire (503-353-4516; rickm@co.clackamas.or.us)

APPLICANT: Jerry McIntire, 9545 S. Gribble Rd., Canby, OR 97013

OWNER OF PROPERTY: Thomas Wrolstad, Trustee (tax lot 1000) and Rock Creek Mill, LLC (tax lots 1000 & 1101).

LEGAL DESCRIPTION: T5S, R1E, Section 21, Tax Lot(s) 1000, 1100 & 1101, W.M.

SITE ADDRESS: 33532 (tax lots 1000/1101) & 33632 S. Kropf Rd., Molalla, OR

TOTAL AREA INVOLVED: Approximately 29.45 acres.

PRESENT ZONING: Exclusive Farm Use (EFU), 80 acre district.

CITIZENS PLANNING ORGANIZATION FOR AREA: South Canby CPO (inactive)

PROPOSAL: An alteration of a nonconforming use, a wood processing facility on tax lots 1000 and 1101, to permit a single family dwelling on tax lot 1100 to provide a residence for on-site management and security of the wood processing facility.

FINDINGS: The Planning Division has reviewed this application for an alteration of a nonconforming use. This application is subject to Section 1206 of the Clackamas County Zoning and Development Ordinance (ZDO). The Planning Division has reviewed this section of the ZDO with respect to this proposal and makes the following findings:

1. The applicant is requesting approval an alteration of a nonconforming use, a wood processing facility on tax lots 1000 and 1101, to permit a single family dwelling on tax lot 1100 to provide a residence for on-site management and security of the wood processing facility. A

manufactured home is currently placed upon tax lot 1100 as an accessory dwelling in conjunction with agricultural use of tax lot 1100 and other properties. The applicant proposes to purchase tax lot 1100, a legal Lot of Record, as defined in Sec. 202 of the ZDO, which is contiguous to tax lots 1000 and 1101, the site of the applicant's wood processing facility. If this application is approved, the applicant will replace the existing manufactured home with a site-built home which will be occupied by an employee or operator of the wood processing facility for on-site management and security of the facility. The existing facility does not have any on-site residents.

The subject properties are located on the east side of S. Kropf Rd., approximately one-half mile north of the intersection with S. Gibson Rd. Tax lots 1000 and 1101 are developed with several buildings used for the wood processing/lumber milling facility. Tax lot 1100 is developed with a manufactured home in the approximate center of that lot.

2. Pursuant to subsection 1206.05B(2) of the ZDO, the applicant must first verify that the existing use(s), structure(s) and/or other physical improvements were established as a protected nonconforming use as defined in Sec. 202 of the ZDO. Sec. 202 of the ZDO defines a "Nonconforming Use" as:

> "A use of any building, structure or land allowed by right when established or that obtained a required land use approval when established but, due to a change in the zone or zoning regulations, is now prohibited in the zone."

The subject properties are currently zoned Exclusive Farm Use (EFU). The use and development of property in this zoning district is subject to the provisions of Sec. 401 of the ZDO. The wood processing facility is not listed as a permitted primary, accessory, subject to Planning Director review or conditional use in the EFU zoning district. Single family dwellings, including manufactured homes, are listed as a use subject to Planning Director review in the EFU zoning district. On September 1, 1976, the EFU designation was applied to the subject properties as the first restrictive zoning regulations applicable to the subject property. A number of amendments to the EFU district regulations have been adopted over the years since then, however, the existing and proposed uses have never been listed as permitted primary uses in this zoning district.

3. In order to demonstrate the establishment of a nonconforming use, the applicant must demonstrate the following: (1) that the use(s) and structure(s) were established prior to the effective date of the initial zoning of the property; **or** (2) that the use(s) and structure(s) were allowed by right under the zoning applicable at the time of establishment; **or** (3) that a required land use permit; e.g. unzoned area development permit, conditional use permit, etc., was obtained from the County to establish the use(s) and structure(s) prior to a change in zoning regulations pursuant to subsection 1206.06B of the ZDO.

Tax lots 1000 and 1101 have been the subject of two prior land use actions. On February 26, 1993 (Planning file no. Z0092-03-E), the Planning Division found that the wood processing facility was a lawfully established nonconforming use established in 1941. In that decision, a pellet mill was permitted as an alteration of the nonconforming use. On August 5, 1997

(Planning file no. Z0721-97-E), the Planning Division approved an alteration of the nonconforming use to permit for an addition to one of the buildings to provide for additional covered storage space.

The existing manufactured home on tax lot 1100 was approved by the Planning Division as an accessory dwelling for farm help under Planning file no. FM-98-83 in 1983. Under this type of approval, the home is not a permitted primary dwelling, but is limited to use by persons directly involved in the management of the Wrolstad farming operations on this site and several other contiguous properties. It is not a nonconforming use, but a conforming conditionally approved use in the EFU zoning district.

Conclusion: The record establishes that the existing wood processing use, structure(s) and other physical improvements on tax lots 1000 and 1101 were established as a nonconforming use upon the adoption of restrictive zoning regulations on September 1, 1976 and as altered under the 1993 and 1997 approvals as noted above. The manufactured home on tax lot 1100 is not an established nonconforming use.

4. If the applicant proves that nonconforming use status has been established, the nonconforming use may be continued pursuant to subsec. 1206.01 of the ZDO. Subsec. 1206.01 of the ZDO states:

> "A nonconforming use may be continued although not in conformity with the regulations for the zone in which the use is located."

5, If the applicant has demonstrated that a nonconforming use has been lawfully established, the applicant must also provide evidence as to the nature, extent, existence and continuity of the nonconforming use and that the nonconforming use has not been discontinued for any period exceeding twelve (12) consecutive months during the 20-year period immediately preceding the date of the application for verification pursuant to subsec. 1206.02 of the ZDO and ORS 215.130(11). Subsec. 1206.02 of the ZDO states:

> "If a nonconforming use is discontinued for a period of more than twelve (12) consecutive months, the use shall not be resumed unless the resumed use conforms with the requirements of the Ordinance and other regulations applicable at the time of the proposed resumption."

Based upon the land use permit record and the applicant's statement in the application, the staff concludes that the nonconforming use of tax lots 1000 and 1101 has not been discontinued for any period in excess of twelve (12) consecutive months since the adoption of restrictive zoning regulations or during the 20-year period preceding the date of filing of this application.

6. Pursuant to subsection 1206.05B(1) of the ZDO, in order to approve this request, the proposed alteration of the nonconforming use, structure and/or other physical improvements shall have no greater adverse impact upon the neighborhood than the existing use, structure(s) and/or physical improvements. The Planning Director, or designate, may impose conditions designed

to mitigate any potential additional adverse impacts pursuant to subsection 1206.05B(3) of the ZDO.

7. The subject properties are located in an area that is largely agricultural in nature. There are no homes in close proximity to the site. Approval of this request will not permit any expansion of the actual wood processing activities, but would only permit the existing manufactured home, and any replacement of it with either another manufactured home or a site-built single family dwelling, as a permanent dwelling for an employee or operator of the wood processing facility for on-site management and security of the facility. Given that the existing manufactured home has been located upon tax lot 1100 for over 20 years, the staff finds approval of this request, which will do nothing other than change the status of the existing dwelling and allow its' replacement, will cause no additional adverse impact upon the surrounding neighborhood when compared to the existing nonconforming use. No additional traffic impacts, noise or other potentially adverse impacts to the surrounding area will result.

   The staff also finds that conditions of approval are warranted requiring that tax lot 1100 be held in the same ownership as tax lots 1000 and 1101, if the nonconforming use, the wood processing operation, is discontinued, as defined in Sec. 1206.02 of the ZDO, the home shall be removed from the site, and the home shall be occupied only by a person or persons directly involved in the operation or management of the wood processing facility and immediate family members.

DECISION: **Approval with conditions.** Based upon the Findings discussed above, it is the decision of the Clackamas County Planning Director, by his designate, to approve this application for an alteration of a nonconforming use subject to the following conditions of approval.

CONDITIONS OF APPROVAL

1. This decision is based upon the application, site plan and building plans submitted by the applicant, the Findings discussed above and the conditions of approval contained herein. Any changes to the proposal, except as required by these conditions and approved by the Planning Div., shall be reviewed by the Planning Div. as a separate application.

2. If the existing manufactured home located upon tax lot 1100 is replaced with another manufactured home or a site-built home, the applicant shall obtain all necessary Building, Manufactured Home Placement, Plumbing, Electrical, and Septic System Permits from the County Building Codes Div. and Soils Sec. prior to construction.

3. Tax lot 1100 shall be held in the same ownership as tax lots 1000 and 1101.

4. If the nonconforming use, the wood processing operation, is discontinued, as defined in Sec. 1206.02 of the ZDO, the home in tax lot 1100 shall be removed from the site.

5. The home in tax lot 1100 shall be occupied only by a person or persons directly involved in the operation or management of the wood processing facility on tax lots 1000 and 1101 and any immediate family members of that person or persons.

6. Compliance with these conditions of approval is mandatory and non-compliance may be cause for revocation of this permit.

NOTICE TO MORTGAGEE, LIENHOLDER, VENDOR, OR SELLER: ORS CHAPTER 215 REQUIRES THAT IF YOU RECEIVE THIS NOTICE, IT MUST BE PROMPTLY FORWARDED TO THE PURCHASER.

IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE. IF YOU DISAGREE WITH THESE FINDINGS OR CONDITIONS, YOU MAY APPEAL THIS DECISION TO THE CLACKAMAS COUNTY HEARINGS OFFICER. THE COST OF THE APPEAL IS $103.00. YOUR APPEAL MUST BE RECEIVED IN THE PLANNING DIVISION OFFICE BY 5:00 P.M. ON THE LAST DATE TO APPEAL WHICH IS **JUNE 27, 2005.** THIS DECISION IS NOT EFFECTIVE UNTIL THE DAY AFTER THE APPEAL DEADLINE PROVIDED THAT NO APPEAL IS FILED.

Clackamas County

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

Sunnybrook Service Center

NOTICE OF LAND USE APPLICATION IN YOUR AREA

Campbell Gilmour
Director

Date: 04/18/2005

File Number: Z0254-05

Application: Alteration/Chg of Non-Conf Use

From: Clackamas County Planning Division

Notice Mailed To: Property owners within 750 feet
Community Planning Organizations (CPO)
Interested Citizens and Agencies

Explanation of this Notice:
AN ALTERATION OF A NONCONFORMING USE, A WOOD PROCESSING FACILITY ON TAX LOT 1000, TO PERMIT A SINGLE FAMILY RESIDENCE ON TAX LOT 1100 TO PROVIDE FOR ON SITE MANAGEMENT AND SECURITY OF THE FACILITY.

Property Owner: WROLSTAD THOMAS D TRUSTEE
33187 S KROPF ROAD
MOLALLA, OR 97038

Applicant: MCINTIRE JERRY
9545 S GRIBBLE ROAD
CANBY, OR 97013

Location: 33632 S KROPF ROAD

Legal Description: (map & taxlot) **Acres:** 9
51E21 -01100 + 1101
51E21 -01000

Zone: EFU Exclusive Farm Use (80 Ac)

Staff: Rick McIntire 503-353-4516 **e-mail:** RickM @co.clackamas.or.us

How to Comment on this Application:

1. To be sure your comments will be considered prior to the decision, we need to have them within 15 days of the date of this notice.

File Number: Z0254-05

2. You may use the space provided below, mail a separate letter or e-mail the information. Please include the file number and address the information to the staff member handling this matter. In the event you choose e-mail, please limit your correspondence only to the issues of the application.

3. Return your mailed comments to: Clackamas County Planning Division, 9101 SE Sunnybrook Blvd, Clackamas, OR 97015; FAX to (503) 353-4550.

Community Planning Organization: The following recognized Community Planning Organization (CPO) has been notified of this application. This organization may develop a recommendation on this application. You are welcome to contact this organization and attend their meeting. If this Community Planning Organization is currently inactive, and you are interested in becoming involved in Land Use Planning in your area, please contact the Citizen Involvement office at (503) 655-8552.

SOUTH CANBY CPO - INACTIVE

Decision Process: In order to be approved, this proposal must meet the approval criteria or standards in the Zoning and Development Ordinance, Section(s) 401 & 1206

The Ordinance criteria for evaluating this application and all documents and evidence submitted regarding this application are available for inspection. Copies of the application may be purchased at the Planning Division Office during weekday office hours, 8:00am to 5:00pm. The Ordinance criteria are also available at this office or can be reviewed at the County's website at www.co.clackamas.or.us/dtd/zoning/.

A decision on this proposal will be made by the Planning Division. We will consider the criteria as well as any comments and either approve, approve with conditions, or deny this proposal. We will mail you a copy of the decision. If you disagree with the decision you may appeal to the Land Use Hearings Officer who will conduct a public hearing. There is a $103.00 appeal fee.

Comments:

_____

_____

_____

_____

_____ _____

Your Name/Organization Telephone Number

_____

Address

LAND USE APPLICATION

CLACKAMAS COUNTY PLANNING DIVISION
9101 SE SUNNYBROOK BLVD., CLACKAMAS, OREGON 97015 • PHONE (503) 353-4400 • FAX (503) 353-4550

FOR STAFF USE ONLY

- ☐ TEMPORARY PERMIT FOR CARE (ST) RENEWAL
- ☐ TEMPORARY PERMIT USE NOT ALLOWED (ST) RENEWAL
- ☐ HOME OCCUPATION (HO) RENEWAL
- ☐ NON FARM USE (N)
- ☐ FARM DWELLING
- ☐ FOREST DWELLING
- ☐ ZONE CHANGE (Z)
- ☐ CONDITIONAL USE (C)
- ☐ SUBDIVISION SHORT (1-10) (SS)
- ☐ SUBDIVISION LONG (11+) (SL)
- ☐ PARTITION (M)
- ☐ VARIANCE (V)
- ☒ OTHER ALT NKU
- ☐ OTHER

Z.721.97.E/
FM 98.83/
T 94.81/
ST 962/82

File No.: Z0254-05-E
Pre-app: Staff DML/MC Date
Date Received: 4/11/05 Fee 371.00
Hearing Date:
Staff Member: B
Zone: EFU
Comp. Plan: AG
Flex Lot Involved: ☐ YES ☐ NO
Violation # None
CPO South Canby
PR083905

APPLICANT INFORMATION

PLEASE TYPE OR PRINT IN BLACK INK ONLY

WHAT IS PROPOSED Jerry McIntire (buyer) would like approval for site build home, for management + Security for Mill property next door.

NAME OF APPLICANT McIntire (LAST) Jerry (FIRST)

MAILING ADDRESS 9545 S. Gribble Rd. CITY Canby ST Or. ZIP 97013

APPLICANT IS: ☐ LEGAL OWNER ☐ CONTRACT BUYER ☒ OPTION BUYER ☐ AGENT

NAME OF CONTACT PERSON (If other than applicant)

MAILING ADDRESS OF CONTACT ZIP

PHONE NUMBERS OF: APPLICANT: Wk 2500280 Hm 2669614 CONTACT PERSON: Wk Hm

SITE ADDRESS 33632 S. Kropf R. Molalla TOTAL LAND AREA: 9.65

☐ LEGAL DESCRIPTION: T 5 R 1E SECTION 21 TAX LOT(S) 1100 & 1000

☐ ADJACENT PROPERTIES UNDER SAME OWNERSHIP: T 5 R 1E SECTION 21 TAX LOT(S) 1000, 1100

PRESENT USE OF PROPERTY: Single wide mobil (legal accessory dewelling - farm)

METHOD OF SEWAGE DISPOSAL: County Approved Standard Septic System

WATER SUPPLY: Well

OTHER PERSONS (IF ANY) TO BE MAILED NOTICES REGARDING THIS APPLICATION:

NAME	ADDRESS	ZIP	RELATIONSHIP

I hereby certify the statements contained herein, along with the evidence submitted, are in all respects true and correct to the best of my knowledge.

OWNER'S SIGNATURE (PRINT) (DATE)

Jerry McIntire 4-10-05
APPLICANT'S SIGNATURE (PRINT) (DATE)

SIGN

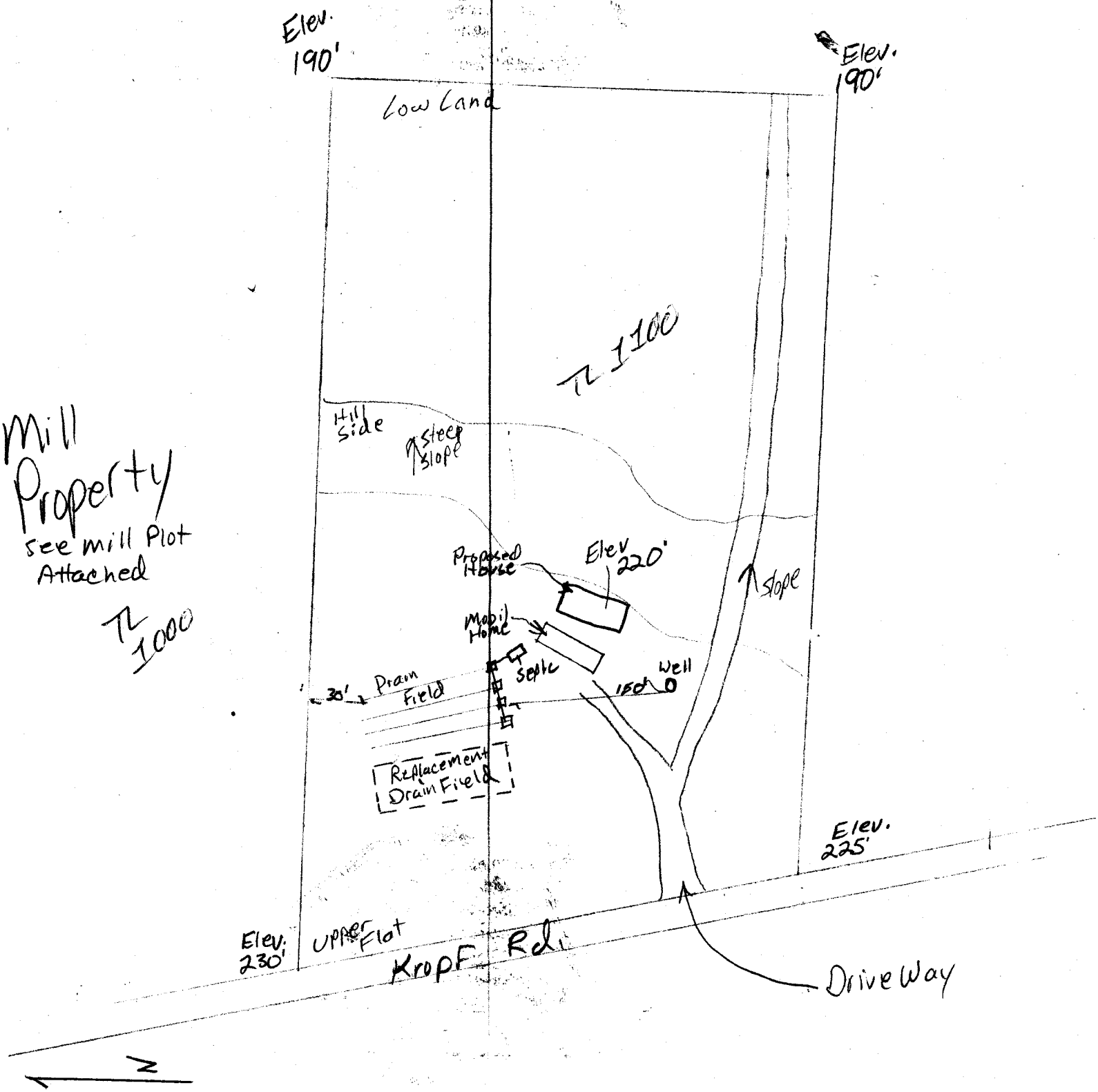
Jerry McIntire
SIGN

CCP-PL10 (Rev. 2/01)

☒ PLOT PLAN ☐ ASSESSOR MAP ☐ SUPPLEMENTAL FORMS CHECKED

Section 21 T 5S R1E

Jerry McIntire
9545 S. Gribble Rd
Canby Oregon. 97013



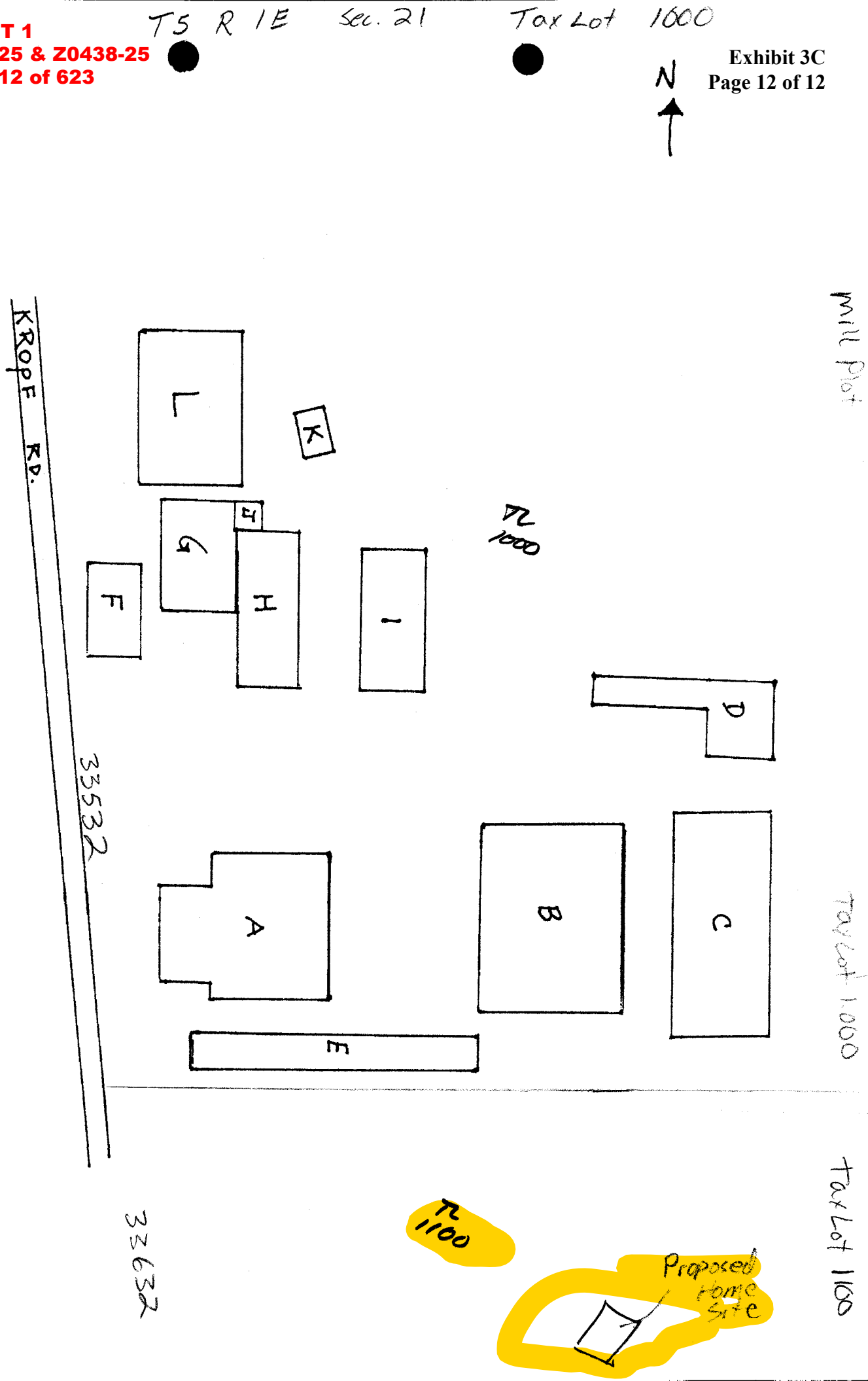
Attachments

4-10-25

1. Existing use for tax lot #1100 as a mobile home site established in 1983, as an accessory single family dwelling for farm use. Existing use for adjacent tax lot #1000 established as a mill site in the late 1930's. There exist on tax lot #1000, 13 buildings ranging from 500 to 12,000 square feet, 70,000 square feet total, and 4 acres of asphalt. All buildings are currently used in four different wood processing operations. The operations employ approximately 30 people, who drive about 20 cars to and from the site. The first shifts start at 5am, and the last end at 11pm, six days a week. I have attached photos to help document continuity of use. One photo dates from 1955, the other from 2002.
2. On tax lot #1100, we would change existing use from accessory dwelling for farm use to accessory dwelling in conjunction with the adjacent legal nonconforming use (mill site). The current residents of tax lot #1100 help the current owner with security for livestock, and prevention of theft and vandalism. My wife and I would build a new home to replace the existing 1970's model singlewide mobile home, so we could be on site to manage the mill and provide our own security. The number of employees, cars, and hours of operations will not change with replacement of mobile home. I purchased the mill property in November 2001, and since then have had five different thefts of wood, tools and fuel. Some buildings have local alarm systems, and I have added chain link fencing and sign postings, but we continue to have thefts. Because of the rural setting, the closest neighbors, not including the existing mobile home, live a half mile to both the north and south, and two miles to the east and west.
3. We would purchase tax lot #1100 and build a home in order to manage and provide better security for the mill in the adjacent tax lot #1000. We would remove the existing mobile home in order to build a permanent site-built home.
4. Considering that there is already a family living in the current mobile home, and because there would be just one family moving into the permanent site-built home, we do not believe there would be any adverse impacts to the neighborhood. The effects would be completely positive. The permanent site-built home and accompanying landscaping would be much more visually appealing than the current singlewide. The land would continue to support livestock, minimizing changes to the current farm use. Also because of our vested interest in the adjacent mill site (tax lot #1000), we would provide better security than the current residents. Finally, the county would benefit from the increased property tax revenue for tax lot #1100.

Thank You

Jerry McIntire


T5 R 1E Sec. 21 Tax Lot 1000
N
KROPF RD.
33532
33632
L
K
G
H
F
I
D
A
B
C
E
N 1000
N 1100
Mill Plot
Tax Lot 1000
Tax Lot 1100
Proposed home site

PLANNING DIVISION

LAND USE FILES

FILE NUMBER: Z0408-06-E

LEGAL DESCRIPTION:

T 5 **S, R** 1 **E, SECTION** 21

TAX LOT(S) 1000, 1100, 1101

NOTICE OF DECISION -
ALTERATION OF A NONCONFORMING USE -**APPROVAL WITH CONDITONS**

CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
LAND USE AND ENVIRONMENTAL PLANNING DIVISION
9101 SE Sunnybrook Blvd., Clackamas, OR 97015
Telephone: 353-4500/4501

TO: Applicant, Citizens Planning Organization, Agencies, and Property Owners within 750 feet of this application.

DATE: July 27, 2006

LAST DATE TO APPEAL: August 8, 2006

FILE NO.: Z0408-06-E

STAFF CONTACT: Rick McIntire (503-353-4516; rickm@co.clackamas.or.us)

APPLICANT: Rock Creek Mill, LLC, c/o Jerry McIntire, P.O. Box 91, Canby, OR 97013

OWNER OF PROPERTY: Rock Creek Mill, LLC (tax lots 1000 and 1101) and Jerry & Beverly McIntire (tax lot 1100)

LEGAL DESCRIPTION: T5S, R1E, Section 21, Tax Lot(s) 1000, 1100 & 1101, W.M.

SITE ADDRESS: 33532 (tax lots 1000/1101) & 33632 S. Kropf Rd., Molalla, OR

TOTAL AREA INVOLVED: Approximately 29.45 acres.

PRESENT ZONING: Exclusive Farm Use (EFU), 80 acre district.

CITIZENS PLANNING ORGANIZATION FOR AREA: South Canby CPO (inactive)

PROPOSAL: An alteration of a nonconforming use, a wood products manufacturing facility, to permit construction and operation of three (3) new structures; a 600 s.f. infeed hopper building, a 5000 s.f. raw materials storage building and a 1200 s.f. building housing a new pellet mill.

FINDINGS: The Planning Division has reviewed this application for an alteration of a nonconforming use. This application is subject to Section 1206 of the Clackamas County Zoning and Development

Ordinance (ZDO). The Planning Division has reviewed this section of the ZDO with respect to this proposal and makes the following findings:

1. The applicant is requesting approval an alteration of a nonconforming use, a wood products manufacturing facility, to permit construction and operation of three (3) new structures; a 600 s.f. infeed hopper building, a 5000 s.f. raw materials storage building and a 1200 s.f. building housing a new pellet mill. Approval of this application and implementation of the proposed use would result in one additional employee and 1-2 additional truck trips per day. The proposed structures would be located in the northwest corner of tax lots 1100 and 1101 just to the south of a long lumber storage building along the south boundary of tax lot 1000.

   The subject properties are located on the east side of S. Kropf Rd., approximately one-half mile north of the intersection with S. Gibson Rd. Tax lots 1000 and 1101 are developed with 13 existing buildings used for the wood processing/lumber milling facility. Tax lot 1100 is developed with a manufactured home in the approximate center of that lot. A large part of tax lot 1000 contains an old mill pond and the east and north sides of this lot are bounded by Rock Creek.

2. Pursuant to subsection 1206.05B(2) of the ZDO, the applicant must first verify that the existing use(s), structure(s) and/or other physical improvements were established as a protected nonconforming use as defined in Sec. 202 of the ZDO. Sec. 202 of the ZDO defines a "Nonconforming Use" as:

   > "A use of any building, structure or land allowed by right when established or that obtained a required land use approval when established but, due to a change in the zone or zoning regulations, is now prohibited in the zone."

   The subject properties are currently zoned Exclusive Farm Use (EFU). The use and development of property in this zoning district is subject to the provisions of Sec. 401 of the ZDO. The wood products manufacturing facility is not listed as a permitted primary, accessory, subject to Planning Director review or conditional use in the EFU zoning district. Single family dwellings, including manufactured homes, are listed as a use subject to Planning Director review in the EFU zoning district. On September 1, 1976, the EFU designation was applied to the subject properties as the first restrictive zoning regulations applicable to the subject property. A number of amendments to the EFU district regulations have been adopted over the years since then, however, the existing and proposed uses have never been listed as permitted primary uses in this zoning district.

3. In order to demonstrate the establishment of a nonconforming use, the applicant must demonstrate the following: (1) that the use(s) and structure(s) were established prior to the effective date of the initial zoning of the property; **or** (2) that the use(s) and structure(s) were allowed by right under the zoning applicable at the time of establishment; **or** (3) that a required land use permit; e.g. unzoned area development permit, conditional use permit, etc., was obtained from the County to establish the use(s) and structure(s) prior to a change in zoning regulations pursuant to subsection 1206.06B of the ZDO.

The subject property has been the subject of three prior land use actions. On February 26, 1993 (Planning file no. Z0092-03-E), the Planning Division found that the wood products manufacturing and processing facility was a lawfully established nonconforming use established in 1941. In that decision, a pellet mill was permitted as an alteration of the nonconforming use. On August 5, 1997 (Planning file no. Z0721-97-E), the Planning Division approved an alteration of the nonconforming use to permit an addition to one of the existing buildings to provide for additional covered storage space. On June 15, 2005 (Planning file no. Z0254-05-E), the Planning Division approved an alteration of the nonconforming use to allow the inclusion of tax lot 1100 and an existing manufactured home to be used as a residence for a watchman/caretaker for the mill facility.

Conclusion: The record establishes that the existing wood products manufacturing facility, use, structure(s) and other physical improvements on tax lots 1000, 1100 and 1101 was established as a nonconforming use upon the adoption of restrictive zoning regulations on September 1, 1976 and as altered under the 1993, 1997 and 2005 land use permit approvals noted above.

4. If the applicant proves that nonconforming use status has been established, the nonconforming use may be continued pursuant to subsec. 1206.01 of the ZDO. Subsec. 1206.01 of the ZDO states:

> "A nonconforming use may be continued although not in conformity with the regulations for the zone in which the use is located."

5, If the applicant has demonstrated that a nonconforming use has been lawfully established, the applicant must also provide evidence as to the nature, extent, existence and continuity of the nonconforming use and that the nonconforming use has not been discontinued for any period exceeding twelve (12) consecutive months during the 20-year period immediately preceding the date of the application for verification pursuant to subsec. 1206.02 of the ZDO and ORS 215.130(11). Subsec. 1206.02 of the ZDO states:

> "If a nonconforming use is discontinued for a period of more than twelve (12) consecutive months, the use shall not be resumed unless the resumed use conforms with the requirements of the Ordinance and other regulations applicable at the time of the proposed resumption."

Based upon the land use permit record and the applicant's statement in the application, the staff concludes that the nonconforming use of tax lots 1000, 1100 and 1101 has not been discontinued for any period in excess of twelve (12) consecutive months since the adoption of restrictive zoning regulations or during the 20-year period preceding the date of filing of this application.

6. Pursuant to subsection 1206.05B(1) of the ZDO, in order to approve this request, the proposed alteration of the nonconforming use, structure and/or other physical improvements shall have no greater adverse impact upon the neighborhood than the existing use, structure(s) and/or physical improvements. The Planning Director, or designate, may impose conditions designed

to mitigate any potential additional adverse impacts pursuant to subsection 1206.05B(3) of the ZDO.

7. The subject properties are located in an area that is largely agricultural in nature. There are no homes in close proximity to the site. It appears that the nearest is 750 ft. or more from the facility.

The proposed steel structures will be placed in the northwest corner of tax lots 1100 and 1101 adjacent to an existing lumber storage building. The applicant states that implementation of the expanded pellet mill use will result in the addition of one employee and 1-2 truck trips per day. All of the proposed processing and materials storage uses will occur entirely within the proposed enclosed structures, thereby limiting potential additional noise impacts upon the surrounding area.

The County Traffic Engineering Div. staff have also reviewed this proposal and have determined that S. Kropf Rd. has sufficient capacity to accommodate the small increase in employee and truck traffic described by the applicant. However, the Traffic Engineering staff has recommended some changes in the location of existing employee parking in proximity to the two entrances from Kropf Rd. which presently cause a sight distance limitation, a traffic safety hazard, at these entrances. The following is a discussion of these issues and recommended solutions. The buildings are identified on the applicant's site plan and the following discussion refers to the buildings as indicated on that plan.

At the west end of building E (lumber storage building along south boundary of tax lot 1000), there is a fenced off area with container bins that provide free wood to people who will haul it away. Between this fenced area and the easterly edge of pavement of Kropf Road, it appears that employee vehicles are parked which limit available sight distance to the south for drivers exiting the adjacent driveway between buildings A and E. A similar issue is present just to the south of the northerly driveway, located between buildings A and F. Again, between a fenced area and the edge of pavement, parked vehicles limit available sight distance to the south. Maximizing sight distance is important here because Kropf Road is not posted for speed and is therefore governed by the "Basic Rule", with speeds allowed up to 55 miles per hour. The vehicles parked along the west side of building A are far enough from Kropf Road that this parking area may continue to be used without limiting sight distance at the existing driveway entrances.

The site is large and an employee parking area could be established so that employees would not need to park adjacent to Kropf Road. This road is classified in the Comprehensive Plan as a minor arterial roadway and, under this designation, parking is generally restricted along minor arterials according to Comprehensive Plan Table V-2.

The Traffic Engineering Sec. staff recommend that no vehicles be parked between the edge of pavement (of Kropf Rd.) and the fenced areas west of building E, and also between buildings A and F, and that an on-site employee parking area be established so that employees are not permitted to park along side the edge of Kropf Road. A condition requiring the owner to monitor this situation and provide enforcement would also be helpful as County staff would not be able to monitor the situation effectively. Alternatively, some low landscaping (no more than

30-inches in height at maturity, as measured from the easterly edge of pavement) could be installed and maintained that would effectively eliminate the parking areas between the fences and Kropf Road.

The Planning staff finds that a condition of approval implementing the Traffic Engineering Sec. recommendations is warranted to ensure that the available sight distance at the two entrances into tax lot 1000 is maximized for traffic safety purposes.

The applicant's site plan does not indicate where access to the new buildings will be provided. The staff finds that a condition of approval is warranted requiring the applicant to provide access to the new buildings that complies with the emergency vehicle access requirements of the Monitor Fire District no. 58 Fire Marshal. In addition, if an additional access is proposed onto Kropf Rd., the applicant shall obtain a commercial entrance permit from the County Engineering Div. The applicant will need to consult with Robert Hixson (503-353-4708) of the Traffic Engineering Div. to determine if an additional entrance point will be permitted. If not, the applicant will need to provide for access to the new structures through the existing entrances. Some flexibility in the final position of the structures will be permitted by the County Planning Div. to account for this, if necessary. As noted previously, the County does limit the number of entrances to commercial and residential uses from Minor Arterial streets.

The site plan also indicates that two of the proposed buildings as shown on the site plan will straddle the property boundary line separating tax lots 1100 and 1101. The latter is a 20.5 ft. wide strip of land between tax lots 1000 and 1100. This strip of land is not a separate legal Lot of Record, as defined in Sec. 202 of the ZDO. Under the building code and ZDO standards, structures are not permitted to cross property lines; therefore, prior to the issuance of building permits for these structures, the applicant shall request that the County Assessor cancel tax lot 1101 and combine it with tax lot 1000 and a copy of the approved request shall be submitted to the Planning Div. to verify that this action has been taken.

8. The Planning Div. staff finds that the proposed alteration of a nonconforming use, subject to conditions as discussed above, will not cause additional adverse impacts upon the surrounding area when compared with the impacts of the existing nonconforming use.

DECISION: **Approval with conditions.** Based upon the Findings discussed above, it is the decision of the Clackamas County Planning Director, by his designate, to approve this application for an alteration of a nonconforming use subject to the following conditions of approval.

CONDITIONS OF APPROVAL

1. This decision is based upon the application, site plan submitted by the applicant, the Findings discussed above and the conditions of approval contained herein. Any changes to the proposal, except as required by these conditions and approved by the Planning Div., shall be reviewed by the Planning Div. as a separate application.

2. Prior to the commencement of construction, the applicant shall obtain any Building, Plumbing, Electrical, Mechanical or other specialty code permits deemed necessary by the County Building Codes Division.

3. Prior to occupancy of the structures, the applicant shall obtain approved final inspections and certificates of occupancy from the County Building Codes Div.

4. Prior to the issuance of Building Permits for the new structures, the applicant shall file a written request with the County Assessor to cancel tax lot 1101 and combine it with tax lot 1000 and a copy of the approved request shall be submitted to the Planning Div. to verify that this action has been taken.

5. Prior to the issuance of Building Permits for the new structures, the applicant shall submit an employee, visitor and truck parking plan to Robert Hixson of the County Traffic Engineering Sec. demonstrating that on-site vehicle parking will not obstruct sight distance at the existing and any proposed new entrances onto S. Kropf Rd. as discussed in the Findings above. The applicant shall implement the approved parking plan prior to occupancy of the new structures.

6. Prior to the issuance of Building Permits for the new structures, the applicant shall obtain a permit for a commercial driveway entrance onto Kropf Rd. from the County Engineering Div. if a new entrance is proposed.

7. Prior to the issuance of Building Permits for the new structures, the applicant shall submit a revised site plan depicting any proposed new entrance(s), or an internal access drive(s) from the existing entrances in tax lot 1000, parking and structure locations to the Planning Div. and County Engineering Div. (Robert Hixson) for review and approval.

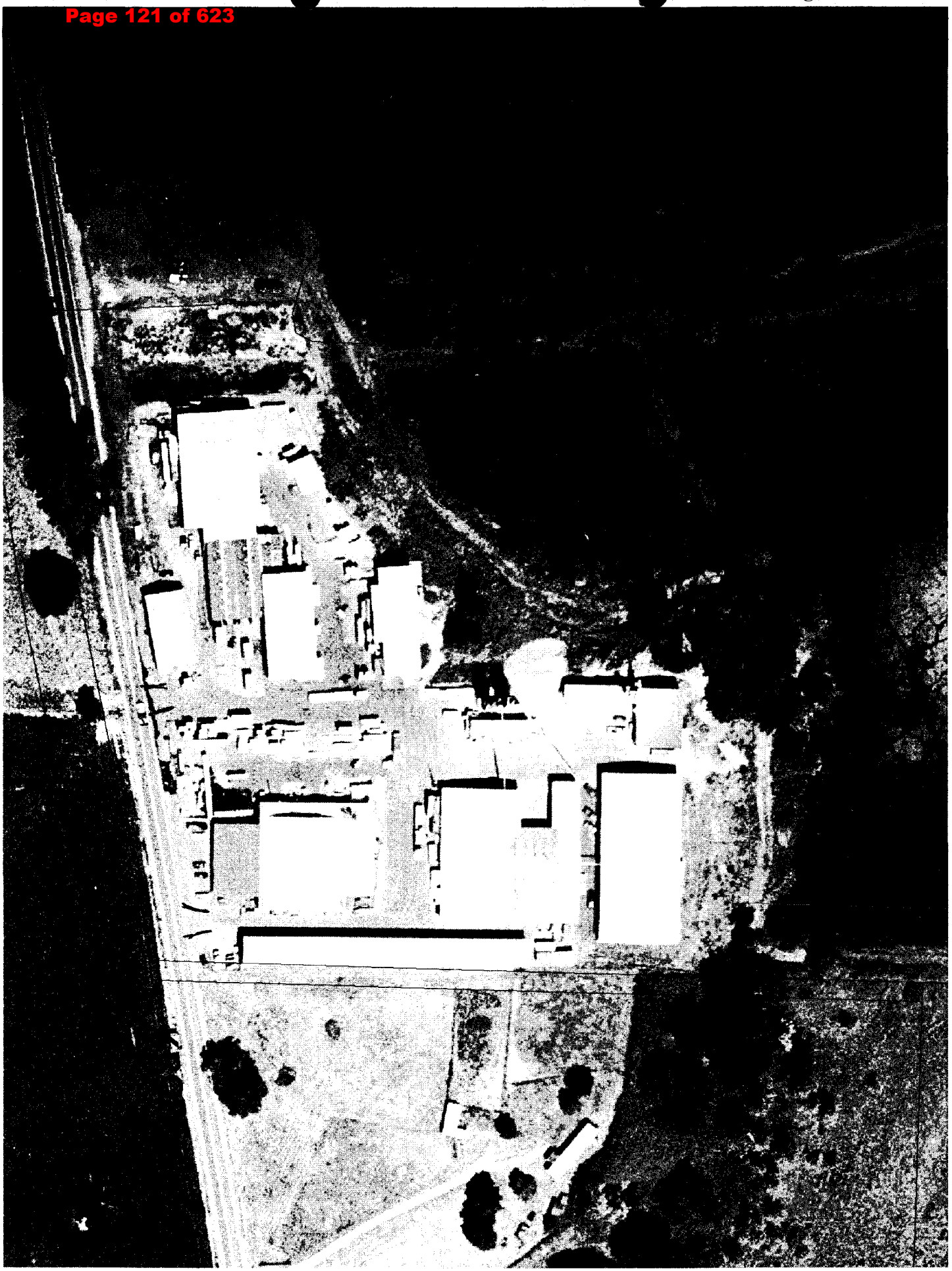
8. The applicant shall comply with all relevant requirements of the Monitor Fire District no. 58 Fire Marshal regarding fire protection water supply, emergency vehicle access and any other fire and life safety requirements.

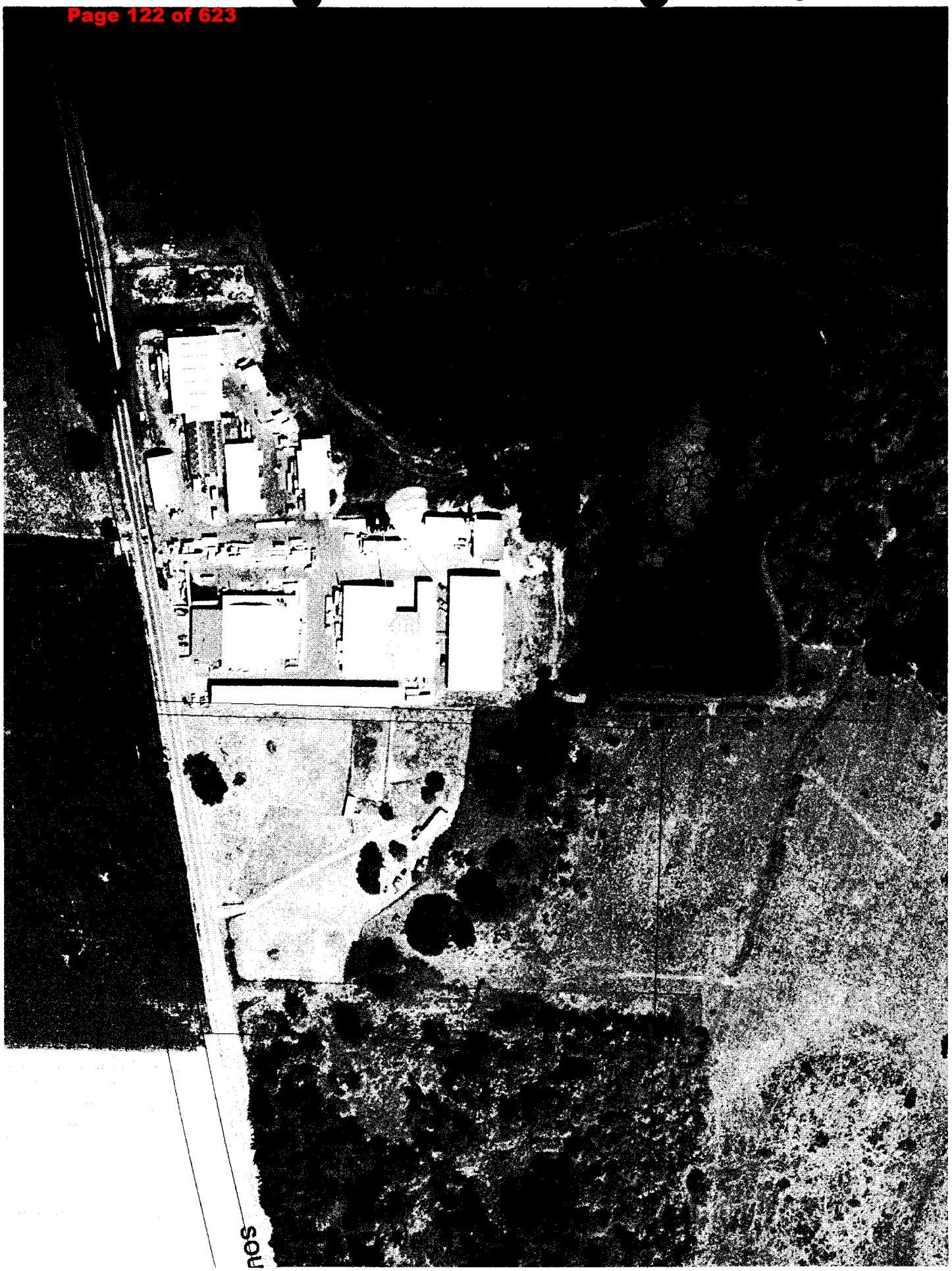
9. Compliance with these conditions of approval is mandatory and non-compliance may be cause for revocation of this permit.

NOTICE TO MORTGAGEE, LIENHOLDER, VENDOR, OR SELLER: ORS CHAPTER 215 REQUIRES THAT IF YOU RECEIVE THIS NOTICE, IT MUST BE PROMPTLY FORWARDED TO THE PURCHASER.

IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE. IF YOU DISAGREE WITH THESE FINDINGS OR CONDITIONS, YOU MAY APPEAL THIS DECISION TO THE CLACKAMAS COUNTY HEARINGS OFFICER. THE COST OF THE APPEAL IS $250.00. YOUR APPEAL MUST BE RECEIVED IN THE PLANNING DIVISION OFFICE BY 5:00 P.M. ON THE LAST DATE TO

APPEAL WHICH IS **AUGUST 8, 2006.** THIS DECISION IS NOT EFFECTIVE UNTIL THE DAY AFTER THE APPEAL DEADLINE PROVIDED THAT NO APPEAL IS FILED.





McIntire, Rick

From: Hixson, Robert
Sent: Friday, June 16, 2006 8:17 AM
To: McIntire, Rick
Subject: Z0408-06-E, Rock Creek Mill

Rick,

I have been to the site and have concerns regarding sight distance. At the ~~east~~ west end of building E, there is a fenced off area with container bins that provide free wood to people who will haul it away. Between this fenced area and the easterly edge of pavement of Kropf Road, vehicles, possibly employee vehicles, are parked and limit sight distance to the south for drivers exiting the adjacent driveway between buildings A and E. A similar issue is present just to the south of the northerly driveway, located between buildings A and F. Again, between a fenced area and the edge of pavement, parked vehicles limit sight distance to the south.

Maximizing sight distance is important here because Kropf Road is not posted for speed and is therefore governed by the "Basic Rule", with speeds allowed up to 55 miles per hour.

The site is large and an employee parking area could be established so that employees would not need to park adjacent to Kropf Road, which is a minor arterial and parking is generally restricted along minor arterials according to Comprehensive Plan Table V-2.

The vehicles parked ~~east~~ west of building A are far enough from Kropf Road that this parking area may continue to be used without limiting sight distance at the existing driveways.

I would recommend that no vehicles be parked between the edge of pavement and the fenced areas ~~east~~ west of building E, and also between buildings A and F, and that an employee parking area be established so that employees would not be permitted to park along side the edge of Kropf Road. A condition requiring the owner to monitor this situation and provide enforcement would also be helpful as County staff would not be able to monitor the situation effectively. Alternatively, some low landscaping (no more than 30-inches in height at maturity, as measured from the easterly edge of pavement) could be installed and maintained that would eliminate the parking areas between the fences and Kropf Road.

Robert

Clackamas County

SOILS/WES

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

Sunnybrook Service Center

Campbell Gilmour
Director

NOTICE OF LAND USE APPLICATION IN YOUR AREA

Date: 05/31/2006

File Number: Z0408-06

Application: Alteration/Chg of Non-Conf Use

From: Clackamas County Planning Division

Notice Mailed To: Property owners within 750 feet
Community Planning Organizations (CPO)
Interested Citizens and Agencies

Explanation of this Notice:
AN ALTERATION OF NON-CONFORMING USE, A WOOD PRODUCTS MANUFACTURING FACILITY, TO ADD THREE NEW STRUCTURES INCLUDING A 600 S.F. INFEED HOPPER BUILDING, A 5,000 S.F. RAW MATERIALS STORAGE BUILDING AND A 1200 S.F. PELLETT MILL BUILDING.

Property Owner: ROCK CREEK MILL LLC
PO BOX 91
CANBY, OR 97013

Applicant: MCINTIRE JERRY
PO BOX 91
CANBY, OR 97013

no obj - w/low of
inc - w/low of
1 person is
de minimis -
no bldg foundations
of septic components
RK

Location: 33532 S KROPF RD

Legal Description: (map & taxlot) **Acres:** 29.06
51E21 01000, 01100

Zone: EFU Exclusive Farm Use (80 Ac)

Staff: Rick McIntire 503-353-4516 **e-mail:** RickM @co.clackamas.or.us

How to Comment on this Application:
1. To be sure your comments will be considered prior to the decision, we need to have them within 15 days of the date of this notice.

File Number: Z0408-06

2. You may use the space provided below, mail a separate letter or e-mail the information. Please include the file number and address the information to the staff member handling this matter. In the event you choose e-mail, please limit your correspondence only to the issues of the application.

3. Return your mailed comments to: Clackamas County Planning Division, 9101 SE Sunnybrook Blvd, Clackamas, OR 97015; FAX to (503) 353-4550.

Community Planning Organization: The following recognized Community Planning Organization (CPO) has been notified of this application. This organization may develop a recommendation on this application. You are welcome to contact this organization and attend their meeting. If this Community Planning Organization is currently inactive, and you are interested in becoming involved in Land Use Planning in your area, please contact the Citizen Involvement office at (503) 655-8552.

SOUTH CANBY CPO (INACTIVE)

Decision Process: In order to be approved, this proposal must meet the approval criteria or standards in the Zoning and Development Ordinance, Section(s) 401 & 1206

The Ordinance criteria for evaluating this application and all documents and evidence submitted regarding this application are available for inspection. Copies of the application may be purchased at the Planning Division Office during weekday office hours, 8:00am to 5:00pm. The Ordinance criteria are also available at this office or can be reviewed at the County's website at www.co.clackamas.or.us/dtd/zoning/.

A decision on this proposal will be made by the Planning Division. We will consider the criteria as well as any comments and either approve, approve with conditions, or deny this proposal. We will mail you a copy of the decision. If you disagree with the decision you may appeal to the Land Use Hearings Officer who will conduct a public hearing. There is a $250.00 appeal fee.

Comments:

_____

_____

_____

_____

_____ _____

Your Name/Organization Telephone Number

_____

Address

CLACKAMAS COUNTY ENVIRONMENTAL SERVICES
902 Abernethy Road, Oregon City, OR 97045

SEPTIC TANK PERMIT

APPLICATION
for a Permit to *Construct* a
New or *Repair* a Subsurface or Alternative Sewage
Disposal System

APPLICATION APPROVED
Date of Approval 7/25/83
Date Issued 7/25/83 LAP

Permit No. SK 313-83
Fee For Permit 55.00
Serial No 0818801

TO BE FILLED IN BY APPLICANT (Type or Print)

To Be Filled In By Applicant (Print or Type)

A. REFERENCE INFORMATION:

Section 21 T 5S R 1E Building Permit No

Tax Lot ~~6700~~ 01100 Zone Approval Subject to 1040-81.T

Lot Blk Subdivision renewal # in 962-82-ST

Location Address 33602 S Kropf Rd. 7/24/83 G M Gomes

Molalla, OR. 97038

Owner's Name Louis E. Wachsted Installer's Name Weddle Well Drilling & Back Hoe Service

Address 33272 S Kropf Rd. Address 10501 - 45th Ave N.E.

City Molalla State OR City Brooks State OR.

Phone (503) 651-2326 Zip 97038 Phone (503) 393-4807 Zip 97301

*NOTE: Only the property owner, contract purchaser, or a licensed installer may perform work on or related to installation of the sewage disposal system authorized under this permit.

B. GENERAL DESCRIPTION:

☐ NEW INSTALLATION ☐ REPAIR ☐ ALTERATION

INSTALLATION WILL SERVE ☐ HOUSE ☒ MOBILE HOME ☐ COMMERCIAL ☐ OTHER

NO. OF LIVING UNITS NO. OF BEDROOMS 3

WATER SUPPLY WILL BE ☐ PUBLIC ☒ COMMUNITY ☐ PRIVATE ☐ OTHER

A plot plan drawn to scale on 8½" x 14" paper must be submitted with each permit and must show: Property lines and dimensions – proposed and existing structures – location of well and/or water service lines – location of septic tank and drainfield and/or sewer lines – proposed location of raindrains and method of disposal – location of driveways, patio slab, parking area and walkways – contour or ground elevation at property corners – proposed min. floor and garage floor elevations – proposed setbacks from all property lines.

I certify that I am licensed under ORS 454.695 to perform work on this sewage disposal system or that I am the owner or contract purchaser of the subject property. I hereby certify that the information contained on this application is true and correct to the best of my knowledge and belief.

NOTE: A final over inspection is required and will be made within seven days of your request. This Permit expires one year from date of issuance

Louis Wachsted
SIGNATURE (Owner/Installer)

DATE 7/25/83

(FOR OFFICIAL USE ONLY)

SEWAGE DISPOSAL REQUIREMENTS:

TYPE OF SYSTEM ☒ STANDARD ☐ CAPPING FILL ☐ SAND FILTER ☐ VARIANCE ☐ OTHER

SEPTIC TANK CAPACITY 1000 GALLONS DRAINFIELD EQUAL ___ OR SERIAL X DISTRIBUTION

TOTAL LENGTH OF LINES 450 FEET NUMBER OF LINES 4 DISTANCE BETWEEN LINES 10 FEET

MINIMUM TRENCH DEPTH 30 INCHES GROUNDWATER INTERCEPTOR DEPTH ___ INCHES

MAXIMUM TRENCH DEPTH 12 INCHES

COMMENTS: OFF Site water from mill on adjacent property.

SEWAGE DISPOSAL SYSTEM INSPECTION REPORT

CLACKAMAS COUNTY
DEVELOPMENT SERVICES DEPARTMENT
Phone: 655-8521
902 Abernethy Road
Oregon City, Oregon 97045

Permit No. S X-313-83
Date Received 7/25/83
Time Received 8:15 A.M. P.M.
Owner Winstead
Installer Riddle

INSPECTION TO BE MADE:
Mon. (Tue.) Wed. Thur Fri. A.M. P.M.

Legal Description: Tax Lot 1100 Section 21 T 5 S, R 1E W.M.
Location 33602 S Kropf Road

ITEM	APPROVED	APPROVED WITH CORRECTIONS (see below)	NOT APPROVED (see below)
Septic Tank 1000 Gal. ST	X	☐	☐
Effluent Sewer	X (3)	☐	☐
Distribution Box (Drop Boxes)	☐	X (1)	☐
Header Lines	X	☐	☐
Leachlines (total) 450 Ft. SDGM	X (2)	☐	☐
Capping Fill (depth)	☐	☐	☐
Dosing Tank and Pump	☐	☐	☐
Pressure Line Pressure Piping	☐	☐	☐
Sand Filter	☐	☐	☐
Storm Drainage Tile	☐	☐	☐
Other	☐	☐	☐

COMMENTS (1) grout all pipes to boxes on outside
(2) Max trench depth was limited to 30" - since 18" gravel on top 12" of 36" Soil Report required approx depth OK, if over 2 lines required, drops in future could reach depth of pipe. Caution and observation by County Sanitarian Dept
(3) Compact soil complete backfilling in 8" minimum evenly back

* owner reports no existing septic leaks or sewage systems on this property. Jan 26 7-26-83 MB

The construction of this subsurface sewage disposal system DOES NOT meet current minimum State standards. See comments above for the corrections necessary. A reinspection is required. All corrections must be complete and a reinspection requested within days of the date of this notice. The 24-hour inspection recorder phone number is 655-8690.

Inspector _____ Date _____ Time _____ A.M. P.M.

CERTIFICATE OF SATISFACTORY COMPLETION

This subsurface sewage disposal system has been inspected and found to meet current minimum State construction standards. In accordance with O.R.S. 454.695, this Certificate is issued as evidence of Satisfactory Completion of a [illegible] System at this location. The system can be backfilled if any corrections noted above are made.

Inspector David N Ruch Date 7-26-83 Time 12:56 A.M. (P.M.)

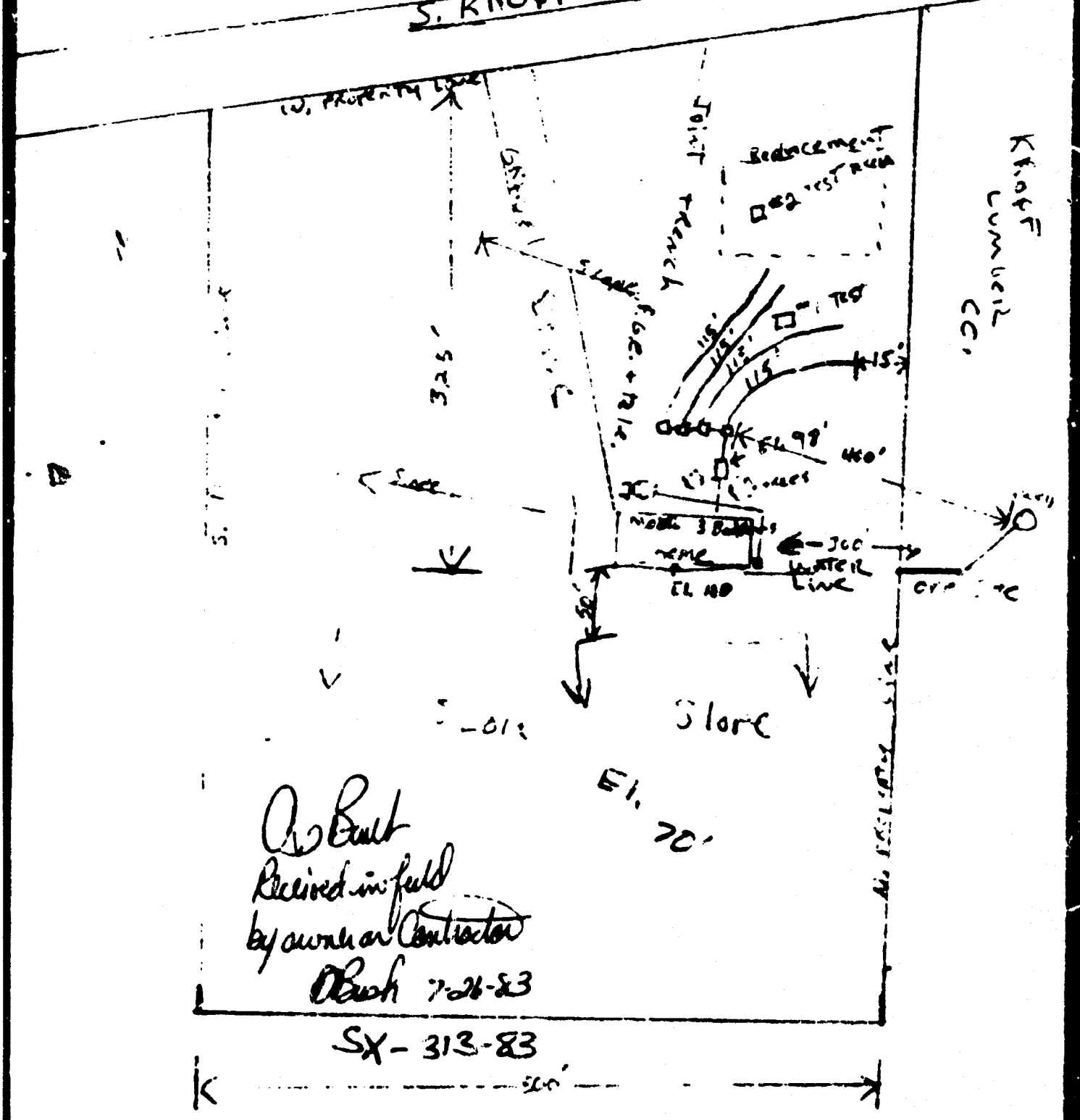
1" = 10'

Section 21 T. 5 S. R. 1 E

Tax Lot 1102

N

S. KROUF RD.



Received in field
by owner or Contractor
[signature] 7-26-83

SX-313-83

Clackamas County

DEPARTMENT OF
TRANSPORTATION AND DEVELOPMENT

Sunnybrook Service Center

Campbell Gilmour
Director

NOTICE OF LAND USE APPLICATION IN YOUR AREA.

Date: 05/31/2006

File Number: Z0408-06

Application: Alteration/Chg of Non-Conf Use

From: Clackamas County Planning Division

Notice Mailed To: Property owners within 750 feet
Community Planning Organizations (CPO)
Interested Citizens and Agencies

Explanation of this Notice:
AN ALTERATION OF NON-CONFORMING USE, A WOOD PRODUCTS MANUFACTURING FACILITY, TO ADD THREE NEW STRUCTURES INCLUDING A 600 S.F. INFEED HOPPER BUILDING, A 5,000 S.F. RAW MATERIALS STORAGE BUILDING AND A 1200 S.F. PELLETT MILL BUILDING.

Property Owner: ROCK CREEK MILL LLC
PO BOX 91
CANBY, OR 97013

Applicant: MCINTIRE JERRY
PO BOX 91
CANBY, OR 97013

Location: 33532 S KROPF RD

Legal Description: (map & taxlot) **Acres:** 29.06
51E21 01000, 01100

Zone: EFU Exclusive Farm Use (80 Ac)

Staff: Rick McIntire 503-353-4516 **e-mail:** RickM @co.clackamas.or.us

How to Comment on this Application:
1. To be sure your comments will be considered prior to the decision, we need to have them within 15 days of the date of this notice.

File Number: Z0408-06

2. You may use the space provided below, mail a separate letter or e-mail the information. Please include the file number and address the information to the staff member handling this matter. In the event you choose e-mail, please limit your correspondence only to the issues of the application.

3. Return your mailed comments to: Clackamas County Planning Division, 9101 SE Sunnybrook Blvd, Clackamas, OR 97015; FAX to (503) 353-4550.

Community Planning Organization: The following recognized Community Planning Organization (CPO) has been notified of this application. This organization may develop a recommendation on this application. You are welcome to contact this organization and attend their meeting. If this Community Planning Organization is currently inactive, and you are interested in becoming involved in Land Use Planning in your area, please contact the Citizen Involvement office at (503) 655-8552.

SOUTH CANBY CPO (INACTIVE)

Decision Process: In order to be approved, this proposal must meet the approval criteria or standards in the Zoning and Development Ordinance, Section(s) 401 & 1206

The Ordinance criteria for evaluating this application and all documents and evidence submitted regarding this application are available for inspection. Copies of the application may be purchased at the Planning Division Office during weekday office hours, 8:00am to 5:00pm. The Ordinance criteria are also available at this office or can be reviewed at the County's website at www.co.clackamas.or.us/dtd/zoning/.

A decision on this proposal will be made by the Planning Division. We will consider the criteria as well as any comments and either approve, approve with conditions, or deny this proposal. We will mail you a copy of the decision. If you disagree with the decision you may appeal to the Land Use Hearings Officer who will conduct a public hearing. There is a $250.00 appeal fee.

Comments:

_____

_____

_____

_____

_____ _____

Your Name/Organization Telephone Number

_____

Address

Clackamas County

DEPARTMENT OF
TRANSPORTATION AND DEVELOPMENT

Sunnybrook Service Center

COUNTY ACCEPTANCE OF COMPLETE LAND USE APPLICATION

ORIGINAL DATE RECEIVED: 5/23/06

FILE NUMBER: Z0408-06-E

APPLICATION TYPE: Alteration of Non Conform use

This Planning Division Staff reviewed this application on

5/30/06.

It was determined it to be complete on

5/23/06.

Comments: _____

_____.

Signed

Sr. Planner
Title

120/150 DAY DEADLINE: 10/20/06

EXHIBIT 1
Z0437-25 & Z0438-25
Page 132 of 623

LAND USE APPLICATION

Exhibit 3D
Page 20 of 33

CLACKAMAS COUNTY PLANNING DIVISION
9101 SE SUNNYBROOK BLVD., CLACKAMAS. OREGON 97015 PHONE (503) 353-4500 FAX (503) 353-4550
www.co.clackamas.or.us EMAIL: zoninginfo@co.clackamas.or.us

FOR STAFF USE ONLY

- ☐ TEMPORARY PERMIT FOR CARE (ST)
  RENEWAL_____
- ☒ ALTERATION OF NON-CONFORMING USE
  _____
- ☐ HOME OCCUPATION (HO)
  RENEWAL_____
- ☐ NON FARM USE (N)
- ☐ FARM DWELLING
  _____
- ☐ FOREST DWELLING
  _____
- ☐ COMP. PLAN AMENDMENT
- ☐ ZONE CHANGE
- ☐ CONDITIONAL USE (C)
- ☐ SUBDIVISION SHORT (1-10) (SS)
- ☐ SUBDIVISION LONG (11+) (SL)
- ☐ PARTITION (M)
- ☐ VARIANCE (V)
- ☐ PROPERTY LINE ADJUSTMENT
- ☐ OTHER_____

File No.: Z0408-06-E
Date Received: 5/31/06 Fee: $520.00
Hearing Date: _____
Staff Member: _____
Zone: EFU
Comp. Plan: _____
Violation #: NONE
CPO: Molalla CPO (Notified)
Development No.: _____
Project No.: PR1236006

APPLICANT INFORMATION

PLEASE TYPE OR PRINT IN BLACK INK ONLY

WHAT IS PROPOSED 3 New buildings for increased production of wood pellets. (O 600 sq. Ft) (P 5,000 sqFt) (Q 1200 sqFt)

NAME OF APPLICANT Jerry McIntire

MAILING ADDRESS P.O. Box 91 CITY Canby ST Or ZIP 97013

APPLICANT IS: ☒ LEGAL OWNER ☐ CONTRACT BUYER ☐ OPTION BUYER ☐ AGENT

NAME OF CONTACT PERSON (if other than applicant) _____

MAILING ADDRESS OF CONTACT _____ ZIP_____

APPLICANT PHONE NUMBERS: Wk 503 250-0280 Hm 503-266-9614 E-Mail Address: McIntire@Canby.

CONTACT PERSON PHONE NUMBERS: Wk_____ Hm_____ E-Mail Address: _____

SITE ADDRESS: 33532 + 33632 S. Kropf Rd. TOTAL LAND AREA: 28 acers

LEGAL DESCRIPTION: T 5 R 1E SECTION 21 TAX LOT(S) 1000, 1100

ADJACENT PROPERTIES UNDER SAME OWNERSHIP: T___ R___ SECTION_____ TAX LOT(S)_____

PRESENT USE OF PROPERTY: 4 Types Wood Processing, Drying, Planning, Fabricating, + Pellet

METHOD OF SEWAGE DISPOSAL: Septic

WATER SUPPLY: Well

OTHER PERSONS (IF ANY) TO BE MAILED NOTICES REGARDING THIS APPLICATION:

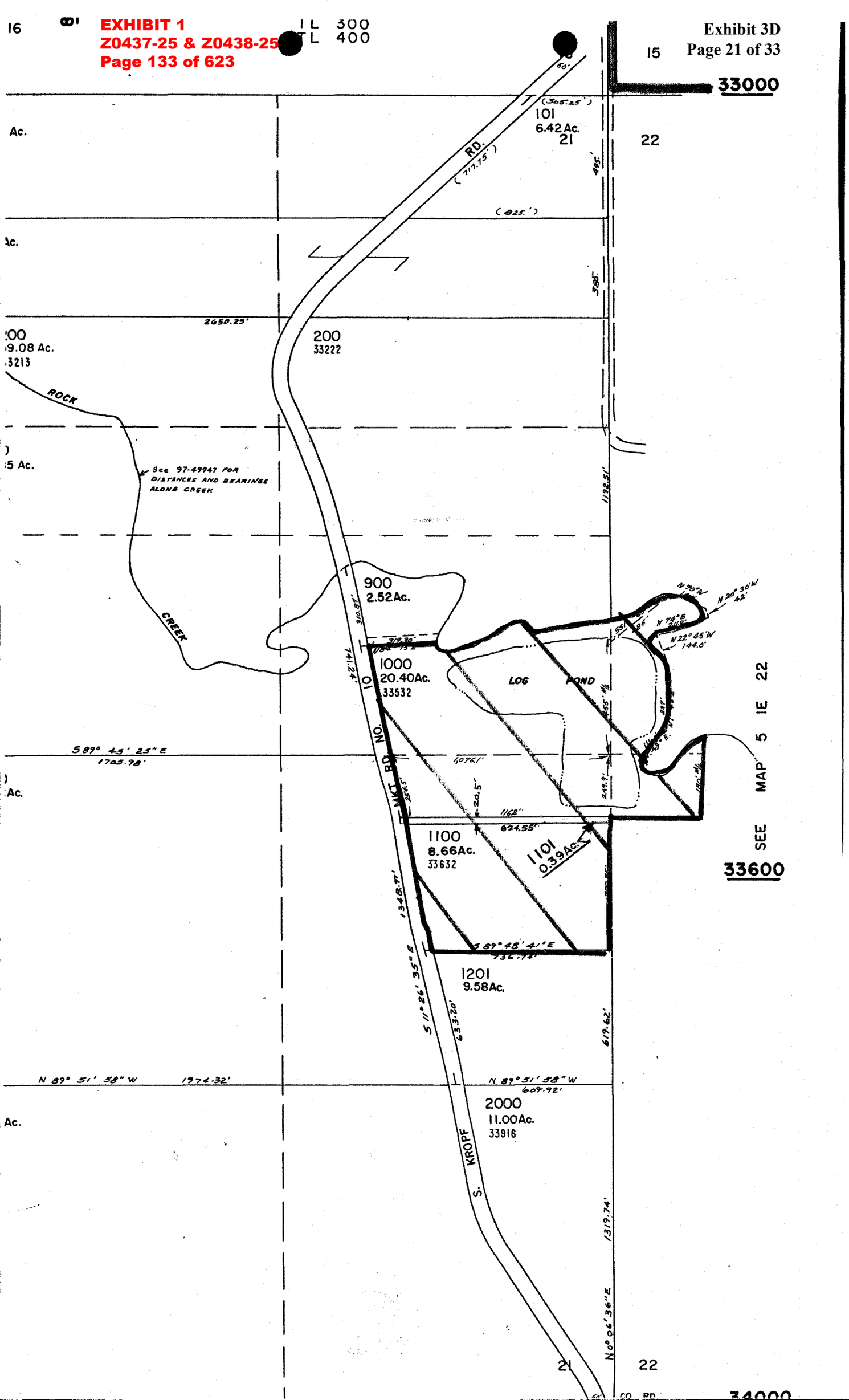
NAME	ADDRESS	ZIP	RELATIONSHIP

I hereby certify the statements contained herein, along with the evidence submitted, are in all respects true and correct to the best of my knowledge.

Jerry McIntire (OWNER'S NAME (PRINT)) 5-22-06 (DATE) _____ (APPLICANT'S NAME (PRINT)) _____ (DATE)

Jerry McIntire (SIGNATURE) _____ (SIGNATURE)

CCP-PL10 (Rev. 1/04)


16
15
33000
TL 300
TL 400
Ac.
101
6.42 Ac.
21
22
RD.
(717.75')
(825')
(305.25')
495'
385'
2650.25'
200
33222
ROCK
CREEK
See 97-49947 FOR DISTANCES AND BEARINGS ALONG CREEK
900
2.52 Ac.
1000
20.40 Ac.
33532
LOG POND
N 70° W
N 20° 30' W 42'
N 74° E 216'
N 22° 45' W 144.0'
1132.51'
741.24'
310.88'
S 89° 45' 25" E
1703.98'
1076.1'
20.5'
1162'
824.55'
1100
8.66 Ac.
33632
1101
0.39 Ac.
1348.37'
S 89° 48' 41" E
S 11° 26' 35" E
633.20'
1201
9.58 Ac.
619.62'
N 89° 51' 58" W
1974.32'
N 89° 51' 58" W
609.92'
2000
11.00 Ac.
33916
S. KROPF
1319.74'
N 0° 06' 36" E
MKT RD NO.
SEE MAP 5 1E 22
33600
CO RD
34000

Clackamas County

SUPPLEMENTAL APPLICATION
ALTERATION/CHANGE OF NONCONFORMING USE

APPLICANT INFORMATION

Name: Jerry McIntire File # Z0408-06E

WHAT IS AN ALTERATION OR CHANGE OF A NONCONFORMING USE?:

The County Zoning & Development Ordinance (ZDO), Sec. 202, defines a Nonconforming Use as "A use of any building, structure, or land allowed by right when established or that obtained a required land use approval when established but, due to a change in the zone or zoning regulations, is now prohibited in the zone." A Nonconforming Use may be a dwelling or other structure(s), a commercial or industrial use, or any other use in a zoning district that was permitted when established, but is not now listed as a permitted use or structure in the zoning district in which it is located. The ZDO allows for alterations to, or changes in, a Nonconforming Use subject to the provisions of Sec. 1206 of the ZDO. An alteration to, or change in, a Nonconforming Use may include, but is not limited to, structural additions, changes to the usage of areas of the property, signing changes, increases in number of employees, a change of hours and/or days of operation, operational changes, and changes to the use itself, etc.

WHAT IS NEEDED FOR APPROVAL?:

An alteration of, or change in, a Nonconforming Use **MAY** be permitted after evaluation of the requested alteration with respect to the criteria contained in Sec. 1206 of the ZDO. The County must make written findings to support the decision. The applicant is responsible for providing evidence to support the request for an alteration or change.

WHAT ARE CHANCES FOR APPROVAL?:

Staff cannot predetermine the decision on this or any other land use application. A decision of approval or denial will only be made after the complete application is processed, comments are sought, and the application is reviewed by the Planning staff. This includes review of citizen and agency comments. The decision is based on criteria appropriate to this application as listed in Sec. 1206 of the ZDO.

APPLICATION PROCESS:

This permit application is subject to the Administrative Action process and public notice pursuant to Subsec. 1305.02 of the ZDO. Public comments received from the Community Planning Organizations (CPO), property owners, agencies and other interested parties may affect the decision on the application. Special conditions may be attached to any approvals to mitigate potential adverse impacts of the alteration or change. Any decision on this application can be appealed to the County

Land Use Hearings Officer and to the State Land Use Board of Appeals (LUBA) by the applicant or any other interested person.

STAFF WILL ATTACH THE FOLLOWING PERTINENT INFORMATION:

_____ Land Use Application _____ CPO Information

_____ Sample Plot Plan _____ Application Process

ZDO Sections _____ & 1206

HOW LONG WILL IT TAKE TO GET A FINAL DECISION ON THIS APPLICATION?:

Approximately 45 days for the initial staff decision. If the staff decision is appealed, the final County decision by the Land Use Hearings Officer may take an additional 8 to 10 weeks (approximate).

COMPLETE APPLICATIONS REQUIRE THE FOLLOWING:

1. Land Use Application – Information about the applicant and land involved in the request.

2. Supplemental Application – Information requested on this form. Please be as complete and thorough as possible. Use additional sheets of paper as necessary to completely describe your proposal and answer the questions contained herein.

3. Application Fee - $_____

4. Plot Plan – The site development plan must be drawn to scale on **8.5" x 11" or 8.5" x 14"** paper. The plan must show and clearly identify the **existing and proposed** development of the property including all structures, parking areas, drainfield locations, landscaping and/or significant vegetation, slope of the property, entrance/access location(s), north arrow, the scale of the drawing, dimensions of the property and structures.

5. Building Profile (if applicable) – The building profiles shall be drawn to scale on **8.5" x 11" or 8.5" x 14"** paper and must clearly depict the proposed new structures or additions to existing structures.

CRITERIA FOR APPROVAL: SEE SEC. 1206 FOR SPECIFIC REQUIREMENTS, THEN ANSWER THE FOLLOWING:

1. When was the existing use, structures and/or physical improvements established? (please give specific dates if possible). Describe the buildings, vehicles, equipment and materials used, days and hours of operation, number of employees and other operational and physical information. Submit land use, building, septic, or other permit documents; utility records, dated photographs, tax appraisal information, dated aerial photographs, tax records, receipts, licenses, notarized affidavits, etc. to document the date of establishment of the use, structure(s) and/or physical improvements, and the continuity of the use since established.

See attached Page

2. Describe any changes in the existing use, structures and/or physical improvements since establishment. Describe the buildings, vehicles, equipment and materials used, days and hours of operation, number of employees and other operational and physical information as changes occurred.

See attached

3. Describe in detail the proposed changes to the use, structure(s), and/or physical improvements. Describe all structural and operational changes proposed.

See attached

4. Describe in detail why the alterations of the structure(s) and/or physical improvements, and/or the changes in the use will not create additional adverse impacts upon the surrounding neighborhood. Describe any measures planned to mitigate the potential adverse impacts of the changes; e.g. screening, buffering, pollution control equipment, acoustical insulation or barriers, traffic management plan, etc.

See Attached

1. The mill was established in 1941 and has been in continuous operation since that time. The operations employ 30 people, driving 20 cars per day. Hours of operation are from 5am to 9pm six days a week. In our previous approval #Z0245-05, I submitted photos from 1955 and 2002 to help document the continual use of property. Unfortunately I do not have another copy of these photos.

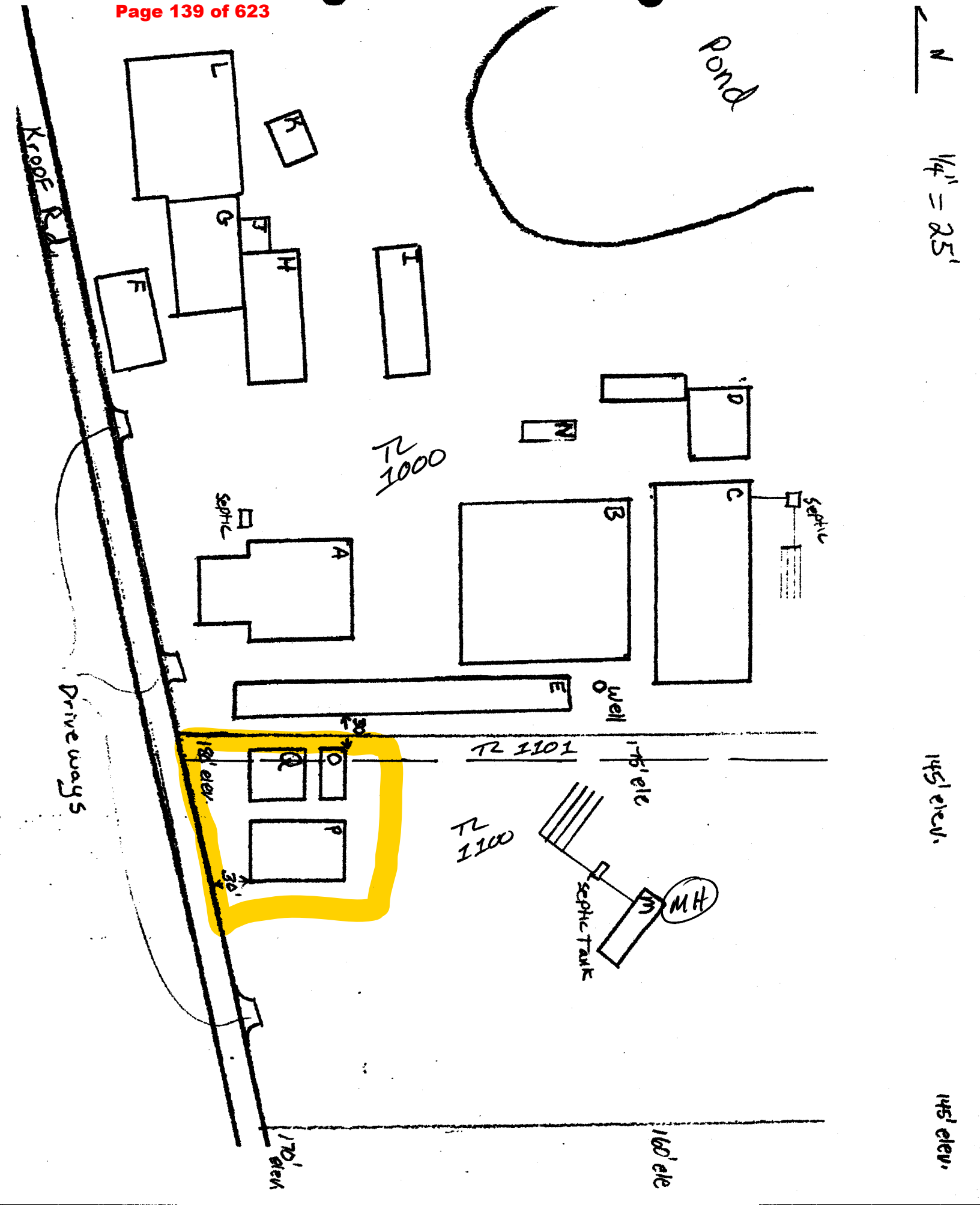
2. In the early 1960's the saw mill burned down. Since that time the dry kiln, wood fabricating, planing, and molding have continued. In the early 1990's a pellet mill was added to make more productive use of the wood waste. There are 13 industrial buildings ranging from 500 to 12,000 square feet. Days and hours of use and number of employees does fluctuate with the seasons, but over the years has been somewhat consistent.

3. The current proposal is for an expansion of the pellet production. Because the current pellet mill is running at full capacity and cannot keep up with the demand, it is our intention to add three new buildings. These are shown on the plot plan as buildings O, P, and Q. O would be a 600 square foot infeed hopper building. P would be a 5,000 square foot raw materials storage building. Q would be a 1,200 square foot building to house a pellet mill. The new facility will have the capacity to increase production by 60%. The proposed noncombustible steel buildings will be built only after plans are approved and all necessary permits are obtained.

4. This expansion will create one additional labor position. There would be additional truck traffic in and out of the facility of 1 or 2 trucks per day. The properties are located in a rural agricultural area. We feel that there would be not be a negative impact on the neighborhood. There are no neighbors within 750 feet of the properties and no active CPO in the area.

Rock Creek Mill
Plot Plan
And
Building Assignments

A. Front Fabricating Shop and Office
B. Planer Building
C. Molding Building
D. Pellet Building
E. South Lumber Storage
F. Machine Shop
G. Dry Kiln
H. Middle Lumber Shed
I. Sticker Building
J. Boiler Room
K. Small Kiln
L. North Lumber Storage
M. Caretaker's Mobile Home
N. Sawdust Bunker
O. Purposed Feed Hopper Building
P. Purposed Raw Material Storage Building
Q. Purposed Pellet Mill Building


N
1/4" = 25'
Pond
Kroof Rd
L
K
G
J
H
F
H
D
N
TL 1000
Septic
A
B
C
Septic
E
Well
Driveways
TL 1101
145' elev.
Q
O
P
TL 1100
Septic Tank
MH
170' elev.
160' ele
145' elev.

Land Use Application

Clackamas County Planning Division
9101 SE Sunnybrook Blvd, Clackamas, OR 97015
Phone (503) 353-4400 Fax (503) 353-4550

Type of Application:ZE
Status: PENDING
Lots: 0
Flex Lots (Y/N):
Staff Reviewer: RAM
Staff Member: RAM/LM

File No: Z0408-06
Received: 05/23/2006
Decision:
Appealed:
Final:
Expired:
Hearing:

Zone: EFU

Code Enforcement #:
Comm Planning Org (Y/N):

OWNER : ROCK CREEK MILL LLC
PO BOX 91
CANBY, OR 97013

APPLICANT : MCINTIRE JERRY
PO BOX 91
CANBY, OR 97013 503-266-9614

Applicant: Legal Owner
Proposal:
ALTERATION OF NON-CONFORMING USE

Site Address: 33532 S KROPF RD CLAC
Legal Description: 51E21 -01000
51E21 -01100

Adjacent Properties:
Present Use:

Total Fees: $520.00
Balance Due: $0.00
document:receiptzs

Z0408·06·E

NAME: Jerry McIntire

MAIL DATE:

750'

TOWNSHIP	RANGE	SECTION	TAX LOT	TOWNSHIP	RANGE	SECTION	TAX LOT
5	1E	21	1000, 1100				

EMMA/FORM

MAS
Y
ROOK SERVICE CENTER
ENT OF TRANSPORTATION AND DEVELOPMENT
UNNYBROOK BLVD. | CLACKAMAS, OR 97015

JERRY MCINTIRE
PO BOX 91
CANBY, OR 97013

Z040806-E

WROLSTAD THOMAS D TRUSTEE
33187 S KROPF RD
MOLALLA OR 97038

WROLSTAD RONALD E TRUSTEE
3210 SW CHINTIMINI
CORVALLIS OR 97333

CLACKAMAS COUNTY
902 ABERNETHY RD
OREGON CITY OR 97045

ROCK CREEK MILL LLC
PO BOX 91
CANBY OR 97013

MCINTIRE JERRY & BEVERLY
PO BOX 91
CANBY OR 97013

GASSNER MICHAEL J TRUSTEE
8418 S GIBSON RD
MOLALLA OR 97038

VANAUSDELL P DIXON
1295 HEATHER LN SE
SALEM OR 97302

F2C2 LLC
1129 NW 8TH WAY
CANBY OR 97013

NOTICE OF DISTRIBUTION

FILE NO(S) 20408-06E HEARING DATE _____

NAME/AGENCY	DATE MAILED Notice	DATE MAILED Decision
CITY OF (Adjacent/Nearby Cities; UGMA Areas) —		
COUNTY OF (Adjacent Counties) —		
SCHOOL DISTRICT —		
SEWER DISTRICT —		
WATER DISTRICT —		
STORM WATER MGMT DIST —		
FIRE DISTRICT monitor Fire Dist#58	5/31/06	7/27/06
PARKS DISTRICT —		
TRI-MET —		
CPO South Canby (inactive)	—	—
AIRPORT (Public Use) —		
DTD/COUNTY DIVISIONS		
TRAFFIC ENGR Hixson	✓	✓
CONSTR & DEV —		
CCSD #5 (LIGHTING) —		
WEIGHMASTER —		
SOILS/WES yes	✓	✓
BUILDING yes	✓	✓
WES —		
PLANNERS (Historic, DR, SSV, Regional Center) —		
ASSESSOR & TAX — (Cell Towers/Collocations, AG/Forest & Mining)		
COUNTY HEALTH DIVISION — (Food Service Providers, Espresso Stands, Etc.)		
COMMUNITY ENVIRONMENT —		
STATE AGENCIES		
ODOT —		
OREGON DEPT OF AVIATION — (Cell Towers, Nearby Airports)		
DIV OF STATE LANDS —		
CORP OF ENGINEERS —		
DOGAMI —		
DEQ —		
DLCD —		
METRO —		
OTHER —		
PROPERTY OWNERS (750 FEET)	✓	✓
ADJACENT COUNTY PROPERTY OWNERS —		

Rock Creek Mill
Yoder, OR

N

0 100 200 400 600 800
Feet

PLANNING DIVISION

LAND USE FILES

Please add the attached information to the following:

FILE NUMBER: Z0716-06-E

LEGAL DESCRIPTION:

T 5 **S, R** 1 **E, SECTION** 21

TAX LOT(S) 1000, 1100, 1101

INSERT ATTACHED DOCUMENT AS FOLLOWS:

- ✓ **FRONT OF FILE:** _____
- ✓ **BACK OF FILE:** _____
- ✓ **AS PAGE #:** _____
- ✓ **DELETE PAGE #** 1 **AND REPLACE WITH THIS UPDATED PAGE**

NOTICE OF DECISION -
ALTERATION OF A NONCONFORMING USE -**APPROVAL WITH CONDITONS**

CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
LAND USE AND ENVIRONMENTAL PLANNING DIVISION
9101 SE Sunnybrook Blvd., Clackamas, OR 97015
Telephone: 353-4500/4501

TO: Applicant, Citizens Planning Organization, Agencies, and Property Owners within 750 feet of this application.

DATE: November 17, 2006

LAST DATE TO APPEAL: November 29, 2006

FILE NO.: Z0716-06-E

STAFF CONTACT: Rick McIntire (503-353-4516; rickm@co.clackamas.or.us)

APPLICANT: Rock Creek Mill, LLC, c/o Jerry McIntire, P.O. Box 91, Canby, OR 97013

OWNER OF PROPERTY: Rock Creek Mill, LLC (tax lots 1000 and 1101) and Jerry & Beverly McIntire (tax lot 1100)

LEGAL DESCRIPTION: T5S, R1E, Section 21, Tax Lot(s) 1000, 1100 & 1101, W.M.

SITE ADDRESS: 33532 (tax lots 1000/1101) & 33632 S. Kropf Rd., Molalla, OR

TOTAL AREA INVOLVED: Approximately 29.45 acres.

PRESENT ZONING: Exclusive Farm Use (EFU), 80 acre district.

CITIZENS PLANNING ORGANIZATION FOR AREA: South Canby CPO (inactive)

PROPOSAL: A major modification of an approved alteration of a nonconforming use (Planning File no. Z0408-06-E), a wood products manufacturing facility, that permitted the construction and operation of three (3) new structures; a 600 s.f. infeed hopper building, a 5000 s.f. raw materials storage building and a 1200 s.f. building housing a new pellet mill. The applicant is requesting approval to enlarge the approved, but not constructed, raw materials storage building to 12,320 s.f. of enclosed area with 4312 s.f. of lean-to covered storage area to each side and the pellet mill building to 4312 s.f. of enclosed space with 924 s.f. of lean-to covered storage area to each side.

FINDINGS: The Planning Division has reviewed this application for an alteration of a nonconforming use. This application is subject to Section 1206 of the Clackamas County Zoning and Development

Ordinance (ZDO). The Planning Division has reviewed this section of the ZDO with respect to this proposal and makes the following findings:

1. The applicant is requesting approval of a major modification of an approved alteration of a nonconforming use (Planning File no. Z0408-06-E), a wood products manufacturing facility, that permitted the construction and operation of three (3) new structures; a 600 s.f. infeed hopper building, a 5000 s.f. raw materials storage building and a 1200 s.f. building housing a new pellet mill. The infeed hopper building would remain the same. The applicant is requesting approval to enlarge the approved, but not constructed, raw materials storage building to 12,320 s.f. of enclosed area with 4312 s.f. of lean-to covered storage area to each side and the pellet mill building to 4312 s.f. of enclosed space with 924 s.f. of lean-to covered storage area to each side. The new structures will be constructed of non-combustible steel materials.

   Approval of this application and implementation of the proposed use would result in an increase in production capacity of approximately 60%, one additional employee and 1-2 additional truck trips per day. The proposed structures would be located in the northwest corner of tax lots 1100 and 1101 just to the south of a long lumber storage building along the south boundary of tax lot 1000 which is also part of the mill facility.

   The subject properties are located on the east side of S. Kropf Rd., approximately one-half mile north of the intersection with S. Gibson Rd. Tax lots 1000 and 1101 are developed with 13 existing buildings ranging in size from 500 to 12,000 s.f. currently used for the wood processing/lumber milling facility. The existing operations employ 30 persons. The hours of operation are from 5:00 a.m. to 9:00 p.m. six days per week. Tax lot 1100 is also developed with a manufactured home in the approximate center of that lot. A large part of tax lot 1000 contains an old mill pond and the east and north sides of this lot are bounded by Rock Creek.

2. Pursuant to subsection 1206.05B(2) of the ZDO, the applicant must first verify that the existing use(s), structure(s) and/or other physical improvements were established as a protected nonconforming use as defined in Sec. 202 of the ZDO. Sec. 202 of the ZDO defines a "Nonconforming Use" as:

   > "A use of any building, structure or land allowed by right when established or that obtained a required land use approval when established but, due to a change in the zone or zoning regulations, is now prohibited in the zone."

   The subject properties are currently zoned Exclusive Farm Use (EFU). The use and development of property in this zoning district is subject to the provisions of Sec. 401 of the ZDO. The wood products manufacturing facility is not listed as a permitted primary, accessory, subject to Planning Director review or conditional use in the EFU zoning district. Single family dwellings, including manufactured homes, are listed as a use subject to Planning Director review in the EFU zoning district. On September 1, 1976, the EFU designation was applied to the subject properties as the first restrictive zoning regulations applicable to the subject property. A number of amendments to the EFU district regulations have been adopted over the years since then, however, the existing and proposed uses have never been listed as permitted primary uses in this zoning district.

3. In order to demonstrate the establishment of a nonconforming use, the applicant must demonstrate the following: (1) that the use(s) and structure(s) were established prior to the effective date of the initial zoning of the property; **or** (2) that the use(s) and structure(s) were allowed by right under the zoning applicable at the time of establishment; **or** (3) that a required land use permit; e.g. unzoned area development permit, conditional use permit, etc., was obtained from the County to establish the use(s) and structure(s) prior to a change in zoning regulations pursuant to subsection 1206.06B of the ZDO.

The subject property has been the subject of four prior land use actions. On February 26, 1993 (Planning file no. Z0092-03-E), the Planning Division found that the wood products manufacturing and processing facility was a lawfully established nonconforming use established in 1941. In that decision, a pellet mill was permitted as an alteration of the nonconforming use. On August 5, 1997 (Planning file no. Z0721-97-E), the Planning Division approved an alteration of the nonconforming use to permit an addition to one of the existing buildings to provide for additional covered storage space. On June 15, 2005 (Planning file no. Z0254-05-E), the Planning Division approved an alteration of the nonconforming use to allow the inclusion of tax lot 1100 and an existing manufactured home to be used as a residence for a watchman/caretaker for the mill facility. On July 27, 2006 (Planning file no. Z0408-06-E) was approved to construct an infeed hopper building, a pellet mill building and a raw materials storage building. The current application is a request for a medication of the latter approval.

Conclusion: The record establishes that the existing wood products manufacturing facility, use, structure(s) and other physical improvements on tax lots 1000, 1100 and 1101 was established as a nonconforming use upon the adoption of restrictive zoning regulations on September 1, 1976 and as altered under the 1993, 1997, 2005 and 2006 land use permit approvals noted above.

4. If the applicant proves that nonconforming use status has been established, the nonconforming use may be continued pursuant to subsec. 1206.01 of the ZDO. Subsec. 1206.01 of the ZDO states:

> "A nonconforming use may be continued although not in conformity with the regulations for the zone in which the use is located."

5, If the applicant has demonstrated that a nonconforming use has been lawfully established, the applicant must also provide evidence as to the nature, extent, existence and continuity of the nonconforming use and that the nonconforming use has not been discontinued for any period exceeding twelve (12) consecutive months during the 20-year period immediately preceding the date of the application for verification pursuant to subsec. 1206.02 of the ZDO and ORS 215.130(11). Subsec. 1206.02 of the ZDO states:

> "If a nonconforming use is discontinued for a period of more than twelve (12) consecutive months, the use shall not be resumed unless the resumed use conforms with the requirements of the Ordinance and other regulations applicable at the time of the proposed resumption."

Based upon the land use permit record and the applicant's statement in the application, the staff concludes that the nonconforming use of tax lots 1000, 1100 and 1101 has not been discontinued for any period in excess of twelve (12) consecutive months since the adoption of restrictive zoning regulations or during the 20-year period preceding the date of filing of this application.

6. Pursuant to subsection 1206.05B(1) of the ZDO, in order to approve this request, the proposed alteration of the nonconforming use, structure and/or other physical improvements shall have no greater adverse impact upon the neighborhood than the existing use, structure(s) and/or physical improvements. The Planning Director, or designate, may impose conditions designed to mitigate any potential additional adverse impacts pursuant to subsection 1206.05B(3) of the ZDO.

7. The subject properties are located in an area that is largely agricultural in nature. There are no homes in close proximity to the site. It appears that the nearest is 750 ft. or more from the facility.

The proposed steel structures will be placed in the northwest corner of tax lots 1100 and 1101 adjacent to an existing lumber storage building. The applicant states that implementation of the expanded pellet mill use will result in the addition of one employee and 1-2 truck trips per day. All of the proposed processing and materials storage uses will occur entirely within the proposed structures, thereby limiting potential additional noise impacts upon the surrounding area.

The County Traffic Engineering Div. staff have also reviewed this proposal and have determined that S. Kropf Rd. has sufficient capacity to accommodate the small increase in employee and truck traffic described by the applicant. However, the Traffic Engineering staff has recommended some changes in the location of existing employee parking in proximity to the two entrances from Kropf Rd. which presently cause a sight distance limitation, a traffic safety hazard, at these entrances. The following is a discussion of these issues and recommended solutions. The buildings are identified on the applicant's site plan and the following discussion refers to the buildings as indicated on that plan.

At the west end of building E (lumber storage building along south boundary of tax lot 1000), there is a fenced off area with container bins that provide free wood to people who will haul it away. Between this fenced area and the easterly edge of pavement of Kropf Road, it appears that employee vehicles are parked which limit available sight distance to the south for drivers exiting the adjacent driveway between buildings A and E. A similar issue is present just to the south of the northerly driveway, located between buildings A and F. Again, between a fenced area and the edge of pavement, parked vehicles limit available sight distance to the south. Maximizing sight distance is important here because Kropf Road is not posted for speed and is therefore governed by the "Basic Rule", with speeds allowed up to 55 miles per hour. The vehicles parked along the west side of building A are far enough from Kropf Road that this parking area may continue to be used without limiting sight distance at the existing driveway entrances.

The site is large and an employee parking area could be established so that employees would not need to park adjacent to Kropf Road. This road is classified in the Comprehensive Plan as a minor arterial roadway and, under this designation, parking is generally restricted along minor arterials according to Comprehensive Plan Table V-2.

The Traffic Engineering Sec. staff recommend that no vehicles be parked between the edge of pavement (of Kropf Rd.) and the fenced areas west of building E, and also between buildings A and F, and that an on-site employee parking area be established so that employees are not permitted to park along side the edge of Kropf Road. A condition requiring the owner to monitor this situation and provide enforcement would also be helpful as County staff would not be able to monitor the situation effectively. Alternatively, some low landscaping (no more than 30-inches in height at maturity, as measured from the easterly edge of pavement) could be installed and maintained that would effectively eliminate the parking areas between the fences and Kropf Road.

The Planning staff finds that a condition of approval implementing the Traffic Engineering Sec. recommendations is warranted to ensure that the available sight distance at the two entrances into tax lot 1000 is maximized for traffic safety purposes.

The applicant's site plan does not indicate where access to the new buildings will be provided. The staff finds that a condition of approval is warranted requiring the applicant to provide access to the new buildings that complies with the emergency vehicle access requirements of the Monitor Fire District no. 58 Fire Marshal. In addition, if an additional access is proposed onto Kropf Rd., the applicant shall obtain a commercial entrance permit from the County Engineering Div. The applicant will need to consult with Robert Hixson (503-353-4708) of the Traffic Engineering Div. to determine if an additional entrance point will be permitted. If not, the applicant will need to provide for access to the new structures through the existing entrances to the mill facility. Some flexibility in the final position of the structures will be permitted by the County Planning Div. to account for this, if necessary. As noted previously, the County does limit the number of entrances to commercial and residential uses from Minor Arterial streets.

The site plan also indicates that two of the proposed buildings as shown on the site plan will straddle the property boundary line separating tax lots 1100 and 1101. The latter is a 20.5 ft. wide strip of land between tax lots 1000 and 1100. This strip of land is not a separate legal Lot of Record, as defined in Sec. 202 of the ZDO. Under the building code and ZDO standards, structures are not permitted to cross property lines; therefore, prior to the issuance of building permits for these structures, the applicant shall request that the County Assessor cancel tax lot 1101 and combine it with tax lot 1000 and a copy of the approved request shall be submitted to the Planning Div. in conjunction with submittal of the building permit applications to verify that this action has been taken.

8. The Planning Div. staff finds that the proposed alteration of a nonconforming use, subject to conditions as discussed above, will not cause additional adverse impacts upon the surrounding area when compared with the impacts of the existing nonconforming use.

DECISION: **Approval with conditions.** Based upon the Findings discussed above, it is the decision of the Clackamas County Planning Director, by his designate, to approve this application for an alteration of a nonconforming use subject to the following conditions of approval.

CONDITIONS OF APPROVAL

1. This decision is based upon the application, site plan submitted by the applicant, the Findings discussed above and the conditions of approval contained herein. Any changes to the proposal, except as required by these conditions and approved by the Planning Div., shall be reviewed by the Planning Div. as a separate application.

2. Prior to the commencement of construction, the applicant shall obtain any Building, Plumbing, Electrical, Mechanical or other specialty code permits deemed necessary by the County Building Codes Division.

3. Prior to occupancy of the structures, the applicant shall obtain approved final inspections and certificates of occupancy from the County Building Codes Div.

4. Prior to the issuance of Building Permits for the new structures, the applicant shall file a written request with the County Assessor to cancel tax lot 1101 and combine it with tax lot 1000 and a copy of the approved request shall be submitted to the Planning Div. to verify that this action has been taken in conjunction with the applications for building permits for the new structures

5. The structure setback requirements of the EFU zoning district, a minimum of 30 ft. from the front property line (Kropf Rd. right of way), and a minimum of 10 ft. from the side (north and south) and rear (east) property boundaries shall be met.

6. Prior to the issuance of Building Permits for the new structures, the applicant shall submit an employee, visitor and truck parking plan to Robert Hixson of the County Traffic Engineering Sec. demonstrating that on-site vehicle parking will not obstruct sight distance at the existing and any proposed new entrances (if any) onto S. Kropf Rd. as discussed in the Findings above. The applicant shall implement the approved parking plan prior to occupancy of the new structures.

7. Prior to the issuance of Building Permits for the new structures, the applicant shall obtain a permit for a commercial driveway entrance onto Kropf Rd. from the County Engineering Div. if any new entrance(s) onto Kropf Rd. is proposed.

8. Prior to the issuance of Building Permits for the new structures, the applicant shall submit a revised site plan depicting any proposed new entrance(s), or an internal access drive(s) from the existing entrances in tax lot 1000, parking and structure locations to the Planning Div. and County Engineering Div. (Robert Hixson) for review and approval.

9. The applicant shall comply with all relevant requirements of the Monitor Fire District no. 58 Fire Marshal regarding fire protection water supply, emergency vehicle access and any other fire and life safety requirements.

10. Compliance with these conditions of approval is mandatory and non-compliance may be cause for revocation of this permit.

NOTICE TO MORTGAGEE, LIENHOLDER, VENDOR, OR SELLER: ORS CHAPTER 215 REQUIRES THAT IF YOU RECEIVE THIS NOTICE, IT MUST BE PROMPTLY FORWARDED TO THE PURCHASER.

IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE. IF YOU DISAGREE WITH THESE FINDINGS OR CONDITIONS, YOU MAY APPEAL THIS DECISION TO THE CLACKAMAS COUNTY HEARINGS OFFICER. THE COST OF THE APPEAL IS $250.00. YOUR APPEAL MUST BE RECEIVED IN THE PLANNING DIVISION OFFICE BY 5:00 P.M. ON THE LAST DATE TO APPEAL WHICH IS **NOVEMBER 29, 2006.** THIS DECISION IS NOT EFFECTIVE UNTIL THE DAY AFTER THE APPEAL DEADLINE PROVIDED THAT NO APPEAL IS FILED.

11-19-06

Clackamas County
Department of Transportation and Development
Traffic Safety Engineering Section

Attn: Robert Hixson

Concerning **File # Z0716-06-E** Rock Creek Mill, LLC, Jerry McIntire
Notice of Decision – Alteration of a Nonconforming Use – Approval with Conditions

Dear Mr. Hixson,

Concerning Conditions of Approval, items # 6, 7, 8. (Parking plan and traffic movement on the mill site.)

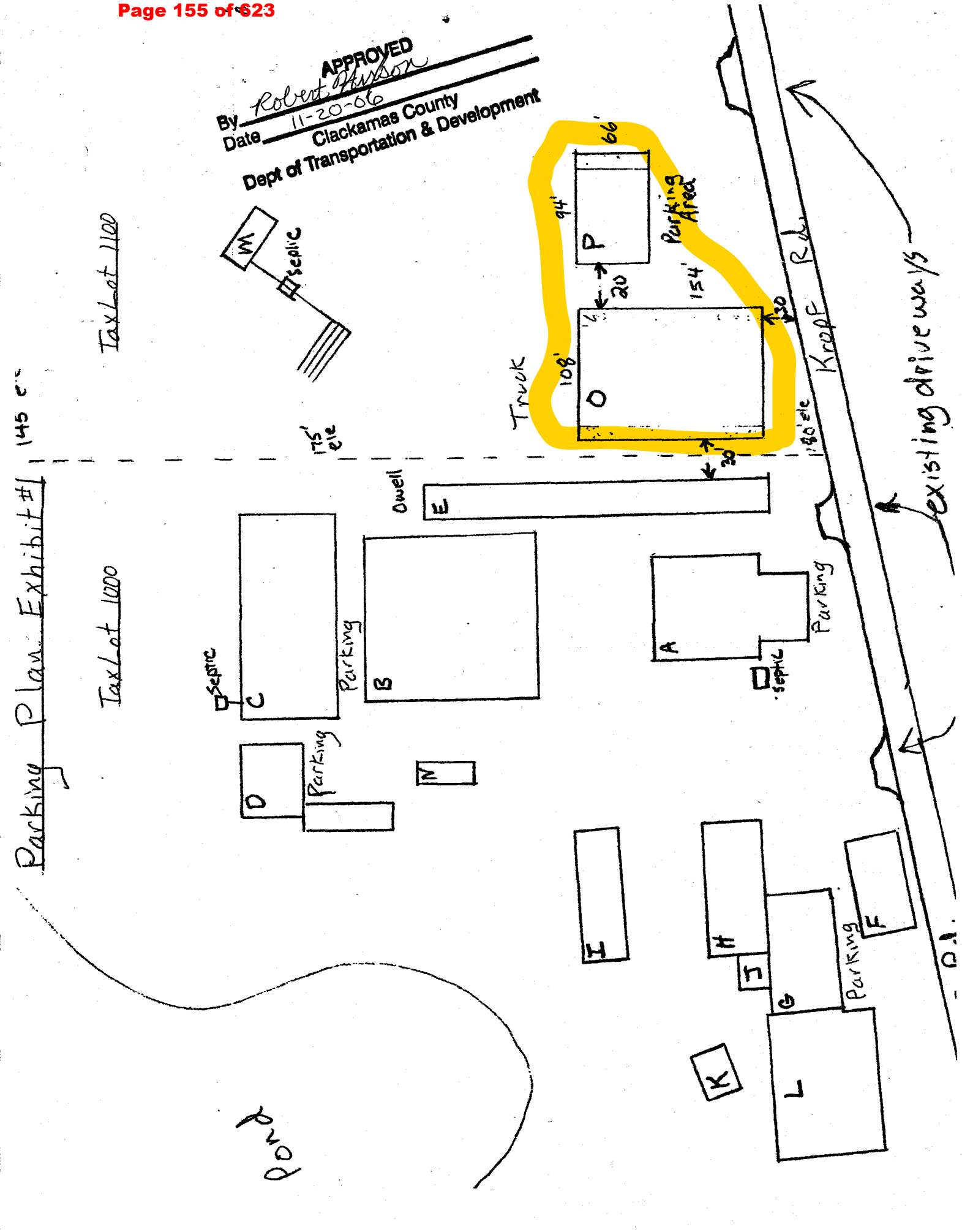
Exhibit #1 shows all existing employee parking and the parking area for the proposed buildings O & P. On site parking at buildings O & P will be situated on the west side of building P. There will be an area approximately 50' X 94' for parking in this area. This parking area will be at least 50 feet from Kropf Rd. and access to the road will be from the existing driveway on Tax Lot 1100. Although there will be no trucks permanently parked on this site, the area East of building O, (approx. 100' X 150') will serve as a truck maneuvering/turnaround/delivery area.

On August 1, 2006, I met with you at this location to discuss plans for the driveway locations and traffic safety. You noted that there is an existing driveway, and it was decided to use this access. I will be improving this access to current county standards to provide safer ingress and egress to Kropf Rd. I am not proposing any new driveways on this property.

All parking areas discussed in Planning Division Findings p.3, #7, have been permanently posted as "NO PARKING" areas. Employers and Employees have been notified not to park in these areas.

There are no plans to create an internal access between these tax lots.
If a need for access between these lots arise in the future, it would probably be located between buildings B & C, approximately 300' east of Kropf Rd.

Jerry M McIntire


APPROVED
By Robert Hixson
Date 11-20-06
Clackamas County
Dept of Transportation & Development
Parking Plan Exhibit #1
Tax Lot 1100
Tax Lot 1000
145
175' ele
180' ele
Owell
Kropf Rd
existing driveways
Truck
Parking Area
66'
94'
108'
154'
20'
30'
30'
20'
W
Septic
P
O
E
C
B
D
N
A
Septic
Septic
Parking
Parking
Parking
Parking
I
H
J
G
F
K
L
Pond

McIntire, Rick

From: Stohr, Ted
Sent: Friday, September 15, 2006 11:21 AM
To: McIntire, Rick
Subject: Z0716-06

Rick,
Z0716-06 APPROVED WITH CONDITIONS: SUBJECT TO OBTAINING THE NEEDED PERMITS FOR BUILDING CONSTRUCTION.
Thank you.
Ted Stohr
Building Plans Examiner
Clackamas County Building Codes Division
Phone: (503) 353-4786
Fax: (503) 353-4741
teds@co.clackamas.or.us

Clackamas County

DEPARTMENT OF
TRANSPORTATION AND DEVELOPMENT

Sunnybrook Service Center

Campbell Gilmour
Director

NOTICE OF LAND USE APPLICATION IN YOUR AREA

Date: 09/13/2006

File Number: Z0716-06

Application: Alteration/Chg of Non-Conf Use

From: Clackamas County Planning Division

Notice Mailed To: Property owners within 750 feet
Community Planning Organizations (CPO)
Interested Citizens and Agencies

Explanation of this Notice:
AN ALTERATION OF NON-CONFORMING USE, A MODIFICATION OF AN APPROVAL FOR TWO NEW BUILDINGS, A RAW MATERIALS STORAGE BUILDING AND A PELLET MILL BUILDING, FILE NO. Z0408-06-E, TO INCREASE THE SIZES OF THE TWO BUILDINGS TO 12,320 S.F. AND 4312 S.F. , RESPECTIVELY IN CONJUNCTION WITH AN EXISTING WOOD PRODUCTS MANUFACTURING FACILITY.

Property Owner: ROCK CREEK MILL LLC
PO BOX 91
CANBY, OR 97013

Applicant: MCINTIRE JERRY
PO BOX 91
CANBY, OR 97013

Location: 33532 S KROPF ROAD

Legal Description: (map & taxlot) **Acres:** 30
51E21 -01000
51E21 -01100
51E21 -01101

Zone: EFU Exclusive Farm Use (80 Ac)

Staff: Rick McIntire 503-353-4516 **e-mail:** RickM @co.clackamas.or.us

EXHIBIT 1
Z0437-25 & Z0438-25
Page 158 of 623

How to Comment on this Application:

1. To be sure your comments will be considered prior to the decision, we need to have them within 15 days of the date of this notice.

File Number: Z0716-06

2. You may use the space provided below, mail a separate letter or e-mail the information. Please include the file number and address the information to the staff member handling this matter. In the event you choose e-mail, please limit your correspondence only to the issues of the application.

3. Return your mailed comments to: Clackamas County Planning Division, 9101 SE Sunnybrook Blvd, Clackamas, OR 97015; FAX to (503) 353-4550.

Community Planning Organization: The following recognized Community Planning Organization (CPO) has been notified of this application. This organization may develop a recommendation on this application. You are welcome to contact this organization and attend their meeting. If this Community Planning Organization is currently inactive, and you are interested in becoming involved in Land Use Planning in your area, please contact the Citizen Involvement office at (503) 655-8552.

SOUTH CANBY CPO (INACTIVE)

Decision Process: In order to be approved, this proposal must meet the approval criteria or standards in the Zoning and Development Ordinance, Section(s) 401 & 1206

The Ordinance criteria for evaluating this application and all documents and evidence submitted regarding this application are available for inspection. Copies of the application may be purchased at the Planning Division Office during weekday office hours, 8:00am to 5:00pm. The Ordinance criteria are also available at this office or can be reviewed at the County's website at www.co.clackamas.or.us/dtd/zoning/.

A decision on this proposal will be made by the Planning Division. We will consider the criteria as well as any comments and either approve, approve with conditions, or deny this proposal. We will mail you a copy of the decision. If you disagree with the decision you may appeal to the Land Use Hearings Officer who will conduct a public hearing. There is a $250.00 appeal fee.

Comments:

_____

_____

_____

_____

_____ _____

Your Name/Organization Telephone Number

_____

Address

Clackamas County

DEPARTMENT OF
TRANSPORTATION AND DEVELOPMENT

Sunnybrook Service Center

COUNTY ACCEPTANCE OF COMPLETE LAND USE APPLICATION

ORIGINAL DATE RECEIVED: 9/6/06

FILE NUMBER: Z0716-06-E

APPLICATION TYPE: Expansion of N.C.U.

This Planning Division Staff reviewed this application on

9/12/06.

It was determined it to be complete on

9/06/06.

Comments:

Signed

Sr. Planner
Title

~~120~~/150 DAY DEADLINE: 2/2/07

EXHIBIT 1
Z0437-25 & Z0438-25
Page 160 of 623

LAND USE APPLICATION

Exhibit 3E
Page 15 of 29

CLACKAMAS COUNTY PLANNING DIVISION
9101 SE SUNNYBROOK BLVD., CLACKAMAS. OREGON 97015 PHONE (503) 353-4500 FAX (503) 353-4550
www.co.clackamas.or.us EMAIL: zoninginfo@co.clackamas.or.us

FOR STAFF USE ONLY

- ☐ TEMPORARY PERMIT FOR CARE (ST)
  RENEWAL_____
- ☐ ALTERATION OF NON-CONFORMING USE
  _____
- ☐ HOME OCCUPATION (HO)
  RENEWAL_____
- ☐ NON FARM USE (N)
- ☐ FARM DWELLING
  _____
- ☐ FOREST DWELLING
  _____
- ☐ COMP. PLAN AMENDMENT
- ☐ ZONE CHANGE
- ☐ CONDITIONAL USE (C)
- ☐ SUBDIVISION SHORT (1-10) (SS)
- ☐ SUBDIVISION LONG (11+) (SL)
- ☐ PARTITION (M)
- ☐ VARIANCE (V)
- ☐ PROPERTY LINE ADJUSTMENT
- ☒ OTHER_____

File No.: Z0716-06-E
Date Received: 9/6/06 Fee: $520
Hearing Date: _____
Staff Member: lyp
Zone: EFU
Comp. Plan: _____
Violation #: _____
CPO: ~~South Canby~~ (Inactive)
Development No.: _____
Project No.: PR 1236 06

See Z0408-06-E

APPLICANT INFORMATION

PLEASE TYPE OR PRINT IN BLACK INK ONLY

WHAT IS PROPOSED Expansion of Pellett mill - change building sizes - modification of Z0408-06-E

NAME OF APPLICANT Jerry McIntire

MAILING ADDRESS 9545 S. Gribble Rd CITY Canby ST ZIP 97013

APPLICANT IS: ☒ LEGAL OWNER ☐ CONTRACT BUYER ☐ OPTION BUYER ☐ AGENT

NAME OF CONTACT PERSON (if other than applicant) _____

MAILING ADDRESS OF CONTACT _____ ZIP_____

APPLICANT PHONE NUMBERS: Wk 503 250 0240 Hm 266 9614 E-Mail Address: _____

CONTACT PERSON PHONE NUMBERS: Wk_____ Hm_____ E-Mail Address: _____

SITE ADDRESS: 33532 S. Kropf Rd TOTAL LAND AREA: 30 Ac

LEGAL DESCRIPTION: T 5S R 1E SECTION 21 TAX LOT(S) 1000 1100 1101

ADJACENT PROPERTIES UNDER SAME OWNERSHIP: T____ R____ SECTION_____ TAX LOT(S)_____

PRESENT USE OF PROPERTY: Wood working + milling

METHOD OF SEWAGE DISPOSAL: Septic

WATER SUPPLY: Well

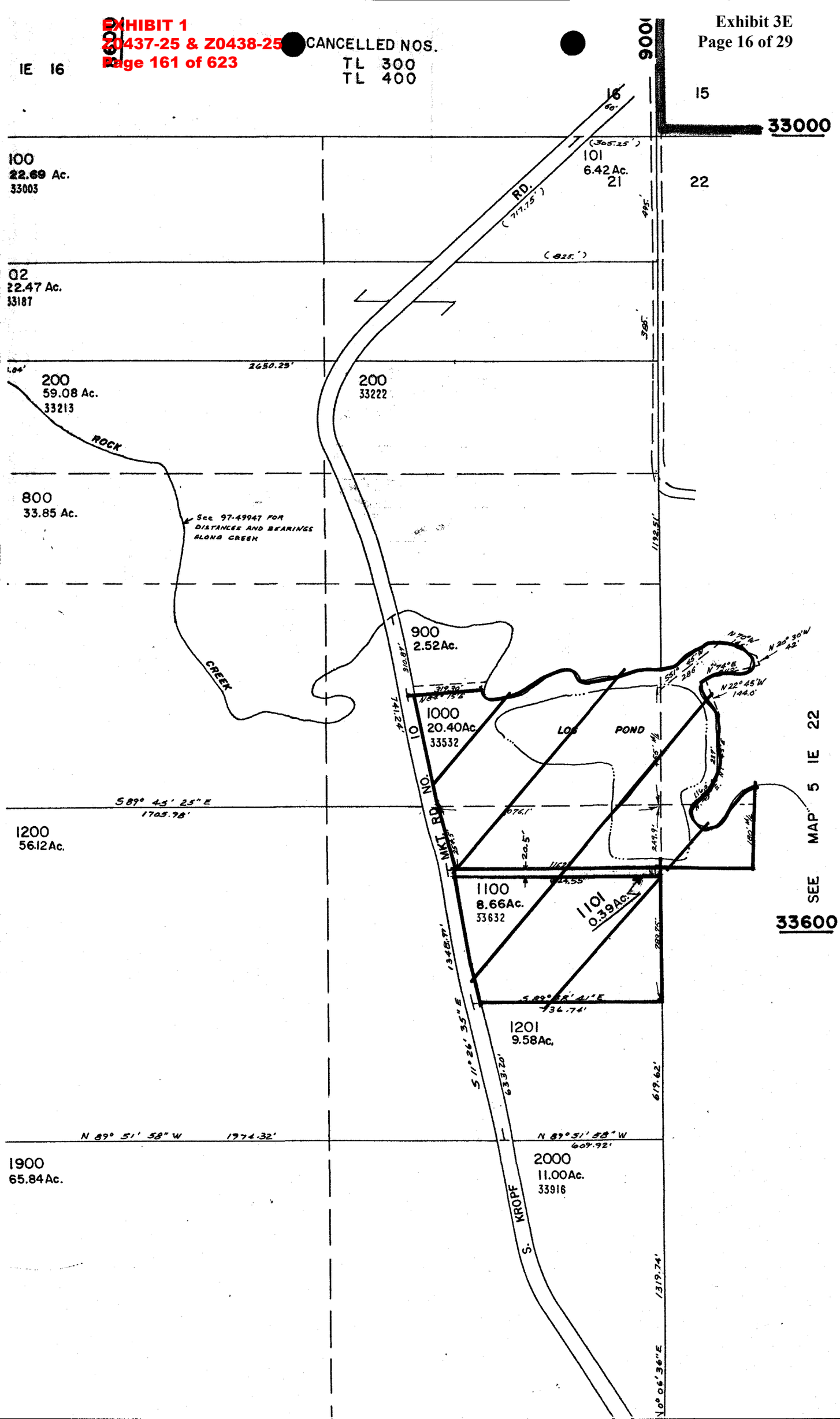
OTHER PERSONS (IF ANY) TO BE MAILED NOTICES REGARDING THIS APPLICATION:

NAME	ADDRESS	ZIP	RELATIONSHIP

I hereby certify the statements contained herein, along with the evidence submitted, are in all respects true and correct to the best of my knowledge.

Jerry McIntire 9-6-06 Jerry McIntire 9-6-06
OWNER'S NAME (PRINT) DATE APPLICANT'S NAME (PRINT) DATE

SIGNATURE SIGNATURE


IE 16
CANCELLED NOS.
TL 300
TL 400
9001
16
15
33000
100
22.69 Ac.
33003
101
6.42 Ac.
21
22
RD.
(717.75')
(305.25')
(825.')
495'
02
22.47 Ac.
33187
385'
2650.25'
200
59.08 Ac.
33213
200
33222
ROCK
800
33.85 Ac.
See 97-49947 FOR DISTANCES AND BEARINGS ALONG CREEK
CREEK
900
2.52 Ac.
1000
20.40 Ac.
33532
LOG POND
N 70° W
N 20° 30' W
42'
N 74° E
N 22° 45' W
144.0'
1192.51'
741.24'
310.87'
S 89° 45' 25" E
1705.98'
1200
56.12 Ac.
MKT RD NO. 10
1100
8.66 Ac.
33632
1101
0.39 Ac.
1111.2'
224.55'
1348.71'
S 89° 58' 41" E
736.74'
1201
9.58 Ac.
S 11° 26' 35" E
633.20'
619.62'
N 89° 51' 58" W
1974.32'
N 89° 51' 58" W
609.92'
1900
65.84 Ac.
2000
11.00 Ac.
33916
S. KROPF
1319.74'
N 0° 06' 36" E
SEE MAP 5 IE 22
33600

Clackamas County
Geographic Information Systems
121 Library Court
Oregon City, OR 97045

Property Report

ROCK CREEK MILL LLC
PO BOX 91
CANBY, OR 97013

Site Address:	**NO SITUS**
Taxlot Number:	**51E21 01101**
Land Value:	**966**
Building Value:	**0**
Total Value:	**966**
Acreage:	**0.39**
Year Built:	
Sale Date:	**11/13/2001 0:00:**
Sale Amount:	**795000**
Sale Type:	**X**

Land Class:
Residential land, vacant

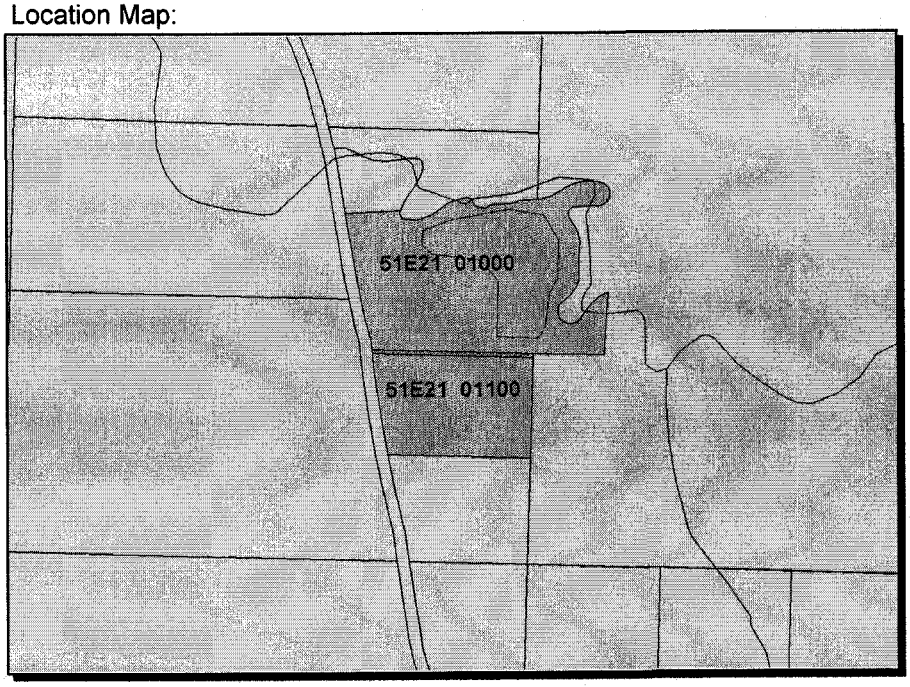
Building Class:

Neighborhood:
Molalla rural south 100, 101

Taxcode Districts: **35032**

Fire	**Monitor Fire Dist #58**
Park	**Unknown**
School	**Molalla River**
Sewer	**Unknown**
Water	**Unknown**
Cable	**Willamette Broadband (Canby)**
CPO	**South Canby**
Garb/Recyc	**Molalla Sanitary**
Jurisdiction	**Clackamas**

Location Map:



Site Characteristics:

UGB:	**Out**
Flood Zone:	**No**

Zoning Designation(s):

Zone	Overlay:	Acreage:
EFU		**0.38**

This map and all other information have been compiled for preliminary and/or general purposes only. This information is not intended to be complete for purposes of determining land use restrictions, zoning, title, parcel size, or suitability of any property for a specific use. Users are cautioned to field verify all information before making decisions.

Printed at 3:28 PM on 09/07/2006

Clackamas County

SUPPLEMENTAL APPLICATION
ALTERATION/CHANGE OF NONCONFORMING USE

APPLICANT INFORMATION

Name: Jerry McIntire File # Z0716-06-E

WHAT IS AN ALTERATION OR CHANGE OF A NONCONFORMING USE?:

The County Zoning & Development Ordinance (ZDO), Sec. 202, defines a Nonconforming Use as "A use of any building, structure, or land allowed by right when established or that obtained a required land use approval when established but, due to a change in the zone or zoning regulations, is now prohibited in the zone." A Nonconforming Use may be a dwelling or other structure(s), a commercial or industrial use, or any other use in a zoning district that was permitted when established, but is not now listed as a permitted use or structure in the zoning district in which it is located. The ZDO allows for alterations to, or changes in, a Nonconforming Use subject to the provisions of Sec. 1206 of the ZDO. An alteration to, or change in, a Nonconforming Use may include, but is not limited to, structural additions, changes to the usage of areas of the property, signing changes, increases in number of employees, a change of hours and/or days of operation, operational changes, and changes to the use itself, etc.

WHAT IS NEEDED FOR APPROVAL?:

An alteration of, or change in, a Nonconforming Use **MAY** be permitted after evaluation of the requested alteration with respect to the criteria contained in Sec. 1206 of the ZDO. The County must make written findings to support the decision. The applicant is responsible for providing evidence to support the request for an alteration or change.

WHAT ARE CHANCES FOR APPROVAL?:

Staff cannot predetermine the decision on this or any other land use application. A decision of approval or denial will only be made after the complete application is processed, comments are sought, and the application is reviewed by the Planning staff. This includes review of citizen and agency comments. The decision is based on criteria appropriate to this application as listed in Sec. 1206 of the ZDO.

APPLICATION PROCESS:

This permit application is subject to the Administrative Action process and public notice pursuant to Subsec. 1305.02 of the ZDO. Public comments received from the Community Planning Organizations (CPO), property owners, agencies and other interested parties may affect the decision on the application. Special conditions may be attached to any approvals to mitigate potential adverse impacts of the alteration or change. Any decision on this application can be appealed to the County

Land Use Hearings Officer and to the State Land Use Board of Appeals (LUBA) by the applicant or any other interested person.

STAFF WILL ATTACH THE FOLLOWING PERTINENT INFORMATION:

_____ Land Use Application _____ CPO Information

_____ Sample Plot Plan _____ Application Process

ZDO Sections _____ & 1206

HOW LONG WILL IT TAKE TO GET A FINAL DECISION ON THIS APPLICATION?:

Approximately 45 days for the initial staff decision. If the staff decision is appealed, the final County decision by the Land Use Hearings Officer may take an additional 8 to 10 weeks (approximate).

COMPLETE APPLICATIONS REQUIRE THE FOLLOWING:

1. Land Use Application – Information about the applicant and land involved in the request.

2. Supplemental Application – Information requested on this form. Please be as complete and thorough as possible. Use additional sheets of paper as necessary to completely describe your proposal and answer the questions contained herein.

3. Application Fee - $_____

4. Plot Plan – The site development plan must be drawn to scale on **8.5" x 11" or 8.5" x 14"** paper. The plan must show and clearly identify the **existing and proposed** development of the property including all structures, parking areas, drainfield locations, landscaping and/or significant vegetation, slope of the property, entrance/access location(s), north arrow, the scale of the drawing, dimensions of the property and structures.

5. Building Profile (if applicable) – The building profiles shall be drawn to scale on **8.5" x 11" or 8.5" x 14"** paper and must clearly depict the proposed new structures or additions to existing structures.

CRITERIA FOR APPROVAL: SEE SEC. 1206 FOR SPECIFIC REQUIREMENTS, THEN ANSWER THE FOLLOWING:

1. When was the existing use, structures and/or physical improvements established? (please give specific dates if possible). Describe the buildings, vehicles, equipment and materials used, days and hours of operation, number of employees and other operational and physical information. Submit land use, building, septic, or other permit documents; utility records, dated photographs, tax appraisal information, dated aerial photographs, tax records, receipts, licenses, notarized affidavits, etc. to document the date of establishment of the use, structure(s) and/or physical improvements, and the continuity of the use since established.

See Attached

2. Describe any changes in the existing use, structures and/or physical improvements since establishment. Describe the buildings, vehicles, equipment and materials used, days and hours of operation, number of employees and other operational and physical information as changes occurred.

See attached

3. Describe in detail the proposed changes to the use, structure(s), and/or physical improvements. Describe all structural and operational changes proposed.

See attached

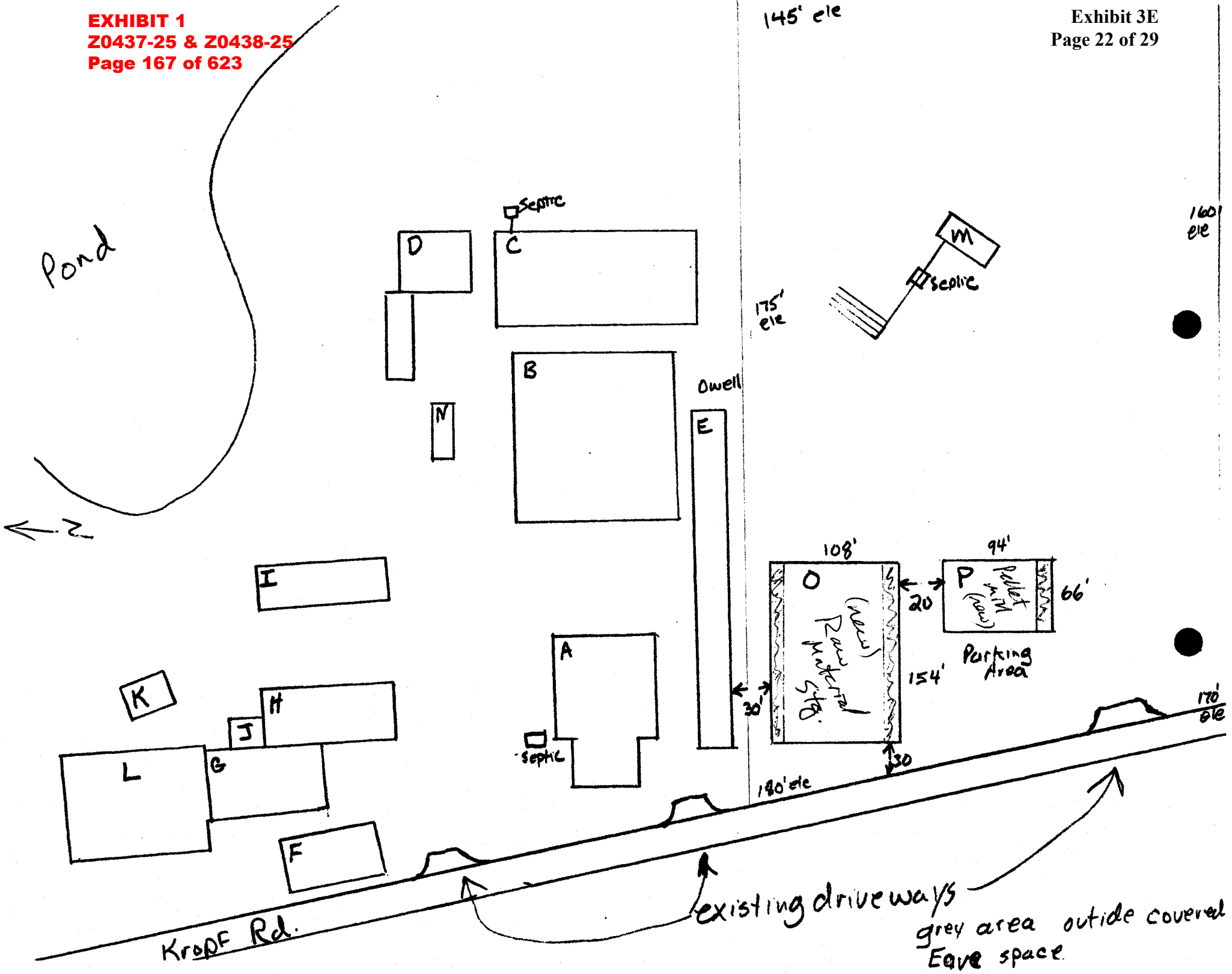
4. Describe in detail why the alterations of the structure(s) and/or physical improvements, and/or the changes in the use will not create additional adverse impacts upon the surrounding neighborhood. Describe any measures planned to mitigate the potential adverse impacts of the changes; e.g. screening, buffering, pollution control equipment, acoustical insulation or barriers, traffic management plan, etc.

1. The mill was established in 1941 and has been in continuous operation since that time. The operations employ 30 people, driving 20 cars per day. Hours of operation are from 5am to 9pm six days a week. In our previous approval #Z0245-05, I submitted photos from 1955 and 2002 to help document the continual use of property. Unfortunately I do not have another copy of these photos.

2. In the early 1960's the saw mill burned down. Since that time the dry kiln, wood fabricating, planing, and molding have continued. In the early 1990's a pellet mill was added to make more productive use of the wood waste. There are 13 industrial buildings ranging from 500 to 12,000 square feet. Days and hours of use and number of employees does fluctuate with the seasons, but over the years has been somewhat consistent.

3. The current proposal is for an expansion of the pellet production. Because the current pellet mill is running at full capacity and cannot keep up with the demand, it is our intention to add two new buildings. These are shown on the plot plan as buildings O and P. O would be a 12,320 square foot raw materials storage building with 4,312 square feet of covered eave space outside the building for storage of the finished pellets. P would be a 5,280 square foot building to house a pellet mill. This building will have under eave space on one side totaling 924 square feet. The new facility will have the capacity to increase production by 60%. The proposed noncombustible steel buildings will be built only after engineering and plans are approved and all necessary permits are obtained. We are submitting this application as a revision to our earlier approval, file # Z0408-06E. We underestimated our need for space. We are also trying to make a used building work for our needs.

4. This expansion will create one additional labor position. There would be additional truck traffic in and out of the facility of 1 or 2 trucks per day. The properties are located in a rural agricultural area. We feel that there would be not be a negative impact on the neighborhood. There are no neighbors within 750 feet of the properties and no active CPO in the area.


145' ele
Pond
Septic
D
C
M
Septic
160' ele
175' ele
B
Owell
N
E
I
108'
94'
O
(new) Raw Material Stg.
P
Pallet Mfg (new)
20
66'
Parking Area
154'
A
K
H
J
L
G
Septic
30'
30
170' ele
180' ele
F
existing driveways
grey area outide covered Eave space
Kropf Rd.

Rock Creek Mill
Plot Plan
And
Building Assignments

A. Front Fabricating Shop and Office
B. Planer Building
C. Molding Building
D. Pellet Building
E. South Lumber Storage
F. Machine Shop
G. Dry Kiln
H. Middle Lumber Shed
I. Sticker Building
J. Boiler Room
K. Small Kiln
L. North Lumber Storage
M. Caretaker's Mobile Home
N. Sawdust Bunker
O. Purposed Raw Material Storage Building
P. Purposed Pellet Mill Building

AUG-01-2006 TUE 02:25 PM FAX NO. P. 01

Clackamas County

DEPARTMENT OF
TRANSPORTATION AND DEVELOPMENT

Sunnybrook Service Center

FACSIMILE TRANSMISSION

COVER SHEET

DATE: 8-1-06

TO: JERRY McINTIRE

COMPANY: ROCK CREEK MILL

FAX NUMBER: 503-266-1756

FROM: ROBERT HIXSON

COMPANY: CLACKAMAS COUNTY – DTD
Sunnybrook Service Center
9101 SE Sunnybrook Blvd
Clackamas OR 97015

FAX NUMBER: (503) 353-4659

VOICE NUMBER: (503) 353-4708

TOTAL PAGES, including this cover sheet: 3

COMMENTS: JERRY, SINCE THE DRIVEWAY WORK CONSISTS OF AN UPGRADE OF THE EXISTING DRIVEWAY AND NOT A NEW DRIVEWAY, CONDITION G DOES NOT APPLY. THE PLANS REVIEWER I SPOKE WITH SAID YOU WOULD NOT NEED TO SUBMIT A PLAN FOR THE DRIVEWAY OR PAY A FEE. WE JUST NEED IT BUILT TO STANDARDS. Robert

Land Use Application
Clackamas County Planning Division
9101 SE Sunnybrook Blvd, Clackamas, OR 97015
Phone (503) 353-4400 Fax (503) 353-4550

Type of Application:ZE
Status: PENDING
Lots: 0
Flex Lots (Y/N):
Staff Reviewer: RAM
Staff Member: LPSB

File No: Z0716-06
Received: 09/06/2006
Decision:
Appealed:
Final:
Expired:
Hearing:

Zone: EFU

Code Enforcement #:
Comm Planning Org (Y/N):

OWNER : ROCK CREEK MILL LLC
PO BOX 91
CANBY, OR 97013

APPLICANT : MCINTIRE JERRY
PO BOX 91
CANBY, OR 97013 503-266-9614

Applicant: Legal Owner
Proposal:
ALTERATION OF NON-CONFORMING USE

Site Address: 33532 S KROPF RD CLAC
Legal Description: 51E21 -01000

Adjacent Properties:
Present Use: WOOD WORKING & M

Total Fees: $520.00
Balance Due: $0.00

document:receiptzs

NAME: Jerry McIntire

MAIL DATE:

Z0716-06-E

750'

TOWNSHIP	RANGE	SECTION	TAX LOT	TOWNSHIP	RANGE	SECTION	TAX LOT
5	1E	21	1000				
			1100				
			1101				

MAS
Y
ROOK SERVICE CENTER
ENT OF TRANSPORTATION AND DEVELOPMENT
SUNNYBROOK BLVD. | CLACKAMAS, OR 97015

JERRY MCINTIRE
9545 S GRIBBLE ROAD
CANBY OR 97013

WROLSTAD THOMAS D TRUSTEE
33187 S KROPF RD
MOLALLA OR 97038

WROLSTAD RONALD E TRUSTEE
3210 SW CHINTIMINI
CORVALLIS OR 97333

CLACKAMAS COUNTY
902 ABERNETHY RD
OREGON CITY OR 97045

ROCK CREEK MILL LLC
PO BOX 91
CANBY OR 97013

MCINTIRE JERRY & BEVERLY
PO BOX 91
CANBY OR 97013

GASSNER MICHAEL J TRUSTEE
8418 S GIBSON RD
MOLALLA OR 97038

VANAUSDELL P DIXON TRUSTEE
1295 HEATHER LN SE
SALEM OR 97302

VANNICE CHARLES
402 NORWAY AVE
SILVERTON OR 97381

NOTICE OF DISTRIBUTION

FILE NO(S) Z0716-06-E HEARING DATE _____

NAME/AGENCY	DATE MAILED Notice	Decision
CITY OF — (Adjacent/Nearby Cities; UGMA Areas)		
COUNTY OF (Adjacent Counties) —		
SCHOOL DISTRICT —		
SEWER DISTRICT —		
WATER DISTRICT —		
STORM WATER MGMT DIST —		
FIRE DISTRICT Monitor #58	9/13/06	11/16/06
PARKS DISTRICT —		
TRI-MET —		
CPO South Canby (Inactive)		
AIRPORT (Public Use) —		
DTD/COUNTY DIVISIONS		
TRAFFIC ENGR Hixson	"	"
CONSTR & DEV —		
CCSD #5 (LIGHTING) —		
WEIGHMASTER —		
SOILS/WES yes	"	"
BUILDING R. Cenizo	"	"
WES —		
PLANNERS (Historic, DR, SSV, Regional Center) —		
ASSESSOR & TAX — (Cell Towers/Collocations, AG/Forest & Mining)		
COUNTY HEALTH DIVISION — (Food Service Providers, Espresso Stands, Etc.)		
COMMUNITY ENVIRONMENT —		
STATE AGENCIES		
ODOT —		
OREGON DEPT OF AVIATION — (Cell Towers, Nearby Airports)		
DIV OF STATE LANDS —		
CORP OF ENGINEERS —		
DOGAMI —		
DEQ —		
DLCD —		
METRO —		
OTHER —		
PROPERTY OWNERS (750' FEET)	"	"
ADJACENT COUNTY PROPERTY OWNERS —		

Clackamas County Official Records
Sherry Hall, County Clerk
2015-025211
05/01/2015 09:20:41 AM
D-D Cnt=1 Stn=2 LESLIE
$25.00 $16.00 $10.00 $22.00
$73.00

Until a change is requested,
all tax statements shall be sent to:
M & S Investments LLC
PO Box 845
Molalla, Oregon 97038

After recording return to:
M & S Investments LLC
Attn: F. Mitchell Magenheimer
PO Box 845
Molalla, Oregon 97038

WARRANTY DEED

KNOW ALL BY THESE PRESENTS that **Rock Creek Mill, LLC**, an Oregon limited liability company, Grantor, conveys and warrants to **M & S Investments LLC**, an Oregon limited liability company, Grantee, and unto Grantee's heirs, successors, and assigns, all of that certain real property, with the tenements, hereditaments and appurtenances thereunto belonging or in any way appertaining, the following described real property free of encumbrances except as specifically set forth herein: situated in Clackamas County, State of Oregon, commonly known as **33532 & 33632 South Kropf Road, Molalla, Oregon 97038**, and described as follows, to-wit:

See attached Exhibit A for the legal description

Grantor covenants, represents, warrants and agrees that it is lawfully seized in fee simple of said described real property and has a valid, unencumbered title thereto except for the exceptions set forth on **Exhibit B** attached hereto, and that it will warrant and forever defend the same against all persons whomsoever claim any interest against Grantee.

The true and actual consideration paid for this transfer, stated in terms of dollars is $3,900,000.00 USD.

BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON TRANSFERRING FEE TITLE SHOULD INQUIRE ABOUT THE PERSON'S RIGHTS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010. THIS INSTRUMENT DOES NOT ALLOW USE OF THE PROPERTY DESCRIBED IN THIS INSTRUMENT IN VIOLATION OF APPLICABLE LAND USE LAWS AND REGULATIONS. BEFORE SIGNING OR ACCEPTING THIS INSTRUMENT, THE PERSON ACQUIRING FEE TITLE TO THE PROPERTY SHOULD CHECK WITH THE APPROPRIATE CITY OR COUNTY PLANNING DEPARTMENT TO VERIFY THAT THE UNIT OF LAND BEING TRANSFERRED IS A LAWFULLY ESTABLISHED LOT OR PARCEL, AS DEFINED IN ORS 92.010 OR 215.010, TO VERIFY THE APPROVED USES OF THE LOT OR PARCEL, TO DETERMINE ANY LIMITS ON LAWSUITS AGAINST FARMING OR FOREST PRACTICES, AS DEFINED IN ORS 30.930, AND TO INQUIRE ABOUT THE RIGHTS OF NEIGHBORING PROPERTY OWNERS, IF ANY, UNDER ORS 195.300, 195.301 AND 195.305 TO 195.336 AND

SECTIONS 5 TO 11, CHAPTER 424, OREGON LAWS 2007, SECTIONS 2 TO 9 AND 17, CHAPTER 855, OREGON LAWS 2009, AND SECTIONS 2 TO 7, CHAPTER 8, OREGON LAWS 2010.

Dated this 1st day of May, 2015.

Rock Creek Mill, LLC

By: _____
Gerald "Jerry" McIntire, Member

Rock Creek Mill, LLC

By: _____
Beverly McIntire, Member

STATE OF OREGON)
) ss.
County of Clackamas)

Personally appeared before me this 30th day of April, 2015, the above-named Gerald "Jerry" McIntire and Beverly McIntire, the Members of Rock Creek Mill, LLC, an Oregon limited liability company, who acknowledged and declared the same to be their voluntary act and deed.

_____
Notary Public for Oregon
Commission Expires: 2/24/17

OFFICIAL SEAL
RACHAEL P RODGERS
NOTARY PUBLIC - OREGON
COMMISSION NO. A474835
MY COMMISSION EXPIRES FEBRUARY 24, 2017

Exhibit "A"

Real property in the County of Clackamas , State of Oregon, described as follows:

PARCEL I:

Part of the Southeast quarter of the Northeast quarter of Section 21 of the Willamette Meridian, in the County of Clackamas and State of Oregon, described as follows:

Beginning at the quarter section corner between Sections 21 and 22, Township 5 South, Range 1 East of the Willamette Meridian, in the County of Clackamas and State of Oregon; thence North 450 feet, more or less, along the Section line between Sections 21 and 22 to its intersection with the center line of Rock Creek; thence Westerly following the center meanders of said Rock Creek 1800 feet, more or less, to its intersection with the center line of Market Road No. 10; thence South 11°39' East 752.00 feet along center of Market Road No. 10 to a point where said Market Road No. 10 intersects the East and West center line of Section 21; thence East 913.74 feet along said center line of Section 21 to the point of beginning.

EXCEPTING THEREFROM that portion thereof described in Deed to Clackamas County, recorded April 17, 1963 in Book 620, Page 284, Clackamas County Deed Records.

TOGETHER WITH a 30 foot easement for roadway purposes as reserved in said Deed to Clackamas County, recorded April 17, 1963 in Book 620, Page 284 Clackamas County Deed Records.

PARCEL II:

Part of the Northeast quarter of the Southeast quarter of Section 21 and part of the Southwest quarter of the Northwest quarter and the Northwest quarter of the Southwest quarter of Section 22, in Township 5 South, Range 1 East of the Willamette Meridian, in the County of Clackamas and State of Oregon, described as follows:

Beginning at an iron pipe set for the one-quarter section corner between Sections 21 and 22 in Township 5 South, Range 1 East of the Willamette Meridian, thence West on quarter Section line 1076.1 feet, more or less to the Easterly right of way line of Market Road No. 10; thence along the Easterly side of right of way South 11°15' East 254.5 feet; thence East parallel with said quarter section line 1162.00 feet to a point; thence North 180.00 feet, more or less, to the center of Rock Creek; thence along said Rock Creek North 107.0 feet, thence Westerly following the center of said creek to its intersection with the East West center line of Section 22; thence North 49 East 116.0 feet, North 1°45' East 237.0 feet; North 22°45' West 144.0 feet; North 74° East 211.0 feet; North 20°30' West 42.0 feet; North 70° West 146.0 feet; South 51°45' West 286.0 feet to the line between Sections 21 and 22; thence leaving said Creek and running South along the said Section line 455.0 feet, more or less, to the place of beginning.

PARCEL III:

A part of the Northeast quarter of the Southeast one-quarter of Section 21, Township 5 South, range 1 East of the Willamette Meridian, described as:

Ex. A cont.

Beginning at a point 249.90 feet South 0°06'23" West along the Easterly line of Section 21, Township 5 South, Range 1 East of the Willamette Meridian, in the County of Clackamas and State of Oregon, from the Easterly one-quarter corner of said section; thence North 89°45'25" West, along the Southerly line of a tract of land described and recorded in Book 620, Page 129, Clackamas County Deed Records, a distance of 828.74 feet to a point on the Easterly right of way of Market Road No. 10; thence South 11°26'06" East, along said right of way, a distance of 20.93 feet; thence South 89°45'25" East along a line parallel to and 20.50 feet South, measured perpendicular, from the before mentioned Southerly line, a distance of 824.55 feet to a point on the Easterly line of the before mentioned section; thence North 0°06'23" East, along said Easterly line, a distance of 20.50 feet to the point of beginning.

PARCEL IV:

A part of the Northeast quarter of the Southeast one-quarter of Section 21, Township 5 South, range 1 East of the Willamette Meridian, described as:

Beginning at the Northeast corner of the Southeast one-quarter of Section 21, Township 5 South, Range 1 East, Willamette Meridian, in the County of Clackamas and State of Oregon and running thence West 49 rods to the county road leading from Oregon City to Jacks Bridge on Butte Creek; thence South, along said road 47-1/2 rods; thence East 49 rods to the East boundary line of said Section 21; thence North 47-1/2 rods to the point of beginning.

EXCEPTING THEREFROM the following:

Beginning at an iron pipe set for the one-quarter section corner between Sections 21 and 22 in Township 5 South, Range 1 East of the Willamette Meridian, thence West on quarter Section line 1076.1 feet, more or less to the Easterly right of way line of Market Road No. 10; thence along the Easterly side of right of way South 11°15' East 254.5 feet; thence East parallel with said quarter section line to the East line of said Section 21; thence North, along the East lien of said Section 21, to the point of beginning.

AND FURTHER EXCEPTING THEREFROM the following:

Beginning at a point 249.90 feet South 0°06'23" West along the Easterly line of Section 21, Township 5 South, Range 1 East of the Willamette Meridian, in the County of Clackamas and State of Oregon, from the Easterly one-quarter corner of said section; thence North 89°45'25" West, along the Southerly line of a tract of land described and recorded in Book 620, Page 129, Clackamas County Deed Records, a distance of 828.74 feet to a point on the Easterly right of way of Market Road No. 10; thence South 11°26'06" East, along said right of way, a distance of 20.93 feet; thence South 89°45'25" East along a line parallel to and 20.50 feet South, measured perpendicular, from the before mentioned Southerly line, a distance of 824.55 feet to a point on the Easterly line of the before mentioned section; thence North 0°06'23" East, along said Easterly line, a distance of 20.50 feet to the point of beginning.

EXHIBIT B
Exceptions to Title

1. Easements, rights of way, maintenance agreements, CC&Rs, and bylaws of record as of the date of this Warranty Deed.

2. Any adverse claim based upon the assertion that some portion of said land has been removed from or brought within the boundaries thereof by an avulsive movement of the Rock Creek or has been formed by the process of accretion or reliction or has been created by artificial means or has accreted to such portion so created.

3. Rights of the public and of governmental bodies in and to that portion of the premises herein described lying below the high water mark of Rock Creek and Log Pond.

4. Easement, including terms and provisions contained therein:
   Recording Information: November 7, 2001 as Recording No. 2001-093366
   In Favor of: Adjacent property owners
   For: Presently existing septic drain field
   Affects: Affects Parcel III.

5. The terms and provisions contained in the document entitled "Boundary Line Agreement" recorded February 13, 2007 as Recording No. 2007-012976 of Official Records.
   (Affects Parcel IV)

6. Terms and provisions of an unrecorded lease dated June 15, 2007, by and between Rock Mill Creek LLC, an Oregon limited liability company as lessor and Traeger Pellet Grills LLC, a Florida limited liability company as lessee, as disclosed by a Memorandum of Lease recorded March 21, 2007 as Recording No. 2007-024281 of Official Records.

   The terms and provisions contained in the document entitled "Memorandum of Landlord's Disclaimer and Consent" recorded April 13, 2007 as Recording No. 2007-031850 of Official Records.
   (Affects a portion of Parcels III and IV)

7. Unrecorded leases or periodic tenancies, if any.



Technical Memorandum

Hydrogeologic Review

33532-33632 Kropf Road
Molalla, Oregon

July 15, 2025

Prepared for:

M&S Investments LLC
Attn: F. Mitchell "Mitch" Magenheimer
PO Box 845
Molalla, OR 97038

In care of:

Vial Fotheringham LLP
Attn: Andrew Stamp
Andrew.Stamp@vf-law.com

Prepared by:

EVREN NORTHWEST INC.
environmental natural resource consultants

PO Box 14488
Portland, Oregon 97293
T. 503-452-5561 E. ENW@EVREN-NW.com

Project No. 1350-25002-01

Technical Memorandum

Hydrogeologic Review

33532-33632 Kropf Road
Molalla, Oregon

Prepared for:

M&S Investments LLC
Attn: F. Mitchell "Mitch" Magenheimer
PO Box 845
Molalla, OR 97038

In care of:

Vial Fotheringham LLP
Attn: Andrew Stamp
Andrew.Stamp@vf-law.com



By:

EVREN NORTHWEST INC.
environmental natural resource consultants

EXP. 2/1/2026

Lynn D. Green, C.E.G., Principal Engineering Geologist



Evan Bruggeman, R.G., Principal Field Geologist

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1 Site Vicinity Map
2 Aerial Photo and Tax Lots
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A Well Logs

Technical Memorandum
Preliminary Hydrogeologic Assessment

33532-33632 Kropf Road
Molalla, Oregon

1.0 INTRODUCTION

This report presents the results of a preliminary hydrogeologic assessment conducted by EVREN Northwest, Inc. (ENW) for the property identified as 33532-33632 Kropf Road in Molalla, Oregon (see Figure 1), hereafter referred to as the study area. The assessment was limited to the study area and immediate vicinity within approximately ¼-mile. Findings and recommendations contained in this report are specific to that area.

1.1 Purpose

The purpose of the assessment is to gather information on the hydrogeologic characteristics and the current use of ground-water resources in the study area, in support of proposed rezoning to Rural Industrial (RI).

1.2 Scope

The scope of this hydrogeologic review consisted of the compilation and review of published and unpublished information on the hydrogeologic characteristics of the study area. The compiled information was analyzed, and the findings used to develop conclusions and recommendations. Sources of hydrogeologic information included publicly available maps and publications on regional topography and general geology, supplemented by resources in ENW's office library, and well construction reports (well logs) on file in the Oregon Water Resources Department (OWRD) well log database. The primary sources of information on water use were OWRD well logs and water right records for the study area. No field work was included in the scope of work. This hydrogeologic review is consistent with the requirements of Clackamas County Code (Section 1006.05).

1.3 Site Description

The study area consists of two tax lots totaling approximately 29-acres in Molalla, Clackamas, County Oregon that most recently operated as a small lumber mill and timber products facility (Figure 2). The study area consists of Tax Lots 1000 and 1100 in Section 21 of Township 5S, Range 1E.

Surrounding properties are predominantly rural and/or agricultural. A log pond is present in the eastern and northeastern portions of the study area and a west-northwesterly flowing section of Rock Creek bounds a portion of the study area to the east and north (See Figures 1 and 3).

2.0 SITE SETTING

2.1 Topography/Geomorphology

The study area is located within the US Geological Survey (USGS) Scotts Mills, Oregon 7.5-minute Quadrangle on the east side of a broad fluvial landform situated between the drainages of Rock Creek to the north and east, and Muddy Creek to the west (Figure 1).

Most of the study area is relatively flat; however, there is a moderately steep slope to the east and north towards the onsite log pond and beyond to Rock Creek. Surface elevation ranges from approximately 187 feet above mean sea level (amsl) on the main, relatively flat, portion of the study area to 140 feet amsl at Rock Creek along the northern property margin.

2.2 Hydrology

Rock Creek bounds a portion of the study area along its eastern and northern margins. Based on the USGS 7.5 Minute Topographical Quadrangle Map of the area (Scotts Mills Quadrangle), there is a surface water feature within the study area identified as Log Pond. The pond is in the northeastern corner of the study area. Aerial photographs of the study area suggest that Log Pond extends further south than is suggested by the USGS quadrangle map.

The location of the pond above Rock Creek suggests that water in the pond is likely derived from a spring or shallow ground water that would naturally (if not impounded) discharge to the stream channel.

There are two existing water wells within the study area located at 33532 S Kropf Road and 33602 S Kropf Road, respectively. ENW accessed the OWRD Well Log Information System to obtain the well reports for water wells CLAC 51843 and CLAC 51354.

> **CLAC 51843.** The well report suggests a completion depth of 585 feet bgs with a yield of 300 gallons per minute (gpm) upon completion in 1997.
>
> **CLAC 51354.** The well report suggests a completion depth of 84 feet bgs with a yield of 32 gpm upon completion in 1997.

Both well reports indicate water was first encountered at approximately 16-20 feet below ground surface (bgs) which roughly correlates with the elevation of Log Pond.

The study area lies within the Gladtidings Groundwater Limited Area, which is a classified ground-water restricted area designated by the OWRD in which only exempt well uses are permitted. The extent of the Gladtidings Limited Area relative to the study area is illustrated in Figure 3.

2.3 Geology

Tolan and Beeson (1999) map the surficial deposits in the study area as Quaternary alluvial deposits (Qal and Qoal).[1] They describe the Qal deposits, present within lower lying portions of the study area around Log Pond and Rock Creek as, "unconsolidated silt, sand, and gravel largely confined to stream bottoms

[1] Tolan, T. and Beeson, M., 1999, Geologic Map of the Silverton and Scotts Mills 7.5 Quadrangle, Northwest Oregon, USGS, scale 1:24,000

and adjacent flood plains." The Qoal deposits present on the broad upland portion of the study area are described as, "poorly to moderately indurated silt, sand, and conglomerate... and poorly indurated glaciofluvial clays and silts deposited by the catastrophic Missoula Floods." These alluvium deposits can be present in thicknesses greater than 100 feet and are underlain by marine sandstones, siltstones, shales, and claystones of the Tertiary Scotts Mills formation (Tsm). Based on available subsurface data inferred from drillers logs, the Scotts Mills Formation is suggested to be interbedded with underlying Little Butte Volcanics (Tlb).

2.4 Hydrogeology/Ground Water

At the time of this assessment, available records suggest a total of five water well logs are present within approximately ¼-mile of the study area. Copies of these logs are included in Appendix A. It should be noted that these logs were completed and filed by licensed water well constructors whose experience and level of geologic expertise varies considerably. Descriptions of the soil and rock materials encountered during drilling should be considered lay descriptions unless the log has been prepared by a registered geologist.

As shown on Table 1, the depth of the wells in the study area ranges from 64 to 585 feet bgs. Near surface soils are typically described as being fine textured (clay, silt, and sand) with gravel and commonly shale described below. The deepest well (CLAC 51843) suggests hard sandstone was encountered at 362 feet with basalt starting from 381 feet and continuing to its completion depth of 585 feet bgs.

Well logs suggest that shallow water-bearing units area present within the alluvial deposits (alluvial aquifer) with deeper water-bearing units in the underlying bedrock units (bedrock or regional aquifer). The shallow alluvial aquifer is recharged primarily by the infiltration of incident rainfall and snowmelt into the subsurface and percolation down to the water table. Much of the ground water in the shallow aquifer will migrate down-gradient (assumed to be north-northeast) and eventually be discharged to Rock Creek. A portion of the shallow ground water, however, will continue to move downward into the underlying bedrock. The amount of shallow ground water entering and moving through the bedrock aquifer is dependent upon the permeability and hydraulic conductivity of the bedrock material. In addition to the recharge derived from leakage from the overlying alluvial aquifer, the bedrock aquifer beneath the study area also receives recharge from the in-flow or migration of ground water from upgradient (assumed southeast) portions of the regional aquifer. The general or net direction of flow in the bedrock aquifer is assumed to be generally north. Actual flow path(s), however, are much more difficult to estimate than in the alluvial aquifer, and will be controlled primarily by joints, fractures, interflow zones, and other preferential pathways in the bedrock.

2.4.1 Ground Water Production

All of the wells identified within approximately ¼-mile of the study area are listed as being used for domestic water supply purposes. The approximate locations of these wells are illustrated on Figure 4 and well details are summarized in Table 1. Figure 5 illustrates a generalized west-to-east cross section of well lithology for select wells within approximately ¼ mile of the study area.

Four of the wells appear to draw water exclusively from the alluvial aquifer, including one within the study area (CLAC 51354). The remaining well (CLAC 51843) was completed to, and draws water from, a significantly greater depth than the others and is the only well suggested by drillers logs to have encountered sandstone and basalt suggestive of the interbedded nature of the Scotts Mills Formation. Of the four wells drawing from the alluvial aquifer, three draw water between approximately 60 and 80 feet bgs and one (CLAC 157) was draws water between 118 and 145 feet bgs. This difference appears to be reflected in the static water depth of the wells.

Pump tests for these four alluvial aquifer wells suggest a production of between 15 and 36 gallons per minute (gpm). Conversely, the pump test for the well perforated within the deeper basalt (bedrock) aquifer suggests a production of 300 gpm. These production rate estimates are based on short-term pump tests, bailer tests, or air-lift tests conducted by the well driller. No long-term pump test results or other quantitative information on the study area aquifer characteristics was included in the OWRD well log database. A production rate of 5- to 10-gpm is typically adequate to support the domestic water supply needs for a single-family residence. The amount of water required to meet industrial needs is totally dependent on the exact nature and size of the operation. An accurate estimate of the amount of water that will be required to operate an industrial facility was not readily available. However, discussions with parties knowledgeable of the study area stated that the water derived from this well is used to support facility infrastructure (i.e., bathrooms and standard hose spigots), which is consistent with the domestic water use indicated on the well logs and suggests limited water demand.

2.4.2 Water Rights

According to OWRD two (2) ground water source water rights have been issued for Section 21, where the study area is located. Both were issued in 1966 for irrigation wells located greater than ¼ mile from the study area. Fifteen (15) additional water rights were issued for irrigation wells in surrounding sections (Sections 16, 20, 22, and 28) since 1950.

Certain uses of ground water are defined by the OWRD rules and regulations as being exempt from water rights requirements. Since March 13, 1992, only exempt well uses are permissible within the Gladtidings Groundwater Limited Area. Exempt wells in Clackamas County are restricted to 5,000 gallons per day (gpd) maximum daily limit for industrial or commercial use. Additional exempt uses are:

- Single or group domestic purposes not exceeding 15,000 gpd
- Stock watering
- Watering of a lawn or noncommercial garden of not more than one-half acre in area
- Down-hole heat exchange uses
- Watering school grounds
- Fire control
- Reuse of water

As noted above, well logs for wells within approximately ¼ mile from the study area suggest installation for domestic purposes.

2.4.3 Potential Well Interference Issues

When a water well is pumped, the water level in the well is drawn down. This creates a cone of depression or lowering of the water table around the well. The amount of drawdown that results and the extent of the cone of depression (area of influence) are dependent on the pumping rate of the well and the hydraulic characteristics of the aquifer or aquifers from which the water is being withdrawn (aquifer characteristics). If two or more wells are developing water from the same aquifer and/or the wells are spaced too close to one another, well interference (the overlapping of well areas of influence) can occur. In severe cases this can result in overdevelopment of the aquifer, significant water table decline, and loss of production in affected wells. There is no available definitive information regarding potential water demand for future site operations. However, as discussed in the previous section, anticipated water use for the site is expected to be consistent with domestic water purposes and domestic use is consistent with the intended use of the study area wells. Based on current conditions and uses, well interference is not likely an issue.

3.0 SUMMARY AND CONCLUSIONS

Water to support the needs of the study area has historically been, and is currently being, supplied primarily by onsite domestic wells CLAC 51843 and CLAC 51354. Based on well log information, one of the study area wells has the potential to produce large quantities (> 100-gpm) for at least one hour. ENW was not able to identify any information on the long term (24- to 72-hour) production capabilities of any area wells. The amount of water required to cover the needs of the facility has not been measured; however, making assumptions based on the domestic well designation and water infrastructure indicated to be present on the site by knowledgeable parties, hydrogeologic conditions appear adequate for the current needs of the facility. If other non-domestic water uses are anticipated in the future, additional review will be required.

Given the relatively low production capability of the area wells completed within the shallower alluvial aquifer, it appears unlikely that draws on the deeper basalt aquifer for domestic purposes will unduly stress the natural system. The degree to which this stress will affect area aquifers and existing wells cannot be determined without knowing the location, pumping schedules, and pumping rates of all area wells, and the hydraulic characteristics of the aquifer(s) to be developed. However, ENW's interpretation of available well log data and anecdotal information suggest that prolonged heavy pumping of wells within the study area (i.e., industrial or agricultural uses) is unlikely.

4.0 RECOMENDATIONS

Based on the work completed for this assessment and the findings discussed above, ENW makes the following recommendations:

- If a significant increase in water usage is expected for future site use, specific and detailed information of anticipated water use for every aspect of that operation should be compiled. Then,

OWRD should be consulted regarding water use limitations within the Gladtidings Groundwater Limited Area.

- If increased water usage is permitted by OWRD, one or more long term (24- to 72-hour) aquifer tests should be completed in the study area. The study area well(s) should be pumped at a rate that is equal to or higher than the rate necessary to meet the water needs of the proposed site use. At least three properly designed and constructed monitoring wells should be utilized (installed if necessary) in each aquifer from which the pumping well will be drawing water. Data from the aquifer tests should be used to determine if the effects of long-term pumping of ground water at a rate necessary to meet the needs of the proposed site use will negatively impact study area aquifers or existing wells.

5.0 LIMITATIONS

The scope of this Technical Memorandum is limited to information obtained through a review of readily available published and unpublished reports, maps, and other documents, and on interviews with knowledgeable individuals. As a result, these conclusions are based on information supplied by others as well as interpretations by qualified parties.

No site reconnaissance or subsurface exploration has been performed in conjunction with this assessment, and detailed mapping has not been completed. Conclusions and recommendations presented in this assessment were prepared in accordance with generally accepted professional geologic engineering principals and practice. We make no warranty, either express or implied.

We have performed our services for this project in accordance with our agreement and understanding with the Client. This document and the information contained herein have been prepared solely for the use of the Client. We have performed this study under a limited scope of services per our agreement. It is possible, despite the use of reasonable care and interpretation, that we may have failed to identify pertinent information other than what we have specifically presented in this assessment. We assume no responsibility for conditions that we did not specifically evaluate, or conditions that were not generally recognized at the time this report was prepared.

TABLE

Table 1
Well Log Data

Well	Owner Name	Address	Date Installed	Use	Total Depth	First	Static	GPM	Test Type	Drawdown / Drill Stem At	Casing / Liner	Screen Perf.	Notes
Onsite													
CLAC 51354	Tom Wrolstad	33602 S Kropf Rd	1/17/1997	Domestic	84'	16'	16'	32	Bailer	12'	84'	69'-79'	
CLAC 51843	Ivan Kropf	33532 S Kropf Rd	5/29/1997	Domestic	585'	20'	92'	300	Air lift		386'	NONE	Basalt encountered at 381' bgs
Within 1/4-mile of study area													
CLAC 157	Lorin and Anne Wrolstad	33222 S Kropf Rd	7/25/1990	Domestic	145'	115'	85'	36	Bailer	10'	118'	118'-145'	
CLAC 2604	Rodney Bullard		12/23/1971	Domestic	64'		22'	30	Pump	10'	63'	NONE	
CLAC 2605	Donald N. Stafrey		8/22/1969	Domestic	220'		47'	15	Bailer	16'	202'	65'-72'	

gpm = gallons per minute

EXHIBIT 1
Z0437-25 & Z0438-25
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Exhibit 5
Page 12 of 24

FIGURES

LEGEND:
SUBJECT PROPERTY BOUNDARY
NOTES:
1. BASE MAP DEVELOPED BY THE USGS. (MOLALLA, 1:24000, 2013)
2. GROUND CONTOUR IS IN 10-FOOT INTERVALS.
0 1,350 2,700 5,400 Feet
(APPROXIMATE 1" = 2,000 FEET WHEN PRINTED 11X17)
N
EVREN NORTHWEST INC
environmental natural resource consultants
FIGURE 1
SITE VICINITY MAP
M & S INVESTMENTS
33532-33632 KROPF ROAD
MOLALLA, OREGON
SITE
Rural Dell
Yoder
Gladstone
Rock Creek
Cedar Creek
RAILROAD
KROPF ROAD
CANBY
MOLALLA
DARNELL
DRAWN BY
M. FERRY
7/10/2025
CHECKED BY
T. BENNETT
7/10/2025
APPROVED BY
L. GREEN
7/10/2025
DRAWING NUMBER
1350-25002(V01)

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
M. FERRY 7/11/2025	T. BENNETT 7/11/2025	L. GREEN 7/11/2025	1350-25002(V02)

LEGEND:

- SUBJECT PROPERTY BOUNDARY
- TAXLOT

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2024.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION

0 165 330 660 Feet

(APPROXIMATE 1" = 250 FEET WHEN PRINTED 11X17)

N

EVREN NORTHWEST INC.
environmental natural resource consultants

FIGURE 2

AERIAL PHOTO AND TAX LOTS

M & S INVESTMENTS
33532-33632 KROPF ROAD
MOLALLA, OREGON

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
M. FERRY	T. BENNETT	L. GREEN	1350-25002(V01)
7/11/2025	7/11/2025	7/11/2025	

LEGEND:

- GLADTIDINGS GROUNDWATER LIMITED AREA
- SUBJECT PROPERTY BOUNDARY

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2024 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION
4. GLADTIDINGS BOUNDARY MAPPED BY OWRD (2021).

0 3,050 6,100 12,200 Feet

(APPROXIMATE 1" = 4,500 FEET WHEN PRINTED 11X17)

N

EVREN NORTHWEST INC.
environmental natural resource consultants

FIGURE 3

GLADTIDINGS GROUNDWATER LIMITED AREAS

M & S INVESTMENTS
33532-33632 KROPF ROAD
MOLALLA, OREGON

DRAWN BY	CHECKED BY	APPROVED BY	DRAWING NUMBER
M. FERRY 7/15/2025	T. BENNETT 7/15/2025	L. GREEN 7/15/2025	1350-25002(V05)

LEGEND:

- SUBJECT PROPERTY BOUNDARY
- QUARTER-QUARTER SECTION
- 1/4 MILE RADIUS
- LINE OF SECTION
- (W) WELL

NOTES:

1. BASE MAP DEVELOPED FROM AN AERIAL PHOTOGRAPH MAP DATED 2024 AND ENW FIELD NOTES.
2. ALL BUILDING, STREET, AND FEATURE LOCATIONS ARE APPROXIMATE.
3. SYMBOLS REPRESENT LOCATION AND DO NOT ALWAYS REPRESENT EXACT SHAPE, SIZE, OR ORIENTATION

0 235 470 940 Feet

(APPROXIMATE 1" = 350 FEET WHEN PRINTED 11X17)

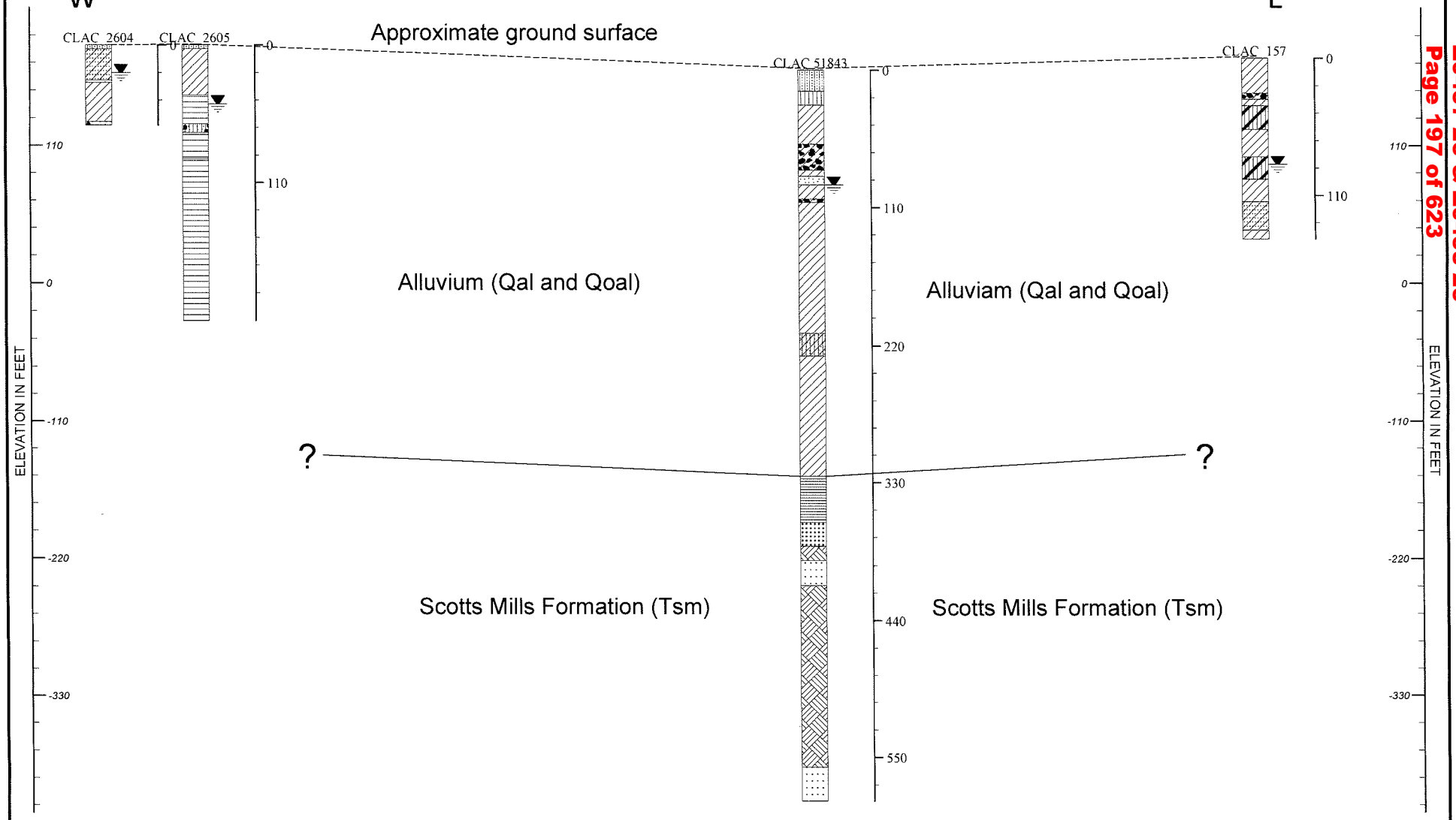
N

EVREN NORTHWEST INC
environmental natural resource consultants

FIGURE 4

WELL LOCATIONS BY QUARTER-QUARTER SECTION

M & S INVESTMENTS
33532-33632 KROPF ROAD
MOLALLA, OREGON



Plan View



- Silty sand
- Clayey sand/ Low plasticity clay
- Poorly graded sand
- Low plasticity clay
- Poorly graded gravel and sand
- Shale
- Sand, Gravel, and Mud.
- Silt
- Clayey gravel
- Poorly graded clayey silty sand

EVREN Northwest

GENERALIZED SUBSURFACE PROFILE

HORIZONTAL SCALE: 1"=(proportional)' / VERTICAL SCALE: 1"=110'	DRAWN BY/APPROVED BY	DATE DRAWN
	E. Bruggeman	7/15/2025

Hydrogeologic Review

1350-25002-01	FIGURE NUMBER 5

APPENDIX A

WELL LOGS

EXHIBIT 1
Z0437-25 & Z0438-25
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RECEIVED
JUN 10 1997
WATER RESOURCES DEPT.
SALEM, OREGON

RECEIVED
MAR 30 1998
WATER RESOURCES DEPT.
SALEM, OREGON

WELL I.D.# L10567

STATE OF OREGON

WATER SUPPLY WELL REPORT

(as required by ORS 537.765)

WELL TAG CARD) # 95671

Instructions for completing this report are on the last page of this form.

(1) OWNER: Well Number

Name Ivan Kropf

Address 33532 S. Kropf Rd

City Molalla State OR Zip 97038

(2) TYPE OF WORK

[X] New Well [ ] Deepening [ ] Alteration (repair/recondition) [ ] Abandonment

(3) DRILL METHOD:

[X] Rotary Air [ ] Rotary Mud [ ] Cable [ ] Auger

[ ] Other

(4) PROPOSED USE:

[X] Domestic [ ] Community [ ] Industrial [ ] Irrigation

[ ] Thermal [ ] Injection [ ] Livestock [ ] Other

(5) BORE HOLE CONSTRUCTION:

Special Construction approval [ ] Yes [X] No Depth of Completed Well ____ ft.

Explosives used [ ] Yes [X] No Type ____ Amount ____

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
12	0	20	Bent	16	20	2 SACKS
			Cement	14	20	2 SACKS
			Bent	0	14	12 SACKS
9 3/4	20	381	Cement			6 SACKS

How was seal placed: Method [ ] A [X] B [X] C [ ] D [ ] E

[ ] Other

Backfill placed from ____ ft. to ____ ft. Material ____

Gravel placed from ____ ft. to ____ ft. Size of gravel ____

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	8	+1.5	381	250	[X]	[ ]	[X]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]
Liner:					[ ]	[ ]	[ ]	[ ]
					[ ]	[ ]	[ ]	[ ]

Final location of shoe(s)

(7) PERFORATIONS/SCREENS: N/A

[ ] Perforations Method

[ ] Screens Type Material

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]
						[ ]	[ ]

(8) WELL TESTS: Minimum testing time is 1 hour

[ ] Pump [ ] Bailer [X] Air [ ] Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
300			1 hr.

Temperature of water 56 Depth Artesian Flow Found ____

Was a water analysis done? [ ] Yes By whom ____

Did any strata contain water not suitable for intended use? [ ] Too little

[ ] Salty [ ] Muddy [ ] Odor [ ] Colored [ ] Other ____

Depth of strata: ____

(9) LOCATION OF WELL by legal description:

County Clackamas Latitude ____ Longitude ____

Township 5S N or S Range 1E E or W. WM.

Section 21 SE 1/4 NE 1/4

Tax Lot 1000 Lot ____ Block ____ Subdivision ____

Street Address of Well (or nearest address) Same as mailing

(10) STATIC WATER LEVEL:

92 ft. below land surface. Date 5/29/97

Artesian pressure ____ lb. per square inch. Date ____

(11) WATER BEARING ZONES:

Depth at which water was first found 20

From	To	Estimated Flow Rate	SWL
20	28		
85	92	10 GPM	
385	420	120 GPM	
558	585	180 GPM	

(12) WELL LOG:

Ground Elevation ____

Material	From	To	SWL
Brn Topsoil	0	17	
Silt brn	17	28	
Clay brn	28	47	
Clay gray	47	59	
Clay gravel	59	80	
Clay red brn	80	85	
Sand brn	85	92	
Clay gray-blue	92	103	
Clay gravel	103	106	
Clay green hard	106	115	
Clay brn gray	115	127	
Clay gm blue	127	210	
Clay silty sand	210	228	
Clay green	228	325	
Clay stone gray	325	362	
Sandstone hrd	362	381	
Basalt blk hrd	381	392	
Basalt brkn	392	412	
Basalt blk hrd	412	558	
Basalt brkn	558	585	

Date started 5/9/97 Completed 5/29/97

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

WWC Number 1358

Signed [signature] Date 6-9-97

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 1358

Signed [signature] Date 6-9-97

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

EXHIBIT 1
Z0437-25 & Z0438-25
Page 200 of 623

Exhibit 5
Page 21 of 24

CLAC 51354

RECEIVED
JAN 24 1997
WATER RESOURCES DEPT.
SALEM, OREGON

STATE OF OREGON
WATER SUPPLY WELL REPORT
(as required by ORS 537.765)

WELL I.D.# LO 9253

(START CARD) # 90020

Instructions for completing this report are on the last page of this form.

(1) OWNER: Well Number

Name TOM WROLSTAD

Address 33187 S. KROPF RD.

City MOLALLA State OR Zip 97038

(2) TYPE OF WORK

[XX] New Well [ ] Deepening [ ] Alteration (repair/recondition) [ ] Abandonment

(3) DRILL METHOD:

[ ] Rotary Air [ ] Rotary Mud [XX] Cable [ ] Auger

[ ] Other

(4) PROPOSED USE:

[XX] Domestic [ ] Community [ ] Industrial [ ] Irrigation

[ ] Thermal [ ] Injection [ ] Livestock [ ] Other

(5) BORE HOLE CONSTRUCTION:

Special Construction approval [ ] Yes [XX] No Depth of Completed Well 84 ft.

Explosives used [ ] Yes [XX] No Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Sacks or pounds
10	0	54	BENT.	0	50	55 SACKS
6	54	84				

How was seal placed: Method [ ] A [ ] B [ ] C [ ] D [ ] E

[XX] Other POURED INTO ANNULAS DRY

Backfill placed from 50 ft. to 54 ft. Material BENT.

Gravel placed from ft. to ft. Size of gravel

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	6	+1	68	.250	XX		XX	
Liner:	5	63	69	.188	XX		XX	
	5	79	84	.188	XX		XX	

Final location of shoe(s) 68

(7) PERFORATIONS/SCREENS:

[ ] Perforations Method

[XX] Screens Type V-SLOT Material SS

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
69	79	.015		6	TELE		
K PACKER & RISER PIPE				63-69			
TAIL PIPE				79-84			

(8) WELL TESTS: Minimum testing time is 1 hour

[ ] Pump [XX] Bailer [ ] Air [ ] Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
32	12		1 hr.

Temperature of water 54 Depth Artesian Flow Found

Was a water analysis done? [ ] Yes By whom

Did any strata contain water not suitable for intended use? [ ] Too little

[ ] Salty [ ] Muddy [ ] Odor [ ] Colored [ ] Other

Depth of strata:

(9) LOCATION OF WELL by legal description:

County CLACKAMAS Latitude Longitude

Township 5S N or S Range 1E E or W. WM.

Section 21 NE 1/4 SE 1/4

Tax Lot 1100 Lot Block Subdivision

Street Address of Well (or nearest address)

33602 S. KROPF RD., MOLALLA, OR 97038

(10) STATIC WATER LEVEL:

26 ft. below land surface. Date 1-17-97

Artesian pressure lb. per square inch. Date

(11) WATER BEARING ZONES:

Depth at which water was first found 16

From	To	Estimated Flow Rate	SWL
16	38	U/K	16
56	58	5+or-	26
69	79	32+	26

(12) WELL LOG:

Ground Elevation

Material	From	To	SWL
TOP SOIL	0	1	
CLAY BROWN	1	16	
SILT BROWN	16	27	
SILT GREY SANDY	27	38	
CLAY GREY	38	56	
SAND & CLAY GREY	56	58	
CLAY BROWN	58	69	
SAND GREY BLACK MED	69	74	
CLAY BROWN	74	75	
SAND GREY BLACK MED FINE	75	79	
CLAY GREY	79	84	

Date started 1-14-97 Completed 1-17-97

(unbonded) Water Well Constructor Certification:

I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon water supply well construction standards. Materials used and information reported above are true to the best of my knowledge and belief.

WWC Number

Signed Date

(bonded) Water Well Constructor Certification:

I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. All work performed during this time is in compliance with Oregon water supply well construction standards. This report is true to the best of my knowledge and belief.

WWC Number 688

Signed Steven N. Stadeli Date 1-21-97

ORIGINAL & FIRST COPY-WATER RESOURCES DEPARTMENT SECOND COPY-CONSTRUCTOR THIRD COPY-CUSTOMER

5S/1E/22bc

CLAC 157

AUG 10 1990

STATE OF OREGON
WATER WELL REPORT
(as required by ORS 537.765)

WATER RESOURCES DEPT.
SALEM, OREGON

(START CARD) # 19820

(1) OWNER:
Well Number:
Name Lorin and Anne Wrolstad
Address 33222 S. Kropf Rd.
City Molalla State OR Zip 97038

(2) TYPE OF WORK:
☒ New Well ☐ Deepen ☐ Recondition ☐ Abandon

(3) DRILL METHOD
☐ Rotary Air ☐ Rotary Mud ☒ Cable
☐ Other

(4) PROPOSED USE:
☒ Domestic ☐ Community ☐ Industrial ☐ Irrigation
☐ Thermal ☐ Injection ☐ Other

(5) BORE HOLE CONSTRUCTION:
Special Construction approval Yes ☐ No ☒ Depth of Completed Well 142 ft.
Explosives used Yes ☐ No ☒ Type Amount

HOLE Diameter	From	To	SEAL Material	From	To	Amount sacks or pounds
10	0	20	granular	0	20	12
6	20	145				

How was seal placed: Method ☐ A ☐ B ☐ C ☐ D ☐ E
☒ Other poured dry while advancing casing
Backfill placed from — ft. to — ft. Material —
Gravel placed from — ft. to — ft. Size of gravel —

(6) CASING/LINER:

	Diameter	From	To	Gauge	Steel	Plastic	Welded	Threaded
Casing:	6	+2	118	.250	☒	☐	☒	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
					☐	☐	☐	☐
Liner:					☐	☐	☐	☐
					☐	☐	☐	☐

Final location of shoe(s) —

(7) PERFORATIONS/SCREENS:
☐ Perforations Method
☒ Screens Type cook Material stainless

From	To	Slot size	Number	Diameter	Tele/pipe size	Casing	Liner
118	133	12				☐	☐
133	145				5½ OD	☒	☐
						☐	☐
						☐	☐
						☐	☐
						☐	☐

(8) WELL TESTS: Minimum testing time is 1 hour
☐ Pump ☒ Bailer ☐ Air ☐ Flowing Artesian

Yield gal/min	Drawdown	Drill stem at	Time
36	10		1 hr.

Temperature of water — Depth Artesian Flow Found —
Was a water analysis done? ☐ Yes By whom —
Did any strata contain water not suitable for intended use? ☐ Too little
☐ Salty ☐ Muddy ☐ Odor ☐ Colored ☐ Other —
Depth of strata: —

(9) LOCATION OF WELL by legal description:
County Clackamas Latitude ' " Longitude ' "
Township 5S N or S, Range 1E E or W, WM.
Section 22 SW ¼ NW ¼
Tax Lot Lot Block Subdivision
Street Address of Well (or nearest address) same as mailing

(10) STATIC WATER LEVEL:
85 ft. below land surface. Date 7/24/90
Artesian pressure — lb. per square inch. Date —

(11) WATER BEARING ZONES:
Depth at which water was first found

From	To	Estimated Flow Rate	SWL
115	130	30	85

(12) WELL LOG:
Ground elevation —

Material	From	To	SWL
Clay brown	0	16	
Clay yellow	16	28	
Clay gravels brown	28	33	
Clay grey	33	38	
Clay silty brown	38	57	
Clay orange	57	70	
Clay brown	70	79	
Clay silty grey	79	97	
Clay blue	97	115	
Sand fine with clay streaks	115	138	85
grey		138	
Clay grey	138	145	

Date started 7/20/90 Completed 7/26/90

(unbonded) Water Well Constructor Certification:
I certify that the work I performed on the construction, alteration, or abandonment of this well is in compliance with Oregon well construction standards. Materials used and information reported above are true to my best knowledge and belief.
WWC Number 758
Signed [signature] Date 8-7-90

(bonded) Water Well Constructor Certification:
I accept responsibility for the construction, alteration, or abandonment work performed on this well during the construction dates reported above. all work performed during this time is in compliance with Oregon well construction standards. This report is true to the best of my knowledge and belief.
WWC Number 723
Signed [signature] Date 8-7-90

ORIGINAL & FIRST COPY - WATER RESOURCES DEPARTMENT SECOND COPY - CONSTRUCTOR THIRD COPY - CUSTOMER 9809C 3/88

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the
STATE ENGINEER, SALEM, OREGON 97310
within 30 days from the date of well completion.

RECEIVED
OCT 2 - 1972
STATE ENGINEER
SALEM, OREGON

CLAC 2604

WATER WELL REPORT

STATE OF OREGON
(Please type or print)
(Do not write above this line)

CLAC 02604

State Well No. 5S/1E-21

State Permit No.

(1) OWNER:

Name Rodney Bullard

Address 235 1st Hubbard, Oregon

(2) TYPE OF WORK (check):

New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:

Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):

Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) CASING INSTALLED:

Threaded ☐ Welded ☒

6 " Diam. from 0 ft. to 63 ft. Gage 250

" Diam. from ft. to ft. Gage

" Diam. from ft. to ft. Gage

(6) PERFORATIONS:

Perforated? ☐ Yes ☒ No.

Type of perforator used

Size of perforations in. by in.

perforations from ft. to ft.

perforations from ft. to ft.

perforations from ft. to ft.

(7) SCREENS:

Well screen installed? ☐ Yes ☒ No

Manufacturer's Name

Type Model No.

Diam. Slot size Set from ft. to ft.

Diam. Slot size Set from ft. to ft.

(8) WELL TESTS:

Drawdown is amount water level is lowered below static level

Was a pump test made? ☒ Yes ☐ No If yes, by whom? Driller

Yield: 30 gal./min. with 10 ft. drawdown after 10 hrs.

" " "

" " "

Bailer test gal./min. with ft. drawdown after hrs.

Artesian flow g.p.m.

Temperature of water 54° Depth artesian flow encountered ft.

(9) CONSTRUCTION:

Well seal—Material used Bentonite clay & drill cuttings

Well sealed from land surface to 20 ft.

Diameter of well bore to bottom of seal 10 in.

Diameter of well bore below seal 6 in.

Number of sacks of cement used in well seal none sacks

Number of sacks of bentonite used in well seal 3 sacks

Brand name of bentonite Prinville

Number of pounds of bentonite per 100 gallons of water 300 lbs./100 gals.

Was a drive shoe used? ☒ Yes ☐ No Plugs Size: location ft.

Did any strata contain unusable water? ☐ Yes ☒ No

Type of water? depth of strata

Method of sealing strata off

Was well gravel packed? ☐ Yes ☒ No Size of gravel:

Gravel placed from ft. to ft.

(10) LOCATION OF WELL:

County Clackamas Driller's well number

¼ ¼ Section 21 T 5S R. 1E W.M.

Bearing and distance from section or subdivision corner

(11) WATER LEVEL: Completed well.

Depth at which water was first found ft.

Static level 22 ft. below land surface. Date 12-23-71

Artesian pressure lbs. per square inch. Date

(12) WELL LOG:

Diameter of well below casing 6

Depth drilled 64 ft. Depth of completed well 64 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. *Report each change in position of Static Water Level and indicate principal water-bearing strata.*

MATERIAL	From	To	SWL
Top soil	0	3	
Brown sandy clay	3	28	
Brown sand	28	30	
Brown clay	30	51	
Sticky blue clay	51	61	
Black sand and gravel, Med.	61	64	

Work started 12-20 19 71 Completed 12-23 19 71

Date well drilling machine moved off of well 12-23 19 71

Drilling Machine Operator's Certification:

This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.

[Signed] R. Wayne Nelson (Drilling Machine Operator) Date 12-23, 19 71

Drilling Machine Operator's License No. 705

Water Well Contractor's Certification:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

Name William D. Christenson Jr. (Person, firm or corporation) (Type or print)

Address P. O. Box 343 Hubbard, Oregon

[Signed] William D. Christenson Jr. (Water Well Contractor)

Contractor's License No. 511 Date 12-23, 19 71

(USE ADDITIONAL SHEETS IF NECESSARY)

SP*45656-119

NOTICE TO WATER WELL CONTRACTOR
The original and first copy of this report are to be filed with the STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the date of well completion.

RECEIVED
SEP - 5 1969
STATE ENGINEER
SALEM OREGON

CLAC 2605
WATER WELL REPORT
STATE OF OREGON
(Please type or print)
(Do not write above this line)

CLAC State Well No. 5/1-21
02605 State Permit No.

(1) OWNER:
Name Donald N. Stafrey
Address 1147 East Lincoln, Woodburn, Oregon 97071

(2) TYPE OF WORK (check):
New Well ☒ Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 12.

(3) TYPE OF WELL:
Rotary ☐ Driven ☐
Cable ☒ Jetted ☐
Dug ☐ Bored ☐

(4) PROPOSED USE (check):
Domestic ☒ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

CASING INSTALLED:
Threaded ☐ Welded ☒
8 " Diam. from top ft. to 202 ft. Gage 250
" Diam. from ft. to ft. Gage
" Diam. from ft. to ft. Gage

PERFORATIONS:
Perforated? ☒ Yes ☐ No.
Type of perforator used Mills
Size of perforations 3/8 in. by 2 in.
88 perforations from 65 ft. to 72 ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.
perforations from ft. to ft.

(7) SCREENS:
Well screen installed? ☐ Yes ☒ No
Manufacturer's Name
Type Model No.
Diam. Slot size Set from ft. to ft.
Diam. Slot size Set from ft. to ft.

(8) WATER LEVEL: Completed well.
Static level 47 ft. below land surface Date 8-22-69
Artesian pressure lbs. per square inch Date

(9) WELL TESTS:
Drawdown is amount water level is lowered below static level
Was a pump test made? ☐ Yes ☒ No If yes, by whom?
Yield: gal./min. with ft. drawdown after hrs.
" " " "
" " " "
Bailer test 15 gal./min. with 16 ft. drawdown after 1 hrs.
Artesian flow g.p.m. Date
Temperature of water Was a chemical analysis made? ☐ Yes ☐ No

(10) CONSTRUCTION:
Well seal—Material used Drill cuttings, Puddle Clay
Depth of seal 20 ft.
Diameter of well bore to bottom of seal 10 in.
Were any loose strata cemented off? ☐ Yes ☒ No Depth
Was a drive shoe used? ☒ Yes ☐ No
Did any strata contain unusable water? ☐ Yes ☐ No
Type of water? depth of strata
Method of sealing strata off
Was well gravel packed? ☐ Yes ☒ No Size of gravel:
Gravel placed from ft. to ft.

(11) LOCATION OF WELL:
County Clackamas Driller's well number 1433
¼ ¼ Section 21 T. 5S R. 1E W.M.
Bearing and distance from section or subdivision corner

(12) WELL LOG:
Diameter of well below casing 8
Depth drilled 220 ft. Depth of completed well 202 ft.

Formation: Describe color, texture, grain size and structure of materials; and show thickness and nature of each stratum and aquifer penetrated, with at least one entry for each change of formation. Report each change in position of Static Water Level as drilling proceeds. Note drilling rates.

MATERIAL	From	To	SWL
Top Soil	0	3	
Brown dark Clay	3	20	
Light brown clay	20	40	
Soft dark gray shale	40	63	
Sand gravel and mud	63	70	
Dark shale	70	90	
Black sand (no good)	90	91	
Dark shale	91	110	
Sandy black shale	110	125	
Black crumbly shale	125	135	
Gray soft shale	135	163	
Sticky blue shale	163	220	

Work started Aug. 5, 1969 Completed Aug. 22, 1969
Date well drilling machine moved off of well Aug. 25, 1969

Drilling Machine Operator's Certification:
This well was constructed under my direct supervision. Materials used and information reported above are true to my best knowledge and belief.
[Signed] Irving Edlund Date Aug. 25, 1969
(Drilling Machine Operator)
Drilling Machine Operator's License No. 74

Water Well Contractor's Certification:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
NAME WILLAMETTE DRILLING COMPANY
(Person, firm or corporation) (Type or print)
Address 7641 35th Ave. NE Salem, Oregon 97303
[Signed] Emil O. Beier
(Water Well Contractor)
Contractor's License No. 2 Date Aug. 25, 1969

(USE ADDITIONAL SHEETS IF NECESSARY)

Exhibit 6
Page 1 of 47

Buildings F, G, H
Date: 2000





Buildings B
Date: 2000

Building B
Date: 2000




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Exhibit 6
Page 4 of 47
Building B
Date: 2000


salem

Saw Dust Overhead Bins
Date: 2000





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Z0437-25 & Z0438-25
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Exhibit 6
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Attached to Building D
Date: 2000

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EXHIBIT 1
Z0437-25 & Z0438-25
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EXHIBIT 1
Z0437-25 & Z0438-25
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Exhibit 6
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Old Saw Mill equipment from 1970's





Aerials of Mill Site
Date: 2000

EXHIBIT 1
Z0437-25 & Z0438-25
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Aerials of Mill Site
Date: 2000



Aerials of Mill Site
Date: 2000



EXHIBIT 1
Z0437-25 & Z0438-25
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Exhibit 6
Page 14 of 47



Aerials of Mill Site
Date: 2000

Aerials of Mill Site
Date: 2000





Aerials of Mill Site
Date: 2000

Building A
Date: 2000



Building D
Date: 2000



Building B
Date: 2000



Building B
Date: 2000




EXHIBIT 1
Z0437-25 & Z0438-25
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Building B
Date: 2000
Exhibit 6
Page 21 of 47

Building C
Date: 2000





Overhead Bins,
Buildings D, C, B
Date: 2000



Building D
Date: 2000



Overhead Bins and Building attached to D
Date: 2000

Building attached
to D & D
Date: 2000



Building I
Date: 2000



Buildings H, I
Date: 2000



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Z0437-25 & Z0438-25
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Exhibit 6
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Buildings F,H
Date: 2000



EXHIBIT 1
Z0437-25 & Z0438-25
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Exhibit 6
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Buildings A, F
Date: 2000



Building A
Date: 2000



Building A, E
Date: 2000



Building A, B, E
Date: 2000



Building I
Date: 2000



Building B
Date: 2000



EXHIBIT 1
Z0437-25 & Z0438-25
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Exhibit 6
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Building B, C, D
Date: 2000





Building B, C, D, and building attached to D
Date: 2000

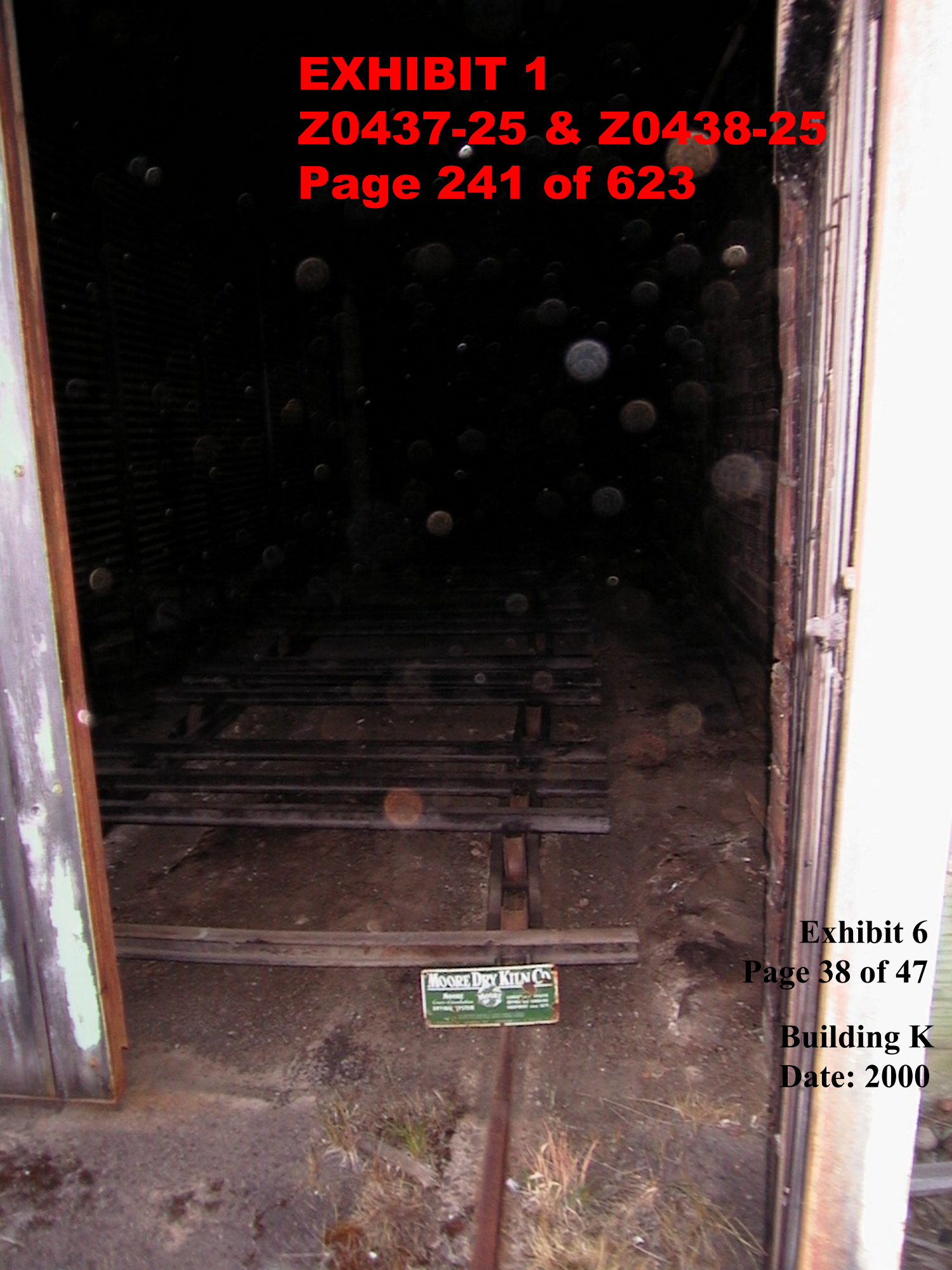


Exhibit 6
Page 38 of 47

Building K
Date: 2000



Building J
Date: 2000

Building J
Date: 2000



Buildings G, H
Date: 2000





Exhibit 6
Page 42 of 47

Building G
(Kiln Control Room)
Date: 2000

Building K
Date: 2000





Building attached
to D & D
Date: 2000



Aerial of Mill Site
Date: 2004

EXHIBIT 1
Z0437-25 & Z0438-25
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Building I
Date: 2000



Building I
Date: 2000



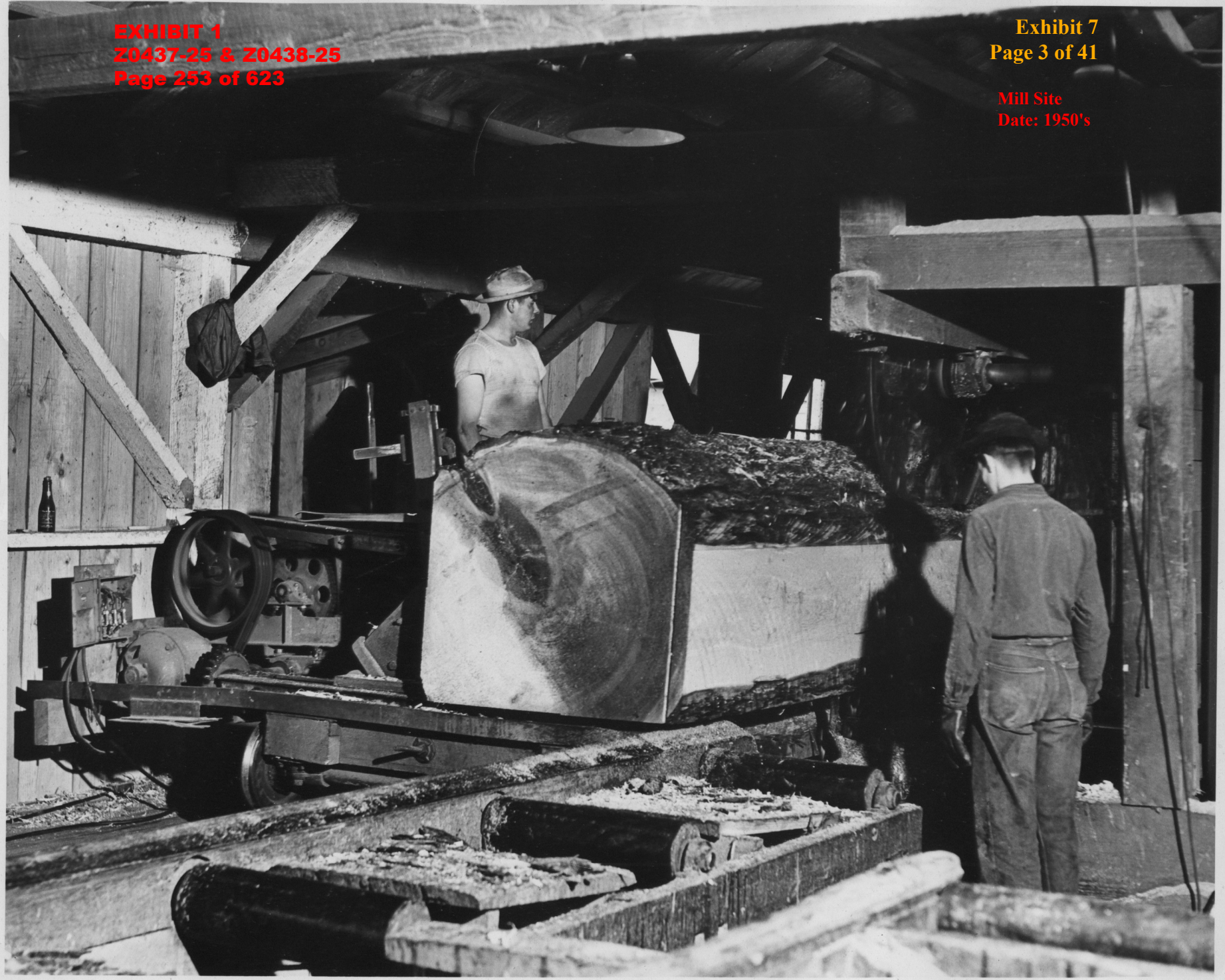
Mill Site
Date: 1950's



Mill Site
Date: 1950's



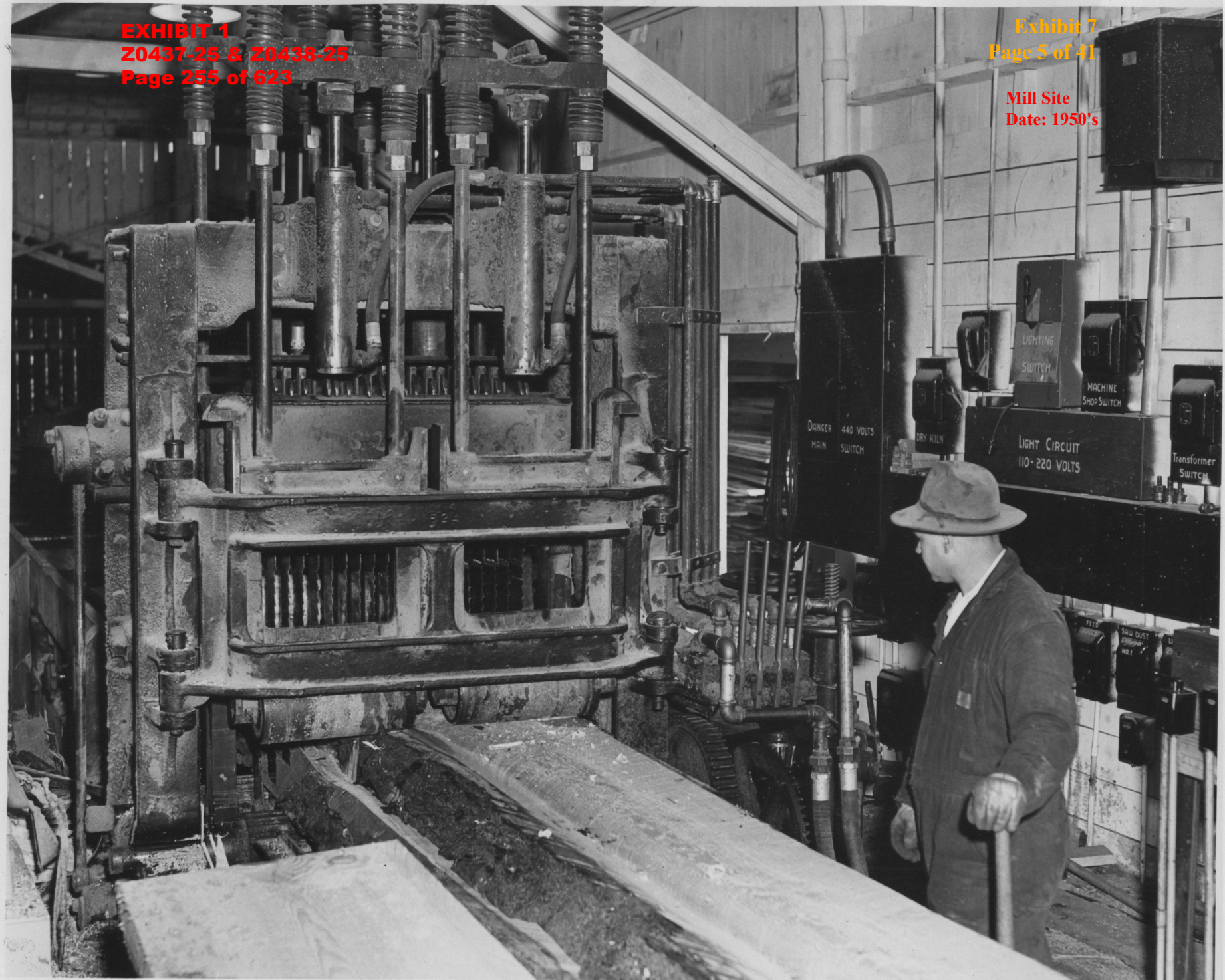
Mill Site
Date: 1950's



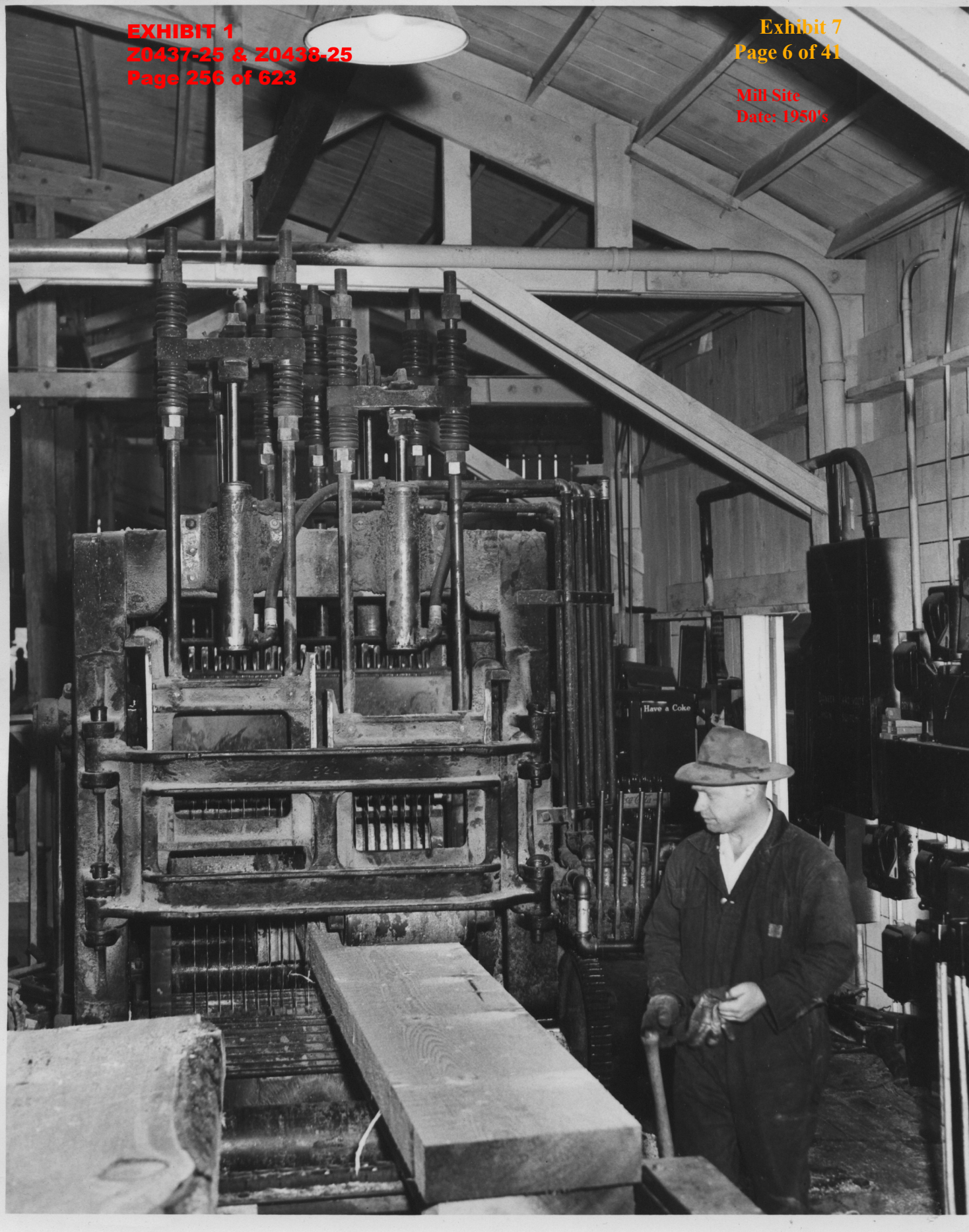
Mill Site
Date: 1950's



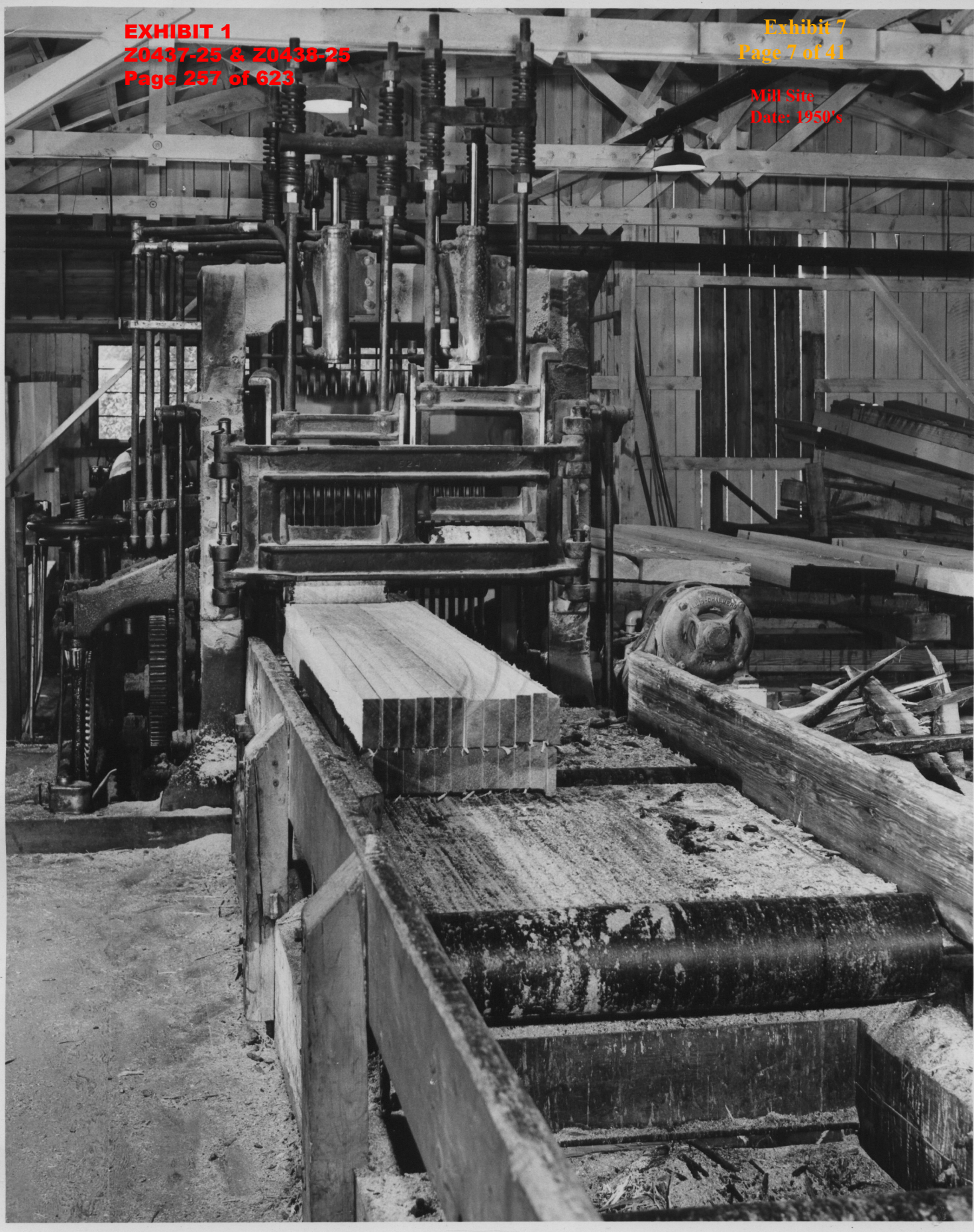
Mill Site
Date: 1950's



Mill Site
Date: 1950's



Mill Site
Date: 1950's



Mill Site
Date: 1950's

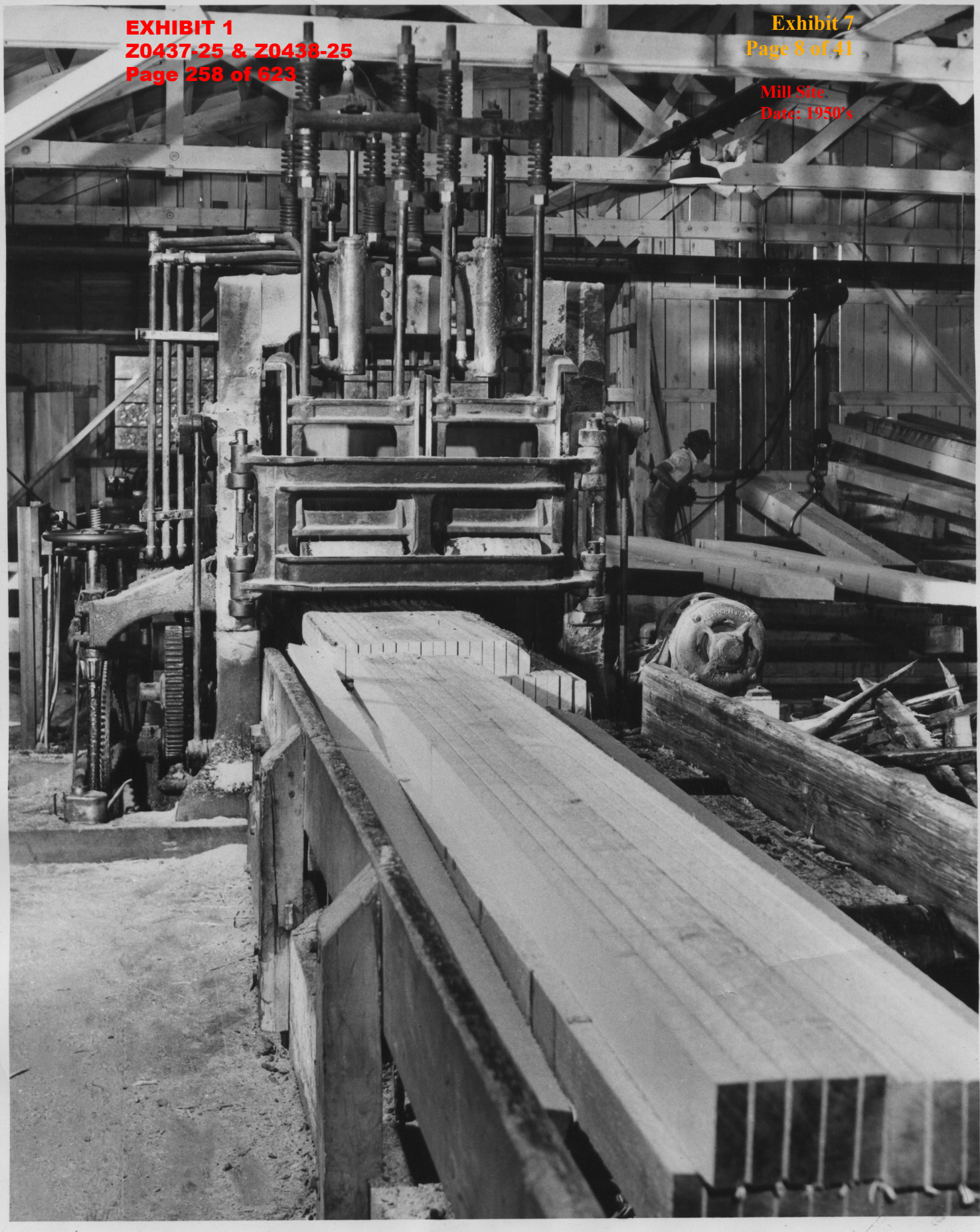


EXHIBIT 1
Z0437-25 & Z0438-25
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Exhibit 7
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Mill Site
Date: 1950's



Mill Site
Date: 1950's



Mill Site
Date: 1950's



Mill Site
Date: 1950's



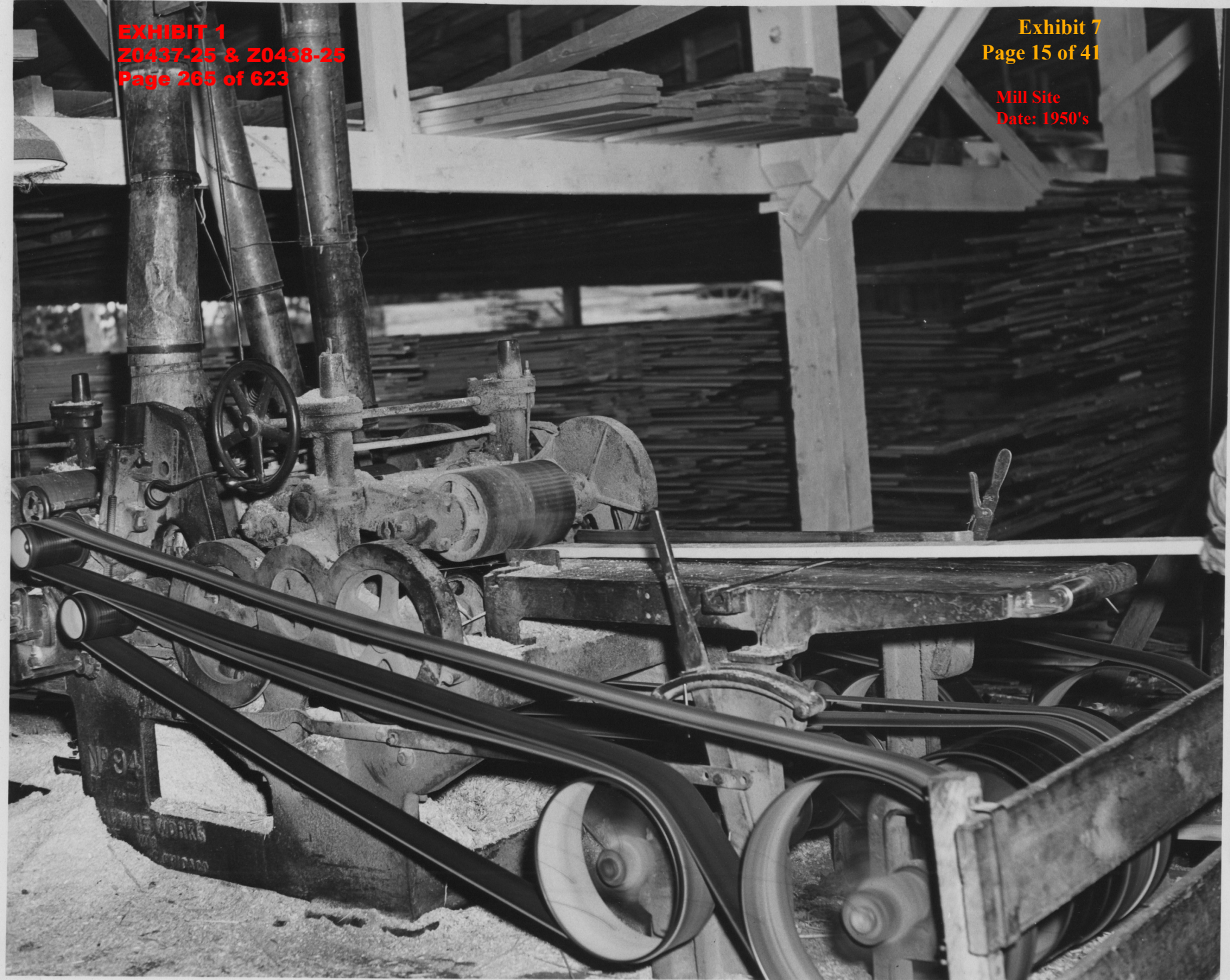
Mill Site
Date: 1950's



Mill Site
Date: 1950's



Mill Site
Date: 1950's



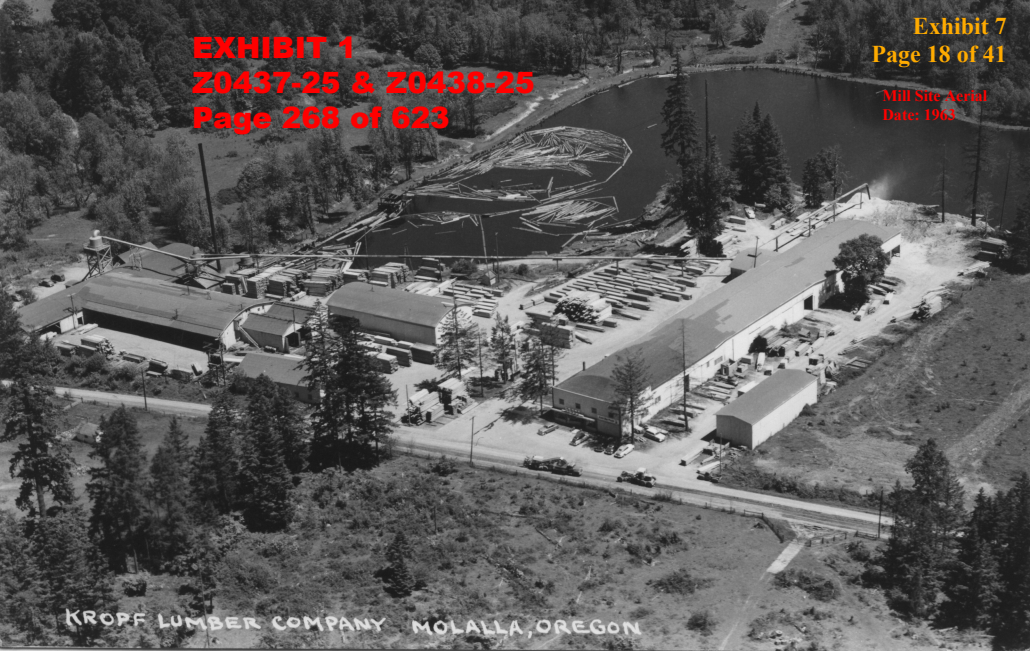
Mill Site
Date: 1950's



Mill Site
Date: 1950's



Mill Site Aerial
Date: 1965



1965 Mill Site Fire
Date: 1965



1965 Mill Site Fire
Date: 1965

1965 Mill Site Fire
Date: 1965

1965 Mill Site Fire
Date: 1965

1965 Mill Site Fire
Date: 1965

1965 Mill Site Fire
Date: 1965

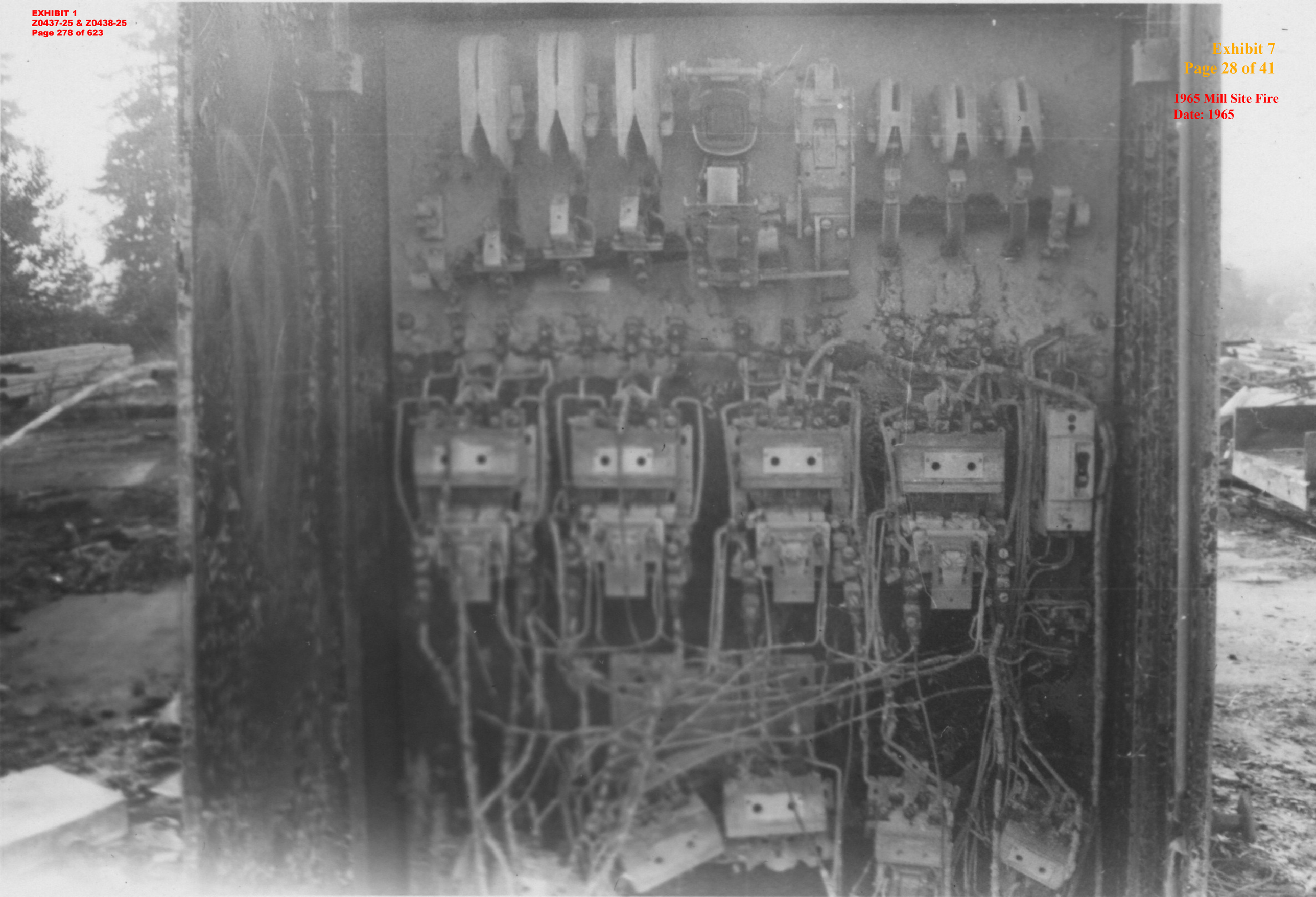
1965 Mill Site Fire
Date: 1965

1965 Mill Site Fire
Date: 1965



1965 Mill Site Fire
Date: 1965

1965 Mill Site Fire
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1965 Mill Site Fire
Date: 1965

1965 Mill Site Fire
Date: 1965

1965 Mill Site Fire
Date: 1965

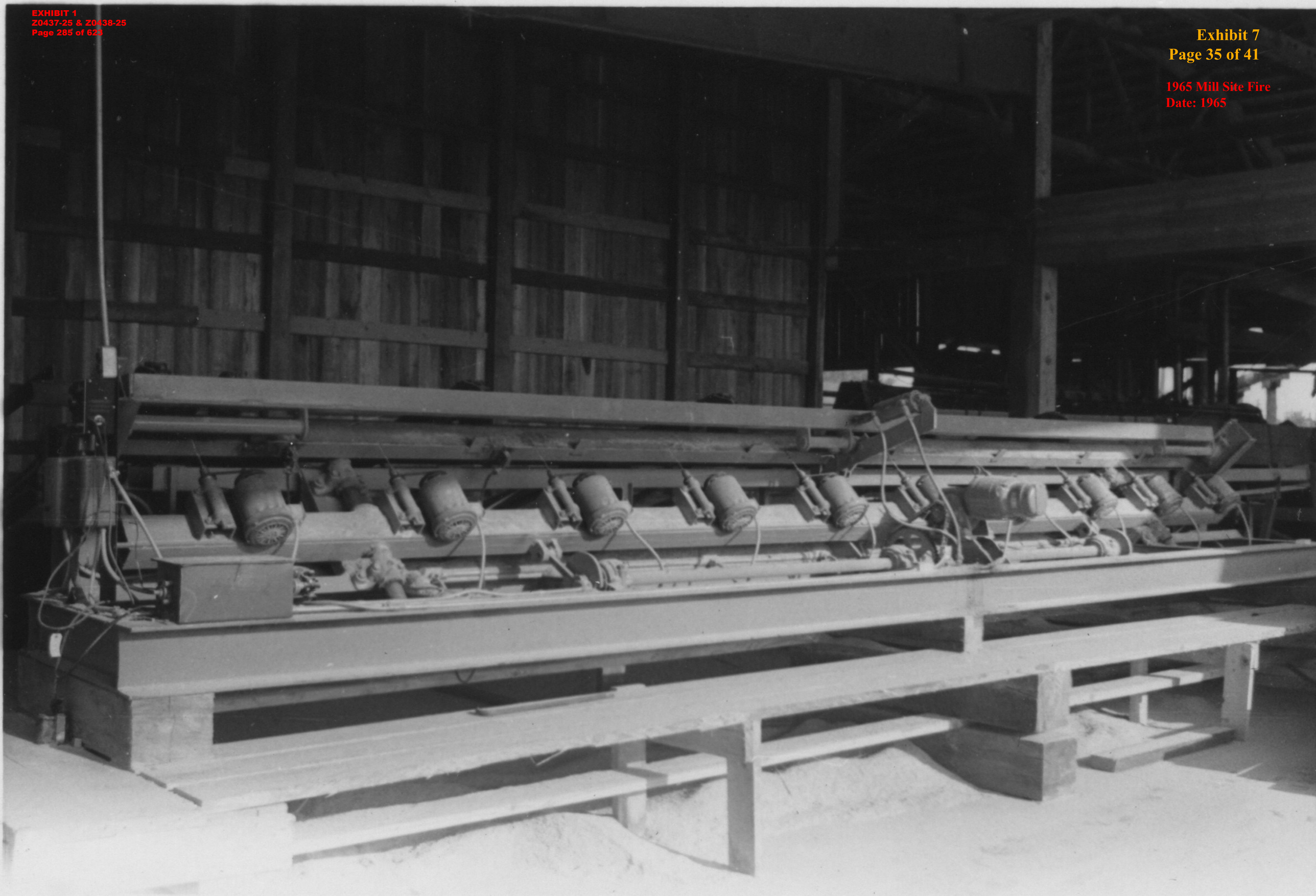
1965 Mill Site Fire
Date: 1965

1965 Mill Site Fire
Date: 1965



1965 Mill Site Fire
Date: 1965

1965 Mill Site Fire
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1965 Mill Site Fire
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1965 Mill Site Fire
Date: 1965

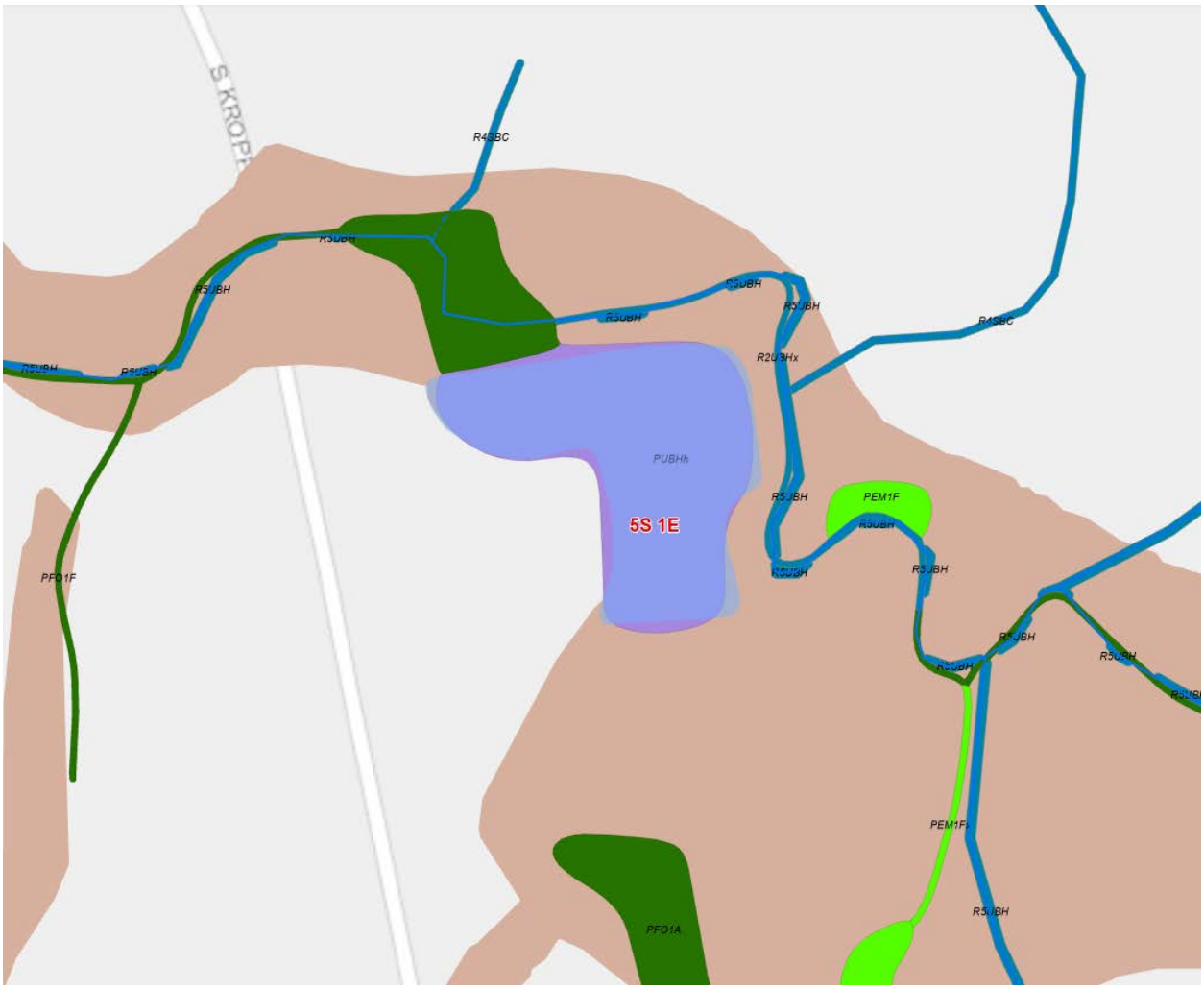


1965 Mill Site Fire
Date: 1965

EXHIBIT 1
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Mill Site Aerial
Date: 1990




5S 1E
PUBHh
PEM1F
PFO1F
PFO1A
R3UBH
R2UBH
R4SBC

MACKENZIE.
Portland, OR ▪ Vancouver, WA ▪ Seattle, WA ▪ Sacramento, CA

October 15, 2025

Clackamas County Road Engineering
Attention: Christian Snuffin
150 Beavercreek Road
Oregon City, OR 97045

Re: **Rock Creek Mill Zone Change and TPR**
ZDO & TPR Analysis- Mill Site
Project Number 2230202.00

Dear Mr. Snuffin:

Mackenzie has prepared this Clackamas County Zoning and Development Ordinance (ZDO) and Transportation Planning Rule (TPR) analysis in support of the proposed zone change from Exclusive Farm Use (EFU) to Rural Industrial (RI) of tax lot 01000.

SITE CONDITIONS

The subject site is located at 33532 S Kropf Road and comprised of tax lot 01000. The site is approximately 20.79 acres. The sawmill use closed in 2000, but the "abandoned mill site" has continued to be used for ancillary forest product uses that do not involve the production of plywood, veneer, hardboard, panel products, pulp, or paper. The site has a total building area of 87,100 square feet (SF). The existing zoning is Exclusive Farm Use (EFU).

The proposed zone change would update the zoning of the site to Rural Industrial (RI). Under ORS 197.719, the use of this site would be limited to exclude retail or commercial uses which would otherwise be allowed under RI zoning. ORS 197.719 allows for all developable area of a site to be used for manufacturing use.

DEVELOPMENT AND LAND USE ASSUMPTIONS

The total acreage of the existing parcel is approximately 20.79 acres, of which approximately 7.62 acres is developable. The uses allowed under the existing and proposed zoning with the highest trip generation are considered for trip comparison, as well as the existing use.

Existing Zoning- EFU

The EFU District is defined in ZDO section 401. Table 401-1 identifies the following as allowed commercial/industrial uses in the EFU District:

- Propagation or harvesting of a forest product.
- Farm use and associated buildings.
- Family childcare home.
- Dog training classes.
- Dog testing trials.

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These uses are exclusively low trip generators. We do not believe that any of these uses should be considered reasonable worst-case assumptions, as the existing use does not fall under these use categories. Instead, we believe the reasonable worst-case land use assumption for the existing scenario to be the continued operation of the existing Pacific Timber Products facility. The continued operation of this site would not require any use permit review.

Proposed Zoning – RI

The RI District is defined in ZDO section 604. Table 601-1 identifies the following as allowed non-commercial or retail uses in the RI District:

- Construction and Maintenance Contractors, including contractors engaged in construction and maintenance of buildings and their component parts. Also included are excavation contractors, building movers, pest control services, and janitorial services.
- Light metal and Fiberglass Fabrication.
- Manufacturing.
- Marijuana production, processing, and wholesaling (indoor only, maximum of 20,000 SF building).
- Pedestrian Amenities.
- Sheet Metal and Machine Shops.
- Small Power Production Facilities.
- Upholstery Shops.
- Warehousing and Distribution, not including mini-storage facilities.
- Wireless Telecommunication Facilities.

TRIP GENERATION

Trip generation estimates were developed with the use of the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition, as well as driveway counts taken on Thursday, April 18, 2024 between 2 PM and 6 PM. The total PM peak hour trip generation was found to be 5 trips between 3:30 and 4:30 PM. For the purposes of this analysis, the most traffic intensive uses for proposed zoning will be considered. For the existing zoning, we will consider the current trip generation of the site.

Of the allowed uses in the RI zone, several have high trip generation potential, namely a manufacturing use or a contractor use. While contractor use has the highest trip rate per building area, the largest such sites surveyed by ITE were 12,000 SF, so this is the maximum area which is reasonable to assign to contractor use. The applicant proposes to limit the site to the existing building footprint, which per ITE rates for a Manufacturing facility results 58 peak hour trips, for a potential increase of 53 trips. For purposes of this analysis, we are assuming the potential increase with the zone change is 53 PM peak hour trips. Trip estimates for the two scenarios along with the existing site trips is presented in Table 1 below.

TABLE 1 – TRIP GENERATION							
Condition	ITE Code	Land Use	Units	Size	PM Peak Hour		
					In	Out	Total
Existing	N/A	Manufacturing	KSF	87.1	2	3	5
Scenario 1	180	Specialty Trade Contractor	KSF	12	7	16	23
Scenario 2	140	Manufacturing	KSF	87.1	18	40	58
Maximum Trip Increase					**16**	**37**	**53**

ZDO AND TPR REQUIREMENTS

Clackamas County ZDO sections 1202.03.C and 1202.03.D have transportation requirements for a zone change which include an analysis of the TPR. These requirements are defined and addressed in this section.

C. The transportation system is adequate and will remain adequate with approval of the proposed zone change. For the purpose of this criterion:

1. Adequate means a maximum volume-to-capacity ratio (v/c), or a minimum level of service (LOS), as established by Comprehensive Plan Tables 5-2a, Motor Vehicle Capacity Evaluation Standards for the Urban Area, and 5-2b, Motor Vehicle Capacity Evaluation Standards for the Rural Area.

Response: Per Table 5-2b, the v/c target at the intersections of Kropf Road with Highway 211 and Highway 213 is 0.75. The LOS standard at the intersection of Kropf Road and Monte Cristo Road is LOS E. Per our analysis, the respective performance measures are v/c of 0.63, v/c of 0.22 and LOS B for the horizon year. Full capacity results and traffic counts are included in Attachment A. The requirement is met.

2. The evaluation of transportation system adequacy shall be conducted pursuant to the Transportation Planning Rule (Oregon Administrative Rules 660-012- 0060).

Response: OAR 660-012-0060.1(c) states that a plan amendment significantly affects a transportation facility if any of the following occur as a result of the update:

A. Types or levels of travel or access that are inconsistent with the functional classification of an existing or planned transportation facility;

Response: Kropf Road is classified as a minor arterial. Per Rural Industrial Policy 4.LL.3.4, an RI site must have access to a road of at least arterial classification. The land use and presumed type of travel are consistent with the functional classification. Per Clackamas County Comprehensive Plan (CCCP), minor arterials carry a "moderate" traffic volume. The increase in roadway volume is estimated to be greatest to the north of the site at 37 PM peak hour trips in both directions, for a total of approximately 182 vehicles in the PM peak hour, which is consistent with the "moderate" traffic volume for minor arterials. Per Clackamas County Roadway Standards Table 2-2, the minimum access spacing on a minor arterial is 400'. The access spacing at the site is approximately 415' to the driveway to the south. The access is consistent with the functional classification, so this standard is not met.

B. Degrade the performance of an existing or planned transportation facility such that it would not meet the performance standards identified in the TSP or comprehensive plan;

Response: As discussed under ZDO requirement 1, this standard is not met.

C. Degrade the performance of an existing or planned transportation facility that is otherwise projected to not meet the performance standards identified in the TSP or comprehensive plan.

Response: During discussion with County staff, no concern about Kropf Road or any of the intersections in the influence area was raised. This standard is not met.

As sections A through C of OAR 660-012-0060 are not met, no significant effect is found on the existing transportation facilities.

3. It shall be assumed that the subject property is developed with the primary use, allowed in the proposed zoning district, with the highest motor vehicle trip generation rate.

Response: As previously discussed, the applicant proposes to limit the site to the existing building size of 87,100 SF, with a manufacturing use having the highest trip rate for allowed uses that would occupy a building of that size. The requirement is met.

4. The methods of calculating v/c and LOS are established by the Clackamas County Roadway Standards.

Response: Volume to capacity (v/c) and Level of Service (LOS) were calculated using Synchro 12 software, which uses HCM 7 methodology. Clackamas County Roadway Standards Section 295.8 requires the use of the most recent version of HCM methodology to calculate performance measures for unsignalized intersections. The requirement is met.

5. The adequacy standards shall apply to all roadways and intersections within the impact area of the proposed zone change. The impact area shall be identified pursuant to the Clackamas County Roadway Standards.

Response: Per section 295.3.b of the Clackamas County Roadway Standards, the impact area is determined via conversation with county staff on a case-by-case basis. Our conversations with county staff identified the intersections included in this analysis. The requirement is met.

6. A determination regarding whether submittal of a transportation impact study (TIS) is required shall be made based on the Clackamas County Roadway Standards, which also establish the minimum standards to which a transportation impact study shall adhere.

Response: Per Clackamas County Roadway Standards section 295.2, the requirement of a TIS is based on Clackamas Country Roadway Engineering assessment. We have completed preliminary capacity calculations as part of this TPR analysis and found no intersections to be over capacity with the increase in trips. Therefore, no additional analysis nor a full TIS would be required.

7. Notwithstanding Subsections 1202.03(C)(4) through (6), motor vehicle capacity calculation methodology, impact area identification, and transportation impact study requirements are established by the ODOT Transportation Analysis Procedures Manual for roadways and intersections under the jurisdiction of the State of Oregon.

Response: As noted above, v/c and LOS were calculated using Synchro 12 software, which uses HCM 7 methodology, which is also consistent with requirements of the ODOT Analysis Procedures Manual (APM). Additionally, ODOT requires volumes be seasonally adjusted for analysis of their intersections. The adjustment was made as required in the APM,

using data from ATR 03-013, which is located near the intersection of Highway 213 and Kropf Road. The requirement is met.

As requirements 1 through 7 for adequacy are all met, the overall standard is met. The transportation facilities are adequate to support the proposed zone change.

D. Safety of the transportation system is adequate to serve the level of development anticipated by the proposed zone change.

Response: Historical crash data reported for the study area intersections were evaluated to identify patterns that might indicate a safety concern. Crash data for the 5-year period of 2018 through 2022 were obtained from ODOT's online crash data system and used to review crash patterns and estimate intersection crash rates.

The crash evaluation is summarized in Table 2 below. The raw crash data is provided in Attachment B.

TABLE 2 – INTERSECTION CRASH RATES

Intersection (Traffic Control Type)	Year					Total Crashes	ADT	Crash Rate
	2018	2019	2020	2021	2022			
Highway 211/ Kropf Road (TWSC)	9	4	2	1	3	19	11,268	0.77
Monte Cristo Road/ Kropf Road (TWSC)	0	0	0	0	0	0	2,376	0.00
Highway 213/ Kropf Road (TWSC)	0	0	1	1	2	4	8,916	0.20

Intersection Crash Rates

Intersection crash rates were calculated as a measure of the number of crashes occurring per one million entering vehicles (MEV) per year. The intersection crash rate is calculated by dividing the average number of crashes per year by the MEV per year. An average daily traffic (ADT) volume was estimated by multiplying the PM peak hour volume at each intersection by a peak-to-daily factor, or k-factor, of 12 obtained from ODOT ATR 03-013.

All intersections have crash rates below 1.0 MEV; therefore, no further analysis is recommended based on crash rate.

ODOT SPIS List

The intersection of Highway 211 and Kropf Road is listed on the 2022 ODOT Safety Priority Index System (SPIS) list as a 95th to 99th percentile intersection. This is due to the relatively large crash volume in 2018 and the fact that a fatal crash occurred at this intersection in 2018. In 2019, an intersection safety improvement project was completed by Clackamas County. As the decreased crashes post 2019 demonstrate, this intersection's safety has improved.

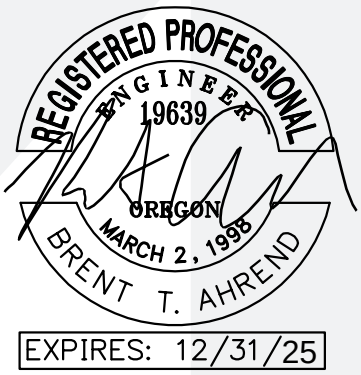
With the small potential increase in traffic volumes associated with the zone change, safety of the transportation system is adequate.

RECCOMENDATIONS

The applicant seeks a comprehensive plan amendment and zoning map amendment to update the zoning of the site from EFU to RI. Based on a worst-case scenario under RI zoning, the site would have potential for an increased trip generation over the current trip generation. The increase would not result in a significant effect on the capacity, classification or safety of the transportation system.

Sincerely,

Brent Ahrend, PE
Associate Principal | Traffic Engineer



Enclosure(s): Attachment A – Capacity Analysis Letter
Attachment B – Crash Data

c: Mitch Magenheimer – M&S Investments LLC
Andrew Stamp, Spencer Petrauski – VF Law
Clara Layton – Mackenzie

MACKENZIE.

Portland, OR ▪ Vancouver, WA ▪ Seattle, WA ▪ Sacramento, CA

October 7, 2025

Clackamas County Road Engineering
Attention: Christian Snuffin
150 Beavercreek Road
Oregon City, Oregon 97045

Re: **Rock Creek Mill Zone Change & TPR**
Capacity Analysis
Project Number 2230202.00

Dear Mr. Snuffin:

Mackenzie has prepared this capacity analysis to address the potential impacts associated with the proposed zone change at 33532 S Kropf Road tax lot 01000 on Tax Map 5S, 1E, Sec. 21 in Molalla, Oregon.

EXISTING CONDITIONS

Traffic counts were collected at the study intersections and site driveways on Thursday, April 18, 2024. The intersection counts were taken from 3 PM to 6 PM, and the site driveway counts were taken from 2 PM to 6 PM. Traffic Counts are provided in Attachment B. The collected volumes were then adjusted by a seasonal adjustment factor at the intersections of Highway 211 and Kropf Road and Highway 213 and Kropf Road. The seasonal adjustment factor was derived from Automatic Traffic Recorder (ATR) 03-013, which is located near the intersection on Highway 213 and Kropf Road, consistent with the ODOT Analysis Procedures Manual (APM) with a peak month of July. The calculated seasonal adjustment factor was 1.09.ATR data is provided in Attachment C.

Figure 4 of Attachment A presents the existing traffic volumes and Figure 5 presents the volumes with a seasonal adjustment for the highways.

PRE-DEVELOPMENT CONDITIONS

Pre-development volumes were developed by adding background growth to the existing conditions volumes. The background growth consists of a 1% linear annual growth rate, from the current year 2024 to 2033, which is the horizon year of the Clackamas County Transportation System Plan. The 1% annual growth rate was calculated using existing and projected 2040 ADT volumes provided on ODOT TransGIS at the segments of Highway 211 and Highway 213 nearest the site. Figure 6 presents the background growth volumes and Figure 7 presents the 2033 Pre-Development volumes.

TRIP GENERATION

Trip generation estimates were developed with the use of the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition as well as driveway counts taken on Thursday, April 18, 2024 between 2 PM and 4 PM. The total PM peak hour trip generation was found to be 5 trips. For the purposes of this analysis, the most traffic-intensive uses for proposed zoning will be considered. For the existing zoning, we will consider the current trip generation of the site.

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Of the allowed uses in the RI zone, several have high trip generation potential, namely the manufacturing use developed to its full square footage potential. While contractor use has the highest trip rate per SF, the largest such sites surveyed by ITE were 12,000 SF, so this is the maximum area which is reasonable to assign to contractor use. The applicant proposes to limit the site to the existing building footprint. This will result in an increase of 53 PM peak hour trips when the manufacturing use is assumed, which is the reasonable worst-case scenario. This is presented in Table 1 below.

TABLE 1 – TRIP GENERATION

Condition	ITE Code	Land Use	Units	Size	PM Peak Hour		
					In	Out	Total
Existing	N/A	Manufacturing	KSF	87.1	2	3	5
Future	140	Manufacturing	KSF	87.1	18	40	58
Maximum Trip Increase					**16**	**37**	**53**

These potential trips generated by the mill site zone change were assigned to the roadways as shown in Figure 8.

POST-DEVELOPMENT CONDITIONS

The post-development volumes were developed by taking the sum of the pre-development conditions and the increase in trip generation at the mill site. Volumes are presented in Figure 9 for the 2033 Post-Development condition with the zone change.

CAPACITY RESULTS

Intersection Operation Analysis

Intersection capacity is generally characterized by three measures: volume-to-capacity (v/c) ratio; average delay (measured in seconds); and level-of-service (LOS).

- V/C ratio is a measurement of capacity used by a given traffic movement or for an entire intersection. It is defined by the rate of traffic flow or traffic demand divided by the theoretical capacity.
- Delay is a measurement of the average vehicle delay resulting from the type of traffic control and the conflicting traffic volumes. An average delay can be expressed for a certain movement, a specific lane, a single approach, or for an entire intersection.

LOS is an expression of the average control delay (in seconds) experienced by drivers as represented by a letter on the scale from A through F. As defined in the Highway Capacity Manual (HCM), LOS A represents optimum operating conditions and minimum delay, while LOS F indicates lengthy delays and often over-capacity conditions.

Performance Measures

The study intersections Kropf Road with Highway 211 and Highway 213 are on non-expressway District Highways outside an urban growth boundary on rural lands. Per the Oregon Highway Plan Table 6, the performance standard is a v/c ratio of 0.75.

The intersection of Kropf Road and Monte Cristo Road is subject to Clackamas County performance standards outlined in Clackamas County Comprehensive Plan Table 5-2b. As an unsignalized intersection on county roads outside of a city, the applicable performance standard is LOS E.

Methodology

The v/c ratio and LOS were calculated using Synchro 12 software, which uses HCM 7th Edition methodology, as required by Clackamas County Roadway Standards Section 295.8 and the ODOT Analysis Procedures Manual (APM).

Findings

Table 2 below summarizes the PM peak hour intersection operations results. The lane group with the maximum v/c ratio and the lane group with the maximum delay are reported. Full capacity results are included in Attachment D.

TABLE 2 – INTERSECTION OPERATIONS – PM PEAK HOUR

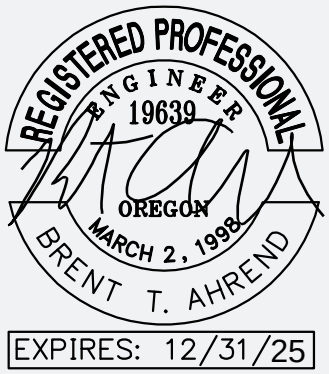
Intersection		Criteria	Analysis Results		
			Existing	Horizon Year without Zone Change	Horizon Year with Zone Change
1	Highway 211/ Kropf Road	Max v/c	0.48 (SBL+T)	0.60 (SBL+T)	0.63 (SBL+T)
		Max LOS-Delay	D-31.7 (SBL+T)	E-42.7 (SBL+T)	E-46.4 (SBL+T)
2	Mill Site Access/ Kropf Road	Max v/c	0.01 (WB)	0.01 (WB)	0.05 (WB)
		Max LOS-Delay	A-8.9 (WB)	A-8.9 (WB)	A-9.3 (WB)
3	Traeger Site Access/ Kropf Road	Max v/c	0.01 (WB)	0.01 (WB)	0.01 (WB)
		Max LOS-Delay	A-9.0 (WB)	A-9.1 (WB)	A-9.1 (WB)
4	Monte Cristo Road/ Kropf Road	Max v/c	0.08 (EB)	0.08 (EB)	0.09 (EB)
		Max LOS-Delay	B-10.2 (WB)	B-10.3 (WB)	B-10.5 (WB)
5	Highway 213/ Kropf Road	Max v/c	0.17 (SB)	0.20 (SB)	0.22 (SB)
		Max LOS-Delay	C-17.8 (NB)	C-19.9 (NB)	C-20.5 (SB)

Acronyms: EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound, L = Left, T = Through, R = Right

As shown in Table 2, all intersections are below the applicable performance standards under all analysis scenarios.

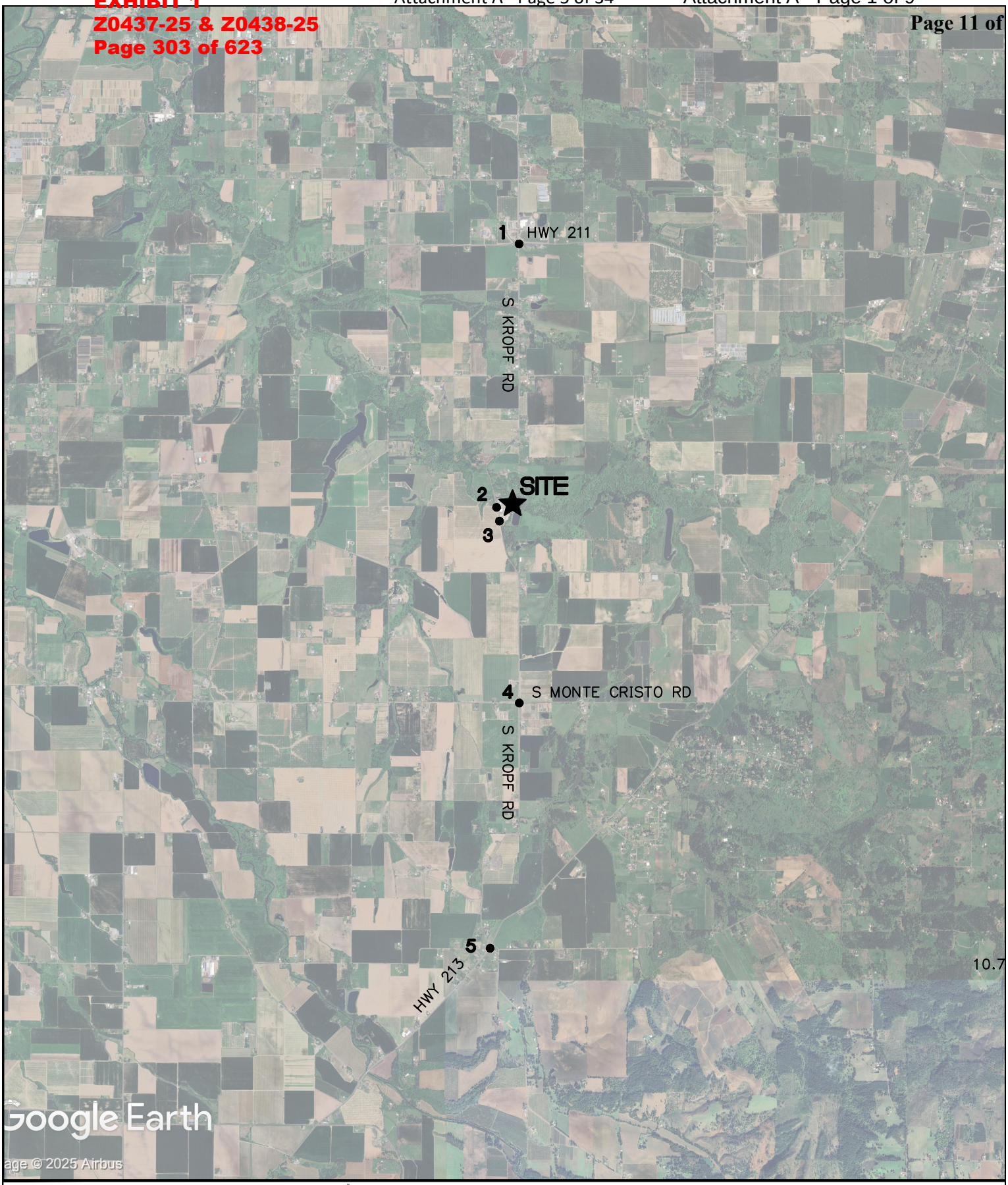
Sincerely,

Brent Ahrend, PE
Associate Principal | Traffic Engineer



Enclosure(s): Attachment A – Figures
Attachment B – Traffic Count Summaries
Attachment C – Seasonal Adjustment
Attachment D – Capacity Calculations

c: Mitch Magenheimer – M&S Investments LLC
Spencer Petrauski, Andrew Stamp – VF Law
Clara Layton – Mackenzie



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VICINITY MAP

ROCK CREEK MILL TPR ANALYSIS
CLACKAMAS COUNTY, OREGON

FIGURE 1



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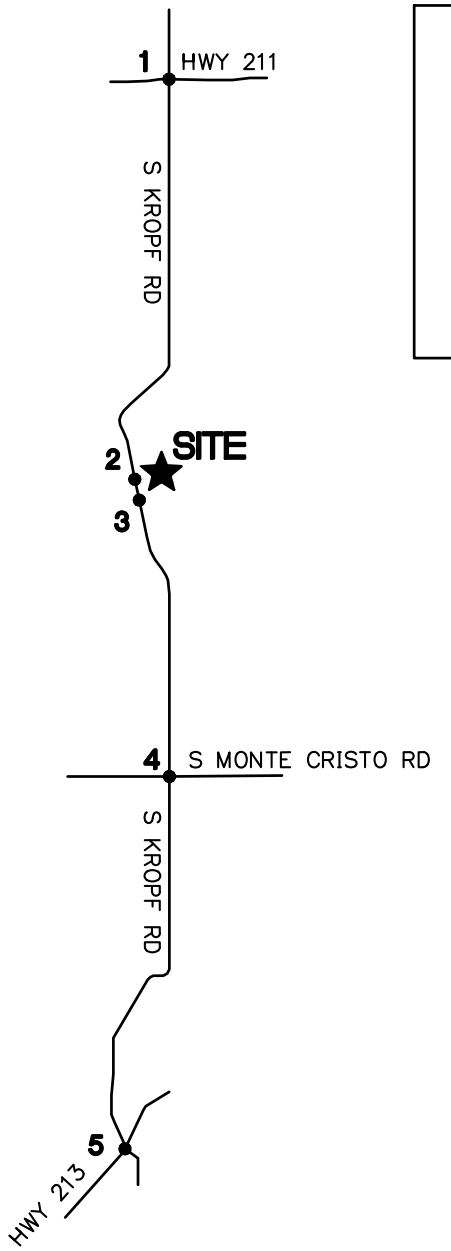
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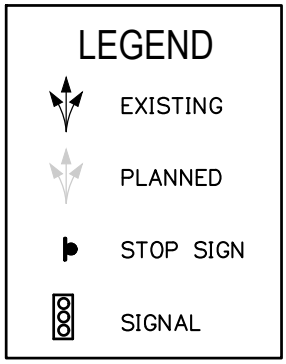
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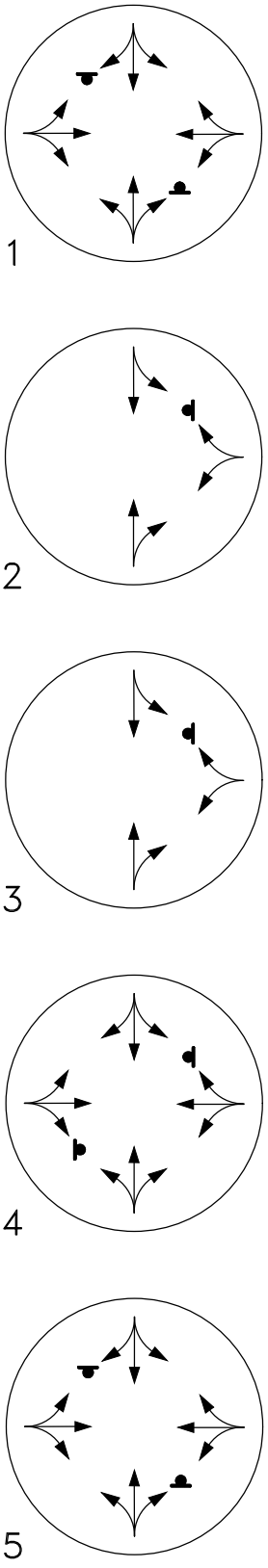
SITE PLAN

ROCK CREEK MILL TPR ANALYSIS
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FIGURE
2







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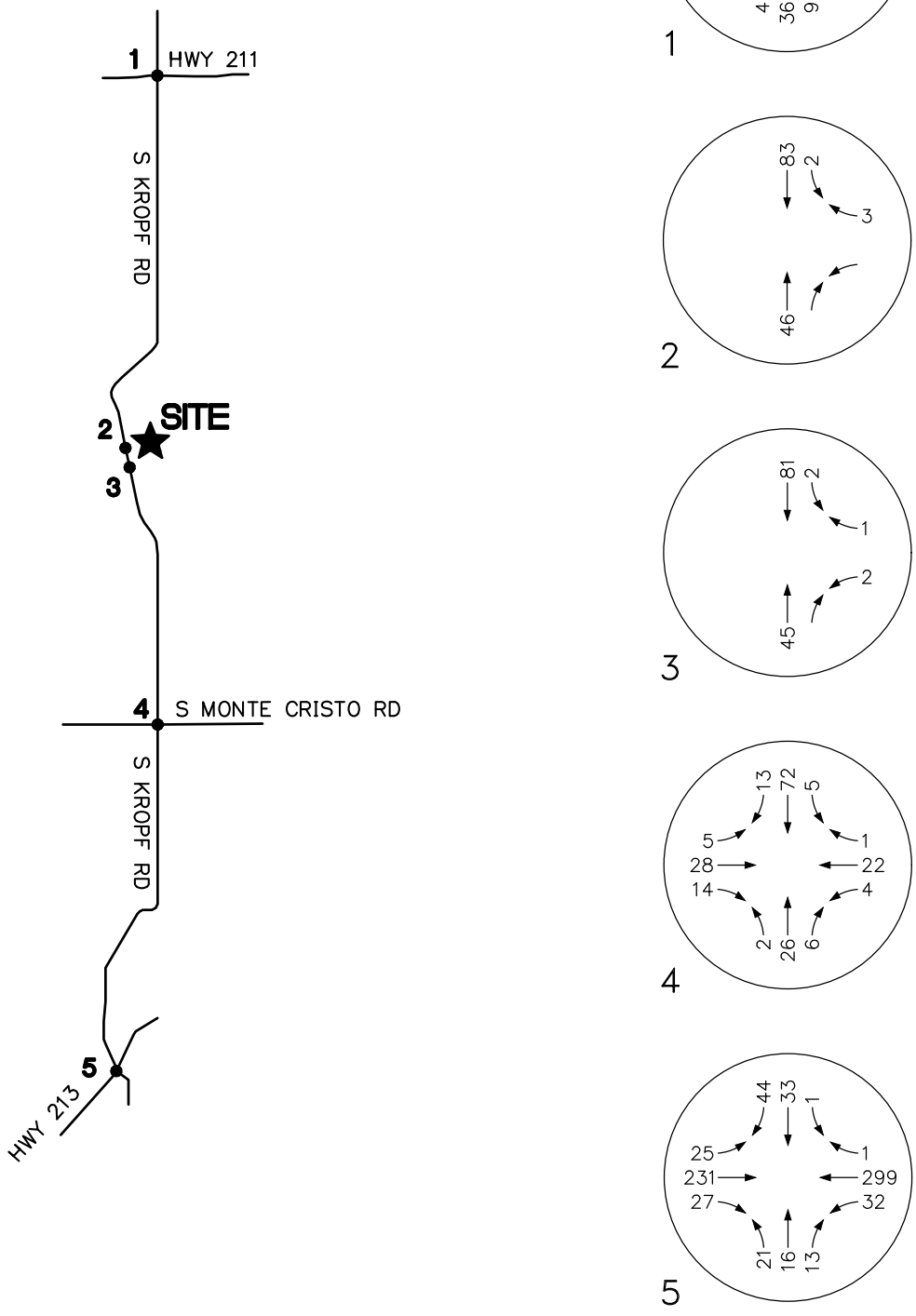
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EXISTING + PLANNED TRAFFIC CONTROL DEVICES + LANE CONFIGURATIONS

ROCK CREEK MILL TPR ANALYSIS
CLACKAMAS COUNTY, OREGON

FIGURE
3



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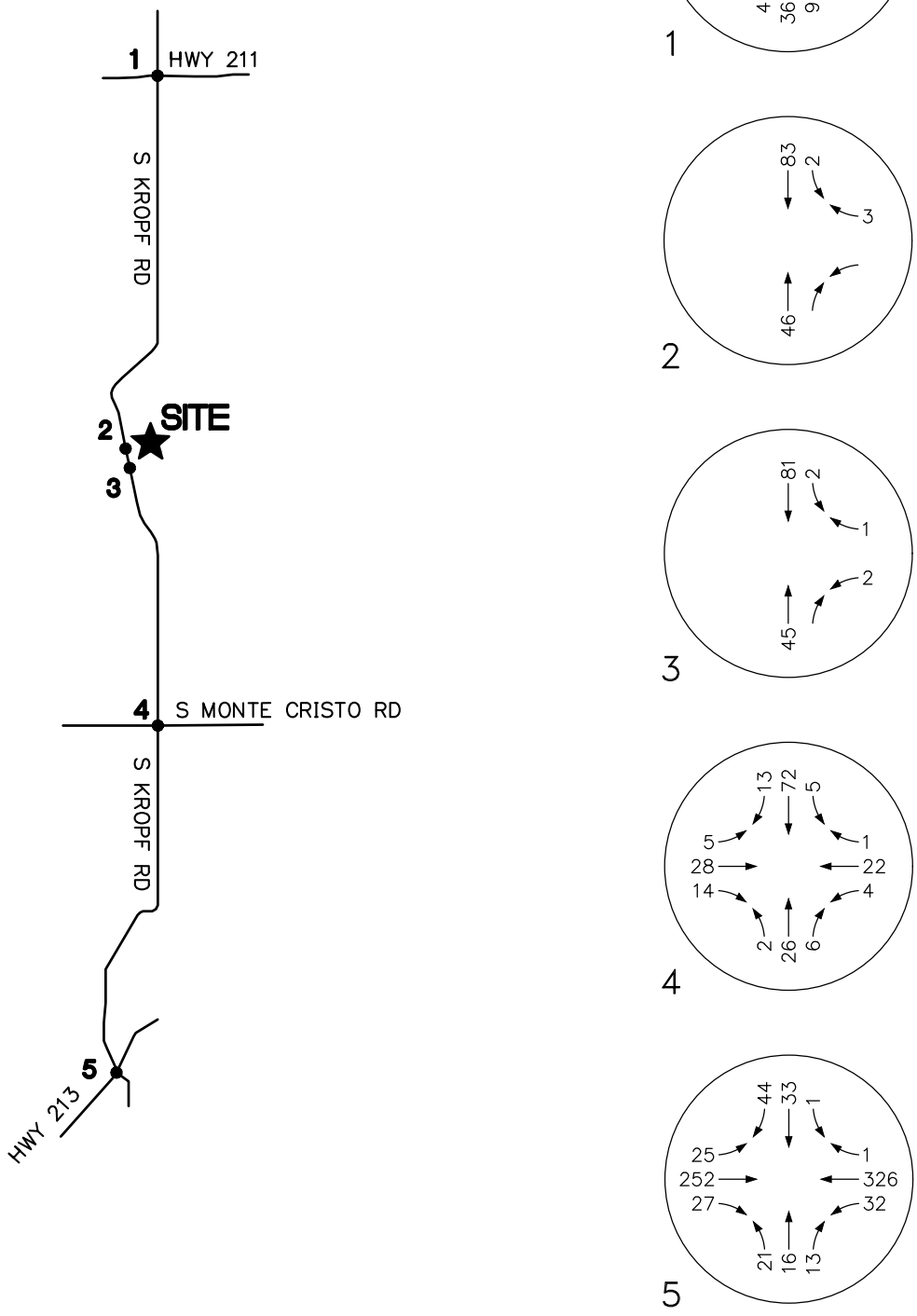
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2024 EXISTING TRAFFIC VOLUMES - PM PEAK HOUR

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CLACKAMAS COUNTY, OREGON

FIGURE
4



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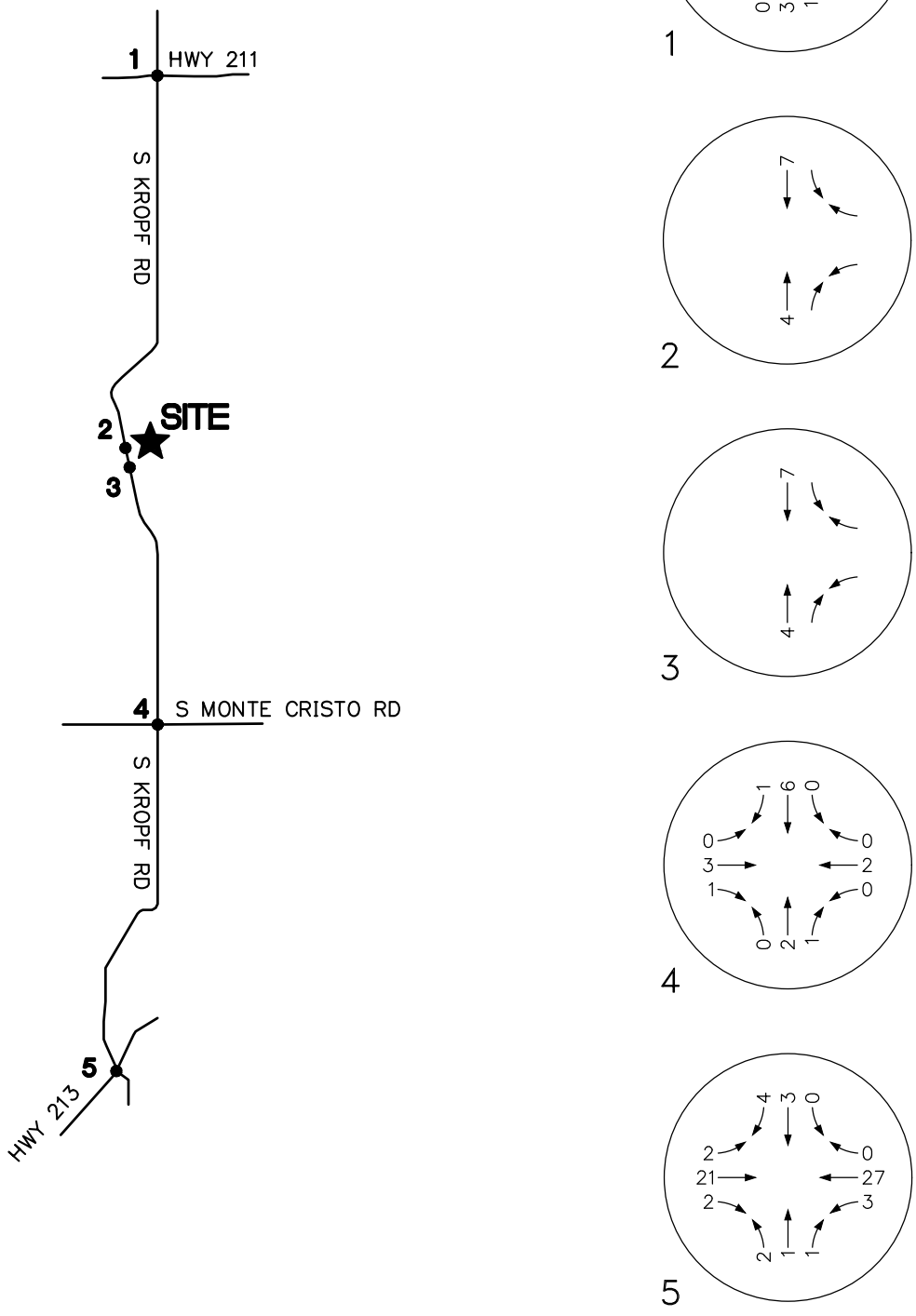
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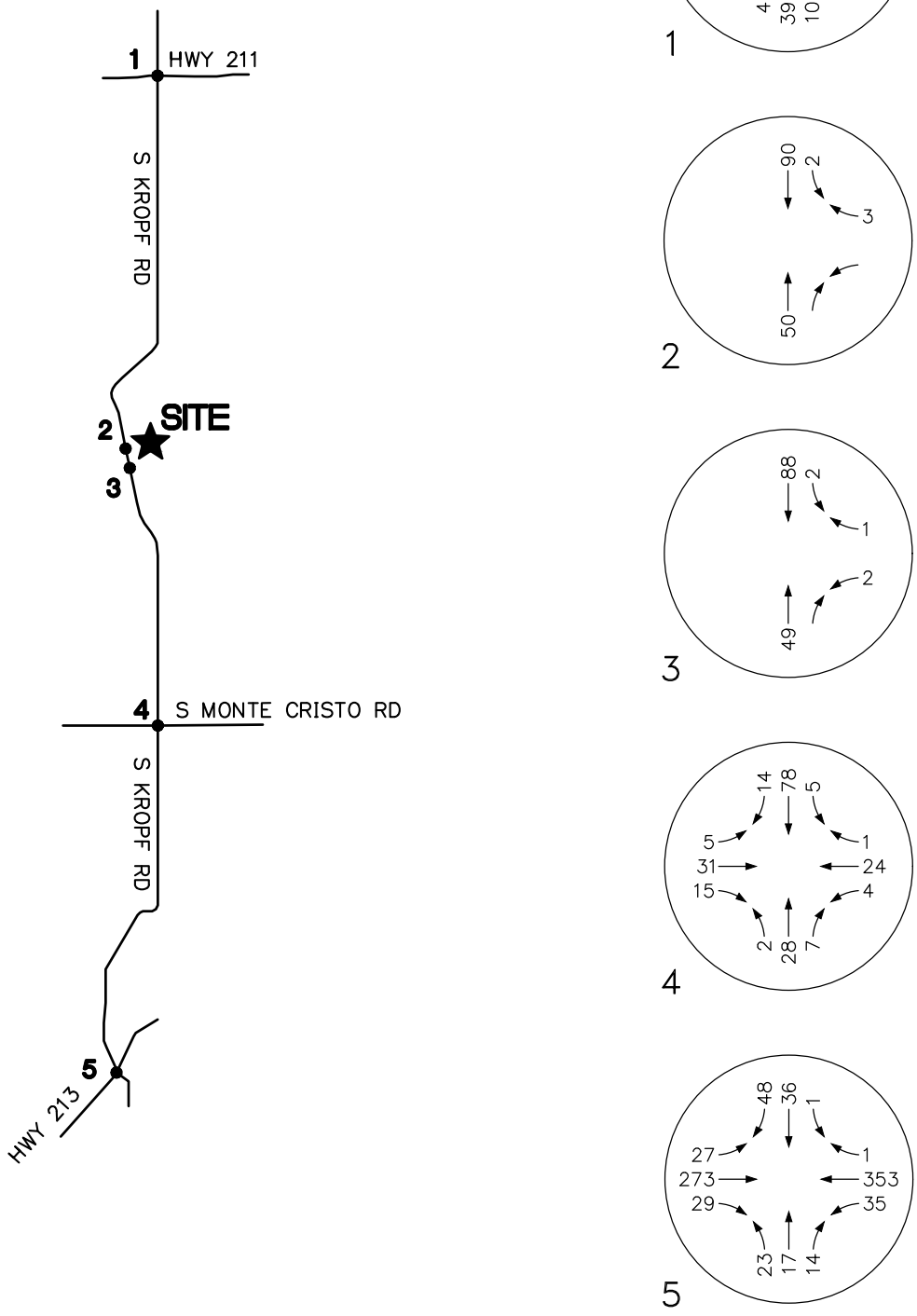
2024 SEASONALLY ADJUSTED TRAFFIC VOLUMES - PM PEAK HOUR

ROCK CREEK MILL TPR ANALYSIS
CLACKAMAS COUNTY, OREGON

FIGURE
5



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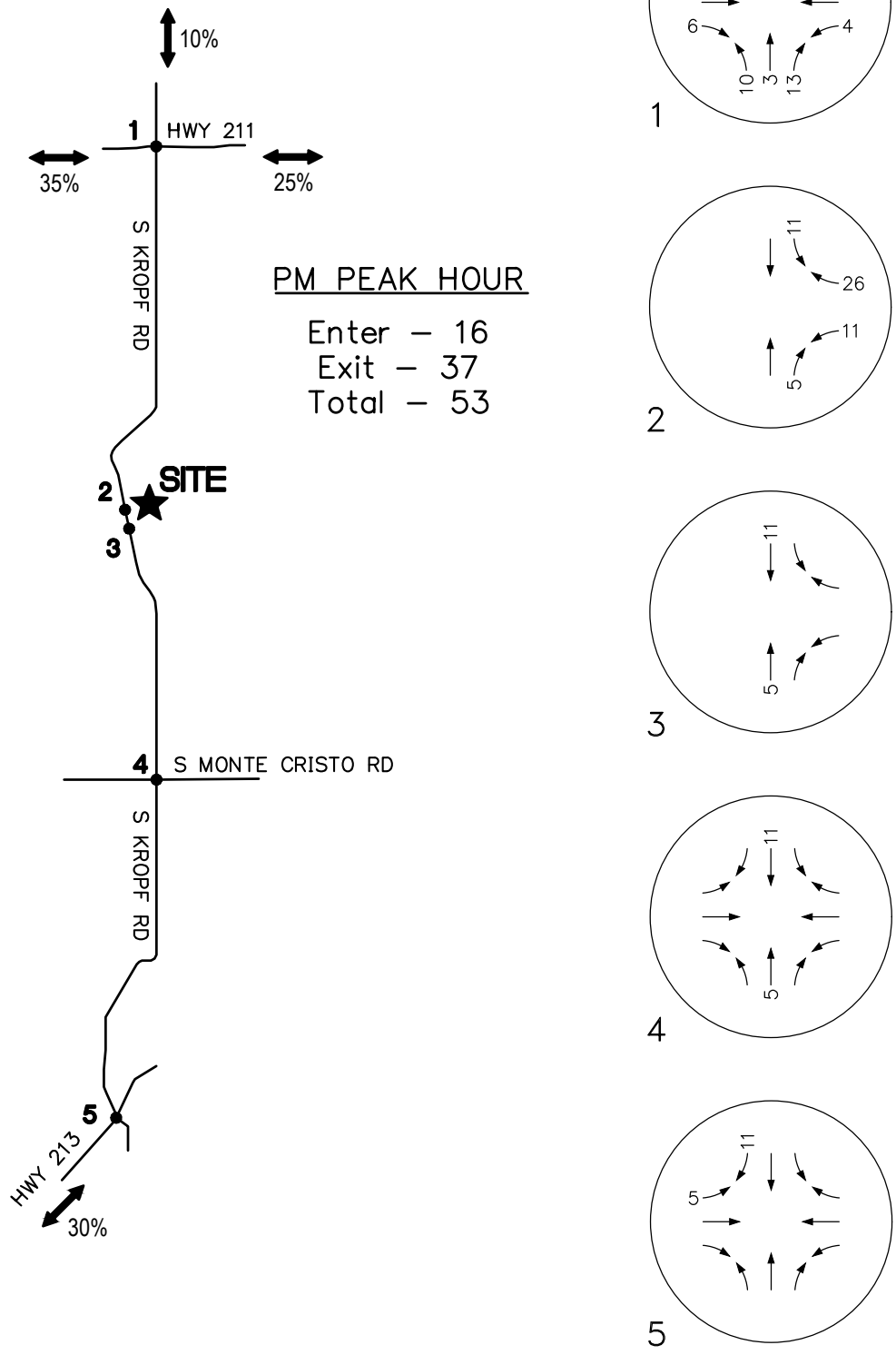
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2033 PRE-DEVELOPMENT TRAFFIC VOLUMES - PM PEAK HOUR

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FIGURE
7



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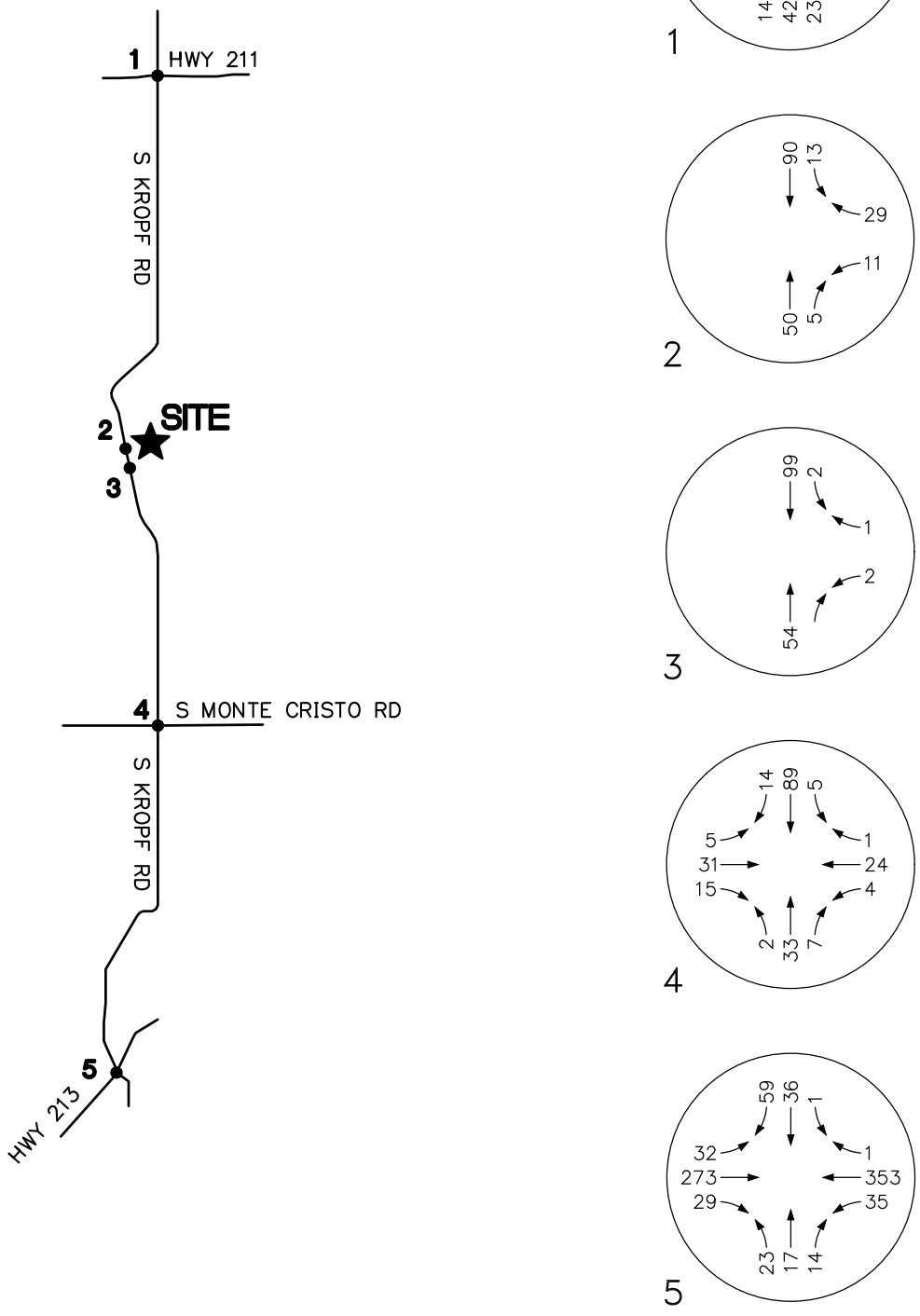
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NET NEW TRIP DISTRIBUTION + TRAFFIC ASSIGNMENT - PM PEAK HOUR

ROCK CREEK MILL TPR ANALYSIS
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FIGURE 8



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Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: S Kropf Rd -- Cascade Hwy

213

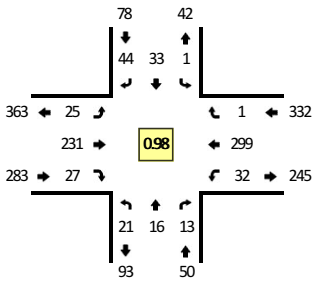
CITY/STATE: Woodburn, OR

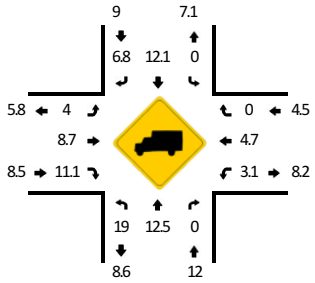
QC JOB #: 16562410

DATE: Thu, Apr 18 2024

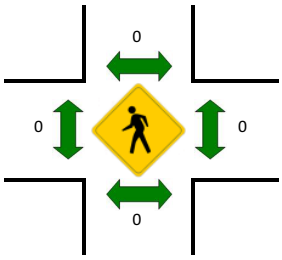
Peak-Hour: 4:15 PM -- 5:15 PM

Peak 15-Min: 5:00 PM -- 5:15 PM

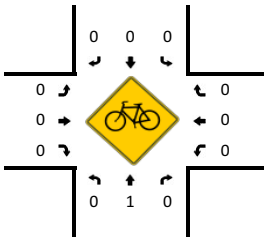


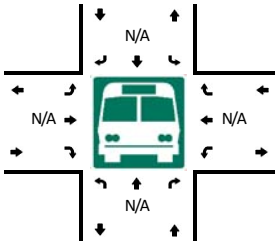


TRUE DATA TO IMPROVE MOBILITY

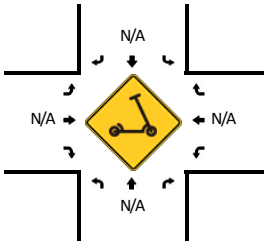












15-Min Count Period Beginning At	S Kropf Rd (Northbound)				S Kropf Rd (Southbound)				Cascade Hwy (Eastbound)				Cascade Hwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	7	2	7	0	1	3	8	0	7	69	6	0	6	70	0	0	186	
3:15 PM	0	4	6	0	1	3	4	0	5	66	8	0	3	66	1	0	167	
3:30 PM	5	1	5	0	0	5	12	0	3	51	8	0	5	68	0	0	163	
3:45 PM	7	3	2	0	0	10	1	0	2	57	6	0	10	80	1	0	179	695
4:00 PM	4	1	4	0	2	5	10	0	3	64	3	0	6	69	0	0	171	680
4:15 PM	7	4	3	1	0	10	5	0	9	53	7	0	12	70	1	0	182	695
4:30 PM	3	5	3	0	1	12	12	0	6	55	5	0	6	80	0	0	188	720
4:45 PM	5	6	2	0	0	3	14	0	3	64	11	0	9	66	0	0	183	724
5:00 PM	5	1	5	0	0	8	13	0	7	59	4	0	5	83	0	0	190	743
5:15 PM	10	1	3	0	2	8	12	0	7	50	2	0	7	78	0	0	180	741
5:30 PM	2	5	11	0	0	11	11	0	4	65	4	0	8	67	0	1	189	742
5:45 PM	3	1	2	0	0	6	12	0	2	42	4	0	9	62	0	0	143	702

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	20	4	20	0	0	32	52	0	28	236	16	0	20	332	0	0	760
Heavy Trucks	12	0	0		0	4	0		4	12	0		0	16	0		48
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	4	0		0	0	0		0	0	0		0	0	0		4
Scooters																	

Comments:

Report generated on 4/25/2024 1:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: S Kropf Rd/Marquam Canby Rd -- North Site Driveways

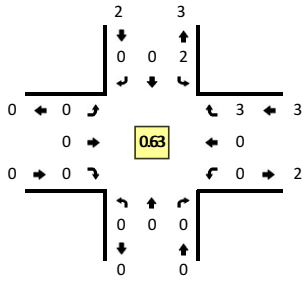
QC JOB #: 16562411

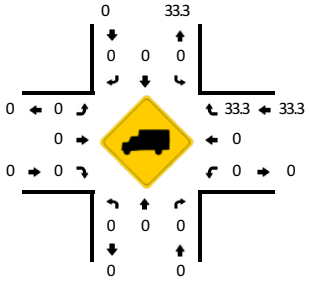
CITY/STATE: Molalla, OR

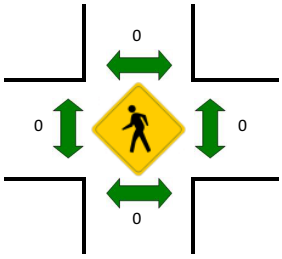
DATE: Thu, Apr 18 2024

Peak-Hour: 3:30 PM -- 4:30 PM

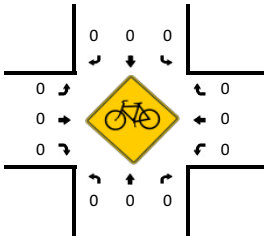
Peak 15-Min: 4:15 PM -- 4:30 PM

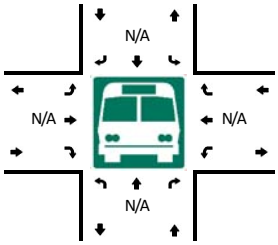




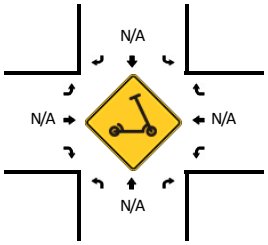












15-Min Count Period Beginning At	S Kropf Rd/Marquam Canby Rd (Northbound)				S Kropf Rd/Marquam Canby Rd (Southbound)				North Site Driveways (Eastbound)				North Site Driveways (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	
2:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
3:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
4:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	5
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	4	0	0	0	0	0	0	0	0	0	4	0	8
Heavy Trucks	0	0	0		0	0	0		0	0	0		0	0	0		0
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 4/25/2024 1:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: S Kropf Rd/Marquam Canby Rd -- South Site Driveways

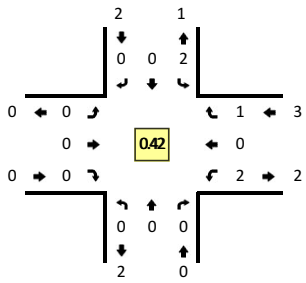
QC JOB #: 16562412

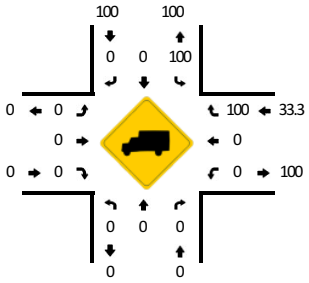
CITY/STATE: Molalla, OR

DATE: Thu, Apr 18 2024

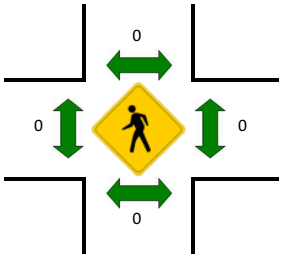
Peak-Hour: 2:00 PM -- 3:00 PM

Peak 15-Min: 2:30 PM -- 2:45 PM

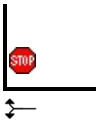


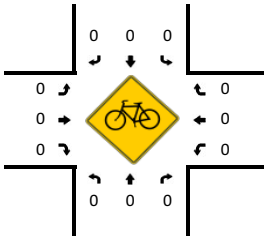


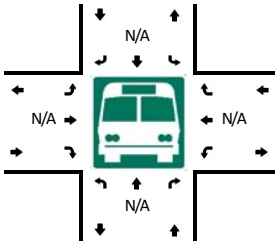
TRUE DATA TO IMPROVE MOBILITY



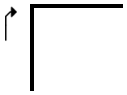


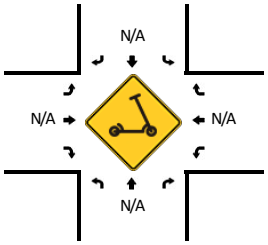












15-Min Count Period Beginning At	S Kropf Rd/Marquam Canby Rd (Northbound)				S Kropf Rd/Marquam Canby Rd (Southbound)				South Site Driveways (Eastbound)				South Site Driveways (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
2:00 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	
2:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:30 PM	0	0	0	0	1	0	0	0	0	0	0	0	2	0	0	0	3	
2:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	5
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
3:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	3
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	3
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:15 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	2

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	0	0	0	0	4	0	0	0	0	0	0	0	8	0	0	0	12
Heavy Trucks	0	0	0		4	0	0		0	0	0		0	0	0		4
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 4/25/2024 1:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: S Kropf Rd -- S Monte Cristo Rd

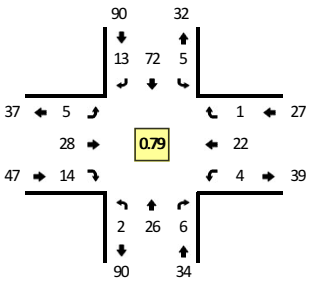
QC JOB #: 16562409

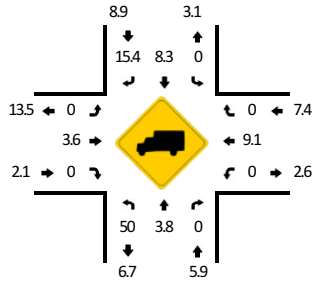
CITY/STATE: Woodburn, OR

DATE: Thu, Apr 18 2024

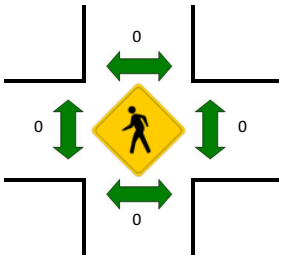
Peak-Hour: 4:30 PM -- 5:30 PM

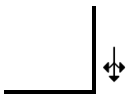
Peak 15-Min: 4:30 PM -- 4:45 PM

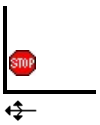


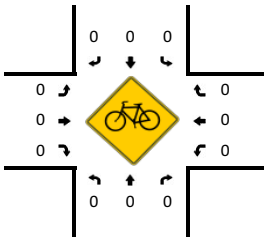


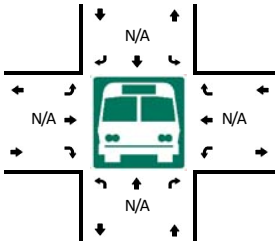
TRUE DATA TO IMPROVE MOBILITY

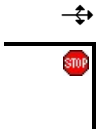


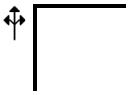


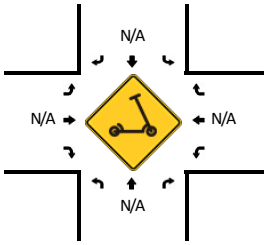












15-Min Count Period Beginning At	S Kropf Rd (Northbound)				S Kropf Rd (Southbound)				S Monte Cristo Rd (Eastbound)				S Monte Cristo Rd (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	1	4	1	0	0	5	0	0	1	7	1	0	0	0	3	0	23	
3:15 PM	1	8	0	0	3	9	0	0	4	9	2	0	0	5	1	0	42	
3:30 PM	1	4	0	0	1	11	2	0	3	4	2	0	0	10	0	0	38	
3:45 PM	0	2	1	0	2	9	0	0	1	11	4	0	1	1	1	0	33	136
4:00 PM	3	3	0	0	3	11	0	0	1	3	2	0	0	3	1	0	30	143
4:15 PM	1	12	0	0	2	13	1	0	0	5	1	0	1	6	0	0	42	143
4:30 PM	1	9	2	0	2	19	4	0	2	10	5	0	1	8	0	0	63	168
4:45 PM	1	6	2	0	1	19	3	0	0	6	2	0	0	6	0	0	46	181
5:00 PM	0	6	0	0	1	15	4	0	1	5	3	0	2	1	0	0	38	189
5:15 PM	0	5	2	0	1	19	2	0	2	7	4	0	1	7	1	0	51	198
5:30 PM	2	9	0	0	0	19	0	0	0	8	3	0	1	4	3	0	49	184
5:45 PM	0	4	1	0	4	14	1	0	0	6	0	0	1	3	0	0	34	172

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	4	36	8	0	8	76	16	0	8	40	20	0	4	32	0	0	252
Heavy Trucks	4	4	0		0	8	0		0	0	0		0	0	0		16
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 4/25/2024 1:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Type of peak hour being reported: Intersection Peak

Method for determining peak hour: Total Entering Volume

LOCATION: Canby-Marquam Hwy -- Woodburn-Estacada Hwy 211

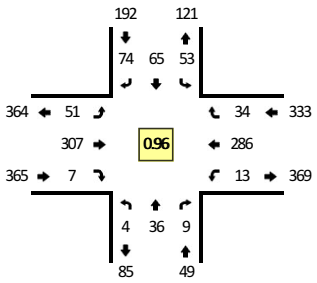
CITY/STATE: Canby, OR

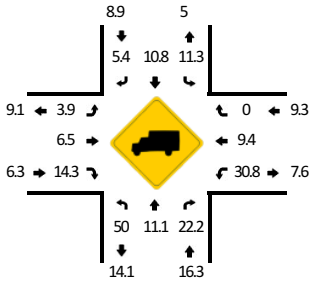
QC JOB #: 16562406

DATE: Thu, Apr 18 2024

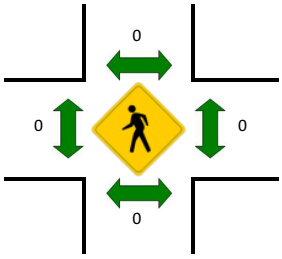
Peak-Hour: 3:45 PM -- 4:45 PM

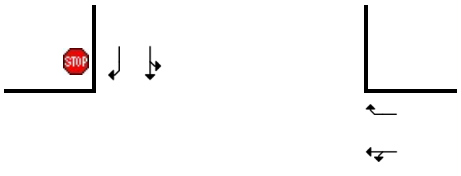
Peak 15-Min: 3:45 PM -- 4:00 PM

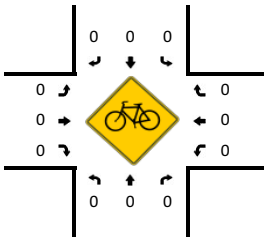


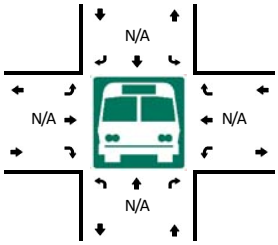


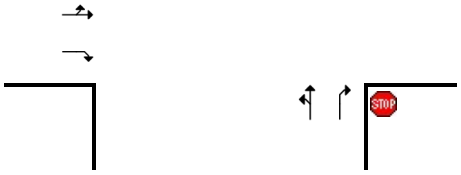
TRUE DATA TO IMPROVE MOBILITY

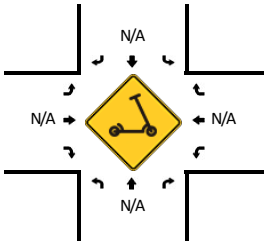












15-Min Count Period Beginning At	Canby-Marquam Hwy (Northbound)				Canby-Marquam Hwy (Southbound)				Woodburn-Estacada Hwy (Eastbound)				Woodburn-Estacada Hwy (Westbound)				Total	Hourly Totals
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U		
3:00 PM	3	7	4	0	19	9	3	0	13	74	1	0	3	44	5	0	185	
3:15 PM	2	8	1	0	8	14	14	0	14	54	0	0	3	47	14	0	179	
3:30 PM	1	4	4	0	9	12	16	0	7	85	3	0	5	60	15	0	221	
3:45 PM	3	6	1	0	10	11	11	0	16	87	1	0	2	91	6	0	245	830
4:00 PM	0	9	4	0	15	14	23	0	17	73	1	0	4	63	6	0	229	874
4:15 PM	0	10	1	0	14	13	15	0	9	82	3	0	2	68	14	0	231	926
4:30 PM	1	11	3	0	14	27	25	0	9	65	2	0	5	64	8	0	234	939
4:45 PM	1	8	3	0	16	18	14	0	8	67	3	0	2	56	9	0	205	899
5:00 PM	0	6	3	0	14	12	10	0	7	74	3	0	3	55	7	0	194	864
5:15 PM	1	4	3	0	19	27	6	0	6	62	3	0	1	54	12	0	198	831
5:30 PM	1	12	0	0	13	18	8	0	5	74	4	0	2	39	10	0	186	783
5:45 PM	4	2	1	0	15	19	4	0	9	59	5	0	1	27	4	0	150	728

Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total
	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	
All Vehicles	12	24	4	0	40	44	44	0	64	348	4	0	8	364	24	0	980
Heavy Trucks	8	4	0		0	4	0		0	32	0		8	32	0		88
Buses																	
Pedestrians		0				0				0				0			0
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0
Scooters																	

Comments:

Report generated on 4/25/2024 1:30 PM

SOURCE: Quality Counts, LLC (http://www.qualitycounts.net) 1-877-580-2212

Location	OR213; CASCADE HIGHWAY SOUTH NO. 160; 2.05 miles ne of ClackamasMarion County Line	Site Name	Marquam (03-013)
		Installed	October, 1957

HISTORICAL ANNUAL TRAFFIC DATA

Year	Annual Average Daily Traffic (AADT)	Critical Values as percent of Annual Average Daily Traffic (% AADT)				
		MaxDay	MaxHour	10thHour	20thHour	30thHour
2015	4581	154.8	15.0	12.4	11.5	11.2
2016	4900	150.0	15.0	12.3	11.8	11.5
2017	5138	***	***	***	***	***
2018	5470	143.5	13.1	12.0	11.7	11.2
2019	5569	156.9	14.1	12.4	12.0	11.7
2020	5012	147.9	40.3	12.4	11.8	11.6
2021	5714	141.0	14.3	12.1	11.7	11.4
2022	5449	138.7	15.9	12.8	12.3	12.0
2023	5459	150.3	14.3	13.1	12.5	12.2
2024	5710	147.8	13.7	12.4	12.0	11.8

2024 SEASONAL TRAFFIC DATA

Month	Weekday		Daily	
	Average	% AADT	Average	% AADT
January	4390	77	4096	72
February	5295	93	5106	89
March	5525	97	5315	93
April	5957	104	5780	101
May	6156	108	6077	106
June	6458	113	6557	115
July	6471	113	6573	115
August	6332	111	6384	112
September	6096	107	6286	110
October	5908	103	5850	102
November	5652	99	5383	94
December	5279	92	5125	90

Highest Hour

Date	Day	Hours of Day	Rank	Volume	% AADT
09/13/2024	Friday	5:00 - 6:00 pm	1	785	13.7
09/14/2024	Saturday	12:00 pm - 1:00 pm	10	706	12.4
06/20/2024	Thursday	4:00 - 5:00 pm	20	684	12.0
06/21/2024	Friday	5:00 - 6:00 pm	30	671	11.8
07/19/2024	Friday	2:00 - 3:00 pm	40	662	11.6
11/27/2024	Wednesday	3:00 - 4:00 pm	50	656	11.5

Highest Day

Date	Day	Volume	% AADT
09/14/2024	Saturday	8442	147.8

Comments: Seasonal Adjustment = 1.09

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱		↰	↱		↰	↱
Traffic Vol, veh/h	51	335	7	13	312	34	4	36	9	53	65	74
Future Vol, veh/h	51	335	7	13	312	34	4	36	9	53	65	74
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	-	50	-	-	50	-	-	20	-	-	20
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	4	6	14	31	9	2	50	11	22	11	11	5
Mvmt Flow	53	349	7	14	325	35	4	38	9	55	68	77

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	325	0	0	349	0	0	841	807	349	826	807	325
Stage 1	-	-	-	-	-	-	455	455	-	352	352	-
Stage 2	-	-	-	-	-	-	386	352	-	474	455	-
Critical Hdwy	4.14	-	-	4.41	-	-	7.6	6.61	6.42	7.21	6.61	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.6	5.61	-	6.21	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.6	5.61	-	6.21	5.61	-
Follow-up Hdwy	2.236	-	-	2.479	-	-	3.95	4.099	3.498	3.599	4.099	3.345
Pot Cap-1 Maneuver	1224	-	-	1065	-	-	236	305	651	281	305	709
Stage 1	-	-	-	-	-	-	503	554	-	646	616	-
Stage 2	-	-	-	-	-	-	551	616	-	554	554	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1224	-	-	1065	-	-	152	284	651	226	284	709
Mov Cap-2 Maneuver	-	-	-	-	-	-	152	284	-	226	284	-
Stage 1	-	-	-	-	-	-	475	524	-	636	606	-
Stage 2	-	-	-	-	-	-	429	606	-	480	524	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	1.05	0.3	19.4	23.6
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	261	651	238	-	-	72	-	-	254	709
HCM Lane V/C Ratio	0.16	0.014	0.043	-	-	0.013	-	-	0.483	0.109
HCM Control Delay (s/veh)	21.4	10.6	8.1	0	-	8.4	0	-	31.7	10.7
HCM Lane LOS	C	B	A	A	-	A	A	-	D	B
HCM 95th %tile Q(veh)	0.6	0	0.1	-	-	0	-	-	2.4	0.4

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	3	46	0	2	83
Future Vol, veh/h	0	3	46	0	2	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	33	2	2	2	2
Mvmt Flow	0	3	50	0	2	90

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	145	50	0	0	50	0
Stage 1	50	-	-	-	-	-
Stage 2	95	-	-	-	-	-
Critical Hdwy	6.42	6.53	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.597	-	-	2.218	-
Pot Cap-1 Maneuver	848	937	-	-	1557	-
Stage 1	972	-	-	-	-	-
Stage 2	929	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	847	937	-	-	1557	-
Mov Cap-2 Maneuver	847	-	-	-	-	-
Stage 1	972	-	-	-	-	-
Stage 2	928	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	8.86	0	0.17
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	937	42	-
HCM Lane V/C Ratio	-	-	0.003	0.001	-
HCM Control Delay (s/veh)	-	-	8.9	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	1	45	0	2	81
Future Vol, veh/h	2	1	45	0	2	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	1	49	0	2	88

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	141	49	0	0	49	0
Stage 1	49	-	-	-	-	-
Stage 2	92	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	852	1020	-	-	1558	-
Stage 1	974	-	-	-	-	-
Stage 2	931	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	850	1020	-	-	1558	-
Mov Cap-2 Maneuver	850	-	-	-	-	-
Stage 1	974	-	-	-	-	-
Stage 2	930	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.01	0	0.18
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	900	43	-
HCM Lane V/C Ratio	-	-	0.004	0.001	-
HCM Control Delay (s/veh)	-	-	9	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	28	14	4	22	1	2	26	6	5	72	13
Future Vol, veh/h	5	28	14	4	22	1	2	26	6	5	72	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	4	2	2	9	2	50	4	2	2	8	15
Mvmt Flow	6	35	18	5	28	1	3	33	8	6	91	16

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	164	158	99	163	162	37	108	0	0	41	0	0
Stage 1	112	112	-	42	42	-	-	-	-	-	-	-
Stage 2	52	46	-	122	120	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.54	6.22	7.12	6.59	6.22	4.6	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.54	-	6.12	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.54	-	6.12	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.036	3.318	3.518	4.081	3.318	2.65	-	-	2.218	-	-
Pot Cap-1 Maneuver	801	731	956	802	718	1036	1231	-	-	1569	-	-
Stage 1	893	799	-	973	846	-	-	-	-	-	-	-
Stage 2	961	853	-	883	783	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	764	726	956	744	713	1036	1231	-	-	1569	-	-
Mov Cap-2 Maneuver	764	726	-	744	713	-	-	-	-	-	-	-
Stage 1	889	795	-	971	845	-	-	-	-	-	-	-
Stage 2	926	851	-	824	780	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.95	10.2	0.47	0.41
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	102	-	-	787	726	97	-	-
HCM Lane V/C Ratio	0.002	-	-	0.076	0.047	0.004	-	-
HCM Control Delay (s/veh)	7.9	0	-	10	10.2	7.3	0	-
HCM Lane LOS	A	A	-	A	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	25	252	27	32	326	1	21	16	13	1	33	44
Future Vol, veh/h	25	252	27	32	326	1	21	16	13	1	33	44
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	4	9	11	3	5	2	19	13	2	2	12	7
Mvmt Flow	26	257	28	33	333	1	21	16	13	1	34	45

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	334	0	0	285	0	0	737	721	271	715	734	333
Stage 1	-	-	-	-	-	-	322	322	-	398	398	-
Stage 2	-	-	-	-	-	-	415	399	-	316	336	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.29	6.63	6.22	7.12	6.62	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.29	5.63	-	6.12	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.29	5.63	-	6.12	5.62	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.671	4.117	3.318	3.518	4.108	3.363
Pot Cap-1 Maneuver	1215	-	-	1272	-	-	314	340	768	346	335	697
Stage 1	-	-	-	-	-	-	655	632	-	628	585	-
Stage 2	-	-	-	-	-	-	583	584	-	695	625	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1215	-	-	1272	-	-	249	321	768	306	317	697
Mov Cap-2 Maneuver	-	-	-	-	-	-	249	321	-	306	317	-
Stage 1	-	-	-	-	-	-	639	616	-	608	567	-
Stage 2	-	-	-	-	-	-	497	565	-	648	609	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.66	0.7	17.84	14.52
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	331	145	-	-	160	-	-	457
HCM Lane V/C Ratio	0.154	0.021	-	-	0.026	-	-	0.174
HCM Control Delay (s/veh)	17.8	8	0	-	7.9	0	-	14.5
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0.1	-	-	0.6

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱		↰	↱		↰	↱
Traffic Vol, veh/h	56	363	8	14	338	37	4	39	10	58	71	81
Future Vol, veh/h	56	363	8	14	338	37	4	39	10	58	71	81
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	-	50	-	-	50	-	-	20	-	-	20
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	4	6	14	31	9	2	50	11	22	11	11	5
Mvmt Flow	58	378	8	15	352	39	4	41	10	60	74	84

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	352	0	0	378	0	0	913	876	378	896	876	352
Stage 1	-	-	-	-	-	-	495	495	-	381	381	-
Stage 2	-	-	-	-	-	-	418	381	-	515	495	-
Critical Hdwy	4.14	-	-	4.41	-	-	7.6	6.61	6.42	7.21	6.61	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.6	5.61	-	6.21	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.6	5.61	-	6.21	5.61	-
Follow-up Hdwy	2.236	-	-	2.479	-	-	3.95	4.099	3.498	3.599	4.099	3.345
Pot Cap-1 Maneuver	1196	-	-	1038	-	-	210	278	627	252	278	685
Stage 1	-	-	-	-	-	-	477	531	-	623	598	-
Stage 2	-	-	-	-	-	-	528	598	-	526	531	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1196	-	-	1038	-	-	123	256	627	194	256	685
Mov Cap-2 Maneuver	-	-	-	-	-	-	123	256	-	194	256	-
Stage 1	-	-	-	-	-	-	447	498	-	612	587	-
Stage 2	-	-	-	-	-	-	397	587	-	446	498	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	1.07	0.31	21.62	30.45
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	233	627	241	-	-	72	-	-	224	685
HCM Lane V/C Ratio	0.193	0.017	0.049	-	-	0.014	-	-	0.6	0.123
HCM Control Delay (s/veh)	24.1	10.8	8.2	0	-	8.5	0	-	42.7	11
HCM Lane LOS	C	B	A	A	-	A	A	-	E	B
HCM 95th %tile Q(veh)	0.7	0.1	0.2	-	-	0	-	-	3.4	0.4

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	3	50	0	2	90
Future Vol, veh/h	0	3	50	0	2	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	33	2	2	2	2
Mvmt Flow	0	3	54	0	2	98

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	157	54	0	0	54	0
Stage 1	54	-	-	-	-	-
Stage 2	102	-	-	-	-	-
Critical Hdwy	6.42	6.53	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.597	-	-	2.218	-
Pot Cap-1 Maneuver	835	932	-	-	1551	-
Stage 1	968	-	-	-	-	-
Stage 2	922	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	834	932	-	-	1551	-
Mov Cap-2 Maneuver	834	-	-	-	-	-
Stage 1	968	-	-	-	-	-
Stage 2	921	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	8.88	0	0.16
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	932	39	-
HCM Lane V/C Ratio	-	-	0.003	0.001	-
HCM Control Delay (s/veh)	-	-	8.9	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	1	49	0	2	88
Future Vol, veh/h	2	1	49	0	2	88
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	1	53	0	2	96

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	153	53	0	0	53	0
Stage 1	53	-	-	-	-	-
Stage 2	100	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	838	1014	-	-	1552	-
Stage 1	969	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	837	1014	-	-	1552	-
Mov Cap-2 Maneuver	837	-	-	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	923	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.07	0	0.16
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	889	40	-
HCM Lane V/C Ratio	-	-	0.004	0.001	-
HCM Control Delay (s/veh)	-	-	9.1	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	31	15	4	24	1	2	28	7	5	78	14
Future Vol, veh/h	5	31	15	4	24	1	2	28	7	5	78	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	4	2	2	9	2	50	4	2	2	8	15
Mvmt Flow	6	39	19	5	30	1	3	35	9	6	99	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	176	170	108	176	174	40	116	0	0	44	0	0
Stage 1	120	120	-	45	45	-	-	-	-	-	-	-
Stage 2	56	49	-	131	129	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.54	6.22	7.12	6.59	6.22	4.6	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.54	-	6.12	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.54	-	6.12	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.036	3.318	3.518	4.081	3.318	2.65	-	-	2.218	-	-
Pot Cap-1 Maneuver	786	720	946	786	707	1031	1222	-	-	1564	-	-
Stage 1	884	792	-	969	844	-	-	-	-	-	-	-
Stage 2	956	850	-	873	776	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	747	715	946	724	702	1031	1222	-	-	1564	-	-
Mov Cap-2 Maneuver	747	715	-	724	702	-	-	-	-	-	-	-
Stage 1	880	789	-	967	842	-	-	-	-	-	-	-
Stage 2	919	848	-	809	773	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	10.07	10.32	0.43	0.38
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	94	-	-	774	713	90	-	-
HCM Lane V/C Ratio	0.002	-	-	0.083	0.051	0.004	-	-
HCM Control Delay (s/veh)	8	0	-	10.1	10.3	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.2	0	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	27	273	29	35	353	1	23	17	14	1	36	48
Future Vol, veh/h	27	273	29	35	353	1	23	17	14	1	36	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	4	9	11	3	5	2	19	13	2	2	12	7
Mvmt Flow	28	279	30	36	360	1	23	17	14	1	37	49

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	361	0	0	308	0	0	798	781	293	774	795	361
Stage 1	-	-	-	-	-	-	348	348	-	432	432	-
Stage 2	-	-	-	-	-	-	450	433	-	342	363	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.29	6.63	6.22	7.12	6.62	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.29	5.63	-	6.12	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.29	5.63	-	6.12	5.62	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.671	4.117	3.318	3.518	4.108	3.363
Pot Cap-1 Maneuver	1186	-	-	1247	-	-	285	314	746	315	309	673
Stage 1	-	-	-	-	-	-	634	615	-	602	565	-
Stage 2	-	-	-	-	-	-	557	563	-	673	607	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1186	-	-	1247	-	-	218	294	746	274	289	673
Mov Cap-2 Maneuver	-	-	-	-	-	-	218	294	-	274	289	-
Stage 1	-	-	-	-	-	-	616	597	-	580	545	-
Stage 2	-	-	-	-	-	-	464	543	-	623	590	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.67	0.72	19.91	15.59
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	296	145	-	-	162	-	-	426
HCM Lane V/C Ratio	0.186	0.023	-	-	0.029	-	-	0.203
HCM Control Delay (s/veh)	19.9	8.1	0	-	8	0	-	15.6
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.1	-	-	0.8

Intersection	
Int Delay, s/veh	8.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱		↰	↱		↰	↱
Traffic Vol, veh/h	56	363	14	18	338	37	14	42	23	58	72	81
Future Vol, veh/h	56	363	14	18	338	37	14	42	23	58	72	81
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	Yield	-	-	Yield	-	-	Yield
Storage Length	-	-	50	-	-	50	-	-	20	-	-	20
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	4	6	14	31	9	2	50	11	22	11	11	5
Mvmt Flow	58	378	15	19	352	39	15	44	24	60	75	84

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	352	0	0	378	0	0	922	884	378	906	884	352
Stage 1	-	-	-	-	-	-	495	495	-	390	390	-
Stage 2	-	-	-	-	-	-	427	390	-	517	495	-
Critical Hdwy	4.14	-	-	4.41	-	-	7.6	6.61	6.42	7.21	6.61	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.6	5.61	-	6.21	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.6	5.61	-	6.21	5.61	-
Follow-up Hdwy	2.236	-	-	2.479	-	-	3.95	4.099	3.498	3.599	4.099	3.345
Pot Cap-1 Maneuver	1196	-	-	1038	-	-	207	275	627	248	275	685
Stage 1	-	-	-	-	-	-	477	531	-	617	593	-
Stage 2	-	-	-	-	-	-	522	593	-	525	531	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1196	-	-	1038	-	-	120	252	627	183	252	685
Mov Cap-2 Maneuver	-	-	-	-	-	-	120	252	-	183	252	-
Stage 1	-	-	-	-	-	-	447	498	-	602	579	-
Stage 2	-	-	-	-	-	-	389	579	-	432	498	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	1.06	0.39	24.99	32.78
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	197	627	241	-	-	91	-	-	215	685
HCM Lane V/C Ratio	0.296	0.038	0.049	-	-	0.018	-	-	0.629	0.123
HCM Control Delay (s/veh)	30.8	11	8.2	0	-	8.5	0	-	46.4	11
HCM Lane LOS	D	B	A	A	-	A	A	-	E	B
HCM 95th %tile Q(veh)	1.2	0.1	0.2	-	-	0.1	-	-	3.7	0.4

Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	29	50	5	13	90
Future Vol, veh/h	11	29	50	5	13	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	33	2	2	2	2
Mvmt Flow	12	32	54	5	14	98

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	183	57	0	0	60	0
Stage 1	57	-	-	-	-	-
Stage 2	126	-	-	-	-	-
Critical Hdwy	6.42	6.53	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.597	-	-	2.218	-
Pot Cap-1 Maneuver	806	928	-	-	1544	-
Stage 1	965	-	-	-	-	-
Stage 2	900	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	798	928	-	-	1544	-
Mov Cap-2 Maneuver	798	-	-	-	-	-
Stage 1	965	-	-	-	-	-
Stage 2	891	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.26	0	0.93
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	889	227	-
HCM Lane V/C Ratio	-	-	0.049	0.009	-
HCM Control Delay (s/veh)	-	-	9.3	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	1	54	0	2	99
Future Vol, veh/h	2	1	54	0	2	99
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	1	59	0	2	108

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	171	59	0	0	59	0
Stage 1	59	-	-	-	-	-
Stage 2	112	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	819	1007	-	-	1545	-
Stage 1	964	-	-	-	-	-
Stage 2	913	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	818	1007	-	-	1545	-
Mov Cap-2 Maneuver	818	-	-	-	-	-
Stage 1	964	-	-	-	-	-
Stage 2	911	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.14	0	0.15
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	873	36	-
HCM Lane V/C Ratio	-	-	0.004	0.001	-
HCM Control Delay (s/veh)	-	-	9.1	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	31	15	4	24	1	2	33	7	5	89	14
Future Vol, veh/h	5	31	15	4	24	1	2	33	7	5	89	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	4	2	2	9	2	50	4	2	2	8	15
Mvmt Flow	6	39	19	5	30	1	3	42	9	6	113	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	196	190	122	196	194	46	130	0	0	51	0	0
Stage 1	134	134	-	51	51	-	-	-	-	-	-	-
Stage 2	62	56	-	145	143	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.54	6.22	7.12	6.59	6.22	4.6	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.54	-	6.12	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.54	-	6.12	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.036	3.318	3.518	4.081	3.318	2.65	-	-	2.218	-	-
Pot Cap-1 Maneuver	763	701	930	763	689	1023	1206	-	-	1556	-	-
Stage 1	869	782	-	962	839	-	-	-	-	-	-	-
Stage 2	949	845	-	858	765	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	724	697	930	701	684	1023	1206	-	-	1556	-	-
Mov Cap-2 Maneuver	724	697	-	701	684	-	-	-	-	-	-	-
Stage 1	865	778	-	960	837	-	-	-	-	-	-	-
Stage 2	912	843	-	794	762	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	10.21	10.47	0.38	0.34
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	83	-	-	755	694	81	-	-
HCM Lane V/C Ratio	0.002	-	-	0.085	0.053	0.004	-	-
HCM Control Delay (s/veh)	8	0	-	10.2	10.5	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.2	0	-	-

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	32	273	29	35	353	1	23	17	14	1	36	59
Future Vol, veh/h	32	273	29	35	353	1	23	17	14	1	36	59
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	4	9	11	3	5	2	19	13	2	2	12	7
Mvmt Flow	33	279	30	36	360	1	23	17	14	1	37	60

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	361	0	0	308	0	0	809	791	293	785	806	361
Stage 1	-	-	-	-	-	-	359	359	-	432	432	-
Stage 2	-	-	-	-	-	-	450	433	-	353	373	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.29	6.63	6.22	7.12	6.62	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.29	5.63	-	6.12	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.29	5.63	-	6.12	5.62	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.671	4.117	3.318	3.518	4.108	3.363
Pot Cap-1 Maneuver	1186	-	-	1247	-	-	280	309	746	310	305	673
Stage 1	-	-	-	-	-	-	626	608	-	602	565	-
Stage 2	-	-	-	-	-	-	557	563	-	664	601	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1186	-	-	1247	-	-	209	288	746	268	284	673
Mov Cap-2 Maneuver	-	-	-	-	-	-	209	288	-	268	284	-
Stage 1	-	-	-	-	-	-	605	588	-	580	545	-
Stage 2	-	-	-	-	-	-	456	543	-	611	581	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.78	0.72	20.48	15.51
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	287	169	-	-	162	-	-	440
HCM Lane V/C Ratio	0.192	0.028	-	-	0.029	-	-	0.223
HCM Control Delay (s/veh)	20.5	8.1	0	-	8	0	-	15.5
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.1	-	-	0.8

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

160: CASCADE HWY SOUTH

Highway 160 ALL ROAD TYPES, MP 22.8 to 22.9 01/01/2018 to 12/31/2022, Both Add and Non-Add mileage

1 - 6 of 6 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P / E / D / N	D R / A / C / Y	M J / L / S / N	S / N / H / N	W / O / R / N	DATE / DAY / TIME / LAT	COUNTY / CITY / URBAN AREA / LONG	RD# / COMPNT / MLG / MILEPNT	FC / TYP / PNT	CONN# / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE / (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00169	Y	N	N	N	N	01/15/2018	CLACKAMAS	1	06		INTER	CROSS	N	Y	RAIN	FIX OBJ	01	NONE 9	STRGHT										052	01
STATE						MO		MN 0			NE		UNKNOWN	N	WET	FIX		N/A	SW-NE									000		00
N						7P		22.86			05	0		N	DLIT	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N						45 4 22.66	-122 41 9.09			016000100S00															UNK					
00877	N	Y	N	N	N	03/07/2020	CLACKAMAS	1	06		INTER	CROSS	N	Y	CLR	FIX OBJ	01	NONE 0	STRGHT										058,091,010	16
STATE						SA		MN 0			E		NONE	N	DRY	FIX		PRVTE	SW-NE									000	058,091,010	00
N						1A		22.86			05	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	23	M	OR-Y		081	025		16
N						45 4 22.66	-122 41 9.1			016000100S00															OR>25					
00265	N	N	N	N		01/26/2022	CLACKAMAS	1	06		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE	STRGHT											02
NONE						WE		MN 0			CN		STOP SIGN	N	DRY	ANGL		PRVTE	N -S									000		00
N						5A		22.86			01	0		N	DARK	INJ		PSNGR CAR		01	DRVR	INJC	28	M	OR-Y		000	000		00
N						45 4 22.66	-122 41 9.09			016000100S00															OR<25					
																	02	NONE	STRGHT											
																		PRVTE	E -W									015		00
																		PSNGR CAR		01	DRVR	NONE	49	M	OR-Y		028	000		02
																									OR<25					
02832	N	N	N	N		09/07/2021	CLACKAMAS	1	06		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 9	STRGHT											02
NONE						TU		MN 0			CN		STOP SIGN	N	DRY	ANGL		N/A	S -N									000		00
N						UNK		22.86			02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N						45 4 22.67	-122 41 9.09			016000100S00															UNK					
																	02	NONE 9	STRGHT											
																		N/A	E -W									000		00
																		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																									UNK					
02371	N	N	N	N	N	08/05/2022	CLACKAMAS	1	06		INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L											02
STATE						FR		MN 0			CN		STOP SIGN	N	DRY	TURN		PRVTE	N -E									000		00
N						1P		22.86			04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	55	F	OR-Y		028	000		02
N						45 4 22.66	-122 41 9.09			016000100S00															OR<25					
																	01	NONE 0	TURN-L											
																		PRVTE	N -E									000		00
																		PSNGR CAR		02	PSNG	INJA	02	M			000	000		00
																	02	NONE 0	STRGHT											
																		PRVTE	S -N									000		00
																		PSNGR CAR		01	DRVR	NONE	38	M	OR-Y		000	000		00
																									OR<25					
81882	N	Y	Y	N	N	06/14/2020	CLACKAMAS	1	06		ALLEY		N	N	CLD	ANGL-OTH	01	NONE 1	STRGHT											27,16,02
STATE						SU		MN 0			UN	(NONE)	NONE	N	DRY	TURN		PRVTE	N -S									000		00
N						6P		22.89			03			N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	47	M	OR-Y		000	000		00
N						45 4 21.41	-122 41 10.01			016000100S00		(02)													OR<25					
																	02	NONE 0	TURN-L											
																		PRVTE	W -N									018		00
																		PSNGR CAR		01	DRVR	INJC	53	M	OR-Y		028	038		27,16,02
																									OR<25					

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OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

161: WOODBURN-ESTACADA

Highway 161 ALL ROAD TYPES, MP 7.5 to 7.7 01/01/2018 to 12/31/2022, Both Add and Non-Add mileage

1 - 6 of 25 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P / E / D / C	A	R / U / G / S	J / I / N / V	S / C / H / L	W / O / R / K	DATE / DAY / TIME / LAT	COUNTY / CITY / URBAN AREA / LONG	RD# / COMPNT / MLG / MILEPNT	FC	CONN# / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE / (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01766	Y	Y	N	N	N	N	05/19/2019	CLACKAMAS	1	06		STRGHT		N	N	RAIN	OVERTURN	01	NONE 0	STRGHT										124	30,06
STATE			SU				MN 0					UN	(NONE)	NONE	N	WET	OTH		PRVTE	E -W									031	124	00
N			10P				7.50					04			N	DARK	INJ		MTRCYCLE		01	DRVR	INJA	30	M	OR-Y		050	017		30,06
N			45 9 3.02				-122 40 59.62				016100100S00		(02)													OR<25					
01058	N	N	N	N	N	N	04/05/2020	CLACKAMAS	1	06		STRGHT		N	Y	CLR	FIX OBJ	01	NONE 9	STRGHT										043	26
STATE			SU				MN 0					UN	(NONE)	NONE	N	DRY	FIX		N/A	E -W									007		00
Y			4P				7.57					07			N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N			45 9 3.4				-122 40 54.46				016100100S00		(02)													UNK					
01191	N	N	N	N	N	N	04/07/2018	CLACKAMAS	1	06		INTER	CROSS	N	Y	RAIN	FIX OBJ	01	NONE 0	STRGHT										062	27,03
COUNTY			SA				MN 0					S		STOP SIGN	N	WET	FIX		PRVTE	N -S									007	062	00
N			8P				7.59					05	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	21	M	OR-Y		021	000		27,03
N			45 9 3.53				-122 40 53				016100100S00															OR<25					
00550	N	N	N	N	N	N	02/21/2022	CLACKAMAS	1	06		INTER	CROSS	N	N	SLT	S-1STOP	01	NONE 9	STRGHT										124	29
NONE			MO				MN 0					S		STOP SIGN	N	ICE	REAR		N/A	S -N									000		00
N			2P				7.59					06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N			45 9 3.53				-122 40 52.98				016100100S00															UNK					
																		02	NONE 9	STOP										011		00
																			N/A	S -N									000		00
																			SEMI TOW		01	DRVR	NONE	00	Unk	UNK		000	000		00
03864	N	N	N	N	N	N	10/24/2018	CLACKAMAS	1	06		INTER	CROSS	N	N	UNK	S-1STOP	01	NONE 0	STRGHT											27,29
STATE			WE				MN 0					W		UNKNOWN	N	WET	REAR		PRVTE	W -E									000		00
N			7A				7.59					06	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	NONE	16	M	OR-Y		026	000		27,29
N			45 9 3.54				-122 40 52.99				016100100S00															OR<25					
																		01	NONE 0	STRGHT											
																			PRVTE	W -E									000		00
																			PSNGR CAR		02	PSNG	INJC	22	M			000	000		00
																		02	NONE 0	STOP											
																			PRVTE	W -E									012		00
																			PSNGR CAR		01	DRVR	INJC	22	M	OR-Y		000	000		00
																										OR<25					
																		02	NONE 0	STOP											
																			PRVTE	W -E									012		00
																			PSNGR CAR		02	PSNG	INJC	21	M			000	000		00
																		02	NONE 0	STOP											
																			PRVTE	W -E									012		00
																			PSNGR CAR		03	PSNG	INJC	22	M			000	000		00
02710	N	N	N	N	N	N	08/08/2019	CLACKAMAS	1	06		INTER	CROSS	N	Y	CLR	FIX OBJ	01	NONE 0	STRGHT										079,010	26
STATE			TH				MN 0					W		NONE	N	DRY	FIX		PRVTE	E -W									007	079,010	00
N			4P				7.59					06	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	41	M	OR-Y		083	000		26
N			45 9 3.55				-122 40 53.01				016100100S00															OR<25					
01720	N	N	N	N	N	N	05/21/2018	CLACKAMAS	1	06		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										084	02
STATE			MO				MN 0					CN		STOP SIGN	N	DRY	TURN		PRVTE	E -W									000		00
N			12P				7.59					01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	22	M	OR-Y		000	000		00
N			45 9 3.55				-122 40 53.01				016100100S00															OR<25					

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161: WOODBURN-ESTACADA

Highway 161 ALL ROAD TYPES, MP 7.5 to 7.7 01/01/2018 to 12/31/2022, Both Add and Non-Add mileage

7 - 9 of 25 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	U G S	M J N V	S I H L	C O R K	W DAY TIME LAT	DATE	COUNTY / CITY / URBAN AREA / LONG	RD# FC / COMPNT / MLG TYP / MILEPNT	CONN# / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A GE	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																		02	NONE 0	TURN-L										
																			PRVTE	N -E									015		00
																			PSNGR CAR		01	DRVR	INJB	21	F	OTH-Y		028	000		02
																										OR>25					
																		02	NONE 0	TURN-L										
																			PRVTE	N -E									015		00
																			PSNGR CAR		02	PSNG	INJB	23	M			000	000		00
																		02	NONE 0	TURN-L										
																			PRVTE	N -E									015		00
																			PSNGR CAR		03	PSNG	INJB	24	F			000	000		00
01889	N	N	N	N	N	N	06/02/2018	CLACKAMAS	1 06		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
STATE							SA		MN 0		CN		STOP SIGN	N	DRY	TURN		PRVTE	E -W									000		00
N							4P		7.59		01	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	43	F	OR-Y		000	000		00
N							45 9 3.55	-122 40 53		016100100S00																OR>25					
																		02	NONE 0	TURN-L										
																			PRVTE	N -E									015		00
																			PSNGR CAR		01	DRVR	INJB	17	F	OR-Y		028	000		02
																										OR<25					
																		02	NONE 0	TURN-L										
																			PRVTE	N -E									015		00
																			PSNGR CAR		02	PSNG	INJB	20	F			000	000		00
02625	N	N	N	N	N	N	07/27/2018	CLACKAMAS	1 06		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
STATE							FR		MN 0		CN		STOP SIGN	N	DRY	ANGL		PRVTE	E -W									000		00
N							5P		7.59		01	0		N	DAY	FAT		PSNGR CAR		01	DRVR	INJC	65	M	NONE		000	000		00
N							45 9 3.53	-122 40 52.98		016100100S00																OR<25					
																		01	NONE 0	STRGHT										
																			PRVTE	E -W									000		00
																			PSNGR CAR		02	PSNG	INJC	65	F			000	000		00
																		01	NONE 0	STRGHT										
																			PRVTE	E -W									000		00
																			PSNGR CAR		03	PSNG	INJC	03	M			000	000		00
																		01	NONE 0	STRGHT										
																			PRVTE	E -W									000		00
																			PSNGR CAR		04	PSNG	INJC	05	F			000	000		00
																		02	NONE 0	STRGHT										
																			PRVTE	N -S									000		00
																			PSNGR CAR		01	DRVR	KILL	85	M	OR-Y		028	000		02
																										OR>25					
																		02	NONE 0	STRGHT										
																			PRVTE	N -S									000		00
																			PSNGR CAR		02	PSNG	INJB	75	F			000	000		00

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161: WOODBURN-ESTACADA

Highway 161 ALL ROAD TYPES, MP 7.5 to 7.7 01/01/2018 to 12/31/2022, Both Add and Non-Add mileage

10 - 13 of 25 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	D R A L	M J U G	S I N H	C O R K	W DATE / DAY / TIME / LAT	COUNTY / CITY / URBAN AREA / LONG	RD# / COMPNT / MLG / MILEPNT	FC	CONN# / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE / (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES / LICNS LOC	PED ERROR	ACT	EVENT	CAUSE
00055	N	N	N	N		01/04/2018	CLACKAMAS	1	06		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 9	TURN-L										02
NO RPT						TH		MN 0			CN		STOP SIGN	N	DRY	TURN		N/A	N -E									015		00
N						8A		7.59			01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK	000	000		00
N						45 9 3.53	-122 40 52.98			016100100S00															UNK				
																	02	NONE 9	STRGHT										
																		N/A	E -W								000		00
																		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK	000	000		00
																									UNK				
00288	N	N	N	N	N	01/27/2022	CLACKAMAS	1	06		INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 9	TURN-L										02
STATE						TH		MN 0			CN		STOP SIGN	N	DRY	TURN		N/A	S -W								015		00
N						7P		7.59			01	2		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK	000	000		00
N						45 9 3.53	-122 40 52.98			016100100S00															UNK				
																	02	NONE 9	STRGHT										
																		N/A	N -S								015		00
																		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK	000	000		00
																									UNK				
00726	N	N	N	N	N	02/26/2018	CLACKAMAS	1	06		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 1	STRGHT										02
STATE						MO		MN 0			CN		STOP SIGN	N	DRY	ANGL		PRVTE	E -W								000		00
N						2P		7.59			02	0		N	DAY	INJ		SEMI TOW		01	DRVR	INJC	42	M	OR-Y	000	000		00
N						45 9 3.56	-122 40 53			016100100S00															OR<25				
																	02	NONE 1	STRGHT										
																		PRVTE	S -N								015		00
																		SEMI TOW		01	DRVR	NONE	63	M	OR-Y	028	000		02
																									OR<25				
02904	N	N	N	N	N	08/20/2018	CLACKAMAS	1	06		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT									013	02
STATE						MO		MN 0			CN		STOP SIGN	N	DRY	ANGL		PRVTE	E -W								000		00
N						1P		7.59			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	67	M	OR-Y	000	000		00
N						45 9 3.55	-122 40 53			016100100S00															OR<25				
																	02	NONE 0	STRGHT										
																		PRVTE	S -N								015	013	00
																		PSNGR CAR		01	DRVR	INJC	75	M	OR-Y	028	000		02
																									OR<25				
																	03	NONE 1	STOP										
																		PRVTE	N -S								022		00
																		SEMI TOW		01	DRVR	NONE	57	M	OTH-Y	000	000		00
																									N-RES				
01481	N	N	N	N	N	06/03/2021	CLACKAMAS	1	06		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT									013	02
STATE						TH		MN 0			CN		STOP SIGN	N	DRY	ANGL		PRVTE	E -W								000		00
N						9A		7.59			02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	33	M	OR-Y	000	000		00
N						45 9 3.56	-122 40 53			016100100S00															OR<25				
																	02	NONE 0	STRGHT										
																		PRVTE	S -N								015	013	00
																		PSNGR CAR		01	DRVR	INJC	45	F	OTH-Y	028	000		02
																									N-RES				
																	02	NONE 0	STRGHT										
																		PRVTE	S -N								015	013	00
																		PSNGR CAR		02	PSNG	INJA	53	F		000	000		00

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161: WOODBURN-ESTACADA

Highway 161 ALL ROAD TYPES, MP 7.5 to 7.7 01/01/2018 to 12/31/2022, Both Add and Non-Add mileage

14 - 17 of 25 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	R U G S	J N H V	S I C L	W O R K	DATE / DAY / TIME / LAT	COUNTY / CITY / URBAN AREA / LONG	RD# FC / COMPNT / MLG TYP / MILEPNT	CONN# / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / OWNER / TRLR QTY / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
																	03	NONE 0	TURN-R										
																		PRVTE	N -W								022		00
																		PSNGR CAR		01	DRVR	NONE	34	F	OR-Y		000	000		00
																									OR<25				
04106	N	N	N	N	N	N	11/09/2018	CLACKAMAS	1 06		INTER	CROSS	N	N	CLD	ANGL-OTH	01	NONE 0	STRGHT											02
STATE							FR		MN 0		CN		STOP SIGN	N	DRY	ANGL		PRVTE	W -E								000		00
N							1P		7.59		03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	64	F	OR-Y		000	000		00
N							45 9 3.56	-122 40 53		016100100S00															OR>25					
																	02	NONE 0	STRGHT											
																		PRVTE	N -S								015		00
																		PSNGR CAR		01	DRVR	NONE	91	M	OR-Y		028	000		02
																									OR<25				
																	02	NONE 0	STRGHT											
																		PRVTE	N -S								015		00
																		PSNGR CAR		02	PSNG	INJC	76	F			000	000		00
00461	N	N	N	N	N	N	02/06/2019	CLACKAMAS	1 06		INTER	CROSS	N	N	CLD	O-1 L-TURN	01	NONE 0	TURN-L											02,08
STATE							WE		MN 0		CN		STOP SIGN	N	DRY	TURN		PRVTE	W -N								000		00
N							1P		7.59		03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	37	F	OR-Y		028,044	000		02,08
N							45 9 3.54	-122 40 52.99		016100100S00															OR>25					
																	02	NONE 0	STRGHT											
																		PRVTE	E -W								000		00
																		PSNGR CAR		01	DRVR	INJC	54	F	OR-Y		000	000		00
																									OR<25				
02864	N	N	N	N	N	N	08/21/2019	CLACKAMAS	1 06		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										013	02
STATE							WE		MN 0		CN		STOP SIGN	N	DRY	ANGL		PRVTE	W -E								000		00
N							9A		7.59		03	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	19	M	OR-Y		000	000		00
N							45 9 3.52	-122 40 52.97		016100100S00															OR>25					
																	01	NONE 0	STRGHT											
																		PRVTE	W -E								000		00
																		PSNGR CAR		02	PSNG	INJC	19	M			000	000		00
																	02	NONE 0	STRGHT											
																		PRVTE	N -S								000	013	00
																		PSNGR CAR		01	DRVR	INJC	44	F	OTH-Y		000	000		00
																									N-RES				
																	03	NONE 1	STOP											
																		PRVTE	S -N								022		00
																		SEMI TOW		01	DRVR	NONE	27	M	OTH-Y		000	000		00
																									N-RES				
03160	N	N	N	N	N	N	09/13/2019	CLACKAMAS	1 06		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 1	STRGHT											02
STATE							FR		MN 0		CN		STOP SIGN	N	DRY	ANGL		PRVTE	N -S								015		00
N							10A		7.59		03	0		N	DAY	INJ		SEMI TOW		01	DRVR	NONE	45	M	OTH-Y		028	000		02
N							45 9 3.54	-122 40 53		016100100S00															N-RES					
																	02	NONE 0	STRGHT											
																		PRVTE	W -E								000		00
																		PSNGR CAR		01	DRVR	INJB	30	F	OR-Y		000	000		00
																									OR<25				

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161: WOODBURN-ESTACADA

Highway 161 ALL ROAD TYPES, MP 7.5 to 7.7 01/01/2018 to 12/31/2022, Both Add and Non-Add mileage

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161: WOODBURN-ESTACADA

Highway 161 ALL ROAD TYPES, MP 7.5 to 7.7 01/01/2018 to 12/31/2022, Both Add and Non-Add mileage

18 - 22 of 25 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D R G S	M J N V	S I H L	C O R K	W	DATE / DAY / TIME / LAT	COUNTY / CITY / URBAN AREA / LONG	RD# FC / COMPNT / MLG TYP / MILEPNT	CONN# / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES / PED LOC	ERROR	ACT	EVENT	CAUSE
																		02	NONE 0 PRVTE PSNGR CAR	STRGHT W -E	02	PSNG	INJC	01	M		000	000 000		00 00
00757	N	N	N	N	N	N	N	02/26/2020 WE 2P 45 9 3.55	CLACKAMAS -122 40 53.01	1 06 MN 0 7.59 	016100100S00	INTER CN 03	CROSS 0	N TRF SIGNAL 	N N N	CLR DRY DAY	O-1 L-TURN TURN INJ	01	NONE 1 PRVTE SEMI TOW	STRGHT E -W	01	DRVR	NONE	50	M	OR-Y OR>25	000	000 000		02,08 00 00
																		02	NONE 0 PRVTE PSNGR CAR	TURN-L W -N	01	DRVR	INJB	18	F	OR-Y OR<25	028,004	000 000		00 02,08
01244	N	N	N	N	N	N	N	04/28/2022 TH 8A 45 9 3.53	CLACKAMAS -122 40 52.98	1 06 MN 0 7.59 	016100100S00	INTER CN 03	CROSS 2	N STOP SIGN 	N N N	CLD DRY DAY	ANGL-OTH ANGL INJ	01	NONE PRVTE TRUCK	STRGHT W -E	01	DRVR	INJB	24	M	OR-Y OR<25	000	000 000		02 00 00
																		02	NONE RENTL PSNGR CAR	STRGHT N -S	01	DRVR	INJC	40	M	OR-Y OR<25	028	015 000		00 02
																		02	NONE RENTL PSNGR CAR	STRGHT N -S	02	PSNG	INJC	18	M		000	015 000		00 00
02400	N	N	N	N				07/11/2018 WE 4P 45 9 3.53	CLACKAMAS -122 40 52.98	1 06 MN 0 7.59 	016100100S00	INTER CN 04	CROSS 0	N STOP SIGN 	N N N	CLR DRY DAY	S-1STOP SS-O INJ	01	NONE 0 PRVTE SEMI TOW	STRGHT W -E	01	DRVR	NONE	27	F	OR-Y OR<25	034,031	000 007		06,29 00 06,29
																		02	NONE 0 PRVTE PSNGR CAR	STOP W -E	01	DRVR	NONE	00	Unk	UNK UNK	000	000 012		00 00
																		03	NONE 0 PRVTE PSNGR CAR	STOP S -N	01	DRVR	INJC	16	M	OR-Y OR<25	000	000 012		00 00
83560	N	N	N	N				09/16/2019 MO 11A 45 9 3.55	CLACKAMAS -122 40 52.98	1 06 MN 0 7.59 	016100100S00	INTER CN 04	3-LEG 0	N STOP SIGN 	N N N	CLR DRY DAY	S-1TURN REAR INJ	01	NONE 0 PRVTE SEMI TOW	STRGHT W -E	01	DRVR	NONE	62	M	OR-Y OR<25	042	000 000		29 00 29
																		02	NONE 0 PRVTE PSNGR CAR	TURN-L W -N	01	DRVR	INJC	58	M	OR-Y OR<25	000	000 000		00 00
01723	N	N	N	N	N	N	N	07/03/2020 FR 5A 45 9 3.54	CLACKAMAS -122 40 52.98	1 06 MN 0 7.59 	016100100S00	INTER CN 04	CROSS 0	N STOP SIGN 	N N N	CLR DRY DAWN	ANGL-OTH ANGL INJ	01	NONE 0 PRVTE MTRCYCLE	STRGHT W -E	01	DRVR	INJA	40	M	OR-Y OR>25	000	000 000		02 00 00

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161: WOODBURN-ESTACADA

Highway 161 ALL ROAD TYPES, MP 7.5 to 7.7 01/01/2018 to 12/31/2022, Both Add and Non-Add mileage

23 - 25 of 25 Crash records shown.

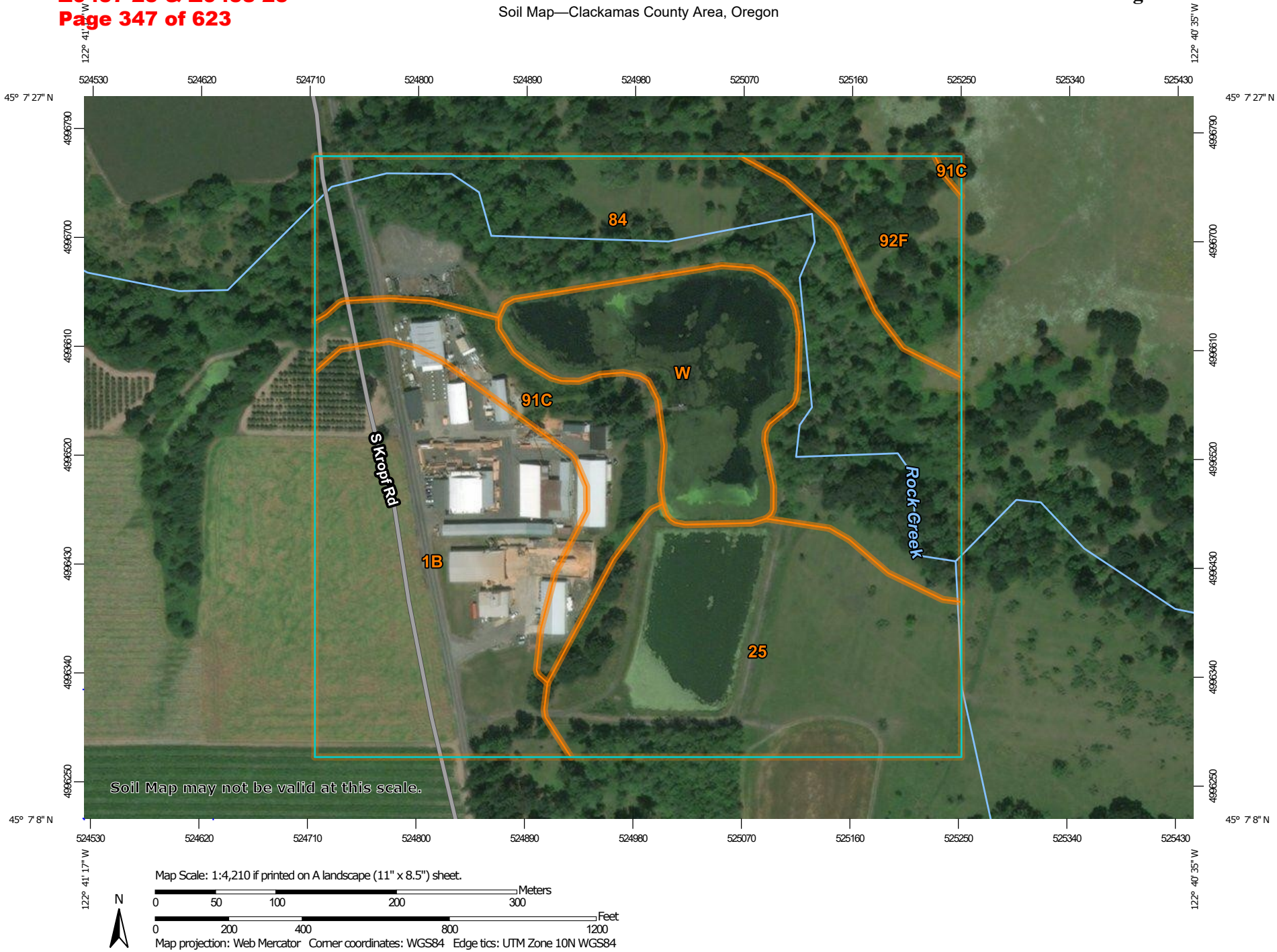
SER# / INVEST / RD DPT / UNLOC?	S P E D	D R A L C	M J G N V	S I H L	W C O R K	DATE / DAY / TIME / LAT	COUNTY / CITY / URBAN AREA / LONG	RD# FC / COMPNT / MLG TYP / MILEPNT	CONN# / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES / PED LOC	ERROR	ACT	EVENT	CAUSE
																02	NONE 0 PRVTE PSNGR CAR	STRGHT S -N	01	DRVR	NONE	61	F	OR-Y OR>25	028	015 000		00 02
00980 NO RPT N N	N	N	N	N		03/19/2020 TH 1P 45 9 3.57	CLACKAMAS -122 40 51.51	1 06 MN 0 7.61	016100100S00	STRGHT UN 04	(NONE)	Y NONE	N N N	CLR DRY DAY	S-OTHER REAR INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT E -W	01	DRVR	NONE	35	F	OR-Y OR<25	026	000 000		29 00 29
																02	NONE 0 PRVTE PSNGR CAR	TURN-R E -N	01	DRVR	INJC	67	M	OR-Y OR<25	000	000 000		00 00
																02	NONE 0 PRVTE PSNGR CAR	TURN-R E -N	02	PSNG	INJC	66	F		000	000 000		00 00
03596 STATE Y N	N	N	N	N	N	12/28/2020 MO 4P 45 9 3.58	CLACKAMAS -122 40 49.25	1 06 MN 0 7.64	016100100S00	STRGHT UN 01	(NONE)	N UNKNOWN	Y N N	CLD DRY DAY	FIX OBJ FIX INJ	01	NONE 0 PRVTE PSNGR CAR	STRGHT W -E	01	DRVR	INJC	41	M	OTH-Y N-RES	081	000	121 121	21 21 10

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Soil Map—Clackamas County Area, Oregon



Map Scale: 1:4,210 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Clackamas County Area, Oregon
Survey Area Data: Version 19, Sep 14, 2022

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 19, 2015—Sep 13, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
1B	Aloha silt loam, 3 to 6 percent slopes	15.9	24.0%
25	Cove silty clay loam	14.2	21.5%
84	Wapato silty clay loam	18.8	28.4%
91C	Woodburn silt loam, 8 to 15 percent slopes	5.7	8.6%
92F	Xerochrepts and Haploxerolls, very steep	4.0	6.1%
W	Water	7.5	11.4%
Totals for Area of Interest		**66.1**	**100.0%**

Clackamas County Area, Oregon

84—Wapato silty clay loam

Map Unit Setting

National map unit symbol: 227j
Elevation: 100 to 1,500 feet
Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season

Map Unit Composition

Wapato and similar soils: 85 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Wapato

Setting

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 18 inches: silty clay loam
H2 - 18 to 45 inches: silty clay loam
H3 - 45 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 0 to 6 inches
Frequency of flooding: NoneFrequent
Frequency of ponding: Frequent
Available water supply, 0 to 60 inches: High (about 10.3 inches)

Interpretive groups

Land capability classification (irrigated): 3w
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Ecological site: F002XC002OR - Backswamp Group
Forage suitability group: Poorly Drained (G002XY006OR)
Other vegetative classification: Poorly Drained (G002XY006OR)

Hydric soil rating: Yes

Minor Components

Cove

Percent of map unit: 6 percent
Landform: Flood plains
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Hydric soil rating: Yes

Humaquepts

Percent of map unit: 4 percent
Landform: Flood plains
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Clackamas County Area, Oregon
Survey Area Data: Version 19, Sep 14, 2022

Clackamas County Area, Oregon

1B—Aloha silt loam, 3 to 6 percent slopes

Map Unit Setting

National map unit symbol: 223m
Elevation: 150 to 400 feet
Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: Prime farmland if drained

Map Unit Composition

Aloha and similar soils: 85 percent
Minor components: 5 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Aloha

Setting

Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Stratified glaciolacustrine deposits

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 51 inches: silt loam
H3 - 51 to 80 inches: silt loam

Properties and qualities

Slope: 3 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 11.9 inches)

Interpretive groups

Land capability classification (irrigated): 2w
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Ecological site: R002XC007OR - Valley Swale Group
Forage suitability group: Somewhat Poorly Drained (G002XY005OR)
Other vegetative classification: Somewhat Poorly Drained (G002XY005OR)

Hydric soil rating: No

Minor Components

Huberly

Percent of map unit: 3 percent
Landform: Swales on terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Poorly Drained (G002XY006OR)
Hydric soil rating: Yes

Dayton

Percent of map unit: 2 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Poorly Drained (G002XY006OR)
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Clackamas County Area, Oregon
Survey Area Data: Version 19, Sep 14, 2022

Clackamas County Area, Oregon

92F—Xerochrepts and Haploxerolls, very steep

Map Unit Setting

National map unit symbol: 2281
Elevation: 50 to 1,000 feet
Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 50 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: Not prime farmland

Map Unit Composition

Xerochrepts and similar soils: 50 percent
Haploxerolls and similar soils: 35 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Xerochrepts

Setting

Landform: Terraces
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Colluvium derived from igneous rock

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 48 inches: gravelly clay loam
H3 - 48 to 60 inches: very cobbly clay loam

Properties and qualities

Slope: 20 to 60 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.57 in/hr)
Depth to water table: About 36 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Moderate (about 8.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: F002XB005OR - Loess Hill Group
Hydric soil rating: No

Description of Haploxerolls

Setting

Landform: Terraces
Landform position (three-dimensional): Riser
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Colluvium derived from igneous rock

Typical profile

H1 - 0 to 12 inches: silt loam
H2 - 12 to 60 inches: very gravelly loam

Properties and qualities

Slope: 20 to 60 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 1.98 in/hr)
Depth to water table: About 36 to 48 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: B
Ecological site: F002XB005OR - Loess Hill Group
Hydric soil rating: No

Data Source Information

Soil Survey Area: Clackamas County Area, Oregon
Survey Area Data: Version 19, Sep 14, 2022

Clackamas County Area, Oregon

W—Water

Map Unit Composition

Water: 100 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Water

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 8

Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Clackamas County Area, Oregon
Survey Area Data: Version 19, Sep 14, 2022

Clackamas County Area, Oregon

91C—Woodburn silt loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: 2280
Elevation: 150 to 400 feet
Mean annual precipitation: 40 to 50 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Woodburn and similar soils: 90 percent
Minor components: 3 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodburn

Setting

Landform: Terraces
Landform position (three-dimensional): Riser
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Stratified glaciolacustrine deposits

Typical profile

H1 - 0 to 16 inches: silt loam
H2 - 16 to 38 inches: silty clay loam
H3 - 38 to 60 inches: silt loam

Properties and qualities

Slope: 8 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 25 to 32 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 12.0 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Ecological site: R002XC008OR - Valley Terrace Group
Forage suitability group: Moderately Well Drained < 15% Slopes (G002XY004OR)
Other vegetative classification: Moderately Well Drained < 15% Slopes (G002XY004OR)

Hydric soil rating: No

Minor Components

Dayton

Percent of map unit: 2 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Poorly Drained (G002XY006OR)
Hydric soil rating: Yes

Aquolls

Percent of map unit: 1 percent
Landform: Flood plains
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Clackamas County Area, Oregon
Survey Area Data: Version 19, Sep 14, 2022

Clackamas County Area, Oregon

25—Cove silty clay loam

Map Unit Setting

National map unit symbol: 223y
Elevation: 100 to 1,500 feet
Mean annual precipitation: 40 to 60 inches
Mean annual air temperature: 52 to 54 degrees F
Frost-free period: 165 to 210 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Cove and similar soils: 85 percent
Minor components: 12 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cove

Setting

Landform: Flood plains
Landform position (three-dimensional): Dip
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Clayey alluvium

Typical profile

H1 - 0 to 7 inches: silty clay loam
H2 - 7 to 60 inches: silty clay

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 0 to 24 inches
Frequency of flooding: OccasionalNone
Frequency of ponding: None
Available water supply, 0 to 60 inches: High (about 9.9 inches)

Interpretive groups

Land capability classification (irrigated): 4w
Land capability classification (nonirrigated): 4w
Hydrologic Soil Group: D
Ecological site: R002XC005OR - High Flood Plain Group
Hydric soil rating: Yes

Minor Components

Wapato

Percent of map unit: 5 percent

Landform: Flood plains
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Poorly Drained (G002XY006OR)
Hydric soil rating: Yes

Conser

Percent of map unit: 4 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Poorly Drained (G002XY006OR)
Hydric soil rating: Yes

Concord

Percent of map unit: 2 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Poorly Drained (G002XY006OR)
Hydric soil rating: Yes

Dayton

Percent of map unit: 1 percent
Landform: Terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Poorly Drained (G002XY006OR)
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Clackamas County Area, Oregon
Survey Area Data: Version 19, Sep 14, 2022

Planning and Zoning
Department of Transportation and Development

Development Services Building
150 Beavercreek Road | Oregon City, OR 97045

503-742-4500 | zoninginfo@clackamas.us
www.clackamas.us/planning

Instructions for
PRELIMINARY STATEMENTS OF FEASIBILITY

Instructions to Applicant:

The attached *Preliminary Statement of Feasibility* form is to be completed by the applicable sanitary sewer service provider, surface water management authority, and water service provider. Where there is no surface water management service district for the subject property, this form is to be provided to the Clackamas County Department of Transportation and Development, Transportation Engineering Division. *Preliminary Statements of Feasibility* are not required for onsite wastewater treatment facilities (e.g., septic tanks) or water service by private well.

Completed *Preliminary Statement of Feasibility* forms must be submitted with a land use application for design review, a partition, a subdivision, conditional use permit, or zone change.

It is the responsibility of the applicant for a land use application to provide a copy of this form to each service provider for the subject property. A service provider may require the submission of detailed plans and/or engineering data prior to determining whether a *Preliminary Statement of Feasibility* will be issued. Contact the service providers for details.

The forms must be dated no more than one year prior to submittal of a complete land use application.

Instructions to Reviewing Service Provider or Surface Water Management Authority:

A development is proposed within your service area. Please complete the attached *Preliminary Statement of Feasibility* to indicate whether adequate service can be provided to this development.

If adequate service can be provided only with the implementation of certain conditions of approval, you may attach such conditions to the completed form. Completion of the *Preliminary Statement of Feasibility* does not imply that additional requirements (e.g., plan submittals) may not be imposed by your agency once a land use application for the prospective development is filed.

Clackamas County Planning & Zoning will continue to provide notice to you of land use applications for property within your service area. This will allow you to determine whether the submitted development proposal differs from the plans reviewed by your agency in conjunction with the completion of this statement. This will also allow you to provide additional comments as necessary.

Clackamas County is committed to providing meaningful access and will make reasonable accommodations, modifications, or provide translation, interpretation or other services upon request. Please contact us at 503-742-4545 or drenhard@clackamas.us.

503-742-4545: ¿Traducción e interpretación? | Требуется ли вам устный или письменный перевод? 翻译或口译？| Cần Biên dịch hoặc Phiên dịch? | 번역 또는 통역?

CLACKAMAS COUNTY

Planning and Zoning
Department of Transportation and Development

Development Services Building
150 Beavercreek Road | Oregon City, OR 97045

503-742-4500 | zoninginfo@clackamas.us
www.clackamas.us/planning

PRELIMINARY STATEMENT OF FEASIBILITY

TO BE COMPLETED BY APPLICANT		
Applicant name: M & S Investments, LLC	Applicant email: Spencer.Petrauski@vf-law.com	Applicant phone: 503-498-9769
Project engineer:	Project engineer email:	Project engineer phone:

Site address: 33532 S Kropf Rd, Molalla

Map and tax lot #:

Township: 5S *Range:* 1E *Section:* 21 *Tax Lot:* 01000

Township: _____ *Range:* _____ *Section:* _____ *Tax Lot:* _____

Township: _____ *Range:* _____ *Section:* _____ *Tax Lot:* _____

TO BE COMPLETED BY SERVICE PROVIDER / SURFACE WATER MANAGEMENT AUTHORITY	
Name of service provider / surface water management authority: Clackamas County DTD	Name and title of authorized representative: John Alderman Civil Engineer
Representative email: jalderman@clackamas.us	Representative phone: 971-378-3927

Check all that apply:

Water Service

- ☐ Water service, *including fire flows*, is available in levels appropriate for the development and adequate water system capacity is available in source, supply, treatment, transmission, storage, and distribution, or such levels and capacity can be made available through improvements completed by the developer or the system owner.
- ☐ Water service is adequate *with the exception of fire flows*. The applicant shall provide a statement from the fire district serving the subject property that states that an alternate method of fire protection, such as an on-site water source or sprinkler system, is acceptable.
- ☐ Adequate water service *cannot* be provided.

Sanitary Sewer Service

- ☐ Sanitary sewer capacity in the wastewater treatment system and the sanitary sewage collection system is available to serve the development or can be made available through improvements completed by the developer or the system owner.
- ☐ Adequate sanitary sewer service *cannot* be provided.

Surface Water Management, Treatment, and Conveyance

- ☑ Adequate surface water management, treatment, and conveyance is available to serve the development or can be made available through improvements completed by the developer or the system owner.
- ☐ Adequate surface water management, treatment, and conveyance *cannot* be provided.

Is this statement issued subject to any conditions of approval?

- ☐ YES, and those conditions are attached.
- ☑ NO

Signature of authorized representative: JAlderman Digitally signed by JAlderman DN: E=JAlderman@clackamas.us, CN=JAlderman Date: 2025.11.12 08:22:25-08'00'

Date of signature: 11/12/2025

In the matter of:

M&S INVESTMENTS, LLC
APPLICATION FOR A POST
ACKNOWLEDGEMENT PLAN
AMENDMENT & ZONING MAP
AMENDMENT

DECLARATION OF SCOTT LAPP

I, Scott Lapp, declare under penalty of perjury under the laws of the State of Oregon that the following is true and correct:

1. I am over the age of 18 and competent to testify. I have personal knowledge of the facts stated in this declaration.

2. I, Scott Lapp, am the grandson of Ivan Kropf. Between 1941-1999, my grandfather owned and operated the property commonly known as the Rock Creek Mill site located at or near 33532 S Kropf Rd, Molalla, Oregon (the "Mill Site"). The Mill Site includes multiple buildings and yard areas previously used for wood-products and mill-related operations.

3. In 1941 Ivan Kropf moved his mill from his farm on Gibson Rd (1/4 mile south of the current mill site) to the current Rock Creek Mill site in that year. Mr. Kropf opened up the mill as an operating sawmill with a dry kiln.

4. Around 1965, a fire damaged the mill, and portions of the sawmill site burned to the ground. Even after the fire, sawmill operations continued. The dry kiln was later expanded to approximately double its prior size, and Mr. Kropf added resaw and milling operations. The primary business became resawing lumber and producing value-added wood products, including molding, trim, bead board, shiplap, and similar finished lumber. In addition to the resawing and milling work, Mr. Kropf also operated a retail lumber store on site.

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5. I worked at the Mill Site from approximately 1978 through 1999.

6. During the 1980s, Ivan Kropf diversified operations at the Mill Site to include manufacturing pickup campers and pickup canopies.

7. In late 1991, Mr. Kropf added a wood pellet mill to the operation, which previously occupied Building D on Tax Lot 1000. The pellet mill was moved into new buildings constructed on Tax Lot 1100 in 2006. These buildings were considered an alteration and expansion of a non-conforming use (Mill Site). However, for purposes of this rezone these buildings were not part of the historical Mill Site as it existed on January 1, 2003.

8. Between 1978-1999, the Mill Site functioned as an active sawmill and wood-products facility. Activities included receiving logs and lumber, sawing and resawing, planing and milling, drying lumber using a dry kiln, staging and storage of raw and finished materials, and loading and shipping finished products. At the peak of operations under Mr. Kropf, the mill was capable of drying up to approximately 200,000 board feet of lumber per week. More typically, the mill would dry and process roughly 100,000 to 140,000 board feet per week through the kiln, and then run that material through the planer. During the peak years, Kropf Lumber Mill generally employed between 14 and 20 employees at any given time.

9. My work at the Mill Site included hands-on labor and general support of mill operations. I regularly worked in and around the buildings, and I regularly used the yard areas for material handling and equipment circulation. I observed the ongoing mill operations of the site up until 1999 when Ivan Kropf passed away.

10. The buildings and yard areas were integral to operations. The site required truck access for delivery of logs and lumber and for shipment of finished products. Forklifts and other equipment moved materials between buildings and through the yard areas. The site also

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generated typical byproducts of wood processing, including sawdust and scrap, which were handled and staged on site as part of normal operations.

11. Attached as Exhibit 2B is a building layout map that identifies building labels and approximate square footages. The overall arrangement of buildings shown on Exhibit 2B is consistent with my recollection of the Mill Site during the years I worked there. Some buildings may have been repaired or modified over time, but the site has long been improved with multiple industrial buildings for the mill operations up until it shut down in 1999.

12. For reference, Exhibit 2B identifies the following buildings and approximate areas (square feet). These buildings existed as part of the improved Mill Site during the period I worked there, and they supported the types of mill and wood-products activities described above until 1999:

a. Building A: approx. 13,824 sq. ft.
    i. Attached to A 2,688 sq. ft.
b. Building B: approx. 18,382 sq. ft.
c. Building C: approx. 14,760 sq. ft.
    i. Attached to C 528 sq. ft.
d. Building D: approx. 2,976 sq. ft.
    i. Attached to D 1,404 sq. ft.
e. Building E: approx. 9,000 sq. ft.
f. Building F: approx. 3,432 sq. ft.
g. Building G: approx. 5,600 sq. ft.
h. Building H: approx. 5,720 sq. ft.
i. Building I: approx. 4,140 sq. ft.
j. Building J: approx. 864 sq. ft.
k. Building K: approx. 864 sq. ft.
l. Building L: approx. 10,004 sq. ft.

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n. Building N: approx. 1,024 sq. ft.

13. The Mill Site's industrial operations required the coordinated use of multiple buildings. Operations included production, drying capacity, storage areas, and spaces for equipment and material handling. The yard areas served as active circulation, staging, and loading areas that were necessary to the function of the facility. The use of the Mill Site has not gone back to the level of productivity as it was in the 1990's. Since the mill shut down in 1999, the Mill Site has not returned to its 1990s level of productivity and, based on my observations, it has operated at less than 25 percent of the Mill's operational capacity.

I HEREBY DECLARE THAT THE ABOVE STATEMENT IS TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

DATED this 4th day of March 2026, at Canby, Oregon.

Scott Lapp

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IN THE MATTER OF:
M&S INVESTMENTS, LLC
APPLICATION FOR A POST
ACKNOWLEDGEMENT PLAN
AMENDMENT & ZONING MAP
AMENDMENT

DECLARATION OF SCOTT WILSON

I, Scott Wilson, declare under penalty of perjury under the laws of the State of Oregon that the following is true and correct:

1. I am over the age of 18 and competent to testify. I have personal knowledge of the facts stated in this declaration.

2. I, Scott Wilson, live near the property commonly known as the Old Rock Creek Mill site located at or near 33532 S Kropf Rd, Molalla, Oregon (the "Mill Site"). Since the late 1960's I grew up approximately two miles from the Mill Site, and I currently live in that same location.

3. Until 1999, Ivan Kropf owned and operated the property commonly known as the Rock Creek Mill site located at or near 33532 S Kropf Rd, Molalla, Oregon. The Mill Site includes multiple buildings and yard areas previously used for the production of wood-products such as "plywood, lumber, veneer hardboard, panel products, pulp and paper." There are currently thirteen buildings that exist onsite and were a part of the Mill Site before it closed in 1999.

4. In late 1991, Mr. Kropf added a wood pellet mill to the operation, which occupied Building D on Tax Lot 1000. At the peak of operations under Mr. Kropf, the mill was capable of drying up to approximately 200,000 board feet of lumber per week. More typically, the mill would dry and process roughly 100,000 to 140,000 board feet per week through the kiln, and

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then run that material through the planer. During the peak years, Kropf Lumber Mill generally employed between 14 and 20 employees at any given time.

5. From approximately 2001 through 2006 I helped Jerry McIntire at the mill when he purchased the property from the Mennonite Church Foundation. In 2006 through July 2025, I worked at the Mill Site on the Traeger pellet mill operation. Because of my work at the Mill Site and my proximity to it, I have personal knowledge of the day-to-day use of the buildings and yard areas between 2001 and July of 2025. Additionally, because I grew up next door to the Mill Site I am very familiar with the Mill operations between the 1980's to present.

6. Between 2001 and July 2025, the Mill Site was used for industrial activities, including wood-products-related activities, and storage depending on the tenant and time period. I observed activities such as drying and storing lumber, staging materials in the yard, moving materials by forklift and other equipment, and loading and unloading trucks, and general storage.

7. The tenants between 2001 and 2025 and the buildings they occupied include the following:

a. Mullin Lumber 2001-2019 Building (C, and E)
- ❖ Use: making molding, trim, bead board, shiplap.

b. Precision Drying 2002-2025 Building (F, G, H, I, J & L)
- ❖ Use: dries lumber, pallets, and power poles

c. Pacific Timber Products 2002-2022 Building (A, D, N)
- ❖ Use: Produce crane mats, trusses, bridges, flag poles, picnic tables, and other custom ordered products.

d. Woodburn Pocket Door 2023-2025 Building (D)
- ❖ Use: Makes pocket door frames.

e. Traeger (On TL 1100) 2001-2025 Building (O, P, M)
- ❖ Use: Pellet Mill Site not part of the original Mill Site.

f. Wilco Farmers Coop 2025-2025 Building (C, E)
- ❖ Use: Storage and warehousing of Agricultural Farm Store products (Fence posts, Water tanks, and misc.).

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8. Attached as Exhibit 2B is a building layout map that identifies building labels and approximate square footages. The overall arrangement of buildings shown on Exhibit 2B is consistent with my recollection of the Mill Site during 2001 through July 2025. Some buildings may have been repaired or modified over time, but the site remained improved with thirteen industrial buildings and yard areas since the Mill Site closed in 1999.

9. For reference, Exhibit 2B identifies the following buildings and approximate areas (square feet). Based on my observations during 2001 through July 2025, and as of the date of this declaration, the buildings have been used generally as follows:

a. Building A: approx. 13,824 sq. ft. (currently vacant)
b. Building B: approx. 18,382 sq. ft. (currently vacant)
c. Building C: approx. 14,760 sq. ft. (Storage/Warehouse for Wilco Farmers)
   - ❖ Attached to C 528 sq. ft. (currently vacant)
d. Building D: approx. 2,976 sq. ft. (Woodburn Pocket Door)
   - ❖ Attached to D 1,404 sq. ft. (currently vacant)
e. Building E: approx. 9,000 sq. ft. (Storage for Wilco Farmers)
f. Building F: approx. 3,432 sq. ft. (Tool Storage for Precision Drying)
g. Building G: approx. 5,600 sq. ft. (Dry Kiln, Precision Drying)
h. Building H: approx. 5,720 sq. ft. (Storage, Precision Drying)
i. Building I: approx. 4,140 sq. ft. (Material Handler, Precision Drying)
j. Building J: approx. 864 sq. ft. (Boiler Room, Precision Drying)
k. Building K: approx. 864 sq. ft. (currently vacant)
l. Building L: approx. 10,004 sq. ft. (Storage, Precision Drying)
n. Building N: approx. 1,024 sq. ft. (currently vacant)

10. Exhibit 2B also depicts additional improved areas/structures which are not part of the original Mill Site that closed down in 1999, including an approx. 12,000 sq. ft. structure, an approx.. 5,280 sq. ft. structure and an approx. 9,800 sq. ft. structure (Buildings O, P & M). Those three buildings are all located on TL 1100 and are not part of the original Mill

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Site. They were constructed after the Mill Site closed as an additional use that was added to the non-conforming mill.

11. From 2001 through July 2025, the Mill Site continued to host some specialty products-related tenants, but those tenants used only portions of the site and only some of the buildings at any given time. The businesses that operated there generally produced niche, specialty wood products, including resawed trim and molding, trusses, crane mats, and long turned logs. In practice, these operations fit within secondary manufacturing and specialty or engineered wood products. The tenants produced finished custom-fabricated, high-strength items from pre-processed stock, rather than running an integrated primary wood processing facility. These specialty operations did not resemble, and did not replace, the kinds of "wood products" manufacturing typically associated with a full-scale mill complex, such as sawmills or facilities producing plywood, veneer, hardboard, panel products, pulp, or paper. Mullin Lumber, which operated out of building C and used building E for storage between 2001-2019 was the only tenant that produced wood products similar to panel products.

12. These current activities are distinct in scale and character from the pre-1999 primary lumber mill operations: they are custom, intermittent, and secondary in nature. These activities do not require the continuous primary sawlines, multiple kiln trains, or multi-shift workforce that characterized the site's historical capacity. Since the mill shut down in 1999, the Mill Site has not returned to its 1990s level of productivity and, based on my observations, it has operated at less than 25 percent of the Mill's operational capacity.

I HEREBY DECLARE THAT THE ABOVE STATEMENT IS TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

DATED this 1 day of 3, 2026, at Canby, Oregon.

Scott Wilson

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SENATE COMMITTEE ON TRANSPORTATION AND ECONOMIC DEVELOPMENT

April 16, 2003
8:00 AM

Hearing Room C
Tapes 89 - 90

MEMBERS PRESENT: **Sen. Rick Metsger, Chair**
Sen. Bruce Starr, Vice-Chair
Sen. Ryan Deckert
Sen. David Nelson

STAFF PRESENT: Amy Joyce, Committee Administrator
Annastasia Suess, Committee Assistant

MEASURE/ISSUES HEARD: HB 2219 - Public Hearing and Work Session
HB 2252A – Public Hearing and Work Session
HB 2691A - Public Hearing

These minutes are in compliance with Senate and House Rules. Only text enclosed in quotation marks reports a speaker's exact words. For complete contents, please refer to the tapes.

TAPE/#	Speaker	Comments
TAPE 89, A		
002	Chair Metsger	Calls the committee to order at 8:04 a.m. and opens a public hearing on HB 2219.
HB 2219 - PUBLIC HEARING		
[redacted]	[redacted]	[redacted]
HB 2219 – WORK SESSION		
[redacted]	[redacted]	[redacted]
HB 2252A – PUBLIC HEARING		
[redacted]	[redacted]	[redacted]

[redacted]

HB 2252A – WORK SESSION

[redacted]

HB 2691A – PUBLIC HEARING

310	Rep. Patti Smith	District 52. Begins discussion on HB 2691A.
225	Chris Kramer	Legislative Counsel. Outlines the dash nine and dash ten amendments to HB 2691A **(EXHIBITS F, G)**.

TAPE 90, A

030	Kramer	Continues to outline the dash nine and dash ten amendments.
090	Sen. Nelson	Asks how Oregon defines the extended sewer facilities.
095	Kramer	Answers and elaborates.
130	Michael Benedict	Planning Director, Hood River County. Provides testimony in support of HB 2691A in its initial form. States some of the amendments are a cause for concern.
161	Art Schlock	AOC. Provides testimony in support of the dash nine amendments and states AOC does not support the dash ten amendments to HB 2691A.
196	Doris Penwell	Oregon Economic and Community Development Department (OECDD). Provides testimony in support of the dash nine amendments. States opposition to the dash ten amendments.
240	Carrie McClaren	1000 Friends of Oregon. Provides testimony in support of both the dash nine and dash ten amendments to HB 2691A.
325	Bob Rindy	Department of Land Conservation and Development (LCDD). Provides written testimony in support of HB 2691A **(EXHIBIT H)**.
390	Chair Metsger	Asks if the containment issue should be clarified further.
395	Rindy	Agrees that it should be clarified.
400	Vice Chair B. Starr	Asks for the interpretation of the use of industrial sites in effect today.
415	Rindy	Answers and elaborates on the language.
430	Vice Chair B. Starr	Asks if the amendments further clarify the bill since it came from the House or has it become more complex.
435	Rindy	States the bill has improved with the addition of the amendments.

450	Steven Kafoury	Oregon Chapter of the National Planning Association. Provides testimony in support of HB 2691A and begins discussion on the sunset clause.

TAPE 89, B

040	Kafoury	Continues discussion on the additional clause.
055	Chair Metsger	Clarifies the sunset portion of the dash ten amendments for HB 2691A.
060	Chair Metsger	Asks if there is a possibility of a land rush of re-zoning for industrial lands.
067	Kafoury	Answers and elaborates on the concept.
082	Sen. Deckert	Asks if there could be a limit on actual sites rather than having an unknown amount of industrial lands.
100	Chair Metsger	Clarifies the amount of current industrial sites in Oregon.
102	Bill Clooney	Western Council of Industrial Members. Provides testimony on HB 2691A. Urges the committee to find a process to continue the work of the currently operating mill sites in Oregon.
160	Chair Metsger	Closes the public hearing on HB 2691A and adjourns the committee at 9:15 a.m.

EXHIBIT SUMMARY

[redacted]

F – HB 2691A, dash nine amendments, Chris Kramer, 3 pp
G – HB 2691A, dash ten amendments, Chris Kramer, 6 pp
H – HB 2691A, written testimony, Bob Rindy, 1 p

MEASURE: HB 2691A
EXHIBIT: F
Senate Transportation & Economic Devel.
DATE: 4-16-03 PAGES: 3
SUBMITTED BY: Chris Kramer

HB 2691-A9
(LC 2927)
4/16/03 (BHC/cc/ps)

PROPOSED AMENDMENTS TO A-ENGROSSED HOUSE BILL 2691

On page 1 of the printed A-engrossed bill, delete lines 5 through 25 and insert:

"SECTION 2. (1) As used in this section, **'abandoned or diminished mill site' means a mill, plant or other facility engaged in the processing or manufacturing of wood products, including sawmills and facilities for the production of plywood, veneer, hardboard, panel products, pulp and paper,** that:

"(a) Is located outside of urban growth boundaries;

"(b) Was closed after January 1, 1980, or has been operating at less than 25 percent of capacity since January 1, 2003; and

"(c) Contains permanent buildings used in the production or manufacturing of wood products.

"(2) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 for the protection of agricultural lands or forestlands, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for industrial use.

"(3) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to urbanization, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for any level of industrial use.

"(4) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to public facilities and services, the governing body of

a county or its designee may approve:

"(a) The extension of sewer facilities to lands that on the effective date of this 2003 Act are zoned for industrial use and that contain an abandoned or diminished mill site. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"(b) The extension of sewer facilities to an abandoned or diminished mill site that is rezoned for industrial use under this section only as necessary to serve industrial uses authorized for the mill site.

"(c) The establishment of on-site sewer facilities to serve an area that on the effective date of this 2003 Act is zoned for industrial use and that contains an abandoned or diminished mill site or to serve an abandoned or diminished mill site that is rezoned for industrial use under this section. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"(5)(a) A local government, as defined in ORS 174.116, may not authorize a connection to any portion of a sewer facility located between an urban growth boundary or the boundary of an unincorporated community and the boundary of the mill site or the industrial zone containing the mill site, except as provided under ORS 197.732 and any goals adopted under ORS 197.225 relating to public facilities and services.

"(b) Sewer facilities approved under subsection (4) of this section shall be limited in size to meet the needs of authorized industrial uses and may not provide service to retail, commercial or residential development, except as provided under any goals adopted under ORS 197.225 relating to public facilities and services, unless all appropriate exceptions are approved under ORS 197.732. The presence of the sewer facilities may not be used to justify an exception to any goals adopted

to protect agricultural lands and forestlands or relating to urbanization.

"(6)(a) The governing body of a county, or its designee, shall determine the boundary of an abandoned or diminished mill site. For an abandoned or diminished mill site that is rezoned for industrial use under this section, land within the boundary of the mill site may include only those areas that were improved for the processing or manufacturing of wood products.

"(b) The governing body of a city or county, or its designee, may approve a permit, as defined in ORS 215.402 or 227.160, only for industrial development on an abandoned or diminished mill site that is rezoned for industrial use pursuant to this section and may not approve a permit for retail, commercial or residential development on the mill site.

"(7) For land that, on the effective date of this 2003 Act, is zoned under a goal adopted under ORS 197.225 for the protection of agricultural lands or forestlands and that is rezoned for industrial use under subsections (2) and (3) of this section, the governing body of the county or its designee may not later rezone the land for retail, commercial or other nonresource use unless all appropriate exceptions under ORS 197.732 have been approved.".

On page 2, delete lines 1 through 10.

MEASURE: HB 2691 A
EXHIBIT: G
Senate Transportation & Economic Devel.
DATE: 4/16/03 PAGES: 1
SUBMITTED BY: Mark Kramer

HB 2691-A10
(LC 2927)
4/16/03 (BHC/cc/ps)

PROPOSED AMENDMENTS TO A-ENGROSSED HOUSE BILL 2691

On page 1 of the printed A-engrossed bill, delete lines 5 through 25 and insert:

"SECTION 2. (1) As used in this section, 'abandoned or diminished mill site' means a mill, plant or other facility engaged in the processing or manufacturing of wood products, including sawmills and facilities for the production of plywood, veneer, hardboard, panel products, pulp and paper, that:

"(a) Is located outside of urban growth boundaries;

"(b) Was closed after January 1, 1980, or has been operating at less than 25 percent of capacity since January 1, 2003; and

"(c) Contains permanent buildings used in the production or manufacturing of wood products.

"(2) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 for the protection of agricultural lands or forestlands, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for industrial use.

"(3) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to urbanization, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for any level of industrial use.

"(4) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to public facilities and services, the governing body of

a county or its designee may approve:

"(a) The extension of sewer facilities to lands that on the effective date of this 2003 Act are zoned for industrial use and that contain an abandoned or diminished mill site. The sewer facilities may only serve industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"(b) The extension of sewer facilities to an abandoned or diminished mill site that is rezoned for industrial use under this section only as necessary to serve industrial uses authorized for the mill site.

"(c) The establishment of on-site sewer facilities to serve an area that on the effective date of this 2003 Act is zoned for industrial use and that contains an abandoned or diminished mill site or to serve an abandoned or diminished mill site that is rezoned for industrial use under this section. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"(5)(a) A local government, as defined in ORS 174.116, may not authorize a connection to any portion of a sewer facility located between an urban growth boundary or the boundary of an unincorporated community and the boundary of the mill site or the industrial zone containing the mill site, except as provided under ORS 197.732 and any goals adopted under ORS 197.225 relating to public facilities and services.

"(b) Sewer facilities approved under subsection (4) of this section shall be limited in size to meet the needs of authorized industrial uses and may not provide service to retail, commercial or residential development, except as provided under any goals adopted under ORS 197.225 relating to public facilities and services, unless all appropriate exceptions are approved under ORS 197.732. The presence of the sewer facilities may not be used to justify an exception to any goals adopted

ing of wood products.

"[*(2) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 for the protection of agricultural lands or forestlands, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for industrial use.*]

"[*(3)*] **(2)** Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to urbanization, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for any level of industrial use.

"[*(4)*] **(3)** Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to public facilities and services, the governing body of a county or its designee may approve:

"(a) The extension of sewer facilities to lands that on the effective date of this 2003 Act are zoned for industrial use and that contain an abandoned or diminished mill site. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"(b) The extension of sewer facilities to an abandoned or diminished mill site that is rezoned for industrial use under this section only as necessary to serve industrial uses authorized for the mill site.

"(c) The establishment of on-site sewer facilities to serve an area that on the effective date of this 2003 Act is zoned for industrial use and that contains an abandoned or diminished mill site or to serve an abandoned or diminished mill site that is rezoned for industrial use under this section. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"[*(5)(a)*] **(4)(a)** A local government, as defined in ORS 174.116, may not authorize a connection to any portion of a sewer facility located between an urban growth boundary or the boundary of an unincorporated community and the boundary of the mill site or the industrial zone containing the mill

site, except as provided under ORS 197.732 and any goals adopted under ORS 197.225 relating to public facilities and services.

"(b) Sewer facilities approved under subsection [*(4)*] **(3)** of this section shall be limited in size to meet the needs of authorized industrial uses and may not provide service to retail, commercial or residential development, except as provided under any goals adopted under ORS 197.225 relating to public facilities and services, unless all appropriate exceptions are approved under ORS 197.732. The presence of the sewer facilities may not be used to justify an exception to any goals adopted to protect agricultural lands and forestlands or relating to urbanization.

"[*(6)(a)*] **(5)(a)** The governing body of a county, or its designee, shall determine the boundary of an abandoned or diminished mill site. For an abandoned or diminished mill site that is rezoned for industrial use under this section, land within the boundary of the mill site may include only those areas that were improved for the processing or manufacturing of wood products.

"(b) The governing body of a city or county, or its designee, may approve a permit, as defined in ORS 215.402 or 227.160, only for industrial development on an abandoned or diminished mill site that is rezoned for industrial use pursuant to this section and may not approve a permit for retail, commercial or residential development on the mill site.

"[*(7)*] **(6)** For land that on the effective date of this 2003 Act is zoned under a goal adopted under ORS 197.225 for the protection of agricultural lands or forestlands and that is rezoned for industrial use under [*subsections (2) and (3)*] **subsection (2)** of this section, the governing body of the county or its designee may not later rezone the land for retail, commercial or other nonresource use unless all appropriate exceptions under ORS 197.732 have been approved.

"SECTION 4. The amendments to section 2 of this 2003 Act by section 3 of this 2003 Act become operative on January 1, 2010.".

On page 2, delete lines 1 through 10.

In line 11, delete "3" and insert "5".

Oregon

Theodore R. Kulongoski, Governor

Department of Land Conservation and Development
635 Capitol Street NE, Suite 150
Salem, Oregon 97301-2540
Phone: (503) 373-0050
Main/Coastal Fax: (503) 378-6033
Director's/Rural Fax: (503) 378-5518
TGM/Urban Fax: (503) 378-2687
Web Address: http://www.lcd.state.or.us

April 15, 2003

TO: The Honorable Rick Metzger, Chair
Committee on Transportation and Economic Development

FROM: Randy Franke, LCDC Chair
Nan Evans, DLCD Director

SUBJECT: Senate Bill 467 and House Bill 2691

For several weeks the staff of this Department has engaged in negotiations with workgroups on Senate Bill 467 and House Bill 2691. These negotiations have resulted in amendments to the bills that improve them and that represent a broad consensus among local governments, stakeholders, interest groups and state agencies. This department strongly supports this legislation.

Senate bill 467 and House Bill 2691 are in response to recommendations from the Advisory Committee on Commercial and Industrial Development (established by last session's HB 3557). Together, these two bills are intended to increase the supply of market-ready industrial sites in urban and rural areas statewide.

Senate Bill 467 addresses both the near-term and the long-term need for industrial sites statewide. The amended bill includes a near-term strategy to select and certify 25 market-ready industrial sites throughout the state. This effort, which is already underway, will involve at least 5 state agencies (including DLCD) and the community solutions team. The bill also provides a long-term strategy intended to make sure there is a continuous supply of market-ready industrial sites.

House Bill 2691 addresses abandoned or underutilized mill sites throughout rural Oregon. The bill assures that such sites are available for a wide range of new industry in rural areas and that public facilities are authorized to serve such sites. The commission recently adopted a temporary rule that includes some of the provisions of this bill. The various issues surrounding this bill were resolved by the work group and are incorporated in the dash nine amendments.

Again, DLCD recommends that the Senate pass this legislation. If you have questions about these bills and our about our recommendations, please call Bob Rindy at 503-373-0050 Ext 229, or email at bob.rindy@state.or.us.

Cc: Senator Messerle
Representative P. Smith

MEASURE: HB 2691A
EXHIBIT: 14
Senate Transportation & Economic Devel.
DATE: 4-16-03 PAGES: 1
SUBMITTED BY: Bob Rindy

MEASURE: HB 2691
EXHIBIT: B
Senate Transportation & Economic Devel.
DATE: 4-21-03 PAGES: 3
SUBMITTED BY: Staff

HB 2691-A11
(LC 2927)
4/18/03 (BHC/cc/ps)

PROPOSED AMENDMENTS TO A-ENGROSSED HOUSE BILL 2691

On page 1 of the printed A-engrossed bill, delete lines 5 through 25 and insert:

"**SECTION 2.** **(1) As used in this section, 'abandoned or diminished mill site' means a mill, plant or other facility engaged in the processing or manufacturing of wood products, including sawmills and facilities for the production of plywood, veneer, hardboard, panel products, pulp and paper, that:**

"(a) Is located outside of urban growth boundaries;

"(b) Was closed after January 1, 1980, or has been operating at less than 25 percent of capacity since January 1, 2003; and

"(c) Contains or contained permanent buildings used in the production or manufacturing of wood products.

"(2) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 for the protection of agricultural lands or forestlands, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for industrial use.

"(3) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to urbanization, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for any level of industrial use.

"(4) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to public facilities and services, the governing body of

a county or its designee may approve:

"(a) The extension of sewer facilities to lands that on the effective date of this 2003 Act are zoned for industrial use and that contain an abandoned or diminished mill site. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"(b) The extension of sewer facilities to an abandoned or diminished mill site that is rezoned for industrial use under this section only as necessary to serve industrial uses authorized for the mill site.

"(c) The establishment of on-site sewer facilities to serve an area that on the effective date of this 2003 Act is zoned for industrial use and that contains an abandoned or diminished mill site or to serve an abandoned or diminished mill site that is rezoned for industrial use under this section. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"(5)(a) A local government, as defined in ORS 174.116, may not authorize a connection to any portion of a sewer facility located between an urban growth boundary or the boundary of an unincorporated community and the boundary of the mill site or the industrial zone containing the mill site, except as provided under ORS 197.732 and any goals adopted under ORS 197.225 relating to public facilities and services.

"(b) Sewer facilities approved under subsection (4) of this section shall be limited in size to meet the needs of authorized industrial uses and may not provide service to retail, commercial or residential development, except as provided under any goals adopted under ORS 197.225 relating to public facilities and services, unless all appropriate exceptions are approved under ORS 197.732. The presence of the sewer facilities may not be used to justify an exception to any goals adopted

to protect agricultural lands and forestlands or relating to urbanization.

"(6)(a) The governing body of a county or its designee shall determine the boundary of an abandoned or diminished mill site. For an abandoned or diminished mill site that is rezoned for industrial use under this section, land within the boundary of the mill site may include only those areas that were improved for the processing or manufacturing of wood products.

"(b) For an abandoned or diminished mill site subject to subsections (2), (3) or (4) of this section, the governing body of a city or county or its designee may approve a permit, as defined in ORS 215.402 or 227.160, only for industrial development and accessory uses subordinate to such development on the mill site. The governing body or its designee may not approve a permit for retail, commercial or residential development on the mill site.

"(7) For land that on the effective date of this 2003 Act is zoned under a goal adopted under ORS 197.225 for the protection of agricultural lands or forestlands and that is rezoned for industrial use under subsections (2) and (3) of this section, the governing body of the county or its designee may not later rezone the land for retail, commercial or other nonresource use unless all appropriate exceptions under ORS 197.732 have been approved.".

On page 2, delete lines 1 through 10.

MEASURE: HB2691
EXHIBIT: C
Senate Transportation & Economic Devel.
DATE: 4-21-03 PAGES: 10
SUBMITTED BY: Staff

HB 2691-A12
(LC 2927)
4/18/03 (BHC/cc/ps)

PROPOSED AMENDMENTS TO A-ENGROSSED HOUSE BILL 2691

On page 1 of the printed A-engrossed bill, delete lines 5 through 25 and insert:

"**SECTION 2. (1) As used in this section, 'abandoned or diminished mill site' means a mill, plant or other facility engaged in the processing or manufacturing of wood products, including sawmills and facilities for the production of plywood, veneer, hardboard, panel products pulp and paper, that:**

"(a) Is located outside of urban growth boundaries;

"(b) Was closed after January 1, 1980, or has been operating at less than 25 percent of capacity since January 1, 2003; and

"(c) Contains or contained permanent buildings used in the production or manufacturing of wood products.

"(2) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 for the protection of agricultural lands or forestlands, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for industrial use.

"(3) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to urbanization, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for any level of industrial use.

"(4) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to public facilities and services, the governing body o

a county or its designee may approve:

"(a) The extension of sewer facilities to lands that on the effective date of this 2003 Act are zoned for industrial use and that contain an abandoned or diminished mill site. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"(b) The extension of sewer facilities to an abandoned or diminished mill site that is rezoned for industrial use under this section only as necessary to serve industrial uses authorized for the mill site.

"(c) The establishment of on-site sewer facilities to serve an area that on the effective date of this 2003 Act is zoned for industrial use and that contains an abandoned or diminished mill site or to serve an abandoned or diminished mill site that is rezoned for industrial use under this section. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"(5)(a) A local government, as defined in ORS 174.116, may not authorize a connection to any portion of a sewer facility located between an urban growth boundary or the boundary of an unincorporated community and the boundary of the mill site or the industrial zone containing the mill site, except as provided under ORS 197.732 and any goals adopted under ORS 197.225 relating to public facilities and services.

"(b) Sewer facilities approved under subsection (4) of this section shall be limited in size to meet the needs of authorized industrial uses and may not provide service to retail, commercial or residential development, except as provided under any goals adopted under ORS 197.225 relating to public facilities and services, unless all appropriate exceptions are approved under ORS 197.732. The presence of the sewer facilities may not be used to justify an exception to any goals adopted

to protect agricultural lands and forestlands or relating to urbanization.

"(6)(a) The governing body of a county or its designee shall determine the boundary of an abandoned or diminished mill site. For an abandoned or diminished mill site that is rezoned for industrial use under this section, land within the boundary of the mill site may include only those areas that were improved for the processing or manufacturing of wood products.

"(b) For an abandoned or diminished mill site subject to subsections (2), (3) or (4) of this section, the governing body of a city or county or its designee may approve a permit, as defined in ORS 215.402 or 227.160, only for industrial development and accessory uses subordinate to such development on the mill site. The governing body or its designee may not approve a permit for retail, commercial or residential development on the mill site.

"(7) For land that on the effective date of this 2003 Act is zoned under a goal adopted under ORS 197.225 for the protection of agricultural lands or forestlands and that is rezoned for industrial use under subsections (2) and (3) of this section, the governing body of the county or its designee may not later rezone the land for retail, commercial or other nonresource use unless all appropriate exceptions under ORS 197.732 have been approved.

"SECTION 3. Section 2 of this 2003 Act is amended to read:

"**Sec. 2.** (1) As used in this section, 'abandoned or diminished mill site' means a mill, plant or other facility engaged in the processing or manufacturing of wood products, including sawmills and facilities for the production of plywood, veneer, hardboard, panel products, pulp and paper, that:

"(a) Is located outside of urban growth boundaries;

"(b) Was closed after January 1, 1980, or has been operating at less than 25 percent of capacity since January 1, 2003; and

"(c) Contains or contained permanent buildings used in the production or manufacturing of wood products.

"[*(2) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 for the protection of agricultural lands or forestlands, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for industrial use.*]

"[*(3)*] **(2)** Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to urbanization, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for any level of industrial use.

"[*(4)*] **(3)** Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to public facilities and services, the governing body of a county or its designee may approve:

"(a) The extension of sewer facilities to lands that on the effective date of this 2003 Act are zoned for industrial use and that contain an abandoned or diminished mill site. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"(b) The extension of sewer facilities to an abandoned or diminished mill site that is rezoned for industrial use under this section only as necessary to serve industrial uses authorized for the mill site.

"(c) The establishment of on-site sewer facilities to serve an area that on the effective date of this 2003 Act is zoned for industrial use and that contains an abandoned or diminished mill site or to serve an abandoned or diminished mill site that is rezoned for industrial use under this section. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"[*(5)(a)*] **(4)(a)** A local government, as defined in ORS 174.116, may not authorize a connection to any portion of a sewer facility located between an urban growth boundary or the boundary of an unincorporated community

and the boundary of the mill site or the industrial zone containing the mill site, except as provided under ORS 197.732 and any goals adopted under ORS 197.225 relating to public facilities and services.

"(b) Sewer facilities approved under subsection [*(4)*] **(3)** of this section shall be limited in size to meet the needs of authorized industrial uses and may not provide service to retail, commercial or residential development, except as provided under any goals adopted under ORS 197.225 relating to public facilities and services, unless all appropriate exceptions are approved under ORS 197.732. The presence of the sewer facilities may not be used to justify an exception to any goals adopted to protect agricultural lands and forestlands or relating to urbanization.

"[*(6)(a)*] **(5)(a)** The governing body of a county or its designee shall determine the boundary of an abandoned or diminished mill site. For an abandoned or diminished mill site that is rezoned for industrial use under this section, land within the boundary of the mill site may include only those areas that were improved for the processing or manufacturing of wood products.

"(b) For an abandoned or diminished mill site subject to subsection (2)[,] **or** (3) [*or (4)*] of this section, the governing body of a city or county or its designee may approve a permit, as defined in ORS 215.402 or 227.160, only for industrial development and accessory uses subordinate to such development on the mill site. The governing body or its designee may not approve a permit for retail, commercial or residential development on the mill site.

"[*(7)*] **(6)** For land that on the effective date of this 2003 Act is zoned under a goal adopted under ORS 197.225 for the protection of agricultural lands or forestlands and that is rezoned for industrial use under [*subsections (2) and (3)*] **subsection (2)** of this section, the governing body of the county or its designee may not later rezone the land for retail, commercial or other nonresource use unless all appropriate exceptions under ORS 197.732 have been approved.

"SECTION 4. The amendments to section 2 of this 2003 Act by section 3 of this 2003 Act become operative on January 1, 2010.".

On page 2, delete lines 1 through 10.

In line 11, delete "3" and insert "5".

HB 2691-A9
(LC 2927)
4/16/03 (BHC/cc/ps)

MEASURE: HB 2691 A
EXHIBIT: F
Senate Transportation & Economic Devel.
DATE: 4-16-03 PAGES: 3
SUBMITTED BY: Chris Kramer

PROPOSED AMENDMENTS TO A-ENGROSSED HOUSE BILL 2691

On page 1 of the printed A-engrossed bill, delete lines 5 through 25 and insert:

"SECTION 2. (1) As used in this section, 'abandoned or diminished mill site' means a mill, plant or other facility engaged in the processing or manufacturing of wood products, including sawmills and facilities for the production of plywood, veneer, hardboard, panel products, pulp and paper, that:

"(a) Is located outside of urban growth boundaries;

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"(2) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 for the protection of agricultural lands or forestlands, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for industrial use.

"(3) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to urbanization, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for any level of industrial use.

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"(b) The extension of sewer facilities to an abandoned or diminished mill site that is rezoned for industrial use under this section only as necessary to serve industrial uses authorized for the mill site.

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"(5)(a) A local government, as defined in ORS 174.116, may not authorize a connection to any portion of a sewer facility located between an urban growth boundary or the boundary of an unincorporated community and the boundary of the mill site or the industrial zone containing the mill site, except as provided under ORS 197.732 and any goals adopted under ORS 197.225 relating to public facilities and services.

"(b) Sewer facilities approved under subsection (4) of this section shall be limited in size to meet the needs of authorized industrial uses and may not provide service to retail, commercial or residential development, except as provided under any goals adopted under ORS 197.225 relating to public facilities and services, unless all appropriate exceptions are approved under ORS 197.732. The presence of the sewer facilities may not be used to justify an exception to any goals adopted

to protect agricultural lands and forestlands or relating to urbanization.

"(6)(a) The governing body of a county, or its designee, shall determine the boundary of an abandoned or diminished mill site. For an abandoned or diminished mill site that is rezoned for industrial use under this section, land within the boundary of the mill site may include only those areas that were improved for the processing or manufacturing of wood products.

"(b) The governing body of a city or county, or its designee, may approve a permit, as defined in ORS 215.402 or 227.160, only for industrial development on an abandoned or diminished mill site that is rezoned for industrial use pursuant to this section and may not approve a permit for retail, commercial or residential development on the mill site.

"(7) For land that, on the effective date of this 2003 Act, is zoned under a goal adopted under ORS 197.225 for the protection of agricultural lands or forestlands and that is rezoned for industrial use under subsections (2) and (3) of this section, the governing body of the county or its designee may not later rezone the land for retail, commercial or other nonresource use unless all appropriate exceptions under ORS 197.732 have been approved.".

On page 2, delete lines 1 through 10.

HB 2691-A10
(LC 2927)
4/16/03 (BHC/cc/ps)

MEASURE: HB 2691 A
EXHIBIT: G
Senate Transportation & Economic Devel.
DATE: 4/16/03 PAGES: 1
SUBMITTED BY: Mark Kramer

PROPOSED AMENDMENTS TO A-ENGROSSED HOUSE BILL 2691

On page 1 of the printed A-engrossed bill, delete lines 5 through 25 and insert:

"SECTION 2. (1) As used in this section, 'abandoned or diminished mill site' means a mill, plant or other facility engaged in the processing or manufacturing of wood products, including sawmills and facilities for the production of plywood, veneer, hardboard, panel products, pulp and paper, that:

"(a) Is located outside of urban growth boundaries;

"(b) Was closed after January 1, 1980, or has been operating at less than 25 percent of capacity since January 1, 2003; and

"(c) Contains permanent buildings used in the production or manufacturing of wood products.

"(2) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 for the protection of agricultural lands or forestlands, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for industrial use.

"(3) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to urbanization, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for any level of industrial use.

"(4) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to public facilities and services, the governing body of

a county or its designee may approve:

"(a) The extension of sewer facilities to lands that on the effective date of this 2003 Act are zoned for industrial use and that contain an abandoned or diminished mill site. The sewer facilities may only serve industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"(b) The extension of sewer facilities to an abandoned or diminished mill site that is rezoned for industrial use under this section only as necessary to serve industrial uses authorized for the mill site.

"(c) The establishment of on-site sewer facilities to serve an area that on the effective date of this 2003 Act is zoned for industrial use and that contains an abandoned or diminished mill site or to serve an abandoned or diminished mill site that is rezoned for industrial use under this section. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"(5)(a) A local government, as defined in ORS 174.116, may not authorize a connection to any portion of a sewer facility located between an urban growth boundary or the boundary of an unincorporated community and the boundary of the mill site or the industrial zone containing the mill site, except as provided under ORS 197.732 and any goals adopted under ORS 197.225 relating to public facilities and services.

"(b) Sewer facilities approved under subsection (4) of this section shall be limited in size to meet the needs of authorized industrial uses and may not provide service to retail, commercial or residential development, except as provided under any goals adopted under ORS 197.225 relating to public facilities and services, unless all appropriate exceptions are approved under ORS 197.732. The presence of the sewer facilities may not be used to justify an exception to any goals adopted

ing of wood products.

"[*(2) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 for the protection of agricultural lands or forestlands, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for industrial use.*]

"[*(3)*] **(2)** Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to urbanization, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for any level of industrial use.

"[*(4)*] **(3)** Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to public facilities and services, the governing body of a county or its designee may approve:

"(a) The extension of sewer facilities to lands that on the effective date of this 2003 Act are zoned for industrial use and that contain an abandoned or diminished mill site. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"(b) The extension of sewer facilities to an abandoned or diminished mill site that is rezoned for industrial use under this section only as necessary to serve industrial uses authorized for the mill site.

"(c) The establishment of on-site sewer facilities to serve an area that on the effective date of this 2003 Act is zoned for industrial use and that contains an abandoned or diminished mill site or to serve an abandoned or diminished mill site that is rezoned for industrial use under this section. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"[*(5)(a)*] **(4)(a)** A local government, as defined in ORS 174.116, may not authorize a connection to any portion of a sewer facility located between an urban growth boundary or the boundary of an unincorporated community and the boundary of the mill site or the industrial zone containing the mill

site, except as provided under ORS 197.732 and any goals adopted under ORS 197.225 relating to public facilities and services.

"(b) Sewer facilities approved under subsection [*(4)*] **(3)** of this section shall be limited in size to meet the needs of authorized industrial uses and may not provide service to retail, commercial or residential development, except as provided under any goals adopted under ORS 197.225 relating to public facilities and services, unless all appropriate exceptions are approved under ORS 197.732. The presence of the sewer facilities may not be used to justify an exception to any goals adopted to protect agricultural lands and forestlands or relating to urbanization.

"[*(6)(a)*] **(5)(a)** The governing body of a county, or its designee, shall determine the boundary of an abandoned or diminished mill site. For an abandoned or diminished mill site that is rezoned for industrial use under this section, land within the boundary of the mill site may include only those areas that were improved for the processing or manufacturing of wood products.

"(b) The governing body of a city or county, or its designee, may approve a permit, as defined in ORS 215.402 or 227.160, only for industrial development on an abandoned or diminished mill site that is rezoned for industrial use pursuant to this section and may not approve a permit for retail, commercial or residential development on the mill site.

"[*(7)*] **(6)** For land that on the effective date of this 2003 Act is zoned under a goal adopted under ORS 197.225 for the protection of agricultural lands or forestlands and that is rezoned for industrial use under [*subsections (2) and (3)*] **subsection (2)** of this section, the governing body of the county or its designee may not later rezone the land for retail, commercial or other nonresource use unless all appropriate exceptions under ORS 197.732 have been approved.

"SECTION 4. The amendments to section 2 of this 2003 Act by section 3 of this 2003 Act become operative on January 1, 2010.".

On page 2, delete lines 1 through 10.

In line 11, delete "3" and insert "5".

EXHIBIT 1
Z0437-25 & Z0438-25
Page 400 of 623

Oregon

Theodore R. Kulongoski, Governor

Department of Land Conservation and Development
635 Capitol Street NE, Suite 150
Salem, Oregon 97301-2540
Phone: (503) 373-0050
Main/Coastal Fax: (503) 378-6033
Director's/Rural Fax: (503) 378-5518
TGM/Urban Fax: (503) 378-2687
Web Address: http://www.lcd.state.or.us

April 15, 2003

TO: The Honorable Rick Metzger, Chair
Committee on Transportation and Economic Development

FROM: Randy Franke, LCDC Chair
Nan Evans, DLCD Director

SUBJECT: Senate Bill 467 and House Bill 2691

For several weeks the staff of this Department has engaged in negotiations with workgroups on Senate Bill 467 and House Bill 2691. These negotiations have resulted in amendments to the bills that improve them and that represent a broad consensus among local governments, stakeholders, interest groups and state agencies. This department strongly supports this legislation.

Senate bill 467 and House Bill 2691 are in response to recommendations from the Advisory Committee on Commercial and Industrial Development (established by last session's HB 3557). Together, these two bills are intended to increase the supply of market-ready industrial sites in urban and rural areas statewide.

Senate Bill 467 addresses both the near-term and the long-term need for industrial sites statewide. The amended bill includes a near-term strategy to select and certify 25 market-ready industrial sites throughout the state. This effort, which is already underway, will involve at least 5 state agencies (including DLCD) and the community solutions team. The bill also provides a long-term strategy intended to make sure there is a continuous supply of market-ready industrial sites.

House Bill 2691 addresses abandoned or underutilized mill sites throughout rural Oregon. The bill assures that such sites are available for a wide range of new industry in rural areas and that public facilities are authorized to serve such sites. The commission recently adopted a temporary rule that includes some of the provisions of this bill. The various issues surrounding this bill were resolved by the work group and are incorporated in the dash nine amendments.

Again, DLCD recommends that the Senate pass this legislation. If you have questions about these bills and our about our recommendations, please call Bob Rindy at 503-373-0050 Ext 229, or email at bob.rindy@state.or.us.

Cc: Senator Messerle
Representative P. Smith

MEASURE: HB 2691A
EXHIBIT: 1
Senate Transportation & Economic Devel.
DATE: 4-16-03 PAGES: 1
SUBMITTED BY: Bob Rindy

HB 2691-A11
(LC 2927)
4/18/03 (BHC/cc/ps)

MEASURE: HB 2691
EXHIBIT: B
Senate Transportation & Economic Devel.
DATE: 4-21-03 PAGES: 3
SUBMITTED BY: Staff

PROPOSED AMENDMENTS TO A-ENGROSSED HOUSE BILL 2691

On page 1 of the printed A-engrossed bill, delete lines 5 through 25 and insert:

"SECTION 2. (1) As used in this section, 'abandoned or diminished mill site' means a mill, plant or other facility engaged in the processing or manufacturing of wood products, including sawmills and facilities for the production of plywood, veneer, hardboard, panel products, pulp and paper, that:

"(a) Is located outside of urban growth boundaries;

"(b) Was closed after January 1, 1980, or has been operating at less than 25 percent of capacity since January 1, 2003; and

"(c) Contains or contained permanent buildings used in the production or manufacturing of wood products.

"(2) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 for the protection of agricultural lands or forestlands, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for industrial use.

"(3) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to urbanization, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for any level of industrial use.

"(4) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to public facilities and services, the governing body of

a county or its designee may approve:

"(a) The extension of sewer facilities to lands that on the effective date of this 2003 Act are zoned for industrial use and that contain an abandoned or diminished mill site. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"(b) The extension of sewer facilities to an abandoned or diminished mill site that is rezoned for industrial use under this section only as necessary to serve industrial uses authorized for the mill site.

"(c) The establishment of on-site sewer facilities to serve an area that on the effective date of this 2003 Act is zoned for industrial use and that contains an abandoned or diminished mill site or to serve an abandoned or diminished mill site that is rezoned for industrial use under this section. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"(5)(a) A local government, as defined in ORS 174.116, may not authorize a connection to any portion of a sewer facility located between an urban growth boundary or the boundary of an unincorporated community and the boundary of the mill site or the industrial zone containing the mill site, except as provided under ORS 197.732 and any goals adopted under ORS 197.225 relating to public facilities and services.

"(b) Sewer facilities approved under subsection (4) of this section shall be limited in size to meet the needs of authorized industrial uses and may not provide service to retail, commercial or residential development, except as provided under any goals adopted under ORS 197.225 relating to public facilities and services, unless all appropriate exceptions are approved under ORS 197.732. The presence of the sewer facilities may not be used to justify an exception to any goals adopted

to protect agricultural lands and forestlands or relating to urbanization.

"(6)(a) The governing body of a county or its designee shall determine the boundary of an abandoned or diminished mill site. For an abandoned or diminished mill site that is rezoned for industrial use under this section, land within the boundary of the mill site may include only those areas that were improved for the processing or manufacturing of wood products.

"(b) For an abandoned or diminished mill site subject to subsections (2), (3) or (4) of this section, the governing body of a city or county or its designee may approve a permit, as defined in ORS 215.402 or 227.160, only for industrial development and accessory uses subordinate to such development on the mill site. The governing body or its designee may not approve a permit for retail, commercial or residential development on the mill site.

"(7) For land that on the effective date of this 2003 Act is zoned under a goal adopted under ORS 197.225 for the protection of agricultural lands or forestlands and that is rezoned for industrial use under subsections (2) and (3) of this section, the governing body of the county or its designee may not later rezone the land for retail, commercial or other nonresource use unless all appropriate exceptions under ORS 197.732 have been approved.".

On page 2, delete lines 1 through 10.

MEASURE: HB2691
EXHIBIT: C
Senate Transportation & Economic Devel.
DATE: 4-21-03 PAGES: 10
SUBMITTED BY: Staff

HB 2691-A12
(LC 2927)
4/18/03 (BHC/cc/ps)

PROPOSED AMENDMENTS TO A-ENGROSSED HOUSE BILL 2691

On page 1 of the printed A-engrossed bill, delete lines 5 through 25 and insert:

"SECTION 2. (1) As used in this section, 'abandoned or diminished mill site' means a mill, plant or other facility engaged in the processing or manufacturing of wood products, including sawmills and facilities for the production of plywood, veneer, hardboard, panel products pulp and paper, that:

"(a) Is located outside of urban growth boundaries;

"(b) Was closed after January 1, 1980, or has been operating at less than 25 percent of capacity since January 1, 2003; and

"(c) Contains or contained permanent buildings used in the production or manufacturing of wood products.

"(2) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 for the protection of agricultural lands or forestlands, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for industrial use.

"(3) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to urbanization, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for any level of industrial use.

"(4) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to public facilities and services, the governing body o

a county or its designee may approve:

"(a) The extension of sewer facilities to lands that on the effective date of this 2003 Act are zoned for industrial use and that contain an abandoned or diminished mill site. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"(b) The extension of sewer facilities to an abandoned or diminished mill site that is rezoned for industrial use under this section only as necessary to serve industrial uses authorized for the mill site.

"(c) The establishment of on-site sewer facilities to serve an area that on the effective date of this 2003 Act is zoned for industrial use and that contains an abandoned or diminished mill site or to serve an abandoned or diminished mill site that is rezoned for industrial use under this section. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"(5)(a) A local government, as defined in ORS 174.116, may not authorize a connection to any portion of a sewer facility located between an urban growth boundary or the boundary of an unincorporated community and the boundary of the mill site or the industrial zone containing the mill site, except as provided under ORS 197.732 and any goals adopted under ORS 197.225 relating to public facilities and services.

"(b) Sewer facilities approved under subsection (4) of this section shall be limited in size to meet the needs of authorized industrial uses and may not provide service to retail, commercial or residential development, except as provided under any goals adopted under ORS 197.225 relating to public facilities and services, unless all appropriate exceptions are approved under ORS 197.732. The presence of the sewer facilities may not be used to justify an exception to any goals adopted

to protect agricultural lands and forestlands or relating to urbanization.

"(6)(a) The governing body of a county or its designee shall determine the boundary of an abandoned or diminished mill site. For an abandoned or diminished mill site that is rezoned for industrial use under this section, land within the boundary of the mill site may include only those areas that were improved for the processing or manufacturing of wood products.

"(b) For an abandoned or diminished mill site subject to subsections (2), (3) or (4) of this section, the governing body of a city or county or its designee may approve a permit, as defined in ORS 215.402 or 227.160, only for industrial development and accessory uses subordinate to such development on the mill site. The governing body or its designee may not approve a permit for retail, commercial or residential development on the mill site.

"(7) For land that on the effective date of this 2003 Act is zoned under a goal adopted under ORS 197.225 for the protection of agricultural lands or forestlands and that is rezoned for industrial use under subsections (2) and (3) of this section, the governing body of the county or its designee may not later rezone the land for retail, commercial or other nonresource use unless all appropriate exceptions under ORS 197.732 have been approved.

"SECTION 3. Section 2 of this 2003 Act is amended to read:

"**Sec. 2.** (1) As used in this section, 'abandoned or diminished mill site' means a mill, plant or other facility engaged in the processing or manufacturing of wood products, including sawmills and facilities for the production of plywood, veneer, hardboard, panel products, pulp and paper, that:

"(a) Is located outside of urban growth boundaries;

"(b) Was closed after January 1, 1980, or has been operating at less than 25 percent of capacity since January 1, 2003; and

"(c) Contains or contained permanent buildings used in the production or manufacturing of wood products.

"[*(2) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 for the protection of agricultural lands or forestlands, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for industrial use.*]

"[*(3)*] **(2)** Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to urbanization, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for any level of industrial use.

"[*(4)*] **(3)** Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to public facilities and services, the governing body of a county or its designee may approve:

"(a) The extension of sewer facilities to lands that on the effective date of this 2003 Act are zoned for industrial use and that contain an abandoned or diminished mill site. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"(b) The extension of sewer facilities to an abandoned or diminished mill site that is rezoned for industrial use under this section only as necessary to serve industrial uses authorized for the mill site.

"(c) The establishment of on-site sewer facilities to serve an area that on the effective date of this 2003 Act is zoned for industrial use and that contains an abandoned or diminished mill site or to serve an abandoned or diminished mill site that is rezoned for industrial use under this section. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

"[*(5)(a)*] **(4)(a)** A local government, as defined in ORS 174.116, may not authorize a connection to any portion of a sewer facility located between an urban growth boundary or the boundary of an unincorporated community

and the boundary of the mill site or the industrial zone containing the mill site, except as provided under ORS 197.732 and any goals adopted under ORS 197.225 relating to public facilities and services.

"(b) Sewer facilities approved under subsection [*(4)*] **(3)** of this section shall be limited in size to meet the needs of authorized industrial uses and may not provide service to retail, commercial or residential development, except as provided under any goals adopted under ORS 197.225 relating to public facilities and services, unless all appropriate exceptions are approved under ORS 197.732. The presence of the sewer facilities may not be used to justify an exception to any goals adopted to protect agricultural lands and forestlands or relating to urbanization.

"[*(6)(a)*] **(5)(a)** The governing body of a county or its designee shall determine the boundary of an abandoned or diminished mill site. For an abandoned or diminished mill site that is rezoned for industrial use under this section, land within the boundary of the mill site may include only those areas that were improved for the processing or manufacturing of wood products.

"(b) For an abandoned or diminished mill site subject to subsection (2)[,] **or** (3) [*or (4)*] of this section, the governing body of a city or county or its designee may approve a permit, as defined in ORS 215.402 or 227.160, only for industrial development and accessory uses subordinate to such development on the mill site. The governing body or its designee may not approve a permit for retail, commercial or residential development on the mill site.

"[*(7)*] **(6)** For land that on the effective date of this 2003 Act is zoned under a goal adopted under ORS 197.225 for the protection of agricultural lands or forestlands and that is rezoned for industrial use under [*subsections (2) and (3)*] **subsection (2)** of this section, the governing body of the county or its designee may not later rezone the land for retail, commercial or other nonresource use unless all appropriate exceptions under ORS 197.732 have been approved.

"SECTION 4. The amendments to section 2 of this 2003 Act by section 3 of this 2003 Act become operative on January 1, 2010.".

On page 2, delete lines 1 through 10.

In line 11, delete "3" and insert "5".

72nd OREGON LEGISLATIVE ASSEMBLY--2003 Regular Session

Enrolled
House Bill 2691

Sponsored by Representative P SMITH, Senator METSGER; Representative RICHARDSON

CHAPTER .....

AN ACT

Relating to industrial zoning of mill sites; and declaring an emergency.

Be It Enacted by the People of the State of Oregon:

SECTION 1. Section 2 of this 2003 Act is added to and made a part of ORS chapter 197.

SECTION 2. (1) As used in this section, "abandoned or diminished mill site" means a mill, plant or other facility engaged in the processing or manufacturing of wood products, including sawmills and facilities for the production of plywood, veneer, hardboard, panel products, pulp and paper, that:

(a) Is located outside of urban growth boundaries;

(b) Was closed after January 1, 1980, or has been operating at less than 25 percent of capacity since January 1, 2003; and

(c) Contains or contained permanent buildings used in the production or manufacturing of wood products.

(2) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 for the protection of agricultural lands or forestlands, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for industrial use.

(3) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to urbanization, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for any level of industrial use.

(4) Notwithstanding ORS 197.732 or any goals adopted under ORS 197.225 relating to public facilities and services, the governing body of a county or its designee may approve:

(a) The extension of sewer facilities to lands that on the effective date of this 2003 Act are zoned for industrial use and that contain an abandoned or diminished mill site. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

(b) The extension of sewer facilities to an abandoned or diminished mill site that is rezoned for industrial use under this section only as necessary to serve industrial uses authorized for the mill site.

(c) The establishment of on-site sewer facilities to serve an area that on the effective date of this 2003 Act is zoned for industrial use and that contains an abandoned or diminished mill site or to serve an abandoned or diminished mill site that is rezoned for industrial use under this section. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

(5)(a) A local government, as defined in ORS 174.116, may not authorize a connection to any portion of a sewer facility located between an urban growth boundary or the boundary of an unincorporated community and the boundary of the mill site or the industrial zone containing the mill site, except as provided under ORS 197.732 and any goals adopted under ORS 197.225 relating to public facilities and services.

(b) Sewer facilities approved under subsection (4) of this section shall be limited in size to meet the needs of authorized industrial uses and may not provide service to retail, commercial or residential development, except as provided under any goals adopted under ORS 197.225 relating to public facilities and services, unless all appropriate exceptions are approved under ORS 197.732. The presence of the sewer facilities may not be used to justify an exception to any goals adopted to protect agricultural lands and forestlands or relating to urbanization.

(6)(a) The governing body of a county or its designee shall determine the boundary of an abandoned or diminished mill site. For an abandoned or diminished mill site that is rezoned for industrial use under this section, land within the boundary of the mill site may include only those areas that were improved for the processing or manufacturing of wood products.

(b) For an abandoned or diminished mill site subject to subsection (2), (3) or (4) of this section, the governing body of a city or county or its designee may approve a permit, as defined in ORS 215.402 or 227.160, only for industrial development and accessory uses subordinate to such development on the mill site. The governing body or its designee may not approve a permit for retail, commercial or residential development on the mill site.

(7) For land that on the effective date of this 2003 Act is zoned under a goal adopted under ORS 197.225 for the protection of agricultural lands or forestlands and that is rezoned for industrial use under subsections (2) and (3) of this section, the governing body of the county or its designee may not later rezone the land for retail, commercial or other nonresource use unless all appropriate exceptions under ORS 197.732 have been approved.

SECTION 3. This 2003 Act being necessary for the immediate preservation of the public peace, health and safety, an emergency is declared to exist, and this 2003 Act takes effect on its passage.

Passed by House March 19, 2003

Repassed by House May 8, 2003

.....
Chief Clerk of House

.....
Speaker of House

Passed by Senate May 2, 2003

.....
President of Senate

Received by Governor:

.....M.,....., 2003

Approved:

.....M.,....., 2003

.....
Governor

Filed in Office of Secretary of State:

.....M.,....., 2003

.....
Secretary of State

72nd OREGON LEGISLATIVE ASSEMBLY--2003 Regular Session

Enrolled
House Bill 2614

Sponsored by Representative KRUSE, Senator METSGER

CHAPTER .....

AN ACT

Relating to buildable land supply; creating new provisions; and amending section 2, chapter 252, Oregon Laws 2003 (Enrolled House Bill 2691).

Be It Enacted by the People of the State of Oregon:

SECTION 1. (1) Notwithstanding statewide land use planning goals relating to urbanization or to public facilities and services, a county or its designee may authorize:

(a) Industrial development, including accessory uses subordinate to the industrial development, in buildings of any size and type, subject to the permit approval process described in ORS 215.402 to 215.438 and to applicable building codes, in an area planned and zoned for industrial use on the effective date of this 2003 Act, subject to the territorial limits described in subsections (2) and (3) of this section.

(b) On-site sewer facilities to serve the industrial development authorized under this section, including accessory uses subordinate to the industrial development.

(2) Subject to subsection (3) of this section, a county or its designee may consider the following land for industrial development under this section:

(a) Land more than three miles outside the urban growth boundary of every city with a population of 15,000 individuals or more; and

(b) Land outside the urban growth boundary of every city with a population of fewer than 15,000 individuals.

(3) A county or its designee may not authorize industrial development under this section on land within the Willamette Valley as defined in ORS 215.010.

(4) A county or its designee may not authorize under this section retail, commercial or residential development in the area zoned for industrial use.

SECTION 2. (1) Notwithstanding the authority granted in section 1 of this 2003 Act to allow industrial development, including accessory uses subordinate to the industrial development, in areas zoned for industrial use, when a county or its designee considers action under section 1 (1) of this 2003 Act for land within 10 miles of the urban growth boundary of a city, the county or its designee shall give notice to the city at least 21 days prior to taking action.

(2) If the city objects to the authorization of industrial development under section 1 of this 2003 Act, the city and county shall negotiate to establish conditions on the industrial development or changes in the development necessary to mitigate concerns raised by the city's objection.

SECTION 3. Section 2, chapter 252, Oregon Laws 2003 (Enrolled House Bill 2691), is amended to read:

Sec. 2. (1) As used in this section, "abandoned or diminished mill site" means a mill, plant or other facility engaged in the processing or manufacturing of wood products, including sawmills and facilities for the production of plywood, veneer, hardboard, panel products, pulp and paper, that:

(a) Is located outside of urban growth boundaries;

(b) Was closed after January 1, 1980, or has been operating at less than 25 percent of capacity since January 1, 2003; and

(c) Contains or contained permanent buildings used in the production or manufacturing of wood products.

(2) Notwithstanding [*ORS 197.732 or any goals adopted under ORS 197.225 for the protection of*] **statewide land use planning goals protecting** agricultural lands or forestlands **or administrative rules implementing those goals**, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for industrial use.

(3) Notwithstanding [*ORS 197.732 or any goals adopted under ORS 197.225*] **a statewide land use planning goal** relating to urbanization **or administrative rules implementing that goal**, the governing body of a county may amend the county's comprehensive plan and land use regulations to allow an abandoned or diminished mill site to be zoned for any level of industrial use.

(4) Notwithstanding [*ORS 197.732 or any goals adopted under ORS 197.225*] **a statewide land use planning goal** relating to public facilities and services **or administrative rules implementing that goal**, the governing body of a county or its designee may approve:

(a) The extension of sewer facilities to lands that on [*the effective date of this 2003 Act*] **June 10, 2003,** are zoned for industrial use and that contain an abandoned or diminished mill site. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

(b) The extension of sewer facilities to an abandoned or diminished mill site that is rezoned for industrial use under this section only as necessary to serve industrial uses authorized for the mill site.

(c) The establishment of on-site sewer facilities to serve an area that on [*the effective date of this 2003 Act*] **June 10, 2003,** is zoned for industrial use and that contains an abandoned or diminished mill site or to serve an abandoned or diminished mill site that is rezoned for industrial use under this section. The sewer facilities may serve only industrial uses authorized for the mill site and contiguous lands zoned for industrial use.

(5)(a) A local government, as defined in ORS 174.116, may not authorize a connection to any portion of a sewer facility located between an urban growth boundary or the boundary of an unincorporated community and the boundary of the mill site or the industrial zone containing the mill site, except as provided **under a statewide land use planning goal relating to public facilities and services or** under ORS 197.732 [*and any goals adopted under ORS 197.225 relating to public facilities and services*].

(b) Sewer facilities approved under subsection (4) of this section shall be limited in size to meet the needs of authorized industrial uses and may not provide service to retail, commercial or residential development, except as provided under [*any goals adopted under ORS 197.225*] **a statewide land use planning goal** relating to public facilities and services[*, unless all appropriate exceptions are approved*] **or** under ORS 197.732. The presence of the sewer facilities may not be used to justify an exception to [*any goals adopted to protect*] **statewide land use planning goals protecting** agricultural lands [*and*] **or** forestlands or relating to urbanization.

(6)(a) The governing body of a county or its designee shall determine the boundary of an abandoned or diminished mill site. For an abandoned or diminished mill site that is rezoned for industrial use under this section, land within the boundary of the mill site may include only those areas that were improved for the processing or manufacturing of wood products.

(b) For an abandoned or diminished mill site subject to subsection (2), (3) or (4) of this section, the governing body of a city or county or its designee may approve a permit, as defined in ORS 215.402 or 227.160, only for industrial development and accessory uses subordinate to such develop-

ment on the mill site. The governing body or its designee may not approve a permit for retail, commercial or residential development on the mill site.

(7) For land that on [*the effective date of this 2003 Act*] **June 10, 2003,** is zoned under [*a goal adopted under ORS 197.225 for the protection of*] **statewide land use planning goals protecting** agricultural lands or forestlands and that is rezoned for industrial use under subsections (2) and (3) of this section, the governing body of the county or its designee may not later rezone the land for retail, commercial or other nonresource use [*unless all appropriate exceptions under ORS 197.732 have been approved*]**, except as provided under the statewide land use planning goals or under ORS 197.732**.

SECTION 4. (1) Sections 1 and 2 of this 2003 Act are repealed January 2, 2006.

(2) Notwithstanding the repeal of sections 1 and 2 of this 2003 Act by this section, for an application that is timely submitted and is complete either when first submitted or within the time allowed for submission of requested additional material under ORS 215.427 (3), the applicant may extend the period for the governing body of the county or its designee to take final action on an application for a permit under sections 1 and 2 of this 2003 Act, but may not extend the period beyond January 2, 2007.

Passed by House May 27, 2003

Repassed by House August 11, 2003

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Chief Clerk of House

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Speaker of House

Passed by Senate August 7, 2003

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President of Senate

Received by Governor:

.....M.,....., 2003

Approved:

.....M.,....., 2003

.....
Governor

Filed in Office of Secretary of State:

.....M.,....., 2003

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Secretary of State

10.5 Plywood Manufacturing

10.5.1 General

Plywood is a building material consisting of veneers (thin wood layers or plies) bonded with an adhesive. There are two types of plywood: softwood plywood and hardwood plywood. Softwoods generally correspond to coniferous species. The most commonly used softwoods for manufacturing plywood are firs and pines. Hardwoods generally correspond to deciduous species. For hardwood plywood, commonly used wood species include oak, poplar, maple, cherry, and larch.

Softwood plywood is manufactured by gluing several layers of dry softwood veneers together with an adhesive. Softwood plywood is used for wall siding, sheathing, roof decking, concrete formboards, floors, and containers. Softwood plywood is classified under Standard Industrial Classification (SIC) code 2436, and North American Industrial Classification System (NAICS) code 321212 for "Softwood Plywood and Veneer".

Hardwood plywood is made of hardwood veneers bonded with an adhesive. The outer layers (face and back) surround a core which is usually lumber, veneer, particleboard, or medium density fiberboard. Hardwood plywood may be pressed into panels or plywood components (e.g., curved hardwood plywood, seat backs, chair arms, etc.). Hardwood plywood is used for interior applications such as furniture, cabinets, architectural millwork, paneling, flooring, store fixtures, and doors. Hardwood plywood is classified under SIC code 2435 and NAICS code 321211, for "Hardwood Plywood and Veneer".

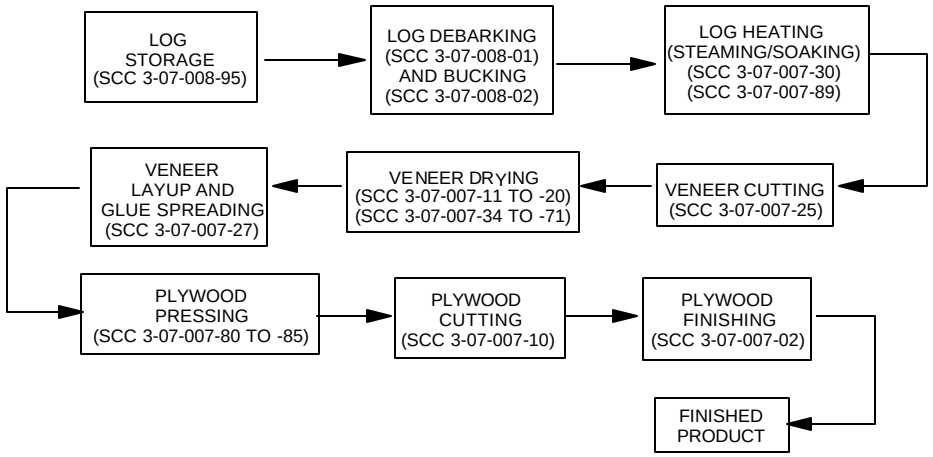
Softwood plywood plants typically produce softwood veneers and softwood plywood on the same plant site. However, most hardwood plywood and veneer plants either produce hardwood plywood or hardwood veneer. Hardwood veneer plants cut and dry hardwood veneers. Hardwood plywood plants typically purchase hardwood veneers and press the veneers onto a purchased core material.

10.5.2 Process Description[1-4, 22]

The manufacture of softwood or hardwood plywood consists of nine main processes: log storage, log debarking and bucking, heating the logs, peeling the logs into veneers, drying the veneers, gluing the veneers together, pressing the veneers in a hot press, plywood cutting, and other finishing processes such as sanding. Figure 10.5-1 provides a generic process flow diagram for a plywood mill.

The initial step of debarking is accomplished by feeding logs through one of several types of debarking machines. The purpose of this operation is to remove the outer bark of the tree without substantially damaging the wood. After the bark is removed, the logs are cut to appropriate lengths in a step known as bucking.

The logs (now referred to as blocks) then are heated to improve the cutting action of the veneer lathe or slicer, thereby generating a product from the lathe or slicer with better surface finish. Blocks are heated to around 93°C (200°F) using a variety of methods--hot water baths, steam heat, hot water spray, or a combination of the three.



Additional Source Classification Codes for Combined Operations:

- SCC 3-07-007-88: Hardwood plywood combined dust baghouse (includes trim saw, composer, core saw, dry hog, hammermill, and sander)
- SCC 3-07-007-90: Softwood plywood, dry veneer trim chipper (trimmed veneer from layup line)
- SCC 3-07-007-91: Softwood plywood, dry plywood trim chippers (trim from panel saws)
- SCC 3-07-007-92: Softwood plywood sander (includes sanders and specialty saw)
- SCC 3-07-007-93: Softwood plywood saws (includes 3 saws, hog, and sander)

Figure 10.5-1. Generic process flow diagram for a plywood mill.
(SCC = Source Classification Code.)

After heating, the logs are processed to generate veneer. For most applications, a veneer lathe is used, but some decorative, high quality veneer is generated with a veneer slicer. The slicer and veneer lathe both work on the same principle; the wood is compressed with a nosebar while the veneer knife cuts the blocks into veneers that are typically 3 mm (1/8 in.) thick. Decorative hardwood veneers are usually sliced much thinner than 3 mm (1/8 in.) thick. The veneer pieces are then clipped to a usable width, typically 1.37 m (54 in.), to allow for shrinkage and trim.

Veneers are taken from the clipper to a veneer dryer where they are dried to moisture contents that range from around 1 to 15 percent, dry basis. Face veneer moisture contents can range up to 25 percent, dry basis. Target moisture content depends on the type of resin used in subsequent gluing steps. The typical drying temperature ranges from 150° to 200°C (300° to 400°F). The veneer dryer may be a longitudinal dryer, which circulates air parallel to the veneer, or a jet dryer. The jet dryers direct hot, high velocity air at the surface of the veneers in order to create a more turbulent flow of air. The increased turbulence provides more effective use of dryer energy, thereby reducing drying time. Veneer dryers may be either direct-fired or indirect-heated. In direct-fired dryers, hot combustion gases from an onsite boiler are blended with recirculated exhaust from the dryer to lower the gas temperature. In indirect-heated veneer dryers, air is warmed over steam coils and circulated over the veneer. Veneer dryers typically have one to three heated zones followed by a cooling zone or section. Each heated zone has a hot air source, fans to move the warm air, and an exhaust vent or stack. The cooling section circulates ambient air over the veneer to reduce the veneer temperature just before it exits the dryer. The veneers must be cooled to prevent glue from curing on the veneers during the layup and glue spreading operations before they reach the plywood press.

Veneer may also be dried in veneer kilns, which resemble lumber kilns. Kiln drying is a batch operation, where the veneers are stacked with stickers (narrow wood strips) and dried in the kiln.

Veneer moisture is checked against the target moisture level as the veneer exits the veneer dryer. Veneer redryers may be used to redry the veneer that did not reach the target moisture content. Veneer redryers are typically heated by radio frequency (RF) and are designed to handle only a fraction of the throughput from full-scale veneer dryers. Conventional veneer dryers may also be used for redrying veneer. When used for redrying veneer, conventional veneer dryers are operated at faster than normal speeds (i.e., the redry veneer passes through the dryer more quickly than does green veneer).

After drying, veneers sometimes are glued together on the edges to form larger sheets of veneer. This process is called composing. Narrow veneer slices must be composed before they are used in plywood panels or other products requiring wider veneer sheets.

When the veneers have been dried to their specified moisture content, they are conveyed to a layup operation, where a thermosetting resin is spread on the veneers. The two main types of resins are phenol-formaldehyde, which is used for softwood plywood and exterior grades of hardwood plywood, and urea-formaldehyde, which is used to glue interior grades of hardwood plywood. The resins are applied by glue spreaders, curtain coaters, or spray systems. Spreaders have a series of rubber-covered grooved application rolls that apply the resin to the sheet of veneer. Generally, resin is spread on two sides of one ply of veneer, which is then placed between two plies of veneer that are not coated with resin.

Assembly of the plywood panels must be symmetrical on either side of a neutral center in order to avoid excessive warpage. For example, a five-ply panel would be laid up in the following manner. A back, with the grain direction parallel to the long axis of the panel, is placed on the assembly table. The next veneer has a grain direction perpendicular to that of the back, and is spread with resin on both sides. Then, the center is placed, with no resin, and with the grain perpendicular to the previous veneer (parallel with the back). The fourth veneer has a grain perpendicular to the previous veneer (parallel with the short axis of the panel) and is spread with resin on both sides. The final, face, veneer with no resin is placed like the back with the grain parallel to the long axis of the plywood panel.

The laid-up assembly of veneers then is sent to a hot press in which it is consolidated under heat and pressure. Hot pressing has two main objectives: (1) to press the glue into a thin layer over each sheet of veneer; and (2) to activate the thermosetting resins. Typical press temperatures range from 132° to 165°C (270° to 330°F) for softwood plywood, and 107° to 135°C (225° to 275°F) for hardwood plywood. Press times generally range from 2 to 7 minutes. The time and temperature vary depending on the wood species used, the resin used, and the press design.

The plywood then is taken to a finishing process where edges are trimmed; the face and back may or may not be sanded smooth. The type of finishing depends on the end product desired.

10.5.3 Emissions and Controls[2-22]

The primary emissions from the manufacture of plywood include filterable particulate matter (PM) and PM less than 10 micrometers in aerodynamic diameter (PM-10) from log debarking and bucking, and plywood cutting and sanding; filterable and condensible PM/PM-10 from drying and pressing; organic compounds from steaming and drying operations; and organic compounds, including formaldehyde and other hazardous air pollutants (HAPs), from gluing and hot pressing. However, trace

amounts of combustion by-products, which may include HAPs, may be present in direct-fired veneer dryer exhausts as a result of fossil fuel or wood combustion gases being passed through the dryer. Fuel combustion for material drying also can generate carbon monoxide (CO), carbon dioxide (CO_2), sulfur dioxide (SO_2), and nitrogen oxide (NO_x) emissions.

The main source of emissions is the veneer dryer, which emits significant quantities of organic compounds. The quantity and type of organic compounds emitted varies depending on the wood species, the dryer type, and its method of operation. Emissions from dryer heated zones and cooling sections typically are ducted through separate stacks. In addition to emissions from the heated zones and cooling section stacks, veneer dryer fugitive emissions may be emitted from the dryer ends and doors. The two discernible fractions released from the dryer are condensibles and volatiles. As the condensible compounds cool after being emitted from the stack, they often combine with water vapor to form aerosols, which can cause a blue haze.

Measurement of VOC and condensible PM emission rates are highly dependent on stack gas and sampling train filter temperatures. When the sampling train filter temperature is higher than the stack gas temperature, the rate of VOC and condensible PM emissions measured will increase with increasing filter temperature, because, as filter temperature increases, less organic material will condense on the sampling train filter. The available data are inadequate to determine the effect on emissions of recirculating the exhaust from wood-fired veneer dryers to a combustion gas blend box.

The hot pressing operation is also a source of organic emissions. The quantity and composition of emissions from this operation are expected to vary with wood species and resin components. Plywood pressing operations are typically uncontrolled.

Significant quantities of sawdust and other small wood particles are generated by plywood cutting and sanding operations. Sanders and trim saws typically have control devices to recover the material for use as a fuel in the dryer or boiler. However, small amounts of PM may be released from cutting and sanding. Log debarking, log bucking, and sawdust handling are additional sources of PM emissions. Wood storage piles are sources of fugitive PM and VOC emissions. Log debarking, log peeling, and other minor operations are also sources of fugitive VOC emissions.

Methods of controlling PM emissions from veneer dryers include absorption systems (wet scrubbers), electrified filter beds (EFBs), wet electrostatic precipitators (WESPs), and oxidation systems (discussed below). The EFB uses electrostatic forces to attract pollutants to an electrically charged gravel bed. The WESP uses electrostatic forces to attract pollutants to either a charged metal plate or a charged metal tube. The collecting surfaces are continually rinsed with water to wash away the pollutants. Wet PM control systems such as wet scrubbers and WESPs may achieve short-term reductions in emissions of some water-soluble organic compounds (such as formaldehyde). However, the ability of these wet systems to absorb water-soluble compounds diminishes as the recirculating scrubbing liquid becomes saturated with these compounds.

A VOC control technology commonly used in the wood products industry for controlling veneer dryer exhaust gases is regenerative thermal oxidation. Thermal oxidizers destroy VOCs and condensible organics by burning them at high temperatures. Thermal oxidizers also reduce CO emissions in direct-fired dryer exhausts by oxidizing the CO in the exhaust to CO_2 (a product of complete combustion). Regenerative thermal oxidizers (RTOs) are designed to preheat the inlet emission stream with heat recovered from the incineration exhaust gases. Up to 98 percent heat recovery is possible, although

95 percent is typically specified. Gases entering an RTO are heated by passing through pre-heated beds packed with a ceramic media. A gas burner brings the preheated emissions up to an incineration temperature between 788° and 871°C (1450° and 1600°F) in a combustion chamber with sufficient gas residence time to complete the combustion. Combustion gases then pass through a cooled ceramic bed where heat is extracted. By reversing the flow through the beds, the heat transferred from the combustion exhaust air preheats the gases to be treated, thereby reducing auxiliary fuel requirements.

Regenerative catalytic oxidizers (RCOs) are also used to control VOCs from veneer dryers. Regenerative catalytic oxidizers function similar to RTOs, except that the heat recovery beds in RCOs contain catalytic media. The catalyst accelerates the rate of VOC oxidation and allows for VOC destruction at lower temperatures than in an RTO, typically 316° to 538°C (600° to 1000°F), which reduces auxiliary fuel usage.

In addition to add-on thermal or catalytic oxidizers, exhaust gases from veneer dryers may be routed to the combustion chamber of an onsite boiler or process heater. The VOC and CO emissions in the process exhaust may be incinerated in the combustion chamber provided that the system is designed to allow for sufficient mixing and residence time.

Fugitive PM emissions from road dust and uncovered bark and dust storage piles may be controlled in a number of different ways. Some of these methods include enclosure, wet suppression systems, and chemical stabilization.

Calculating PM-10 emissions from wood products industry emission sources is problematic due to the relationship between PM-10 (or PM) emissions and VOC emissions from these processes. Because the Method 201A train (PM-10) operates with an in-stack cyclone and filter, organic materials that are volatile at stack gas temperatures but that are condensed at back half impinger temperatures (~20°C [~68°F]) are collected as condensible PM-10. However, these materials will also be measured as VOC via Methods 25 and 25A, which operate with a heated or an in-stack filter. Hence, if PM-10 is calculated as the sum of filterable and condensible material, some pollutants will be measured as both PM-10 and VOC emissions. However, if only filterable material is considered to be PM-10, the PM-10 emission factors will be highly dependent on stack gas temperature. In this AP-42 section, PM-10 is reported as front half catch only (Method 201A results only; not including Method 202 results). However, condensible PM results are also reported, and these results can be combined with the PM-10 results as appropriate for a specific application. Measured VOC emissions may be affected by the sampling method and by the quantity of formaldehyde and other aldehydes and ketones in the exhaust; formaldehyde is not quantified using Method 25A. Other low molecular weight oxygenated compounds have reduced responses to Method 25A. Therefore, when VOC emissions are measured using Method 25A, the emission rates will be biased low if low molecular weight oxygenated compounds are present in significant concentrations in the exhaust stream. A more extensive discussion of these sampling and analysis issues is provided in the Background Report (Reference 15) for this section.

Guidance from EPA's Emission Factor and Inventory Group (EFIG) indicates that when it is possible, VOC emission factors should be reported in terms of the actual weight of the emitted compound. However, when an actual molecular weight (MW) of the emitted stream is not feasible (as is the case with the mixed streams emitted from wood products industry sources), the VOC should be reported using an assumed MW of 44, and reported "as propane." Each VOC-as-propane emission factor is estimated by first converting the THC from a carbon basis to a propane basis. Propane (MW = 44) includes 3 carbon atoms (total MW of 36) and 8 hydrogen atoms (total MW of 8). Every 36 pounds of carbon

measured corresponds to 44 pounds of propane. The ratio of the MW of propane to the MW of carbon in propane is 44/36, or 1.22. The conversion is expressed by the following equation:

$$\text{THC as pounds carbon} \times \frac{\text{44 pounds propane}}{\text{36 pounds carbon}} = \text{THC as pounds propane}$$

or

$$\text{THC as pounds carbon} \times 1.22 = \text{THC as pounds propane}$$

After the THC emission factor has been converted from a carbon to a propane basis, the formaldehyde emission factor is added (where available), then the available emission factors for non-VOC compounds, including acetone, methane, and methylene chloride, are subtracted. This procedure is expressed simply by the following equation:

$$\text{VOC as propane} = (1.22 \times \text{THC as carbon}) + \text{formaldehyde} - (\text{acetone} + \text{methane} + \text{methylene chloride})$$

In cases where no emission factor is available (or the emission factor is reported only as below the test method detection limit, or "BDL") for one or more of the compounds used to estimate the VOC-as-propane value, adjustments to the converted THC value are made only for those compounds for which emission factors are available. That is, a value of zero is inserted in the above equation for the specified compounds where no emission factor is available, or where the emission factor is reported only as BDL. For example, if no methane emission factor is available, the THC-as-carbon emission factor is converted to THC-as-propane, formaldehyde is added, and only acetone and methylene chloride are subtracted.

Table 10.5-1 presents emission factors for veneer dryer emissions of PM, including filterable PM and condensible PM. Table 10.5-2 presents emission factors for veneer dryer emissions of NO_x, CO, and CO_2. Table 10.5-3 presents emission factors for veneer dryer emissions of organic compounds, some of which are listed as HAPs under section 112(b) of the Clean Air Act. The emission factors for dryer emissions are presented in units of pounds of pollutant per thousand square feet of 3/8-inch thick panel produced (lb/MSF 3/8). Separate emission factors are presented for hardwood plywood and softwood plywood veneer dryers. In Tables 10.5-2 and -3, separate emission factors also are presented for the heated zones and cooling section of a veneer dryer. When estimating total emissions from the drying process, emissions from heated zones and cooling section should be combined.

Table 10.5-4 presents emission factors for plywood press emissions of PM, including filterable PM and condensible PM. Table 10.5-5 presents emission factors for plywood press emissions of NO_x, CO, and CO_2. Table 10.5-6 presents emission factors for plywood press emissions of organic compounds, some of which are HAPs. The units for the press emission factors are pounds of pollutant per thousand square feet of 3/8-inch thick panel produced (lb/MSF 3/8). Table 10.5-7 presents emission factors for organic compounds from miscellaneous plywood manufacturing sources. Some of these compounds are listed HAPs under section 112(b) of the Clean Air Act.

Table 10.5-1. EMISSION FACTORS FOR PLYWOOD VENEER DRYERS--PARTICULATE MATTER[a]

Source	Emission Control Device[c]	Filterable[b]				Condensible[d]	EMISSION FACTOR RATING
		PM	EMISSION FACTOR RATING	PM-10	EMISSION FACTOR RATING		
Indirect heated, heated zones, softwood (SCC 3-07-007-62)	Uncontrolled	0.35	D	ND		1.0	D
Direct natural gas-fired, heated zones, softwood (SCC 3-07-007-52)	Uncontrolled	0.079	D	ND		0.42	D
Direct wood-fired, heated zones, softwood (SCC 3-07-007-36)	WESP	0.24	D	ND		ND	
Radio frequency-heated redryer, softwood (SCC 3-07-007-71)	Uncontrolled	0.0050	E	ND		0.0060	E

[a] Emission factor units are pounds of pollutant per thousand square feet of 3/8-inch thick veneer (lb/MSF 3/8). One lb/MSF 3/8 = 0.5 kg/m^3. Factors represent uncontrolled emissions unless otherwise noted. SCC = Source Classification Code. ND = no data available. Reference 16. See Table 10.5-8 for the hardwood and softwood species commonly used in the production of plywood and other composite wood products. **Note: emission factors in table represent averages of data sets. The data spreadsheets, which may be more useful for specific applications, are available on EPA's Technology Transfer Network (TTN) website at: http://www.epa.gov/ttn/chief/.**

[b] Filterable PM is that PM collected on or prior to the filter of an EPA Method 5 (or equivalent) sampling train. Filterable PM-10 is that PM collected on the filter, or in the sample line between the cyclone and filter of an EPA Method 201 or 201A sampling train.

[c] Emission control device: WESP = wet electrostatic precipitator.

[d] Condensible PM is that PM collected in the impinger portion of a PM sampling train (EPA Method 202).

Table 10.5-2. EMISSION FACTORS FOR PLYWOOD VENEER DRYERS--NO_x, CO, AND CO_2 [a]

Source	Emission Control Device[b]	NO_x	EMISSION FACTOR RATING	CO	EMISSION FACTOR RATING	CO_2	EMISSION FACTOR RATING
Indirect heated, heated zones, softwood (SCC 3-07-007-62)	Uncontrolled	ND		0.028[c]	E	ND	
	RTO	ND		0.062[c]	E	ND	
Indirect heated, cooling section, softwood (SCC 3-07-007-63)	Uncontrolled	ND		0.043[c]	E	ND	
Indirect heated, heated zones, hardwood (SCC 3-07-007-56)	Uncontrolled	ND		0.0088[c]	E	ND	
Indirect heated, cooling section, hardwood (SCC 3-07-007-57)	Uncontrolled	ND		0.099[c]	E	ND	
Direct natural gas-fired, heated zones, softwood (SCC 3-07-007-52)	Uncontrolled	0.012[d]	D	0.64[e]	D	28[f]	D
	RCO	ND		0.0076[c]	E	ND	
Direct natural gas-fired, cooling section, softwood (SCC 3-07-007-53)	Uncontrolled	ND		0.010[c]	E	ND	
Direct wood-fired, heated zones, softwood (SCC 3-07-007-36)	Uncontrolled	0.17[g]	D	3.2[g]	D	100[h]	D
Direct wood-fired, heated zones, hardwood (SCC 3-07-007-34)	Uncontrolled	ND		0.23[c]	E	ND	

[a] Emission factor units are pounds of pollutant per thousand square feet of 3/8-inch thick veneer (lb/MSF 3/8). One lb/MSF 3/8 = 0.5 kg/m^3. Factors represent uncontrolled emissions unless otherwise noted. Factors for heating zones and cooling section should be summed when estimating total dryer emissions. SCC = Source Classification Code. ND = no data available. See Table 10.5-8 for the hardwood and softwood species commonly used in the production of plywood and other composite wood products. **Note: emission factors in table represent averages of data sets. The data spreadsheets, which may be more useful for specific applications, are available on EPA's TTN website at: http://www.epa.gov/ttn/chief/.**

[b] Emission control device: RTO = regenerative thermal oxidizer; RCO = regenerative catalytic oxidizer.

[c] Reference 17.

[d] Reference 16.

[e] References 16 and 17.

Table 10.5-2 (cont.).

[f] Reference 18.
[g] References 16 and 19.
[h] Reference 19.

Table 10.5-3. EMISSION FACTORS FOR PLYWOOD VENEER DRYERS--ORGANICS[a]

Source	Emission Control Device[b]	CASRN[c]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Indirect heated, heated zones, softwood (SCC 3-07-007-62)	Uncontrolled		THC as carbon[d]	1.5[f]	B
			VOC as propane[e]	1.8	C
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
		13466-78-9	3-Carene	0.040	C
		75-07-0	Acetaldehyde *	0.017	C
		67-64-1	Acetone	0.013	C
		107-02-8	Acrolein *	0.0013	C
		80-56-8	Alpha-pinene	0.96	C
		71-43-2	Benzene *	0.00059	C
		127-91-3	Beta-pinene	0.27	C
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
		50-00-0	Formaldehyde *	0.014	C
		138-86-3	Limonene	0.080	C
		67-56-1	Methanol *	0.039	C
			Methyl ethyl ketone *	BDL	
		108-10-1	Methyl isobutyl ketone *	0.0015	C
			Methylene chloride *	BDL	
		1330-20-7	m,p-Xylene *	0.00075	C
			o-Xylene *	BDL	
			p-Cymene	BDL	
		99-83-2	p-Mentha-1,5-diene	0.017	C
		108-95-2	Phenol *	0.0034	C
		123-38-6	Propionaldehyde *	0.0024	C
			Styrene *	BDL	
		108-88-3	Toluene *	0.0011	C

Table 10.5-3 (cont.).

Source	Emission Control Device[b]	CASRN[c]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Indirect heated, cooling section, softwood (SCC 3-07-007-63)	Uncontrolled		THC as carbon[d]	0.050	D
			VOC as propane[e]	0.054	E
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			3-Carene	BDL	
		75-07-0	Acetaldehyde *	0.0046	D
		67-64-1	Acetone	0.0085	D
			Acrolein *	BDL	
		80-56-8	Alpha-pinene	0.049	D
			Benzene *	BDL	
			Beta-pinene	BDL	
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
		50-00-0	Formaldehyde *	0.0013	D
			Limonene	BDL	
		67-56-1	Methanol *	0.010	D
			Methyl ethyl ketone *	BDL	
		108-10-1	Methyl isobutyl ketone *	0.0054	D
			Methylene chloride *	BDL	
		1330-20-7	m,p-Xylene *	0.0019	D
		95-47-6	o-Xylene *	0.0014	D
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
		108-95-2	Phenol *	0.0062	D
			Propionaldehyde *	BDL	
			Styrene *	BDL	
			Toluene *	BDL	

Table 10.5-3 (cont.).

Source	Emission Control Device[b]	CASRN[c]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Indirect heated, heated zones, softwood (SCC 3-07-007-62)	RTO		THC as carbon[d]	0.14	D
			VOC as propane[e]	0.17	E
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			3-Carene	BDL	
		75-07-0	Acetaldehyde *	0.0019	D
		67-64-1	Acetone	0.0017	D
			Acrolein *	BDL	
		80-56-8	Alpha-pinene	0.026	D
		71-43-2	Benzene *	0.00040	E
			Beta-pinene	BDL	
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
		50-00-0	Formaldehyde *	0.0023	D
			Limonene	BDL	
		67-56-1	Methanol *	0.0023	D
			Methyl ethyl ketone *	BDL	
			Methyl isobutyl ketone *	BDL	
			Methylene chloride *	BDL	
			m,p-Xylene *	BDL	
			o-Xylene *	BDL	
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
		108-95-2	Phenol *	0.0050	D
			Propionaldehyde *	BDL	
			Styrene *	BDL	
			Toluene *	BDL	

Table 10.5-3 (cont.).

Source	Emission Control Device[b]	CASRN[c]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Indirect heated, heated zones, hardwood (SCC 3-07-007-56)	Uncontrolled		THC as carbon[d]	0.23[g]	D
			VOC as propane[e]	0.28	E
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			3-Carene	BDL	
		75-07-0	Acetaldehyde *	0.0043	D
		67-64-1	Acetone	0.0040	D
			Acrolein *	BDL	
			Alpha-pinene	BDL	
			Benzene *	BDL	
			Beta-pinene	BDL	
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
		50-00-0	Formaldehyde *	0.0011	D
			Limonene	BDL	
		67-56-1	Methanol *	0.041	D
			Methyl ethyl ketone *	BDL	
		108-10-1	Methyl isobutyl ketone *	0.0022	D
			Methylene chloride *	BDL	
			m,p-Xylene *	BDL	
			o-Xylene *	BDL	
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
		108-95-2	Phenol *	0.0030	D
			Propionaldehyde *	BDL	
			Styrene *	BDL	
			Toluene *	BDL	

Table 10.5-3 (cont.).

Source	Emission Control Device[b]	CASRN[c]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Indirect heated, cooling section, hardwood (SCC 3-07-007-57)	Uncontrolled		THC as carbon[d]	0.62	D
			VOC as propane[e]	0.72	E
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			3-Carene	BDL	
		75-07-0	Acetaldehyde *	0.032	D
		67-64-1	Acetone	0.047	D
			Acrolein *	BDL	
			Alpha-pinene	BDL	
			Benzene *	BDL	
			Beta-pinene	BDL	
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
		50-00-0	Formaldehyde *	0.0065	D
			Limonene	BDL	
		67-56-1	Methanol *	0.021	D
			Methyl ethyl ketone *	BDL	
		108-10-1	Methyl isobutyl ketone *	0.029	D
			Methylene chloride *	BDL	
			m,p-Xylene *	BDL	
			o-Xylene *	BDL	
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
			Phenol *	BDL	
			Propionaldehyde *	BDL	
			Styrene *	BDL	
			Toluene *	BDL	

Table 10.5-3 (cont.).

Source	Emission Control Device[b]	CASRN[c]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Direct natural gas-fired, heated zones, softwood (SCC 3-07-007-52)	Uncontrolled		THC as carbon[d]	2.1[h]	D
			VOC as propane[e]	2.5	E
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			3-Carene	BDL	
		75-07-0	Acetaldehyde *	0.062	D
		67-64-1	Acetone	0.059	D
		107-02-8	Acrolein *	0.0090	D
		80-56-8	Alpha-pinene	1.0	D
		71-43-2	Benzene *	0.0057	D
		127-91-3	Beta-pinene	0.41	D
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
		50-00-0	Formaldehyde *	0.064[j]	D
		138-86-3	Limonene	0.081	D
		74-82-8	Methane	0.067[k]	D
		67-56-1	Methanol *	0.036	D
		78-93-3	Methyl ethyl ketone *	0.0019	D
		108-10-1	Methyl isobutyl ketone *	0.0026	D
			Methylene chloride *	BDL	
		1330-20-7	m,p-Xylene *	0.0039	D
			o-Xylene *	BDL	
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
		108-95-2	Phenol *	0.0060	D
		123-38-6	Propionaldehyde *	0.0016	D
		100-42-5	Styrene *	0.0015	D
		108-88-3	Toluene *	0.0074	D

Table 10.5-3 (cont.).

Source	Emission Control Device[b]	CASRN[c]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Direct natural gas-fired, cooling section, softwood (SCC 3-07-007-53)	Uncontrolled		THC as carbon[d]	0.038	E
			VOC as propane[e]	0.044	E
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			3-Carene	BDL	
		75-07-0	Acetaldehyde *	0.0034	E
		67-64-1	Acetone	0.0041	E
			Acrolein *	BDL	
			Alpha-pinene	BDL	
			Benzene *	BDL	
			Beta-pinene	BDL	
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
		50-00-0	Formaldehyde *	0.0015	E
			Limonene	BDL	
		67-56-1	Methanol *	0.0057	E
			Methyl ethyl ketone *	BDL	
			Methyl isobutyl ketone *	BDL	
			Methylene chloride *	BDL	
			m,p-Xylene *	BDL	
			o-Xylene *	BDL	
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
		108-95-2	Phenol *	0.010	E
			Propionaldehyde *	BDL	
			Styrene *	BDL	
			Toluene *	BDL	

Table 10.5-3 (cont.).

Source	Emission Control Device[b]	CASRN[c]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Direct natural gas-fired, heated zones, softwood (SCC 3-07-007-52)	RCO		THC as carbon[d]	0.30	E
			VOC as propane[e]	0.36	E
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			3-Carene	BDL	
		75-07-0	Acetaldehyde *	0.061	E
		67-64-1	Acetone	0.048	E
			Acrolein *	BDL	
			Alpha-pinene	BDL	
			Benzene *	BDL	
			Beta-pinene	BDL	
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
		50-00-0	Formaldehyde *	0.038	E
			Limonene	BDL	
		67-56-1	Methanol *	0.0049	E
			Methyl ethyl ketone *	BDL	
			Methyl isobutyl ketone *	BDL	
			Methylene chloride *	BDL	
			m,p-Xylene *	BDL	
			o-Xylene *	BDL	
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
		108-95-2	Phenol *	0.0055	E
			Propionaldehyde *	BDL	
			Styrene *	BDL	
			Toluene *	BDL	
Direct wood-fired, heated zones, softwood (SCC 3-07-007-36)	Uncontrolled		THC as carbon[d]	0.83[m]	D
			VOC as propane[e]	1.1	E
		50-00-0	Formaldehyde *	0.045[n]	D

Table 10.5-3 (cont.).

Source	Emission Control Device[b]	CASRN[c]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Direct wood-fired, heated zones, hardwood (SCC 3-07-007-34)	Uncontrolled		THC as carbon[d]	0.053	E
			VOC as propane[e]	0.063	E
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			3-Carene	BDL	
		75-07-0	Acetaldehyde *	0.0052	E
		67-64-1	Acetone	0.0045	E
			Alpha-pinene	BDL	
			Benzene *	BDL	
			Beta-pinene	BDL	
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
		50-00-0	Formaldehyde *	0.0025	E
			Limonene	BDL	
		67-56-1	Methanol *	0.0095	E
			Methyl ethyl ketone *	BDL	
			Methyl isobutyl ketone *	BDL	
			Methylene chloride *	BDL	
			m,p-Xylene *	BDL	
			o-Xylene *	BDL	
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
			Phenol *	BDL	
			Propionaldehyde *	BDL	
			Styrene *	BDL	
			Toluene *	BDL	

Table 10.5-3 (cont.).

Source	Emission Control Device[b]	CASRN[c]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Direct wood-fired, cooling section, hardwood (SCC 3-07-007-35)	Uncontrolled		THC as carbon[d]	0.0037	E
			VOC as propane[e]	0.0045	E
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			3-Carene	BDL	
			Acetaldehyde *	BDL	
			Acetone	BDL	
			Acrolein *	BDL	
			Alpha-pinene	BDL	
			Benzene *	BDL	
			Beta-pinene	BDL	
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
			Formaldehyde *	BDL	
			Limonene	BDL	
			Methanol *	BDL	
			Methyl ethyl ketone *	BDL	
			Methyl isobutyl ketone *	BDL	
			Methylene chloride *	BDL	
			m,p-Xylene *	BDL	
			o-Xylene *	BDL	
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
			Phenol *	BDL	
			Propionaldehyde *	BDL	
			Styrene *	BDL	
			Toluene *	BDL	

Table 10.5-3 (cont.).

Source	Emission Control Device[b]	CASRN[c]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Radio frequency-heated redryer, softwood (SCC 3-07-007-71)	Uncontrolled		THC as carbon[d]	0.23[f]	D
			VOC as propane[e]	0.28	E
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			3-Carene	BDL	
		75-07-0	Acetaldehyde *	0.0015	D
		67-64-1	Acetone	0.00089	D
			Acrolein *	BDL	
		80-56-8	Alpha-pinene	0.17	D
			Benzene *	BDL	
		127-91-3	Beta-pinene	0.056	D
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
		50-00-0	Formaldehyde *	0.00035	D
		138-86-3	Limonene	0.0040	D
		67-56-1	Methanol *	0.0027	D
			Methyl ethyl ketone *	BDL	
			Methyl isobutyl ketone *	BDL	
			Methylene chloride *	BDL	
			m,p-Xylene *	BDL	
			o-Xylene *	BDL	
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
			Phenol *	BDL	
			Propionaldehyde *	BDL	
			Styrene *	BDL	
			Toluene *	BDL	

[a] Emission factor units are pounds of pollutant per thousand square feet of 3/8-inch thick veneer (lb/MSF 3/8). One lb/MSF 3/8 = 0.5 kg/m^3. Factors represent uncontrolled emissions unless otherwise noted. Factors for heating zones and cooling section should be summed when estimating total dryer emissions. SCC = Source Classification Code. * = hazardous air pollutant. BDL = below test method detection limit; indicates that this pollutant has not been detected in any test runs on this source. Reference 17 unless otherwise noted. See Table 10.5-8 for the hardwood and softwood species commonly used in the production of plywood and other composite wood products. **Note: emission factors in table represent averages of data sets. The data spreadsheets, which may be more useful for specific applications, are available on EPA's TTN website at: http://www.epa.gov/ttn/chief/.**

[b] Emission control device: RTO = regenerative thermal oxidizer; RCO = regenerative catalytic oxidizer.

[c] CASRN = Chemical Abstracts Service Registry Number.

[d] THC as carbon = total hydrocarbon measurements using EPA Method 25A.

Table 10.5-3 (cont.).

[e] VOC as propane = (1.22 × THC) + formaldehyde - (acetone + methane + methylene chloride); a value of zero is inserted in the equation for the specified compounds where no emission factor is available, or where the emission factor is reported only as "BDL".

[f] References 16 and 17.

[g] References 17 and 20.

[h] References 16, 17, and 18.

[j] References 17 and 18.

[k] Reference 18.

[m] References 16 and 19.

[n] Reference 19.

Table 10.5-4. EMISSION FACTORS FOR PLYWOOD PRESSES--PARTICULATE MATTER[a]

Source[c]	Emission Control Device	Filterable[b]				Condensible[d]	EMISSION FACTOR RATING
		PM	EMISSION FACTOR RATING	PM-10	EMISSION FACTOR RATING		
Hot press, PF resin, softwood plywood (SCC 3-07-007-83)	Uncontrolled	0.12	D	ND		0.083	D

[a] Emission factor units are pounds of pollutant per thousand square feet of 3/8-inch thick panel (lb/MSF 3/8). One lb/MSF 3/8 = 0.5 kg/m^3. Factors represent uncontrolled emissions unless otherwise noted. SCC = Source Classification Code. ND = no data available. Reference 16. See Table 10.5-8 for the hardwood and softwood species commonly used in the production of plywood and other composite wood products. **Note: emission factors in table represent averages of data sets. The data spreadsheets, which may be more useful for specific applications, are available on EPA's TTN website at: http://www.epa.gov/ttn/chief/.**

[b] Filterable PM is that PM collected on or prior to the filter of an EPA Method 5 (or equivalent) sampling train. Filterable PM-10 is that PM collected on the filter, or in the sample line between the cyclone and filter of an EPA Method 201 or 201A sampling train.

[c] PF = phenol formaldehyde.

[d] Condensible PM is that PM collected in the impinger portion of a PM sampling train (EPA Method 202).

Table 10.5-5. EMISSION FACTORS FOR PLYWOOD PRESSES--NO_x, CO, AND CO_2[a]

Source[b]	Emission Control Device	NO_x	EMISSION FACTOR RATING	CO	EMISSION FACTOR RATING	CO_2	EMISSION FACTOR RATING
Hot press, PF resin, softwood plywood (SCC 3-07-007-83)	Uncontrolled	ND		ND		ND	

[a] Emission factor units are pounds of pollutant per thousand square feet of 3/8-inch thick panel (lb/MSF 3/8). One lb/MSF 3/8 = 0.5 kg/m^3. Factors represent uncontrolled emissions unless otherwise noted. SCC = Source Classification Code. ND = no data available. See Table 10.5-8 for the hardwood and softwood species commonly used in the production of plywood and other composite wood products. **Note: emission factors in table represent averages of data sets. The data spreadsheets, which may be more useful for specific applications, are available on EPA's TTN website at: http://www.epa.gov/ttn/chief/.**

[b] PF = phenol formaldehyde.

Table 10.5-6. EMISSION FACTORS FOR PLYWOOD PRESSES--ORGANICS[a]

Source[b]	Emission Control Device	CASRN[c]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Hot press, PF resin, softwood plywood (SCC 3-07-007-83)	Uncontrolled		THC as carbon[d]	0.21[f]	D
			VOC as propane[e]	0.25	E
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			3-Carene	BDL	
		75-07-0	Acetaldehyde *	0.0042	D
		67-64-1	Acetone	0.0065	D
			Acrolein *	BDL	
		80-56-8	Alpha-pinene	0.098	D
			Benzene *	BDL	
		127-91-3	Beta-pinene	0.038	D
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
		50-00-0	Formaldehyde *	0.0019[g]	D
		138-86-3	Limonene	0.011	D
		67-56-1	Methanol *	0.14	D
		78-93-3	Methyl ethyl ketone *	0.00087	D
		108-10-1	Methyl isobutyl ketone *	0.00071	D
			Methylene chloride *	BDL	
			m,p-Xylene *	BDL	
			o-Xylene *	BDL	
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
		108-95-2	Phenol *	0.0014	D
			Propionaldehyde *	BDL	
			Styrene *	BDL	
			Toluene *	BDL	

Table 10.5-6 (cont.).

Source[b]	Emission Control Device	CASRN[c]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Hot press, UF resin, hardwood plywood (SCC 3-07-007-85)	Uncontrolled		THC as carbon[d]	0.055[h]	D
			VOC as propane[e]	0.047	E
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			3-Carene	BDL	
			Acetaldehyde *	BDL	
		67-64-1	Acetone	0.025	D
			Acrolein *	BDL	
			Alpha-pinene	BDL	
			Benzene *	BDL	
			Beta-pinene	BDL	
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
		50-00-0	Formaldehyde *	0.0047	D
			Limonene	BDL	
		67-56-1	Methanol *	0.032	D
			Methyl ethyl ketone *	BDL	
		108-10-1	Methyl isobutyl ketone *	0.0057	D
			Methylene chloride *	BDL	
			m,p-Xylene *	BDL	
			o-Xylene *	BDL	
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
		108-95-2	Phenol *	0.011	D
			Propionaldehyde *	BDL	
			Styrene *	BDL	
			Toluene *	BDL	

[a] Emission factor units are pounds of pollutant per thousand square feet of 3/8-inch thick panel (lb/MSF 3/8). One lb/MSF 3/8 = 0.5 kg/m^3. Factors represent uncontrolled emissions unless otherwise noted. SCC = Source Classification Code. * = hazardous air pollutant. BDL = below test method detection limit; indicates that this pollutant has not been detected in any test runs on this source. Reference 17 unless otherwise noted. See Table 10.5-8 for the hardwood and softwood species commonly used in the production of plywood and other composite wood products. **Note: emission factors in table represent averages of data sets. The data spreadsheets, which may be more useful for specific applications, are available on EPA's TTN website at: http://www.epa.gov/ttn/chief/.**

[b] PF = phenol formaldehyde; UF = urea formaldehyde.

[c] CASRN = Chemical Abstracts Service Registry Number.

[d] THC as carbon = total hydrocarbon measurements using EPA Method 25A.

[e] VOC as propane = (1.22 × THC) + formaldehyde - (acetone + methane + methylene chloride); a value of zero is inserted in the equation for the specified compounds where no emission factor is available, or where the emission factor is reported only as "BDL".

Table 10.5-6 (cont.).

[f] References 16, 17, and 21.
[g] References 17 and 21.
[h] References 17 and 20.

Table 10.5-7. EMISSION FACTORS FOR PLYWOOD MISCELLANEOUS SOURCES [a]

Source[b]	Emission Control Device[c]	CASRN[d]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Log storage (SCC 3-07-008-95)	Uncontrolled	ND	PM, THC, VOC	ND	
Debarking (SCC 3-07-008-01)	Uncontrolled	ND	PM, THC, VOC	ND	
Log bucking (cutting) (SCC 3-07-008-02)	Uncontrolled	ND	PM, THC, VOC	ND	
Veneer cutting (SCC 3-07-007-25)	Uncontrolled	ND	PM, THC, VOC	ND	
Veneer layup and glue spreading (SCC 3-07-007-27)	Uncontrolled	ND	PM, THC, VOC	ND	
Plywood cutting (SCC 3-07-007-10)	Uncontrolled	ND	PM, THC, VOC	ND	
Plywood finishing (SCC 3-07-007-02)	Uncontrolled	ND	PM, THC, VOC	ND	

Table 10.5-7 (cont.).

Source[b]	Emission Control Device[c]	CASRN[d]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Hardwood plywood combined dust baghouse (includes trim saw, composer, core saw, dry hog, hammermill, and sander)[e] (SCC 3-07-007-88) Use with caution!	Uncontrolled		PM	ND	
			THC as carbon[f]	0.019	U
			VOC as propane[g]	0.014	U
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			3-Carene	BDL	
			Acetaldehyde *	BDL	
		67-64-1	Acetone	0.0089	U
			Acrolein *	BDL	
			Alpha-pinene	BDL	
			Benzene *	BDL	
			Beta-pinene	BDL	
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
			Formaldehyde *	BDL	
			Limonene	BDL	
		67-56-1	Methanol *	0.0029	U
			Methyl ethyl ketone *	BDL	
			Methyl isobutyl ketone *	BDL	
			Methylene chloride *	BDL	
			m,p-Xylene *	BDL	
			o-Xylene *	BDL	
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
			Phenol *	BDL	
			Propionaldehyde *	BDL	
			Styrene *	BDL	
			Toluene *	BDL	

Table 10.5-7 (cont.).

Source[b]	Emission Control Device[c]	CASRN[d]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Softwood plywood, log steaming vat (SCC 3-07-007-89)	Uncontrolled		PM	ND	
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			3-Carene	BDL	
Use with caution!		75-07-0	Acetaldehyde *	0.0047	U
		67-64-1	Acetone	0.0030	U
			Acrolein *	BDL	
		80-56-8	Alpha-pinene	0.056	U
			Benzene *	BDL	
		127-91-3	Beta-pinene	0.0064	U
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
			Formaldehyde *	BDL	
			Limonene	BDL	
		67-56-1	Methanol *	0.0073	U
			Methyl ethyl ketone *	BDL	
			Methyl isobutyl ketone *	BDL	
			Methylene chloride *	BDL	
			m,p-Xylene *	BDL	
			o-Xylene *	BDL	
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
			Phenol *	BDL	
			Propionaldehyde *	BDL	
			Styrene *	BDL	
			Toluene *	BDL	

Table 10.5-7 (cont.).

Source[b]	Emission Control Device[c]	CASRN[d]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Softwood plywood, dry veneer trim chipper (trimmed veneer from layup line) (SCC 3-07-007-90) Use with caution!	Uncontrolled		PM	ND	
			THC as carbon[f]	0.059	U
			VOC as propane[g]	0.072	U
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			3-Carene	BDL	
		75-07-0	Acetaldehyde *	0.00081	U
		67-64-1	Acetone	0.00082	U
			Acrolein *	BDL	
		80-56-8	Alpha-pinene	0.032	U
			Benzene *	BDL	
			Beta-pinene	BDL	
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
		50-00-0	Formaldehyde *	0.00034	U
			Limonene	BDL	
		67-56-1	Methanol *	0.0087	U
			Methyl ethyl ketone *	BDL	
			Methyl isobutyl ketone *	BDL	
			Methylene chloride *	BDL	
			m,p-Xylene *	BDL	
			o-Xylene *	BDL	
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
		108-95-2	Phenol *	0.0019	U
			Propionaldehyde *	BDL	
			Styrene *	BDL	
			Toluene *	BDL	

Table 10.5-7 (cont.).

Source[b]	Emission Control Device[c]	CASRN[d]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Softwood plywood, dry plywood trim chipper (trim from panel saws) (SCC 3-07-007-91) Use with caution!	Uncontrolled		PM	ND	
			THC as carbon[f]	0.056	U
			VOC as propane[g]	0.068	U
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			3-Carene	BDL	
			Acetaldehyde *	BDL	
			Acetone	BDL	
			Acrolein *	BDL	
		80-56-8	Alpha-pinene	0.036	U
			Benzene *	BDL	
			Beta-pinene	BDL	
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
			Formaldehyde *	BDL	
			Limonene	BDL	
		67-56-1	Methanol *	0.0078	U
			Methyl ethyl ketone *	BDL	
			Methyl isobutyl ketone *	BDL	
			Methylene chloride *	BDL	
			m,p-Xylene *	BDL	
			o-Xylene *	BDL	
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
			Phenol *	BDL	
			Propionaldehyde *	BDL	
			Styrene *	BDL	
			Toluene *	BDL	

Table 10.5-7 (cont.).

Source[b]	Emission Control Device[c]	CASRN[d]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Softwood plywood sander (includes sanders and specialty saw)[h] (SCC 3-07-007-92) Use with caution!	Uncontrolled		PM	ND	
			THC as carbon[f]	0.15	U
			VOC as propane[g]	0.18	U
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			3-Carene	BDL	
		75-07-0	Acetaldehyde *	0.0028	U
		67-64-1	Acetone	0.0047	U
			Acrolein *	BDL	
		80-56-8	Alpha-pinene	0.023	U
			Benzene *	BDL	
			Beta-pinene	BDL	
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
		50-00-0	Formaldehyde *	0.0018	U
			Limonene	BDL	
		67-56-1	Methanol *	0.012	U
			Methyl ethyl ketone *	BDL	
			Methyl isobutyl ketone *	BDL	
			Methylene chloride *	BDL	
			m,p-Xylene *	BDL	
			o-Xylene *	BDL	
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
			Phenol *	BDL	
			Propionaldehyde *	BDL	
			Styrene *	BDL	
			Toluene *	BDL	

Table 10.5-7 (cont.).

Source[b]	Emission Control Device[c]	CASRN[d]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Softwood plywood saws (includes 3 saws, hog, and sander)[j] (SCC 3-07-007-93) Use with caution!	Uncontrolled		PM	ND	
			THC as carbon[f]	0.072	U
			VOC as propane[g]	0.086	U
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			3-Carene	BDL	
		75-07-0	Acetaldehyde *	0.00092	U
		67-64-1	Acetone	0.0019	U
			Acrolein *	BDL	
		80-56-8	Alpha-pinene	0.027	U
			Benzene *	BDL	
			Beta-pinene	BDL	
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
		50-00-0	Formaldehyde *	0.00034	U
			Limonene	BDL	
		67-56-1	Methanol *	0.012	U
			Methyl ethyl ketone *	BDL	
			Methyl isobutyl ketone *	BDL	
			Methylene chloride *	BDL	
			m,p-Xylene *	BDL	
			o-Xylene *	BDL	
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
			Phenol *	BDL	
			Propionaldehyde *	BDL	
			Styrene *	BDL	
			Toluene *	BDL	

[a] Emission factor units are pounds of pollutant per thousand square feet of 3/8-inch thick panel (lb/MSF 3/8). One lb/MSF 3/8 = 0.5 kg/m^3. Factors represent uncontrolled emissions unless otherwise noted. SCC = Source Classification Code. * = hazardous air pollutant. BDL = below test method detection limit; indicates that this pollutant has not been detected in any test runs on this source. ND = no data available. U = emission factor unrated. These emission factors should be used with caution; the ducting arrangements of these miscellaneous sources varies from mill to mill, therefore, these emission factors may not provide accurate estimates of emissions from other mills. Reference 17. See Table 10.5-8 for the hardwood and softwood species commonly used in the production of plywood and other composite wood products. **Note: emission factors in table represent averages of data sets. The data spreadsheets, which may be more useful for specific applications, are available on EPA's TTN website at: http://www.epa.gov/ttn/chief/.**

[b] SPW = softwood plywood; HPW = hardwood plywood.

[c] Emission control devices (baghouses) are considered no control for organic pollutants.

[d] CASRN = Chemical Abstracts Service Registry Number.

Table 10.5-7 (cont.).

[e] A composer is a device used for gluing veneers along the edge to form larger sheets of veneer; a core saw is used to cut core plies of veneer separately from decorative face veneers; a dry hog is used to reduce the size of wood residue by slicing or chopping; a hammermill is used to pulverize wood residue into small particles.

[f] THC as carbon = total hydrocarbon measurements using EPA Method 25A.

[g] VOC as propane = (1.22 × THC) + formaldehyde - (acetone + methane + methylene chloride); a value of zero is inserted in the equation for the specified compounds where no emission factor is available, or where the emission factor is reported only as "BDL".

[h] A specialty saw is used for cutting and grooving the edges of plywood panels for tongue and groove joints.

[j] A hog is used to reduce the size of wood residue by slicing or chopping.

Table 10.5-8. WOOD SPECIES COMMONLY USED IN COMPOSITE WOOD PRODUCTS MANUFACTURING [a]

Wood product	AP-42 section	Hardwood species	Softwood species
Plywood	10.5	Oak, cherry, poplar, maple, larch	Firs, pines
Oriented strandboard	10.6-1	Aspen	Pines, firs, spruce
Particleboard	10.6-2	Aspen, oak	Pines, firs
Medium density fiberboard	10.6-3	Gum, alder, hickory	Pines, firs
Hardboard/fiberboard	10.6-4	Aspen, birch, beech, oak, maple	Pines
Engineered wood products	10.9	Aspen, birch, poplar	Pines, firs, hemlock

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EPA Office of Compliance Sector Notebook Project

Profile of the Pulp and Paper Industry
2nd Edition

November 2002

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Office of Enforcement and Compliance Assurance
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW (MC 2224-A)
Washington, DC 20460

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Pulp and Paper Industry
(SIC 2611 through 2631)

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LIST OF ACRONYMS

AFS	AIRS Facility Subsystem (CAA database)
AIRS	Aerometric Information Retrieval System (CAA database)
AOR	Area of Review (SDWA)
AOX	Adsorbable Organic Halides
BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BIFs	Boilers and Industrial Furnaces (RCRA)
BMP	Best Management Practice
BOD	Biochemical Oxygen Demand
BPT	Best Practicable Technology Currently Available
CAA	Clean Air Act
CAAA	Clean Air Act Amendments of 1990
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CERCLIS	CERCLA Information System
CFCs	Chlorofluorocarbons
CFR	Code of Federal Regulations
CGP	Construction General Permit (CWA)
CO	Carbon Monoxide
CO_2	Carbon Dioxide
COD	Chemical Oxygen Demand
CSI	Common Sense Initiative
CWA	Clean Water Act
CZMA	Coastal Zone Management Act
D&B	Dun and Bradstreet Marketing Index
DOC	United States Department of Commerce
EIS	Environmental Impact Statement
EPA	United States Environmental Protection Agency
EPCRA	Emergency Planning and Community Right-to-Know Act
ESA	Endangered Species Act
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FINDS	Facility Indexing System
FR	Federal Register
FRP	Facility Response Plan
HAPs	Hazardous Air Pollutants (CAA)
HSDB	Hazardous Substances Data Bank
HSWA	Hazardous and Solid Waste Amendments
IDEA	Integrated Data for Enforcement Analysis
LDR	Land Disposal Restrictions (RCRA)
LEPCs	Local Emergency Planning Committees
MACT	Maximum Achievable Control Technology (CAA)
MCLGs	Maximum Contaminant Level Goals
MCLs	Maximum Contaminant Levels
MEK	Methyl Ethyl Ketone
MSDSs	Material Safety Data Sheets

MSGP	Multi-Sector General Permit (CWA)
NAAQS	National Ambient Air Quality Standards (CAA)
NAFTA	North American Free Trade Agreement
NAICS	North Americal Industrial Classification System
NCDB	National Compliance Database (for TSCA, FIFRA, EPCRA)
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NEC	Not Elsewhere Classified
NEIC	National Enforcement Investigation Center
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NICE^3	National Industrial Competitiveness Through Energy, Environment and Economics
NO_2	Nitrogen Dioxide
NOI	Notice of Intent
NOT	Notice of Termination
NOV	Notice of Violation
NO_x	Nitrogen Oxides
NPDES	National Pollution Discharge Elimination System (CWA)
NPL	National Priorities List
NRC	National Response Center
NSPS	New Source Performance Standards (CAA)
OAQPS	Office of Air Quality Planning and Standards
OAR	Office of Air and Radiation
OECA	Office of Enforcement and Compliance Assurance
OMB	Office of Management and Budget
OPA	Oil Pollution Act
OPPTS	Office of Prevention, Pesticides, and Toxic Substances
OSHA	Occupational Safety and Health Administration
OSW	Office of Solid Waste
OSWER	Office of Solid Waste and Emergency Response
OW	Office of Water
P2	Pollution Prevention
PCS	Permit Compliance System (CWA Database)
PM10	Particulate Matter of 10 microns or less
PMN	Premanufacture Notice
POTW	Publicly Owned Treatments Works
PSD	Prevention of Significant Deterioration (CAA)
PT	Total Particulates
RCRA	Resource Conservation and Recovery Act
RCRIS	RCRA Information System
RQ	Reportable Quantity (CERCLA)
SARA	Superfund Amendments and Reauthorization Act
SDWA	Safe Drinking Water Act
SEPs	Supplementary Environmental Projects
SERCs	State Emergency Response Commissions
SIC	Standard Industrial Classification
SIP	State Implementation Plan

SO_2	Sulfur Dioxide
SO_x	Sulfur Oxides
SPCC	Spill Prevention Control and Countermeasures
STEP	Strategies for Today's Environmental Partnership
SWPPP	Storm Water Pollution Prevention Plan (CWA)
TOC	Total Organic Carbon
TRI	Toxic Release Inventory
TRIS	Toxic Release Inventory System
TCRIS	Toxic Chemical Release Inventory System
TSCA	Toxic Substances Control Act
TSD	Treatment Storage and Disposal
TSP	Total Suspended Particulates
TSS	Total Suspended Solids
UIC	Underground Injection Control (SDWA)
USDW	Underground Sources of Drinking Water (SDWA)
UST	Underground Storage Tanks (RCRA)
VOCs	Volatile Organic Compounds

I. INTRODUCTION TO THE SECTOR NOTEBOOK PROJECT

I.A. Summary of the Sector Notebook Project

Environmental policies based upon comprehensive analysis of air, water and land pollution (such as economic sector, and community-based approaches) are an important supplement to traditional single-media approaches to environmental protection. Environmental regulatory agencies are beginning to embrace comprehensive, multi-statute solutions to facility permitting, compliance assurance, education/outreach, research, and regulatory development issues. The central concepts driving the new policy direction are that pollutant releases to each environmental medium (air, water and land) affect each other, and that environmental strategies must actively identify and address these interrelationships by designing policies for the "whole" facility. One way to achieve a whole facility focus is to design environmental policies for similar industrial facilities. By doing so, environmental concerns that are common to the manufacturing of similar products can be addressed in a comprehensive manner. Recognition of the need to develop the industrial "sector-based" approach within the EPA Office of Compliance led to the creation of this document.

The Sector Notebook Project was initiated by the Office of Compliance within the Office of Enforcement and Compliance Assurance (OECA) to provide its staff and managers with summary information for eighteen specific industrial sectors. As other EPA offices, states, the regulated community, environmental groups, and the public became interested in this project, the scope of the original project was expanded. The ability to design comprehensive, common sense environmental protection measures for specific industries is dependent on knowledge of several interrelated topics. For the purposes of this project, the key elements chosen for inclusion are: general industry information (economic and geographic); a description of industrial processes; pollution outputs; pollution prevention opportunities; federal statutory and regulatory framework; compliance history; and a description of partnerships that have been formed between regulatory agencies, the regulated community and the public.

For any given industry, each topic listed above could alone be the subject of a lengthy volume. However, in order to produce a manageable document, this project focuses on providing summary information for each topic. This format provides the reader with a synopsis of each issue, and references where more in-depth information is available. Text within each profile was researched from a variety of sources, and was usually condensed from more detailed sources pertaining to specific topics. This approach allows for a wide coverage of activities that can be further explored based upon the references listed at the end of this profile. As a check on the information

included, each notebook went through an external document review process. The Office of Compliance appreciates the efforts of all those that participated in this process and enabled us to develop more complete, accurate and up-to-date summaries. Many of those who reviewed this notebook are listed as contacts in Section IX and may be sources of additional information. The individuals and groups on this list do not necessarily concur with all statements within this notebook.

I.B. Additional Information

Providing Comments

OECA's Office of Compliance plans to periodically review and update the notebooks and will make these updates available both in hard copy and electronically. If you have any comments on the existing notebook, or if you would like to provide additional information, please send a hard copy and computer disk to the EPA Office of Compliance, Sector Notebook Project (2224-A), 1200 Pennsylvania Ave., NW, Washington, DC 20460. Comments can also be sent via the Sector Notebooks web page at: http://www.epa.gov/compliance/resources/publications/assistance/sectors/notebooks/. If you are interested in assisting in the development of new Notebooks, or if you have recommendations on which sectors should have a Notebook, please contact the Office of Compliance at 202-564-2310.

Adapting Notebooks to Particular Needs

The scope of the industry sector described in this notebook approximates the national occurrence of facility types within the sector. In many instances, industries within specific geographic regions or states may have unique characteristics that are not fully captured in these profiles. The Office of Compliance encourages state and local environmental agencies and other groups to supplement or re-package the information included in this notebook to include more specific industrial and regulatory information that may be available. Additionally, interested states may want to supplement the "Summary of Applicable Federal Statutes and Regulations" section with state and local requirements. Compliance or technical assistance providers may also want to develop the "Pollution Prevention" section in more detail.

II. INTRODUCTION TO THE PULP AND PAPER INDUSTRY

This section provides background information on the size, geographic distribution, employment, production, sales, and economic condition of the pulp and paper industry. Facilities described within the document are also described in terms of their Standard Industrial Classification (SIC) codes.

II.A. Introduction, Background, and Scope of the Notebook

The paper and allied products industry (SIC 26) comprises two types of facilities: pulp and paper mills that process raw wood fiber or recycled fiber to make pulp and/or paper, and converting facilities that use these primary materials to manufacture more specialized products such as paperboard boxes, writing paper, and sanitary paper. Portions of this notebook present information for all of SIC 26, but the notebook focuses primarily on the greatest areas of environmental concern within the industry: those from pulpmaking processes. Converting facilities are not discussed, and the papermaking stage of the pulp and paper process is de-emphasized.

The specific industry components covered in this industry are the following:

SIC 2611. Pulp mills. Pulp mills separate the fibers of wood or from other materials, such as rags, linters, wastepaper, and straw in order to create pulp. Mills may use chemical, semi-chemical, or mechanical processes, and may create co-products such as turpentine and tall oil.

This SIC code does not include pulpmaking facilities that are part of an integrated paper or paperboard facility; those would be categorized according to the appropriate final product. The following are types of pulp mills included in this SIC code:

- Deinking of newsprint
- Fiber pulp: made from wood, rags, wastepaper, linters, straw, and bagasse
- Pulp mills
- Pulp: soda, sulfate, sulfite, groundwood, rayon, and semichemical
- Rayon pulp
- Wood pulp

SIC 2621. Paper mills. Paper mills primarily are engaged in manufacturing paper from woodpulp and other fiber pulp, and may also manufacture converted paper products. Establishments primarily engaged in integrated operations of producing pulp and manufacturing paper are included in this industry if primarily shipping paper or paper products. Establishments primarily engaged

in manufacturing converted paper products from purchased paper stock are classified in Industry Group 265 or Industry Group 267.

SIC 2631. Paperboard mills. Establishments in this SIC code primarily are engaged in manufacturing paperboard, including paperboard coated on the paperboard machine, from wood pulp and other fiber pulp; and may also manufacture converted paperboard products. Establishments primarily engaged in manufacturing converted paperboard products from purchased paperboard are classified in Industry Group 265 or Industry Group 267. Establishments primarily engaged in manufacturing insulation board and other reconstituted wood fiberboard are classified in Industry 2493.

The following SIC codes are within SIC 26, but are not addressed in detail in this document:

SIC 265 (2652-2657). Paperboard containers and boxes. Establishments in these SIC codes are engaged in the manufacture of corrugated and solid fiber boxes and containers from purchased paperboard. The principal commodities of this industry are boxes, pads, partitions, display items, pallets, corrugated sheets, food packaging, and non-food (e.g., soaps, cosmetics, and medicinal products) packaging.

SIC 267 (2671-2679). Miscellaneous converted paper products. These establishments produce a range of paper, paperboard, and plastic products with purchased material. Common products include paper and plastic film packaging, specialty paper, paper and plastic bags, manila folders, sanitary paper products, envelopes, stationery, and other products.

SIC codes were established by the Office of Management and Budget (OMB) to track the flow of goods and services within the economy. OMB has changed the SIC code system to a system based on similar production processes called the North American Industrial Classification System (NAICS). Because most of the data presented in this notebook apply to the pulp and paper industry as defined by its SIC codes, this notebook continues to use the SIC system to define this sector. Table 1 presents the SIC codes for the pulp and paper industry and the corresponding NAICS codes.

Table 1: SIC and NAICS Codes

1987 SIC	SIC Description	1997 NAICS	NAICS Description
2611	Pulp mills	322110	Pulp mills
2621	Paper mills	322121	Paper (except newsprint) mills (part)
		322122	Newsprint mills
2631	Paperboard mills	322130	Paperboard mills
2652	Setup paperboard boxes	322213	Setup paperboard box mfg
2653	Corrugated & solid fiber boxes	322211	Corrugated & solid fiber box mfg
2655	Fiber cans, drums & similar products	322214	Fiber cans, drums & similar products mfg
2656	Sanitary food containers	322215	Nonfolding sanitary food container mfg
2657	Folding paperboard boxes	322212	Folding paperboard box mfg
2671	Paper - coated & laminated, packaging	322221	Coated & laminated packaging paper & plastics film mfg
		326112	Unsupported plastics packaging film & sheet mfg
2672	Paper - coated & laminated, n.e.c.	322222	Coated & laminated paper mfg (part)
2673	Bags - plastics, laminated, & coated	322223	Plastics, foil, & coated paper bag mfg
		326111	Unsupported plastics bag mfg
2674	Bags - uncoated paper & multiwall	322224	Uncoated paper & multiwall bag mfg
2675	Die-cut paper & board	322226	Surface-coated paperboard mfg
		322231	Die-cut paper & paperboard office supplies mfg (part)
		322299	All other converted paper product mfg (part)
2676	Sanitary paper products	322121	Paper (except newsprint) mills (part)
		322291	Sanitary paper product mfg (part)
2677	Envelopes	322232	Envelope mfg
2678	Stationery products	322233	Stationery, tablet, & related product mfg
2679	Converted paper products, n.e.c.	322222	Coated & laminated paper mfg (part)
		322231	Die-cut paper & paperboard office supplies mfg (part)
		322299	All other converted paper product mfg (part)

Source: U.S. Census Bureau, 2000a.

II.B. Characterization of the Pulp and Paper Industry

The pulp and paper industry converts wood (harvested by logging firms in SIC 24) or recycled fiber into pulp and primary forms of paper. Other companies in the paper and allied products industry (SIC codes 265 and 267) use the products of the pulp and paper industry to manufacture specialized products including paperboard boxes, writing paper, and sanitary paper.

II.B.1. Product Characterization

The pulp and paper industry produces primary products – commodity grades of wood pulp, printing and writing papers, sanitary tissue, industrial-type papers, containerboard and boxboard – using cellulose fiber from timber or purchased or recycled fibers. The two steps are pulping and paper or paperboard manufacturing.

Pulping

Pulping is the process of dissolving wood chips into individual fibers by chemical, semi-chemical, or mechanical methods. The particular pulping process used affects the strength, appearance, and intended use characteristics of the resultant paper product. Pulping is the major source of environmental impacts in the pulp and paper industry. There are more than a dozen different pulping processes in use in the U.S.; each pulping process has its own set of process inputs, outputs, and resultant environmental concerns. Table 2 provides an overview of the major pulping processes and the main products that they produce.

Table 2: Description of Pulping Processes

Pulp Process	Description/Principal Products
Dissolving Kraft	Highly bleached and purified kraft process wood pulp suitable for conversion into products such as rayon, viscose, acetate, and cellophane.
Bleached Papergrade Kraft and Soda	Bleached or unbleached kraft process wood pulp usually converted into paperboard, coarse papers, tissue papers, and fine papers such as business, writing and printing.
Unbleached Kraft	
Dissolving Sulfite	Highly bleached and purified sulfite process wood pulp suitable for conversion into products such as rayon, viscose, acetate, and cellophane.

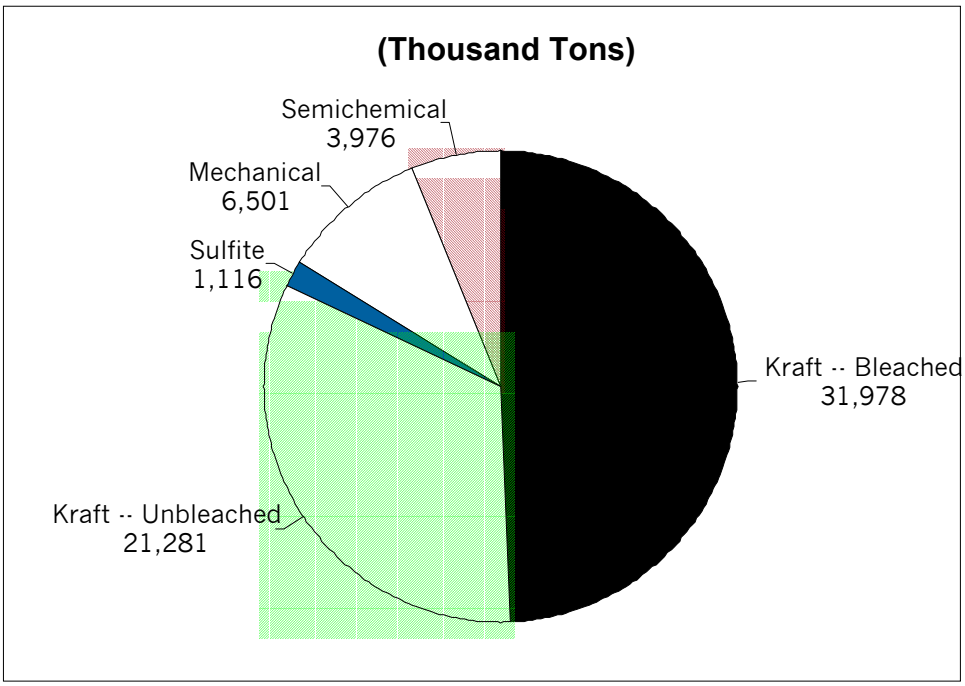
Table 2: Description of Pulping Processes (continued)

Pulp Process	Description/Principal Products
Papergrade Sulfite	Sulfite process wood pulp with or without bleaching used for products such as tissue papers, fine papers, and newsprint.
Semi-chemical	Pulp is produced by chemical, pressure, and occasionally mechanical forces with or without bleaching used for corrugating medium (cardboard), paper, and paperboard.
Mechanical pulp	Pulp manufacture by stone groundwood, mechanical refiner, thermo-mechanical, chemi-mechanical, or chemi-thermo-mechanical means for newsprint, coarse papers, tissue, molded fiber products, and fine papers.
Secondary Fiber Deink	Pulps from recovered paper or paperboard using a chemical or solvent process to remove contaminants such as inks, coatings and pigments used to produce fine, tissue, and newsprint papers.
Secondary Fiber Non-deink	Pulp production from recovered paper or paperboard without deinking processes to produce tissue, paperboard, molded products and construction papers.
Non-wood Chemical pulp	Production of pulp from textiles (e.g.,rags), cotton linters, flax, hemp, tobacco, and abaca to make cigarette wrap papers and other specialty paper products.

Source: U.S. EPA, 1993a.

The bleached and unbleached kraft processes are used to manufacture the majority of paper products. Together, these processes account for 83 percent of the pulp produced in the United States. Figure 1 presents the relative output of the major pulping processes.

Figure 1: Pulp Production, 2000



Source: AF&PA, 2001.

The pulp manufacturing process is the major source of environmental concern for this industry. For example, a bleached kraft pulp mill requires 4,000-12,000 gallons of water and 14-20 million Btu of energy per ton of pulp, of which roughly 8-10 million Btu typically are derived from biomass-derived fuel from the pulping process (*Pulp and Paper*, 2001). Across all facilities in SIC 26, the pulp, paper, and allied products industry is the largest consumer of process water and the third largest consumer of energy (behind the chemicals and metals industries) (U.S. Department of Commerce, 2000 and U.S. Department of Energy, 2000). The high use of water and energy, as well as the chemical inputs described in Section III, lead to a variety of environmental concerns.

Paper and Paperboard Manufacturing

The paper or paperboard manufacturing process is similar for all types of pulp. In this process, pulp is spread out as a wet mixture, or *slurry*, onto a screen. Water is removed by gravity and vacuums, and the resulting layer of fibers is passed through a series of rollers that compress the material into sheets. Paper and paperboard manufacturers use nearly identical processes; the difference is that paperboard is thicker (more than 0.3 mm).

II.B.2. Industry Size and Geographic Distribution

The pulp and paper industry is characterized by very large facilities; of the 514 pulp and paper mills in SIC codes 261-263 reported by the Bureau of the Census in 1998, 343 (67 percent) have 100 or more employees. Across all of these facilities, there are 172,000 employees who produced $59 billion in shipments (in 1998 dollars). In 2000, the industry employed 182,000 and produced $79 billion in shipments.

In contrast, the downstream facilities (container and specialty product manufacturers) tend to be more numerous but smaller. More than 75 percent of these facilities have fewer than 100 employees. Table 3 presents the employment distribution for both pulp and paper facilities and downstream manufacturers in 1997 (the most recent data available) as reported by the U.S. Census Bureau. Because recent years have seen some facility closures, the current number of facilities may be somewhat lower.

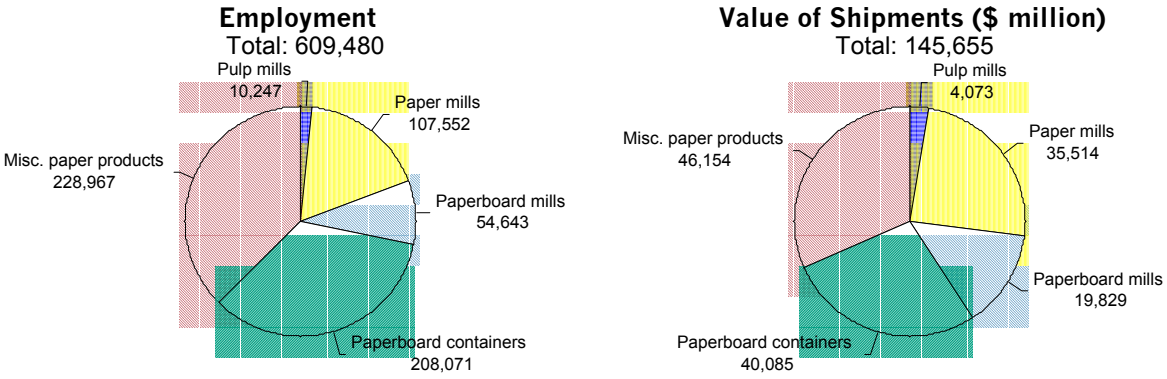
Table 3: Size of Paper and Allied Products Facilities

Industry	Employees per Facility (% of Total)			
	1-19	20-99	100-499	>499
Pulp mills (SIC 261)	3 (7%)	14 (34%)	18 (44%)	6 (15%)
Paper mills (SIC 262)	6 (2%)	63 (24%)	107 (41%)	83 (32%)
Paperboard mills (SIC 263)	8 (4%)	77 (36%)	96 (45%)	33 (15%)
Paperboard containers and boxes (SIC 265)	748 (26%)	1,311 (46%)	782 (27%)	14 (<1%)
Misc. converted paper products (SIC 267)	1,383 (44%)	1,116 (36%)	597 (19%)	70 (2%)

Source: U.S. Census Bureau, 1998.

Figure 2 presents the employment and value of shipments for both the primary and secondary portions of the paper and allied products industry. Taken together, the industry is among the top 10 U.S. manufacturing industries in value of shipments. As noted in the two graphs, the pulp and paper portion of the industry (pulp, paper, and paperboard mills) employs only 28 percent of the workers in the industry, but produces over 40 percent of the shipments.

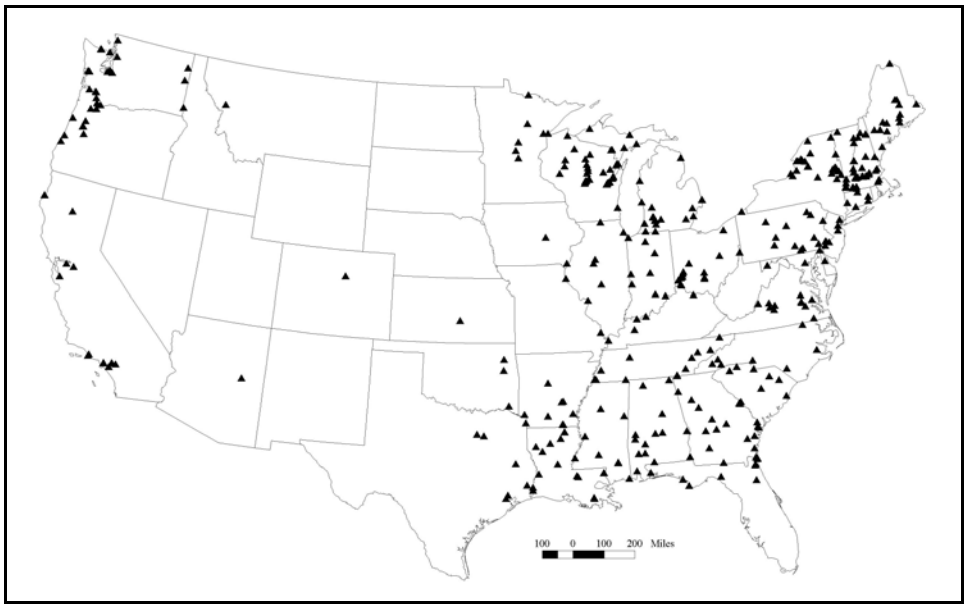
Figure 2: Employment and Value of Shipments in the Paper and Allied Products Industry[a]



[a] Integrated mills, which produce both pulp and paper (or paperboard), are included in the paper (or paperboard) categories. The pulp mill category includes only facilities producing pulp for the general market.
Source: U.S. Census Bureau, 2000b.

The geographic distribution of pulp and paper mills varies according to the type of mill. As there are tremendous variations in the scale of individual facilities, tallies of the number of facilities may not represent the level of economic activity (nor possible environmental consequences). Pulp mills are located primarily in regions of the country where trees are harvested from natural stands or tree farms: the Southeast, Northwest, Northeast, and North Central regions. Pulp mills that process recycled fiber are generally located near sources of waste paper. Paper mills, however, are more widely distributed. They are located near pulping operations and/or near converting markets. The distribution of paperboard mills reflects the location of manufacturing in general, since such operations are the primary market for paperboard products. Figure 3 presents the location of pulp and paper mills in the U.S.

Figure 3: Geographic Distribution of Pulp, Paper, and Paperboard Mills



There are no currently active mills in Alaska or Hawaii.
Source: U.S. EPA, 1999.

II.B.3. Economic Trends

World Market Competition

The U.S. produces roughly 30 percent of the world's paper and paperboard. The pulp and paper industry is one of the most important industries for the balance of trade in the U.S. This trade balance increased through most of the 1990s. In 1999, exports from SIC codes 261-263 were $8.5 billion. In recent years, however, exports have been declining and imports have been increasing. Between 1997 and 2000, exports declined 5.5% and imports increased by more than 20%. The declining exports and increasing imports are partly due to a strong dollar in this period and the recent slow down of the U.S. economy (AF&PA, 2001).

The U.S. industry has several advantages over the rest of the world market, including modern mills, a highly skilled work force, a large domestic market, and an efficient transportation infrastructure. Major export markets for pulp are Japan, Italy, Germany, Mexico, and France. The U.S. Department of Commerce anticipates exports to grow faster than production for domestic markets through 2004. World Trade Organization (WTO) efforts to reduce tariffs include those on pulp and paper products; if these are successful, the U.S. industry expects pulp and paper export rates to increase even further.

However, pulp and paper are commodities and therefore prices are vulnerable to global competition. Countries such as Brazil, Chile, and Indonesia have built modern, advanced pulp facilities. These countries have faster-growing trees and lower labor costs. Latin American and European countries also are adding papermaking capacity. Furthermore, the strong value of the dollar has made imports less expensive relative to domestically-produced goods. Because of this increased foreign competition, imports of paper to the U.S. market are expected to increase three percent annually through 2004 (U.S. Department of Commerce, 2000).

Industry Consolidation

In order to compensate for this increasingly competitive market, pulp and paper companies have undertaken a considerable number of mergers and acquisitions. Table 4 lists the major transactions that occurred between 1997 and 2002.

Table 4: Major Pulp and Paper Mergers and Acquisitions

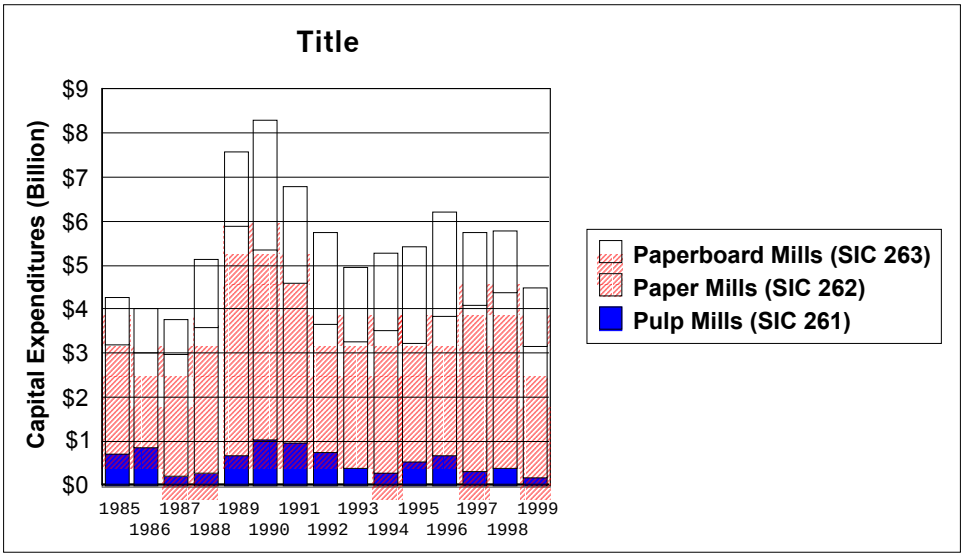
Buyer	Acquired	Value (million)	Year
International Paper Co.	Champion International Inc.	$9,600	2000
International Paper Co.	Union Camp Corp.	$7,900	1999
Jefferson Smurfit Corp.	Stone Container Corp.	$6,400	1998
Weyerhaeuser Co.	Willamette	$6,000	2002
Fort Howard Corp.	James River Corp.	$5,800	1997
Abitibi-Consolidated Inc.	Donohue Inc.	$5,300	2000
Stora Enso Oy	Consolidated Papers Inc.	$4,800	2000
Abitibi-Price Inc.	Stone-Consolidated Inc.	$3,600	1997
Westvaco	Mead	$3,000	2002
Bowater Inc.	Avenor Inc.	$2,500	1997
Weyerhaeuser Co.	MacMillan Bloedel Ltd.	$2,450	1999
Madison Dearborn Industries Inc.	Tenneco Packaging Inc.	$2,200	1999

Largest mergers and acquisitions between 1997 and mid-2000.
Source: McLaren, J et al., 2000, and Pulp & Paper International, September 2002.

Capital Improvements

Historically, U.S. pulp and paper companies have invested heavily in capital improvements to their facilities. Capital investments in recent years, however, are well below historic levels due to the difficult market conditions. For the first time, industry capacity actually declined in 2001 (Pulp & Paper International, 2002). Because few new mills are being built, most capital expenditures represent plant expansions, upgrades, and environmental protection initiatives at existing facilities. Figure 4 presents the rate of capital investments within SIC 261-263. Throughout the time period shown, capital improvements related to environmental protection claimed from 4% to 22% of the total investments with significant increases in the early and late 1990s (AF&PA, 2001).

Figure 4: Capital Improvements at Pulp and Paper Mills

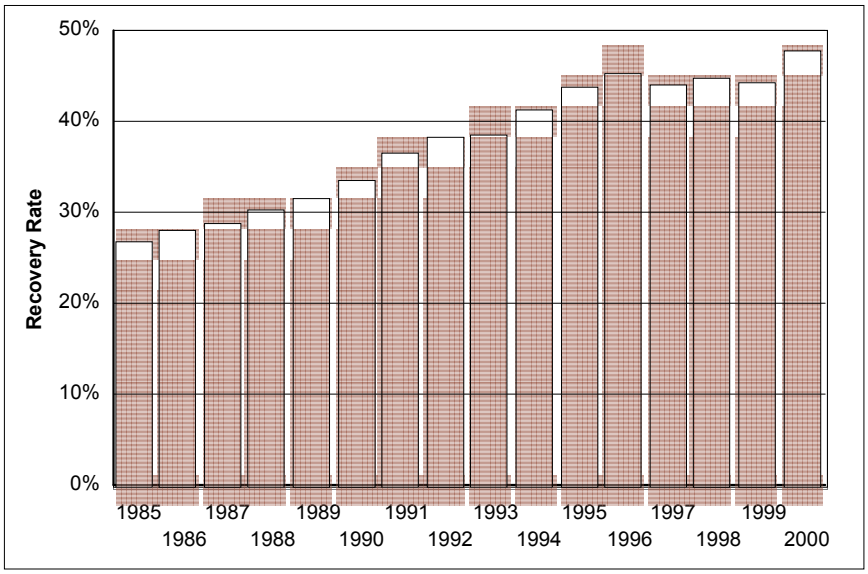


Source: AF&PA, 2001.

Recycling Efforts

A major movement within the pulp and paper industry has been an increased focus on the use of recovered paper. As shown in Figure 5, nearly 50 percent of paper now is recovered and used either as recycled paper or as products such as home insulation. Furthermore, recovered paper contributes to U.S. exports; roughly ten million tons of recovered paper were exported in 2000 (AF&PA, 2001).

Figure 5: Paper Recovery Rates



The recovery rate is the ratio of recovered paper collected to new supply of paper and paperboard.
Source: AF&PA, 2001.

III. INDUSTRIAL PROCESS DESCRIPTION

This section describes the major industrial processes within the pulp and paper industry, including the materials and equipment used, and the processes employed. The section is designed for those interested in gaining a general understanding of the industry, and for those interested in the inter-relationship between the industrial process and the topics described in subsequent sections of this profile -- pollutant outputs, pollution prevention opportunities, and Federal regulations. This section does not attempt to replicate published engineering information that is available for this industry. Refer to Section IX for a list of reference documents that are available.

This section specifically contains a description of commonly used production processes, associated raw materials, the byproducts produced or released, and the materials either recycled or transferred off-site. This discussion, coupled with schematic drawings of the identified processes, provides a concise description of where wastes may be produced in the process. This section also describes the potential fate (via air, water, and soil pathways) of these waste products.

III.A. Industrial Processes in the Pulp and Paper Industry

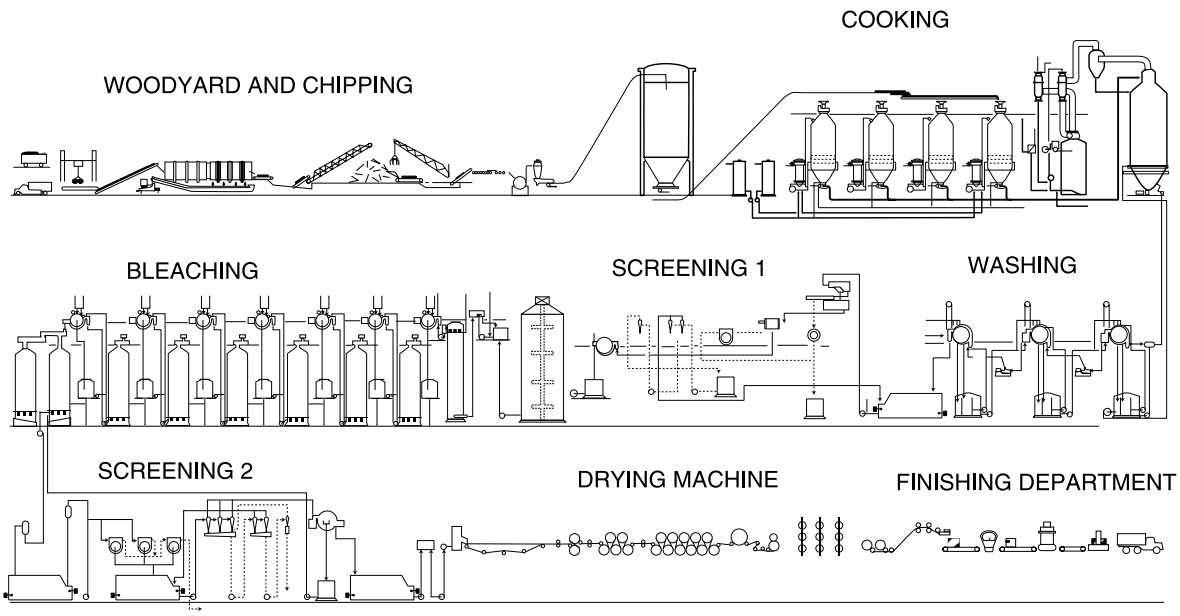
Simply put, paper is manufactured by applying a watery suspension of cellulose fibers to a screen which allows the water to drain and leaves the fibrous particles behind in a sheet. Most modern paper products contain non-fibrous additives, but otherwise fall within this general definition. Only a few paper products for specialized uses are created without the use of water, via dry forming techniques. The individual fibers formed into paper sheets is called pulp. The production of pulp is the major source of environmental impacts in the pulp and paper industry.

Processes in the manufacture of paper and paperboard can, in general terms, be split into three steps: pulp making, pulp processing, and paper/paperboard production. Paperboard sheets are thicker than paper sheets; paperboard is thicker than 0.3 mm. In general, however, paper and paperboard production processes are identical. First, a stock pulp mixture is produced by digesting a material into its fibrous constituents via chemical, mechanical, or a combination of chemical and mechanical means. In the case of wood, the most common pulping material, chemical pulping actions release cellulose fibers by selectively destroying the chemical bonds in the glue-like substance (lignin) that binds the fibers together. After the fibers are separated and impurities have been removed, the pulp may be bleached to improve brightness and processed to a form suitable for paper-making equipment. At the paper-making stage, the pulp can be combined with dyes, strength building resins, or texture adding filler materials, depending on the intended end product. Afterwards, the mixture is dewatered, leaving the fibrous

constituents and pulp additives on a wire or wire-mesh conveyor. Additional additives may be applied after the sheet-making step. The fibers bond together as they are carried through a series of presses and heated rollers. The final paper product is usually spooled on large rolls for storage (see Figure 6).

The following discussion focuses mainly on pulping processes due to their importance in understanding industry environmental impacts and current industry regulatory classification schemes. If more information on papermaking processes is desired, the *Development Document for Proposed Effluent Limitations, Guidelines and Standards for the Pulp and Paper Industry, Point Source Category* (EPA-821-R-93-019) is recommended. Additional sources are listed in Section IX of this document.

Figure 6: Simplified Flow Diagram: Integrated Mill (Chemical Pulping, Bleaching, and Paper Production)



Source: Smook, 1992.

III.A.1. Pulp Manufacture

At the pulping stage, the processed furnish (wood or other fiber source) is digested into its fibrous constituents. The bonds between fibers may be broken chemically, mechanically, or by a combination of the techniques called semi-chemical pulping. The choice of pulping technique is dependent on the type of furnish and the desired qualities of the finished product, but chemical pulping is the most prevalent. Table 5 presents an overview of the wood pu00lping types by the method of fiber separation, resultant fiber quality, and percent of 1998 U.S. pulp production. Many mills perform multiple pulping processes at the same site, most frequently non-deink secondary fiber pulping and papergrade kraft pulping (U.S. EPA, 1993a). The three basic types of wood pulping processes 1) chemical pulping, 2) semi-chemical pulping, and 3) mechanical pulping are detailed below followed by a discussion of secondary fiber pulping techniques.

Table 5: General Classification of Wood Pulping Processes

Process Category	Fiber Separation Method	Fiber Quality	Examples	% of Total 1998 US Wood Pulp Production
Mechanical	Mechanical energy	Short, weak, unstable, impure fibers	Stone groundwood, refiner mechanical pulp	10%
Semi-chemical	Combination of chemical and mechanical treatments	"Intermediate" pulp properties (some unique properties)	High-yield kraft, high-yield sulfite	6%
Chemical	Chemicals and heat	Long, strong, stable fibers	Kraft, sulfite, soda	84%

Sources: Smook, 1992; AF&PA, 1999.

A variety of technologies and chemicals are used to manufacture pulp, but most pulp manufacturing systems contain the process sequence shown in Table 6.

Table 6: Pulp Manufacturing Process Sequence

Process Sequence	Description
Fiber Furnish Preparation and Handling	Debarking, slashing, chipping of wood logs and then screening of wood chips/secondary fibers (some pulp mills purchase chips and skip this step)
Pulping	Chemical, semi-chemical, or mechanical breakdown of pulping material into fibers
Pulp Processing	Removal of pulp impurities, cleaning and thickening of pulp fiber mixture
Bleaching	Addition of chemicals in a staged process of reaction and washing increases whiteness and brightness of pulp, if necessary
Pulp drying and baling (non-integrated mills)	At non-integrated pulp mills, pulp is dried and bundled into bales for transport to a paper mill
Stock Preparation	Mixing, refining, and addition of wet additives to add strength, gloss, texture to paper product, if necessary

Overall, most of the pollutant releases associated with pulp and paper mills occur at the pulping and bleaching stages where the majority of chemical inputs occur.

Furnish Composition

Furnish is the blend of fibrous materials used to make pulp. According to the *1990 National Census of Pulp, Paper, and Paperboard Manufacturing Facilities*, the most commonly used furnish material is wood; it is used in some form by approximately 95 percent of pulp and paper manufacturers. Overall, wood furnish averages approximately 50 percent of pulp content industry-wide.

The major source of fiber for paper products comes from the vegetative tissues of vascular plants. Although almost any vascular plant could be used for paper production, the economics of scale require a high fiber yield for paper manufacture. By far, the principle source of paper-making fibers in the United States is wood from trees, the largest vascular plants available. The fibrous particles used to make paper are made of cellulose, a primary component of the cell walls of vascular plant tissues. The cellulose fibers must be removed from a chemical matrix (e.g., lignin, hemicelluloses, and resins) and result in a mixture of relatively pure fibers.

Wood used to make pulp can arrive at the mill in a variety of forms including wood logs, chips, and sawdust. Due to different physical and chemical properties of different types of wood, certain pulping processes are most efficient on specific wood types. The type of wood used can also make a difference in the final characteristics of the pulp. In general, softwood (e.g., pine and spruce) fibers are longer than those from hardwood (e.g., birch and oak) and have thinner cell walls. The longer fibers of softwood promote inter-fiber bonding and produce papers of greater strength.

Secondary fibers comprise the next most common furnish constituent. Secondary fibers consist of pre-consumer fibers (e.g., mill waste fibers) and post-consumer fiber. Post-consumer fiber sources are diverse, but the most common are newsprint and corrugated boxes (See Table 7). Although secondary fibers are not used in as great a proportion as wood furnish, approximately 80 percent of pulp and paper manufacturers use some secondary fibers in their pulp production and approximately 200 mills (approximately 40 percent of total number of mills) rely exclusively on secondary fibers for their pulp furnish (AF&PA, 1999; AF&PA, 2000c). Secondary fibers must be processed to remove contaminants such as glues or bindings, but, depending on the end product, may or may not be processed to remove ink contaminants or to brighten the pulp.

Secondary fiber use is increasing in the pulp and paper industry due to consumer demand for products made from recycled paper. Recovered fiber accounted for 75 percent of the industry's increase in fiber consumption between 1990 and 2000 (AF&PA, 2000a). The utilization of secondary fibers, expressed as the ratio of recovered paper consumption to the total production of paper and paperboard, is at approximately 39 percent and is climbing slowly (AF&PA, 2001). In a resource-deficient country such as Japan, the secondary fiber utilization rate is at about 50 percent, whereas the average utilization rate in Europe is approximately 40 percent (VDP, 1997). Due to losses of fiber substance and strength during the recycling process, a 50 percent utilization rate is considered the present maximum overall utilization rate for fiber recycling (Smook, 1992).

Secondary fiber sources are seldom used as feedstocks for high quality paper products. Contaminants (e.g., inks, paper colors) are often present, so production of low-purity products is often the most cost-effective use of secondary fibers, although decontamination technologies are available. Approximately 68 percent of all secondary fiber in the U.S. is presently used for multi-ply paperboard or the corrugating paper used to manufacture corrugated cardboard (AF&PA, 2000a). Over the next decade, an increasing proportion of the total amount will be deinked for newsprint or other higher-quality uses.

Table 7: Relative Wastepaper Usage as Secondary Fiber in 1999

Paper Type	% of Total Wastepaper Usage in 1999
Mixed Paper	18%
Old Newspaper	19%
Old Corrugated Cardboard	48%
Pulp Substitutes	6%
High-grade Deinked	9%

Source: AF&PA, 2000b.

Other types of furnish include cotton rags and linters, flax, hemp, bagasse, tobacco, and synthetic fibers such as polypropylene. These substances are not used widely, however, as they are typically for low volume, specialty grades of paper.

The types of furnish used by a pulp and paper mill depend on the type of product produced and what is readily available. Urban mills use a larger proportion of secondary fibers due to the post-consumer feedstock close at hand. More rurally located mills are usually close to timber sources and thus may use virgin fibers in greater proportion.

Furnish Preparation

Furnish is prepared for pulp production by a process designed to supply a homogenous pulping feedstock. In the case of roundwood furnish (logs), the logs are cut to manageable size and then debarked. At pulp mills integrated with lumbering facilities, acceptable lumber wood is removed at this stage. At these facilities, any residual or waste wood from lumber processing is returned to the chipping process; in-house lumbering rejects can be a significant source of wood furnish at a facility. The bark of those logs not fit for lumber is usually either stripped mechanically or hydraulically with high powered water jets in order to prevent contamination of pulping operations. Depending on the moisture content of the bark, it may then be burned for energy production. If not burned for energy production, bark can be used for mulch, ground cover, or to make charcoal.

Hydraulic debarking methods may require a drying step before burning. Usually, hydraulically removed bark is collected in a water flume, dewatered, and pressed before burning. Treatment of wastewater from this process is difficult and costly, however, whereas dry debarking methods can channel

the removed bark directly into a furnace (Smook, 1992). In part because of these challenges, hydraulic debarking has decreased in significance within the industry (Potlatch, 2002).

Debarked logs are cut into chips of equal size by chipping machines. Chippers usually produce uniform wood pieces 20 mm long in the grain direction and 4 mm thick. The chips are then put on a set of vibrating screens to remove those that are too large or small. Large chips stay on the top screens and are sent to be recut, while the smaller chips are usually burned with the bark. Certain mechanical pulping processes, such as stone groundwood pulping, use roundwood; however, the majority of pulping operations require wood chips. Non-wood fibers are handled in ways specific to their composition. Steps are always taken to maintain fiber composition and thus pulp yield.

Chemical Pulping

Chemical pulps are typically manufactured into products that have high-quality standards or require special properties. Chemical pulping degrades wood by dissolving the lignin bonds holding the cellulose fibers together. Generally, this process involves the cooking/digesting of wood chips in aqueous chemical solutions at elevated temperatures and pressures. There are two major types of chemical pulping currently used in the U.S.: 1) kraft/soda pulping and 2) sulfite pulping. These processes differ primarily in the chemicals used for digesting. The specialty paper products rayon, viscose, acetate, and cellophane are made from dissolving pulp, a variant of standard kraft or sulfite chemical pulping processes.

Kraft pulping (or sulfate) processes produced approximately 83 percent of all US pulp tonnage during 2000 according to the American Forest and Paper Association (AF&PA, 2001). The success of the process and its widespread adoption are due to several factors. First, because the kraft cooking chemicals are selective in their attack on wood constituents, the pulps produced are notably stronger than those from other processes (i.e., Kraft is German for "strength"). The kraft process is also flexible, in so far as it is amenable to many different types of raw materials (i.e., hard or soft woods) and can tolerate contaminants frequently found in wood (e.g., resins). Lignin removal rates are high in the kraft process — up to 90 percent — allowing high levels of bleaching without pulp degradation. Finally, the chemicals used in kraft pulping are readily recovered within the process, making it very economical and reducing potential environmental releases (See *Chemical Recovery Systems* below).

The kraft process uses a sodium-based alkaline pulping solution (liquor) consisting of sodium sulfide (Na_2S) and sodium hydroxide (NaOH) in 10 percent solution. This liquor (white liquor) is mixed with the wood chips in

a reaction vessel (digester). The output products are separated wood fibers (pulp) and a liquid that contains the dissolved lignin solids in a solution of reacted and unreacted pulping chemicals (black liquor). The black liquor undergoes a chemical recovery process (see *Chemical Recovery Systems*) to regenerate white liquor for the first pulping step. Overall, the kraft process converts approximately 50 percent of input furnish into pulp.

The kraft process evolved from the soda process. The soda process uses an alkaline liquor of only sodium hydroxide (NaOH). The kraft process has virtually replaced the soda process due to the economic benefits of chemical recovery and improved reaction rates (the soda process has a lower yield of pulp per pound of wood furnish than the kraft process).

Sulfite pulping was used for approximately two percent of U.S. pulp production in 2000 (AF&PA, 2001). Softwood is the predominant furnish used in sulfite pulping processes. However, only non-resinous species are generally pulped. The sulfite pulping process relies on acid solutions of sulfurous acid (H_2SO_3) and bisulfite ion (HSO_3^-) to degrade the lignin bonds between wood fibers.

Sulfite pulps have less color than kraft pulps and can be bleached more easily, but are not as strong. The efficiency and effectiveness of the sulfite process is also dependent on the type of wood furnish and the absence of bark. For these reasons, the use of sulfite pulping has declined in comparison to kraft pulping over time.

Semi-chemical pulping

Semi-chemical pulping comprised six percent of U.S. pulp production in 2000 (AF&PA, 2001). Semi-chemical pulp is often very stiff, making this process common in corrugated container manufacture. This process primarily uses hardwood as furnish.

The major process difference between chemical pulping and semi-chemical pulping is that semi-chemical pulping uses lower temperatures, more dilute cooking liquor or shorter cooking times, and mechanical disintegration for fiber separation. At most, the digestion step in the semi-chemical pulping process consists of heating pulp in sodium sulfite (Na_2SO_3) and sodium carbonate (Na_2CO_3) Other semi-chemical processes include the Permachem process and the two-stage vapor process. The yield of semi-chemical pulping ranges from 55 to 90 percent, depending on the process used, but pulp residual lignin content is also high so bleaching is more difficult.

Mechanical pulping

Mechanical pulping accounted for nine percent of U.S. pulp production in 2000 (AF&PA, 2001). Mechanically produced pulp is of low strength and quality. Such pulps are used principally for newsprint and other non-permanent paper goods. Mechanical pulping relies on physical pressure instead of chemicals to separate furnish fibers; however, chemicals are sometimes added at the various stages of refining. Processes include: 1) stone groundwood, 2) refiner mechanical, 3) thermo-mechanical, 4) chemi-mechanical, and 5) chemi-thermo-mechanical. The stone groundwood process simply involves mechanical grinding of wood in several high-energy refining systems. The refiner mechanical process involves refining wood chips at atmospheric pressure while the thermo-mechanical process uses steam and pressure to soften the chips before mechanical refining. In the chemi-mechanical process, chemicals can be added throughout the process to aid the mechanical refining. The chemi-thermo-mechanical process involves the treatment of chips with chemicals for softening followed by mechanical pulping under heat and pressure. Mechanical pulping typically results in high pulp yields, up to 95 percent when compared to chemical pulping yields of 45- 50 percent, but energy usage is also high. To offset its structural weakness, mechanical pulp is often blended with chemical pulp.

Secondary fiber pulping

Secondary fiber pulping accounted for 39 percent of domestic pulp production in 2000 (AF&PA, 2001). Nearly 200 mills rely exclusively on recovered paper for pulp furnish, and roughly 80 percent of U.S. paper mills use recovered paper in some way (AF&PA, 2000c). In addition, consumption of fiber from recovered paper is growing more than twice as fast as overall fiber consumption. Secondary fibers are usually presorted before they are sold to a pulp and paper mill. If not, secondary fibers are processed to remove contaminants before pulping occurs. Common contaminants consist of adhesives, coatings, polystyrene foam, dense plastic chips, polyethylene films, wet strength resins, and synthetic fibers. In some cases, contaminants of greater density than the desired secondary fiber are removed by centrifugal force while light contaminants are removed by flotation systems. Centri cleaners are also used to remove material less dense than fibers (wax and plastic particles) (AF&PA, 1995b).

Inks, another contaminant of secondary fibers, may be removed by heating a mixture of secondary fibers with surfactants. The removed inks are then dispersed in an aqueous media to prevent redeposition on the fibers. Continuous solvent extraction has also been used to recover fibers from paper and board coated with plastics and/or waxes.

Secondary fiber pulping is a relatively simple process. The most common pulper design consists of a large container filled with water, which is sometimes heated, and the recycled pulp. Pulping chemicals (e.g., sodium hydroxide, NaOH) are often added to promote dissolution of the paper or board matrix. The source fiber (corrugated containers, mill waste, etc.) is dropped into the pulper and mixed by a rotor. Debris and impurities are removed by two mechanisms: a ragger and a junker. The ragger withdraws strings, wires, and rags from the stock secondary fiber mixture. A typical ragger consists of a few "primer wires" that are rotated in the secondary fiber slurry. Debris accumulates on the primer wires, eventually forming a "debris rope" which is then removed. Heavier debris are separated from the mixture by centrifugal force and fall into a pocket on the side of the pulper. The junker consists of a grappling hook or elevator bucket. Heat, dissolution of chemical bonds, shear forces created by stirring and mixing, and grinding by mechanical equipment may serve to dissociate fibers and produce a pulp of desired consistency.

Contaminant removal processes depend on the type and source of secondary fiber to be pulped. Mill paper waste can be easily repulped with minimal contaminant removal. Recycled post-consumer newspaper, on the other hand, may require extensive contaminant removal, including deinking, prior to reuse. As noted in *Furnish Composition* above, secondary fiber typically is used in lower-quality applications such as multi-ply paperboard or corrugating paper.

III.A.2. Pulp Processing

After pulp production, pulp processing removes impurities, such as uncooked chips, and recycles any residual cooking liquor via the washing process (Figure 7). Pulps are processed in a wide variety of ways, depending on the method that generated them (e.g., chemical, semi-chemical). Some pulp processing steps that remove pulp impurities include screening, defibering, and deknotting. Pulp may also be thickened by removing a portion of the water. At additional cost, pulp may be blended to ensure product uniformity. If pulp is to be stored for long periods of time, drying steps are necessary to prevent fungal or bacterial growth.

Residual spent cooking liquor from chemical pulping is washed from the pulp using brown stock washers. Efficient washing is critical to maximize return of cooking liquor to chemical recovery (see *Chemical Recovery Systems* below) and to minimize carryover of cooking liquor (known as brown stock washing loss) into the bleach plant, because excess cooking liquor increases consumption of bleaching chemicals. Specifically, the dissolved organic compounds (lignins and hemicelluloses) contained in the liquor will bind to bleaching chemicals and thus increase bleach chemical consumption. In addition, these organic compounds function as precursors

to chlorinated organic compounds (e.g., dioxins, furans), increasing the probability of their formation. The most common washing technology is rotary vacuum washing, carried out sequentially in two or four washing units. Other washing technologies include diffusion washers, rotary pressure washers, horizontal belt filters, wash presses, and dilution/extraction washers.

Pulp screening, removes remaining oversized particles such as bark fragments, oversized chips, and uncooked chips. In *open* screen rooms, wastewater from the screening process goes to wastewater treatment prior to discharge. In *closed loop* screen rooms, wastewater from the process is reused in other pulping operations and ultimately enters the mill's chemical recovery system. Centrifugal cleaning (also known as liquid cyclone, hydrocyclone, or centricleaning) is used after screening to remove relatively dense contaminants such as sand and dirt. Rejects from the screening process are either repulped or disposed of as solid waste.

Chemical Recovery Systems

The chemical recovery system is a complex part of a chemical pulp and paper mill and is subject to a variety of environmental regulations. Chemical recovery is a crucial component of the chemical pulping process: it recovers process chemicals from the spent cooking liquor for reuse. The chemical recovery process has important financial and environmental benefits for pulp and paper mills. Economic benefits include savings on chemical purchase costs due to regeneration rates of process chemicals approaching 98 percent, and energy generation from pulp residue burned in a recovery furnace (Smook, 1992). Environmental benefits include the recycle of process chemicals and lack of resultant discharges to the environment.

The kraft, sulfite, and semi-chemical pulping processes all use chemical recovery systems of some form; however, the actual chemical processes at work differ markedly. Due to its widespread usage, only the kraft chemical recovery system will be covered in depth in this document. Sulfite chemical recovery systems are discussed briefly at the end of this section.

Kraft Chemical Recovery Systems

Although newer technologies are always under development, the basic kraft chemical recovery process has not been fundamentally changed since its patent issue in 1884. The stepwise progression of chemical reactions has been refined; for example, black liquor gasification processes are now in use in an experimental phase. The precise details of the chemical processes at work in the chemical recovery process can be found in Smook, *Handbook for Pulp and Paper Technologists,* 2nd Edition, 1992 and will not be discussed here. The kraft chemical recovery process consists of the following general steps:

Black liquor concentration

Residual weak black liquor from the pulping process is concentrated by evaporation to form "strong black liquor." After brown stock washing in the pulping process, the concentration of solids in the weak black liquor is approximately 15 percent; after the evaporation process, solids concentration can range from 60 - 80 percent. In some older facilities, the liquor then undergoes oxidation for odor reduction. The oxidation step is necessary to reduce odor created when hydrogen sulfide is stripped from the liquor during the subsequent recovery boiler burning process. Almost all recovery furnaces installed since 1968 have non-contact evaporation processes that avoid these problems, so oxidation processes are not usually seen in mills with modern recovery furnaces. Common modern evaporator types include multiple effect evaporators as well as a variety of supplemental evaporators. Odor problems with the kraft process have been the subject of control measures (See Section III.B. Raw Material Inputs and Pollution Outputs in the Production Line for more information).

Recovery boiler

The strong black liquor from the evaporators is burned in a recovery boiler. In this crucial step in the overall kraft chemical recovery process, organic solids are burned for energy and the process chemicals are removed from the mixture in molten form. Molten inorganic process chemicals (smelt) flow through the perforated floor of the boiler to water-cooled spouts and dissolving tanks for recovery in the recausticizing step.

Energy generation from the recovery boiler is often insufficient for total plant needs, however, so facilities augment recovery boilers with fossil-fuel-fired and wood-waste-fired boilers (hogged fuel) to generate steam and often electricity. Industry-wide, the utilization of pulp wastes, bark, and other papermaking residues supplies 58 percent of the energy requirements of pulp and paper companies (AF&PA, 1999) (see III.A.3. Energy Generation for more information).

Recausticizating

Smelt is recausticized to remove impurities left over from the furnace and to convert sodium carbonate (Na_2CO_3) into active sodium hydroxide (NaOH) and sodium sulfide (Na_2S). The recausticization procedure begins with the mixing of smelt with "weak" liquor to form green liquor, named for its characteristic color. Contaminant solids, called dregs, are removed from the green liquor, which is mixed with lime (CaO). After the lime mixing step, the mixture, now called white liquor due to its new coloring, is processed to remove a layer of lime mud ($CaCO_3$) that has precipitated. The primary chemicals recovered are caustic (NaOH) and sodium sulfide (Na_2S). The remaining white liquor is then used in the pulp cooking process. The lime mud is treated to regenerate lime in the calcining process.

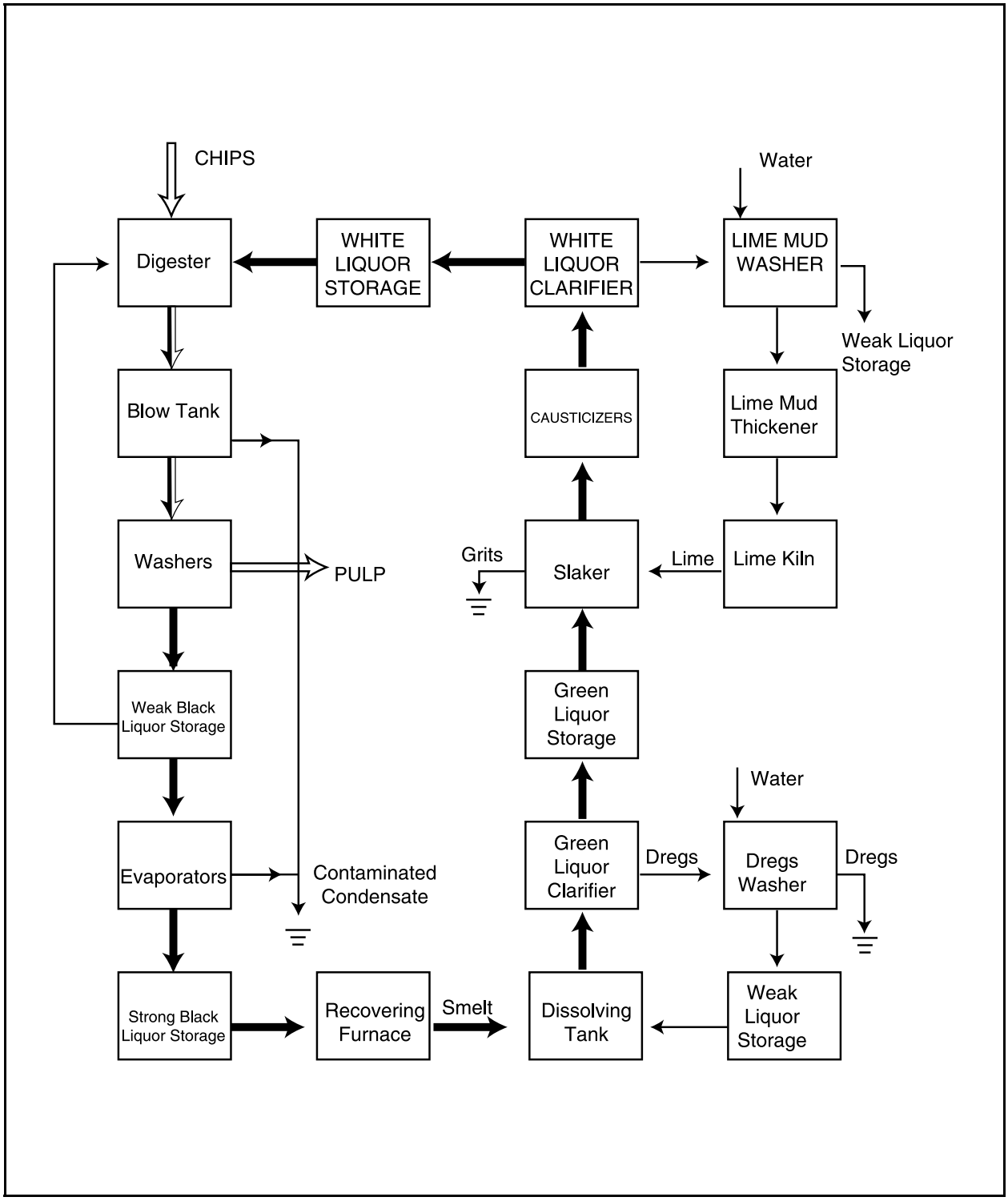
Calcining

In the calcining process, the lime mud removed from the white liquor is burned to regenerate lime for use in the lime mixing step. The vast majority of mills use lime kilns for this process, although a few mills use fluidized bed systems in which the reactants are suspended by upward-blowing air.

Sulfite Chemical Recovery Systems

There are a variety of sulfite chemical pulping recovery systems in use today. Heat and sulfur can be recovered from all liquors generated, however the base chemical can only be recovered from magnesium and sodium base processes (see Smook, 1992 for more information).

Figure 7: The Kraft Pulping Process (with Chemical Recovery)



Source: Smook, 1992.

III.A.3. Bleaching

Bleaching is defined as any process that chemically alters pulp to increase its brightness. Bleached pulps create papers that are whiter, brighter, softer, and more absorbent than unbleached pulps. Bleached pulps are used for products where high purity is required and yellowing (or color reversion) is not desired (e.g. printing and wrapping papers, food contact papers). Unbleached pulp is typically used to produce boxboard, linerboard, and grocery bags. Of the approximately 72 million tons of pulp production capacity in the United States in 2000, about 50 percent is for bleached pulp (AF&PA, 2001).

Any type of pulp may be bleached, but the type(s) of fiber furnish and pulping processes used, as well as the desired qualities and end use of the final product, greatly affect the type and degree of pulp bleaching possible. Printing and writing papers comprise approximately 60 percent of bleached paper production. The lignin content of a pulp is the major determinant of its bleaching potential. Pulps with high lignin content (e.g., mechanical or semi-chemical) are difficult to bleach fully and require heavy chemical inputs. Excessive bleaching of mechanical and semi-chemical pulps results in loss of pulp yield due to fiber destruction. Chemical pulps can be bleached to a greater extent due to their low (10 percent) lignin content.

For more information, the *Summary of Technologies for the Control and Reduction of Chlorinated Organics from the Bleached Chemical Pulping Subcategories of the Pulp and Paper Industry*, 1990 from the Office of Water Regulations and Standards is recommended. Typical bleaching processes for each pulp type are detailed below.

Chemical pulp bleaching has undergone significant process changes since approximately 1990. At that time, nearly every chemical pulp mill that used bleaching incorporated elemental chlorine (Cl_2) into some of its processes. Because of environmental and health concerns about dioxins, U.S. pulp mills now use elemental chlorine free (ECF) and total chlorine free (TCF) bleaching technologies. The most common types of ECF and TCF are shown in Table 8; the difference between ECF and TCF is that ECF may include chlorine dioxide (ClO_2) and hypochlorite (HClO, NaOCl, and $Ca(OCl)_2$) based technologies. In 2001, ECF technologies were used for about 95 percent of bleached pulp production, TCF technologies were used for about 1 percent of bleached pulp production, and elemental chlorine was used for about 4 percent of production (AET, 2002).

Table 8: Common Chemicals Used in Elemental Chlorine Free (ECF) and Total Chlorine Free (TCF) Bleaching Processes

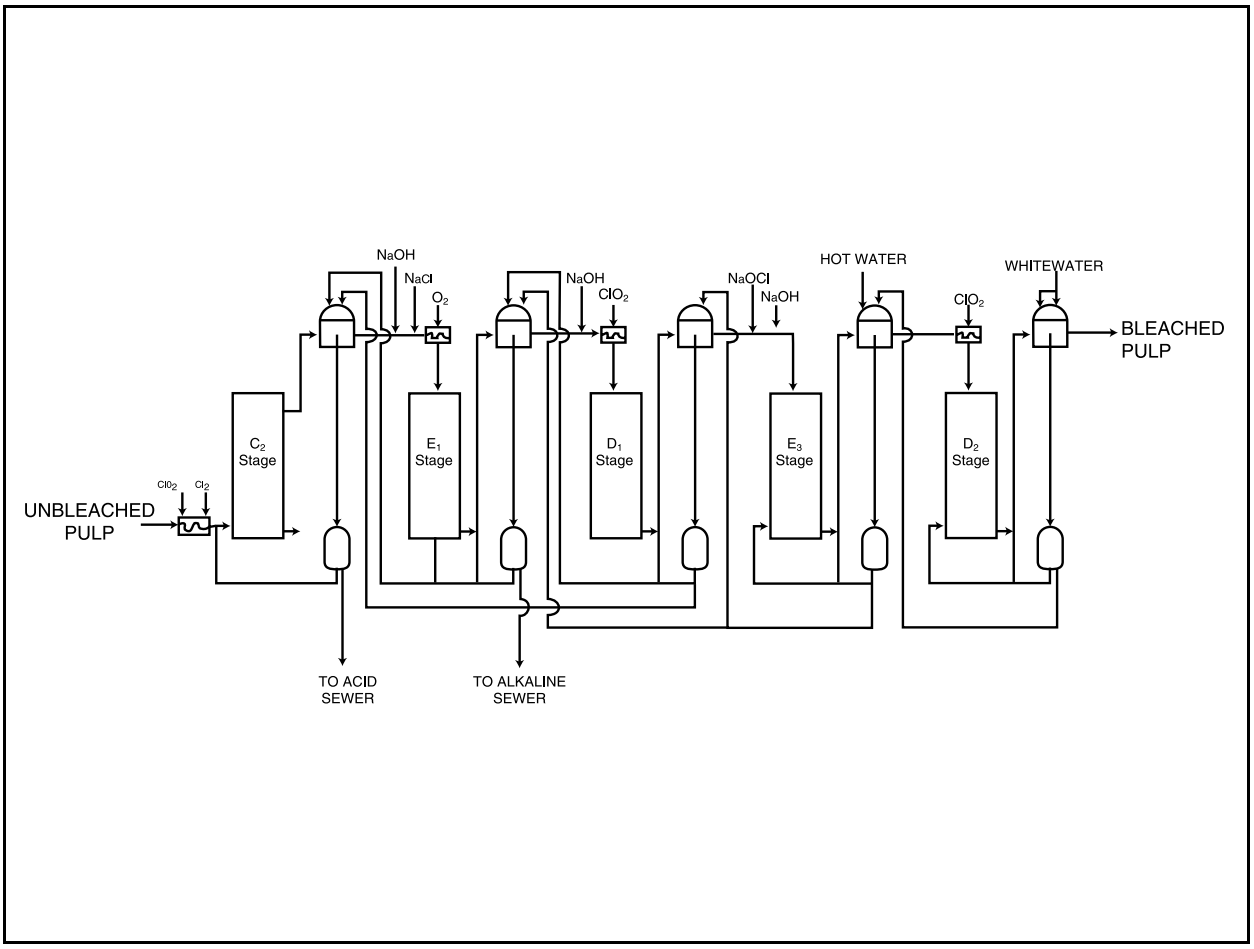
Bleaching Chemical	Chemical Formula	ECF/TCF
Sodium Hydroxide	NaOH	ECF and TCF
Chlorine Dioxide	ClO_2	ECF
Hypochlorite	HClO, NaOCl, $Ca(OCl)_2$	ECF
Oxygen	O_2	ECF and TCF
Ozone	O_3	ECF and TCF
Hydrogen Peroxide	H_2O_2	ECF and TCF
Sulfur Dioxide	SO_2	ECF and TCF
Sulfuric Acid	H_2SO_4	ECF and TCF

Source: U.S. EPA, 2001.

Chemical pulp is bleached in traditional bleach plants (see Figure 8) where the pulp is processed through three to five stages of chemical bleaching and water washing. The number of cycles is dependent on the whiteness desired, the brightness of initial stock pulp, and plant design.

Bleaching stages generally alternate between acid and alkaline conditions. Chemical reactions with lignin during the acid stage of the bleaching process increase the whiteness of the pulp. The alkaline extraction stages dissolve the lignin/acid reaction products. At the washing stage, both solutions and reaction products are removed. Chemicals used to perform the bleaching process must have high lignin reactivity and selectivity to be efficient. Typically, 4-8 percent of pulp is lost due to bleaching agent reactions with the wood constituents cellulose and hemicellulose, but, these losses can be as high as 18 percent.

Figure 8: Typical Bleach Plant



Source: U.S. EPA, 1993a.

Semi-chemical pulps are typically bleached with hydrogen peroxide (H_2O_2) in a bleach tower.

Mechanical pulps are bleached with hydrogen peroxide (H_2O_2) and/or sodium hydrosulfite (Na_2SO_3). Bleaching chemicals are either applied without separate equipment during the pulp processing stage (i.e., in-line bleaching), or in bleaching towers. Full bleaching of mechanical pulps is generally not practical due to bleaching chemical cost and the negative impact on pulp yield.

Deinked secondary fibers are usually bleached in a bleach tower, but may be bleached during the repulping process. Bleach chemicals may be added directly into the pulper. The following are examples of chemicals used to bleach deinked secondary fibers: hypochlorite (HClO, NaOCl, $Ca(OCl)_2$), hydrogen peroxide (H_2O_2), and hydrosulphite ($Na_2S_2O_4$).

III.A.4. Stock Preparation

At this final stage, the pulp is processed into the stock used for paper manufacture. Market pulp, which is to be shipped off-site to paper or paperboard mills, is simply dried and baled during this step. Processing of pulp in integrated mills includes pulp blending specific to the desired paper product desired, dispersion in water, beating and refining to add density and strength, and addition of any necessary wet additives. Wet additives are used to create paper products with special properties or to facilitate the papermaking process. Wet additives include resins and waxes for water repellency, fillers such as clays, silicas, talc, inorganic/organic dyes for coloring, and certain inorganic chemicals (calcium sulfate, zinc sulfide, and titanium dioxide) for improved texture, print quality, opacity, and brightness.

III.A.5. Processes in Paper Manufacture

The paper and paperboard making process consists of the following general steps:

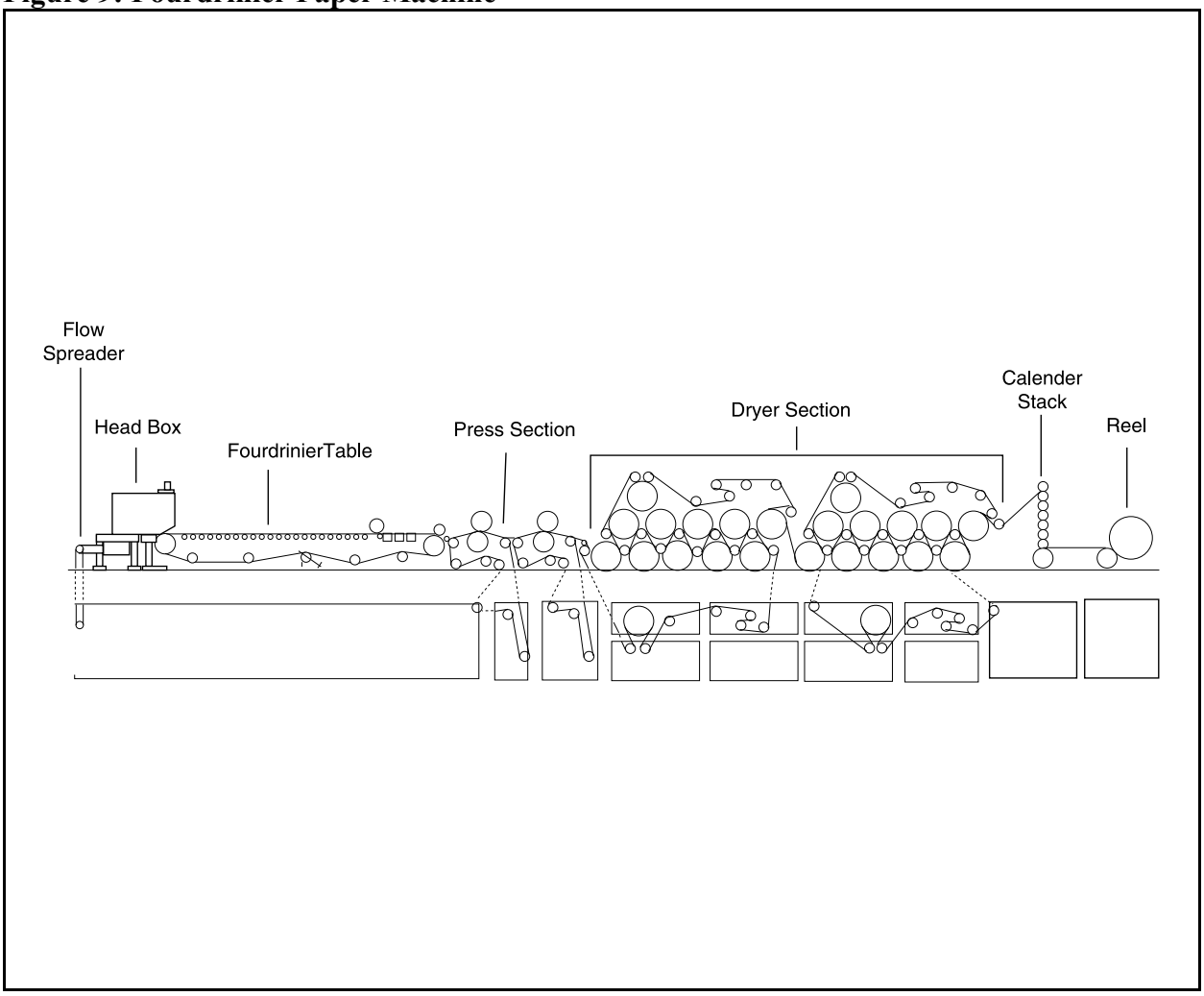
Table 9: Paper and Paperboard Making Process

Sequential Process	Description
Wet End Operations	Formation of paper sheet from wet pulp
Dry End Operations	Drying of paper product, application of surface treatments, spooling for storage

Wet End Operations

The processed pulp is converted into a paper product via a paper production machine, the most common of which is the Fourdrinier paper machine (see Figure 9). In the Fourdrinier system, the pulp slurry is deposited on a moving wire belt that carries it through the first stages of the process. Water is removed by gravity, vacuum chambers, and vacuum rolls. This waste water is recycled to the slurry deposition step of the process due to its high fiber content. The continuous sheet is then pressed between a series of rollers to remove more water and compress the fibers.

Figure 9: Fourdrinier Paper Machine



Source: U.S. EPA, 1993a.

Dry End Operations

After pressing, the sheet enters a drying section, where the paper fibers begin to bond together as steam heated rollers compress the sheets. In the calender process the sheet is pressed between heavy rolls to reduce paper thickness and produce a smooth surface. Coatings can be applied to the paper at this point to improve gloss, color, printing detail, and brilliance. Lighter coatings are applied on-machine, while heavy coatings are performed off-machine. The paper product is then spooled for storage.

III.A.6. Energy Generation

Pulp and paper mill energy generation is provided in part from the burning of liquor waste solids in the recovery boiler, but other energy sources are

needed to make up the remainder of mill energy needs. Over the last 25 years, the pulp and paper industry has changed its energy generation methods from fossil fuels to a greater utilization of processes or process wastes. The increase in use of wood wastes from the wood handling and chipping processes depicted in Table 10 below is one example of this industry-wide movement. During the 1972-1999 period, the proportion of total industry power generation from the combination of woodroom wastes, spent liquor solids, and other self-generation methods increased from about 41 percent to about 58 percent, while coal, fuel oil and natural gas use decreased from about 54 percent to about 36 percent.

Power boilers at pulp and paper mills are sources of particulate emissions, sulfur dioxide ($SO_{2)}$, and nitrogen oxides (NO_x). Pollutants emitted from chemical recovery boilers include SO_2, and total reduced sulfur compounds (TRS).

Table 10: Estimated Energy Sources for the U.S. Pulp and Paper Industry

Energy Source	1972[a]	1979[a]	1990[a]	1999[b]
Purchased steam	5.4%	6.7%	7.3%	1.5%
Coal	9.8%	9.1%	13.7%	12.5%
Fuel oil	22.3%	19.1%	6.4%	6.3%
Natural gas	21.5%	17.8%	16.4%	17.6%
Other purchased energy	-	-	-	6.7%
Waste wood and wood chips (Hogged fuel) and bark	6.6%	9.2%	15.4%	13.5%
Spent liquor solids	33.7%	37.3%	39.4%	40.3%
Other self-generated power	0.6%	0.8%	1.2%	1.6%

Sources: [a]American Paper Institute Data as presented in Smook, 1992.
[b]AF&PA, 2001.

III.B. Raw Material Inputs and Pollution Outputs in the Production Line

Pulp and paper mills use and generate materials that may be harmful to the air, water, and land: pulp and paper processes generate large volumes of wastewaters which might adversely affect freshwater or marine ecosystems, residual wastes from wastewater treatment processes may contribute to existing local and regional disposal problems, and air emissions from pulping

processes and power generation facilities may release odors, particulates, or other pollutants. Major sources of pollutant releases in pulp and paper manufacture are at the pulping and bleaching stages respectively. As such, non-integrated mills (i.e., those mills without pulping facilities on-site) are not significant environmental concerns when compared to integrated mills or pulp mills.

Water

The pulp and paper industry is the largest industrial process water user in the U.S. (U.S. Department of Commerce, 2000). In 2000, a typical pulp and paper mill used 4,000-12,000 gallons of water per ton of pulp produced (Pulp and Paper, 2001). General water pollution concerns for pulp and paper mills are effluent solids, biochemical oxygen demand, and color. Toxicity concerns historically occurred from the potential presence of chlorinated organic compounds such as dioxins, furans, and others (collectively referred to as adsorbable organic halides, or AOX) in wastewaters after the chlorination/extraction sequence. With the substitution of chlorine dioxide for chlorine, effluent loads of the chlorinated compounds decreased dramatically.

Due to the large volumes of water used in pulp and paper processes, virtually all U.S. mills have primary and secondary wastewater treatment systems installed to remove particulate and biochemical oxygen demand (BOD) produced in the manufacturing processes. These systems also provide significant removal (e.g., 30-70 percent) of other important parameters such as AOX and chemical oxygen demand (COD).

The major sources of effluent pollutants in a pulp and paper mill are presented in Table 11.

Table 11: Potential Water Pollutants From Pulp and Paper Processes

Source	Effluent characteristics
Water used in wood handling/debarking and chip washing	Solids, BOD, color
Chip digester and liquor evaporator condensate	Concentrated BOD, reduced sulfur compounds
"White waters" from pulp screening, thickening, and cleaning	Large volume of water with suspended solids, can have significant BOD
Bleach plant washer filtrates	BOD, color, chlorinated organic compounds
Paper machinewater flows	Solids
Fiber and liquor spills	Solids, BOD, color

Source: Smook, 1992.

Wood processing operations in pulp mills often use water for a variety of purposes. The resulting wastewaters contain BOD, suspended solids, and some color. The condensates from chip digesters and chemical recovery evaporators are sources of BOD and reduced sulfur compounds. Wastewaters containing BOD, color, and suspended solids may be generated from pulp screening operations in mills using "atmospheric" systems, though most mills have modern pressure screens that virtually eliminate such wastewaters. Kraft bleaching generates large volumes of wastewater containing BOD, suspended solids, color, and chlorinated organic compounds. From paper machines, excess white water (named for its characteristic color) contains suspended solids and BOD. Fiber and liquor spills can also be a source of mill effluent. Typically, spills are captured and pumped to holding areas to reduce chemical usage through spill reuse and to avoid loadings on facility wastewater treatment systems.

Wastewater treatment systems can be a significant source of cross-media pollutant transfer. For example, waterborne particulate and some chlorinated compounds settle or absorb onto treatment sludge and other compounds may volatilize during the wastewater treatment process.

Air

The following table is an overview of the major types and sources of air pollutant releases from various pulp and paper processes:

Table 12: Common Air Pollutants From Pulp and Paper Processes

Source	Type
Kraft recovery furnace	Fine particulates, nitrogen oxides
Fly ash from hog fuel and coal-fired burners	Coarse particulates
Sulfite mill operations	Sulfur oxides, ammonia
Kraft pulping and recovery processes	Reduced sulfur gases
Chip digesters and liquor evaporation	Volatile organic compounds
Pulp drying (non-integrated mills)	Volatile organic compounds
All combustion processes	Nitrogen oxides

Source: Smook, 1992.

Water vapors are the most visible air emission from a pulp and paper mill, but are not usually regulated unless they are a significant obscurement or climate modifier.

Pulp and paper mill power boilers are generic pulp and paper mill sources of air pollutants such as particulates and nitrogen oxides. Chip digesters and chemical recovery evaporators are the most concentrated sources of volatile organic compounds. The chemical recovery furnace is a source of fine particulate emissions and sulfur oxides. In the kraft process, sulfur oxides are a minor issue in comparison to the odor problems created by four reduced sulfur gasses, called together total reduced sulfur (TRS): hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide. The TRS emissions are primarily released from wood chip digestion, black liquor evaporation, and chemical recovery boiler processes. TRS compounds create odor nuisance problems at lower concentrations than sulfur oxides: odor thresholds for TRS compounds are approximately 1,000 times lower than that for sulfur dioxide. Humans can detect some TRS compounds in the air as a "rotten egg" odor at as little as one part per billion.

Pulp and paper mills have made significant investments in pollution control technologies and processes. According to industry sources, the pulp and

paper industry spent more than $1 billion per year from 1991-1997 on environmental capital expenditures. In 1991 and 1992, this represented 20 percent of total capital expenditures (AF&PA, 1994). Chemical recovery and recycling systems in the chemical pulping process significantly reduce pollutant outputs while providing substantial economic return due to recovery of process chemicals. Chemical recovery is necessary for the basic economic viability of the kraft process. According to EPA sources, all kraft pulp mills worldwide have chemical recovery systems in place. Some sulfite mills, however, still do not have recovery systems in place. Scrubber system particulate "baghouses" or electrostatic precipitators (ESPs) are often mill air pollution control components.

Residual Wastes

The significant residual waste streams from pulp and paper mills include wastewater treatment sludges, lime mud, lime slaker grits, green liquor dregs, boiler and furnace ash, scrubber sludges, and wood processing residuals. Because of the tendency for chlorinated organic compounds to partition from effluent to solids, wastewater treatment sludge is a significant environmental concern for the pulp and paper industry.

Wastewater treatment sludge is the largest volume residual waste stream generated by the pulp and paper industry. Sludge generation rates vary widely among mills. For example, bleached kraft mills surveyed as part of EPA's 104-Mill Study reported sludge generation that ranged from 14 to 140 kg of sludge per ton of pulp (U.S. EPA, 1988). Total sludge generation for these 104 mills was 2.5 million dry metric tons per year, or an average of approximately 26,000 dry metric tons per year per plant. Pulpmaking operations are responsible for the bulk of sludge wastes, although treatment of papermaking effluents also generates significant sludge volumes. For the majority of pulp and integrated mills that operate their own wastewater treatment systems, sludges are generated onsite. A small number of pulp mills, and a much larger proportion of papermaking establishments, discharge effluents to publicly-owned wastewater treatment works (POTWs).

Potential environmental hazards from wastewater sludges are associated with trace constituents (e.g., chlorinated organic compounds) that partition from the effluent into the sludge. It should be noted, however, that recent trends away from elemental chlorine bleaching have reduced these hazards. A continuing concern is the very high pH (>12.5) of most residual wastes. When these wastes are disposed of in an aqueous form, they may meet the RCRA definition of a corrosive hazardous waste (U.S. EPA, 2002).

Landfill and surface impoundment disposal are most often used for wastewater treatment sludge, but a significant number of mills dispose of sludge through land application, conversion to sludge-derived products (e.g.,

compost and animal bedding), or combustion for energy recovery (AF&PA, 2002).

Process Inputs and Pollutant Outputs

Kraft chemical pulping and chlorine-based (e.g., hypochlorite or chlorine dioxide) bleaching are both commonly used and may generate significant pollutant outputs. Kraft pulping processes produced approximately 83 percent of total US pulp tonnage during 1998 according to the American Forest and Paper Association (AF&PA, 1999). Roughly 60 percent of this amount is bleached in some manner.

Pollutant outputs from mechanical, semi-chemical, and secondary fiber pulping are small when compared to kraft chemical pulping. In the pulp and paper industry, the kraft pulping process is the most significant source of air pollutants. The following table and figures (Table 13 and Figures 10 and 11) illustrate the process inputs and pollutant outputs for a pulp and paper mill using kraft chemical pulping and chlorine-based bleaching. The process outlined below produces a large portion of U.S. pulp.

Table 13 presents the process steps, material inputs, and major pollutant outputs (by media) of a kraft pulp mill practicing traditional chlorine bleaching. The following resources are recommended for pollutant production data (e.g., pounds of BOD per ton of pulp produced) for those pollutants presented in Table 13:

- *Pollution Prevention Technologies for the Bleached Kraft Segment of the U.S. Pulp and Paper Industry.* August 1993. (EPA-600-R-93-110)

- *Development Document for Proposed Effluent Limitations Guidelines and standards for the Pulp, Paper, and Paperboard Point Source Category*. October 1993. (EPA-821-R-93-019)

- *Pulp, Paper and Paperboard Industry - Background Information for Proposed Air Emission Standards: Manufacturing Processes at Kraft, Sulfite, Soda, and Semi-Chemical Mills, NESHAP.* October 1993. (EPA-453-R-93-050a)

Figure 10 is a process flow diagram of the kraft process, illustrating chemical pulping, power recovery, and chemical recovery process inputs and outputs. Figure 11 is a schematic of characteristic air emission sources from a kraft mill.

Table 13: Kraft Chemical Pulped Bleached Paper Production

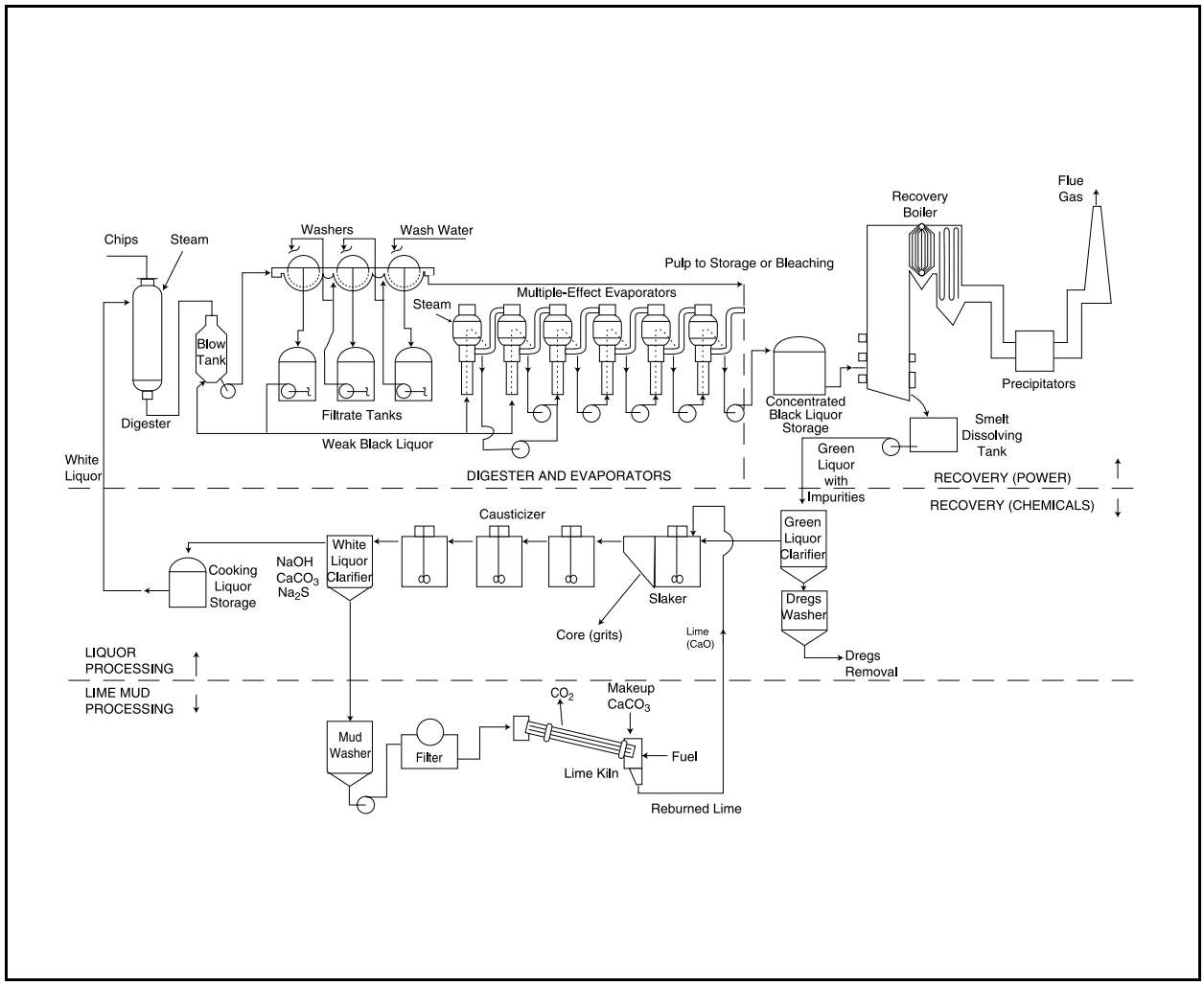
Process Step	Material Inputs	Process Outputs	Major Pollutant Outputs[a]	Pollutant Media
Fiber Furnish Preparation	Wood logs Chips Sawdust	Furnish chips	dirt, grit, fiber, bark	Solid
			BOD	Water
			TSS	
Chemical Pulping Kraft process	Furnish chips	Black liquor (to chemical recovery system), pulp (to bleaching/ processing)	resins, fatty acids	Solid
			color	Water
			BOD	
			COD	
			AOX	
			VOCs [terpenes, alcohols, phenols, methanol, acetone, chloroform, methyl ethyl ketone (MEK)]	
			VOCs (terpenes, alcohols, phenols, methanol, acetone, chloroform, MEK)	Air
	Cooking chemicals: sodium sulfide (Na_2S), NaOH, white liquor (from chemical recovery)		reduced sulfur compounds (TRS)	
			organo-chlorine compounds (e.g., 3,4,5- trichloroguaiacol)	
Bleaching[b]	Chemical pulp	Bleached pulp	dissolved lignin and carbohydrates	Water
			color	
			COD	
			AOX	
			inorganic chlorine compounds (e.g., chlorate (ClO_3^-))[c]	
	Hypochlorite (HClO, NaOCl, $Ca(OCl)_2$) Chlorine dioxide (ClO_2)		VOCs (acetone, methylene chloride, chloroform, MEK, chloromethane, trichloroethane)	Air / Water
Papermaking	Additives, Bleached/ Unbleached pulp	Paper/paperboard product	particulate wastes	Water
			organic compounds	
			inorganic dyes	
			COD	
			acetone	

Table 13: Kraft Chemical Pulped Bleached Paper Production (continued)

Process Step	Material Inputs	Process Outputs	Major Pollutant Outputs[a]	Pollutant Media
Wastewater Treatment Facilities	Process wastewaters	Treated effluent	sludge	Solid
			VOCs (terpenes, alcohols, phenols, methanol, acetone, chloroform, MEK)	Air
			BOD	Water
			TSS	
			COD	
			color	
			chlorophenolics	
			VOCs (terpenes, alcohols, phenols, methanol, acetone, chloroform, MEK)	
Power Boiler	Coal, Wood, Unused furnish	Energy	bottom ash: incombustible fibers	Solid
			SO_2, NO_x, fly ash, coarse particulates	Air
Chemical Recovery System				
Evaporators	Black liquor	Strong black liquor	evaporator noncondensibles (TRS, volatile organic compounds: alcohols, terpenes, phenols)	Air
			evaporator condensates (BOD, suspended solids)	Water
Recovery Furnace	Strong black liquor	Smelt	fine particulates, TRS, SO_2, NO_x	Air
		Energy		
Recausticizing	Smelt	Regenerated white liquor	dregs	Solids
		Lime mud	waste mud solids	Water, Solid
		Slaker grits	solids	Solid
Calcining (Lime Kiln)	Lime mud	Lime	fine and coarse particulates	Air

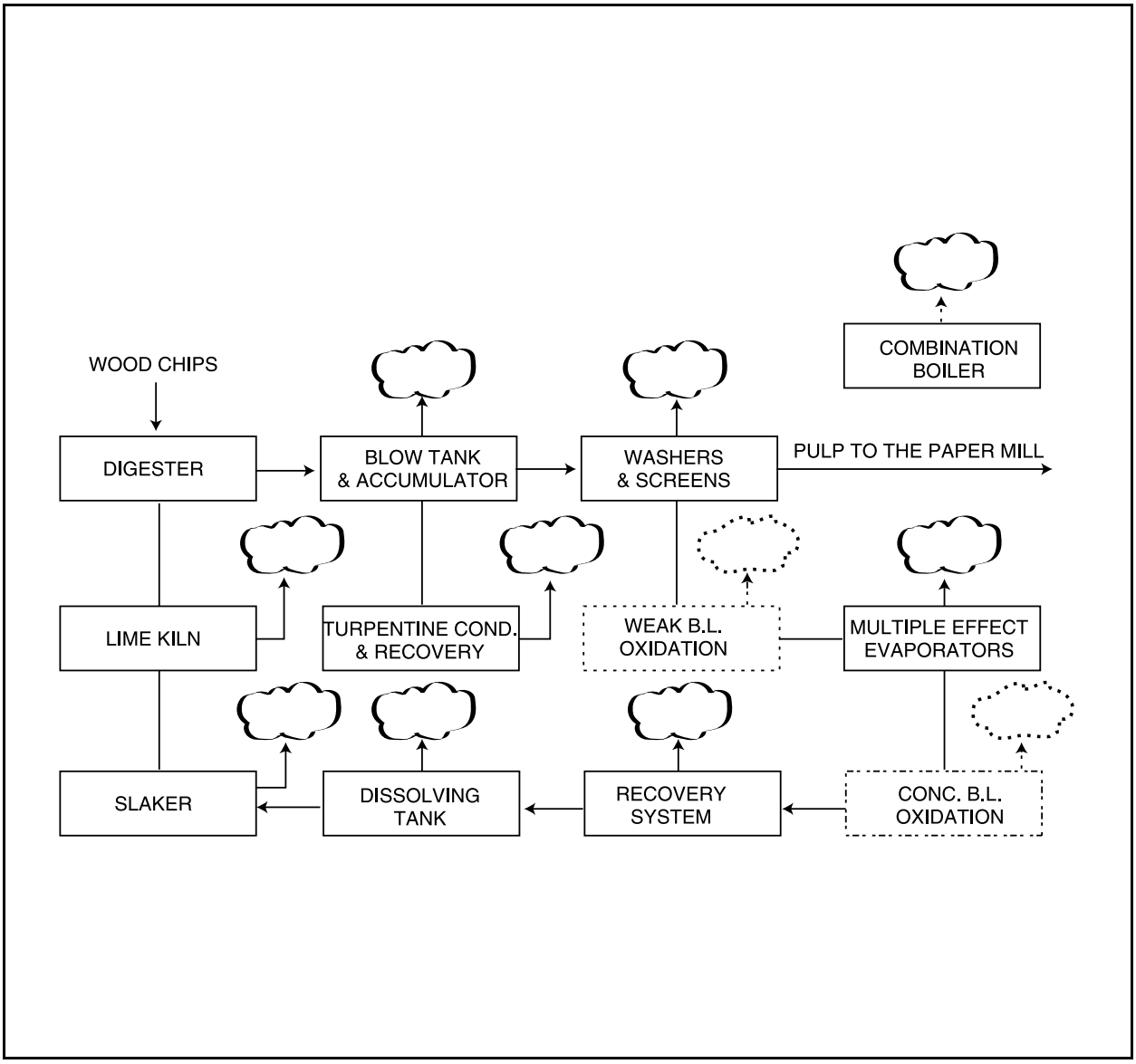
[a] Pollutant outputs may differ significantly based on mill processes and material inputs (e.g., wood chip resin content).
[b] Pollutant list based on Elemental Chlorine Free (ECF) bleaching technologies.
[c] Chlorate only significantly produced in mills with high rates of chlorine dioxide use.
Sources: EPA, 1993a; EPA, 1993b; and EPA, 1993c.

Figure 10: Kraft Process Flow Diagram



Source: Smook, 1992.

Figure 11: Air Pollutant Output from Kraft Process



Source: Smook, 1992.

IV. CHEMICAL RELEASE AND OTHER WASTE MANAGEMENT PROFILE

This section is designed to provide background information on the pollutant releases that are reported by this industry in correlation with other industries. The best source of comparative pollutant release and other waste management information is the Toxic Release Inventory (TRI). Pursuant to the Emergency Planning and Community Right-to-Know Act, TRI includes self-reported facility release and other waste management data for over 650 toxic chemicals and chemical categories. Facilities within SIC Codes 10 (except 1011, 1081, and 1094), 12 (except 1241), 20-39, 4911 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4931 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4939 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4953 (limited to facilities regulated under the RCRA Subtitle C, 42 U.S.C. section 6921 *et seq*.), 5169, 5171, and 7389 (limited to facilities primarily engaged in solvents recovery services on a contract or fee basis) have more than 10 employees, and that manufactures, processes or otherwise uses listed chemical in quantities greater than the established threshold in the course of a calendar year are required to report to TRI annually release and other waste management quantities (on- and off-site). The information presented within the sector notebooks is derived from the most recently available (2000) TRI reporting year (which includes over 650 chemicals and chemical categories), and focuses primarily on the on-site releases reported by each sector. Because TRI requires consistent reporting regardless of sector, it is an excellent tool for drawing comparisons across industries. TRI data provide the type, amount and media receptor of each chemical released or otherwise managed as waste.

Although this sector notebook does not present historical information regarding TRI chemical releases over time, please note that in general, toxic chemical releases have been declining. In fact, according to the 2000 Toxic Release Inventory Public Data Release, reported on-site and off-site releases of toxic chemicals to the environment from original TRI reporting industries (SIC codes 20-39) decreased by more than 8 percent (644 million pounds) between 1999 and 2000 (not including chemicals added and removed from the TRI chemical list during this period). Reported on-site releases dropped by almost 57 percent between 1988 and 2000. Reported transfers of TRI chemicals to off-site locations for disposal increased by almost 7 percent (28 million pounds) between 1988 and 2000. More detailed information can be obtained from EPA's annual Toxics Release Inventory Public Data Release Report (which is available through the EPCRA Call Center at 800-424-9346), or directly from the Internet at *www.epa.gov/tri*.

Wherever possible, the sector notebooks present TRI data as the primary indicator of chemical release within each industrial category. TRI data provide the type, amount and media receptor of each chemical released or otherwise managed as waste. When other sources of pollutant release data have been obtained, these data have been included to augment the TRI information.

TRI Data Limitations

Certain limitations exist regarding TRI data. Within some sectors, (e.g., printing and transportation equipment cleaning) the majority of facilities are not subject to TRI reporting either because they do not fall under covered SIC codes, or because they are below the TRI reporting threshold amounts. However, EPA lowered threshold amounts for persistent bioaccumulative toxic (PBT) chemicals starting reporting year 2000. For these sectors, release information from other sources has been included. In addition, many facilities report to TRI under more than one SIC code, reflecting the multiple operations carried out onsite whether or not the operations are the facilities' primary area of business as reported to the U.S. Census Bureau. Reported chemicals are limited to the approximately 650 TRI chemicals and chemical categories. A portion of the emissions from pulp and paper mills, therefore, are not captured by TRI. Also, reported releases and other waste management quantities may or may not all be associated with the industrial operations described in this notebook.

The reader should also be aware that TRI "pounds released" data presented within the notebooks is not equivalent to a "risk" ranking for each industry. Weighting each pound of release equally does not factor in the relative toxicity of each chemical that is released. The Agency is in the process of developing an approach to assign toxicological weightings and population exposure levels to each chemical released so that one can differentiate between pollutants with significant differences in toxicity. This project, the Risk Screening Environmental Indicators Model, can be found at http://www.epa.gov/opptintr/rsei/.

As a preliminary indication of the environmental impact of the industry's most commonly released chemicals, this notebook briefly summarizes the toxicological properties of the top five chemicals (by weight) reported by the organic chemical industry.

Definitions Associated with Section IV Data Tables

General Definitions

SIC Code -- is the Standard Industrial Classification (SIC) is a statistical classification standard used for all establishment-based Federal economic statistics. The SIC codes facilitate comparisons between facility and industry data.

TRI Facilities -- are facilities that are within specified SIC codes that have 10 or more full-time employees and are above established threshold amounts for manufacture or process or otherwise use activities in the course of a calendar year. These facilities are in standard industrial classification codes 10 (except 1011, 1081, and 1094), 12 (except 1241), 20-39, 4911 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4931 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4939 (limited to facilities that combust coal and/or oil for the purpose of generating electricity for distribution in commerce), 4953 (limited to facilities regulated under the RCRA Subtitle C, 42 U.S.C. section 6921 *et seq*.), 5169, 5171, and 7389 (limited to facilities primarily engaged in solvents recovery services on a contract or fee basis), and federal facilities. Facilities must submit release and other waste management estimates for all chemicals that are on the EPA's defined list and are above manufacturing or processing or otherwise use thresholds.

Data Table Column Heading Definitions

The following definitions are based upon standard definitions developed by EPA's Toxic Release Inventory Program. The categories below represent the possible pollutant destinations that can be reported.

ON-SITE RELEASES -- are an on-site discharge of a toxic chemical to the environment. This includes emissions to the air, discharges to bodies of water, releases at the facility to land, as well as contained disposal into underground injection wells.

Releases to Air (Point and Fugitive Air Emissions) -- Include all air emissions from industry activity. Point emissions occur through confined air streams as found in stacks, ducts, or pipes. Fugitive emissions include losses from equipment leaks, or evaporative losses from impoundments, spills, or leaks.

Releases to Water (Surface Water Discharges) -- encompass any releases going directly to streams, rivers, lakes, oceans, or other bodies of water. Any estimates for storm water runoff and non-point losses must also be included.

Releases to Land -- includes disposal of toxic chemicals in waste to on-site landfills, land treated or incorporation into soil, surface impoundments,

spills, leaks, or waste piles. These activities must occur within the facility's boundaries for inclusion in this category.

Underground Injection -- is a contained release of a fluid into a subsurface well for the purpose of waste disposal.

TRANSFERS -- is a transfer of toxic chemicals in wastes to a facility that is geographically or physically separate from the facility reporting under TRI. The quantities reported represent a movement of the chemical away from the reporting facility. Except for off-site transfers for disposal, these quantities do not necessarily represent entry of the chemical into the environment.

Transfers to POTWs -- are waste waters transferred through pipes or sewers to a publicly owned treatments works (POTW). Treatment and chemical removal depend on the chemical's nature and treatment methods used. Chemicals not treated or destroyed by the POTW are generally released to surface waters or land filled within the sludge. Metals and metal compounds transferred to POTWs are considered as released to surface water.

Transfers to Recycling -- are sent off-site for the purposes of regenerating or recovering still valuable materials. Once these chemicals have been recycled, they may be returned to the originating facility or sold commercially.

Transfers to Energy Recovery -- are wastes combusted off-site in industrial furnaces for energy recovery. Treatment of a chemical by incineration is not considered to be energy recovery.

Transfers to Treatment -- are wastes moved off-site for either neutralization, incineration, biological destruction, or physical separation. In some cases, the chemicals are not destroyed but prepared for further waste management.

Transfers to Disposal -- are wastes taken to another facility for disposal generally as a release to land or as an injection underground.

IV.A. EPA Toxics Release Inventory For the Pulp and Paper Industry

According to Toxic Release Inventory (TRI) data from SIC codes 261-263, the pulp and paper industry released (to the air, water, or land) and transferred (shipped off-site) a total of approximately 263 million pounds of

toxic chemicals during calendar year 2000.[1] This represents approximately 2.5 percent of the total pounds of TRI chemicals released and transferred by all reporting facilities that year.

Media comparison of TRI releases

The total amount of TRI toxic chemicals generated by the pulp and paper industry is a gross profile of the types and relative amounts of chemical outputs from mill processes. Additional information which can be related back to possible compliance requirements is available from the distribution of chemical releases across specific media within the environment. The TRI data requires filers to separate the total releases for the pulp and paper industry for air, water, and land releases. This distribution across media can also be compared to the profile of other industry sectors.

The pulp and paper industry releases 66 percent of its total TRI poundage to the air, approximately 22 percent to water and POTWs, and 9 percent is disposed on land (on site and off site). This release profile differs from other TRI industries which average approximately 63 percent to land, 27 percent to air, and 4 percent to water and POTWs. A larger proportion of water releases correlates with the water intensive processes of the pulp and paper industry. An average mill requires 10 million gallons of influent water per day and will produce the corresponding amount of effluent waters. Examining the pulp and paper industry's TRI reported toxic chemicals by chemical, highlights the likely origins of industry releases (see Table 14).

Air releases can be traced to a variety of sources. Approximately 63 percent are methanol, a by-product of the pulp making process. The other major air toxic chemicals, such as chlorinated compounds and sulfuric acid, originate in the bleaching stage. Methanol is the most frequently reported chemical by pulp and paper mills, and it accounts for approximately 15 percent of the water releases and 97 percent of transfers to POTWs by the industry. Overall, methanol represents roughly 60 percent of the pulp and paper industry's TRI releases and transfers.

The diversity of processes in the pulp and paper industry can be seen in the diversity of chemicals found in the TRI report. The TRI chemical released and transferred by the second largest number of mills is ammonia, which is used as a buffer in acid sulfite pulping (Air & Waste Management Association, 1992). In addition, some TRI chemicals are only reported by a few mills, suggesting process specific needs such as paper finishing or use in wet additives.

[1] Unless otherwise indicated, TRI data for SIC codes 261-263 were used for pulp and paper release and transfer values in this section and the tables therein.

Table 14: 2000 TRI Releases for Pulp and Paper Facilities (SICs 261, 262 and 263), by Number of Facilities Reporting (Releases Reported in pounds/year)

Chemical Name	# Reporting Chemical	Fugitive Air	Point Air	Water Discharges	Underground Injection	Land Disposal	Total Releases	Avg. Releases Per Facility
Methanol	174	5,368,130	105,189,904	3,011,860		1,014,710	114,584,624	658,532
Ammonia	166	514,616	15,782,909	1,884,126		11,939	18,193,590	109,600
Hydrochloric Acid (1995 and after "Acid Aerosols"	137	8,037	16,114,754	10			16,122,801	117,685
Acetaldehyde	125	540,704	7,749,806	177,092		3,789	8,471,391	67,771
Manganese Compounds	124	1,932	199,238	4,187,964		8,733,410	13,122,544	105,827
Polycyclic Aromatic Compounds[PBT]	122	57	114,967	1,472		2,458	118,954	975
Formaldehyde	116	57,062	1,865,446	326,507		9,651	2,258,666	19,471
Sulfuric Acid (1994 and after "Acid Aerosols" Only	113	773	9,670,724				9,671,497	85,588
Phenol	105	14,983	1,105,065	9,244		3,209	1,132,501	10,786
Chlorine	102	25,236	449,437	60,185		17	534,875	5,244
Catechol	99	11	256	17,493		605	18,365	186
Barium Compounds	96	13	252,753	540,545		2,351,605	3,144,916	32,760
Nitrate Compounds	87			9,791,260		9,234	9,800,494	112,649
Chlorine Dioxide	80	2,215	701,625				703,840	8,798
Dioxin and Dioxin-Like Compounds[PBT]	77		55	103		162	320	4
Zinc Compounds	77	19	775,453	324,492		3,255,589	4,355,553	56,566
Mercury Compounds[PBT]	75	1	2,149	56		535	2,741	37
Methyl Ethyl Ketone	64	98,368	1,024,379	14,909		5,013	1,142,669	17,854
Benzo(g,h,i)perylene[PBT]	63		1,060	115		163	1,338	21
Formic Acid	54	1,210	1,105	92,178		2,211	96,704	1,791
Chloroform	40	1,076,881	1,810,096	49,459		12,285	2,948,721	73,718
Cresol (Mixed Isomers)	32	363	827,255	1,097		708	829,423	25,919
Mercury[PBT]	23		544	8		94	646	28
Hydrogen Fluoride	17		442,166				442,166	26,010
Vanadium Compounds	16	6,102	51,541	20,204		635,418	713,265	44,579
Chloromethane	15	62	492,139	10		5	492,216	32,814
Copper Compounds	15		8,343	3,591		50,429	62,363	4,158
Nickel Compounds	13		8,021	3,337		94,451	105,809	8,139
Certain Glycol Ethers	12	17,410	54,925	7,919		2,602	82,856	6,905
Chromium Compounds	9	30	1,409	10,341		32,731	44,511	4,946
Ethylene Glycol	9	60	2,316	29,596		5,810	37,782	4,198
Toluene	9	81,244	638,734	19			719,997	80,000
Xylene (Mixed Isomers)	7	33,224	41,507	202		1,260	76,193	10,885
Polychlorinated Biphenyls[PBT]	7		31				31	4
Styrene	5	19,000	53,239	104			72,343	14,469
C.i. Direct Blue 218	5			20		1,704	1,724	345
Manganese	5		11,163	94,428		500,902	606,493	121,299
Benzene	3		276,814				276,814	92,271
Dazomet	3	2,792		600			3,392	1,131
Vinyl Acetate	3	12,303	16,900	880			30,083	10,028
Biphenyl	3		117,000				117,000	39,000
1,2,4-trimethylbenzene	3	20,920	13,396	180		10	34,506	11,502
Diethanolamine	3	549	6,505	974			8,028	2,676
N-butyl Alcohol	3	29,759	61,970	10,943			102,672	34,224
Nitric Acid	2	10	1,310				1,320	660
Decabromodiphenyl Oxide	2			5		1,100	1,105	552
Antimony	2					350	350	175
Lead Compounds[PBT]	2		1,698	796			2,494	1,247
N-hexane	2	4,100	46,100				50,200	25,100
Arsenic Compounds	2		360			6	366	183
Lead[PBT]	1							
Antimony Compounds	1							

Table 14: 2000 TRI Releases for Pulp and Paper Facilities (SICs 261, 262 and 263), by Number of Facilities Reporting (Releases Reported in pounds/year)

Chemical Name	# Reporting Chemical	Fugitive Air	Point Air	Water Discharges	Underground Injection	Land Disposal	Total Releases	Avg. Releases Per Facility
Chlordane[PBT]	1							
Maleic Anhydride	1	200	210				410	410
Ethylbenzene	1	290	90				380	380
Potassium Dimethyldithiocarbamate	1	19		10,394			10,413	10,413
O-xylene	1	15	46,430			5	46,450	46,450
Diisocyanates	1	750					750	750
Ozone	1		102,763				102,763	102,763
Naphthalene	1	83	17,000	1		4,800	21,884	21,884
Copper	1							
Methyl Methacrylate	1	750	1,154				1,904	1,904
Acrylic Acid	1	1	280				281	281
Trichloroethylene	1							
Dichloromethane	1	6	33,316	1			33,323	33,323
Polychlorinated Alkanes	1							
Barium	1			250		250	500	500
Mixture	1	1	4				5	5
	268**	7,940,291	166,187,814	20,684,970	0	16,749,220	211,562,315	789,411

[PBT] Persistent, Bioaccumulative, and Toxic

* Refer to Section III for a discussion of the TRI data and its limitations, methodology used to obtain this data, definitions of the column headings, and the definition of persistant, bioaccumulative, and toxic chemicals.

**Total number of facilities (not chemical reports) reporting to TRI in this industry sector.

Table 15: 2000 TRI Transfers for Pulp and Paper Facilities (SICs 261, 262 and 263), by Number of Facilities Reporting (Transfers Reported in pounds/year)

Chemical Name	# Reporting Chemical	POTW Transfers	Disposal Transfers	Recycling Transfers	Treatment Transfers	Energy Recovery	Total Transfers	Avg Transfers Per Facility
Methanol	174	36,098,617	144,671	24,058	6,993,725	13,736	43,274,807	248,706
Ammonia	166	56,000	79,785		2,966		138,751	836
Hydrochloric Acid (1995 and after "Acid Aerosols"	137							
Acetaldehyde	125	111,435	757	25	10,100		122,317	979
Manganese Compounds	124	204,150	2,977,098	152,646			3,333,894	26,886
Polycyclic Aromatic Compounds[PBT]	122	1,224	1,257	52	5	129	2,667	22
Formaldehyde	116	116,817	18,814	63	53,825	279	189,798	1,636
Sulfuric Acid (1994 and after "Acid Aerosols" Only	113	5					5	0
Phenol	105	16,753	2,372	15	4,983	2,529	26,652	254
Chlorine	102	14,443			1		14,444	142
Catechol	99	66,175	602	3	630	2,250	69,660	704
Barium Compounds	96	41,058	1,316,911	86,502			1,444,471	15,047
Nitrate Compounds	87	40,310	38,220		118,370		196,900	2,263
Chlorine Dioxide	80							
Dioxin and Dioxin-Like Compounds[PBT]	77	21	101	6	10		138	2
Zinc Compounds	77	30,256	1,129,573	72,525			1,232,354	16,005
Mercury Compounds[PBT]	75	14	23,862	95			23,971	320
Methyl Ethyl Ketone	64	56,874	680	4,350	20,062	38,121	120,087	1,876
Benzo(g,h,i)perylene[PBT]	63	7	101	3	2	2	115	2
Formic Acid	54	6,334	251				6,585	122
Chloroform	40	155,257	8,630		308		164,195	4,105
Cresol (Mixed Isomers)	32	4,448	394		1,600		6,442	201
Mercury[PBT]	23		485				485	21
Hydrogen Fluoride	17							
Vanadium Compounds	16	1,400	88,540	11,463			101,403	6,338
Chloromethane	15	306					306	20
Copper Compounds	15	1,515	64,245				65,760	4,384
Nickel Compounds	13	2,120	91,928	180			94,228	7,248
Certain Glycol Ethers	12		815				815	68
Chromium Compounds	9	1,351	71,901	1,000			74,252	8,250
Ethylene Glycol	9	24,658	2,810		84,004		111,472	12,386
Toluene	9				220	383,822	384,042	42,671
Xylene (Mixed Isomers)	7				5	10,291	10,296	1,471
Polychlorinated Biphenyls[PBT]	7		207		57		264	38
Styrene	5			160	750		910	182
C.i. Direct Blue 218	5	1,984	3,848	1,065			6,897	1,379
Manganese	5		38,661				38,661	7,732
Benzene	3							
Dazomet	3	13,535					13,535	4,512
Vinyl Acetate	3					19	19	6
Biphenyl	3							
1,2,4-trimethylbenzene	3		4				4	1
Diethanolamine	3	36,070	483	715			37,268	12,423
N-butyl Alcohol	3							
Nitric Acid	2							
Decabromodiphenyl Oxide	2		26,600				26,600	13,300
Antimony	2	251	6,650				6,901	3,450
Lead Compounds[PBT]	2		127,400				127,400	63,700
N-hexane	2					11,000	11,000	5,500
Arsenic Compounds	2	120	24,200				24,320	12,160
Lead[PBT]	1		350				350	350
Antimony Compounds	1		2,200				2,200	2,200
Chlordane[PBT]	1				50		50	50
Maleic Anhydride	1							
Ethylbenzene	1					840	840	840
Potassium Dimethyldithiocarbamate	1							
O-xylene	1							
Diisocyanates	1							
Ozone	1							
Naphthalene	1							
Copper	1		675				675	675

Table 15: 2000 TRI Transfers for Pulp and Paper Facilities (SICs 261, 262 and 263), by Number of Facilities Reporting (Transfers Reported in pounds/year)

Chemical Name	# Reporting Chemical	POTW Transfers	Disposal Transfers	Recycling Transfers	Treatment Transfers	Energy Recovery	Total Transfers	Avg Transfers Per Facility
Methyl Methacrylate	1				750		750	750
Acrylic Acid	1							
Trichloroethylene	1		4,985				4,985	4,985
Dichloromethane	1							
Polychlorinated Alkanes	1				24,000		24,000	24,000
Barium	1		5,100				5,100	5,100
Mixture	1							
	268**	37,103,508	6,306,166	354,926	7,316,423	463,018	51,544,041	192,328

[PBT] Persistent, Bioaccumulative, and Toxic
* Refer to Section III for a discussion of the TRI data and its limitations, methodology used to obtain this data, definitions of the column headings, and the definition of persistant, bioaccumulative, and toxic chemicals.
**Total number of facilities (not chemical reports) reporting to TRI in this industry sector.

The TRI database contains a detailed compilation of self-reported, facility-specific chemical releases. The top reporting facilities for this sector are listed below (Table 16).

Table 16: Ten Largest Volume TRI Releasing Facilities in the Pulp and Paper Industry*

Rank	Facility	Total TRI Releases in Pounds
1	Westvaco Corporation - Covington, VA	5,066,296
2	International Paper - Mansfield, LA	4,472,550
3	International Paper Company Camden Facility - Camden, AR	3,842,484
4	International Paper - Bleachboard Department - Riegelwood, NC	3,619,809
5	Georgia Pacific Corporation Port Hudson Operations - Zachary, LA	3,292,540
6	Smurfit Stone Container Corporation - Missoula, MT	3,133,396
7	Great Southern Paper Co - Cedar Springs, GA	3,125,666
8	Stora Enso North America Corporation - Wisconsin Rapids, WI	3,095,151
9	Weyerhaeuser Company - Valliant, OK	3,041,630
10	International Paper Georgetown Mill - Georgetown, SC	2,967,101

Source: 2000 Toxics Release Inventory Database

* Being included in this list does not mean that the release is associated with non-compliance with environmental laws.

IV.B. Summary of Selected Chemicals Released

The following is a synopsis of current scientific toxicity and fate information for the top chemicals (by weight) that facilities within this sector self-reported as released to the environment based upon 2000 TRI data. Because this section is based upon self-reported release data, it does not attempt to provide information on management practices employed by the sector to reduce the releases of these chemicals. Information regarding pollutant release reductions over time may be available from EPA's TRI program, or directly from the industrial trade associations that are listed in Section IX of this document. Since these descriptions are cursory, please consult the sources referenced below for a more detailed description of both the chemicals described in this section, and the chemicals that appear on the full list of TRI chemicals appearing in Section IV.A.

The brief descriptions provided below were taken from the Hazardous Substances Data Bank (HSDB), accessed via TOXNET. TOXNET is a computer system run by the National Library of Medicine. It includes a number of toxicological databases managed by EPA, National Cancer

Institute, and the National Institute for Occupational Safety and Health.[2] HSDB contains chemical-specific information on manufacturing and use, chemical and physical properties, safety and handling, toxicity and biomedical effects, pharmacology, environmental fate and exposure potential, exposure standards and regulations, monitoring and analysis methods, and additional references. The information contained below is based upon exposure assumptions that have been conducted using standard scientific procedures. The effects listed below must be taken in context of these exposure assumptions that are more fully explained within the full chemical profiles in HSDB. For more information on TOXNET, contact the TOXNET help line at 800-231-3766 or see the website at http://toxnet.nlm.nih.gov/.

Methanol (CAS: 67-56-1)

Toxicity. Methanol is readily absorbed from the gastrointestinal tract and the respiratory tract, and is toxic to humans in moderate to high doses. In the body, methanol is converted into formaldehyde and formic acid. Methanol is excreted as formic acid. Observed toxic effects at high dose levels generally include central nervous system damage and blindness. Long-term exposure to high levels of methanol via inhalation cause liver and blood damage in animals.

Ecologically, methanol is expected to have low toxicity to aquatic organisms. Concentrations lethal to half the organisms of a test population are expected to exceed one milligram of methanol per liter of water. Methanol is not likely to persist in water or to bioaccumulate in aquatic organisms.

Carcinogenicity. There is currently no evidence to suggest that this chemical is carcinogenic.

Environmental Fate. Liquid methanol is likely to evaporate when left exposed. Methanol reacts in air to produce formaldehyde which contributes to the formation of air pollutants. In the atmosphere it can react with other atmospheric chemicals or be washed out by rain. Methanol is readily degraded by microorganisms in soils and surface waters.

Physical Properties. Methanol is highly flammable.

[2] Databases included in TOXNET are: CCRIS (Chemical Carcinogenesis Research Information System), DART (Developmental and Reproductive Toxicity Database), DBIR (Directory of Biotechnology Information Resources), EMICBACK (Environmental Mutagen Information Center Backfile), GENE-TOX (Genetic Toxicology), HSDB (Hazardous Substances Data Bank), IRIS (Integrated Risk Information System), RTECS (Registry of Toxic Effects of Chemical Substances), and TRI (Toxic Chemical Release Inventory).

Ammonia (CAS: 7664-41-7)

Toxicity. Anhydrous ammonia is irritating to the skin, eyes, nose, throat, and upper respiratory system.

Ecologically, ammonia is a source of nitrogen (an essential element for aquatic plant growth), and may therefore contribute to eutrophication of standing or slow-moving surface water, particularly in nitrogen-limited waters such as the Chesapeake Bay. In addition, aqueous ammonia is moderately toxic to aquatic organisms.

Carcinogenicity. There is currently no evidence to suggest that this chemical is carcinogenic.

Environmental Fate. Ammonia combines with sulfate ions in the atmosphere and is washed out by rainfall, resulting in rapid return of ammonia to the soil and surface waters.

Ammonia is a central compound in the environmental cycling of nitrogen. Ammonia in lakes, rivers, and streams is converted to nitrate.

Physical Properties. Ammonia is a corrosive and severely irritating gas with a pungent odor.

Hydrochloric Acid (CAS: 7647-01-1)

Toxicity. Hydrochloric acid is primarily a concern in its aerosol form. Acid aerosols have been implicated in causing and exacerbating a variety of respiratory ailments. Dermal exposure and ingestion of highly concentrated hydrochloric acid can result in corrosivity.

Ecologically, accidental releases of solution forms of hydrochloric acid may adversely affect aquatic life by including a transient lowering of the pH (i.e., increasing the acidity) of surface waters.

Carcinogenicity. There is currently no evidence to suggest that this chemical is carcinogenic.

Environmental Fate. Releases of hydrochloric acid to surface waters and soils will be neutralized to an extent due to the buffering capacities of both systems. The extent of these reactions will depend on the characteristics of the specific environment.

Physical Properties. Concentrated hydrochloric acid is highly corrosive.

Manganese Compounds

Toxicity. Manganese is an essential nutrient for most plants and animals. However, at high concentrations can produce an irreversible syndrome resembling Parkinson's disease.

Carcinogenicity. There is currently no evidence to suggest that manganese chemicals are carcinogenic.

Environmental Fate. As ions or insoluble solids, most manganese compounds are not expected to volatilize from water and moist soil surfaces. Manganese compounds released into the ambient atmosphere are expected to exist in the particulate phase. In the particulate phase, manganese compounds may be removed from the air by wet and dry deposition. Manganese compounds do not bioconcentrate in humans and animals.

Sulfuric Acid (CAS: 7664-93-9)

Toxicity. Concentrated sulfuric acid is corrosive. In its aerosol form, sulfuric acid has been implicated in causing and exacerbating a variety of respiratory ailments.

Ecologically, accidental releases of solution forms of sulfuric acid may adversely affect aquatic life by inducing a transient lowering of the pH (i.e., increasing the acidity) of surface waters. In addition, sulfuric acid in its aerosol form is also a component of acid rain. Acid rain can cause serious damage to crops and forests.

Carcinogenicity. There is currently no evidence to suggest that this chemical is carcinogenic.

Environmental Fate. Releases of sulfuric acid to surface waters and soils will be neutralized to an extent due to the buffering capacities of both systems. The extent of these reactions will depend on the characteristics of the specific environment.

In the atmosphere, aerosol forms of sulfuric acid contribute to acid rain. These aerosol forms can travel large distances from the point of release before the acid is deposited on land and surface waters in the form of rain.

IV.C. Other Data Sources

The toxic chemical release data obtained from TRI captures the vast majority of facilities in the pulp and paper industry. It also allows for a comparison across years and industry sectors. Reported chemicals are limited, however,

to the approximately 650 required by TRI. Some pulp and paper emissions may not be captured by TRI. The EPA Office of Air Quality, Planning, and Standards has compiled air pollutant emission factors for determining the total air emissions of priority pollutants (e.g., total hydrocarbons, SO_x, NO_x, CO, particulates, etc.) from many sources.

The EPA Office of Air's Aerometric Information Retrieval System (AIRS) contains a wide range of information related to stationary sources of air pollution, including the emissions of a number of air pollutants which may be of concern within a particular industry. With the exception of volatile organic compounds (VOCs), there is little overlap with the TRI chemicals reported above. Table 17 summarizes releases in 2001 of volatile organic compounds (VOCs), nitrogen oxides (NO_x), carbon monoxide (CO), sulfur dioxide (SO_2), and particulate matter of 10 microns or less (PM10).

Table 17: Air Pollutant Releases by Industry Sector (tons/year)

Industry Sector	CO	NO_2	PM10	PM25	SO_2	VOC
Metal Mining	8,039	45,341	61,358	32,534	10,926	2,109
Oil and Gas Extraction	151,763	366,793	4,607	4,379	226,208	94,549
Non-Fuel, Non-Metal Mineral Mining	27,001	15,747	48,760	20,956	16,874	3,806
Textiles	7,448	15,043	5,343	3,386	25,544	18,286
Lumber and Wood Products	142,955	37,313	57,009	38,337	9,189	100,761
Wood Furniture and Fixtures	7,046	3,008	6,905	5,260	2,779	62,457
Pulp and Paper	**567,542**	**318,263**	**85,403**	**63,577**	**488,029**	**144,373**
Printing	604	2,466	1,723	1,723	1,915	80,982
Inorganic Chemicals	176,697	94,938	19,549	12,586	201,994	43,563
Plastic Resins and Man-made Fibers	28,890	56,946	5,493	4,155	71,815	83,363
Pharmaceuticals	2,662	14,676	2,273	1,455	17,132	13,407
Organic Chemicals	128,454	166,398	34,637	16,900	102,461	159,319
Agricultural Chemicals	18,492	65,389	10,257	7,311	65,765	12,700
Petroleum Refining	438,375	298,602	33,620	26,870	478,998	161,207
Rubber and Plastic	2,515	9,565	5,209	3,217	20,368	87,258
Stone, Clay, Glass and Concrete	161,113	372,679	127,283	78,647	312,740	32,687
Iron and Steel	1,080,576	105,794	60,962	47,501	307,981	44,608
Metal Castings	104,350	6,298	22,393	15,654	4,770	17,285
Nonferrous Metals	418,647	30,882	24,019	17,433	244,413	8,663
Fabricated Metal Products	6,029	11,672	4,691	3,264	18,742	90,575
Electronics and Computers	22,105	6,428	3,184	2,349	6,882	27,453
Motor Vehicle Assembly	13,439	15,388	4,016	2,270	24,123	95,861
Aerospace	2,832	7,413	1,834	1,287	5,363	7,440
Shipbuilding and Repair	471	2,139	1,574	753	2,537	4,984
Ground Transportation	711,155	6,681,163	285,932	165,029	12,976,279	191,063
Water Transportation	83	153	2,162	733	66	6,787
Air Transportation	5,231	2,079	186	140	90	2,398
Fossil Fuel Electric Power	436,151	5,789,099	252,539	141,002	12,667,567	54,727
Dry Cleaning	217	438	190	117	220	3,163

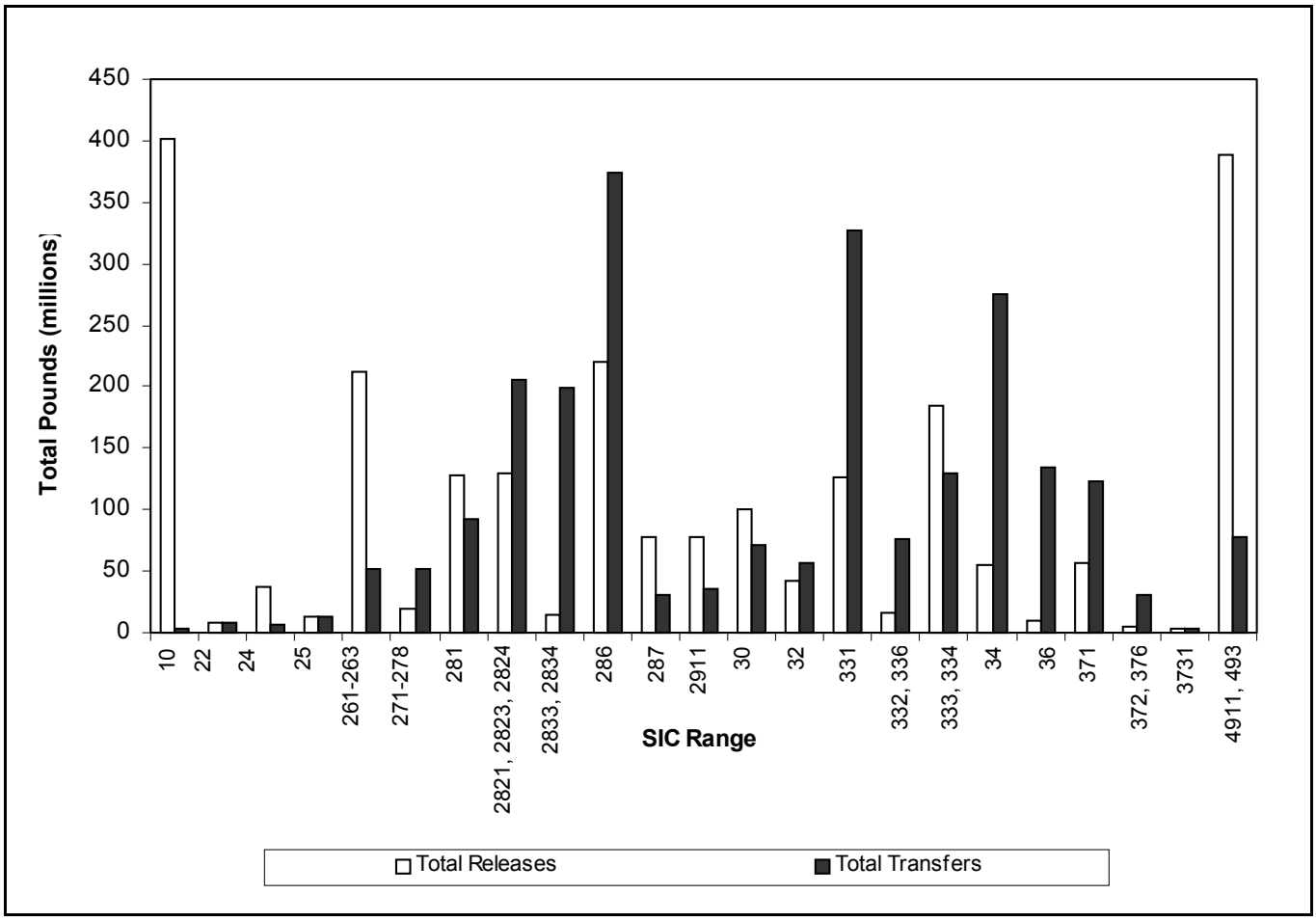
Source: U.S. EPA Office of Air and Radiation, AIRS Database, 2001.

IV.D. Comparison of Toxic Release Inventory Between Selected Industries

The following information is presented as a comparison of pollutant release and transfer data across industrial categories. It is provided to give a general sense as to the relative scale of releases and transfers within each sector profiled under this project. Please note that the following figure and table do not contain releases and transfers for industrial categories that are not included in this project, and thus cannot be used to draw conclusions regarding the total release and transfer amounts that are reported to TRI. Similar information is available within the annual TRI Public Data Release Report.

Figure 12 is a graphical representation of a summary of the 2000 TRI data for the Pulp and Paper industry and the other sectors profiled in separate notebooks. The bar graph presents the total TRI releases and total transfers on the left axis and the triangle points show the average releases per facility on the right axis. Industry sectors are presented in the order of increasing total TRI releases. The graph is based on the data shown in Table 17 and is meant to facilitate comparisons between the relative amounts of releases, transfers, and releases per facility both within and between these sectors. The reader should note, however, that differences in the proportion of facilities captured by TRI exist between industry sectors. This can be a factor of poor SIC matching and relative differences in the number of facilities reporting to TRI from the various sectors. In the case of Pulp and Paper industry the 2000 TRI data presented here covers 268 facilities. These facilities listed SIC 2611-2631 (Pulp, Paper, and Paperboard Mills) as primary SIC codes.

Figure 12: 2000 Summary of TRI Releases and Transfers by Industry



Key to Standard Industrial Classification (SIC) Codes

SIC Range	Industry Sector	SIC Range	Industry Sector	SIC Range	Industry Sector
02	Agricultural Crops, Forestry	281	Inorganic Chemicals	333, 334	Nonferrous Metals
01, 08	Agricultural Livestock	2821, 2823, 2824	Plastic Resins and Man-made Fibers	34	Fabricated Metals
10	Metal Mining	2833, 2834	Pharmaceuticals	36	Electronics and Computers
13	Oil and Gas Extraction	286	Organic Chemicals	371	Motor Vehicle Assembly
14	Non-Fuel, Non-Metal Mining	287	Agricultural Chemicals	372, 376	Aerospace
22	Textiles	2911	Petroleum Refining	3731	Shipbuilding and Repair
24	Lumber and Wood Products	30	Rubber and Plastic	40, 42, 46, 4922-4925, 4932	Ground Transportation
25	Furniture and Fixtures	32	Stone, Clay, Glass and Concrete	44	Water Transportation
261-263	Pulp and Paper	331	Iron and Steel	45	Air Transportation
271-278	Printing	332, 336	Metal Casting	4911, 493	Fossil Fuel Electric Power Generation
				7216	Dry cleaning

Table 18: Toxics Release Inventory Data for Selected Industries

Industry Sector	SIC Range	# TRI Facilities	TRI Releases		TRI Transfers		Total Releases +Transfers (million lbs.)	Average Releases + Transfers per Facility (pounds)
			Total Releases (million lbs.)	Ave. Releases per Facility (pounds)	Total Transfers (million lbs.)	Ave. Transfers per Facility (pounds)		
Agricultural Crops, Forestry	2	Industry sector currently not subject to TRI reporting.						
Agricultural Livestock	01, 08	Industry sector currently not subject to TRI reporting.						
Metal Mining	10	58	402.1	690,837	2.8	4,894	404.9	695,731
Oil and Gas Extraction	13	Industry sector currently not subject to TRI reporting.						
Non-Fuel, Non-Metal Mining	14	Industry sector currently not subject to TRI reporting.						
Textiles	22	194	8.9	17,018	8.1	15,527	17.0	32,545
Lumber and Wood Products	24	410	36.6	28,305	7.1	5,497	43.7	33,802
Furniture and Fixtures	25	280	13.0	18,912	13.5	19,605	26.6	38,517
Pulp and Paper	**261,262,263**	**268**	**211.6**	**90,180**	**51.5**	**21,971**	**263.1**	**112,151**
Printing	271-278	163	19.0	50,148	51.5	21,971	70.5	72,119
Inorganic Chemicals	281	343	128.2	64,085	91.8	45,921	220.0	110,006
Plastic Resins and Man-made Fibers	2821, 2823, 2824	369	129.5	45,534	205.1	72,139	334.5	117,673
Pharmaceuticals	2833, 2834	151	15.1	19,275	199.0	254,766	214.0	274,041
Organic Chemicals	286	467	219.4	47,377	374.3	80,833	593.6	128,210
Agricultural Chemicals	287	172	78.1	78,927	30.1	30,417	108.3	109,344
Petroleum Refining	2911	162	78.5	25,948	36.2	11,973	114.7	37,921
Rubber and Plastic	30	1,154	100.2	28,358	71.0	20,099	171.2	48,457
Stone, Clay, Glass and Concrete	32	484	42.1	21,860	56.7	29,389	98.8	51,249
Iron and Steel	331	325	125.7	63,336	327.5	164,981	453.2	228,317
Metal Casting	332, 336	447	16.8	9,081	75.5	40,849	92.3	49,930
Nonferrous Metals	333, 334	181	185.3	184,340	128.9	128,258	314.2	312,598
Fabricated Metals	34	2,047	54.8	7,759	275.5	38,991	330.3	46,750
Electronics and Computers	36	419	9.0	5,968	133.7	88,279	142.7	94,247
Motor Vehicle Assembly	371	622	56.0	19,495	123.7	43,019	179.7	62,514
Aerospace	372, 376	184	5.3	8,277	30.1	46,674	35.4	54,951
Shipbuilding and Repair	3731	39	4.0	19,884	2.5	12,316	6.4	32,200
Ground Transportation	40, 42, 46, 4922- 4925, 4932	Industry sector currently not subject to TRI reporting.						
Water Transportation	44	Industry sector currently not subject to TRI reporting.						
Air Transportation	45	Industry sector currently not subject to TRI reporting.						
Fossil Fuel Electric Power Generation	4911, 493	613	388.7	73,037	78.0	14,647	466.7	87,684
Dry cleaning	7216	Industry sector currently not subject to TRI reporting.						
Sector Notebook Total	NA	9,552	2,327.8	1,617,941	2,374.1	1,213,016	4,701.9	2,830,957
2000 TRI Total	NA	23,484	6,575.7	280,007	4,139.7	176,277	10,715.4	456,285

Source: *US EPA Toxics Release Inventory Database, 2000.*

V. POLLUTION PREVENTION OPPORTUNITIES

The best way to reduce pollution is to prevent it in the first place. Industries have creatively implemented pollution prevention techniques that improve efficiency and increase profits while at the same time minimizing environmental impacts. This can be done in many ways such as reducing material inputs, re-engineering processes to reuse by-products, improving management practices, and employing substitution of toxic chemicals. Some smaller facilities are able to actually get below regulatory thresholds just by reducing pollutant releases through aggressive pollution prevention policies.

In order to encourage these approaches, this section provides both general and company-specific descriptions of some pollution prevention advances that have been implemented within the pulp and paper industry. While the list is not exhaustive, it does provide core information that can be used as the starting point for facilities interested in beginning their own pollution prevention projects. When possible, this section provides information from real activities that can, or are being implemented by this sector -- including a discussion of associated costs, time frames, and expected rates of return. This section provides summary information from activities that may be, or are being implemented by this sector. When possible, information is provided that gives the context in which the technique can be effectively used. Please note that the activities described in this section do not necessarily apply to all facilities that fall within this sector. Facility-specific conditions must be carefully considered when pollution prevention options are evaluated, and the full impacts of the change must examine how each option affects air, land and water pollutant releases.

Pollution Prevention Opportunities for the Pulp and Paper Industry

The chemical recovery systems used in chemical pulping processes are an example of pollution prevention technologies that have evolved alongside process technologies. An efficient chemical recovery system is a crucial component of chemical pulping mill operation: the chemical recovery process regenerates process chemicals, reducing natural resource usage and associated costs, as well as discharges to the environment and producing energy. Many recent pollution prevention efforts in the pulp and paper industry have focused on reducing the releases of toxics, in particular, chlorinated compounds. Pollution prevention techniques have proven to be more effective in controlling these pollutants than conventional control and treatment technologies. Most conventional, end-of-pipe treatment technologies are not effective in destroying many chlorinated compounds and often merely transfer the pollutants to another environmental medium. Efforts to prevent chlorinated releases have, therefore, focused on source reduction and material substitution techniques such as defoamers, bleaching chemical or wood chip substitution to reduce the industry's use and releases

of chlorinated compounds. Such source reduction efforts and material substitutions usually require substantial changes in the production process. In addition to the major process changes aimed at reducing toxics releases, the industry is implementing a number of pollution prevention techniques to reduce water use and pollutant releases (BOD, COD, and TSS) such as: dry debarking, recycling of log flume water, improved spill control, bleach filtrate recycle, closed screen rooms, and improved storm water management. The pulp and paper industry has also worked to increase the amount of secondary and recycled fibers used for the pulping process. According to industry sources, the pulp and paper industry set and met a 1995 goal of 40 percent recycling and reuse of all paper consumed in the U.S. Currently, the industry has set a new goal of recovering 50 percent of all paper consumed in the U.S. for recycle and reuse. These figures should be compared with the utilization rate of secondary fibers (secondary fibers as a percentage of the total fibers used to make pulp) which is at approximately 37 percent and is climbing slowly (AF&PA, 1999). Current secondary fiber utilization rates in resource deficient countries such as Japan are close to 50 percent.

Because the pulp and paper industry is highly capital intensive and uses long-established technologies with long equipment lifetimes, major process-changing pollution prevention opportunities are expensive and require long time periods to implement. The pulp and paper industry is a dynamic one, however, that constantly makes process changes and material substitutions to increase productivity and cut costs. The trend towards materials substitutions is reflected in an increasing demand for alternative pulping and bleaching chemicals and in the participation of many facilities in voluntary environmental programs (see Section VIII).

One of the factors that is driving the industry towards pollution prevention much more rapidly is the integrated NESHAP and effluent limitation guidelines for the pulp and paper industry. (See Section VI.B. for a description of this "cluster rule.") These regulations were developed together in part to reduce the costs of compliance, to emphasize the multi-media nature of pollution control, and to promote pollution prevention. Many of the technology-based effluent limitation guidelines for the control of toxic releases consist of process changes that substitute chlorine dioxide for elemental chlorine and that completely eliminate elemental chlorine in bleaching processes. The NESHAP standards also allow Hazardous Air Pollutant (HAP) reductions through recycling of wastewater streams to a process unit and routing pulping emissions to a boiler, lime kiln, or recovery furnace.

Brief descriptions of some of the pollution prevention techniques found to be effective at pulp and paper facilities are provided below. For more detail on the pollution prevention options listed below and for descriptions of additional alternative pulping and bleaching processes refer to the Office of

Pollution Prevention and Toxics' 1993 report, *Pollution Prevention Technologies for the Bleached Kraft Segment of the U.S. Pulp and Paper Industry* and other pollution prevention/waste minimization documents listed in Resource Materials section. It should be noted that although many of the pollution prevention opportunities listed below are primarily aimed at reducing toxics releases, the process changes can often lead to reductions in the conventional pollutants such as BOD_5 and TSS as well as COD, AOX, and contribute to reduced water use, sludge volumes generated, and air emissions.

Extended Delignification. Extended delignification further reduces the lignin content of the pulp before it moves to the bleach plant. Because the amount of bleaching chemicals required to achieve a certain paper brightness is proportional to the amount of lignin remaining in the pulp after the pulping process, extended delignification can reduce the amounts of bleaching chemicals needed. A number of different extended delignification processes have been developed. These processes involve: increasing the cooking time; adding the cooking chemicals at several points throughout the cooking process; regulating the cooking temperatures; and carefully controlling the concentration of hydrogen sulfide ions and dissolved lignin. Importantly, the process changes do not degrade the cellulose which would normally accompany increased cooking time. Extended delignification processes have been developed for both batch and continuous pulping processes. The lignin content of the brownstock pulp has been reduced by between 20 and 50 percent with no losses in pulp yield or strength using such processes. In consequence, chlorinated compounds generated during bleaching are reduced in approximate proportion to reductions in the brownstock lignin content. In addition, the same changes have resulted in significant reductions in BOD_5, COD and color. One study demonstrated a 29 percent decrease in BOD_5 resulting from an extended delignification process. Facility energy requirements have been shown to increase slightly with extended delignification. However, off-site power requirements (associated with decreased chemical use) have been estimated to more than offset the on-site increases.

Oxygen Delignification. Oxygen delignification also reduces the lignin content in the pulp. The process involves the addition of an oxygen reactor between the kraft pulping stages and the bleach plant. The brownstock pulp from the digester is first washed and then mixed with sodium hydroxide or oxidized cooking liquor. The pulp is fluffed, deposited in the oxygen reactor, steam heated, and injected with gaseous oxygen wherein it undergoes oxidative delignification. The pulp is then washed again to remove the dissolved lignin before moving to the bleaching plant. Oxygen delignification can reduce the lignin content in the pulp by as much as 50 percent resulting in a potentially similar reduction in the use of chlorinated bleaching chemicals and chlorinated compound pollutants. The process can

be used in combination with other process modifications that can completely eliminate the need for chlorine-based bleaching agents. In addition, unlike bleach plant filtrate, the effluent from the oxygen reactor can be recycled through the pulp mill recovery cycle, further reducing the non-pulp solids going to the bleaching plant and the effluent load from the bleach plant. The net effect is reduced effluent flows and less sludge generation. Facility energy requirements have been shown to increase with oxygen delignification, however, the decrease in off-site power requirements (associated with decreased chemical use) have been estimated to exceed the on-site increases resulting in a decrease in overall energy requirements. Also, the recovered energy and reduced chemical use offset the cost.

Ozone Delignification. As a result of a considerable research effort, ozone delignification (ozone bleaching) is now being used in a limited number of pulp mills. The technology has the potential to eliminate the need for chlorine in the bleaching process. Ozone delignification is performed using processes and equipment similar to that of oxygen delignification. The ozone process, however, must take place at a very low pH (1.0 to 2.0), requiring the addition of sulfuric acid to the pulp prior to the ozonation. In addition to low pH, a number of process conditions are critical for ozone delignification: organic materials must be almost completely washed out of the brownstock pulp; temperatures must stay at about 20 ˚C; and ozone reactive metals must be removed prior to the ozonation stage. Oxygen delignification and/or extended delignification processes are considered a prerequisite for successful ozone bleaching. When used in combination, the two processes can result in a high quality bright pulp that requires little or no chlorine or chlorine dioxide bleaching. Overall emissions from the combination of the oxygen and ozone processes are substantially lower than conventional processes because effluents from each stage can be recycled. Pilot systems consisting of ozone delignification in combination with oxygen delignification and oxygen extraction have shown reductions in BOD_5 of 62 percent, COD of 53 percent, color of 88 percent, and organic chlorine compounds of 98 percent. However, ozone is unstable and will decompose to molecular oxygen, thus ozone must be generated on-site and fed immediately to the pulp reactor. Ozone generation systems are complex and account for a high percentage of the total costs. Facility energy use will increase due to the on-site production of ozone, however, this energy will be offset by the energy that would normally be used to produce chlorine and chlorine dioxide.

Anthraquinone Catalysis. The addition of anthraquinone (a chemical catalyst produced from coal tar) to the pulping liquor has been shown to speed up the kraft pulping reaction and increase yield by protecting cellulose fibers from degradation. The anthraquinone accelerates the fragmentation of lignin, allowing it to be broken down more quickly by the pulping chemicals. This lowers the amount of lignin in the prechlorination pulp, thus reducing

the amount of bleaching chemicals needed. Anthraquinone catalysts are increasingly used in combination with oxygen delignification and extended delignification to overcome boiler capacity bottlenecks arising from these delignification processes.

Black Liquor Spill Control and Prevention. The mixture of dissolved lignin and cooking liquor effluent from the pulping reactor and washed pulp is known as black liquor. Raw black liquor contains high levels of BOD, COD, and organic compounds. Spills of black liquor can result from overflows, leaks from process equipment, or from deliberate dumping by operators to avoid a more serious accident. Spills of black liquor can have impacts on receiving waters, are a source of air emissions, and can shock the microbial action of wastewater treatment systems. Black liquor losses also result in the loss of the chemical and heat value of the material. Systems needed to control black liquor spills are a combination of good design, engineering, and, most importantly, operator training. A few elements of an effective spill control system include: physical isolation of pieces of equipment; floor drainage systems that allow spills to be collected; backup black liquor storage capacity; sensors that provide immediate warning of potential or actual spills; and enclosed washing and screening equipment.

Enzyme Treatment of Pulp. Biotechnology research has resulted in the identification of a number of microorganisms that produce enzymes capable of breaking down lignin in pulp. Although the technology is new, it is believed that a number of mills are currently conducting enzyme treatment trials. The microorganisms capable of producing the necessary enzymes are called xylanases. Xylanases for pulp bleaching trials are available from several biotechnology and chemical companies. Since enzymes are used as a substitute for chemicals in bleaching pulp, their use will result in a decrease in chlorinated compounds released somewhat proportional to the reduction in bleaching chemicals used. Enzymes are also being used to assist in the deinking of secondary fiber. Research at the Oak Ridge National Laboratories has identified cellulase enzymes that will bind ink to the smaller fiber particles facilitating recovery of the ink sludge. Use of enzymes may also reduce the energy costs and chemical use in retrieving ink sludge from deinking effluent.

Improved Brownstock and Bleaching Stage Washing. Liquor solids remaining in the brownstock pulp are carried over to the bleach plant and then compete with the remaining lignin in the pulp for reaction with the bleaching chemicals. Improved washing, therefore, can reduce the required amount of bleaching chemicals and the subsequent reductions in chlorinated compounds as well as conventional pollutants. Modern washing systems with improved solids removal and energy efficiency are beginning to replace the conventional rotary vacuum washers. State-of-the-art washing systems include: atmospheric or pressure diffusion washers, belt washers, and pulp

presses. Opportunities for reduced effluent flows and water use are also present in the bleaching plant. Acid filtrates from hypochlorite or chlorine dioxide stages can be used as dilution and wash water for the first bleaching stage. Similarly, second extraction stage filtrates can be used as dilution and wash water in the first extraction stage. Most new mills are designed with these counter-current washing systems and some mills are retrofitting their existing wash systems.

Improved Chipping and Screening. The size and thickness of wood chips is critical for proper circulation and penetration of the pulping chemicals. Chip uniformity is controlled by the chipper and screens that remove under and oversized pieces. Standard equipment normally does not sort chips by thickness although it has been demonstrated that chip thickness is extremely important in determining the lignin content of pulp. Improper chip thicknesses can therefore result in increased use of bleaching chemicals and the associated chlorinated compounds and conventional pollutants. Some mills are beginning to incorporate equipment that will separate chips according to their thickness as well as by length and width.

Oxygen-Reinforced/Peroxide Extraction. Oxygen-reinforced extraction (or oxidative extraction) and peroxide-reinforced extraction processes used separately or together have been shown to reduce the amount of elemental chlorine and chlorine dioxide needed in the bleaching process while increasing the pulp brightness. Gaseous elemental oxygen (in the case of oxygen-reinforced extraction) and aqueous hydrogen peroxide (in the case of peroxide extraction) are used as a part of the first alkaline extraction stage to facilitate the solubilization and removal of chlorinated and oxidized lignin molecules. Oxygen-reinforced extraction has seen widespread adoption by the industry in recent years. It is estimated that up to 80 percent of mills in the U.S. are using oxygen-reinforced extraction. The use of peroxide extraction is also increasing. As of 1987, it was estimated that 25 percent of domestic mills were using peroxide extraction.

Improved Chemical Controls and Mixing. The formation of chlorinated organics can be minimized by avoiding excess concentrations of chlorine-based bleaching chemicals within reactor vessels. This can be accomplished by carefully controlling the chemical application rates and by ensuring proper mixing of chemicals within the reactor. Modern chemical application control and monitoring systems and high-shear mixers have been developed which decrease formation of chlorinated organic compounds.

VI. SUMMARY OF FEDERAL STATUTES AND REGULATIONS

This section discusses the federal regulations that may apply to this sector. The purpose of this section is to highlight and briefly describe the applicable federal requirements, and to provide citations for more detailed information. The three following sections are included:

- Section VI.A contains a general overview of major statutes
- Section VI.B contains a list of regulations specific to this industry
- Section VI.C contains a list of pending and proposed regulatory requirements.

The descriptions within Section VI are intended solely for general information. Depending upon the nature or scope of the activities at a particular facility, these summaries may or may not necessarily describe all applicable environmental requirements. Moreover, they do not constitute formal interpretations or clarifications of the statutes and regulations. For further information, readers should consult the Code of Federal Regulations and other state or local regulatory agencies. EPA Hotline contacts are also provided for each major statute.

VI.A. General Description of Major Statutes

Clean Water Act

The primary objective of the Federal Water Pollution Control Act, commonly referred to as the Clean Water Act (CWA), is to restore and maintain the chemical, physical, and biological integrity of the nation's surface waters. Pollutants regulated under the CWA are classified as either “toxic” pollutants; "conventional" pollutants, such as biochemical oxygen demand (BOD), total suspended solids (TSS), fecal coliform, oil and grease, and pH; or "non-conventional" pollutants, including any pollutant not identified as either conventional or priority.

The CWA regulates both direct and “indirect” dischargers (those who discharge to publicly owned treatment works). The National Pollutant Discharge Elimination System (NPDES) permitting program (CWA section 402) controls direct discharges into navigable waters. Direct discharges or "point source" discharges are from sources such as pipes and sewers. NPDES permits, issued by either EPA or an authorized state (EPA has authorized 43 states and one territory to administer the NPDES program), contain industry-specific, technology-based and water quality-based limits and establish pollutant monitoring and reporting requirements. A facility that proposes to discharge into the nation's waters must obtain a permit prior to initiating a discharge. A permit applicant must provide quantitative analytical data identifying the types of pollutants present in the facility's

effluent. The permit will then set forth the conditions and effluent limitations under which a facility may make a discharge.

Water quality-based discharge limits are based on federal or state water quality criteria or standards, that were designed to protect designated uses of surface waters, such as supporting aquatic life or recreation. These standards, unlike the technology-based standards, generally do not take into account technological feasibility or costs. Water quality criteria and standards vary from state to state, and site to site, depending on the use classification of the receiving body of water. Most states follow EPA guidelines which propose aquatic life and human health criteria for many of the 126 priority pollutants.

Storm Water Discharges

In 1987 the CWA was amended to require EPA to establish a program to address storm water discharges. In response, EPA promulgated NPDES permitting regulations for storm water discharges. These regulations require that facilities with the following types of storm water discharges, among others, apply for an NPDES permit: (1) a discharge associated with industrial activity; (2) a discharge from a large or medium municipal storm sewer system; or (3) a discharge which EPA or the state determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

The term "storm water discharge associated with industrial activity" means a storm water discharge from one of 11 categories of industrial activity defined at 40 CFR Part 122.26. Six of the categories are defined by SIC codes while the other five are identified through narrative descriptions of the regulated industrial activity. If the primary SIC code of the facility is one of those identified in the regulations, the facility is subject to the storm water permit application requirements. If any activity at a facility is covered by one of the five narrative categories, storm water discharges from those areas where the activities occur are subject to storm water discharge permit application requirements.

Those facilities/activities that are subject to storm water discharge permit application requirements are identified below. To determine whether a particular facility falls within one of these categories, the regulation should be consulted.

Category i: Facilities subject to storm water effluent guidelines, new source performance standards, or toxic pollutant effluent standards.

Category ii: Facilities classified as SIC 24-lumber and wood products (except wood kitchen cabinets); SIC 26-paper and allied products (except paperboard containers and products); SIC 28-chemicals and allied products

(except drugs and paints); SIC 29-petroleum refining; SIC 311-leather tanning and finishing; SIC 32 (except 323)-stone, clay, glass, and concrete; SIC 33-primary metals; SIC 3441-fabricated structural metal; and SIC 373-ship and boat building and repairing.

Category iii: Facilities classified as SIC 10-metal mining; SIC 12-coal mining; SIC 13-oil and gas extraction; and SIC 14-nonmetallic mineral mining.

Category iv: Hazardous waste treatment, storage, or disposal facilities.

Category v: Landfills, land application sites, and open dumps that receive or have received industrial wastes.

Category vi: Facilities classified as SIC 5015-used motor vehicle parts; and SIC 5093-automotive scrap and waste material recycling facilities.

Category vii: Steam electric power generating facilities.

Category viii: Facilities classified as SIC 40-railroad transportation; SIC 41-local passenger transportation; SIC 42-trucking and warehousing (except public warehousing and storage); SIC 43-U.S. Postal Service; SIC 44-water transportation; SIC 45-transportation by air; and SIC 5171-petroleum bulk storage stations and terminals.

Category ix: Sewage treatment works.

Category x: Construction activities except operations that result in the disturbance of less than five acres of total land area.

Category xi: Facilities classified as SIC 20-food and kindred products; SIC 21-tobacco products; SIC 22-textile mill products; SIC 23-apparel related products; SIC 2434-wood kitchen cabinets manufacturing; SIC 25-furniture and fixtures; SIC 265-paperboard containers and boxes; SIC 267-converted paper and paperboard products; SIC 27-printing, publishing, and allied industries; SIC 283-drugs; SIC 285-paints, varnishes, lacquer, enamels, and allied products; SIC 30-rubber and plastics; SIC 31-leather and leather products (except leather and tanning and finishing); SIC 323-glass products; SIC 34-fabricated metal products (except fabricated structural metal); SIC 35-industrial and commercial machinery and computer equipment; SIC 36-electronic and other electrical equipment and components; SIC 37-transportation equipment (except ship and boat building and repairing); SIC 38-measuring, analyzing, and controlling instruments; SIC 39-miscellaneous manufacturing industries; and SIC 4221-4225-public warehousing and storage.

Phase II storm water requirements were established in 1999. Permits are now required for certain small municipal separate storm sewer systems (MS4s) and for construction activity disturbing between one and five acres of land (i.e., small construction activities). The Phase II rule also revised the "no exposure" exclusion and the temporary exemption for certain industrial facilities that had been established under Phase I regulations.

Pretreatment Program

Another type of discharge that is regulated by the CWA is one that goes to a publicly owned treatment works (POTW). The national pretreatment program (CWA section 307(b)) controls the indirect discharge of pollutants to POTWs by "industrial users." Facilities regulated under section 307(b) must meet certain pretreatment standards. The goal of the pretreatment program is to protect municipal wastewater treatment plants from damage that may occur when hazardous, toxic, or other wastes are discharged into a sewer system and to protect the quality of sludge generated by these plants.

EPA has developed technology-based standards for industrial users of POTWs. Different standards apply to existing and new sources within each category. "Categorical" pretreatment standards applicable to an industry on a nationwide basis are developed by EPA. In addition, another kind of pretreatment standard, "local limits," are developed by the POTW in order to assist the POTW in achieving the effluent limitations in its NPDES permit.

Regardless of whether a state is authorized to implement either the NPDES or the pretreatment program, if it develops its own program, it may enforce requirements more stringent than federal standards.

Wetlands

Wetlands, commonly called swamps, marshes, fens, bogs, vernal pools, playas, and prairie potholes, are a subset of "waters of the United States," as defined in Section 404 of the CWA. The placement of dredge and fill material into wetlands and other water bodies (i.e., waters of the United States) is regulated by the U.S. Army Corps of Engineers (Corps) under 33 CFR Part 328. The Corps regulates wetlands by administering the CWA Section 404 permit program for activities that impact wetlands. EPA's authority under Section 404 includes veto power of Corps permits, authority to interpret statutory exemptions and jurisdiction, enforcement actions, and delegating the Section 404 program to the states.

EPA's Office of Water, at 202-566-1730, will direct callers with questions about the CWA to the appropriate EPA office. EPA also maintains a bibliographic database of Office of Water publications which can be accessed through the Ground Water and Drinking Water Resource Center, at 1-800-426-4791.

Oil Pollution Prevention Regulation

Section 311(b) of the CWA prohibits the discharge of oil, in such quantities as may be harmful, into the navigable waters of the United States and adjoining shorelines. The EPA Discharge of Oil regulation, 40 CFR Part 110, provides information regarding these discharges. The Oil Pollution Prevention regulation, 40 CFR Part 112, under the authority of Section 311(j) of the CWA, requires regulated facilities to prepare and implement Spill Prevention Control and Countermeasure (SPCC) plans. The intent of a SPCC plan is to prevent the discharge of oil from onshore and offshore non-transportation-related facilities. In 1990 Congress passed the Oil Pollution Act which amended Section 311(j) of the CWA to require facilities that because of their location could reasonably be expected to cause "substantial harm" to the environment by a discharge of oil to develop and implement Facility Response Plans (FRP). The intent of a FRP is to provide for planned responses to discharges of oil.

A facility is SPCC-regulated if the facility, due to its location, could reasonably be expected to discharge oil into or upon the navigable waters of the United States or adjoining shorelines, and the facility meets one of the following criteria regarding oil storage: (1) the capacity of any aboveground storage tank exceeds 660 gallons, or (2) the total aboveground storage capacity exceeds 1,320 gallons, or (3) the underground storage capacity exceeds 42,000 gallons. 40 CFR Part 112.7 contains the format and content requirements for a SPCC plan. In New Jersey, SPCC plans can be combined with DPCC plans, required by the state, provided there is an appropriate cross-reference index to the requirements of both regulations at the front of the plan.

According to the FRP regulation, a facility can cause "substantial harm" if it meets one of the following criteria: (1) the facility has a total oil storage capacity greater than or equal to 42,000 gallons and transfers oil over water to or from vessels; or (2) the facility has a total oil storage capacity greater than or equal to one million gallons and meets any one of the following conditions: (i) does not have adequate secondary containment, (ii) a discharge could cause "injury" to fish and wildlife and sensitive environments, (iii) shut down a public drinking water intake, or (iv) has had a reportable oil spill greater than or equal to 10,000 gallons in the past five years. Appendix F of 40 CFR Part 112 contains the format and content requirements for a FRP. FRPs that meet EPA's requirements can be combined with U.S. Coast Guard FRPs or other contingency plans, provided there is an appropriate cross-reference index to the requirements of all applicable regulations at the front of the plan.

For additional information regarding SPCC plans, contact EPA's RCRA, Superfund, and EPCRA Call Center, at 800-424-9346. Additional documents and resources can be obtained from the hotline's homepage at

www.epa.gov/epaoswer/hotline. The hotline operates weekdays from 9:00 a.m. to 6:00 p.m., EST, excluding federal holidays.

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) mandates that EPA establish regulations to protect human health from contaminants in drinking water. The law authorizes EPA to develop national drinking water standards and to create a joint federal-state system to ensure compliance with these standards. The SDWA also directs EPA to protect underground sources of drinking water through the control of underground injection of fluid wastes.

EPA has developed primary and secondary drinking water standards under its SDWA authority. EPA and authorized states enforce the primary drinking water standards, which are contaminant-specific concentration limits that apply to certain public drinking water supplies. Primary drinking water standards consist of maximum contaminant level goals (MCLGs), which are non-enforceable health-based goals, and maximum contaminant levels (MCLs), which are enforceable limits set generally as close to MCLGs as possible, considering cost and feasibility of attainment.

Part C of the SDWA mandates EPA to protect underground sources of drinking water from inadequate injection practices. EPA has published regulations codified in 40 CFR Parts 144 to 148 to comply with this mandate. The Underground Injection Control (UIC) regulations break down injection wells into five different types, depending on the fluid injected and the formation that receives it. The regulations also include construction, monitoring, testing, and operating requirements for injection well operators. All injection wells have to be authorized by permit or by rule depending on their potential to threaten Underground Sources of Drinking Water (USDW). RCRA also regulates hazardous waste injection wells and a UIC permit is considered to meet the requirements of a RCRA permit. EPA has authorized delegation of the UIC for all wells in 35 states, implements the program in 10 states and all Indian lands, and shares responsibility with five states.

The SDWA also provides for a federally-implemented Sole Source Aquifer program, which prohibits federal funds from being expended on projects that may contaminate the sole or principal source of drinking water for a given area, and for a state-implemented Wellhead Protection program, designed to protect drinking water wells and drinking water recharge areas.

The SDWA Amendments of 1996 require states to develop and implement source water assessment programs (SWAPs) to analyze existing and potential threats to the quality of the public drinking water throughout the state. Every state is required to submit a program to EPA and to complete all assessments within 3 ½ years of EPA approval of the program. SWAPs include: (1)

delineating the source water protection area, (2) conducting a contaminant source inventory, (3) determining the susceptibility of the public water supply to contamination from the inventories sources, and (4) releasing the results of the assessments to the public.

EPA's Safe Drinking Water Hotline, at 800-426-4791, answers questions and distributes guidance pertaining to SDWA standards. The Hotline operates from 9:00 a.m. through 5:30 p.m., EST, excluding federal holidays. Visit the website at www.epa.gov/ogwdw for additional material.

Resource Conservation and Recovery Act

The Solid Waste Disposal Act (SWDA), as amended by the Resource Conservation and Recovery Act (RCRA) of 1976, addresses solid and hazardous waste management activities. The Act is commonly referred to as RCRA. The Hazardous and Solid Waste Amendments (HSWA) of 1984 strengthened RCRA's waste management provisions and added Subtitle I, which governs underground storage tanks (USTs).

Regulations promulgated pursuant to Subtitle C of RCRA (40 CFR Parts 260-299) establish a "cradle-to-grave" system governing hazardous waste from the point of generation to disposal. RCRA hazardous wastes include the specific materials listed in the regulations (discarded commercial chemical products, designated with the code "P" or "U"; hazardous wastes from specific industries/sources, designated with the code "K"; or hazardous wastes from non-specific sources, designated with the code "F") or materials which exhibit a hazardous waste characteristic (ignitability, corrosivity, reactivity, or toxicity and designated with the code "D").

Entities that generate hazardous waste are subject to waste accumulation, manifesting, and recordkeeping standards. A hazardous waste facility may accumulate hazardous waste for up to 90 days (or 180 days depending on the amount generated per month) without a permit or interim status. Generators may also treat hazardous waste in accumulation tanks or containers (in accordance with the requirements of 40 CFR Part 262.34) without a permit or interim status. Facilities that treat, store, or dispose of hazardous waste are generally required to obtain a RCRA permit.

Subtitle C permits are required for treatment, storage, or disposal facilities. These permits contain general facility standards such as contingency plans, emergency procedures, recordkeeping and reporting requirements, financial assurance mechanisms, and unit-specific standards. RCRA also contains provisions (40 CFR Subparts I and S) for conducting corrective actions which govern the cleanup of releases of hazardous waste or constituents from solid waste management units at RCRA treatment, storage, or disposal facilities.

Although RCRA is a federal statute, many states implement the RCRA program. Currently, EPA has delegated its authority to implement various provisions of RCRA to 47 of the 50 states and two U.S. territories. Delegation has not been given to Alaska, Hawaii, or Iowa.

Most RCRA requirements are not industry specific but apply to any company that generates, transports, treats, stores, or disposes of hazardous waste. Here are some important RCRA regulatory requirements:

- **Criteria for Classification of Solid Waste Disposal Facilities and Practices** (40 CFR Part 257) establishes the criteria for determining which solid waste disposal facilities and practices pose a reasonable probability of adverse effects on health or the environment. The criteria were adopted to ensure non-municipal, non-hazardous waste disposal units that receive conditionally exempt small quantity generator waste do not present risks to human health and environment.

- **Criteria for Municipal Solid Waste Landfills** (40 CFR Part 258) establishes minimum national criteria for all municipal solid waste landfill units, including those that are used to dispose of sewage sludge.

- **Identification of Solid and Hazardous Wastes** (40 CFR Part 261) establishes the standard to determine whether the material in question is considered a solid waste and, if so, whether it is a hazardous waste or is exempted from regulation.

- **Standards for Generators of Hazardous Waste** (40 CFR Part 262) establishes the responsibilities of hazardous waste generators including obtaining an EPA identification number, preparing a manifest, ensuring proper packaging and labeling, meeting standards for waste accumulation units, and recordkeeping and reporting requirements. Generators can accumulate hazardous waste on-site for up to 90 days (or 180 days depending on the amount of waste generated) without obtaining a permit.

- **Land Disposal Restrictions** (LDRs) (40 CFR Part 268) are regulations prohibiting the disposal of hazardous waste on land without prior treatment. Under the LDRs program, materials must meet treatment standards prior to placement in a RCRA land disposal unit (landfill, land treatment unit, waste pile, or surface impoundment). Generators of waste subject to the LDRs must provide notification of such to the designated TSD facility to ensure proper treatment prior to disposal.

- **Used Oil Management Standards** (40 CFR Part 279) impose management requirements affecting the storage, transportation, burning, processing, and re-refining of the used oil. For parties that merely generate used oil, regulations establish storage standards. For a party considered a used oil processor, re-refiner, burner, or marketer (one who generates and sells off-specification used oil directly to a used oil burner), additional tracking and paperwork requirements must be satisfied.

- RCRA contains unit-specific standards for all units used to store, treat, or dispose of hazardous waste, including **Tanks and Containers**. Tanks and containers used to store hazardous waste with a high volatile organic concentration must meet emission standards under RCRA. Regulations (40 CFR Part 264-265, Subpart CC) require generators to test the waste to determine the concentration of the waste, to satisfy tank and container emissions standards, and to inspect and monitor regulated units. These regulations apply to all facilities who store such waste, including large quantity generators accumulating waste prior to shipment offsite.

- **Underground Storage Tanks** (USTs) containing petroleum and hazardous substances are regulated under Subtitle I of RCRA. Subtitle I regulations (40 CFR Part 280) contain tank design and release detection requirements, as well as financial responsibility and corrective action standards for USTs. The UST program also includes upgrade requirements for existing tanks that were to be met by December 22, 1998.

- **Boilers and Industrial Furnaces** (BIFs) that use or burn fuel containing hazardous waste must comply with design and operating standards. BIF regulations (40 CFR Part 266, Subpart H) address unit design, provide performance standards, require emissions monitoring, and, in some cases, restrict the type of waste that may be burned.

EPA's RCRA, Superfund, and EPCRA Call Center, at 800-424-9346, responds to questions and distributes guidance regarding all RCRA regulations. Additional documents and resources can be obtained from the hotline's homepage at www.epa.gov/epaoswer/hotline. The RCRA Hotline operates weekdays from 9:00 a.m. to 6:00 p.m., EST, excluding federal holidays.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), a 1980 law commonly known as Superfund, authorizes EPA to respond to releases, or threatened releases, of hazardous substances that

may endanger public health, welfare, or the environment. CERCLA also enables EPA to force parties responsible for environmental contamination to clean it up or to reimburse the Superfund for response or remediation costs incurred by EPA. The Superfund Amendments and Reauthorization Act (SARA) of 1986 revised various sections of CERCLA, extended the taxing authority for the Superfund, and created a free-standing law, SARA Title III, also known as the Emergency Planning and Community Right-to-Know Act (EPCRA).

The CERCLA hazardous substance release reporting regulations (40 CFR Part 302) direct the person in charge of a facility to report to the National Response Center (NRC) any environmental release of a hazardous substance which equals or exceeds a reportable quantity. Reportable quantities are listed in 40 CFR Part 302.4. A release report may trigger a response by EPA or by one or more federal or state emergency response authorities.

EPA implements hazardous substance responses according to procedures outlined in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR Part 300). The NCP includes provisions for cleanups. The National Priorities List (NPL) currently includes approximately 1,300 sites. Both EPA and states can act at other sites; however, EPA provides responsible parties the opportunity to conduct cleanups and encourages community involvement throughout the Superfund response process.

EPA's RCRA, Superfund and EPCRA Call Center, at 800-424-9346, answers questions and references guidance pertaining to the Superfund program. Documents and resources can be obtained from the hotline's homepage at www.epa.gov/epaoswer/hotline. The Superfund Hotline operates weekdays from 9:00 a.m. to 6:00 p.m., EST, excluding federal holidays.

Emergency Planning And Community Right-To-Know Act

The Superfund Amendments and Reauthorization Act (SARA) of 1986 created the Emergency Planning and Community Right-to-Know Act (EPCRA, also known as SARA Title III), a statute designed to improve community access to information about chemical hazards and to facilitate the development of chemical emergency response plans by state and local governments. Under EPCRA, states establish State Emergency Response Commissions (SERCs), responsible for coordinating certain emergency response activities and for appointing Local Emergency Planning Committees (LEPCs).

EPCRA and the EPCRA regulations (40 CFR Parts 350-372) establish four types of reporting obligations for facilities which store or manage specified chemicals:

- **EPCRA section 302** requires facilities to notify the SERC and LEPC of the presence of any extremely hazardous substance at the facility in an amount in excess of the established threshold planning quantity. The list of extremely hazardous substances and their threshold planning quantities is found at 40 CFR Part 355, Appendices A and B.

- **EPCRA section 303** requires that each LEPC develop an emergency plan. The plan must contain (but is not limited to) the identification of facilities within the planning district, likely routes for transporting extremely hazardous substances, a description of the methods and procedures to be followed by facility owners and operators, and the designation of community and facility emergency response coordinators.

- **EPCRA section 304** requires the facility to notify the SERC and the LEPC in the event of a release exceeding the reportable quantity of a CERCLA hazardous substance (defined at 40 CFR Part 302) or an EPCRA extremely hazardous substance.

- **EPCRA sections 311 and 312** require a facility at which a hazardous chemical, as defined by the Occupational Safety and Health Act, is present in an amount exceeding a specified threshold to submit to the SERC, LEPC and local fire department material safety data sheets (MSDSs) or lists of MSDSs and hazardous chemical inventory forms (also known as Tier I and II forms). This information helps the local government respond in the event of a spill or release of the chemical.

- **EPCRA section 313** requires certain covered facilities, including SIC codes 20 through 39 and others, which have ten or more employees, and which manufacture, process, or use specified chemicals in amounts greater than threshold quantities, to submit an annual toxic chemical release report. This report, commonly known as the Form R, covers releases and transfers of toxic chemicals to various facilities and environmental media. EPA maintains the data reported in a publically accessible database known as the Toxics Release Inventory (TRI).

  All information submitted pursuant to EPCRA regulations is publicly accessible, unless protected by a trade secret claim.

EPA's RCRA, Superfund and EPCRA Call Center, at 800-424-9346, answers questions and distributes guidance regarding the emergency planning and community right-to-know regulations. Documents and resources can be obtained from the hotline's homepage at www.epa.gov/epaoswer/hotline.

The EPCRA Hotline operates weekdays from 9:00 a.m. to 6:00 p.m., EST, excluding federal holidays.

Clean Air Act

The Clean Air Act (CAA) and its amendments are designed to "protect and enhance the nation's air resources so as to promote the public health and welfare and the productive capacity of the population." The CAA consists of six sections, known as Titles, which direct EPA to establish national standards for ambient air quality and for EPA and the states to implement, maintain, and enforce these standards through a variety of mechanisms. Under the CAA, many facilities are required to obtain operating permits that consolidate their air emission requirements. State and local governments oversee, manage, and enforce many of the requirements of the CAA. CAA regulations appear at 40 CFR Parts 50-99.

Pursuant to Title I of the CAA, EPA has established national ambient air quality standards (NAAQSs) to limit levels of "criteria pollutants," including carbon monoxide, lead, nitrogen dioxide, particulate matter, ozone, and sulfur dioxide. Geographic areas that meet NAAQSs for a given pollutant are designated as attainment areas; those that do not meet NAAQSs are designated as non-attainment areas. Under section110 and other provisions of the CAA, each state must develop a State Implementation Plan (SIP) to identify sources of air pollution and to determine what reductions are required to meet federal air quality standards. Revised NAAQSs for particulates and ozone became effective in 2001.

Title I also authorizes EPA to establish New Source Performance Standards (NSPS), which are nationally uniform emission standards for new and modified stationary sources falling within particular industrial categories. NSPSs are based on the pollution control technology available to that category of industrial source (see 40 CFR Part 60).

Under Title I, EPA establishes and enforces National Emission Standards for Hazardous Air Pollutants (NESHAPs), nationally uniform standards oriented toward controlling specific hazardous air pollutants (HAPs). Section 112(c) of the CAA further directs EPA to develop a list of sources that emit any of 188 HAPs, and to develop regulations for these categories of sources. To date EPA has listed 185 source categories and developed a schedule for the establishment of emission standards. The emission standards are being developed for both new and existing sources based on "maximum achievable control technology" (MACT). The MACT is defined as the control technology achieving the maximum degree of reduction in the emission of the HAPs, taking into account cost and other factors.

Title II of the CAA pertains to mobile sources, such as cars, trucks, buses, and planes. Reformulated gasoline, automobile pollution control devices, and vapor recovery nozzles on gas pumps are a few of the mechanisms EPA uses to regulate mobile air emission sources.

Title IV-A establishes a sulfur dioxide and nitrogen oxides emissions program designed to reduce the formation of acid rain. Reduction of sulfur dioxide releases will be obtained by granting to certain sources limited emissions allowances that are set below previous levels of sulfur dioxide releases.

Title V of the CAA establishes an operating permit program for all "major sources" (and certain other sources) regulated under the CAA. One purpose of the operating permit is to include in a single document all air emissions requirements that apply to a given facility. States have developed the permit programs in accordance with guidance and regulations from EPA. Once a state program is approved by EPA, permits are issued and monitored by that state.

Title VI is intended to protect stratospheric ozone by phasing out the manufacture of ozone-depleting chemicals and restricting their use and distribution. Production of Class I substances, including 15 kinds of chlorofluorocarbons (CFCs), were phased out (except for essential uses) in 1996.

EPA's Clean Air Technology Center, at 919-541-0800 or www.epa.gov/ttn/catc, provides general assistance and information on CAA standards. The Stratospheric Ozone Information Hotline, at 800-296-1996 or www.epa.gov/ozone, provides general information about regulations promulgated under Title VI of the CAA; EPA's EPCRA Call Center, at 800-424-9346 or www.epa.gov/epaoswer/hotline, answers questions about accidental release prevention under CAA section112(r); and information on air toxics can be accessed through the Unified Air Toxics website at http://www.epa.gov/ttn/atw/. In addition, the Clean Air Technology Center's website includes recent CAA rules, EPA guidance documents, and updates of EPA activities.

Federal Insecticide, Fungicide, and Rodenticide Act

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) was first passed in 1947, and amended numerous times, most recently by the Food Quality Protection Act (FQPA) of 1996. FIFRA provides EPA with the authority to oversee, among other things, the registration, distribution, sale and use of pesticides. The Act applies to all types of pesticides, including insecticides, herbicides, fungicides, rodenticides and antimicrobials. FIFRA covers both intrastate and interstate commerce.

Establishment Registration

Section 7 of FIFRA requires that establishments producing pesticides, or active ingredients used in producing a pesticide subject to FIFRA, register with EPA. Registered establishments must report the types and amounts of pesticides and active ingredients they produce. The Act also provides EPA inspection authority and enables the agency to take enforcement actions against facilities that are not in compliance with FIFRA.

Product Registration

Under section 3 of FIFRA, all pesticides (with few exceptions) sold or distributed in the U.S. must be registered by EPA. Pesticide registration is very specific and generally allows use of the product only as specified on the label. Each registration specifies the use site i.e., where the product may be used and the amount that may be applied. The person who seeks to register the pesticide must file an application for registration. The application process often requires either the citation or submission of extensive environmental, health and safety data.

To register a pesticide, the EPA Administrator must make a number of findings, one of which is that the pesticide, when used in accordance with widespread and commonly recognized practice, will not generally cause unreasonable adverse effects on the environment.

FIFRA defines "unreasonable adverse effects on the environment" as "(1) any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of the pesticide, or (2) a human dietary risk from residues that result from a use of a pesticide in or on any food inconsistent with the standard under section 408 of the Federal Food, Drug, and Cosmetic Act (21 U.S.C. 346a)."

Under FIFRA section 6(a)(2), after a pesticide is registered, the registrant must also notify EPA of any additional facts and information concerning unreasonable adverse environmental effects of the pesticide. Also, if EPA determines that additional data are needed to support a registered pesticide, registrants may be requested to provide additional data. If EPA determines that the registrant(s) did not comply with their request for more information, the registration can be suspended under FIFRA section 3(c)(2)(B).

Use Restrictions

As a part of the pesticide registration, EPA must classify the product for general use, restricted use, or general for some uses and restricted for others (Miller, 1993). For pesticides that may cause unreasonable adverse effects on the environment, including injury to the applicator, EPA may require that the pesticide be applied either by or under the direct supervision of a certified applicator.

Reregistration

Due to concerns that much of the safety data underlying pesticide registrations becomes outdated and inadequate, in addition to providing that registrations be reviewed every 15 years, FIFRA requires EPA to reregister all pesticides that were registered prior to 1984 (section 4). After reviewing existing data, EPA may approve the reregistration, request additional data to support the registration, cancel, or suspend the pesticide.

Tolerances and Exemptions

A tolerance is the maximum amount of pesticide residue that can be on a raw product and still be considered safe. Before EPA can register a pesticide that is used on raw agricultural products, it must grant a tolerance or exemption from a tolerance (40 CFR Parts 163.10 through 163.12). Under the Federal Food, Drug, and Cosmetic Act (FFDCA), a raw agricultural product is deemed unsafe if it contains a pesticide residue, unless the residue is within the limits of a tolerance established by EPA or is exempt from the requirement.

Cancellation and Suspension

EPA can cancel a registration if it is determined that the pesticide or its labeling does not comply with the requirements of FIFRA or causes unreasonable adverse effects on the environment (Haugrud, 1993).

In cases where EPA believes that an "imminent hazard" would exist if a pesticide were to continue to be used through the cancellation proceedings, EPA may suspend the pesticide registration through an order and thereby halt the sale, distribution, and usage of the pesticide. An "imminent hazard" is defined as an unreasonable adverse effect on the environment or an unreasonable hazard to the survival of a threatened or endangered species that would be the likely result of allowing continued use of a pesticide during a cancellation process.

When EPA believes an emergency exists that does not permit a hearing to be held prior to suspending, EPA can issue an emergency order which makes the suspension immediately effective.

Imports and Exports

Under FIFRA section 17(a), pesticides not registered in the U.S. and intended solely for export are not required to be registered provided that the exporter obtains and submits to EPA, prior to export, a statement from the foreign purchaser acknowledging that the purchaser is aware that the product is not registered in the United States and cannot be sold for use there. EPA sends these statements to the government of the importing country. FIFRA sets forth additional requirements that must be met by pesticides intended solely for export. The enforcement policy for exports is codified at 40 CFR Parts 168.65, 168.75, and 168.85.

Under FIFRA section 17(c), imported pesticides and devices must comply with U.S. pesticide law. Except where exempted by regulation or statute, imported pesticides must be registered. FIFRA section 17(c) requires that EPA be notified of the arrival of imported pesticides and devices. This is accomplished through the Notice of Arrival (NOA) (EPA Form 3540-1), which is filled out by the importer prior to importation and submitted to the EPA regional office applicable to the intended port of entry. U.S. Customs regulations prohibit the importation of pesticides without a completed NOA. The EPA-reviewed and signed form is returned to the importer for presentation to U.S. Customs when the shipment arrives in the U.S. NOA forms can be obtained from contacts in the EPA Regional Offices or www.epa.gov/oppfead1/international/noalist.htm.

Additional information on FIFRA and the regulation of pesticides can be obtained from a variety of sources, including EPA's Office of Pesticide Programs www.epa.gov/pesticides, EPA's Office of Compliance, Agriculture and Ecosystem Division http://www.epa.gov/compliance/assistance/sectors/agriculture.html, or The National Agriculture Compliance Assistance Center, 888-663-2155 or http://www.epa.gov/agriculture/. Other sources include the National Pesticide Telecommunications Network, 800-858-7378, and the National Antimicrobial Information Network, 800-447-6349.

Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) granted EPA authority to create a regulatory framework to collect data on chemicals in order to evaluate, assess, mitigate, and control risks which may be posed by their manufacture, processing, and use. TSCA provides a variety of control methods to prevent chemicals from posing unreasonable risk. It is important to note that pesticides as defined in FIFRA are not included in the definition of a "chemical substance" when manufactured, processed, or distributed in commerce for use as a pesticide.

TSCA standards may apply at any point during a chemical's life cycle. Under TSCA section 5, EPA has established an inventory of chemical substances. If a chemical is not already on the inventory, and has not been excluded by TSCA, a premanufacture notice (PMN) must be submitted to EPA prior to manufacture or import. The PMN must identify the chemical and provide available information on health and environmental effects. If available data are not sufficient to evaluate the chemical's effects, EPA can impose restrictions pending the development of information on its health and environmental effects. EPA can also restrict significant new uses of chemicals based upon factors such as the projected volume and use of the chemical.

Under TSCA section 6, EPA can ban the manufacture or distribution in commerce, limit the use, require labeling, or place other restrictions on chemicals that pose unreasonable risks. Among the chemicals EPA regulates under section 6 authority are asbestos, chlorofluorocarbons (CFCs), lead, and polychlorinated biphenyls (PCBs).

Under TSCA section 8(e), EPA requires the producers and importers (and others) of chemicals to report information on a chemicals' production, use, exposure, and risks. Companies producing and importing chemicals can be required to report unpublished health and safety studies on listed chemicals and to collect and record any allegations of adverse reactions or any information indicating that a substance may pose a substantial risk to humans or the environment.

EPA's TSCA Assistance Information Service, at 202-554-1404, answers questions and distributes guidance pertaining to Toxic Substances Control Act standards. The Service operates from 8:30 a.m. through 4:30 p.m., EST, excluding federal holidays.

Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) encourages states/tribes to preserve, protect, develop, and where possible, restore or enhance valuable natural coastal resources such as wetlands, floodplains, estuaries, beaches, dunes, barrier islands, and coral reefs, as well as the fish and wildlife using those habitats. It includes areas bordering the Atlantic, Pacific, and Arctic Oceans, Gulf of Mexico, Long Island Sound, and Great Lakes. A unique feature of this law is that participation by states/tribes is voluntary.

In the Coastal Zone Management Act Reauthorization Amendments (CZARA) of 1990, Congress identified nonpoint source pollution as a major factor in the continuing degradation of coastal waters. Congress also recognized that effective solutions to nonpoint source pollution could be implemented at the state/tribe and local levels. In CZARA, Congress added Section 6217 (16 U.S.C. section 1455b), which calls upon states/tribes with federally-approved coastal zone management programs to develop and implement coastal nonpoint pollution control programs. The Section 6217 program is administered at the federal level jointly by EPA and the National Oceanic and Atmospheric Agency (NOAA).

Section 6217(g) called for EPA, in consultation with other agencies, to develop guidance on "management measures" for sources of nonpoint source pollution in coastal waters. Under Section 6217, EPA is responsible for developing technical guidance to assist states/tribes in designing coastal nonpoint pollution control programs. On January 19, 1993, EPA issued its *Guidance Specifying Management Measures For Sources of Nonpoint*

Pollution in Coastal Waters, which addresses five major source categories of nonpoint pollution: (1) urban runoff, (2) agriculture runoff, (3) forestry runoff, (4) marinas and recreational boating, and (5) hydromodification.

Additional information on coastal zone management may be obtained from EPA's Office of Wetlands, Oceans, and Watersheds, www.epa.gov/owow, or from the Watershed Information Network www.epa.gov/win. The NOAA website, http://www.ocrm.nos.noaa.gov/czm/, also contains additional information on coastal zone management.

VI.B. Industry Specific Requirements

Clean Air Act (CAA)

National Ambient Air Quality Standards

At pulp and paper mills, air emissions from both process and combustion units are regulated under the National Ambient Air Quality Standards (NAAQS) and the State Implementation Plans (SIP) that enforce the standards. States may implement controls to limit emissions of particulate matter (PM), nitrogen oxides (NOx), volatile organic compounds (VOC), and sulfur dioxide (SO_2).

Although many limits are implemented at the state level, there are national guidelines that serve as a basis for more specific limits. Sources that are considered "major" under the Clean Air Act are subject to prevention of significant deterioration (PSD) or new source review (NSR). Both PSD and NSR are permit programs for facilities that were constructed or modified after a certain date.

Facilities in NAAQS attainment areas must follow PSD requirements by demonstrating that the construction/modification project will not cause a violation of air quality limits and by implementing the best available control technology (BACT).

New or modified facilities in nonattainment areas must follow NSR requirements, which require the source to meet the lowest achievable emission rate (LAER) and to obtain emission offsets to ensure that the nonattainment problem is not made worse by the new/modified source.

In addition to the PSD/NSR pre-construction obligations, there are process-specific operational standards: New Source Performance Standards (NSPS). 40 CFR 60 lists these standards, which serve as minimum requirements in states SIPs. Individual states may impose requirements that are more strict. The following NSPSs are particularly relevant to the pulp and paper industry:

Subpart BB	Kraft pulp mills (Regulates PM and TRS emissions from new kraft mills.)
Subparts D, Db, Dc	Industrial boilers (Regulates PM, nitrogen oxides (NOx) and sulfur dioxide (SO_2) from new boilers used at pulp and paper mills.)
Subpart GG	Gas-fired turbines (Regulates PM, nitrogen oxides (NOx) and sulfur dioxide (SO_2) from new gas-fired turbines used at pulp and paper mills.)
Subpart Kb	Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) (Regulates VOC from applicable storage tanks containing volatile organic liquids at pulp and paper mills)

Hazardous Air Pollutants

Air toxics regulations apply to several parts of the pulp and paper milling process. National Emission Standards for Hazardous Air Pollutants (NESHAP) have been developed expressly for two processes of the pulp and paper industry. Both NESHAPs establish process-based maximum achievable control technologies (MACT) for "major sources," which are defined as facilities that emit or have the potential to emit 10 tons per year or more of any hazardous air pollutant (HAP) or 25 tons per year or more of any combination of HAPs. Standards for both MACT I & III standards are integrated into one subpart (Subpart S) of 40 CFR 63. MACT II standards are in a separate subpart (Subpart MM).:

Subpart S	Controlling HAP emissions from the pulp and paper production areas of mills using the kraft, sulfite, semi-chemical, and soda pulping processes (MACT I), and controlling HAP emissions from pulp and paper production areas of mills using mechanical, secondary fiber, and non-wood pulping, and papermaking systems at all mills (MACT II).
Subpart MM	Controlling HAP emissions from chemical recovery processes that involve the combustion of spent pulping liquor at kraft, soda, sulfite, and stand-alone semichemical pulp mills (MACT III).

Other NESHAPs that are relevant for the industry are those for asbestos (relevant during demolition and renovation activities) and mercury (important for sludge dryers and incinerators). Unlike the industry-specific NESHAP standards, chemical-specific NESHAPs may apply to all facilities regardless of their size.

Risk Management Program

Pulp and paper mills are subject to section 112(r) of CAA, which states that stationary sources using extremely hazardous substances have a "general duty" to initiate specific activities to prevent and mitigate accidental releases. The general duty requirements apply to stationary sources that produce, process, handle, or store these substances, regardless of the quantity of managed at the facility. Although there is no list of "extremely hazardous substances," EPA's Chemical Emergency Preparedness and Prevention Office provides some guidance at its website: *www.epa.gov/ceppo*. The general duty clause requires facilities to identify hazards that may result from accidental releases, to design and maintain a safe facility, and to minimize the consequences of releases when they occur.

Most pulp and paper mills are subject to additional, more explicit risk management requirements. Facilities that have more than a threshold quantity of any of the 140 regulated substances in a single process are required to develop a risk management program and to summarize their program in a risk management plan (RMP). Mills subject to the requirements were required to submit a registration and RMP in 1999 or whenever they first exceed the threshold for a listed regulated substance after that date.

All facilities meeting the RMP threshold requirements must follow Program 1 requirements:

- An offsite consequence analysis that evaluates specific potential release scenarios, including worst-case and alternative scenarios.
- A five-year history of certain accidental releases of regulated substances from covered processes.
- A risk management plan, revised at least once every five years, that describes and documents these activities for all covered processes.

In addition, most pulp and paper facilities may be subject to the requirements of Program 2 or 3. These additional requirements include:

- An integrated prevention program to manage risk. The prevention program will include identification of hazards, written operating procedures, training, maintenance, and accident investigation.
- An emergency response program.
- An overall management system to put these program elements into effect.

The list of chemicals that trigger RMP requirements can be found in 40 CFR 68.130; information to determine the required program level also can be found in 40 CFR 68.

Title V permits

Title V requires that all "major sources" (and certain minor sources) obtain an operating permit. Many pulp and paper mills are required to have a Title V permit, and may be required to submit information about emissions, control devices, and the general process at the facility in the permit application. Permits may limit pollutant emissions and impose monitoring, record keeping, and reporting requirements.

Title VI Stratospheric Ozone Protection

Many pulp and paper facilities operate industrial process refrigeration units, such as chillers for chlorine dioxide plants. For those units that utilize ozone-depleting chemicals, such as chlorofluorocarbons (CFCs), facilities are required under Title VI to follow leak repair requirements.

Clean Water Act (CWA)

There are two industry-specific components of the CWA requirements: NPDES permitting and pretreatment programs. Other general CWA requirements, such as those for wetlands and stormwater, may also apply to the pulp and paper mills and are described in Section VI.A.

Individual NPDES requirements have been developed for several subcategories of the industry; they are described in 40 CFR 430. For each of these subcategories, the regulations outline some or all of the following for facilities that discharge wastewater directly to the environment:

- best practicable control technology currently available (BPT) and best conventional control technology (BCT) guidelines for the control of conventional pollutants (biological oxygen demand, total suspended solids, and pH).

- best available technology economically achievable (BAT) guidelines for the control of nonconventional and toxic pollutants (trichlorophenol and pentachlorophenol, which are chemicals used as biocides).

- new source performance standards (NSPS) for the control of conventional, non-conventional, and toxic pollutants from new facilities that discharge directly to the environment.

For facilities that discharge their wastewater to a publicly-owned treatment works (POTW), pretreatment standards may apply. In addition to general standards established by EPA that address all industries, there are Pretreatment Standards for New Sources (PSNS) and Pretreatment Standards for Existing Sources (PSES) that are specific to the pulp and paper industry. These regulate the biocides trichlorophenol and pentachlorophenol, with limits that are specified for each subcategory of the industry.

In 1998, in conjunction with the development of the pulp and paper cluster rule, EPA reorganized the regulations in order to group processes that are similar. Table 19 presents the revised and original subcategory groupings, and summarizes the portions of the CWA regulations that apply. More detail can be found in 40 CFR 430.

Table 19: Applicability of Clean Water Act Requirements

Revised Subpart of 40 CFR 430	Revised Subcategory	Previous Subcategory (Previous Subpart in Parentheses)	Applicable Regulations		
			BAT, PSES, and PSNS	BPT, BCT, NSPS	BMP
A	Dissolving Kraft	Dissolving Kraft (F)	✔	✔	
B	Bleached Papergrade Kraft and Soda[a]	Market Bleached Kraft (G) BCT Bleached Kraft (H) Fine Bleached Kraft (I) Soda (P)	✔	✔	✔
C	Unbleached Kraft	Unbleached Kraft (A) • Linerboard • Bag and Other Products Unbleached Kraft and Semi-Chemical (D, V)	✔	✔	
D	Dissolving Sulfite	Dissolving Sulfite (K) • Nitration • Viscose • Cellophane • Acetate	✔	✔	
E	Papergrade Sulfite[a]	Papergrade Sulfite (J, U) • Blow Pit Wash • Drum Wash	✔	✔	✔
F	Semi-Chemical	Semi-Chemical (B) • Ammonia • Sodium	✔	✔	
G	Mechanical Pulp	Groundwood-Thermo-Mechanical (M) Groundwood-Coarse, Molded, News (N) Groundwood-Fine Papers (O) Groundwood-Chemi-Mechanical (L)		✔	

Table 19: Applicability of Clean Water Act Requirements

Revised Subpart of 40 CFR 430	Revised Subcategory	Previous Subcategory (Previous Subpart in Parentheses)	Applicable Regulations		
			BAT, PSES, and PSNS	BPT, BCT, NSPS	BMP
H	Non-Wood Chemical Pulp	Miscellaneous mills not covered by a specific subpart		✔	
I	Secondary Fiber Deink	Deink Secondary Fiber (Q) • Fine Papers • Tissue Papers • Newsprint		✔	
J	Secondary Fiber Non-Deink	Tissue from Wastepaper (T) Paperboard from Wastepaper (E) • Corrugating Medium • Non-Corrugating Medium Wastepaper-Molded Products (W) Builders' Paper and Roofing Felt (40 CFR Part 431 Subpart A)			
K	Fine and Lightweight Papers from Purchased Pulp	Nonintegrated Fine Papers (R) • Wood Fiber Furnish • Cotton Fiber Furnish Nonintegrated Lightweight Papers (X) • Lightweight Papers • Lightweight Electrical Papers		✔	
L	Tissue, Filter, Non-Woven, and Paperboard from Purchased Pulp	Non-Integrated • Tissue Papers (S) • Filter and Non-Woven (Y) • Paperboard (Z)		✔	

Source: U.S. EPA, *Pulp and Paper NESHAP: A Plain English Description,* November, 1998, Pages 7 and 104.
[a]These subcategories are affected by the Cluster Rules (described below).

Cluster Rule

The cluster rule is an integrated, multi-media regulation to control the release of pollutants to two media (air and water) from one industry. The intent of the rule is to allow individual mills in particular segments of the industry to consider all regulatory requirements at one time. This combined rule allows mills to select the best combination of pollution prevention and control technologies that provide the greatest protection to human health and the environment. Because some air requirements that reduce toxic air pollutants also reduce mill wastewater toxic pollutant loadings (and water treatment requirements can reduce air impacts), the combined rules have a synergistic effect.

Some of the features of the coordinated rule include:

- Alternative emission limits
- Varying compliance periods (3-8 years)
- New and existing source controls
- Flexibility for evolving technologies
- Compliance dates coordinated with effluent limitations guidelines and standards

The rule sets new baseline limits for the releases of toxics and nonconventional pollutants to the air and water. There are three significant components:

- **Air Emissions Standards.** New and existing pulp and paper mills must meet air standards to reduce emissions of toxic air pollutants occurring at various points throughout the mills. Specifically, EPA requires mills to capture and treat toxic air pollutant emissions that occur during the cooking, washing, and bleaching stages of the pulp manufacturing process.

- **Water Effluent Limitations Guidelines and Standards.** New and existing standards in the bleached papergrade kraft and soda subcategory and the bleached papergrade sulfite subcategory must meet standards to reduce discharges of toxic and nonconventional pollutants. Specifically, EPA has set effluent limitations for toxic pollutants in the wastewater discharged directly from the bleaching process and in the final discharge from the mills.

- **Analytical Methods for 12 Chlorinated Phenolics and Adsorbable Organic Halides (AOXs)**. Samples of air emissions and water discharges from each mill must be tested using the laboratory methods included in the rule. The new methods will enable more timely and accurate measurements of releases of these pollutants to the environment and will be used to ensure compliance with air emission and water discharge permit limits.

Voluntary Advanced Technology Incentives Program (VATIP)

Mills in the Bleached Papergrade Kraft and Soda Subcategory have additional flexibility under the cluster rule. Mills may comply either with the baseline regulations, or with more stringent wastewater regulations under a more forgiving timetable. This latter arrangement, called the Voluntary Advanced Technology Incentives Program (VATIP), allows mills to undertake customized compliance and pollution reduction plans that further reduce environmental impacts.

Under the VATIP, each participating mill develops "Milestones Plans" for each fiber line that it enrolls in the program. Permit writers will use the Milestones Plan to incorporate enforceable interim requirements into the mill's discharge permit. Specific requirements for the Milestones Plan are found in 40 CFR 430.24(b) and (c), but the three basic components of a Milestones Plan are the following:

- A description of each technology component or process modification the mill intends to implement
- the master schedule showing the sequence of implementing new technologies and process modifications
- descriptions of the anticipated improvements in effluent quality.

Emergency Planning and Community Right-to-Know Act (EPCRA)

Three of the components of EPCRA are directly relevant to the pulp and paper industry:

- Emergency Planning (§302(a)) - Businesses that produce, use or store "hazardous substances" must: 1) submit material safety data sheets or the equivalent, and 2) Tier I/Tier II annual inventory report forms to the appropriate local emergency planning commission. Those handling "extremely hazardous substances" also are required to submit a one-time notice to the state emergency response commission.
- Emergency Notification of Extremely Hazardous Substance Release (§304) - A business that unintentionally releases a reportable quantity of an extremely hazardous substance must report that release to the state emergency planning commission and the local emergency planning commission.
- Release Reporting (§313) - Manufacturing businesses with ten or more employees that manufactured, processed, or otherwise used a listed toxic chemical in excess of the "established threshold" must file annually a Toxic Chemical Release form with EPA and the state. Documentation supporting release estimates must be kept for three years.

Resource Conservation and Recovery Act (RCRA)

The pulp and paper industry generates hazardous wastes, but most are associated with wastewater, which is rendered non-hazardous in wastewater

treatment or neutralization units within manufacturing facilities, and therefore is not subject to RCRA requirements. Also, black liquor is exempt as a solid waste if it is reclaimed in a recovery furnace and reused in the pulping process. Therefore, most of the industry's RCRA requirements are those described in the general regulations outlined in Section VI.A.

VI.C. Pending and Proposed Regulatory Requirements

Clean Water Act

Effluent Guidelines and Standards for the Pulp, Paper, and Paperboard Category, Phase II

EPA will consider revising the technology-based effluent limitations guidelines and standards for 8 of the 12 subcategory for this industrial category: Unbleached Kraft; Semi-Chemical; Mechanical Pulp; Non-Wood Chemical Pulp; Secondary Fiber Deink; Secondary Fiber Non-Deink; Fine and Lightweight Papers from Purchased Pulp; and Tissue, Filter, Non-Woven, and Paperboard from Purchased Pulp. EPA proposed guidelines and standards for these subcategories as part of the Pulp and Paper Rules (also known as the Cluster Rules) in December 1993. The Agency intends to develop these revised effluent limitations in close coordination with the Office of Air Quality Planning and Standards. This is a long-term action; no definite schedule had been set at the time of the publication of this document. (Don Anderson, Office of Water, 202-566-1021)

Effluent Guidelines and Standards for the Pulp, Paper, and Paperboard Point Source Category, Dissolving Kraft and Dissolving Sulfite Subcategories (Phase III)

In 1993, EPA proposed revised effluent limitations, guidelines and standards and best management practices regulations for the Dissolving Kraft and Dissolving Sulfite Subcategories (also known as Phase III of the Cluster Rules). There are five mills in these subcategories in the U.S. EPA anticipates that the final rule will set limits for adsorbable organic halides (AOX), chemical oxygen demand (COD), chloroform, dioxin, furan, and 12 specific chlorinated phenolics. The rule is expected to be proposed in mid-2003 and finalized in 2004. (Don Anderson, Office of Water, 202-566-1021)

Minimizing Adverse Environmental Impact from Cooling Water Intake Structures at Existing Facilities Under Section 316(b) of the Clean Water Act, Phase III

This rulemaking affects existing facilities that use cooling water intake structures, and whose intake flow levels exceed a minimum threshold EPA will determine. Pulp and paper manufacturing facilities are explicitly listed as affected facilities. The rule will require that the location, design, construction, and capacity of cooling water intake structures reflect the best

technology available for minimizing adverse environmental impact. The final rule is anticipated before December, 2004. (Deborah Nagle, Office of Water, 202-566-1063 or J.T. Morgan, Office of Water, 202-564-7684)

Clean Air Act

Guidelines for Best Available Retrofit Technology (BART)

As required by the Clean Air Act, EPA issued a regional haze rule aimed at protecting visibility in 156 federal areas. The rule seeks to reduce the visibility impairment caused by many sources over a wide area. The haze rule requires states to establish goals for improving visibility in national parks and wilderness areas and to develop long-term strategies for reducing emissions of air pollutants that impair visibility. Guidelines for BART were proposed to amend the haze rule. The guidelines are for states in developing their plans for setting air pollution limits for utilities and other industrial plants built between 1962 and 1977 that have the potential to emit more than 250 tons a year of visibility impairing pollution. These facilities fall into 26 categories, including pulp mills. Many of these facilities have previously been exempt from federal pollution control requirements under the Clean Air Act. Some of the guidelines may affect emissions from boilers and recover boilers. This proposed rule only provides guidelines for states in developing their implementation plans. In most parts of the country, the plans are due in 2008. (Tim Smith, Office of Air and Radiation, 919-541-4718)

Interstate Ozone Transport, NOX State Implementation Plan Call (NOX SIP Call)

EPA has issued several actions and rulemakings related to reducing the regional transport of ozone, including the final Regional Transport of Ozone Rule ("NOx SIP call") requiring 22 eastern States and the District of Columbia to submit State Implementation Plans that address the regional transport of ground-level ozone through reductions in nitrogen oxides (a precursor to ozone). While most of the NOx SIP call was upheld, certain aspects of EPA's plan were remanded by court decisions, including a definition dealing with industrial boilers and cogeneration. In February of 2002, EPA proposed rules on a number of remanded items, including rules for certain industrial boilers that may be present at pulp and paper mills. EPA's NOx SIP call potentially affects industrial boilers that burn at least 50 percent fossil fuels. However, states are free to develop plans for reducing nitrogen oxides at sources other than industrial boilers or at industrial boilers that burn less than 50 percent fossil fuels. Pulp and paper mills in the eastern states should monitor their state implementation plans. Implementation of state plans will likely begin in 2003 in some States or 2004 for other States. (Kevin Culligan, Office of Air and Radiation, 202-564-9172)

VII. COMPLIANCE AND ENFORCEMENT HISTORY

Background

Until recently, EPA has focused much of its attention on easuring compliance with specific environmental statutes. This approach allows the Agency to track compliance with the Clean Air Act, the Resource Conservation and Recovery Act, the Clean Water Act, and other environmental statutes. Within the last several years, the Agency has begun to supplement single-media compliance indicators with facility-specific, multimedia indicators of compliance. In doing so, EPA is in a better position to track compliance with all statutes at the facility level, and within specific industrial sectors.

A major step in building the capacity to compile multimedia data for industrial sectors was the creation of EPA's Integrated Data for Enforcement Analysis (IDEA) system. IDEA has the capacity to "read into" the Agency's single-media databases, extract compliance records, and match the records to individual facilities. The IDEA system can match Air, Water, Waste, Toxics/Pesticides/EPCRA, TRI, and Enforcement Docket records for a given facility, and generate a list of historical permit, inspection, and enforcement activity. IDEA also has the capability to analyze data by geographic area and corporate holder. As the capacity to generate multimedia compliance data improves, EPA will make available more in-depth compliance and enforcement information. Additionally, sector-specific measures of success for compliance assistance efforts are under development.

Compliance and Enforcement Profile Description

Using inspection, violation and enforcement data from the IDEA system, this section provides information regarding the historical compliance and enforcement activity of this sector. Compliance and enforcement records from EPA's data systems are compiled to the facility level using the Facility Registry System's (FRS) Master Source ID, which links records from virtually any of EPA's data systems to a facility record. For each facility (i.e., Master Source ID), the Industry Sector Notebooks analysis uses the facility-level SIC code that is designated by IDEA, which can be described as follows:

1. If the facility reports to TRI, then the designated SIC code is the primary SIC reported in the most recent TRI reporting year.

2. If the facility does not report to TRI, the first SIC codes from all linked AFS, PCS, RCRAInfo, BRS ID/permits are assembled. If more than one permit/ID exists for a particular program then only one record from that data system is used. The SIC code that occurs most often, if there is one,

becomes the designated SIC code.

3. If the facility does not report to TRI and no SIC code occurs more often than others, the designated SIC code is chosen from the linked programs in the following order: AFS, PCS, BRS, RCR, NCD, DCK. If more than one permit/ID exists for a particular program then only one record from that data system is used.

Note that EPA does not attempt to define the actual number of facilities that fall within each sector. Instead, the information presented in this section portrays the records of a subset of facilities within the sector that are well defined within EPA databases.

As a check on the relative size of the full sector universe, most notebooks contain an estimated number of facilities within the sector according to the Bureau of Census (See Section II). With sectors dominated by small businesses, such as metal finishers and printers, the reporting universe within the EPA databases may be small in comparison to Census data. However, the group selected for inclusion in this data analysis section should be consistent with this sector's general make-up.

Following this introduction is a list defining each data column presented within this section. These values represent a retrospective summary of inspections or enforcement actions, and solely reflect EPA, state and local compliance assurance activity that have been entered into EPA databases. To identify any changes in trends, the EPA ran two data queries, one for the past five calendar years (September 16, 1997 to September 15, 2002) and the other for the most recent 24-month period (September 16, 2000 to September 15, 2002). The five-year analysis gives an average level of activity for that period for comparison to the more recent activity.

Because most inspections focus on single-media requirements, the data queries presented in this section are taken from single media databases. These databases do not provide data on whether inspections are state/local or EPA-led. However, the table breaking down the universe of violations does give the reader a general measurement of the EPA's and states' efforts within each media program. The presented data illustrate the variations across Regions for certain sectors.[3] This variation may be attributable to state/local data entry variations, specific geographic concentrations, proximity to population centers, sensitive ecosystems, highly toxic chemicals used in production, or historical noncompliance. Hence, the exhibited data

[3] EPA Regions include the following states: I (CT, MA, ME, RI, NH, VT); II (NJ, NY, PR, VI); III (DC, DE, MD, PA, VA, WV); IV (AL, FL, GA, KY, MS, NC, SC, TN); V (IL, IN, MI, MN, OH, WI); VI (AR, LA, NM, OK, TX); VII (IA, KS, MO, NE); VIII (CO, MT, ND, SD, UT, WY); IX (AZ, CA, HI, NV, Pacific Trust Territories); X (AK, ID, OR, WA).

do not rank regional performance or necessarily reflect which regions may have the most compliance problems.

Compliance and Enforcement Data Definitions

General Definitions

Facility Registry System (FRS) -- this system assigns a common Master Source ID to EPA single-media permit records. The Master Source ID allows EPA to compile and review all permit, compliance, enforcement and pollutant release data for any given regulated facility.

Integrated Data for Enforcement Analysis (IDEA) -- is a data integration system that can retrieve information from the major EPA program office databases. IDEA uses the FRS maintained Master Source ID identification number to "glue together" separate data records from EPA's databases. This is done to create a "master list" of data records for any given facility. Some of the data systems accessible through IDEA are: AIRS (Air Facility Indexing and Retrieval System, Office of Air and Radiation), PCS (Permit Compliance System, Office of Water), RCRAInfo (Resource Conservation and Recovery Information System, Office of Solid Waste), NCDB (National Compliance Data Base, Office of Prevention, Pesticides, and Toxic Substances), CERCLIS (Comprehensive Environmental and Liability Information System, Superfund), and TRIS (Toxic Release Inventory System). IDEA also contains information from outside sources such as Dun and Bradstreet and the Occupational Safety and Health Administration (OSHA). Most data queries displayed in notebook sections IV and VII were conducted using IDEA.

Data Table Column Heading Definitions

Facilities in Search -- are based on the number of the FRS maintained Master Source IDs that were designated to the listed SIC code range. The SIC code range selected for each search is defined by each notebook's selected SIC code coverage described in Section II.

Facilities Inspected -- indicates the level of EPA and state agency inspections for the facilities in this data search. These values show what percentage of the facility universe is inspected in a 24- or 60- month period.

Number of Inspections -- measures the total number of inspections conducted in this sector. An inspection event is counted each time it is entered into a single media database.

Average Time Between Inspections -- provides an average length of time, expressed in months, that a compliance inspection occurs at a facility within

the defined universe.

Facilities with One or More Enforcement Actions -- expresses the number of facilities that were party to at least one enforcement action within the defined time period. This category is broken down further into federal and state actions. Data are obtained for administrative, civil/judicial, and criminal enforcement actions. Administrative actions include Notices of Violation (NOVs). A facility with multiple enforcement actions is only counted once in this column (facility with three enforcement actions counts as one). All percentages that appear are referenced to the number of facilities inspected.

Total Enforcement Actions -- describes the total number of enforcement actions identified for an industrial sector across all environmental statutes. A facility with multiple enforcement actions is counted multiple times (a facility with three enforcement actions counts as three).

State Lead Actions -- shows what percentage of the total enforcement actions are taken by state and local environmental agencies. Varying levels of use by states of EPA data systems may limit the volume of actions accorded state enforcement activity. Some states extensively report enforcement activities into EPA data systems, while other states may use their own data systems.

Federal Lead Actions -- shows what percentage of the total enforcement actions are taken by the United States Environmental Protection Agency. This value includes referrals from state agencies. Many of these actions result from coordinated or joint state/federal efforts.

Enforcement to Inspection Rate -- expresses how often enforcement actions result from inspections. This value is a ratio of enforcement actions to inspections, and is presented for comparative purposes only. This measure is a rough indicator of the relationship between inspections and enforcement. This measure simply indicates historically how many enforcement actions can be attributed to inspection activity. Reported inspections and enforcement actions under the Clean Water Act (PCS), the Clean Air Act (AFS) and the Resource Conservation and Recovery Act (RCRA) are included in this ratio. Inspections and actions from the TSCA/FIFRA/EPCRA database are not factored into this ratio because most of the actions taken under these programs are not the result of facility inspections. This ratio does not account for enforcement actions arising from non-inspection compliance monitoring activities (e.g., self-reported water discharges) that can result in enforcement action within the CAA, CWA and RCRA.

Facilities with One or More Violations Identified -- indicates the

percentage of inspected facilities having a violation identified in one of the following data categories: In Violation or Significant Violation Status (CAA); Reportable Noncompliance, Current Year Noncompliance, Significant Noncompliance (CWA); Noncompliance and Significant Noncompliance (FIFRA, TSCA, and EPCRA); Unresolved Violation and Unresolved High Priority Violation (RCRA). The values presented for this column reflect the extent of noncompliance within the measured time frame, but do not distinguish between the severity of the noncompliance. Percentages within this column can exceed 100 percent because facilities can be in violation status without being inspected. Violation status may be a precursor to an enforcement action, but does not necessarily indicate that an enforcement action will occur.

Media Breakdown of Enforcement Actions and Inspections -- four columns identify the proportion of total inspections and enforcement actions within EPA Air, Water, Waste, and TSCA/FIFRA/EPCRA databases. Each column is a percentage of either the "Total Inspections," or the "Total Actions" column.

VII.A. Pulp and Paper Industry Compliance History

Table 20 provides an overview of the reported compliance and enforcement data for the pulp and paper industry over the past five years (September 16, 1997 to September 15, 2002). These data are also broken out by EPA Region thereby permitting geographical comparisons. A few points evident from the data are listed below.

- Regions 5, 4 and 1 contain the most pulp and paper facilities, while Regions 4, 6, and 3 conducted the most inspections.
- Region 4 conducted, by far, the most inspections of pulp and paper facilities, had the lowest average time between inspections, and had the most enforcement actions.
- Regions 2 and 10 had the most enforcement actions per inspection (0.19 and 0.13, respectively).

Table 20: Five-Year Enforcement and Compliance Summary for the Pulp and Paper Industry, by Region

A	B	C	D	E	F	G	H	I	J
Region	Facilities In Search	Facilities Inspected	Number of Inspections	Average Months Between Inspections	Facilities with 1 or More Enforcement Actions	Total Enforcement Actions	Percent of State Lead Actions	Percent of Federal Lead Actions	Enforcement to Inspection Rate
National	585	495	6,383	5	332	503	85%	15%	0.08
1	92	73	571	10	38	37	95%	5%	0.06
2	71	57	383	11	34	73	96%	4%	0.19
3	57	47	899	4	26	77	77%	23%	0.09
4	105	96	2,024	3	90	116	91%	9%	0.06
5	144	120	721	12	48	44	70%	30%	0.06
6	45	40	944	3	32	56	70%	30%	0.06
7	7	7	33	13	2	1	100%	0%	0.03
8	2	2	3	40	0	0	0%	0%	0
9	22	18	140	9	16	12	100%	0%	0.09
10	37	32	537	4	40	72	94%	6%	0.13

VII.B. Comparison of Enforcement Activity Between Selected Industries

Tables 21 and 22 allow the compliance history of the pulp and paper sector to be compared to the other industries covered by the industry sector notebooks. Comparisons between Tables 21 and 22 permit the identification of trends in compliance and enforcement records of the industry by comparing data covering the last five years to that of the past two years. Some points evident from the data are listed below.

- Pulp and paper mills are tied with petroleum refineries as the most frequently inspected sectors of those listed.

- Pulp and paper mills have a relatively high percent of facilities with violations and enforcement actions and a relatively high rate of enforcement per inspection compared to the other sectors listed.

Tables 23 and 24 provide a more in-depth comparison between the pulp and paper industry and other sectors by breaking out the compliance and enforcement data by environmental statute. As in the previous Tables (Tables 21 and 22), the data cover the last five years (Table 23) and the last two years (Table 24) to facilitate the identification of recent trends. Two points evident from the data are listed below.

- The majority of inspections and actions are conducted under the CAA, followed by the CWA.

- In the past 2 years, the portion of actions taken under the CAA is increasing, while that taken under the CWA is decreasing.

- The pulp and paper industry has one of the lowest percentages of RCRA inspections and actions of those sectors listed.

Table 21: Five-Year Enforcement and Compliance Summary for Selected Industries

A	B	C	D	E	F	G	H	I	J
Industry Sector	**Facilities in Search**	**Facilities Inspected**	**Number of Inspections**	**Average Months Between Inspections**	**Facilities with 1 or More Enforcement Actions**	**Total Closed Enforcement Actions**	**Percent State Lead Actions**	**Percent Federal Lead Actions**	**Enforcement to Inspection Rate**
Agricultural Crop Production	146	73	164	53	10	5	60%	40%	0.03
Agricultural Livestock Production	71	30	114	37	8	6	33%	67%	0.05
Metal Mining	293	188	1,003	18	58	60	82%	18%	0.06
Oil and Gas Extraction	2,675	1,620	6,386	25	794	640	94%	6%	0.1
Non-Fuel, Non-Metal Mining	3,771	2,193	10,806	21	532	548	94%	6%	0.05
Textiles	1,284	911	4,002	19	278	271	86%	14%	0.07
Lumber and Wood	3,260	2,181	11,336	17	834	759	85%	15%	0.07
Wood Furniture and Fixtures	1,746	1,166	5,822	18	386	314	86%	14%	0.05
Pulp and Paper	**585**	**495**	**6,383**	**5**	**332**	**503**	**85%**	**15%**	**0.08**
Printing	2,445	1,589	5,100	29	434	378	87%	13%	0.07
Inorganic Chemicals	1,092	700	5,654	12	386	421	74%	26%	0.07
Plastic Resins and Fibers	779	545	4,964	9	320	429	84%	16%	0.09
Pharmaceuticals	628	463	2,605	14	204	215	78%	22%	0.08
Organic Chemicals	1,107	832	8,839	8	574	811	72%	28%	0.09
Ag. Chem., Pesticide & Fertilizer	674	375	2,290	18	218	160	52%	48%	0.07
Petroleum Refining	476	324	6,238	5	348	1,153	70%	31%	0.18
Rubber and Plastic	3,870	2,313	8,651	27	834	685	88%	12%	0.08
Stone, Clay, Glass and Concrete	3,625	2,214	13,144	17	838	933	90%	10%	0.07
Iron and Steel	704	517	7,285	6	320	493	72%	28%	0.07
Metal Castings	1,383	822	3,728	22	338	343	78%	22%	0.09
Nonferrous Metals	561	358	3,340	10	258	446	89%	11%	0.13
Metal Products	8,426	5,268	16,959	30	1,982	1,593	75%	25%	0.09
Electronics and Computers	1,663	925	2,670	37	296	220	74%	26%	0.08
Motor Vehicle Assembly	1,880	1,247	5,340	21	424	381	82%	18%	0.07
Aerospace	791	549	2,756	17	258	239	62%	38%	0.09
Shipbuilding and Repair	230	171	859	16	100	110	74%	26%	0.13
Ground Transportation	4,991	3,316	13,160	23	796	662	0%	0%	0.05
Water Transportation	263	166	406	39	42	33	82%	18%	0.08
Air Transportation	436	242	669	39	72	65	74%	26%	0.1
Fossil Fuel Electric Power Generation	3,295	2,335	18,122	11	1,062	1,346	83%	17%	0.07
Dry Cleaning	3,390	1,851	3,469	59	210	141	91%	9%	0.04

* *Transportation equipment cleaning sector not included because sector is not classified by SIC code and no compliance data are available.*

Table 22: Two-Year Enforcement and Compliance Summary for Selected Industries

A	B	C	D	E		F		G	H
Industry Sector	Facilities in Search	Facilities Inspected	Number of Inspections	Facilities with 1 or More Violations		Facilities with 1 or more Enforcement Actions		Total Closed Enforcement Actions	Enforcement to Inspection Rate
				Number	Percent*	Number	Percent*		
Agricultural Crop Production	146	38	65	10	26%	2	5%	1	0.02
Agricultural Livestock Production	71	8	16	6	75%	6	75%	5	0.31
Metal Mining	293	124	290	74	60%	28	23%	23	0.08
Oil and Gas Extraction	2,675	931	2,135	363	39%	546	59%	352	0.16
Non-Fuel, Non-Metal Mining	3,771	1,340	3,389	328	24%	234	17%	204	0.06
Textiles	1,284	630	1,256	220	35%	174	28%	145	0.12
Lumber and Wood	3,260	1,467	3,714	580	40%	380	26%	328	0.09
Wood Furniture and Fixtures	1,746	752	1,916	316	42%	182	24%	139	0.07
Pulp and Paper	**585**	**379**	**1,837**	**238**	**63%**	**158**	**42%**	**185**	**0.1**
Printing	2,445	855	1,699	359	42%	234	27%	162	0.1
Inorganic Chemicals	1,092	473	1,793	242	51%	172	36%	141	0.08
Plastic Resins and Fibers	779	411	1,652	215	52%	164	40%	161	0.1
Pharmaceuticals	628	288	828	155	54%	76	26%	62	0.07
Organic Chemicals	1,107	599	2,782	365	61%	264	44%	261	0.09
Agricultural Chemical Pesticide & Fertilizer	674	232	734	108	47%	60	26%	37	0.05
Petroleum Refining	476	240	1,738	191	80%	224	93%	447	0.26
Rubber and Plastic	3,870	1,443	2,992	641	44%	408	28%	313	0.1
Stone, Clay, Glass and Concrete	3,625	1,488	4,254	496	33%	388	26%	351	0.08
Iron and Steel	704	373	2,201	250	67%	144	39%	149	0.07
Metal Castings	1,383	495	1,153	302	61%	180	36%	172	0.15
Nonferrous Metals	561	223	965	150	67%	118	53%	159	0.16
Metal Products	8,426	2,908	5,704	1728	59%	884	30%	588	0.1
Electronics and Computers	1,663	469	862	320	68%	140	30%	86	0.1
Motor Vehicle Assembly	1,880	816	1,897	410	50%	218	27%	167	0.09
Aerospace	791	329	854	179	54%	96	29%	69	0.08
Shipbuilding and Repair	230	100	295	63	63%	48	48%	35	0.12
Ground Transportation	4,991	2,059	4,696	490	24%	458	22%	327	0.07
Water Transportation	263	81	126	31	38%	6	7%	4	0.03
Air Transportation	436	112	216	52	46%	32	29%	18	0.08
Fossil Fuel Electric Power Generation	3,295	1,810	6,355	701	39%	520	29%	493	0.08
Dry Cleaning	3,390	785	1,212	238	30%	74	9%	50	0.04

**Percentages in Columns E and F are based on the number of facilities inspected (Column C). Percentages can exceed 100% because violations and actions can occur without a facility inspection. Transportation equipment cleaning sector not included because sector is not classified by SIC code and no compliance data are available.*

Table 23: Five-Year Inspection and Enforcement Summary by Statute for Selected Industries

Industry Sector	Facilities Inspected	Total Inspections	Total Closed Enforcement Actions	Clean Air Act		Clean Water Act		RCRA		FIFRA/TSCA/ EPCRA/Other	
				% of Total Inspections	% of Total Actions	% of Total Inspections	% of Total Actions	% of Total Inspections	% of Total Actions	% of Total Inspections	% of Total Actions
Agricultural Crop Production	73	164	5	61%	40%	0%	0%	36%	20%	3%	40%
Agricultural Livestock Production	30	114	6	48%	50%	0%	17%	49%	17%	3%	17%
Metal Mining	188	1,003	60	61%	52%	26%	43%	13%	3%	1%	2%
Oil and Gas Extraction	1,620	6,386	640	96%	93%	0%	1%	4%	6%	0%	0%
Non-Fuel, Non-Metal Mining	2,193	10,806	548	97%	98%	1%	1%	1%	1%	0%	0%
Textiles	911	4,002	271	74%	56%	13%	27%	13%	13%	1%	4%
Lumber and Wood	2,181	11,336	759	77%	73%	1%	2%	22%	24%	1%	2%
Wood Furniture and Fixtures	1,166	5,822	314	75%	74%	0%	1%	24%	24%	1%	1%
Pulp and Paper	**495**	**6,383**	**503**	**68%**	**73%**	**24%**	**20%**	**7%**	**5%**	**1%**	**2%**
Printing	1,589	5,100	378	65%	66%	0%	0%	35%	32%	1%	2%
Inorganic Chemicals	700	5,654	421	50%	50%	12%	13%	36%	28%	2%	10%
Plastic Resins and Fibers	545	4,964	429	51%	55%	19%	22%	29%	21%	2%	3%
Pharmaceuticals	463	2,605	215	48%	46%	6%	8%	44%	36%	2%	10%
Organic Chemicals	832	8,839	811	48%	48%	12%	15%	38%	30%	3%	7%
Agricultural Chemical Pesticide & Fertilizer	375	2,290	160	57%	31%	12%	9%	26%	21%	5%	39%
Petroleum Refining	324	6,238	1,153	63%	79%	12%	8%	24%	12%	1%	1%
Rubber and Plastic	2,313	8,651	685	69%	69%	1%	1%	29%	24%	1%	6%
Stone, Clay, Glass and Concrete	2,214	13,144	933	86%	87%	1%	1%	12%	10%	1%	2%
Iron and Steel	517	7,285	493	66%	62%	11%	14%	23%	21%	0%	3%
Metal Castings	822	3,728	343	64%	60%	2%	3%	33%	33%	1%	5%
Nonferrous Metals	358	3,340	446	65%	68%	7%	8%	27%	22%	1%	2%
Metal Products	5,268	16,959	1,593	45%	41%	2%	2%	52%	51%	1%	7%
Electronics and Computers	925	2,670	220	34%	16%	4%	4%	60%	67%	2%	13%
Motor Vehicle Assembly	1,247	5,340	381	61%	59%	1%	1%	37%	36%	0%	4%
Aerospace	549	2,756	239	48%	36%	3%	3%	48%	57%	0%	3%
Shipbuilding and Repair	171	859	110	58%	30%	5%	9%	36%	61%	1%	0%
Ground Transportation	3,316	13,160	662	78%	0%	1%	0%	21%	0%	0%	0%
Water Transportation	166	406	33	40%	33%	2%	0%	57%	67%	1%	0%
Air Transportation	242	669	65	31%	28%	2%	5%	67%	66%	0%	2%
Fossil Fuel Electric Power Generation	2,335	18,122	1,346	75%	85%	19%	9%	5%	4%	1%	2%
Dry Cleaning	1,851	3,469	141	36%	20%	0%	0%	64%	80%	0%	0%

** Transportation equipment cleaning sector not included because sector is not classified by SIC code and no compliance data are available.*

Table 24: Two-Year Inspection and Enforcement Summary by Statute for Selected Industries

Industry Sector	Facilities Inspected	Total Inspections	Total Closed Enforcement Actions	Clean Air Act		Clean Water Act		RCRA		FIFRA/TSCA/ EPCRA/Other	
				% of Total Inspections	% of Total Actions	% of Total Inspections	% of Total Actions	% of Total Inspections	% of Total Actions	% of Total Inspections	% of Total Actions
Agricultural Crop Production	38	65	1	59%	100%	0%	0%	37%	0%	5%	0%
Agricultural Livestock Production	8	16	5	81%	60%	0%	20%	19%	0%	0%	20%
Metal Mining	124	290	23	46%	61%	35%	39%	19%	0%	0%	0%
Oil and Gas Extraction	931	2,135	352	97%	97%	0%	1%	3%	2%	0%	0%
Non-Fuel, Non-Metal Mining	1,340	3,389	204	97%	99%	1%	1%	2%	1%	0%	1%
Textiles	630	1,256	145	71%	61%	16%	22%	13%	13%	0%	3%
Lumber and Wood	1,467	3,714	328	75%	75%	1%	1%	24%	22%	0%	2%
Wood Furniture and Fixtures	752	1,916	139	75%	85%	0%	0%	25%	14%	0%	1%
Pulp and Paper	**379**	**1,837**	**185**	**64%**	**81%**	**28%**	**13%**	**7%**	**4%**	**0%**	**1%**
Printing	855	1,699	162	64%	0%	0%	0%	35%	0%	1%	0%
Inorganic Chemicals	473	1,793	141	44%	56%	14%	12%	42%	25%	0%	7%
Plastic Resins and Fibers	411	1,652	161	50%	65%	21%	14%	29%	19%	0%	2%
Pharmaceuticals	288	828	62	44%	45%	7%	11%	49%	37%	0%	6%
Organic Chemicals	599	2,782	261	43%	52%	14%	13%	40%	31%	2%	4%
Agricultural Chemical Pesticide & Fertilizer	232	734	37	51%	38%	13%	14%	33%	24%	3%	24%
Petroleum Refining	240	1,738	447	52%	83%	16%	6%	32%	10%	0%	1%
Rubber and Plastic	1,443	2,992	313	69%	79%	2%	0%	29%	20%	0%	2%
Stone, Clay, Glass and Concrete	1,488	4,254	351	86%	85%	2%	2%	12%	10%	0%	2%
Iron and Steel	373	2,201	149	60%	70%	13%	9%	27%	17%	0%	4%
Metal Castings	495	1,153	172	58%	60%	3%	2%	38%	33%	0%	4%
Nonferrous Metals	223	965	159	59%	80%	8%	3%	32%	16%	0%	2%
Metal Products	2,908	5,704	588	43%	46%	3%	1%	54%	43%	0%	9%
Electronics and Computers	469	862	86	30%	12%	5%	5%	65%	63%	1%	21%
Motor Vehicle Assembly	816	1,897	167	57%	63%	2%	1%	41%	32%	0%	5%
Aerospace	329	854	69	46%	44%	4%	0%	50%	51%	0%	6%
Shipbuilding and Repair	100	295	35	59%	37%	6%	11%	35%	51%	0%	0%
Ground Transportation	2,059	4,696	327	75%	0%	1%	0%	24%	0%	0%	0%
Water Transportation	81	126	4	43%	50%	2%	0%	56%	50%	0%	0%
Air Transportation	112	216	18	29%	39%	1%	0%	69%	56%	0%	6%
Fossil Fuel Electric Power Generation	1,810	6,355	493	73%	87%	21%	8%	6%	3%	0%	2%
Dry Cleaning	785	1,212	50	37%	6%	0%	0%	63%	94%	0%	0%

** Transportation equipment cleaning sector not included because sector is not classified by SIC code and no compliance data are available.*

Sector Facility Indexing Project -- Additional compliance information for the pulp and paper industry is available through EPA's Sector Facility Indexing Project (SFIP). This is a website that brings together environmental and other information from a number of data systems to produce facility-level profiles for five industry sectors (pulp manufacturing, petroleum refining, iron and steel production, primary nonferrous metal refining and smelting, and automobile assembly) and a subset of major federal facilities. SFIP information relates to compliance and inspection history, chemical releases and spills, demographics of the surrounding population and production. (Contact: SFIP hotline at 617-520-3015 or the website at http://www.epa.gov/sfipmtn1/)

VII.C. Review of Major Legal Actions

This section provides summary information about major cases that have affected this sector, and a list of Supplementary Environmental Projects (SEPs). SEPs are compliance agreements that reduce a facility's stipulated penalty in return for an environmental project that exceeds the value of the reduction. Often, these projects fund pollution prevention activities that can significantly reduce the future pollutant loadings of a facility.

This section discusses major legal cases and pending litigation within the pulp and paper industry as well as supplemental environmental projects (SEPs) involving pulp and paper facilities. Information regarding major cases or pending litigation is available from the Office of Regulatory Enforcement.

VII.C.1. Review of Major Cases

In FY 1999 and FY 2000, three significant enforcement cases affecting the pulp and paper industry were concluded.

Potlatch Corporation. A Clean Air Act settlement was reached with the Potlatch Corporation of Lewiston, ID. From 1991 to 1996, Potlatch burned used tires in the boiler at its Lewiston, Idaho, pulp mill plant. In 1997, EPA issued Potlatch a Notice of Violation alleging that the burning of tires resulted in sulfur dioxide emissions that exceeded limits in a Clean Air Act permit issued by EPA in 1980 and also exceeded limits in a permit issued by the State in 1979. The notice also alleged that the switch to burning tires was the type of change that required Potlatch to first obtain a permit under the Clean Air Act's Prevention of Significant Deterioration preconstruction review program. Following issuance of the Notice of Violation, settlement negotiations took place and an agreement was reached to settle the violations described in the notice by payment of a $500,000 civil penalty. Potlatch has the option of burning tires if it obtains a permit and installs the required pollution control devices, but has elected not to do so.

Crane & Co., Inc. Crane & Co., Inc. ("Crane"), of Dalton, MA operates as a manufacturer and distributor of high quality specialty paper for the securities, legal, banking and business markets. This family owned and run company is nearly 200 years old, and has successfully held a currency paper contract with the U.S. Department of Treasury for 121 years. EPA's civil administrative complaint under the Emergency Planning and Community Right to Know Act (EPCRA) focused on violations found at three of Crane's facilities in Dalton and Pittsfield, MA.

Since calendar year 1994, Crane failed to file chemical inventory information (Tier II forms) for three of its manufacturing facilities with the State Emergency Response Commission (SERC), Local Emergency Planning Committee (LEPC) or local fire departments, as required by Section 312 of EPCRA. In total, Crane failed to report 28 chemicals, including sulfuric acid and formaldehyde (a component of melamine resin), which EPCRA classifies as Extremely Hazardous Substances.

By the terms of the September 2000 settlement of this action, Crane will pay a penalty of $8,164 and perform a supplemental environmental project (SEP) estimated to cost between $26,832 and $100,000. The SEP consists of replacing sodium hypochlorite as a bleaching agent in the non-wood pulp paper-making processes at the Pioneer Mill in Dalton with a 50 percent hydrogen peroxide solution. Use of peroxide bleaching will reduce human and environmental exposure to residual chlorine and chlorite ions that result from use of sodium hypochlorite. In addition, replacement of sodium hypochlorite with hydrogen peroxide will eliminate potential exposure of first responders and on-site workers to chlorine gas, which can be created if sodium hypochlorite is improperly mixed, used, or stored. Finally, discontinuing the use of sodium hypochlorite will reduce the environmental threat posed by discharging chlorinated organic compounds into the receiving waters of the Housatonic River.

Appleton Papers. Appleton Papers in Roaring Spring, Pennsylvania produces pulp using the kraft process and paper using mechanical paper machines. Initially EPA issued a compliance order to Appleton requiring the initial performance test of the brown stock washer system and installation of the continuous emission monitoring system (CEMS) required by the NSPS of the Clean Air Act. These violations were subsequently referred to the Department of Justice on 12/30/98, and a Notice of Violation was issued to Appleton on 4/19/99. Following a series of negotiations, EPA and Appleton reached a settlement which provided for a cash penalty of $490,000 and early compliance with the Pulp and Paper MACT. The penalty reflects the avoided costs of installation of Total Reduced Sulfur CEMS, as well as the company's adherence to EPA's initial compliance order. The Consent Decree was lodged August 16, 2000.

VII.C.2. Supplementary Environmental Projects

SEPs are compliance agreements that reduce a facility's non-compliance penalty in return for an environmental project that exceeds the value of the reduction. Often, these projects fund pollution prevention activities that can reduce the future pollutant loadings of a facility. Information on SEP cases can be accessed via the Internet at http://www.epa.gov/compliance/resources/policies/civil/seps/index.html.

Table 25 presents nine examples of SEPs negotiated with pulp and paper facilities.

Six of the cases were associated with EPCRA – most relate to a failure to notify community and state emergency coordinators of a hazardous substance release (§304), a violation of emergency and hazardous chemical inventory form requirements (§312), or a violation of toxic chemical release form requirements (§313). In addition, there were multiple cases involving a violation of permit requirements for treatment, storage, or disposal of hazardous waste (RCRA §3005).

There were three general types of SEPs seen within the pulp and paper settlements:

- Three of the SEPs involve **emergency planning and response**. In each case, the defendants purchased equipment for local emergency response authorities.

- Five SEPs provide a form of **pollution reduction**. These were facility-specific, but generally involved the replacement of equipment that is more efficient or less prone to environmental releases.

- Two SEPs involve **pollution prevention**. These projects involved the installation of technologies that reuse process waste.

Table 25: FY-1996-1999 Supplemental Environmental Projects Overview: Pulp and Paper Manufacture

General Information				Violation Information			Supplemental Environmental Project Information	
FY	Docket #	Company Name	State/ Region	Type	Assessed Penalty	SEP Cost to Company	SEP Category	SEP Description
1999	04-1999-0052	Champion International Corporation	AL	EPCRA 312	$2,680	$10,720	Emergency Planning and Preparedness	Improve emergency notification to public by purchasing dictaphone and 16-channel recorder
1998	10-1997-0163	Longview Fibre Company	WA	EPCRA 304, 325	$8,539	$30,738	Emergency Planning and Preparedness	Purchase emergency response equipment for Cowlitz County Emergency Responders Project
1998	06-1998-0074	Nicolaus Paper, Inc.	LA	RCRA 3005	$2,450	$31,910	Pollution Prevention	Implement fiber and chemical recovery system that reduces fiber and chemical loss from manufacturing process.
1998	10-1997-0107	Weyerhaeuser Company	WA	EPCRA 304, 325	$400,000		Emergency Planning and Preparedness	Donate emergency equipment for five counties at a cost of $285,000 and $10,000 for weather web page.
1997	10-94-0197	Ketchikan Pulp Company	AK	CAA 165	$359,000	$2,200,000	Pollution Prevention, Pollution Reduction	Shut down and dismantle wood waste incinerator and install wood-fired boiler with electrified fluidized bed (EFB) as control device.
1997	10-96-0087	Smurfit Newsprint Corporation	OR	EPCRA 313	$5,602	$159,514	Pollution Reduction	Construct containment dams to capture and treat spills entering Willamette River.
1996	01-94-0008	Crown Paper Co./James River Paper Co.	NH	CERCLA 103 CWA 101 CWA 307 EPCRA 304 RCRA 3005	$200,000	$460,000	Pollution Reduction	Capture total reduced sulfur (TRS) gases from pump station for incineration.
1996	02-95-0165	Little Rapids Corp.	NY	TSCA 6(e)	$6,500	$44,972	Pollution Reduction	Remove, replace, and dispose of 2 PCB transformers, 1 PCB-contaminated transformer.
1996	01-95-0103	Simkins Industries	CT	EPCRA 313	$13,600	$50,000	Pollution Reduction	Removal, disposal, and replacement of 1950's PCB transformer at the New Haven Board Mill and a non-PCB transformer.

VIII. COMPLIANCE ACTIVITIES AND INITIATIVES

This section highlights the activities undertaken by this industry sector and public agencies to voluntarily improve the sector's environmental performance. These activities include those independently initiated by industrial trade associations. In this section, the notebook contains a listing and description of national and regional trade associations.

VIII.A. Sector-Related Environmental Programs and Activities

National Environmental Performance Track

EPA's National Environmental Performance Track Program is designed to motivate and reward top environmental performance. By encouraging a systematic approach to managing environmental responsibilities, taking extra steps to reduce and prevent pollution, and being good corporate neighbors, the program is rewarding companies that strive for environmental excellence. At the same time, many participating companies are finding that they are saving money and improving productivity. Five pulp and paper mills are participating in the program. (Contact: Performance Track hotline at 888-339-PTRK or the website at www.epa.gov/performancetrack/.)

WasteWi$e Program

The WasteWi$e Program was started in 1994 by EPA's Office of Solid Waste and Emergency Response. The program is aimed at reducing municipal solid wastes by promoting waste minimization, recycling collection and the manufacturing and purchase of recycled products. As of 2001, the program had about 1,175 companies as members, including a number of major corporations. Members agree to identify and implement actions to reduce their solid wastes and must provide EPA with their waste reduction goals along with yearly progress reports. EPA in turn provides technical assistance to member companies and allows the use of the WasteWi$e logo for promotional purposes. Twenty one pulp and paper companies are partners. (Contact: Jeff Tumarkin at EPA's Office of Solid Waste and Emergency Response at 703-308-8686 or Tumarkin.Jeff@epa.gov, or the WasteWi$e Hotline at 800-EPA-WISE (372-9473) or www.epa.gov/wastewise.)

Project XL

Project XL, which stands for "eXcellence and Leadership," is a national pilot program that allows state and local governments, businesses and federal facilities to develop with EPA innovative strategies to test better or more cost-effective ways of achieving environmental and public health protection. In exchange, EPA will issue regulatory, program, policy, or procedural

flexibilities to conduct the experiment. Under Project XL private businesses, federal facilities, business sectors and state and local governments are conducting experiments that address the following eight Project XL selection criteria:

1. produce superior environmental results beyond those that would have been achieved under current and reasonably anticipated future regulations or policies

2. produce benefits such as cost savings, paperwork reduction, regulatory flexibility or other types of flexibility that serve as an incentive to both project sponsors and regulators

3. supported by stakeholders

4. achieve innovation/pollution prevention

5. produce lessons or data that are transferable to other facilities

6. demonstrate feasibility

7. establish accountability through agreed upon methods of monitoring, reporting, and evaluations

8. avoid shifting the risk burden, i.e., do not create worker safety or environmental justice problems as a result of the experiment.

By 2002, three pulp and paper companies (Georgia-Pacific, International Paper, and Weyerhaeuser) had undertaken projects under Project XL. (For more information, contact Adam Levitan in the Office of Reinvention Programs at 202-566-1466 or *levitan.adam@epa.gov*, or the website at *www.epa.gov/projectxl/*.)

Energy Star

In 1991, EPA introduced Green Lights®, a program designed for businesses and organizations to proactively combat pollution by installing energy efficient lighting technologies in their commercial and industrial buildings. In April 1995, Green Lights® expanded into Energy Star® Buildings— a strategy that optimizes whole-building energy-efficiency opportunities. The energy needed to run commercial and industrial buildings in the United States produces 19 percent of U.S. carbon dioxide emissions, 12 percent of nitrogen oxides, and 25 percent of sulfur dioxide, at a cost of $110 billion a year. If implemented in every U.S. commercial and industrial building, the Energy Star® Buildings upgrade approach could prevent up to 35 percent of the emissions associated with these buildings and cut the nation's energy bill

by up to $25 billion annually.

The more than 7,000 participants include corporations, small businesses, universities, health care facilities, nonprofit organizations, school districts, and federal and local governments. Energy Star has successfully delivered energy and cost savings across the country, saving businesses, organizations, and consumers more than $5 billion a year. Over the past decade, Energy Star has been a driving force behind the more widespread use of such technological innovations as LED traffic lights, efficient fluorescent lighting, power management systems for office equipment, and low standby energy use.

Manufacturers can become partners in Energy Star by pledging to undertake the following steps:

1. Measure, track, and benchmark their organization's energy performance by using tools such as those offered by Energy Star
2. Develop and implement a plan to improve energy performance in their facilities and operations by adopting the strategy provided by Energy Star
3. Educate their staff and the public about our partnership with Energy Star, and highlight our achievements with the Energy Star label, where available.

(Contact: Energy Star Hotline, 1-888-STAR-YES (1-888-782-7937) or http://www.energystar.gov/default.shtml.)

NICE^3

The U.S. Department of Energy administers a grant program called The National Industrial Competitiveness through Energy, Environment, and Economics (NICE^3). By providing grants of up to 50 percent of the total project cost, the program encourages industry to reduce industrial waste at its source and become more energy-efficient and cost-competitive through waste minimization efforts. Grants are used by industry to design, test, demonstrate, and assess the feasibility of new processes and/or equipment with the potential to reduce pollution and increase energy efficiency. The program is open to all industries; however, priority is given to proposals from participants in the chemicals, agriculture, aluminum, pulp and paper, glass, metal casting, mining, petroleum, and steel industries. (Contact: DOE's Golden Field Office 303-275-4728, or see the website at www.oit.doe.gov/nice3.)

EPA Audit Policy

The U.S. Environmental Protection Agency (EPA) encourages companies with multiple facilities to take advantage of the Agency's Audit Policy (Incentives for Self-Policing: Discovery, Disclosure, Correction and Prevention of Violations, 65 Fed. Reg. 19618 (April 11, 2000)) to conduct audits and develop environmental compliance systems. The Audit Policy eliminates gravity-based penalties for companies that voluntarily discover, promptly disclose and expeditiously correct violations of federal environmental law. More information on EPA's Audit Policy can be obtained from the Web site at: http://www.epa.gov/compliance/resources/policies/ incentives/ auditing/index.html.

Small Business Compliance Policy

The Small Business Compliance Policy promotes environmental compliance among small businesses (those with 100 or fewer employees) by providing incentives to discover and correct environmental problems. EPA will eliminate or significantly reduce penalties for small businesses that voluntarily discover violations of environmental law and promptly disclose and correct them. A wide range of resources are available to help small businesses learn about environmental compliance and take advantage of the Small Business Compliance Policy. These resources include: training, checklists, compliance guides, mentoring programs, and other activities. Businesses can find more information through links on the Web site: http://www.epa.gov/smallbusiness/.

Compliance Assistance Clearinghouse

The National Environmental Compliance Assistance Clearinghouse is a Web-based clearinghouse designed to provide quick access to compliance assistance tools, contacts, and planned activities across EPA and other compliance assistance providers. The Clearinghouse also serves as a forum to collaborate and exchange information. The Clearinghouse provides links to compliance assistance activities, tools, or technical assistance that: 1) assist the regulated community in understanding and complying with environmental regulations; or 2) assist compliance assistance providers in helping the regulated community to comply with environmental regulations. The Clearinghouse Web site is http://www.epa.gov/clearinghouse/.

VIII.B. Trade Association/Industry Sponsored Activities

VIII.B.1. Environmental Programs

Global Environmental Management Initiative

The Global Environmental Management Initiative (GEMI) is made up of group of leading companies dedicated to fostering environmental excellence by business. GEMI promotes a worldwide business ethic for environmental management and sustainable development, to improve the environmental performance of business through example and leadership. In 2001, GEMI's membership consisted of about 40 major corporations including the pulp and paper company Georgia-Pacific. (Contact: GEMI at 202-296-7449 or see the website at: *www.gemi.org*.)

ISO 14000

ISO 14000 is a series of internationally-accepted standards for environmental management. The series includes standards for environmental management systems (EMS), guidelines on conducting EMS audits, standards for auditor qualifications, and standards and guidance for conducting product lifecycle analysis. Standards for auditing and EMS were adopted in September 1996, while other elements of the ISO 14000 series are currently in draft form. While regulations and levels of environmental control vary from country to country, ISO 14000 attempts to provide a common standard for environmental management. The governing body for ISO 14000 is the International Organization for Standardization (ISO), a worldwide federation of over 110 country members based in Geneva, Switzerland. The American National Standards Institute (ANSI) is the United States representative to ISO. Information on ISO is available at the following Internet site: *http://www.iso.ch/iso/en/ISOOnline.openerpage*.

50 Percent Paper Recovery Goal

At the beginning of this decade, the U.S. paper industry made an unprecedented public commitment to expand paper recovery and recycling by establishing a goal to recover 40 percent of all the paper Americans used in 1995. That program involved a wide array of tools to encourage efficient paper recovery as well as a major financial commitment by U.S. papermakers to expand recycling capacity at their mills. The public-private partnership that evolved proved enormously successful: the industry's goal was achieved a year ahead of schedule.

Given the success of this initiative, the industry, through its trade association, the American Forest & Paper Association, established a new goal to recover 50 percent of all the paper Americans use and to continue its work to

promote efficient paper recovery programs. By 2000, the U.S. paper recovery rate was 48 percent. (Contact: AF&PA at 202-463-2700 or see the website at www.afandpa.org.)

100% Recycled Paperboard Alliance

The 100% Recycled Paperboard Alliance (RPA-100%) is a group of leading North American recycled paperboard manufacturers representing nearly two-thirds of the recycled paperboard industry, and a sponsor of America Recycles Day.

RPA-100% encourages packaged goods and companies to use 100% recycled paperboard and educates consumers about the importance of buying recycled. Almost fifty companies have joined a new intiative from the 100% Recycled Paperboard Alliance, displaying the "100% Recycled Paperboard" symbol on their brand name and private label products. (Contact: 100% Recycled Paperboard Alliance at 877-772-6200 or see the website at www.rpa100.com.)

Agenda 2020

In 1994, the American Forest and Paper Association joined with the U.S. Department of Energy to launch Agenda 2020, an innovative, collaborative research program. Through Agenda 2020, a consortium of research institutions, industry, and national laboratories is developing new technologies, processes and measurements to manufacture products more efficiently and cost-effectively while reducing environmental impacts of operations and maximizing the efficient use and reuse of resources.

To meet these objectives, Agenda 2020 has identified six technology focus areas for collaborative research efforts. These six task groups represent a broad cross section of the forest products industry:

1. Sustainable Forest Management
2. Environmental Performance
3. Energy Performance
4. Improved Capital Effectiveness
5. Recycling
6. Sensors and Controls

Particularly noteworthy is the effort within the Agenda 2020 partnership to develop biomass gasification technologies. If fully commercialized, these technologies could make the U.S. forest products industry totally energy self-reliant and generate a surplus of 22 gigawatts of power to the grid—the equivalent of one-half of California's peak summertime electric use. The carbon displacement from biomass gasification could be even more dramatic,

transforming the industry from *emitting* 24 million tons of carbon each year to *displacing* at least 18 million tons of greenhouse gas from fossil fuels – before taking into consideration the carbon sequestration benefits of forests.

Black liquor (see Section III for a description) is one biomass fuel created during the chemical pulping process. Gasification converts these pulping extractives and other forms of biomass into combustible gases that can be efficiently burned like natural gas. If fully commercialized, these technologies could produce enormous energy and environmental benefits. The first commercial-scale biomass (black liquor) plant is being built by Georgia-Pacific Corp. in Big Island, VA. It is slated to go on-line in 2003. Other commercialization tests will continue over the next 10 years, if adequately funded. Industry participants are putting up 50 percent of the investment capital for these demonstration projects. (Contact: AF&PA at 202-463-2700 or see the website at www.agenda2020.org.)

VIII.B.2. Summary of Trade Associations

The trade and professional organizations serving the pulp and paper industry are lead by the American Forest and Paper Association (AFPA), formerly the American Paper Institute (API). They have been actively involved in a number of recent rulemakings (under CAA, CWA and RCRA) that will affect their members. The National Council of the Paper Industry for Air and Stream Improvement (NCASI) does technical research for the industry. The Technical Association of the Pulp and Paper Industry (TAPPI), is a technical clearinghouse for the industry; they disseminate technical information to production facility staff throughout the U.S.

American Forest and Paper Association

1111 19th Street, NW
Suite 800
Washington, DC 20036
Phone: 202-463-2700
Fax: 202-463-2471
Internet:
www.afandpa.org

Members: 450
Staff: 140
Contact: Josephine Cooper,
V.P. for Environment and
Regulatory Affairs

The National Forest Products Association merged with the American Paper Institute (API) in 1993 to become the American Forest and Paper Association (AF&PA). AF&PA is the national trade association for the forest, pulp, paper, paperboard, and wood products industry. The organization focuses on information gathering/dissemination, research on industry technical issues, and represents the industry in regulatory and legislative matters. The AF&PA takes an active role by representing its members before

governmental agencies, such as on the recent integrated air and water rule. Some current environmental initiatives include the 2020 Research Agenda, 50 percent recycling goal, and the Sustainable Forestry Initiative. The AF&PA publishes a variety of documents for and about its membership. Some relevant publications include the annual industry wide reviews *Capacity Report* and *Statistics of Paper, Paperboard, and Wood Pulp*, the *Paper, Paperboard, and Wood Pulp Monthly Statistical Summary*, and the *Dictionary of Paper*, published every ten years. Circulation for these publications is listed at 1,000. The AF&PA holds an annual meeting every March in New York City.

National Council of the Paper Industry for Air and Stream Improvement

P.O. Box 13318
Research Triangle Park, NC 27709
Phone: 919-558-1999
Fax: 919-558-1998
Internet: www.ncasi.org

Members: 78
Staff: 90
Budget: $10,000,000
Contact: Dr. Ronald Yeske

Founded in 1943, the National Council of the Paper Industry for Air and Stream Improvement (NCASI) presently conducts research on environmental problems related to industrial forestry and the manufacture of pulp, paper, and wood products. NCASI produces technical documents on environmental issues facing the pulp and paper industry and conducts industry conferences. Publications include: a biweekly bulletin on general issues and a variety of technical bulletins (40/year). NCASI also holds an annual March convention in New York City.

Technical Association of the Pulp and Paper Industry (TAPPI)

Technology Park/Atlanta
P.O. Box 105113
Atlanta, GA 30348
Phone:770-446-1400
Fax: 770-446-6947
Internet: www.tappi.org

Members: 33,000
Staff: 95
Budget: $13,000,000
Contact: Charles Bohanan
Technical Divisions Operator

The Technical Association of the Pulp and Paper Industry (TAPPI) represents executives, managers, engineers, research scientists, superintendents, and technologists in the pulp, packaging, paper, and allied industries. Founded in 1915, TAPPI is split into eleven divisions, which include: environmental, research and development, paper and board manufacture, and pulp manufacture. Though its headquarters are in Atlanta, TAPPI is also divided into 27 regional groups. Overall, TAPPI provides a variety of services to its members. TAPPI conducts conferences on topics such as forest biology, environment, packaging, pulp manufacture, and R&D

in addition to a more general annual conference. TAPPI also develops testing methodologies for process control and laboratory analysis. The main annual project of the TAPPI Environmental division consists of an environmental issues industry conference. In 1995, TAPPI launched a campaign to educate the public on industry environmental facts. TAPPI publications include an annual *Membership Directory*, a monthly *TAPPI Journal*, and the publication of research results. TAPPI's publications are available via an online catalogue and record retrieval system called TAPPI-net available at 800-332-8686.

Paper Industry Management Association

1699 Wall Street, Suite 212	Members: 5,000
Mount Prospect, IL 60056	Staff: 14
Phone: 847-956-0250	Budget: $2,000,000
Fax: 847-956-0520	Contact: Scott Baumruck, Chief
Internet: *www.pima-online.org*	Operating Officer

The Paper Industry Management Association, or PIMA, is a professional organization of pulp, paper mill, and paper converting production executives. The association has provided management oriented information to its membership since 1919. This association goal is embodied by their publications: an annual *Handbook* of the industry, a monthly *PIMA Magazine* dedicated to improving efficiency and productivity, and the annual *PIMA Pulp and Paper Mill Catalog* reference for industry management. This catalog contains information regarding equipment, raw materials, and chemical products, in addition to a trade name directory, a listing of manufacturers and suppliers, and a listing of reports relevant to pulp and paper manufacture.

IX. CONTACTS/ACKNOWLEDGMENTS/RESOURCE MATERIALS/BIBLIOGRAPHY

For further information on selected topics within the pulp and paper industry a list of publications and contacts are provided below:

Contacts[4]

Name	Organization	Telephone/Email	Subject
Scott Throwe	U.S. EPA, Office of Compliance	202-564-7013 throwe.scott@epa.gov	Pulp and paper industry sector lead
Steve Shedd	U.S. EPA, Office of Air and Radiation	919-541-5397 shedd.steve@epa.gov	Combustion MACT NESHAP Subpart S
Jeff Telander	U.S. EPA, Office of Air and Radiation	919-541-5427 telander.jeff@epa.gov	Non-combustion MACT NESHAP Subpart MM
Don Anderson	U.S. EPA, Office of Water	202-260-7189 anderson.donald@epa.gov	Effluent guidelines and standards
Deborah Nagle	U.S. EPA, Office of Water	202-260-2656 nagle.deborah	Cooling water intake standards
Tim Smith	Office of Air and Radiation	919-541-4718 smith.tim@epa.gov	Guidelines on Best Available Retofit Technology (BART)
Kevin Culligan	Office of Air and Radiation	202-564-9172 culligan.kevin@epa.gov	NOx SIP Call
Dickson Ozokwelu	U.S. Department of Energy, Office of Industrial Technology	202-586-8501 dickson.ozokwelu@ee.doe.gov	Technologies and processes with the potential for energy, environmental, and cost savings
James Bond	USDA Forest Service	608-231-9480 jbond@fs.fed.us	Research on environmentally benign and resource-conserving processes for the production and utilization of wood pulp fibers and chemical byproducts

[4] Many of the contacts listed above have provided valuable background information and comments during the development of this document. EPA appreciates this support and acknowledges that the individuals listed do not necessarily endorse all statements made within this notebook.

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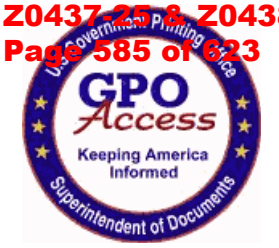
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10.6.4 Hardboard and Fiberboard Manufacturing

10.6.4.1 General[1] -

Fiberboard is a low-density insulation board used for housing, roofing, and office furnishings. Hardboard is similar to fiberboard, except that hardboard is more dense than fiberboard. Hardboard is used for applications in housing (e.g., exterior siding, garage doors, and interior door facings), furniture, store fixtures, automotive interiors, and toys. The most frequently used raw material for production of fiberboard products is wood chips which are first softened in a pressurized steam vessel (digester) and then refined or pulped into wood fibers. The fibers may then be mixed with resin, formed into mats, and pressed and/or dried to form panel products. Other materials may be added during manufacture to improve certain properties such as stiffness, hardness, finishing properties, resistance to abrasion and moisture, as well as to increase strength, durability and utility.

Hardboard/fiberboard manufacturing falls under the Standard Industrial Classification (SIC) Code 2493, for "Reconstituted Wood Products", which also includes oriented strandboard, medium density fiberboard, and particleboard. The North American Industrial Classification System (NAICS) Code for hardboard/fiberboard is 321219, for "Reconstituted Wood Product Manufacturing".

10.6.4.2 Process Description[1] -

Hardboard products are manufactured through dry processing, wet processing, or wet/dry processing. Fiberboard products are manufactured by wet processing. Dry processing involves dry mat forming and pressing, while wet processing involves wet forming and wet pressing. Wet/dry processing involves wet forming followed by dry pressing. Resin is used in wet hardboard and dry hardboard processing. Resin is not used in wet/dry hardboard or wet fiberboard processing.

The following sections summarize dry process hardboard manufacturing, fiberboard and wet process hardboard manufacturing, and the wet/dry hardboard manufacturing process.

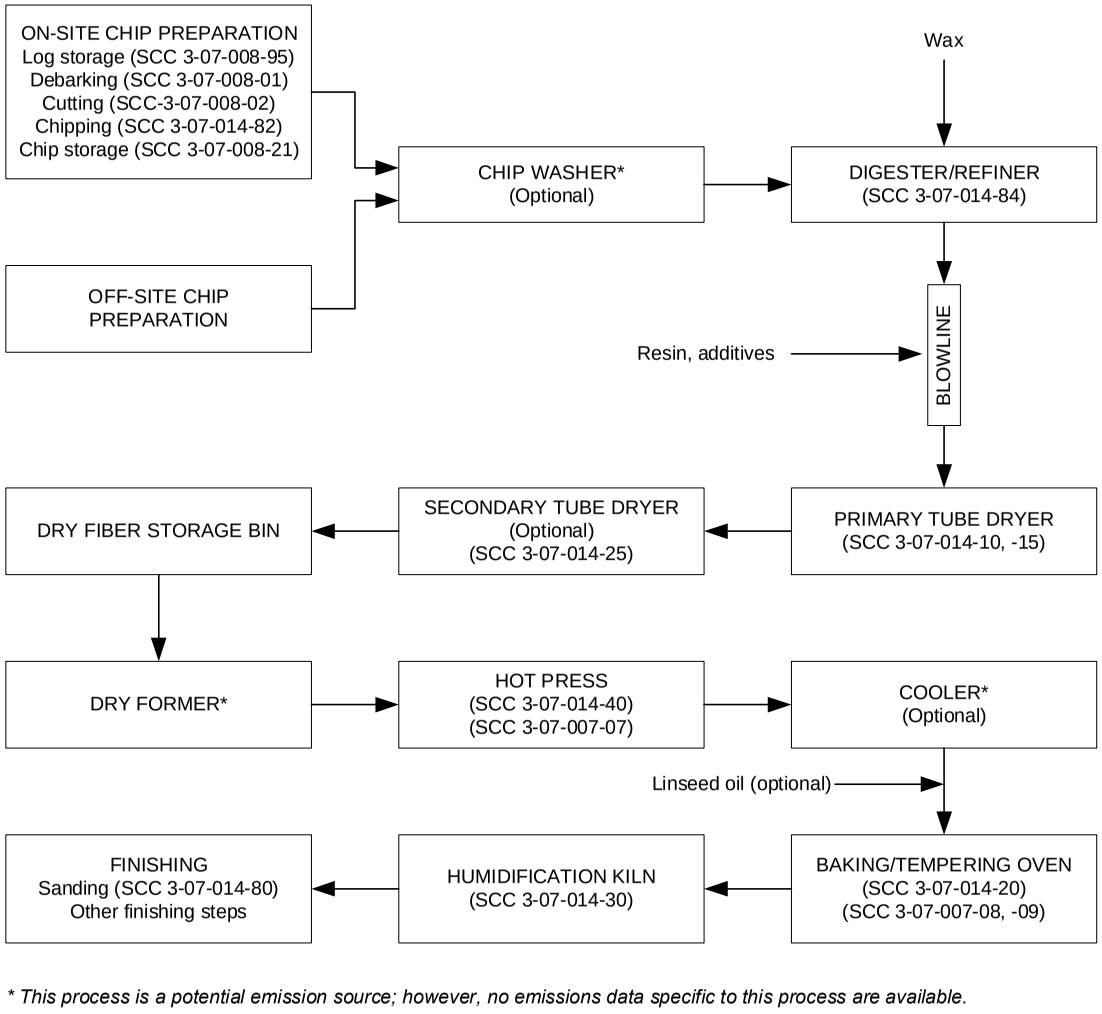
Dry Process Hardboard -

The general steps used to manufacture dry process hardboard include mechanical pulping of wood chips to fibers (digesting and refining), blending of fibers with resin and wax, drying, forming the resinated material into a mat, hot pressing, heat treatment of the pressed boards, and humidification. Figure 10.6.4-1 presents a flow diagram for dry process hardboard manufacturing.

The primary raw material used in hardboard is hardwood or softwood chips. In addition to wood chips, shavings or sawdust may be used as a raw material. If wood chips are prepared onsite, logs are debarked, cut to manageable lengths, and then sent to chippers. If necessary, the chips are washed to remove dirt and other debris.

Clean chips are either processed in pressurized refiners or are softened by steam in a digester and sent to atmospheric refiners. Pressurized refiners consist of a steaming vessel (digester) and of single or double revolving disks to mechanically pulp (refine) the chips into fibers suitable for making the board. The wood chips are discharged under pressure from the digester section of the pressurized refiner into the refiner section. The steam pressure is maintained throughout the entire refining process. Atmospheric refiners also use revolving disks to pulp the chips into fibers, but steam pressure is not maintained in atmospheric refiners.

Wax may be added to the wood chips in the digester. Phenol-formaldehyde (PF) resin and other additives (if used) are added to the wood fiber during or immediately following refining. Most dry process hardboard plants inject PF resin into a blowline that discharges the resinated fibers to a tube



** This process is a potential emission source; however, no emissions data specific to this process are available.*

Figure 10.6.4-1. Dry hardboard manufacturing processes.

dryer. The turbulent conditions in the tube dryer facilitate mixing between the wood fibers and resin droplets. After drying, the resinated fibers are conveyed to a dry fiber storage bin where they await forming.

Single-stage or multiple-stage tube drying systems are most commonly used in dry process hardboard manufacture. Most of the multiple-staged tube drying systems incorporate two stages. In multiple-stage tube dryers, there is a primary tube dryer and a secondary tube dryer in series separated by an emission point such as a cyclonic collector. Single-stage and double-stage tube dryers are shown in Figures 10.6.4-2a and 10.6.4-2b. Hardboard primary tube dryers dry wood fibers from about 51 percent moisture (dry basis) to around 20 percent moisture (dry basis) with dryer inlet temperatures ranging up to 246°C (475°F). Secondary tube dryers further dry the wood furnish to around 6 percent moisture (dry basis). Heat is provided to the hardboard tube dryers by either direct-firing with wood residuals, gas, or oil or by indirect-heating. Although less common than tube dryers, rotary dryers may also be used to dry wood material for hardboard manufacture.

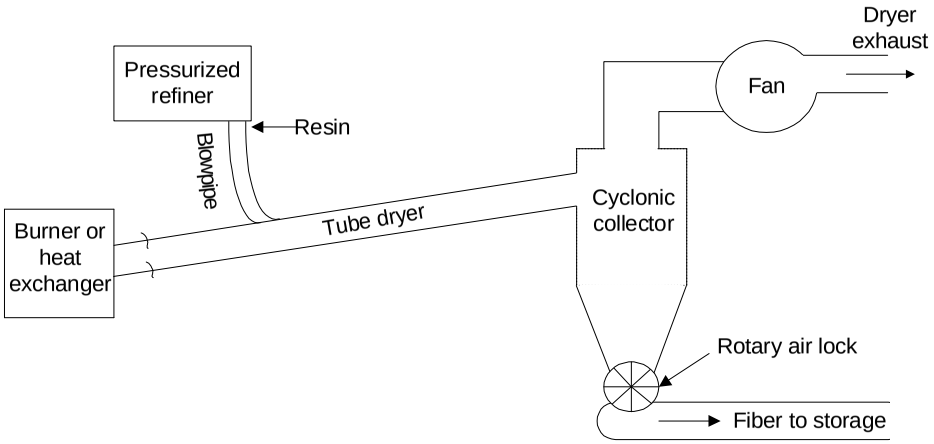


Figure 10.6.4-2a. Single-stage tube dryer.

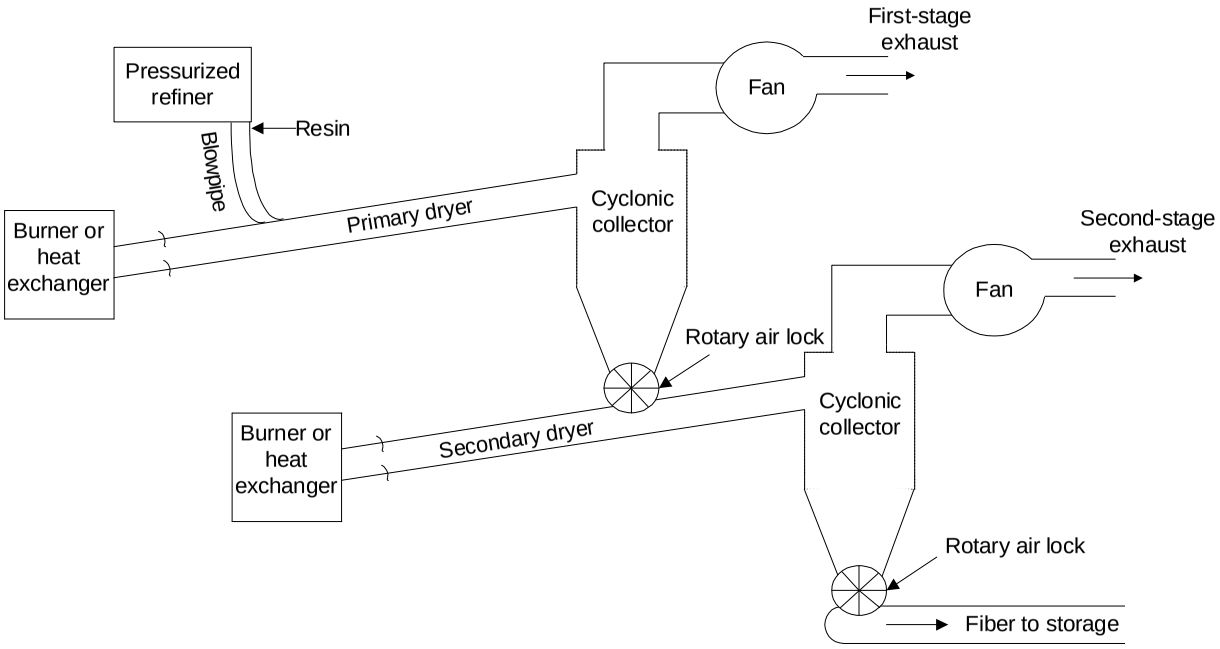


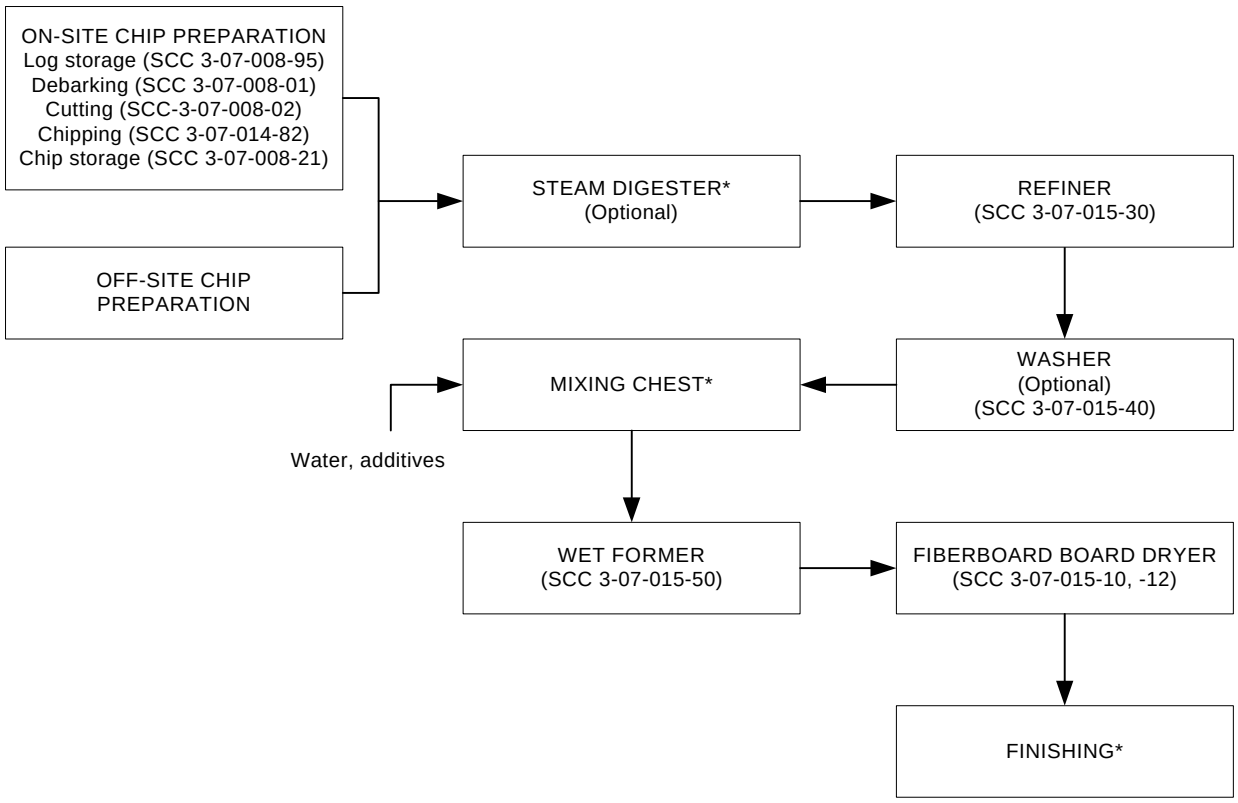
Figure 10.6.4-2b. Double-stage tube dryer.

Resinated fibers exiting the drying system enter a forming machine where they are deposited on a continuously moving conveyor. The mat is prepressed and trimmed before being loaded into the hot press. The press applies heat and pressure to activate the PF resin and bond the fibers into a solid board. Dry process hardboard plants use a multi-opening batch press. The typical press cycle is about 4 minutes. The hardboard presses are heated by steam to a temperature of around 210°C (410°F). Following pressing, boards are routed through a board cooler at some plants. However, most plants do not operate board coolers.

Hardboard plants typically heat treat the pressed hardboard in a bake or tempering oven. The purpose of heat treatment is to lower the moisture content of pressed hardboard to bone dry levels to improve dimensional stability and enhance board mechanical properties. Linseed oil is sometimes applied to the hardboard prior to heat treatment. Hardboard ovens are either indirect-heated or direct-fired and operate at temperatures up to 170°C (340°F). Humidification of boards is done immediately following heat treatment to bring the board moisture content back into equilibrium with ambient air conditions. Humidification kilns are often integrated with hardboard ovens (i.e., the boards coming out of the hardboard oven go straight into the humidification kiln). Following humidification, the hardboard is finished and packaged for shipment. Dry process hardboard densities range from 625 to 1,100 kilograms per cubic meter (kg/m^3) (39 to 69 pounds per cubic foot [lb/ft^3]).

Wet Process Fiberboard -

The general steps in production of fiberboard manufacture include pulping of hardwood or softwood wood chips, wet forming, drying, and finishing. Fiberboard may be manufactured with bagasse or other agricultural fiber instead of wood fiber. The bagasse fiberboard manufacturing process is generally the same as the wood fiberboard manufacturing process. Figure 10.6.4-3 presents a flow diagram for wet process fiberboard manufacturing. The discussion below focuses on the wood fiberboard manufacturing process.



** This process is a potential emission source; however, no emissions data specific to this process are available.*

Figure 10.6.4-3. Process flow diagram for wet process fiberboard manufacturing.

Wood chips for fiberboard may either be steamed in digesters or soaked in hot process water before being ground into fiber in atmospheric refiners. From the refiners, fibers are sometimes washed to remove wood sugars that might reduce the quality of the finished product. The refined and/or washed fibers are sent to stock chests to await further processing. The fibers from the stock chests are mixed with water and additives such as alum, starch, asphalt, and wax. Resins are not used in fiberboard production. The wood fibers are bonded together by additives and substances naturally contained in the wood. Alum aids in the precipitation of wax, asphalt, and rosin onto wood fibers. Bonds between these substances and the wood fibers assist in holding the fiber mat together.

Once mixed with additives, the fiber slurry is sent to the forming machine. In the wet forming process, the water-fiber mixture is metered onto a wire screen. Water is drained away by gravity and with the aid of suction applied to the underside of the wire. The fiber mat along with the supporting wire is moved to a room-temperature pre-press where excess water is squeezed out. Once pre-pressed, the fiber mat may be cut to length and trimmed on the edges with high-pressure water jets.

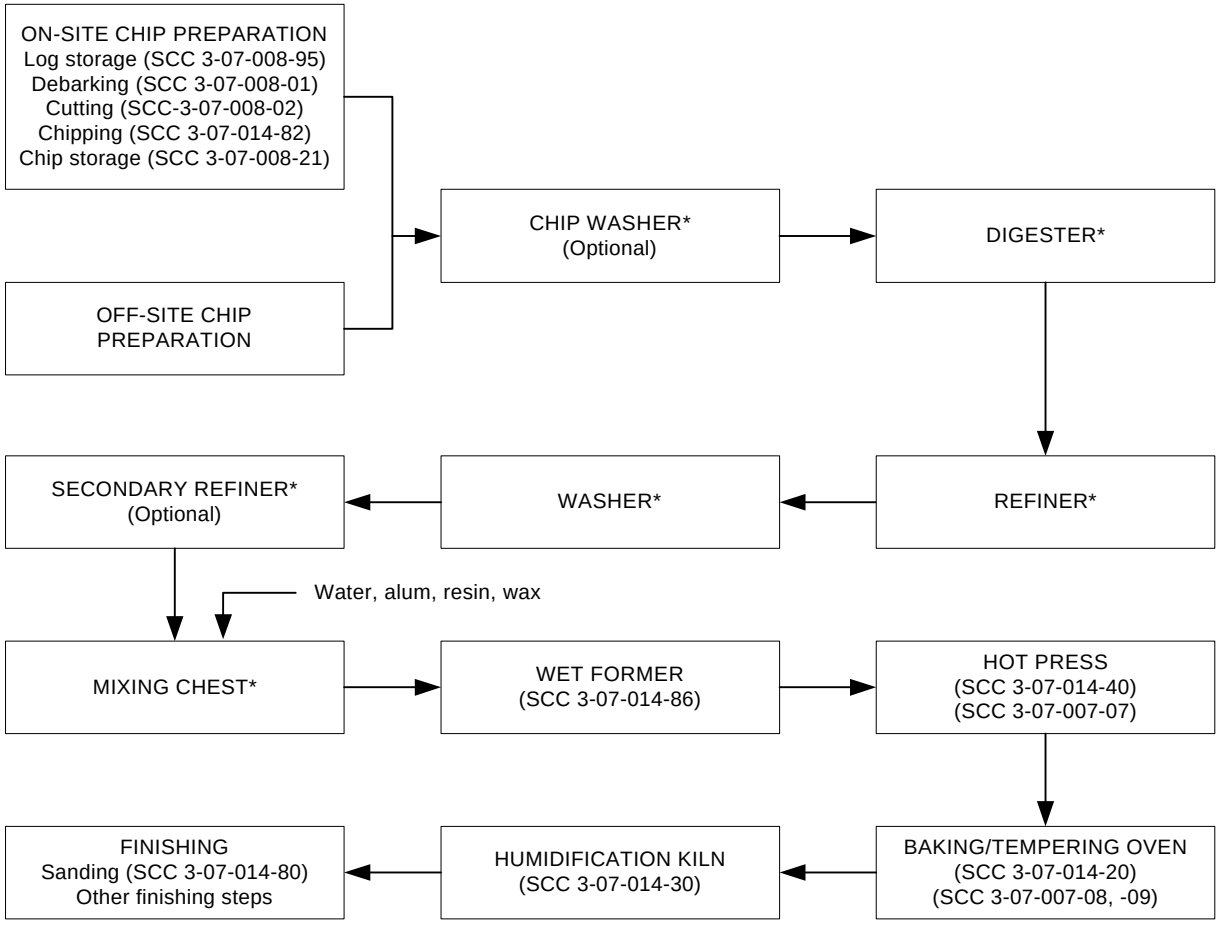
The fiber mats, which are around 60 percent moisture (dry basis), are passed through a conveyor-type board dryer where their moisture content is reduced to about 4 percent. Fiberboard board dryers operate with inlet temperatures of around 230°C (450°F) and outlet temperatures of around 160°C (320°F). Finished fiberboard density ranges from 190 to 380 kg/m^3 (12 to 24 lb/ft^3). Once dried, the fiberboard is finished, trimmed, and may be painted or roll-coated with asphalt. Finally, the fiberboard is packaged for shipment.

Wet Process Hardboard -

Production of wet process hardboard includes pulping of wood chips, wet forming, pressing, heat treatment, humidification, and finishing. Phenol-formaldehyde resin, wax, and alum are used in wet process hardboard manufacturing. Figure 10.6.4-4 presents a flow diagram for wet process hardboard manufacturing.

Hardwood or softwood chips may either be purchased from outside or generated onsite from logs. The chips are washed to remove dirt and debris. The chips are then steam cooked under pressure in digesters to soften the chips and liberate the wood sugars. After cooking, the softened chips are refined in a single or double disc atmospheric refiner (referred to as the primary refiner), which grinds the chips into fiber form. The fibers from the primary refiner are subsequently fed into stock washers, which use water and pressure to wash out the wood sugars. After washing, the wood material is further refined in a secondary refiner. Some plants may omit secondary refining.

Once refined, the wood fiber is mixed with water, alum, PF resin, and wax in stock or mix chests. The alum is added to the fiber slurry to control pH and help precipitate the resin and wax onto the fibers. The dilute slurry of fiber, additives, and water is routed to a wet forming machine. At some plants, the forming machine may have separate header boxes where separate slurries may be used to make layers in the hardboard mat. The top layer of the fiber mat is called an “overlay” and the bottom layer is called a “substrate”. The wood fiber used to make the overlay undergoes additional refining prior to chemical addition and dilution so that the top layer of the hardboard will have a smoother finish. The fiber slurry from the substrate head box and the overlay head box are fed onto a moving wire screen (forming machine) where they immediately begin to form a continuous fiber mat. Water drains through the wire screen first by gravity and then by suction. The fiber mat is compressed with press rolls and further dewatered. The edges of the fiber mat may be trimmed with water jets prior to hot pressing.



** This process is a potential emission source; however, no emissions data specific to this process are available.*

Figure 10.6.4-4. Process flow diagram for wet process hardboard manufacturing.

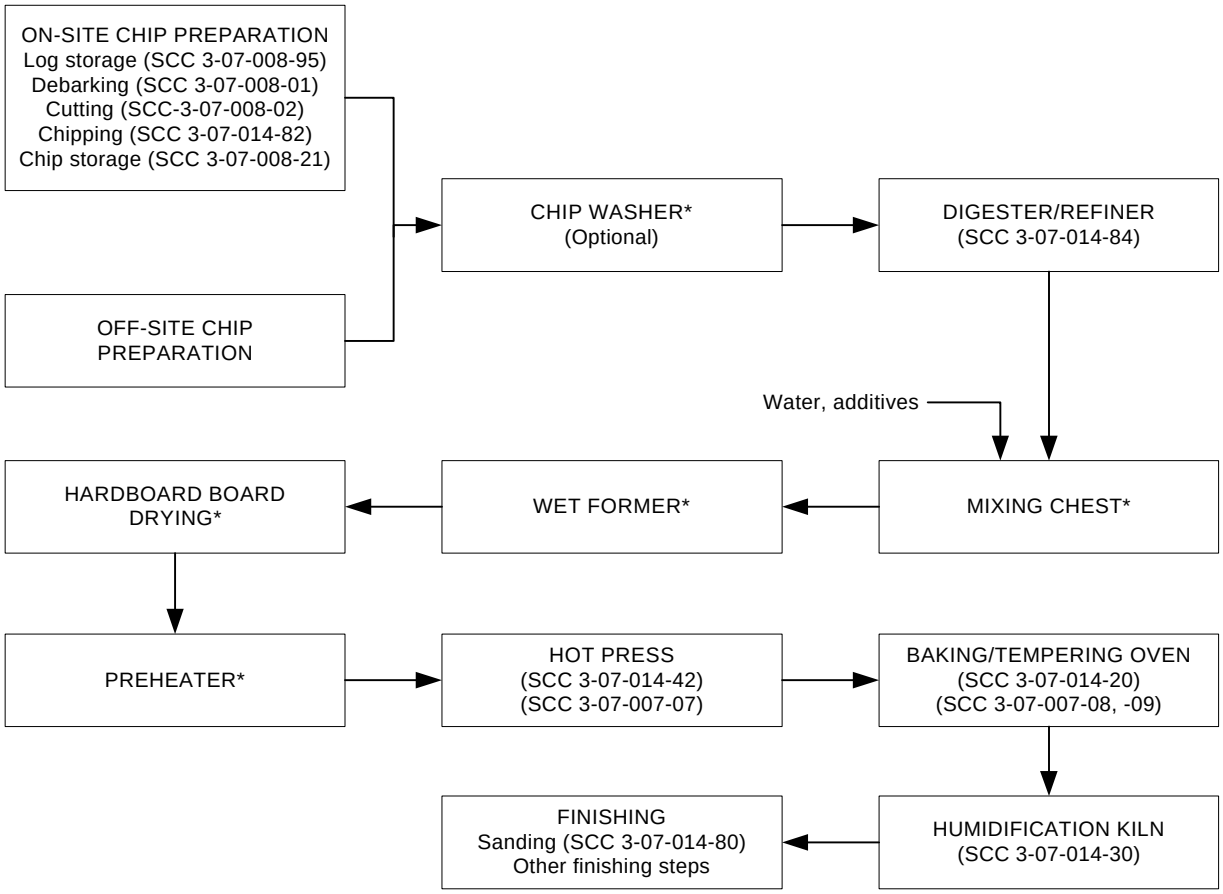
The carrying wire takes the fiber mats to a preloader to await pressing. The fiber mats are loaded into the press. Water released from the mats during pressing cascades down the sides of the press and is recycled. The fiber mats enter the press at a moisture content of about 120 percent (dry basis). Wet process hardboard presses are typically multi-opening, steam-heated, batch presses. The hardboard mats are pressed for roughly 8 minutes at around 200°C (390°F).

As with dry process hardboard, the wet process hardboard mats may be transported to baking or tempering ovens where the mats are dried to "bone-dry" levels following pressing. Further drying of the mats increases bonding and makes the hardboard more resistant to water. Once dried, the boards may be cooled and are then rehumidified to prevent buckling and to improve the overall dimensional stability of the boards. Final wet process hardboard densities range from 800 to 1,120 kg/m^3 (50 to 70 lb/ft^3).

Wet/Dry Process Hardboard -

Production of wet/dry process hardboard includes pulping of softwood or hardwood chips, wet forming, drying, pressing, heat treatment, humidification, and finishing. Wet/dry process hardboard production is similar to fiberboard production until the pressing step of the process is reached. The pressing, heat treatment, and humidification steps in wet/dry hardboard production are similar to the

same steps in wet hardboard production. Raw materials used in the production of wet/dry hardboard include wood chips and additives such as linseed oil, asphalt, and wax. No resin is used in the production of wet/dry hardboard. Figure 10.6.4-5 presents a flow diagram for wet/dry process hardboard manufacturing.



** This process is a potential emission source; however, no emissions data specific to this process are available.*

Figure 10.6.4-5. Process flow diagram for wet/dry process hardboard manufacturing.

Wood chips may either be purchased from offsite or generated onsite from logs. The chips are washed to remove dirt and debris. The chips are then steam cooked under pressure in digesters. After cooking, the chips are refined in primary and/or secondary refiners. Some plants may omit secondary refining. Some plants may use pressurized refiners in lieu of stand-alone digesters and atmospheric refiners.

Once refined the wood fiber is mixed with water and wax in stock or mix chests. The dilute slurry of fiber, additives, and water is routed to a wet forming machine. As with the manufacture of wet process hardboard, some plants may use separate substrate (bottom layer) and overlay (top layer) forming header boxes to make a layered hardboard mat. The fiber slurry from the substrate head box and the overlay head box are fed onto a moving wire screen (forming machine) where they immediately begin to form a continuous fiber mat. Water drains through the wire screen first by gravity and then by suction.

The fiber mat is compressed with press rolls which assist in further dewatering the mat. The edges of the fiber mat may be trimmed with water jets prior to drying.

The fiber mats, which are around 60 percent moisture (dry basis), are passed through a conveyor-type board dryer where their moisture content is reduced to around 4 percent. The board dryers operate with inlet temperatures of around 230°C (450°F) and outlet temperatures of around 160°C (320°F). From the dryer, the fiber mats pass through a press predryer or preheat oven. The purpose of the predryer is to reduce the mat moisture content in order to minimize the hot press cycle. Steam-heated batch presses are used in wet/dry hardboard manufacturing. Press temperatures average around 140°C (470°F) for press cycle times of nearly 4 minutes. As for dry and wet process hardboard, the wet/dry process hardboard mats are heat treated in hardboard ovens and humidification kilns following pressing. Wet/dry process hardboard densities range from 720 to 1,150 kg/m^3 (45 to 72 lb/ft^3).

10.6.4.3 Emissions and Controls -

The primary emission sources at hardboard/fiberboard mills are tube dryers, rotary dryers, hardboard ovens, board conveyor dryers, press preheat ovens, and hot presses. Other emission sources may include boilers, chip and fiber production operations, mat formers, board coolers, humidification kilns, and finishing operations such as sanding and trimming. Other potential emissions sources ancillary to the manufacturing process may include wood chip storage piles and bins (including wood fuel), chip handling systems, and resin storage and handling systems.

Emissions from tube dryers or rotary dryers that are exhausted from the product recovery cyclone include wood dust and other solid PM, volatile organic compounds (VOCs), condensible PM, and products of combustion such as carbon monoxide (CO), carbon dioxide (CO_2), and nitrogen oxides (NO_x), if direct-fired units are used. The condensible PM and a portion of the VOCs leave the dryer stack as vapor but condense at normal atmospheric temperatures to form liquid particles or mist that creates a visible blue haze. Both the VOCs and condensible PM are primarily compounds evaporated from the wood or from the resin if resinated fibers are dried, with a minor constituent being combustion products. Quantities emitted are dependent on wood species, dryer temperature, fuel used, and other factors including season of the year, time between logging and processing, and chip storage time.

Unlike tube dryers and rotary dryers, hardboard ovens, board conveyor dryers, and press preheaters process fiber mats or pressed boards and do not rely on pneumatic conveyance of fibers through the dryers. Thus, there is less potential for emissions of PM from hardboard ovens, conveyor dryers, and press preheaters. However, these dryers are sources of VOCs, CO, CO_2, NO_x, and other organic compounds. The emissions from hardboard ovens, conveyor dryers, and press preheaters depend on whether the dryer is indirect-heated or direct-fired, the fuel used if the dryer if direct-fired, wood species, and type of resin, binder, or drying oil employed.

Emissions from board hot presses are dependent on the type and amount of resin (if any) used to bind the wood fibers together, as well as wood species, wood moisture content, additives used, and press conditions. When the press opens, vapors that may include resin ingredients (if resins are used) such as formaldehyde, phenol, and other organic compounds are released. The rate at which organic compounds are emitted during pressing operations is a function of the resin formulation, board thickness, press temperature, and press cycle time.

A VOC control technology commonly used in the wood products industry for controlling both dryer and press exhaust gases is regenerative thermal oxidation. Thermal oxidizers destroy VOCs and condensible organics by burning them at high temperatures. Thermal oxidizers also reduce CO emissions in direct-fired dryer exhausts by oxidizing the CO in the exhaust to CO_2 (a product of complete

combustion). Regenerative thermal oxidizers (RTOs) are designed to preheat the inlet emission stream with heat recovered from the incineration exhaust gases. Up to 98 percent heat recovery is possible, although 95 percent is typically specified. Gases entering an RTO are heated by passing through pre-heated beds packed with a ceramic media. A gas burner brings the preheated emissions up to an incineration temperature between 788° and 871°C (1450° and 1600°F) in a combustion chamber with sufficient gas residence time to complete the combustion. Combustion gases then pass through a cooled ceramic bed where heat is extracted. By reversing the flow through the beds, the heat transferred from the combustion exhaust air preheats the gases to be treated, thereby reducing auxiliary fuel requirements.

Regenerative catalytic oxidizers (RCOs) are also used to control VOCs from hardboard dryers and presses. Regenerative catalytic oxidizers function similar to RTOs, except that the heat recovery beds in RCOs contain catalytic media. The catalyst accelerates the rate of VOC oxidation and allows for VOC destruction at lower temperatures than in an RTO, typically 316° to 538°C (600° to 1,000°F), which reduces auxiliary fuel usage.

Biofiltration systems are also used effectively for control of a variety of pollutants including organic compounds, NO_x, CO, and PM from press exhaust streams. Biofiltration uses microrganisms immobilized in a biofilm layer on a porous packing such as bark, wood chips, or synthetic media. Typical biofilter design consists of a three- to six-foot deep bed of media suspended over an air distribution plenum. Exhaust gases entering the plenum are evenly distributed through the moist biofilter media. As the contaminated vapor stream passes through the biofilter media, pollutants are transferred from the vapor to the biofilm and, through microbiological degradation, are converted to CO_2, water, and salts. The microorganisms cannot easily attack pollutants in the gas phase; therefore, less water soluble compounds (such as pinenes) are generally more difficult to control using a biofilter than are the more water-soluble compounds (such as formaldehyde).

In addition to the control devices mentioned above, absorption systems such as scrubbers are often used to control PM from hardboard/fiberboard dryers and presses.

Operations such as log chipping, in addition to chip piles and bins, and chip handling systems generate particulate matter (PM) and PM less than 10 micrometers in aerodynamic diameter (PM-10) emissions in the form of sawdust and wood particles. In hardboard/fiberboard mills where log chipping is performed onsite, PM and PM-10 emissions from log debarking, sawing, and grinding operations can be controlled through capture in an exhaust system connected to a fabric filter collection system. Emissions of PM and PM-10 from final sanding and sawing operations can be controlled using similar methods. These wood dust capture and collection systems are used not only to control atmospheric emissions, but also to recover the dust as a by-product fuel for a boiler or direct-fired dryer burners.

Fiber production operations such as digesters, pressurized refiners, atmospheric refiners, and fiber washers may be sources of organic emissions. Emissions from these sources are typically uncontrolled, except for pressurized refiners that vent directly into tube dryers at dry process hardboard plants. When exhausted through a tube dryer, the pressurized refiner exhaust exits through the tube dryer control device.

Hardboard/fiberboard mat forming systems may also emit small amounts of organic emissions, and PM emissions in the case of dry forming systems. Emission factors for wet forming vacuum systems are provided in this section. No emission factors are available for dry hardboard formers; however, the magnitude of the emissions from dry formers may be comparable to the emissions from dry formers used to form other reconstituted wood products (e.g., medium density fiberboard).

Hardboard board coolers and humidification kilns may also be sources of organic emissions. Exhaust from board coolers is typically uncontrolled or is routed to the press control device. No emission factors are available specifically for hardboard board coolers, but emission factors are available for particleboard and MDF board coolers. Humidification kilns are usually uncontrolled. Emission factors for humidification kilns are provided in this section.

Emissions from hardboard/fiberboard finishing operations are dependent on the type of products being finished. For most hardboard/fiberboard products, finishing involves cutting to size and, in some cases, application of edge seals, anti-skid coatings, primers, company logos, or trademark or grade stamps. Some products may require sanding. Sawing and sanding operations are sources of PM and PM-10 emissions. No data specific to hardboard/fiberboard sawing are available. However, emission factors for MDF sawing operations may provide an order of magnitude estimate for similar hardboard/fiberboard sawing operations. Available emission factors for sanding of hardboard are presented in this section.

Fugitive PM emissions from road dust and uncovered bark and dust storage piles may be controlled in a number of different ways. Some of these methods include enclosure, wet suppression systems, and chemical stabilization.

Calculating PM-10 emissions from wood products industry emission sources is problematic due to the relationship between PM-10 (or PM) emissions and VOC emissions from these processes. Because the Method 201A train (PM-10) operates with an in-stack cyclone and filter, organic materials that are volatile at stack gas temperatures but that are condensed at back half impinger temperatures (~20°C [~68°F]) are collected as condensible PM-10. However, these materials will also be measured as VOC via Methods 25 and 25A, which operate with a heated or an in-stack filter. Hence, if PM-10 is calculated as the sum of filterable and condensible material, some pollutants will be measured as both PM-10 and VOC emissions. However, if only filterable material is considered to be PM-10, the PM-10 emission factors will be highly dependent on stack gas temperature. In this AP-42 section, PM-10 is reported as front half catch only (Method 201A results only; not including Method 202 results). However, condensible PM results are also reported, and these results can be combined with the PM-10 results as appropriate for a specific application. Measured VOC emissions may be affected by the sampling method and by the quantity of formaldehyde and other aldehydes and ketones in the exhaust; formaldehyde is not quantified using Method 25A. Other low molecular weight oxygenated compounds have reduced responses to Method 25A. Therefore, when VOC emissions are measured using Method 25A, the emission rates will be biased low if low molecular weight oxygenated compounds are present in significant concentrations in the exhaust stream. A more extensive discussion of these sampling and analysis issues is provided in the Background Report for this section.

Guidance from EPA's Emission Factor and Inventory Group (EFIG) indicates that when it is possible, VOC emission factors should be reported in terms of the actual weight of the emitted compound. However, when an actual molecular weight (MW) of the emitted stream is not feasible (as is the case with the mixed streams emitted from wood products industry sources), the VOC should be reported using an assumed MW of 44, and reported "as propane." Each VOC-as-propane emission factor is estimated by first converting the THC from a carbon basis to a propane basis. Propane (MW = 44) includes 3 carbon atoms (total MW of 36) and 8 hydrogen atoms (total MW of 8). Every 36 pounds of carbon measured corresponds to 44 pounds of propane. The ratio of the MW of propane to the MW of carbon in propane is 44/36, or 1.22. The conversion is expressed by the following equation:

$$\text{THC as pounds carbon} \times \frac{\text{44 pounds propane}}{\text{36 pounds carbon}} = \text{THC as pounds propane}$$

or

$$\text{THC as pounds carbon} \times 1.22 = \text{THC as pounds propane}$$

After the THC emission factor has been converted from a carbon to a propane basis, the formaldehyde emission factor is added (where available), then the available emission factors for non-VOC compounds, including acetone, methane, and methylene chloride, are subtracted. This procedure is expressed simply by the following equation:

$$\text{VOC as propane} = (1.22 \times \text{THC as carbon}) + \text{formaldehyde} - (\text{acetone} + \text{methane} + \text{methylene chloride})$$

In cases where no emission factor is available (or the emission factor is reported only as below the test method detection limit, or "BDL") for one or more of the compounds used to estimate the VOC-as-propane value, adjustments to the converted THC value are made only for those compounds for which emission factors are available. That is, a value of zero is inserted in the above equation for the specified compounds where no emission factor is available, or where the emission factor is reported only as BDL. For example, if no methane emission factor is available, the THC-as-carbon emission factor is converted to THC-as-propane, formaldehyde is added, and only acetone and methylene chloride are subtracted.

Table 10.6.4-1 presents emission factors for dryer emissions of PM, including filterable PM and condensible PM. Table 10.6.4-2 presents emission factors for dryer and oven emissions of NO_x, CO, and CO_2. Table 10.6.4-3 presents emission factors for dryer and oven emissions of VOC and speciated organic compounds. Table 10.6.4-4 presents emission factors for hardboard press emissions of PM, including filterable PM, filterable PM-10, and condensible PM. Table 10.6.4-5 presents emission factors for hardboard press emissions of NO_x, CO, and CO_2. Table 10.6.4-6 presents emission factors for hardboard press emissions of VOC and speciated organic compounds. Table 10.6.4-7 presents emission factors for miscellaneous sources of PM, including filterable PM, filterable PM-10, and condensible PM. Table 10.6.4-8 presents emission factors for miscellaneous source emissions of NO_x, CO, and CO_2. Table 10.6.4-9 presents emission factors for miscellaneous source emissions of VOC and speciated organic compounds.

To the extent possible, separate emission factors for hardboard and fiberboard dryers are presented in Tables 10.6.4-1 to -3 for hardwoods and softwoods. Hardwoods generally correspond to deciduous species. For hardboard, fiberboard, plywood, and other composite wood products, commonly used hardwoods include aspen, oak, poplar, maple, cherry, alder, hickory, gum, beech, birch, and basswood. The emission factors for hardwood hardboard and fiberboard dryers presented in this section are based largely on the drying of aspen, birch, beech, oak, and maple furnish. Softwoods generally correspond to coniferous species. For hardboard, fiberboard, plywood, and other composite wood products, commonly used softwoods include pines, firs, and spruce. Pines are the most commonly used softwood species for hardboard and fiberboard manufacturing.

Table 10.6.4-1. EMISSION FACTORS FOR HARDBOARD AND FIBERBOARD DRYERS AND OVENS—PARTICULATE MATTER[a]

Source	Emission Control Device	Filterable[b]				Condensible[c]	EMISSION FACTOR RATING
		PM	EMISSION FACTOR RATING	PM-10	EMISSION FACTOR RATING		
Tube dryer, direct natural gas-fired, blowline blend, PF resin, hardwood (SCC 3-07-014-15)	None	1.9	E	ND		0.57	E

[a] Emission factor units: pounds of pollutant per oven-dried ton of wood material (lb/ODT); one lb/ODT = 0.5 kg/Mg (oven-dried). Factors represent uncontrolled emissions. SCC = Source Classification Code. ND = no data available. Reference 2. See Table 10.6.4-10 for the hardwood and softwood species commonly used in the production of hardboard, fiberboard, and other composite wood products. **Note: emission factors in table represent averages of data sets. The data spreadsheets, which may be more useful for specific applications, are available on EPA's TTN website at: http://www.epa.gov/ttn/chief/.**

[b] Filterable PM is that PM collected on or prior to the filter of an EPA Method 5 (or equivalent) sampling train. Filterable PM-10 is that PM collected on the filter, or in the sample line between the cyclone and filter of an EPA Method 201 or 201A sampling train.

[c] Condensible PM is that PM collected in the impinger portion of a PM sampling train (EPA Method 202).

Table 10.6.4-2. EMISSION FACTORS FOR HARDBOARD AND FIBERBOARD DRYERS, OVENS—NO_x, CO, AND CO_2[a]

Source	Emission Control Device[b]	Emission Factor Units[c]	NO_x	EMISSION FACTOR RATING	CO	EMISSION FACTOR RATING	CO_2	EMISSION FACTOR RATING
Hardboard tube dryer, direct natural gas-fired, blowline blend, PF resin, hardwood (SCC 3-07-014-15)	Uncontrolled	lb/ODT	0.44[d]	E	0.067[d]	E	384[d]	E
Hardboard tube dryer, direct wood-fired, blowline blend, PF resin, hardwood (SCC 3-07-014-10)	Uncontrolled	lb/ODT	ND		0.085	E	ND	
Hardboard tube dryer, second stage, indirect-heated, hardwood (SCC 3-07-014-25)	Uncontrolled	lb/ODT	ND		0.076	E	ND	
Hardboard board dryer, direct natural-gas fired, linseed oil binder, heated zones, softwood (SCC 3-07-014-16)	Uncontrolled	lb/MSF 1/2	ND		0.49[e]	E	ND	
Hardboard tempering oven, direct natural gas-fired, hardwood (SCC 3-07-014-20)	Uncontrolled	lb/MSF 1/8	ND		0.11	E	ND	
	RTO	lb/MSF 1/8	ND		0.0021	E	ND	
Fiberboard board dryer, indirect heated, starch binder, heated zones, softwood (SCC 3-07-015-10)	Uncontrolled	lb/MSF 1/2	ND		0.092	E	ND	
Fiberboard board dryer, indirect heated, 6-12% asphalt binder, heated zones, softwood (SCC 3-07-015-12)	Uncontrolled	lb/MSF 1/2	ND		0.029[e]	E	ND	

[a] Factors represent uncontrolled emissions unless otherwise noted. SCC = Source Classification Code. ND = no data available. Reference 3 unless otherwise noted. See Table 10.6.4-10 for the hardwood and softwood species commonly used in the production of hardboard, fiberboard, and other composite wood products. **Note: emission factors in table represent averages of data sets. The data spreadsheets, which may be more useful for specific applications, are available on EPA's TTN website at: http://www.epa.gov/ttn/chief/.**

[b] Emission control device: RTO = regenerative thermal oxidizer.

[c] Emission factor units: pounds of pollutant per oven-dried ton of wood material (lb/ODT); one lb/ODT = 0.5 kg/Mg (oven-dried); pounds of pollutant per thousand square feet of 1/2-inch thick panel

(lb/MSF 1/2); one lb/MSF 1/2 = 0.38 kg/m^3; pounds of pollutant per thousand square feet of 1/8-inch thick panel (lb/MSF 1/8); one lb/MSF 1/8 = 1.54 kg/m^3.

[d] Reference 2.

[e] Emission factors apply only to the heated zones of the dryer; the cooling sections also have emissions but data were not available for cooling section emissions.

Table 10.6.4-3. EMISSION FACTORS FOR HARDBOARD AND FIBERBOARD DRYERS, OVENS—ORGANICS[a]

Source	Emission Control Device	CASRN[b]	Pollutant	Emission Factor	Emission Factor Units[c]	EMISSION FACTOR RATING
Hardboard tube dryer, direct natural gas-fired, blowline blend, PF resin, hardwood (SCC 3-07-014-15)	None		THC as carbon[d]	3.2[f]	lb/ODT	E
			VOC as propane[e]	5.0	lb/ODT	E
		75-07-0	Acetaldehyde *	0.0096[f]	lb/ODT	E
		67-64-1	Acetone	0.0095[f]	lb/ODT	E
		107-02-8	Acrolein *	0.0041[f,g]	lb/ODT	E
		71-43-2	Benzene *	0.000088[f]	lb/ODT	E
			Benzo(a)pyrene	BDL		
			Bromomethane *	BDL		
		74-87-3	Chloromethane *	0.000019[f]	lb/ODT	E
			Ethanol	BDL		
		100-41-4	Ethylbenzene *	0.00013[f]	lb/ODT	E
		50-00-0	Formaldehyde *	1.1[f,g]	lb/ODT	E
		66-25-1	Hexaldehyde	0.052[f,g]	lb/ODT	E
			Isobutanol	BDL		
			m,p-Cresol *	BDL		
		67-56-1	Methanol *	1.4[f]	lb/ODT	E
		78-93-3	Methyl ethyl ketone *	0.00083[f]	lb/ODT	E
			Methyl propyl ketone	BDL		
			Methylene chloride *	BDL		
			Naphthalene *	BDL		
			o-Cresol *	BDL		
		108-95-2	Phenol *	0.056[f]	lb/ODT	E
			Propanol	BDL		
		123-38-6	Propionaldehyde *	0.041[f]	lb/ODT	E
			Pyridine	BDL		
		100-42-5	Styrene *	0.0027[f]	lb/ODT	E
		108-88-3	Toluene *	0.00023[f]	lb/ODT	E
		75-69-4	Trichlorofluoromethane	0.000020[f]	lb/ODT	E
		1330-20-7	Xylenes *	0.000056[f]	lb/ODT	E

Table 10.6.4-3 (cont.).

Source	Emission Control Device	CASRN[b]	Pollutant	Emission Factor	Emission Factor Units[c]	EMISSION FACTOR RATING
Hardboard tube dryer, direct wood-fired, blowline blend, PF resin, hardwood (SCC 3-07-014-10)	None		THC as carbon[d]	0.74	lb/ODT	D
			VOC as propane[e]	1.1	lb/ODT	E
			1,2-Dichloroethane *	BDL		
			1,2,4-Trichlorobenzene *	BDL		
			3-Carene	BDL		
		75-07-0	Acetaldehyde *	0.11	lb/ODT	D
		67-64-1	Acetone	0.018	lb/ODT	D
			Acrolein *	BDL		
			Alpha-pinene	BDL		
			Benzene *	BDL		
			Beta-pinene	BDL		
			Bromomethane *	BDL		
			Camphene	BDL		
			Chloroethane *	BDL		
			Chloroethene *	BDL		
			Cis-1,2-dichloroethylene	BDL		
			Cumene *	BDL		
		50-00-0	Formaldehyde *	0.26	lb/ODT	D
			Limonene	BDL		
		67-56-1	Methanol *	1.0	lb/ODT	D
			Methyl ethyl ketone *	BDL		
			Methyl isobutyl ketone *	BDL		
			Methylene chloride *	BDL		
			m,p-Xylene *	BDL		
			o-Xylene *	BDL		
			p-Cymene	BDL		
			p-Mentha-1,5-diene	BDL		
		108-95-2	Phenol *	0.083	lb/ODT	D
			Propionaldehyde *	BDL		
			Styrene *	BDL		
			Toluene *	BDL		

Table 10.6.4-3 (cont.).

Source	Emission Control Device	CASRN[b]	Pollutant	Emission Factor	Emission Factor Units[c]	EMISSION FACTOR RATING
Hardboard tube dryer, second stage, indirect-heated, hardwood (SCC 3-07-014-25)	None		THC as carbon[d]	0.23	lb/ODT	D
			VOC as propane[e]	0.27	lb/ODT	E
			1,2-Dichloroethane *	BDL		
			1,2,4-Trichlorobenzene *	BDL		
			3-Carene	BDL		
			Acetaldehyde *	BDL		
		67-64-1	Acetone	0.031	lb/ODT	D
			Acrolein *	BDL		
			Alpha-pinene	BDL		
			Benzene *	BDL		
			Beta-pinene	BDL		
			Bromomethane *	BDL		
			Camphene	BDL		
			Chloroethane *	BDL		
			Chloroethene *	BDL		
			Cis-1,2-dichloroethylene	BDL		
			Cumene *	BDL		
		50-00-0	Formaldehyde *	0.017	lb/ODT	D
			Limonene	BDL		
		67-56-1	Methanol *	0.042	lb/ODT	D
			Methyl isobutyl ketone *	BDL		
			Methyl ethyl ketone *	BDL		
			Methylene chloride *	BDL		
			m,p,-Xylene *	BDL		
			o-Xylene *	BDL		
			p-Cymene	BDL		
			p-Mentha-1,5-diene	BDL		
		108-95-2	Phenol *	0.039	lb/ODT	D
			Propionaldehyde *	BDL		
			Styrene *	BDL		
			Toluene *	BDL		

Table 10.6.4-3 (cont.).

Source	Emission Control Device	CASRN[b]	Pollutant	Emission Factor	Emission Factor Units[c]	EMISSION FACTOR RATING
Hardboard board dryer, direct natural-gas fired, linseed oil binder (heated zones), softwood (SCC 3-07-014-16)	None		1,2-Dichloroethane *	BDL		
			1,2,4-Trichlorobenzene *	BDL		
			3-Carene	BDL		
		75-07-0	Acetaldehyde *	0.053[h]	lb/MSF 1/2	E
		67-64-1	Acetone	0.021[h]	lb/MSF 1/2	E
		107-02-8	Acrolein *	0.037[h]	lb/MSF 1/2	E
			Alpha-pinene	BDL		
		71-43-2	Benzene *	0.0021[h]	lb/MSF 1/2	E
			Beta-pinene	BDL		
			Bromomethane *	BDL		
			Camphene	BDL		
			Chloroethane *	BDL		
			Chloroethene *	BDL		
			Cis-1,2-dichloroethylene	BDL		
			Cumene *	BDL		
		50-00-0	Formaldehyde *	0.059[h]	lb/MSF 1/2	E
			Limonene	BDL		
		67-56-1	Methanol *	0.047[h]	lb/MSF 1/2	E
		78-93-3	Methyl ethyl ketone *	0.0013[h]	lb/MSF 1/2	E
		108-10-1	Methyl isobutyl ketone *	0.0034[h]	lb/MSF 1/2	E
			Methylene chloride *	BDL		
			m,p-Xylene *	BDL		
			o-Xylene *	BDL		
			p-Cymene	BDL		
			p-Mentha-1,5-diene	BDL		
		108-95-2	Phenol *	0.0019[h]	lb/MSF 1/2	E
		123-38-6	Propionaldehyde *	0.025[h]	lb/MSF 1/2	E
		100-42-5	Styrene *	0.00016[h]	lb/MSF 1/2	E
		108-88-3	Toluene *	0.0010[h]	lb/MSF 1/2	E

Table 10.6.4-3 (cont.).

Source	Emission Control Device	CASRN[b]	Pollutant	Emission Factor	Emission Factor Units[c]	EMISSION FACTOR RATING
Hardboard tempering oven, direct natural gas-fired (SCC 3-07-014-20)	None		THC as carbon[d]	0.50	lb/MSF 1/8	E
			VOC as propane[e]	0.61	lb/MSF 1/8	E
			1,2-Dichloroethane *	BDL		
			1,2,4-Trichlorobenzene *	BDL		
			3-Carene	BDL		
		75-07-0	Acetaldehyde *	0.076	lb/MSF 1/8	E
		67-64-1	Acetone	0.0034	lb/MSF 1/8	E
		107-02-8	Acrolein *	0.024	lb/MSF 1/8	E
			Alpha-pinene	BDL		
			Benzene *	BDL		
			Beta-pinene	BDL		
			Bromomethane *	BDL		
			Camphene	BDL		
			Chloroethane *	BDL		
			Chloroethene *	BDL		
			Cis-1,2-dichloroethylene	BDL		
			Cumene *	BDL		
		50-00-0	Formaldehyde *	0.0043	lb/MSF 1/8	E
			Limonene	BDL		
		67-56-1	Methanol *	0.015	lb/MSF 1/8	E
		78-93-3	Methyl ethyl ketone *	0.00075	lb/MSF 1/8	E
		108-10-1	Methyl isobutyl ketone *	0.0046	lb/MSF 1/8	E
			Methylene chloride *	BDL		
			m,p-Xylene *	BDL		
			o-Xylene *	BDL		
			p-Cymene	BDL		
			p-Mentha-1,5-diene	BDL		
		108-95-2	Phenol *	0.0019	lb/MSF 1/8	E
		123-38-6	Propionaldehyde *	0.10	lb/MSF 1/8	E
			Styrene *	BDL		
			Toluene *	BDL		

Table 10.6.4-3 (cont.).

Source	Emission Control Device	CASRN[b]	Pollutant	Emission Factor	Emission Factor Units[c]	EMISSION FACTOR RATING
Hardboard tempering oven, direct natural gas-fired (SCC 3-07-014-20)	RTO		THC as carbon[d]	BDL		
			1,2-Dichloroethane *	BDL		
			1,2,4-Trichlorobenzene *	BDL		
			3-Carene	BDL		
			Acetaldehyde *	BDL		
		67-64-1	Acetone	0.00091	lb/MSF 1/8	E
			Acrolein *	BDL		
			Alpha-pinene	BDL		
			Benzene *	BDL		
			Beta-pinene	BDL		
			Bromomethane *	BDL		
			Camphene	BDL		
			Chloroethane *	BDL		
			Chloroethene *	BDL		
			Cis-1,2-dichloroethylene	BDL		
			Cumene *	BDL		
			Formaldehyde *	BDL		
			Limonene	BDL		
		67-56-1	Methanol *	0.00087	lb/MSF 1/8	E
			Methyl ethyl ketone *	BDL		
			Methyl isobutyl ketone *	BDL		
			Methylene chloride *	BDL		
			m,p-Xylene *	BDL		
			o-Xylene *	BDL		
			p-Cymene	BDL		
			p-Mentha-1,5-diene	BDL		
		108-95-2	Phenol *	0.0020	lb/MSF 1/8	E
			Propionaldehyde *	BDL		
			Styrene *	BDL		
			Toluene *	BDL		

Table 10.6.4-3 (cont.).

Source	Emission Control Device	CASRN[b]	Pollutant	Emission Factor	Emission Factor Units[c]	EMISSION FACTOR RATING
Fiberboard board dryer, indirect heated, starch binder (heated zones), softwood (SCC 3-07-015-10)	None		THC as carbon[d]	0.063[h]	lb/MSF 1/2	E
			VOC as propane[e]	0.082[h]	lb/MSF 1/2	E
			1,2-Dichloroethane *	BDL		
			1,2,4-Trichlorobenzene *	BDL		
			3-Carene	BDL		
		75-07-0	Acetaldehyde *	0.00097[h]	lb/MSF 1/2	E
		67-64-1	Acetone	0.0038[h]	lb/MSF 1/2	E
		107-02-8	Acrolein *	0.00057[h]	lb/MSF 1/2	E
		80-56-8	Alpha-pinene	0.013[h]	lb/MSF 1/2	E
			Benzene *	BDL		
			Beta-pinene	BDL		
			Bromomethane *	BDL		
			Camphene	BDL		
			Chloroethane *	BDL		
			Chloroethene *	BDL		
			Cis-1,2-dichloroethylene	BDL		
			Cumene *	BDL		
		50-00-0	Formaldehyde *	0.0093[h]	lb/MSF 1/2	E
			Limonene	BDL		
		67-56-1	Methanol *	0.017[h]	lb/MSF 1/2	E
			Methyl ethyl ketone *	BDL		
			Methyl isobutyl ketone *	BDL		
			Methylene chloride *	BDL		
			m,p-Xylene *	BDL		
			o-Xylene *	BDL		
			p-Cymene	BDL		
			p-Mentha-1,5-diene	BDL		
		108-95-2	Phenol *	0.0012[h]	lb/MSF 1/2	E
		123-38-6	Propionaldehyde *	0.00069[h]	lb/MSF 1/2	E
			Styrene *	BDL		
			Toluene *	BDL		

Table 10.6.4-3 (cont.).

Source	Emission Control Device	CASRN[b]	Pollutant	Emission Factor	Emission Factor Units[c]	EMISSION FACTOR RATING
Fiberboard board dryer, indirect heated, 6-12% asphalt binder (heated zones), softwood (SCC 3-07-015-12)	None		THC as carbon[d]	0.11[h]	lb/MSF 1/2	D
			VOC as propane[e]	0.14[h]	lb/MSF 1/2	E
			1,2-Dichloroethane *	BDL		
			1,2,4-Trichlorobenzene *	BDL		
			3-Carene	BDL		
		75-07-0	Acetaldehyde *	0.0029[h]	lb/MSF 1/2	E
		67-64-1	Acetone	0.0048[h]	lb/MSF 1/2	E
		107-02-8	Acrolein *	0.0012[h]	lb/MSF 1/2	E
		80-56-8	Alpha-pinene	0.014[h]	lb/MSF 1/2	E
			Benzene *	BDL		
			Beta-pinene	BDL		
			Bromomethane *	BDL		
			Camphene	BDL		
			Chloroethane *	BDL		
			Chloroethene *	BDL		
			Cis-1,2-dichloroethylene	BDL		
			Cumene *	BDL		
		50-00-0	Formaldehyde *	0.013[h]	lb/MSF 1/2	E
			Limonene	BDL		
		67-56-1	Methanol *	0.026[h]	lb/MSF 1/2	E
			Methyl isobutyl ketone *	BDL		
			Methyl ethyl ketone *	BDL		
			Methylene chloride *	BDL		
			m,p-Xylene *	BDL		
			o-Xylene *	BDL		
			p-Cymene	BDL		
			p-Mentha-1,5-diene	BDL		
		108-95-2	Phenol *	0.0014[h]	lb/MSF 1/2	E
			Propionaldehyde *	BDL		
			Styrene *	BDL		
			Toluene *	BDL		

[a] Factors represent uncontrolled emissions. SCC = Source Classification Code. * = hazardous air pollutant. BDL = below test method detection limit; indicates that this pollutant has not been detected in any test runs on this source. Reference 3 unless otherwise noted. See Table 10.6.4-10 for the hardwood and softwood species commonly used in the production of hardboard, fiberboard, and other composite wood products. **Note: emission factors in table represent averages of data sets. The data spreadsheets, which may be more useful for specific applications, are available on EPA's TTN website at: http://www.epa.gov/ttn/chief/.**

[b] CASRN = Chemical Abstracts Service Registry Number.

[c] Emission factor units: pounds of pollutant per oven-dried ton of wood material (lb/ODT); one lb/ODT = 0.5 kg/Mg (oven-dried); pounds of pollutant per thousand square feet of 1/2-inch thick panel (lb/MSF 1/2); one lb/MSF 1/2 = 0.38 kg/m^3; pounds of pollutant per thousand square feet of 1/8-inch thick panel (lb/MSF 1/8); one lb/MSF 1/8 = 1.54 kg/m^3.

[d] THC as carbon = total hydrocarbon measurements using EPA Method 25A.

Table 10.6.4-3 (cont.).

[e] VOC as propane = (1.22 × THC) + formaldehyde - (acetone + methane + methylene chloride); a value of zero is inserted in the equation for the specified compounds where no emission factor is available, or where the emission factor is reported only as “BDL”.

[f] Reference 2.

[g] Based on M0011 data only; suspected to be biased low due to poor collection efficiency or analytical problems.

[h] Emission factors apply only to the heated zones of the dryer; the cooling sections also have emissions but data were not available for cooling section emissions.

Table 10.6.4-4. EMISSION FACTORS FOR HARDBOARD PRESSES--PARTICULATE MATTER[a]

Source[c]	Emission Control Device	Filterable[b]				Condensible[d]	EMISSION FACTOR RATING
		PM	EMISSION FACTOR RATING	PM-10	EMISSION FACTOR RATING		
Hardboard hot press, PF resin (SCC 3-07-014-40)	Uncontrolled	0.14	E	0.086	E	0.12	E

[a] Emission factor units are pounds of pollutant per thousand square feet of 1/8-inch thick panel (lb/MSF 1/8). One lb/MSF 1/8 = 1.54 kg/m^3. Factors represent uncontrolled emissions. SCC = Source Classification Code. Reference 4. **Note: emission factors in table represent averages of data sets. The data spreadsheets, which may be more useful for specific applications, are available on EPA's TTN website at: http://www.epa.gov/ttn/chief/.**

[b] Filterable PM is that PM collected on or prior to the filter of an EPA Method 5 (or equivalent) sampling train. Filterable PM-10 is that PM collected on the filter, or in the sample line between the cyclone and filter of an EPA Method 201 or 201A sampling train.

[c] PF = phenol formaldehyde.

[d] Condensible PM is that PM collected in the impinger portion of a PM sampling train (EPA Method 202).

Table 10.6.4-5. EMISSION FACTORS FOR HARDBOARD PRESSES--NO_x, CO, AND CO_2 [a]

Source[b]	Emission Control Device	NO_x	EMISSION FACTOR RATING	CO	EMISSION FACTOR RATING	CO_2	EMISSION FACTOR RATING
Hardboard hot press, PF resin (SCC 3-07-014-40)	Uncontrolled	ND		ND		ND	

[a] Emission factor units are pounds of pollutant per thousand square feet of 1/8-inch thick panel (lb/MSF 1/8). One lb/MSF 1/8 = 1.54 kg/m^3. Factors represent uncontrolled emissions. SCC = Source Classification Code. ND = no data available. **Note: emission factors in table represent averages of data sets. The data spreadsheets, which may be more useful for specific applications, are available on EPA's TTN website at: http://www.epa.gov/ttn/chief/.**

[b] PF = phenol formaldehyde.

Table 10.6.4-6. EMISSION FACTORS FOR HARDBOARD PRESSES--ORGANICS[a]

Source[b]	Emission Control Device[c]	CASRN[d]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Hardboard hot press, PF resin (SCC 3-07-014-40)	Uncontrolled		THC as carbon[e]	0.42	D
			VOC as propane[f]	0.52	E
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			2,4-Dimethylbenzaldehyde	BDL	
			3-Carene	BDL	
		75-07-0	Acetaldehyde *	0.016	D
		67-64-1	Acetone	0.0055[g]	D
			Acrolein *	BDL	
			Alpha-pinene	BDL	
			Benzaldehyde	BDL	
			Benzene *	BDL	
			Beta-pinene	BDL	
			Bromomethane *	BDL	
			Butyraldehyde	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Crotonaldehyde	BDL	
			Cumene *	BDL	
		50-00-0	Formaldehyde *	0.014	D
			Hexaldehyde	BDL	
			Isovaleraldehyde	BDL	
			Limonene	BDL	
		67-56-1	Methanol *	0.24[g]	D
			Methyl ethyl ketone *	BDL	
			Methyl isobutyl ketone *	BDL	
			Methylene chloride *	BDL	
		1330-20-7	m,p-Xylene *	0.0053	D
			o-,m-,p-Tolualdehyde	BDL	
		95-47-6	o-Xylene *	0.0036	D
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
		108-95-2	Phenol *	0.010	D
			Propionaldehyde *	BDL	
			Styrene *	BDL	
		108-88-3	Toluene *	0.0011	D
			Valeraldehyde	BDL	

Table 10.6.4-6 (cont.).

Source[b]	Emission Control Device[c]	CASRN[d]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Hardboard hot press, PF resin (SCC 3-07-014-40)	Scrubber		THC as carbon[e]	0.043	E
			VOC as propane[f]	0.052	E
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			3-Carene	BDL	
		75-07-0	Acetaldehyde *	0.0033	E
		67-64-1	Acetone	0.0039	E
			Acrolein *	BDL	
			Alpha-pinene	BDL	
			Benzene *	BDL	
			Beta-pinene	BDL	
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
		50-00-00	Formaldehyde *	0.0034	E
			Limonene	BDL	
		67-56-1	Methanol *	0.15	E
			Methyl ethyl ketone *	BDL	
			Methyl isobutyl ketone *	BDL	
			Methylene chloride *	BDL	
			m,p-Xylene *	BDL	
			o-Xylene *	BDL	
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
			Phenol *	BDL	
			Propionaldehyde *	BDL	
			Styrene *	BDL	
			Toluene *	BDL	

Table 10.6.4-6 (cont.).

Source[b]	Emission Control Device[c]	CASRN[d]	Pollutant	Emission Factor	EMISSION FACTOR RATING
Hardboard hot press, linseed oil binder (SCC 3-07-014-42)	Uncontrolled		THC as carbon[e]	0.58	E
			VOC as propane[f]	0.71	E
			1,2-Dichloroethane *	BDL	
			1,2,4-Trichlorobenzene *	BDL	
			3-Carene	BDL	
		75-070	Acetaldehyde *	0.036	E
		67-64-1	Acetone	0.015	E
		107-02-8	Acrolein *	0.0057	E
			Alpha-pinene	BDL	
			Benzene *	BDL	
			Beta-pinene	BDL	
			Bromomethane *	BDL	
			Camphene	BDL	
			Chloroethane *	BDL	
			Chloroethene *	BDL	
			Cis-1,2-dichloroethylene	BDL	
			Cumene *	BDL	
		50-00-0	Formaldehyde *	0.018	E
			Limonene	BDL	
		67-56-1	Methanol *	0.093	E
		78-93-3	Methyl ethyl ketone *	0.0045	E
			Methyl isobutyl ketone *	BDL	
			Methylene chloride *	BDL	
			m,p-Xylene *	BDL	
			o-Xylene *	BDL	
			p-Cymene	BDL	
			p-Mentha-1,5-diene	BDL	
		108-95-2	Phenol *	0.0039	E
		123-38-6	Propionaldehyde *	0.031	E
			Styrene *	BDL	
			Toluene *	BDL	

[a] Emission factor units are pounds of pollutant per thousand square feet of 1/8-inch thick panel (lb/MSF 1/8). One lb/MSF 1/8 = 1.54 kg/m^3. Factors represent uncontrolled emissions unless otherwise noted. SCC = Source Classification Code. * = hazardous air pollutant. BDL = below test method detection limit; indicates that this pollutant has not been detected in any test runs on this source. Reference 3 unless otherwise noted. **Note: emission factors in table represent averages of data sets. The data spreadsheets, which may be more useful for specific applications, are available on EPA's TTN website at: http://www.epa.gov/ttn/chief/.**

[b] PF = phenol formaldehyde.

[c] Emission control device: scrubber consists of a water quench, followed by a water tray tower, followed by a high-energy venturi scrubber with a 49-inch pressure drop, followed by a chevron demister.

Table 10.6.4-6 (cont.).

[d] CASRN = Chemical Abstracts Service Registry Number.
[e] THC as carbon = total hydrocarbon measurements using EPA Method 25A.
[f] VOC as propane = (1.22 × THC) + formaldehyde - (acetone + methane + methylene chloride); a value of zero is inserted in the equation for the specified compounds where no emission factor is available, or where the emission factor is reported only as “BDL”.
[g] References 3 and 4.

Table 10.6.4-7. EMISSION FACTORS FOR HARDBOARD AND FIBERBOARD MISCELLANEOUS SOURCES–PARTICULATE MATTER[a]

Source	Emission Control Device	Filterable[b]				Condensible[c]	EMISSION FACTOR RATING
		PM	EMISSION FACTOR RATING	PM-10	EMISSION FACTOR RATING		
Hardboard sander (SCC 3-07-014-80)	Fabric filter	0.030	E	ND		ND	
Log storage (SCC 3-07-008-95)	Uncontrolled	ND		ND		ND	
Debarking (SCC 3-07-008-01)	Uncontrolled	ND		ND		ND	
Log cutting (SCC 3-07-008-02)	Uncontrolled	ND		ND		ND	
Log chipping (SCC 3-07-014-82)	Uncontrolled	ND		ND		ND	
Chip storage (SCC 3-07-008-21)	Uncontrolled	ND		ND		ND	

[a] Emission factor units are pounds of pollutant per thousand square feet of 1/8-inch thick panel (lb/MSF 1/8). One lb/MSF 1/8 = 1.54 kg/m^3. SCC = Source Classification Code. ND = no data available. Reference 4.

[b] Filterable PM is that PM collected on or prior to the filter of an EPA Method 5 (or equivalent) sampling train. Filterable PM-10 is that PM collected on the filter, or in the sample line between the cyclone and filter of an EPA Method 201 or 201A sampling train.

[c] Condensible PM is that PM collected in the impinger portion of a PM sampling train (EPA Method 202).

Table 10.6.4-8. EMISSION FACTORS FOR HARDBOARD AND FIBERBOARD MISCELLANEOUS SOURCES--NO_x, CO, AND CO_2[a]

Source	Emission Control Device	NO_x	EMISSION FACTOR RATING	CO	EMISSION FACTOR RATING	CO_2	EMISSION FACTOR RATING
Hardboard humidification kiln, indirect heated (SCC 3-07-014-30)	Uncontrolled	0.0028	E	0.16	E	ND	

[a] Emission factor units are pounds of pollutant per thousand square feet of 1/8-inch thick panel (lb/MSF 1/8). One lb/MSF 1/8 = 1.54 kg/m^3. SCC = Source Classification Code. ND = no data available. Reference 2.

Table 10.6.4-9. EMISSION FACTORS FOR HARDBOARD AND FIBERBOARD MISCELLANEOUS SOURCES--ORGANICS[a]

Source	Emission Control Device[b]	CASRN[c]	Pollutant	Emission Factor	Emission Factor Units[d]	EMISSION FACTOR RATING
Log storage (SCC 3-07-008-95)	Uncontrolled		THC, VOC	ND		
Debarking (SCC 3-07-008-01)	Uncontrolled		THC, VOC	ND		
Log cutting (SCC 3-07-008-02)	Uncontrolled		THC, VOC	ND		
Chip storage (SCC 3-07-008-21)	Uncontrolled		THC, VOC	ND		
Hardboard log chipper, hardwood (SCC 3-07-014-82)	None		THC as carbon[e]	0.0041	lb/ODT	E
			VOC as propane[f]	0.0050	lb/ODT	E
			1,2-Dichloroethane *	BDL		
			1,2,4-Trichlorobenzene *	BDL		
			3-Carene	BDL		
			Acetaldehyde *	BDL		
			Acetone	BDL		
			Acrolein *	BDL		
			Alpha-pinene	BDL		
			Benzene *	BDL		
			Beta-pinene	BDL		
			Bromomethane *	BDL		
			Camphene	BDL		
			Chloroethane *	BDL		
			Chloroethene *	BDL		
			Cis-1,2-dichloroethylene	BDL		
			Cumene *	BDL		
			Formaldehyde *	BDL		
			Limonene	BDL		
		67-56-1	Methanol *	0.0010	lb/ODT	E
			Methyl ethyl ketone *	BDL		
			Methyl isobutyl ketone *	BDL		
			Methylene chloride *	BDL		
			m,p-Xylene *	BDL		
			o-Xylene *	BDL		
			p-Cymene	BDL		
			p-Mentha-1,5-diene	BDL		
			Phenol *	BDL		
			Propionaldehyde *	BDL		
			Styrene *	BDL		
			Toluene *	BDL		

Table 10.6.4-9 (cont.).

Source	Emission Control Device[b]	CASRN[c]	Pollutant	Emission Factor	Emission Factor Units[d]	EMISSION FACTOR RATING
Hardboard pressurized digester/ refiner, hardwood (SCC 3-07-014-84)	None		THC as carbon[e]	0.40	lb/ODT	E
			VOC as propane[f]	0.49	lb/ODT	E
			1,2-Dichloroethane *	BDL		
			1,2,4-Trichlorobenzene *	BDL		
			3-Carene	BDL		
		75-07-0	Acetaldehyde *	0.030	lb/ODT	E
		67-64-1	Acetone	0.0042	lb/ODT	E
		107-02-8	Acrolein *	0.0024	lb/ODT	E
		80-56-8	Alpha-pinene	0.0039	lb/ODT	E
			Benzene *	BDL		
		127-91-3	Beta-pinene	0.0063	lb/ODT	E
			Bromomethane *	BDL		
			Camphene	BDL		
			Chloroethane *	BDL		
			Chloroethene *	BDL		
			Cis-1,2-dichloroethylene	BDL		
			Cumene *	BDL		
		50-00-0	Formaldehyde *	0.0045	lb/ODT	E
		138-86-3	Limonene	0.0026	lb/ODT	E
		67-56-1	Methanol *	0.35	lb/ODT	E
		78-93-3	Methyl ethyl ketone *	0.00025	lb/ODT	E
		108-10-1	Methyl isobutyl ketone *	0.00024	lb/ODT	E
			Methylene chloride *	BDL		
			m,p-Xylene *	BDL		
			o-Xylene *	BDL		
			p-Cymene	BDL		
			p-Mentha-1,5-diene	BDL		
		108-95-2	Phenol *	0.0012	lb/ODT	E
		123-38-6	Propionaldehyde *	0.00091	lb/ODT	E
		100-42-5	Styrene *	0.00016	lb/ODT	E
			Toluene *	BDL		

Table 10.6.4-9 (cont.).

Source	Emission Control Device[b]	CASRN[c]	Pollutant	Emission Factor	Emission Factor Units[d]	EMISSION FACTOR RATING
Hardboard former vacuum system, wet, PF resin (SCC 3-07-014-86)	None		1,2-Dichloroethane *	BDL		
			1,2,4-Trichlorobenzene *	BDL		
			3-Carene	BDL		
		75-07-0	Acetaldehyde *	0.0058	lb/ODT	D
		67-64-1	Acetone	0.0032	lb/ODT	D
			Acrolein *	BDL		
			Alpha-pinene	BDL		
			Benzene *	BDL		
			Beta-pinene	BDL		
			Bromomethane *	BDL		
			Camphene	BDL		
			Chloroethane *	BDL		
			Chloroethene *	BDL		
			Cis-1,2-dichloroethylene	BDL		
			Cumene *	BDL		
		50-00-0	Formaldehyde *	0.00026	lb/ODT	D
			Limonene	BDL		
		67-56-1	Methanol *	0.054	lb/ODT	D
		78-93-3	Methyl ethyl ketone *	0.00030	lb/ODT	D
		108-10-1	Methyl isobutyl ketone *	0.00023	lb/ODT	D
			Methylene chloride *	BDL		
			p-Cymene	BDL		
			p-Mentha-1,5-diene	BDL		
		108-95-2	Phenol *	0.00071	lb/ODT	D
		123-38-6	Propionaldehyde *	0.00021	lb/ODT	D
			Styrene *	BDL		

Table 10.6.4-9 (cont.).

Source	Emission Control Device[b]	CASRN[c]	Pollutant	Emission Factor	Emission Factor Units[d]	EMISSION FACTOR RATING
Fiberboard atmospheric refiner and dump chest, softwood (SCC 3-07-015-30)	None		THC as carbon[e]	0.79	lb/ODT	E
			VOC as propane[f]	0.96	lb/ODT	E
			1,2-Dichloroethane *	BDL		
			1,2,4-Trichlorobenzene *	BDL		
			3-Carene	BDL		
		75-07-0	Acetaldehyde *	0.0027	lb/ODT	E
		67-64-1	Acetone	0.0039	lb/ODT	E
		107-02-8	Acrolein *	0.00030	lb/ODT	E
		80-56-8	Alpha-pinene	0.72	lb/ODT	E
			Benzene *	BDL		
		127-91-3	Beta-pinene	0.099	lb/ODT	E
			Bromomethane *	BDL		
			Camphene	BDL		
			Chloroethane *	BDL		
			Chloroethene *	BDL		
			Cis-1,2-dichloroethylene	BDL		
		98-82-8	Cumene *	0.0034	lb/ODT	E
		50-00-0	Formaldehyde *	0.00061	lb/ODT	E
		138-86-3	Limonene	0.017	lb/ODT	E
		67-56-1	Methanol *	0.0084	lb/ODT	E
		78-93-3	Methyl ethyl ketone *	0.00021	lb/ODT	E
			Methyl isobutyl ketone *	BDL		
			Methylene chloride *	BDL		
			m,p-Xylene *	BDL		
			o-Xylene *	BDL		
			p-Cymene	BDL		
			p-Mentha-1,5-diene	BDL		
			Phenol *	BDL		
		123-38-6	Propionaldehyde *	0.00026	lb/ODT	E
			Styrene *	BDL		
		108-88-3	Toluene *	0.00029	lb/ODT	E

Table 10.6.4-9 (cont.).

Source	Emission Control Device[b]	CASRN[c]	Pollutant	Emission Factor	Emission Factor Units[d]	EMISSION FACTOR RATING
Fiberboard washer, softwood (SCC 3-07-015-40)	None		THC as carbon[e]	0.19	lb/ODT	E
			VOC as propane[f]	0.23	lb/ODT	E
			1,2-Dichloroethane *	BDL		
			1,2,4-Trichlorobenzene *	BDL		
			3-Carene	BDL		
		75-07-0	Acetaldehyde *	0.015	lb/ODT	E
		67-64-1	Acetone	0.0047	lb/ODT	E
			Acrolein *	BDL		
			Alpha-pinene	BDL		
			Benzene *	BDL		
			Beta-pinene	BDL		
			Bromomethane *	BDL		
			Camphene	BDL		
			Chloroethane *	BDL		
			Chloroethene *	BDL		
			Cis-1,2-dichloroethylene	BDL		
			Cumene *	BDL		
		50-00-0	Formaldehyde *	0.0026	lb/ODT	E
			Limonene	BDL		
		67-56-1	Methanol *	0.13	lb/ODT	E
			Methyl ethyl ketone *	BDL		
			Methyl isobutyl ketone *	BDL		
			Methylene chloride *	BDL		
			m,p-Xylene *	BDL		
			o-Xylene *	BDL		
			p-Cymene	BDL		
			p-Mentha-1,5-diene	BDL		
			Phenol *	BDL		
			Propionaldehyde *	BDL		
			Styrene *	BDL		
			Toluene *	BDL		

Table 10.6.4-9 (cont.).

Source	Emission Control Device[b]	CASRN[c]	Pollutant	Emission Factor	Emission Factor Units[d]	EMISSION FACTOR RATING
Fiberboard former vacuum system, wet, 6-12% asphalt (SCC 3-07-015-50)	None		THC as carbon[e]	0.15	lb/MSF 1/2	E
			VOC as propane[f]	0.17	lb/MSF 1/2	E
			1,2-Dichloroethane *	BDL		
			1,2,4-Trichlorobenzene *	BDL		
			3-Carene	BDL		
		75-07-0	Acetaldehyde *	0.0075	lb/MSF 1/2	E
		67-64-1	Acetone	0.014	lb/MSF 1/2	E
			Acrolein *	BDL		
			Alpha-pinene	BDL		
			Benzene *	BDL		
			Beta-pinene	BDL		
			Bromomethane *	BDL		
			Camphene	BDL		
			Chloroethane *	BDL		
			Chloroethene *	BDL		
			Cis-1,2-dichloroethylene	BDL		
			Cumene *	BDL		
		50-00-0	Formaldehyde *	0.0036	lb/MSF 1/2	E
			Limonene	BDL		
		67-56-1	Methanol *	0.014	lb/MSF 1/2	E
			Methyl ethyl ketone *	BDL		
			Methyl isobutyl ketone *	BDL		
			Methylene chloride *	BDL		
			m,p-Xylene *	BDL		
			o-Xylene *	BDL		
			p-Cymene	BDL		
			p-Mentha-1,5-diene	BDL		
			Phenol *	BDL		
			Propionaldehyde *	BDL		
			Styrene *	BDL		
		108-88-3	Toluene *	0.0023	lb/MSF 1/2	E

Table 10.6.4-9 (cont.).

Source	Emission Control Device[b]	CASRN[c]	Pollutant	Emission Factor	Emission Factor Units[d]	EMISSION FACTOR RATING
Hardboard humidification kiln, indirect heated (SCC 3-07-014-30)	None		THC as carbon[e]	0.62[g]	lb/MSF 1/8	E
			VOC as propane[f]	0.76	lb/MSF 1/8	E
			2,4-Dimethylbenzaldehyde	BDL		
		75-07-0	Acetaldehyde *	0.0018[g]	lb/MSF 1/8	E
		67-64-1	Acetone	0.0038[g]	lb/MSF 1/8	D
		107-02-8	Acrolein *	0.0087[g,h]	lb/MSF 1/8	E
			Benzaldehyde	BDL		
		71-43-2	Benzene *	6.2E-06[g]	lb/MSF 1/8	E
			Benzo(a)pyrene	BDL		
			Bromomethane *	BDL		
			Butyraldehyde	BDL		
		75-00-3	Chloroethane *	0.000014[g]	lb/MSF 1/8	E
		74-87-3	Chloromethane *	0.00012[g]	lb/MSF 1/8	E
			Crotonaldehyde	BDL		
			Ethanol	BDL		
		100-41-4	Ethylbenzene *	0.000032[g]	lb/MSF 1/8	E
		50-00-0	Formaldehyde *	0.0010[g,h]	lb/MSF 1/8	E
		66-25-1	Hexaldehyde	0.011[g,h]	lb/MSF 1/8	E
			Isobutanol	BDL		
			Isovaleraldehyde	BDL		
			Methanol *	BDL		
		78-93-3	Methyl ethyl ketone *	0.0014[g]	lb/MSF 1/8	E
			Methyl propyl ketone *	BDL		
			Methylene chloride *	BDL		
		1319-77-3	m,p-Cresol *	0.00033[g]	lb/MSF 1/8	E
			Naphthalene *	BDL		
		95-48-7	o-Cresol *	0.00021[g]	lb/MSF 1/8	E
			o-,m-,p-Tolualdehyde	BDL		
		108-95-2	Phenol *	0.00057[g]	lb/MSF 1/8	E
			Propanol	BDL		
		123-38-6	Propionaldehyde *	0.0077[g]	lb/MSF 1/8	E
			Pyridine	BDL		
			Styrene *	BDL		
		108-88-3	Toluene *	0.000034[g]	lb/MSF 1/8	E
			Trichlorofluoromethane	BDL		
			Valeraldehyde	BDL		
		1330-20-7	Xylenes *	0.000042[g]	lb/MSF 1/8	E

[a] Factors represent uncontrolled emissions unless otherwise noted. SCC = Source Classification Code. * = hazardous air pollutant. BDL = below test method detection limit; indicates that this pollutant has not been detected in any test runs on this source. Reference 3 unless otherwise noted. **Note: emission factors in table represent averages of data sets. The data spreadsheets, which may be more useful for specific applications, are available on EPA's TTN website at: http://www.epa.gov/ttn/chief/.**

[b] Fabric filters (baghouses) are considered no control for organic pollutants.

[c] CASRN = Chemical Abstracts Service Registry Number.

Table 10.6.4-9 (cont.).

[d] Emission factor units: pounds of pollutant per oven-dried ton of wood material (lb/ODT); one lb/ODT = 0.5 kg/Mg (oven-dried); pounds of pollutant per thousand square feet of 1/2-inch thick panel (lb/MSF 1/2); one lb/MSF 1/2 = 0.38 kg/m^3; pounds of pollutant per thousand square feet of 1/8-inch thick panel (lb/MSF 1/8); one lb/MSF 1/8 = 1.54 kg/m^3.

[e] THC as carbon = total hydrocarbon measurements using EPA Method 25A.

[f] VOC as propane = (1.22 × THC) + formaldehyde - (acetone + methane + methylene chloride); a value of zero is inserted in the equation for the specified compounds where no emission factor is available, or where the emission factor is reported only as “BDL”.

[g] Reference 2.

[h] Based on M0011 data only; suspected to be biased low due to poor collection efficiency or analytical problems.

Table 10.6.4-10. WOOD SPECIES COMMONLY USED IN COMPOSITE WOOD PRODUCTS MANUFACTURING [a]

Wood product	AP-42 section	Hardwood species	Softwood species
Plywood	10.5	Oak, cherry, poplar, maple, larch	Firs, pines
Oriented strandboard	10.6-1	Aspen	Pines, firs, spruce
Particleboard	10.6-2	Aspen, oak	Pines, firs
Medium density fiberboard	10.6-3	Gum, alder, hickory	Pines, firs
Hardboard/fiberboard	10.6-4	Aspen, birch, beech, oak, maple	Pines
Engineered wood products	10.9	Aspen, birch, poplar	Pines, firs, hemlock

[a] Reference 5.

References For Section 10.6.4

1. *Background Information Document For Proposed Plywood And Composite Wood Products NESHAP*, prepared for the U. S. Environmental Protection Agency, OAQPS, by Midwest Research Institute, Cary, NC, September 2000.

2. *Results Of The January 17-19, 1995 Source Emission Tests On The Dryer Stack, Dump Stack And Humidification Kiln Stack At The Georgia Pacific Facility Located In Phillips, Wisconsin*, prepared for CH2M Hill, by PACE, Inc., Project No. 941228.401, March 2, 1995.

3. *Volatile Organic Compound Emissions From Wood Products Manufacturing Facilities, Part VI - Hardboard/Fiberboard, Technical Bulletin No. 773*, National Council of the Paper Industry for Air and Stream Improvement, Inc., Research Triangle Park, NC, 1999.

4. *Title V Emissions Test Report, PM10, Particulate Matter, Condensible Particulate Matter, Aldehydes/Ketones, Phenols, Methanol, Oxygen, Carbon Dioxide, Carbon Monoxide, Nitrogen Oxides, And Cold Total Hydrocarbons From Process Stacks, Georgia Pacific Hardboard Manufacturing Plant, North Little Rock, Arkansas, Test Dates September 26-29, 1995*, prepared for CH2M Hill and Georgia Pacific Corporation, by DEECO, Inc., Report No. 95-1200-A, October 27, 1995.

5. *Emission Factor Documentation For AP-42 Chapter 10, Wood Products Industry,* prepared for the U. S. Environmental Protection Agency, OAQPS/EFIG, by Midwest Research Institute, Cary, NC, July 2003.

Clackamas County Planning and Zoning Division
Department of Transportation and Development
Development Services Building
150 Beavercreek Road | Oregon City, OR 97045
503-742-4500 | zoninginfo@clackamas.us
www.clackamas.us/planning

NOTICE OF PUBLIC HEARINGS BEFORE THE PLANNING COMMISSION AND THE BOARD OF COUNTY COMMISSIONERS ON A LAND USE PROPOSAL IN YOUR AREA

Date of Mailing of this Notice: June 8, 2026

Notice Sent To: Applicant, Agencies, Community Planning Organization(s) and property owners within 2,640 feet of the subject property.

Note: the Planning Commission is holding public hearings virtually using the Zoom platform, and the Board of County Commissioners is holding public hearings **both in person and virtually using the Zoom platform**.

PLANNING COMMISSION HEARING

Date & Time:
6:30 PM Monday, July 13, 2026 This hearing will not begin before 6:30 PM. However, it may begin later depending on the length of any preceding items.

How to Attend via Zoom:
This hearing will be conducted virtually using the Zoom platform. One week before the hearing, a Zoom link and details on how to observe and testify online or by phone will be available at www.clackamas.us/planning/planning-commission.

BOARD OF COUNTY COMMISSIONERS HEARING

Date & Time:
11:00 AM Tuesday, August 4, 2026
This hearing will not begin before 11:00 AM. However, it may begin later depending on the length of any preceding items.

In-Person Hearing Location:
BCC Hearing Room (4th Floor), 2051 Kaen Rd, Oregon City, 97045

How to Attend via Zoom:
One week before the hearing, a Zoom link and details on how to observe and testify online or by phone will be available at www.clackamas.us/meetings/bcc/landuse.

File Numbers:	**Z0437-25** and **Z0438-25**
Applicant:	M & S Investments LLC / Andrew Stamp, VF Law
Property Owner:	M & S Investments LLC / Mitchell and Sara Magenheimer
Proposal:	**Comprehensive Plan Map Amendment and Zone Change** for an "abandoned or diminished" mill site subject to ORS 197.719 from AG (Agriculture) Plan Designation / EFU (Exclusive Farm Use) Zone to Rural Industrial (RI) Plan Designation / Rural Industrial (RI) Zone.
Approval Criteria:	Statewide Planning Goals; Clackamas County Comprehensive Plan; and Clackamas County Zoning and Development Ordinance (ZDO) Sections 202, 604, 1202, 1307
Site Location:	**33532 S Kropf Road**, Molalla, OR: On the east side of S Kropf Road and the south side of Rock Creek, approximately ½ mile north of the intersection of S Kropf Road and S Gibson Road.
Assessor's Map:	T5S, R1E, Section21, Tax Lot 1000, W.M.
Property Size:	20.79 acres. Approximately 7.5 acres proposed for rezoning.
Current Zoning:	Exclusive Farm Use (EFU)

***NOTICE** TO MORTGAGEE, LIENHOLDER, VENDOR OR SELLER:*
ORS 215 REQUIRES THAT IF YOU RECEIVE THIS NOTICE, IT MUST PROMPTLY BE FORWARDED TO THE PURCHASER.

HOW TO OBTAIN ADDITIONAL INFORMATION

Staff Contact: Martha Fritzie, Principal Planner | (503) 742-4529 | MFritzie@clackamas.us

A copy of the application, all documents and evidence submitted by or on behalf of the applicant, and applicable criteria are available for inspection at no cost. A staff report on the application will be available for inspection at no cost at least **seven days prior to the hearing**. You may view these materials:

1. By emailing or calling the staff contact listed above; or
2. Online at https://aca-prod.accela.com/CLACKAMAS. After selecting the "Planning" tab, enter the File Number to search. Select "Record Info" and then select "Attachments" from the dropdown list, where you will find the submitted application.

Copies may be purchased for $2.00 / page for 8.5" x 11" or 11" x 14" documents, $2.50 / page for 11" x 17" documents, $3.50 / page for 18" x 24" documents and $0.75 / sq ft ($5 minimum) for larger documents.

Community Planning Organization for Your Area:

The following recognized Community Planning Organization (CPO) has been notified of this application and may develop a recommendation. You are welcome to contact the CPO and attend their meeting on this matter, if one is planned. If this CPO is inactive and you are interested in becoming involved in planning in your area, contact Clackamas County Community Engagement: communityinvolvement@clackamas.us.
CPO: South Canby (inactive) **Contact**: N/A.

HOW TO SUBMIT TESTIMONY ON THIS APPLICATION

- All interested parties are invited to attend the hearings via Zoom remotely online or by phone, and to attend the Board of County Commissioners' (BCC) hearing in person. They will be provided with an opportunity to testify orally, if they so choose. One week prior to the hearing, specific instructions will be available online as explained on the first page of this notice.
- Written testimony received by **July 1, 2026**, will be considered by staff prior to the issuance of the staff report on this application. However, written testimony will continue to be accepted until the record closes, which may occur as soon as the conclusion of the Board of County Commissioners' hearing.
- Written testimony may be submitted by email, fax, or regular mail. Please include the file numbers **Z0437-25** and **Z0438-25** on all correspondence, and address written testimony to the staff contact.
- Testimony, argument, and evidence must be directed toward the approval criteria identified above, or other criteria in the Zoning and Development Ordinance or Comprehensive Plan that you believe apply to the decision. Failure to raise an issue in person at the hearing or by letter prior to the close of the record, or failure to provide statements or evidence sufficient to afford the BCC an opportunity to respond to the issue, precludes an appeal to the Oregon Land Use Board of Appeals based on that issue.
- Written notice of the BCC's decision will be mailed to you if you submit oral or written testimony or make written request for notice of decision **and provide a valid mailing address**.

PROCEDURE FOR THE CONDUCT OF THE HEARING

1. The length of time given to individuals speaking for or against an item will be determined by the Chair presiding over the hearing prior to the item being considered.
2. A spokesperson representing each side of an issue is encouraged.
3. Prior to the conclusion of the evidentiary hearing, any participant may request an opportunity to present additional evidence, argument, or testimony regarding the application. The Planning Commission or the Board of County Commissioners may either continue the hearing or leave the record open for additional written evidence, arguments, or testimony.
4. The Planning Commission will make a recommendation to the Board of County Commissioners (BCC) on the application. The BCC is the final decision-maker for Clackamas County on this matter.

Clackamas County is committed to providing meaningful access and will make reasonable accommodations, modifications, or provide translation, interpretation or other services upon request. Please contact us at 503-742-4545 or email DRenhard@clackamas.us.

503-742-4545: ¿Traducción e interpretación? |Требуется ли вам устный или письменный перевод?
翻译或口译？| Cần Biên dịch hoặc Phiên dịch? | 번역 또는 통역?

Clackamas County Planning and Zoning
Department of Transportation and Development

Development Services Building
150 Beavercreek Road | Oregon City, OR 97045

503-742-4500 | zoninginfo@clackamas.us
www.clackamas.us/planning

NOTICE OF INCOMPLETE TYPE III LAND USE APPLICATION

FILE NUMBER: Z0437-25 & Z0438-25
APPLICATION TYPE: Comprehensive Plan Map Amendment & Zone Change
APPLICANT NAME: M&S Investments LLC
SITE ADDRESS: 33532 S Kropf Rd (51E21 01000)
STAFF CONTACT: Martha Fritzie, Principal Planner EMAIL: mfritzie@clackamas.us
DATE OF APPLICATION SUBMITTAL: October 21, 2025
DATE DEEMED INCOMPLETE: November 5, 2025
DATE OF MAILING OF THIS NOTICE: November 5, 2025
DEADLINE FOR SUBMITTAL OF MISSING INFORMATION (180 days from date the application was first submitted): May 4, 2026

Your Type III land use application has been deemed **incomplete**. Pursuant to Subsection 1307.07(E) of the Clackamas County Zoning and Development Ordinance, your application will be void unless the missing information is submitted within 180 days of the date the application was first submitted. Upon voiding of an application, 75 percent of your application fee will be refunded, and you will need to reapply if you are still interested in obtaining this permit.

MISSING INFORMATION REQUIRED FOR A COMPLETE APPLICATION:

A. Preliminary Statement of Feasibility – stormwater management: Section 1202.03(B) of the county's Zoning & Development Ordinance (ZDO) requires demonstration that development that could occur under the proposed zoning district designation could be accommodated by the needed public services. This demonstration is provided through a signed Preliminary Statement of Feasibility from the appropriate service provider.

This criterion largely relates to public services (water, sewer), which are not available at the subject site, but this criterion is applicable to the subject as it relates to storm water drainage/surface water management. Please submit signed Statement of Feasibility from the surface water management provider.

B. Abandoned or diminished mill: It is unclear when and if the "mill, plant or facility engaged in processing of manufacturing wood products", was abandoned or "diminished", as per ORS197.719. Although the application asserts that the mill was "abandoned" in 2000, the application materials also contain copies of several land use approvals to alter the nonconforming uses on the property

which, as late as 2006, state that it had been demonstrated that the property had an existing “wood processing/lumber milling facility” or “wood products manufacturing facility” use that was established in 1941 and was currently in operation.

Please provide clear evidence and explanation to address which physical portions of the site contained or contain the uses that meet the definition of a mill in ORS197.719; when those uses were abandoned (or if they meet the definition of “diminished”); and what specific uses remain on the site, including where on the site they are operating.

C. Area proposed for Comprehensive Plan map amendment and zone change: Please provide a map clearly identifying the area that is proposed for the Comprehensive Plan map amendment and zone change. This area must contain only the portion of the property on which the abandoned or diminished mill site was/is located and “may include only those areas that were improved for the processing or manufacturing of wood products” (ORS197.719(6)(a)).

IMPORTANT

Your application will be deemed complete, if, within 180 days of the date the application was first submitted, Planning and Zoning receives one of the following:

1. All of the missing information; or

2. Some of the missing information and written notice from you (the applicant) that no other information will be provided; or

3. Written notice from you (the applicant) that none of the missing information will be provided.

If any one of these options is chosen within 180 days of the date of the initial submittal, approval or denial of your application will be subject to the relevant criteria in effect on the date the application was first submitted.

Your application will be considered **void** if, on the 181st day after the date the application was first submitted, you have been mailed this notice and have not provided the information requested in Options 1-3 above. In this case, no further action will be taken on your application.

Applicant or authorized representative, please check one of the following and return this notice to: Clackamas **County Planning and Zoning, 150 Beavercreek Road, Oregon City, OR, 97045 or the staff contact email on page 1 of this notice**

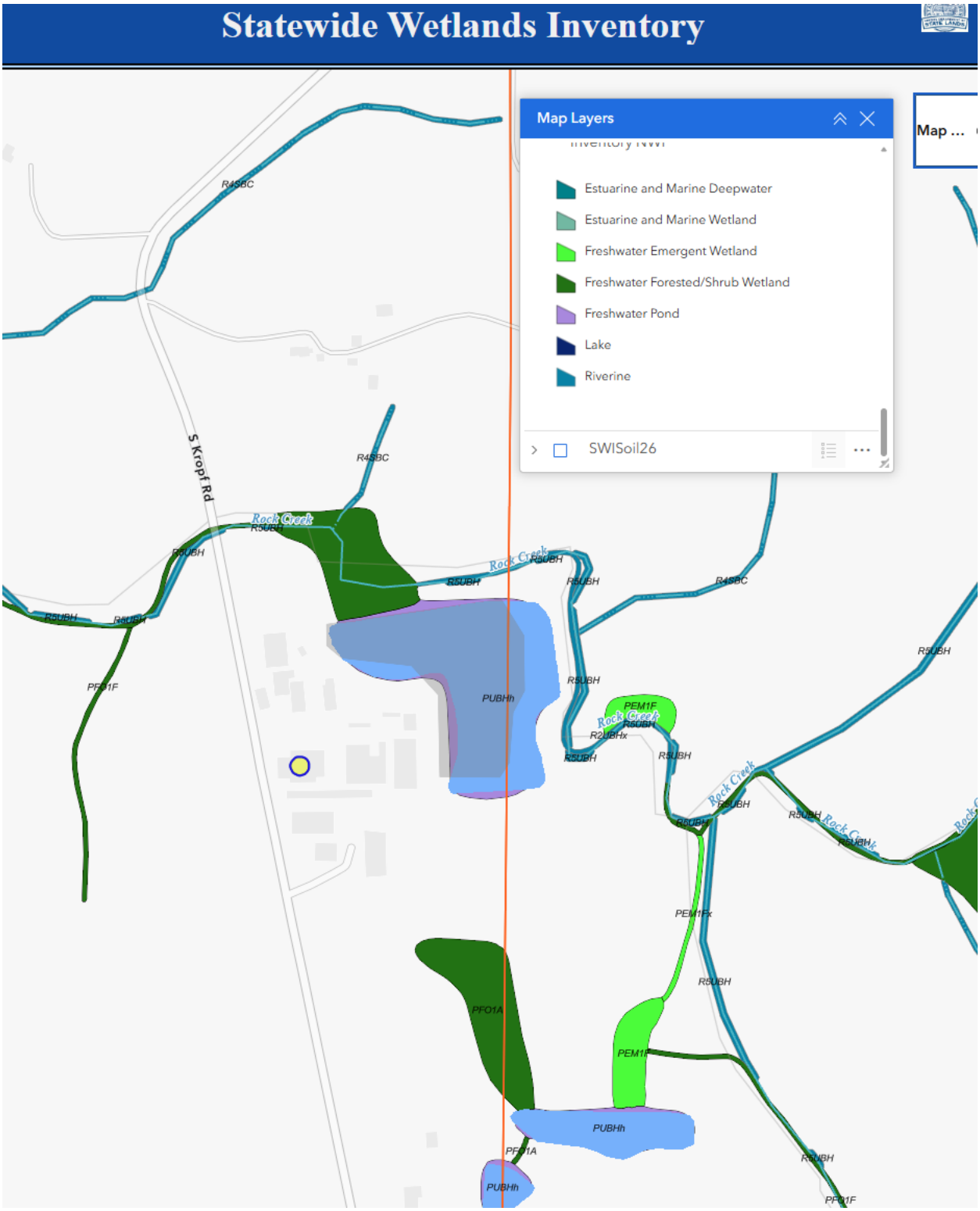
☐ I am submitting the required information (attached); or

☐ I am submitting some of the information requested (attached) and no other information will be submitted; or

☐ I will not be submitting the requested information. Please accept the application as submitted for review and decision.

_____ _____
Signed Date

_____
Print Name



Source: DSL, State Wetlands Inventory

StatewideWetlandsInventory

Map including hydric soils (beige)

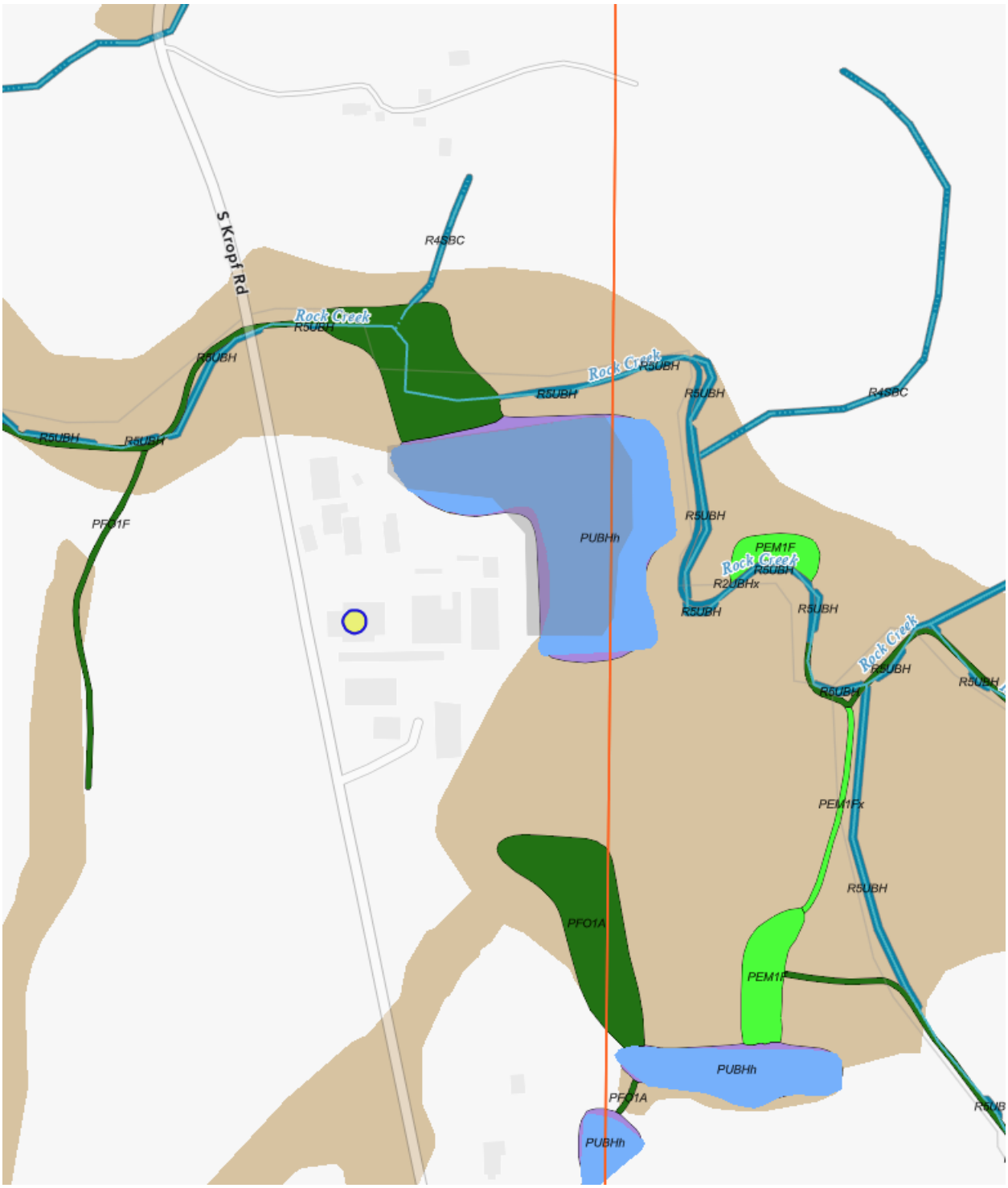


EXHIBIT 2
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LAND USE FILES

FILE# C0721-97-E

LEGAL DESCRIPTION:

5 S 1 E

SECTION 21

TAX LOT(S) 1000

MAP

Date Application Filed 6-30-97

ADMINISTRATIVE ACTION NOTICE

Applicant 7-1-97
CPO "
Agencies "
Property Owners "
Response Deadline 7-16-97

NOTICE OF DECISION

Decision Date/Mailed 8-5-97
Applicant "
CPO "
Agencies "
Property Owners "
Appeal Deadline 8-15-97
Date Appeal Filed
Computer Entry / Closed 9-2-97

PUBLIC HEARING NOTICE

Hearing Date

Due Date		**Date Mailed**
	Applicant	
	Appellant	
	CPO	
	Agencies	
	Property Owners	
	Newspapers	
	Staff Report	

(Staff report is mailed 7 days prior to hearing)

Hearing Continued
Hearing Continued
Hearing Continued
Oral Decision Date
HO Written Order
Computer Entry/Close

A/SO
B-2296-37

From: jeff@trojanboots.com
Sent: Wednesday, October 11, 2000 9:02 AM
To: Rick McIntire
Subject: Question on zoning

Hi Rick,

I made the inquiry below to Dan Johnson and he said you were the expert and could answer my questions. Feel free to call me at 503-285-2120 if you need more information.

B

I have a small manufacturing business (13 employees) currently located in Portland. We manufacture saw stands, saw horses, and a few other simular products used by carpenters. Our operations consist of light metal fabrication (cutting, drilling, punching, welding), woodworking, assembly and warehousing. We distribute through lumber, tool and hardware stores throughout the country.

I am considering the purchase of a "non-conforming" use property in rural Clackamas County. The address is 33532 Kropf Road, Molalla, 97038. Information from the Property Tax statement says MAP: 51E21 01000, CODE AREA: 035032, ACCOUNT NO.: 1076007, if that helps. It is on 20.4 acres. There is an unused, old 12 acre log pond and the remaining 8 acres are black topped around 12 buildings (total of 75,000 sq. ft.). Current zoning for the property is EFU, but the property was established as a saw and lumber mill in the 1948 and has been in continuos operation since that time. The sawing of logs has not been done for many years, but lumber drying, planing and shaping has continued. The current tenant, Mullen Lumber, Inc., is in the business of manufacturing different millwork, tongue and groove ceiling boards, closet rods, etc. His manufacturing operation occupies only a portion of the buildings and his lease would continue if I were to buy the property.

I have read through some of the information on Clackamas County's website regarding EFU zoning and non-conforming uses and know that the current manufacturing can continue. What I read seemed to make sense. I could not detect any problem with operating my business from the Kropf facility, but before I spend a bunch of money on moving I thought I'd better make sure that Clackamas County defines manufacturing with the same definition as I found in my Webster's dictionary.

You are obviously far more familiar with these issues than I am and may see conflicts that aren't visible to me. My question to you then is:
What operations can be carried out at this location? Would there be any reason you know of why my operation would run into any zoning problems operating in this location? Are there any steps I would need to take that are required by law in order to operate there?

Thanks for your time Rick. I appreciate the help. Call me if you need to.
Sincerely,
Jeff O'Mealy
Trojan Mfg., Inc.

7:30 - 4:00 pm

Advised Jeff of ENCU requirements for Alteration/Change in use.

Clackamas County

Property Report

KROPF IVAN S
33532 S KROPF RD
MOLALLA, OR 97038

Site Address: 33532 S KROPF RD
Taxlot Number: 51E21 01000

Land Value: 196750
Building Value: 1264050
Total Value: 1460800

Acreage: 20.4
Year Built 1948
Sale Date:
Sale Amount:
Sale Type
Buyer:

Land Class:
Industrial land Improved

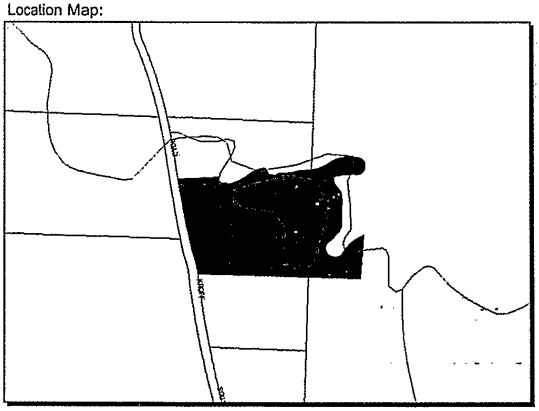
Building Class:

Neighborhood:
IN20

Taxcode Districts: 35032

Fire	Monitor Fire Dist. #58
Park	-
School	Molalla River School Dist. #35
Sewer	-
Water	-

Location Map:



Site Characteristics:

Jurisdiction:	Clackamas
UGB:	Out
CPO:	South Canby
Basin:	WILLAMETTE RIVER
Sub-Basin:	MOLALLA RIVER
Hauler:	United Disposal
Flood Zone:	0%

Zoning Designation(s):

Zone Code:	Acreage:
EFU	19.5754277

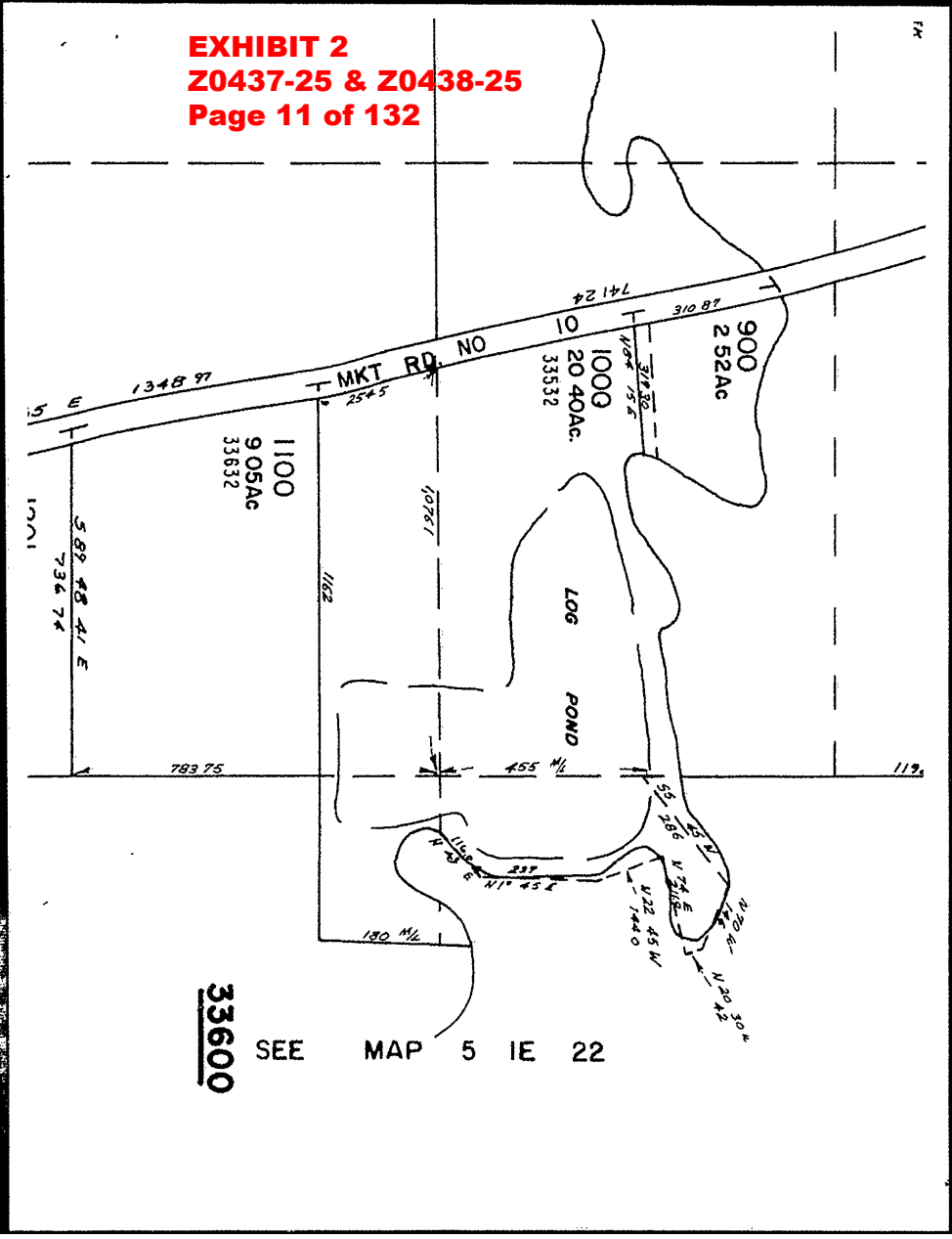

MKT RD. NO 10
1348 97
741 24
310 87
2545
900
2 52Ac
1000
20 40Ac.
33532
1100
9 05Ac
33632
LOG POND
783 75
455 M/L
180 M/L
1102
1076
S 89° 48' 41" E
736 74
N 19° 45' E
237
N 70° 15' W
N 22° 45' W
144 0
N 20° 30' E
42
33600
SEE MAP 5 IE 22

EXHIBIT 2
Z0437-25 & Z0438-25
Page 12 of 132

```
Permits                    Id: ADMIN    Password: SPARS     User: GREGF            10/11/00
List Activities for a Parcel
Listing Activities for Parcel: 51E21   01000                File: Activity
33532 S KROPF RD
  Act/Pj/Dv  Type          Status                  Location
-> V0067-93   V-B           I FINAL      01/12/1993 33532 S KROPF RD
   Z0092-93   ZE            A APPROVED   02/02/1993 33532 S KROPF RD
   B0088893   C             I VOID       03/29/1993 33532 S KROPF RD
   AG012194   AG            A APPROVED   12/06/1994 33532 S KROPF RD
   *0025693   AUTOPROJ   p  A AUTO       01/12/1993 33532 S KROPF RD
   B0229697   C             I EXPIRED    06/30/1997 33532 S KROPF RD
   Z0721-97   ZS2           A APPROVED   06/30/1997 33532 S KROPF RD
   E0113599   E             A PLANCK     02/19/1999 33532 S KROPF RD
   E0195800   E             A APPROVED   03/28/2000 33532 S KROPF RD
   * * * No More Activities * * *



Use Arrows, Press SpaceBar to Select, F2=Next 18, ESC=New Parcel & Filters
```

EXHIBIT 2
Z0437-25 & Z0438-25


```
Permits          Id: ACTPROC    Keyword: @ACTD    User: GREGF            10/11/00
Activity Table Processing                                Staff (E,I,V,F.FHD,R.CR
  File No. : Z0721-97          APPLICANT: KROPF IVAN S
     Status: APPROVED            Address: 33532 S KROPF RD

                                          Type: ZS2      Vers: 9701 Screen: 01
Base Information
Status: APPROVED      Date Received:  6/30/1997   Decision Date:  8/ 5/1997
  Type: ZE    Alteration/Chg of Non-Conf Use       Date Appealed:   /  /
(ZE,ZI,ZIU,ZV,ZF,ZFHD,       Notice:  7/ 1/1997      Final Date:  8/15/1997
 ZR,ZCR,ZCW)           Hearing Date:   /  /        Date Expires:   /  /
 What is Proposed: ADDITION TO EXISTING BUILDING/Z0092-93E APPR
             Zone: EFU                              Staff Member: TCLP
  Notice Distance: 700  Ft                        Staff Reviewer: RAM
 Active CPO (Y/N): Y                           Code Enforcement #:
       Situs Addr: 33532 S KROPF RD
    Applicant is: LO      Legal Owner
                  (LO,CB,OB,A)                      Area/Acres:     20.40
   Legal Description: 51E21    01000
  Adjacent Properties: NONE
Present Use: LUMBER MFG & SALES
Filed a Floodhazard or dock permit(Y/N):N Setback over 150' from River(Y/N):Y
         Fee:         361.00        Balance Due:            .00
 Enter Table Screen Number:  2 or ESC=Exit Table Processing    F1=List Screens
```

adds & re-roof to Xtg bldg
Lumber mill facility (planer bldg)

NOTICE OF DECISION OF
ALTERATION OF A NONCONFORMING USE - **APPROVAL**

CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
LAND USE AND ENVIRONMENTAL PLANNING DIVISION
902 Abernethy Road, Oregon City, Oregon 97045
Phone: 655-8521

TO: Applicant, Citizens Planning Organization, Agencies, and Property Owners within 700 feet of this application.

DATE: August 5, 1997

LAST DATE TO APPEAL: August 15, 1997

FILE NO.: Z0721-97-E

STAFF CONTACT: Rick McIntire

APPLICANT: Ivan Kropf; 33532 S. Kropf Rd., Molalla, OR 97038

OWNER OF PROPERTY: Same

LEGAL DESCRIPTION: T5S, R1E, Section 21, Tax Lot(s)1000, W.M.

SITE ADDRESS: 33532 S. Kropf Rd., Molalla, OR

TOTAL AREA INVOLVED: Approximately 20.4 acres.

PRESENT ZONING: Exclusive Farm Use, 80 acre District

CITIZENS PLANNING ORGANIZATION FOR AREA: South of Canby CPO

PROPOSAL: To re-roof and add to an existing building within the existing nonconforming lumber mill facility.

FINDINGS: The Planning Division has reviewed this application for an alteration of a nonconforming use. This application is subject to Section 1206 of the Clackamas County Zoning and Development Ordinance (ZDO). The Planning Division has reviewed this section of the ZDO with respect to this proposal and makes the following findings:

1. The applicant is proposing to re-roof part of an existing structure housing the planer and extend the new roof along one side of the structure to enclose additional covered storage area. The subject property is currently zoned Exclusive

Farm Use and was initially zoned EFU on Sept. 1, 1976. The lumber mill facility was originally established in 1941. The use is a protected nonconforming use as defined in Sec. 202 of the ZDO.

2. The alteration must be reasonably necessary in order to continue the existing use. The applicant has indicated that the new roof and covered storage area is necessary to replace a leaking roof and provide additional covered storage area for the mill operations. The majority of the proposed construction is the re-roofing of the planer building. The staff finds that the proposed alteration is reasonably necessary to continue the existing use. This criterion is met.

3. The alteration must have no greater adverse impact on the neighborhood than the existing structure(s) and physical improvements. As noted above, the majority of the alteration requested is to re-roof an existing structure within the mill complex. The new roof line will extend out from the existing structure approximately 20-25 ft. to provide additional covered storage area. The building is within the complex and will be screened from the road and nearby properties largely by other existing structures on the site. The proposed construction is well-buffered with respect to adjacent properties by distance and existing evergreen trees surrounding the mill complex. The alteration will not increase traffic or noise or result in any identifiable impacts to the neighborhood. This criterion is met.

DECISION: APPROVAL. Based upon the above findings, it is the decision of the Clackamas County Planning Division staff to approve this application for an alteration of a nonconforming use, subject to the following conditions:

1. This application is approved consistent with the application materials and site plan submitted by the applicant.

2. The applicant shall obtain all necessary permits as deemed necessary by the County Building Services Sec. prior to the commencement of construction.

3. The applicant shall comply with the requirements of the local fire district applicable to the proposed construction.

4. Failure to comply with the conditions of approval may be cause for revocation of this permit.

NOTICE TO MORTGAGEE, LIENHOLDER, VENDOR, OR SELLER: ORS CHAPTER 215 REQUIRES THAT IF YOU RECEIVE THIS NOTICE, IT MUST BE PROMPTLY FORWARDED TO THE PURCHASER.

IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE. IF YOU DISAGREE WITH THESE

FINDINGS OR CONDITIONS, YOU MAY APPEAL THIS DECISION TO THE CLACKAMAS COUNTY HEARINGS OFFICER. THE COST OF THE APPEAL IS $100.00. YOUR APPEAL MUST BE RECEIVED IN THE PLANNING DIVISION OFFICE BY 5:00 ON THE LAST DATE TO APPEAL WHICH IS **AUGUST 15, 1997**. THIS PERMIT WILL NOT BE EFFECTIVE UNTIL THE DAY AFTER THE APPEAL DEADLINE.

CLACKAMAS COUNTY

Department of Transportation & Development

THOMAS J. VANDERZANDEN
DIRECTOR

NOTICE OF PROPOSAL IN YOUR AREA

DATE: 07/01/1997

THIS NOTICE IS MAILED TO: Property Owners within 700 feet, the Community Planning Organization (CPO), Interested Citizens and Agencies

FROM: CLACKAMAS COUNTY PLANNING DIVISION

STAFF: RICK McINTIRE PH # 650-3268

A development is being proposed involving Land Use in your neighborhood which requires formal review. This notice is to inform you of this proposal, explain the process for reviewing it and provide you with opportunities to comment and participate in this process.

CASE FILE NUMBER Z0721-97 SUBJECT: Alteration/Chg of Non-Conf Use

EXPLANATION OF THIS PROPOSAL:
An addition to and re-roof of the planer/re-saw building of an existing non-conforming lumber manufacturing facility.

APPLICANT:
KROPF IVAN S
33532 S KROPF RD
MOLALLA OR 97038

OWNER:
KROPF IVAN S

SITE ADDRESS (IF AVAILABLE): 33532 S KROPF RD

LEGAL DESCRIPTION: (Map & Tax Lot per Assessor) T.R.SEC.TL
51E21 01000

TOTAL AREA: (APPROX.) 20.40 Acres

ZONE: EFU Exclusive Farm Use (80 Ac)

DECISION PROCESS:
In order to be approved, this proposal must meet the approval criteria or standards in the Zoning & Development Ordinance, Section(s) 1206.
A decision on this proposal will be made by the Planning Division. We will consider the criteria as well as any comments and either approve, approve with conditions or deny this proposal. We will mail you a copy of the decision. If you disagree with the decision you may appeal to the Land Use Hearings Officer who will conduct a public hearing. There is a $100.00 Appeal fee.

HOW TO BE HEARD:

1. Return your written comments within 15 days of the date of this notice. Please include the file number in your letter and address your letter to the staff member handling this matter, or if you prefer, use the space provided below for your comments.

2. Return your comments to: Clackamas County Planning Division, 902 Abernethy Road, Oregon City, OR 97045.

3. The following recognized Community Planning Organization (CPO) has been notified of this application. This organization may develop a recommendation on this application. You are welcome to contact this organization and attend their meeting.

COMMUNITY PLANNING ORGANIZATION FOR YOUR AREA:
SOUTH OF CANBY CPO
PAUL IVERSON 634-2879
33988 S MERIDIAN ROAD
WOODBURN OR 97071

*If this Community Planning Organization is currently inactive, and you are interested in becoming involved in Land Use Planning in your area, call Public Affairs at 655-8520.

COMMENTS: _____

_____

_____

_____

_____

_____ _____
Your Name/Organization Phone #

_____
Address

The Ordinance criteria for evaluating this application and all documents and evidence submitted regarding this application are available for inspection and copies may be purchased at the Planning Division Office during weekday office hours, 8:00 AM to 5:00 PM.

Permits Id: ROUT130 Keyword: UACT User: MARCEB 07/01/97
Activity docume[illegible] Maintenance. Staff (E,I,V,F.FHD,R.CR
File No. : Z0721-97 APPLICANT: KROPF IVAN
Status: PEND[illegible] Address: 3[illegible] KROPF R
Route: 1 Current Route Line: 6 of

EXHIBIT 2
Z0437-25 & Z0438-25
Page 19 of 132

Packet	Units	Description	Station		Status	Received	Assigned	Complete
ZAPPL		BEGIN/END ROUTE	BEGIN	-	Waiting	07/01/97	../../..	../../.
ZAPPL	6	FIRE DISTRICT	FD	*58	Pending	../../..	../../..	../../.
ZAPPL	2	C P O	CPO	*CPO	Pending	../../..	../../..	../../.
ZAPPL	5	PROPERTY OWNERS	PO	*PO	Pending	../../..	../../..	../../.
ZAPPL	41	BUILDING SERV	BLDG	-TL	Pending	../../..	../../..	../../.
ZAPPL	61	STAFF ACTION	PLAN	-	Pending	../../..	../../..	../../..
ZAPPL		BEGIN/END ROUTE	ENDZ	-	Pending	../../..	../../..	../../.

F1=Help, ESC=Exit current screen.
Route item edit completed.

EXHIBIT 2
Z0437-25 & Z0438-25
Page 20 of 132

LAND USE APPLICATION

CLACKAMAS COUNTY PLANNING DIVISION
902 ABERNETHY ROAD, OREGON CITY, OR 97045-1100 • PHONE (503) 655-8521 • FAX (503) 650-3418

• FOR STAFF USE ONLY •

- ☐ TEMPORARY PERMIT FOR CARE (ST) RENEWAL ____
- ☐ TEMPORARY PERMIT USE NOT ALLOWED (ST) RENEWAL ____
- ☐ HOME OCCUPATION (HO) RENEWAL ____
- ☐ NONFARM USE (N)
- ☐ FARM DWELLING ____
- ☐ FOREST DWELLING ____
- ☐ ZONE CHANGE (Z)
- ☐ CONDITIONAL USE (C)
- ☐ SUBDIVISION SHORT (1-10)(SS)
- ☐ SUBDIVISION LONG (11+)(SL)
- ☐ PARTITION (M)
- ☐ VARIANCE (V)
- ☒ OTHER E
- ☐ OTHER ____

Z0092-93E

File No: Z0726-97E
Pre-app: Staff ____ Date ____
Date Received: 6/30/97 Fee $631
Hearing Date: ____
Staff Member: ____
Zone: EFU
Comp. Plan: ____
Flex Lot Involved: ☐ Y ☐ N
Violation # ____
CPO ____

• APPLICANT INFORMATION •

PLEASE TYPE OR PRINT IN BLACK INK ONLY

WHAT IS PROPOSED addition to existing building

NAME OF APPLICANT Kropf (LAST) Ivan (FIRST)

MAILING ADDRESS 33532 S Kropf Rd CITY Molalla ST OR ZIP 97038

APPLICANT IS: ☒ LEGAL OWNER ☐ CONTRACT BUYER ☐ OPTION BUYER ☐ AGENT

NAME OF CONTACT PERSON (If other than applicant) ____

MAILING ADDRESS OF CONTACT ____ ZIP ____

PHONE NUMBERS OF: APPLICANT: WK 651-2551 HM 651-2551 CONTACT PERSON: WK ____ HM ____

SITE ADDRESS 33532 S Kropf Rd Molalla, Or 97038 TOTAL LAND AREA: ____

LEGAL DESCRIPTION: T 5 R 1 SECTION 21 TAX LOT(S) 1000

ADJACENT PROPERTIES UNDER SAME OWNERSHIP: T ___ R ___ SECTION ____ TAX LOT(S) ____

PRESENT USE OF PROPERTY: lumber Mfg + Sales

METHOD OF SEWAGE DISPOSAL: Septic tank

WATER SUPPLY: well

OTHER PERSONS (IF ANY) TO BE MAILED NOTICES REGARDING THIS APPLICATION:

NAME	ADDRESS	ZIP	RELATIONSHIP

I hereby certify the statements contained herein, along with the evidence submitted, are in all respects true and correct to the best of my knowledge.

OWNER'S SIGNATURE Ivan D Kropf
DATE 6-30-97

APPLICANT'S SIGNATURE ____
DATE ____

CCP-PL10 (REV 8/94)

PLOT PLAN ASSESSOR MAP SUPPLEMENTAL FORMS CHECKED

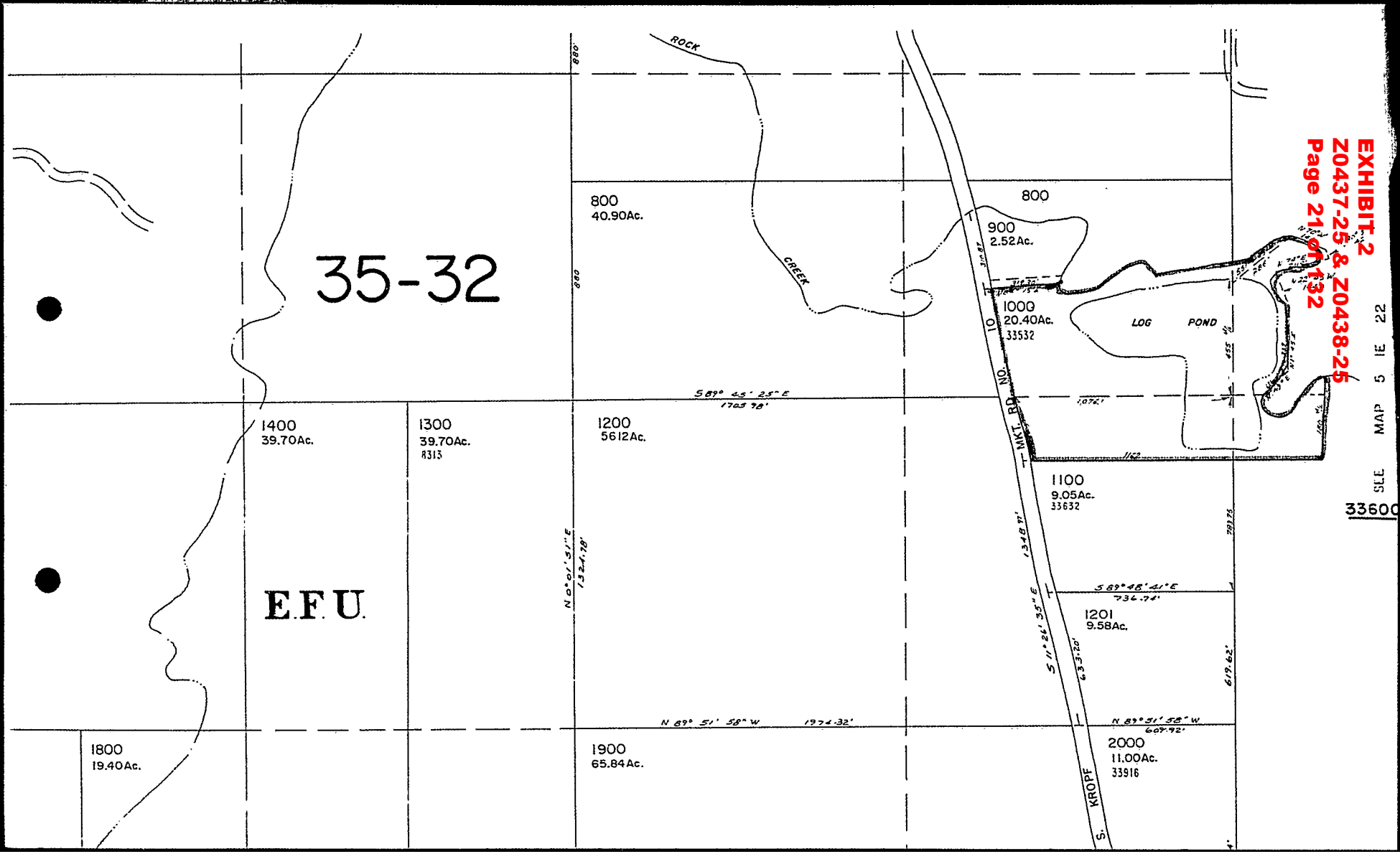
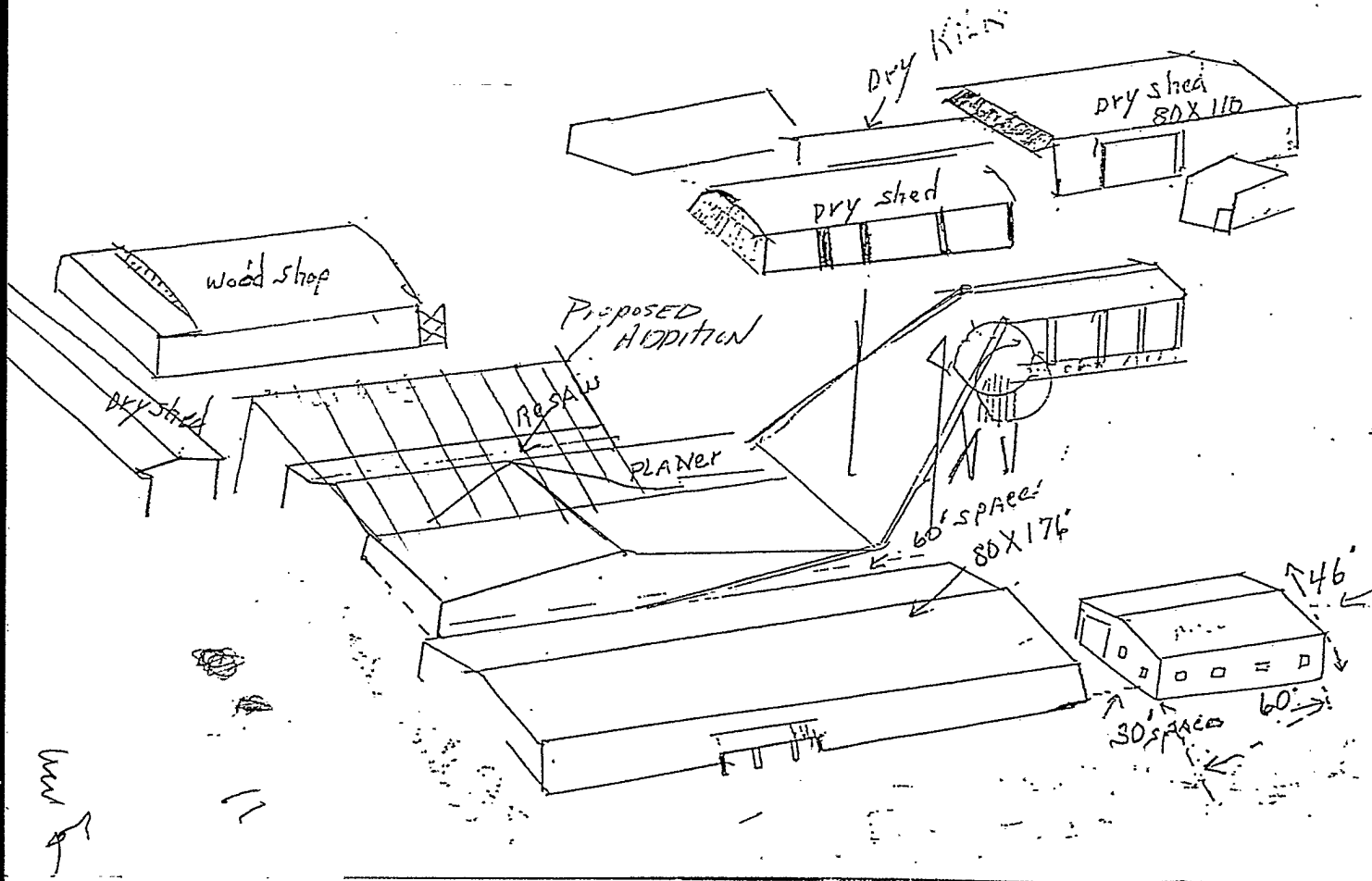


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EFU



APPROVED PLOT PLAN:

PLANNING 3/21/97

BUILDING _____

SOILS _____

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EXHIBIT 2
Z0437-25 & Z0438-25
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SITE

S. KROPF ROAD

DRY SHED 80'x110'

DRY KILN 24'x40'

DRY KILN 50'x84'

BOILER RM 22'x33'

SHOP 40'x30'

30'

24'

DRY SHED 48'x 110'

75'

STICKER MACHINE 36'x 116'

BUNKERS 28'x40'

FUTURE PELLETS EXISTING BUILDING 46'x60'

Pellet mill & Hog Line 2003-04

30'

136'

Septic

ENTRY 47'x75'

WP. SHOP 90'x120'

46'

100'

PLANER 132'x148'

60'

STORAGE 176'x80'

24'

21'

DRY SHED 24'x228'

POND

APPROVED PLOT PLAN:

PLANNING

BUILDING

SOILS

Col 5/8/97

WATER

SEWER

PROPERTY LINE

PROPERTY COR.

ELECTRIC

WATER LINE

ELEVATION

SITE PLAN

SCALE: 1" = 100'

DRAWN FOR:

KROPF LUMBER CO. INC
33532 S. KROPF RD.
MOLALLA, OR
97038

PH. 651-2551

DRAWN BY:

DAVID GARBER DESIGN
TO
6512350

CLACKAMAS COUNTY

ALTERATION OR CHANGE IN A NONCONFORMING USE

APPLICANT INFORMATION:

Name Ivan Kropf File #_____

WHAT IS A PERMIT FOR ALTERATION OR CHANGE IN A NONCONFORMING USE?

The County Zoning & Development Ordinance (ZDO) allows alteration or change of a nonconforming use. A Nonconforming Use is a dwelling or use which was legally established prior to adoption of any provision of the ZDO with which it does not now comply.

WHAT IS NEEDED FOR APPROVAL?

All nonconforming uses are discretionary and MAY be permitted after evaluation according to criteria in the ZDO. The County must make written findings to support the decision. The applicant is responsible for providing evidence to support the Nonconforming Use request, according to ZDO Section 1206.

WHAT ARE CHANCES FOR APPROVAL?

Staff cannot predetermine the decision on this or any application. A decision of approval or denial will only be made after the complete application is processed. This includes review of citizen and agency comments. The decision is based on criteria appropriate to this application as listed in the ordinance. In order to address the necessary criteria, the information requested in this supplemental application should be as thorough and complete as possible.

APPLICATION PROCESS

Nonconforming Use permits are subject to the Administrative Action process and public notice. Public comments received from the Community Planning Organizations (CPO), property owners, agencies and other interested parties may affect the decision on the application. Special conditions may be attached to any approvals. Any decision on this application can be appealed to the County Hearings Officer and to the State Land Use Board of Appeals (LUBA) by the applicant or any other interested person.

STAFF WILL ATTACH THE FOLLOWING PERTINENT INFORMATION:

_____ Land Use Application

_____ Sample Plot Plan

_____ ZDO Section 1206

_____ CPO Information

_____ Application Process

HOW LONG WILL IT TAKE TO GET A FINAL DECISION ON AN APPLICATION?

Approximately 50 days for Administrative Action applications or 120 days if the initial decision is appealed.

COMPLETE APPLICATIONS REQUIRE THE FOLLOWING:

1. Land Use Application - Information on applicant and land involved in application.

2. Supplemental Application - Information requested on this form. Please be as complete and thorough as possible. Use additional sheets as necessary.

3. Application Fee $8361

4. Plot Plan drawn to scale on 8.5" x 11" or 8.5" x 14" paper, showing the property and your proposal.

5. Building Profile drawn to scale on 8.5" x 11" or 8.5" x 14" paper, showing proposed structures.

JUSTIFICATION CRITERIA: See ZDO Section 1206 for specific requirements. Then answer the following questions:

A. Existing Use: When was the existing use(s) established?

3 21 41

B. Describe any changes in the existing use since it was first established. Describe the buildings, vehicles, equipment, materials used, and days and hours of operation of the existing use.

No changes Dry Kiln, Compressor, Office, Shop, Paper Room, Storage Shed. Operation 5 days week - 8 hours day

C. Previous Use(s): Describe use(s) of the property prior to establishment of the current use.

pasture

D. Changes: Describe in detail the proposed changes.

add on to existing building for more storage area.

E. Need: Describe why the alteration and/or change is reasonably necessary to continue the existing use.

change country roof from leading

LAND USE APPLICATION
Clackamas County Planning Division
902 Abernethy Rd., Oregon City, Oregon 97045
Phone (503) 655-8521 Fax (503) 650-3418

Type of Application: ZE Alteration/Chg of No FilenNo: sZ0721-97
Status: PENDING Date Received: Jun 30, 1997
Lots: 000 Hearing Date: 00/00/0000
Flex Lots (Y/N): Decision Date:
Staff Reviewer: KD Expires Date:
Staff Member : TCLP Date Appealed: 00/00/0000
Zone: EFU Final Date:

Comm. Environment #:
Communinty Planning Organization Y/N : N
APPLICANT KROPF IVAN S
, 33532 S KROPF RD, MOLALLA OR 97038
OWNER KROPF IVAN S
, 33532 S KROPF RD, MOLALLA OR 97038
Applicant; Legal Owner
What is Proposed: ADDITION TO EXISTING BUILDING/Z0092-93E APPR
Subdivision Name :
Partition or Plat : #
Site Address: 33532 S KROPF RD
Legal Description: 51E21 01000
51E21 01000 00/00/00

Adjacent Properties
Same Ownership: NONE
Present Use:LUMBER MFG & SALES
Fee : 361.00
Fee Balance Due : .00

Process Actions:

Item: 02000	File Prepared & Ready	Dept: @P@@@@@@	Division: @@
Item: 02100	Notice of Distribution	Dept: @P@@@@@@	Division: @@
Item: 02120	Staff Report or Decision	Dept: @P@@@@@@	Division: @@
Item: 02130	Appeal Rec/Hearing Schedule	Dept: @P@@@@@@	Division: @@
Item: 02140	Hearing Decision & Order Filed	Dept: @P@@@@@@	Division: @@

PLANNING DIVISION

LAND USE FILES

FILE NUMBER: Z0254-05-E

LEGAL DESCRIPTION:

T 5 **S, R** 1 **E, SECTION** 21

TAX LOT(S) 1000, 1100, 1101

NOTICE OF DECISION -
ALTERATION OF A NONCONFORMING USE -**APPROVAL WITH CONDITONS**

CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
LAND USE AND ENVIRONMENTAL PLANNING DIVISION
9101 SE Sunnybrook Blvd., Clackamas, OR 97015
Telephone: 353-4500/4501

TO: Applicant, Citizens Planning Organization, Agencies, and Property Owners within 750 feet of this application.

DATE: June 15, 2005

LAST DATE TO APPEAL: June 27, 2005

FILE NO.: Z0254-05-E ~~Z0245-05-E~~

STAFF CONTACT: Rick McIntire (503-353-4516; rickm@co.clackamas.or.us)

APPLICANT: Jerry McIntire, 9545 S. Gribble Rd., Canby, OR 97013

OWNER OF PROPERTY: Thomas Wrolstad, Trustee (tax lot 1000) and Rock Creek Mill, LLC (tax lots 1000 & 1101).

LEGAL DESCRIPTION: T5S, R1E, Section 21, Tax Lot(s) 1000, 1100 & 1101, W.M.

SITE ADDRESS: 33532 (tax lots 1000/1101) & 33632 S. Kropf Rd., Molalla, OR

TOTAL AREA INVOLVED: Approximately 29.45 acres.

PRESENT ZONING: Exclusive Farm Use (EFU), 80 acre district.

CITIZENS PLANNING ORGANIZATION FOR AREA: South Canby CPO (inactive)

PROPOSAL: An alteration of a nonconforming use, a wood processing facility on tax lots 1000 and 1101, to permit a single family dwelling on tax lot 1100 to provide a residence for on-site management and security of the wood processing facility.

FINDINGS: The Planning Division has reviewed this application for an alteration of a nonconforming use. This application is subject to Section 1206 of the Clackamas County Zoning and Development Ordinance (ZDO). The Planning Division has reviewed this section of the ZDO with respect to this proposal and makes the following findings:

1. The applicant is requesting approval an alteration of a nonconforming use, a wood processing facility on tax lots 1000 and 1101, to permit a single family dwelling on tax lot 1100 to provide a residence for on-site management and security of the wood processing facility. A

manufactured home is currently placed upon tax lot 1100 as an accessory dwelling in conjunction with agricultural use of tax lot 1100 and other properties. The applicant proposes to purchase tax lot 1100, a legal Lot of Record, as defined in Sec. 202 of the ZDO, which is contiguous to tax lots 1000 and 1101, the site of the applicant's wood processing facility. If this application is approved, the applicant will replace the existing manufactured home with a site-built home which will be occupied by an employee or operator of the wood processing facility for on-site management and security of the facility. The existing facility does not have any on-site residents.

The subject properties are located on the east side of S. Kropf Rd., approximately one-half mile north of the intersection with S. Gibson Rd. Tax lots 1000 and 1101 are developed with several buildings used for the wood processing/lumber milling facility. Tax lot 1100 is developed with a manufactured home in the approximate center of that lot.

2. Pursuant to subsection 1206.05B(2) of the ZDO, the applicant must first verify that the existing use(s), structure(s) and/or other physical improvements were established as a protected nonconforming use as defined in Sec. 202 of the ZDO. Sec. 202 of the ZDO defines a "Nonconforming Use" as:

> "A use of any building, structure or land allowed by right when established or that obtained a required land use approval when established but, due to a change in the zone or zoning regulations, is now prohibited in the zone."

The subject properties are currently zoned Exclusive Farm Use (EFU). The use and development of property in this zoning district is subject to the provisions of Sec. 401 of the ZDO. The wood processing facility is not listed as a permitted primary, accessory, subject to Planning Director review or conditional use in the EFU zoning district. Single family dwellings, including manufactured homes, are listed as a use subject to Planning Director review in the EFU zoning district. On September 1, 1976, the EFU designation was applied to the subject properties as the first restrictive zoning regulations applicable to the subject property. A number of amendments to the EFU district regulations have been adopted over the years since then, however, the existing and proposed uses have never been listed as permitted primary uses in this zoning district.

3. In order to demonstrate the establishment of a nonconforming use, the applicant must demonstrate the following: (1) that the use(s) and structure(s) were established prior to the effective date of the initial zoning of the property; **or** (2) that the use(s) and structure(s) were allowed by right under the zoning applicable at the time of establishment; **or** (3) that a required land use permit; e.g. unzoned area development permit, conditional use permit, etc., was obtained from the County to establish the use(s) and structure(s) prior to a change in zoning regulations pursuant to subsection 1206.06B of the ZDO.

Tax lots 1000 and 1101 have been the subject of two prior land use actions. On February 26, 1993 (Planning file no. Z0092-03-E), the Planning Division found that the wood processing facility was a lawfully established nonconforming use established in 1941. In that decision, a pellet mill was permitted as an alteration of the nonconforming use. On August 5, 1997

(Planning file no. Z0721-97-E), the Planning Division approved an alteration of the nonconforming use to permit for an addition to one of the buildings to provide for additional covered storage space.

The existing manufactured home on tax lot 1100 was approved by the Planning Division as an accessory dwelling for farm help under Planning file no. FM-98-83 in 1983. Under this type of approval, the home is not a permitted primary dwelling, but is limited to use by persons directly involved in the management of the Wrolstad farming operations on this site and several other contiguous properties. It is not a nonconforming use, but a conforming conditionally approved use in the EFU zoning district.

Conclusion: The record establishes that the existing wood processing use, structure(s) and other physical improvements on tax lots 1000 and 1101 were established as a nonconforming use upon the adoption of restrictive zoning regulations on September 1, 1976 and as altered under the 1993 and 1997 approvals as noted above. The manufactured home on tax lot 1100 is not an established nonconforming use.

4. If the applicant proves that nonconforming use status has been established, the nonconforming use may be continued pursuant to subsec. 1206.01 of the ZDO. Subsec. 1206.01 of the ZDO states:

> "A nonconforming use may be continued although not in conformity with the regulations for the zone in which the use is located."

5, If the applicant has demonstrated that a nonconforming use has been lawfully established, the applicant must also provide evidence as to the nature, extent, existence and continuity of the nonconforming use and that the nonconforming use has not been discontinued for any period exceeding twelve (12) consecutive months during the 20-year period immediately preceding the date of the application for verification pursuant to subsec. 1206.02 of the ZDO and ORS 215.130(11). Subsec. 1206.02 of the ZDO states:

> "If a nonconforming use is discontinued for a period of more than twelve (12) consecutive months, the use shall not be resumed unless the resumed use conforms with the requirements of the Ordinance and other regulations applicable at the time of the proposed resumption."

Based upon the land use permit record and the applicant's statement in the application, the staff concludes that the nonconforming use of tax lots 1000 and 1101 has not been discontinued for any period in excess of twelve (12) consecutive months since the adoption of restrictive zoning regulations or during the 20-year period preceding the date of filing of this application.

6. Pursuant to subsection 1206.05B(1) of the ZDO, in order to approve this request, the proposed alteration of the nonconforming use, structure and/or other physical improvements shall have no greater adverse impact upon the neighborhood than the existing use, structure(s) and/or physical improvements. The Planning Director, or designate, may impose conditions designed

to mitigate any potential additional adverse impacts pursuant to subsection 1206.05B(3) of the ZDO.

7. The subject properties are located in an area that is largely agricultural in nature. There are no homes in close proximity to the site. Approval of this request will not permit any expansion of the actual wood processing activities, but would only permit the existing manufactured home, and any replacement of it with either another manufactured home or a site-built single family dwelling, as a permanent dwelling for an employee or operator of the wood processing facility for on-site management and security of the facility. Given that the existing manufactured home has been located upon tax lot 1100 for over 20 years, the staff finds approval of this request, which will do nothing other than change the status of the existing dwelling and allow its' replacement, will cause no additional adverse impact upon the surrounding neighborhood when compared to the existing nonconforming use. No additional traffic impacts, noise or other potentially adverse impacts to the surrounding area will result.

   The staff also finds that conditions of approval are warranted requiring that tax lot 1100 be held in the same ownership as tax lots 1000 and 1101, if the nonconforming use, the wood processing operation, is discontinued, as defined in Sec. 1206.02 of the ZDO, the home shall be removed from the site, and the home shall be occupied only by a person or persons directly involved in the operation or management of the wood processing facility and immediate family members.

DECISION: **Approval with conditions.** Based upon the Findings discussed above, it is the decision of the Clackamas County Planning Director, by his designate, to approve this application for an alteration of a nonconforming use subject to the following conditions of approval.

CONDITIONS OF APPROVAL

1. This decision is based upon the application, site plan and building plans submitted by the applicant, the Findings discussed above and the conditions of approval contained herein. Any changes to the proposal, except as required by these conditions and approved by the Planning Div., shall be reviewed by the Planning Div. as a separate application.

2. If the existing manufactured home located upon tax lot 1100 is replaced with another manufactured home or a site-built home, the applicant shall obtain all necessary Building, Manufactured Home Placement, Plumbing, Electrical, and Septic System Permits from the County Building Codes Div. and Soils Sec. prior to construction.

3. Tax lot 1100 shall be held in the same ownership as tax lots 1000 and 1101.

4. If the nonconforming use, the wood processing operation, is discontinued, as defined in Sec. 1206.02 of the ZDO, the home in tax lot 1100 shall be removed from the site.

5. The home in tax lot 1100 shall be occupied only by a person or persons directly involved in the operation or management of the wood processing facility on tax lots 1000 and 1101 and any immediate family members of that person or persons.

6. Compliance with these conditions of approval is mandatory and non-compliance may be cause for revocation of this permit.

NOTICE TO MORTGAGEE, LIENHOLDER, VENDOR, OR SELLER: ORS CHAPTER 215 REQUIRES THAT IF YOU RECEIVE THIS NOTICE, IT MUST BE PROMPTLY FORWARDED TO THE PURCHASER.

IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE. IF YOU DISAGREE WITH THESE FINDINGS OR CONDITIONS, YOU MAY APPEAL THIS DECISION TO THE CLACKAMAS COUNTY HEARINGS OFFICER. THE COST OF THE APPEAL IS $103.00. YOUR APPEAL MUST BE RECEIVED IN THE PLANNING DIVISION OFFICE BY 5:00 P.M. ON THE LAST DATE TO APPEAL WHICH IS **JUNE 27, 2005.** THIS DECISION IS NOT EFFECTIVE UNTIL THE DAY AFTER THE APPEAL DEADLINE PROVIDED THAT NO APPEAL IS FILED.

Clackamas County

DEPARTMENT OF
TRANSPORTATION AND DEVELOPMENT

Sunnybrook Service Center

NOTICE OF LAND USE APPLICATION IN YOUR AREA

Campbell Gilmour
Director

Date: 04/18/2005

File Number: Z0254-05

Application: Alteration/Chg of Non-Conf Use

From: Clackamas County Planning Division

Notice Mailed To: Property owners within 750 feet
Community Planning Organizations (CPO)
Interested Citizens and Agencies

Explanation of this Notice:
AN ALTERATION OF A NONCONFORMING USE, A WOOD PROCESSING FACILITY ON TAX LOT 1000, TO PERMIT A SINGLE FAMILY RESIDENCE ON TAX LOT 1100 TO PROVIDE FOR ON SITE MANAGEMENT AND SECURITY OF THE FACILITY.

Property Owner: WROLSTAD THOMAS D TRUSTEE
33187 S KROPF ROAD
MOLALLA, OR 97038

Applicant: MCINTIRE JERRY
9545 S GRIBBLE ROAD
CANBY, OR 97013

Location: 33632 S KROPF ROAD

Legal Description: (map & taxlot) **Acres:** 9
51E21 -01100 + 1101
51E21 -01000

Zone: EFU Exclusive Farm Use (80 Ac)

Staff: Rick McIntire 503-353-4516 **e-mail:** RickM @co.clackamas.or.us

How to Comment on this Application:

1. To be sure your comments will be considered prior to the decision, we need to have them within 15 days of the date of this notice.

File Number: Z0254-05

2. You may use the space provided below, mail a separate letter or e-mail the information. Please include the file number and address the information to the staff member handling this matter. In the event you choose e-mail, please limit your correspondence only to the issues of the application.

3. Return your mailed comments to: Clackamas County Planning Division, 9101 SE Sunnybrook Blvd, Clackamas, OR 97015; FAX to (503) 353-4550.

Community Planning Organization: The following recognized Community Planning Organization (CPO) has been notified of this application. This organization may develop a recommendation on this application. You are welcome to contact this organization and attend their meeting. If this Community Planning Organization is currently inactive, and you are interested in becoming involved in Land Use Planning in your area, please contact the Citizen Involvement office at (503) 655-8552.

SOUTH CANBY CPO - INACTIVE

Decision Process: In order to be approved, this proposal must meet the approval criteria or standards in the Zoning and Development Ordinance, Section(s) 401 & 1206

The Ordinance criteria for evaluating this application and all documents and evidence submitted regarding this application are available for inspection. Copies of the application may be purchased at the Planning Division Office during weekday office hours, 8:00am to 5:00pm. The Ordinance criteria are also available at this office or can be reviewed at the County's website at www.co.clackamas.or.us/dtd/zoning/.

A decision on this proposal will be made by the Planning Division. We will consider the criteria as well as any comments and either approve, approve with conditions, or deny this proposal. We will mail you a copy of the decision. If you disagree with the decision you may appeal to the Land Use Hearings Officer who will conduct a public hearing. There is a $103.00 appeal fee.

Comments:

_____

_____

_____

_____

_____ _____

Your Name/Organization Telephone Number

_____

Address

EXHIBIT 2
Z0437-25 & Z0438-25
Page 38 of 132

LAND USE APPLICATION

CLACKAMAS COUNTY PLANNING DIVISION
9101 SE SUNNYBROOK BLVD., CLACKAMAS, OREGON 97015 • PHONE (503) 353-4400 • FAX (503) 353-4550

FOR STAFF USE ONLY

- ☐ TEMPORARY PERMIT FOR CARE (ST)
  RENEWAL_____
- ☐ TEMPORARY PERMIT USE NOT ALLOWED (ST)
  RENEWAL_____
- ☐ HOME OCCUPATION (HO)
  RENEWAL_____
- ☐ NON FARM USE (N)
- ☐ FARM DWELLING
  _____
- ☐ FOREST DWELLING
  _____
- ☐ ZONE CHANGE (Z)
- ☐ CONDITIONAL USE (C)
- ☐ SUBDIVISION SHORT (1-10) (SS)
- ☐ SUBDIVISION LONG (11+) (SL)
- ☐ PARTITION (M)
- ☐ VARIANCE (V)
- ☒ OTHER AJT NKL
- ☐ OTHER_____

Z.721.97.E/
FM 98.83/
T 94.81/
ST 962/82

File No.: Z0254-05-E
Pre-app: Staff DML Date_____
Date Received: 4/11/05 Fee 371.00
Hearing Date:_____
Staff Member: 3
Zone: EFU
Comp. Plan: AG
Flex Lot Involved: ☐ YES ☐ NO
Violation # None
CPO South Canby
PR083905

APPLICANT INFORMATION

PLEASE TYPE OR PRINT IN BLACK INK ONLY

WHAT IS PROPOSED Jerry McIntire (buyer) would like approval for site build home, for management + Security for Mill property next door.

NAME OF APPLICANT McIntire (LAST) Jerry (FIRST)

MAILING ADDRESS 9545 S. Gribble Rd. CITY Canby ST Or. ZIP 97013

APPLICANT IS: ☐ LEGAL OWNER ☐ CONTRACT BUYER ☒ OPTION BUYER ☐ AGENT

NAME OF CONTACT PERSON (If other than applicant)_____

MAILING ADDRESS OF CONTACT_____ ZIP_____

PHONE NUMBERS OF: APPLICANT: Wk 2500280 Hm 2669614 CONTACT PERSON: Wk_____ Hm_____

SITE ADDRESS 33632 S. Kropf R. Molalla TOTAL LAND AREA: 9.65

☐ LEGAL DESCRIPTION: T 5 R 1E SECTION 21 TAX LOT(S) 1100 & 1000

☐ ADJACENT PROPERTIES UNDER SAME OWNERSHIP: T 5 R 1E SECTION 21 TAX LOT(S) 1000, 1100

PRESENT USE OF PROPERTY: Single wide mobil (legal accessory dewelling - farm)

METHOD OF SEWAGE DISPOSAL: County Approved Standard Septic System

WATER SUPPLY: Well

OTHER PERSONS (IF ANY) TO BE MAILED NOTICES REGARDING THIS APPLICATION:

NAME	ADDRESS	ZIP	RELATIONSHIP

I hereby certify the statements contained herein, along with the evidence submitted, are in all respects true and correct to the best of my knowledge.

OWNER'S SIGNATURE (PRINT)_____ (DATE)_____ APPLICANT'S SIGNATURE (PRINT) Jerry McIntire (DATE) 4-10-05

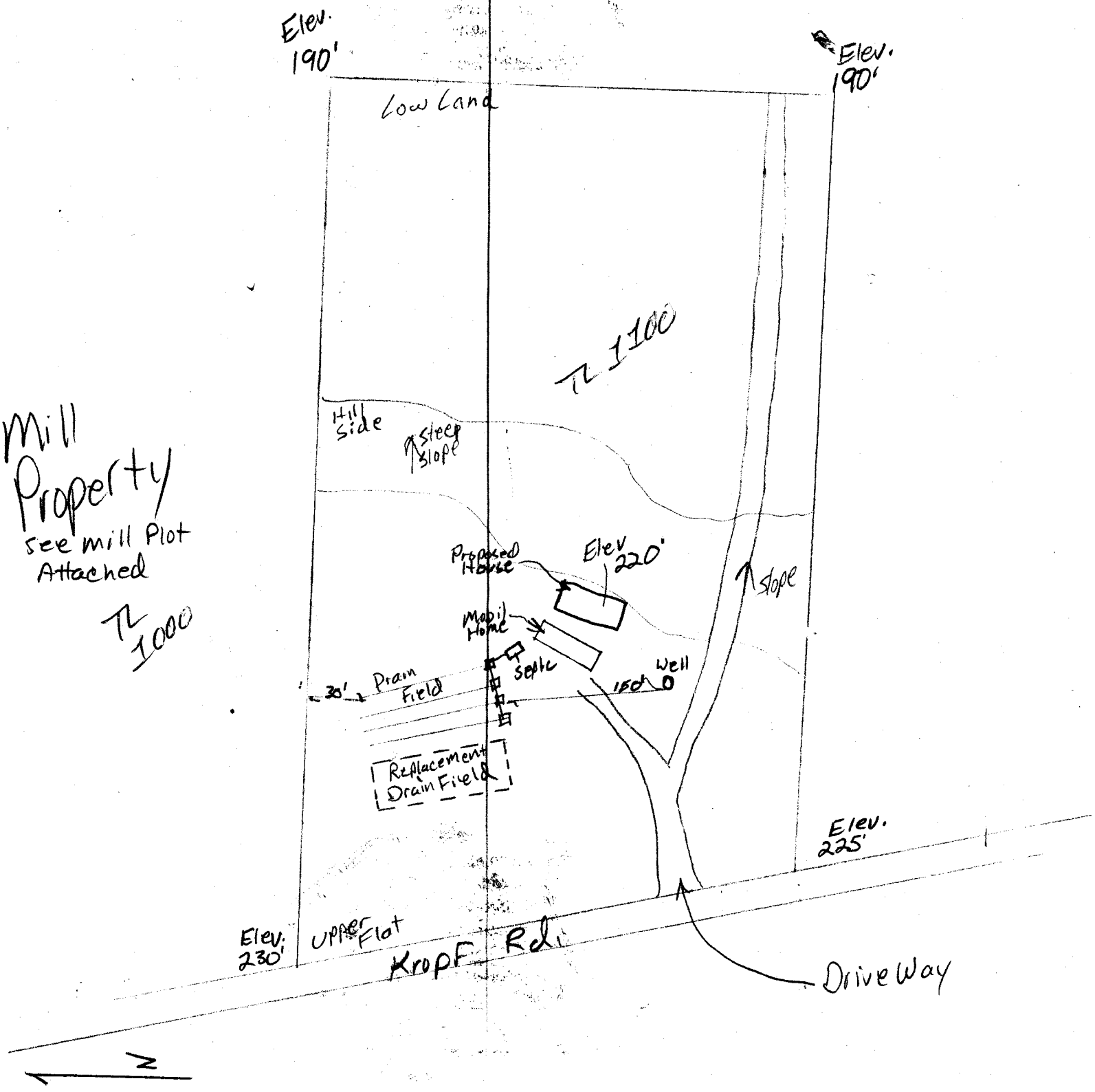
SIGN_____ SIGN Jerry McIntire

CCP-PL10 (Rev. 2/01)

☒ PLOT PLAN ☐ ASSESSOR MAP ☐ SUPPLEMENTAL FORMS CHECKED

Section 21 T 5S R1E Tax Lot 1100

Jerry McIntire
9545 S. Gribble Rd
Canby Oregon. 97013



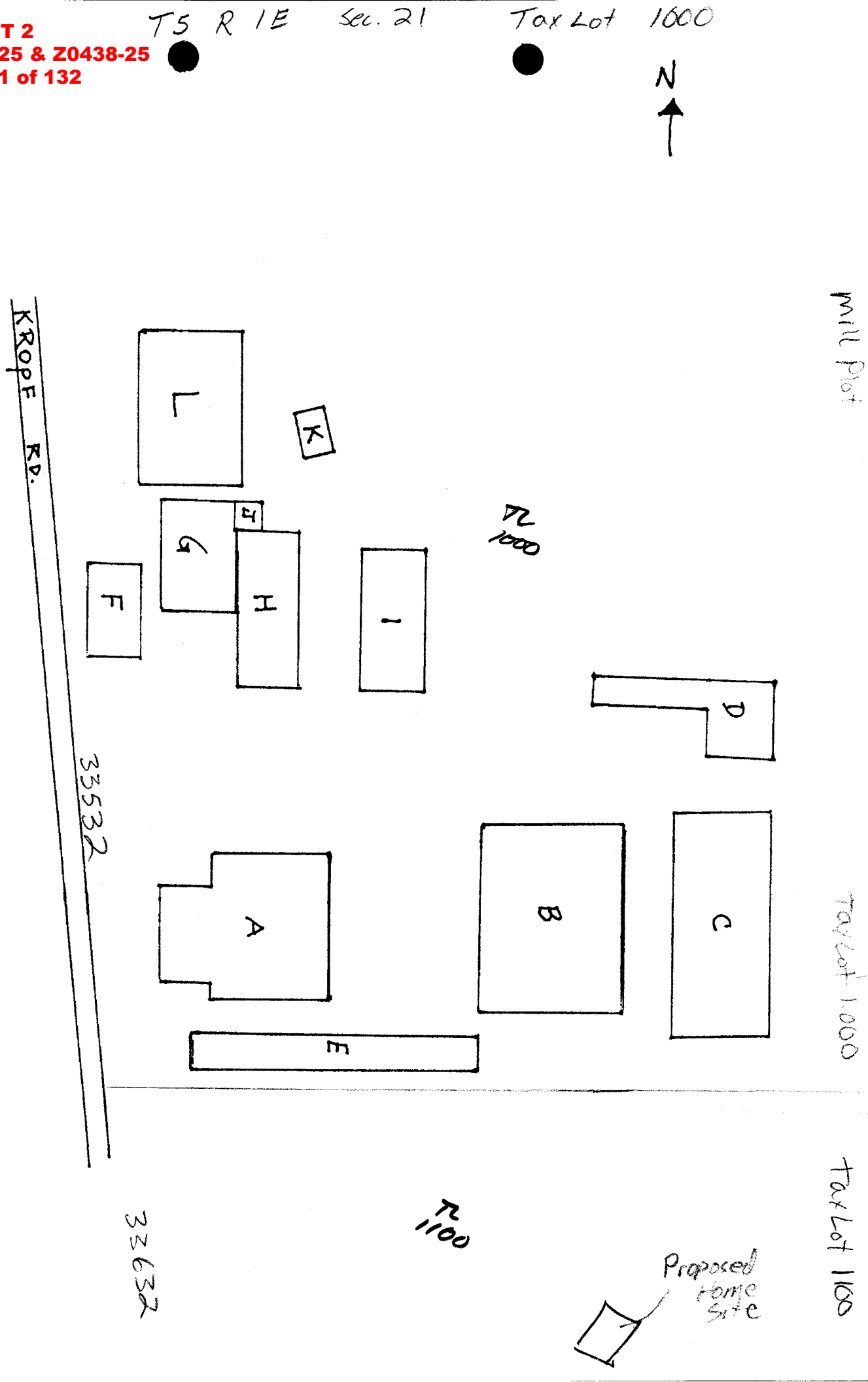
Attachments

4-10-05

1. Existing use for tax lot #1100 as a mobile home site established in 1983, as an accessory single family dwelling for farm use. Existing use for adjacent tax lot #1000 established as a mill site in the late 1930's. There exist on tax lot #1000, 13 buildings ranging from 500 to 12,000 square feet, 70,000 square feet total, and 4 acres of asphalt. All buildings are currently used in four different wood processing operations. The operations employ approximately 30 people, who drive about 20 cars to and from the site. The first shifts start at 5am, and the last end at 11pm, six days a week. I have attached photos to help document continuity of use. One photo dates from 1955, the other from 2002.
2. On tax lot #1100, we would change existing use from accessory dwelling for farm use to accessory dwelling in conjunction with the adjacent legal nonconforming use (mill site). The current residents of tax lot #1100 help the current owner with security for livestock, and prevention of theft and vandalism. My wife and I would build a new home to replace the existing 1970's model singlewide mobile home, so we could be on site to manage the mill and provide our own security. The number of employees, cars, and hours of operations will not change with replacement of mobile home. I purchased the mill property in November 2001, and since then have had five different thefts of wood, tools and fuel. Some buildings have local alarm systems, and I have added chain link fencing and sign postings, but we continue to have thefts. Because of the rural setting, the closest neighbors, not including the existing mobile home, live a half mile to both the north and south, and two miles to the east and west.
3. We would purchase tax lot #1100 and build a home in order to manage and provide better security for the mill in the adjacent tax lot #1000. We would remove the existing mobile home in order to build a permanent site-built home.
4. Considering that there is already a family living in the current mobile home, and because there would be just one family moving into the permanent site-built home, we do not believe there would be any adverse impacts to the neighborhood. The effects would be completely positive. The permanent site-built home and accompanying landscaping would be much more visually appealing than the current singlewide. The land would continue to support livestock, minimizing changes to the current farm use. Also because of our vested interest in the adjacent mill site (tax lot #1000), we would provide better security than the current residents. Finally, the county would benefit from the increased property tax revenue for tax lot #1100.

Thank You

Jerry McIntire


T5 R 1E Sec. 21 Tax Lot 1000
N
Mill Plot
KROPF RD.
33532
33632
L
K
G
4
H
F
I
D
A
B
C
E
Tax Lot 1000
Tax Lot 1100
Proposed home site

PLANNING DIVISION

LAND USE FILES

Please add the attached information to the following:

FILE NUMBER: Z0716-06-E

LEGAL DESCRIPTION:

T 5 **S, R** 1 **E, SECTION** 21

TAX LOT(S) 1000, 1100, 1101

INSERT ATTACHED DOCUMENT AS FOLLOWS:

- ✓ **FRONT OF FILE:** _____
- ✓ **BACK OF FILE:** _____
- ✓ **AS PAGE #:** _____
- ✓ **DELETE PAGE #** 1 **AND REPLACE WITH THIS UPDATED PAGE**

NOTICE OF DECISION -
ALTERATION OF A NONCONFORMING USE -**APPROVAL WITH CONDITONS**

CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
LAND USE AND ENVIRONMENTAL PLANNING DIVISION
9101 SE Sunnybrook Blvd., Clackamas, OR 97015
Telephone: 353-4500/4501

TO: Applicant, Citizens Planning Organization, Agencies, and Property Owners within 750 feet of this application.

DATE: November 17, 2006

LAST DATE TO APPEAL: November 29, 2006

FILE NO.: Z0716-06-E

STAFF CONTACT: Rick McIntire (503-353-4516; rickm@co.clackamas.or.us)

APPLICANT: Rock Creek Mill, LLC, c/o Jerry McIntire, P.O. Box 91, Canby, OR 97013

OWNER OF PROPERTY: Rock Creek Mill, LLC (tax lots 1000 and 1101) and Jerry & Beverly McIntire (tax lot 1100)

LEGAL DESCRIPTION: T5S, R1E, Section 21, Tax Lot(s) 1000, 1100 & 1101, W.M.

SITE ADDRESS: 33532 (tax lots 1000/1101) & 33632 S. Kropf Rd., Molalla, OR

TOTAL AREA INVOLVED: Approximately 29.45 acres.

PRESENT ZONING: Exclusive Farm Use (EFU), 80 acre district.

CITIZENS PLANNING ORGANIZATION FOR AREA: South Canby CPO (inactive)

PROPOSAL: A major modification of an approved alteration of a nonconforming use (Planning File no. Z0408-06-E), a wood products manufacturing facility, that permitted the construction and operation of three (3) new structures; a 600 s.f. infeed hopper building, a 5000 s.f. raw materials storage building and a 1200 s.f. building housing a new pellet mill. The applicant is requesting approval to enlarge the approved, but not constructed, raw materials storage building to 12,320 s.f. of enclosed area with 4312 s.f. of lean-to covered storage area to each side and the pellet mill building to 4312 s.f. of enclosed space with 924 s.f. of lean-to covered storage area to each side.

FINDINGS: The Planning Division has reviewed this application for an alteration of a nonconforming use. This application is subject to Section 1206 of the Clackamas County Zoning and Development

Ordinance (ZDO). The Planning Division has reviewed this section of the ZDO with respect to this proposal and makes the following findings:

1. The applicant is requesting approval of a major modification of an approved alteration of a nonconforming use (Planning File no. Z0408-06-E), a wood products manufacturing facility, that permitted the construction and operation of three (3) new structures; a 600 s.f. infeed hopper building, a 5000 s.f. raw materials storage building and a 1200 s.f. building housing a new pellet mill. The infeed hopper building would remain the same. The applicant is requesting approval to enlarge the approved, but not constructed, raw materials storage building to 12,320 s.f. of enclosed area with 4312 s.f. of lean-to covered storage area to each side and the pellet mill building to 4312 s.f. of enclosed space with 924 s.f. of lean-to covered storage area to each side. The new structures will be constructed of non-combustible steel materials.

   Approval of this application and implementation of the proposed use would result in an increase in production capacity of approximately 60%, one additional employee and 1-2 additional truck trips per day. The proposed structures would be located in the northwest corner of tax lots 1100 and 1101 just to the south of a long lumber storage building along the south boundary of tax lot 1000 which is also part of the mill facility.

   The subject properties are located on the east side of S. Kropf Rd., approximately one-half mile north of the intersection with S. Gibson Rd. Tax lots 1000 and 1101 are developed with 13 existing buildings ranging in size from 500 to 12,000 s.f. currently used for the wood processing/lumber milling facility. The existing operations employ 30 persons. The hours of operation are from 5:00 a.m. to 9:00 p.m. six days per week. Tax lot 1100 is also developed with a manufactured home in the approximate center of that lot. A large part of tax lot 1000 contains an old mill pond and the east and north sides of this lot are bounded by Rock Creek.

2. Pursuant to subsection 1206.05B(2) of the ZDO, the applicant must first verify that the existing use(s), structure(s) and/or other physical improvements were established as a protected nonconforming use as defined in Sec. 202 of the ZDO. Sec. 202 of the ZDO defines a "Nonconforming Use" as:

   > "A use of any building, structure or land allowed by right when established or that obtained a required land use approval when established but, due to a change in the zone or zoning regulations, is now prohibited in the zone."

   The subject properties are currently zoned Exclusive Farm Use (EFU). The use and development of property in this zoning district is subject to the provisions of Sec. 401 of the ZDO. The wood products manufacturing facility is not listed as a permitted primary, accessory, subject to Planning Director review or conditional use in the EFU zoning district. Single family dwellings, including manufactured homes, are listed as a use subject to Planning Director review in the EFU zoning district. On September 1, 1976, the EFU designation was applied to the subject properties as the first restrictive zoning regulations applicable to the subject property. A number of amendments to the EFU district regulations have been adopted over the years since then, however, the existing and proposed uses have never been listed as permitted primary uses in this zoning district.

3. In order to demonstrate the establishment of a nonconforming use, the applicant must demonstrate the following: (1) that the use(s) and structure(s) were established prior to the effective date of the initial zoning of the property; **or** (2) that the use(s) and structure(s) were allowed by right under the zoning applicable at the time of establishment; **or** (3) that a required land use permit; e.g. unzoned area development permit, conditional use permit, etc., was obtained from the County to establish the use(s) and structure(s) prior to a change in zoning regulations pursuant to subsection 1206.06B of the ZDO.

   The subject property has been the subject of four prior land use actions. On February 26, 1993 (Planning file no. Z0092-03-E), the Planning Division found that the wood products manufacturing and processing facility was a lawfully established nonconforming use established in 1941. In that decision, a pellet mill was permitted as an alteration of the nonconforming use. On August 5, 1997 (Planning file no. Z0721-97-E), the Planning Division approved an alteration of the nonconforming use to permit an addition to one of the existing buildings to provide for additional covered storage space. On June 15, 2005 (Planning file no. Z0254-05-E), the Planning Division approved an alteration of the nonconforming use to allow the inclusion of tax lot 1100 and an existing manufactured home to be used as a residence for a watchman/caretaker for the mill facility. On July 27, 2006 (Planning file no. Z0408-06-E) was approved to construct an infeed hopper building, a pellet mill building and a raw materials storage building. The current application is a request for a medication of the latter approval.

   Conclusion: The record establishes that the existing wood products manufacturing facility, use, structure(s) and other physical improvements on tax lots 1000, 1100 and 1101 was established as a nonconforming use upon the adoption of restrictive zoning regulations on September 1, 1976 and as altered under the 1993, 1997, 2005 and 2006 land use permit approvals noted above.

4. If the applicant proves that nonconforming use status has been established, the nonconforming use may be continued pursuant to subsec. 1206.01 of the ZDO. Subsec. 1206.01 of the ZDO states:

   > "A nonconforming use may be continued although not in conformity with the regulations for the zone in which the use is located."

5, If the applicant has demonstrated that a nonconforming use has been lawfully established, the applicant must also provide evidence as to the nature, extent, existence and continuity of the nonconforming use and that the nonconforming use has not been discontinued for any period exceeding twelve (12) consecutive months during the 20-year period immediately preceding the date of the application for verification pursuant to subsec. 1206.02 of the ZDO and ORS 215.130(11). Subsec. 1206.02 of the ZDO states:

   > "If a nonconforming use is discontinued for a period of more than twelve (12) consecutive months, the use shall not be resumed unless the resumed use conforms with the requirements of the Ordinance and other regulations applicable at the time of the proposed resumption."

Based upon the land use permit record and the applicant's statement in the application, the staff concludes that the nonconforming use of tax lots 1000, 1100 and 1101 has not been discontinued for any period in excess of twelve (12) consecutive months since the adoption of restrictive zoning regulations or during the 20-year period preceding the date of filing of this application.

6. Pursuant to subsection 1206.05B(1) of the ZDO, in order to approve this request, the proposed alteration of the nonconforming use, structure and/or other physical improvements shall have no greater adverse impact upon the neighborhood than the existing use, structure(s) and/or physical improvements. The Planning Director, or designate, may impose conditions designed to mitigate any potential additional adverse impacts pursuant to subsection 1206.05B(3) of the ZDO.

7. The subject properties are located in an area that is largely agricultural in nature. There are no homes in close proximity to the site. It appears that the nearest is 750 ft. or more from the facility.

The proposed steel structures will be placed in the northwest corner of tax lots 1100 and 1101 adjacent to an existing lumber storage building. The applicant states that implementation of the expanded pellet mill use will result in the addition of one employee and 1-2 truck trips per day. All of the proposed processing and materials storage uses will occur entirely within the proposed structures, thereby limiting potential additional noise impacts upon the surrounding area.

The County Traffic Engineering Div. staff have also reviewed this proposal and have determined that S. Kropf Rd. has sufficient capacity to accommodate the small increase in employee and truck traffic described by the applicant. However, the Traffic Engineering staff has recommended some changes in the location of existing employee parking in proximity to the two entrances from Kropf Rd. which presently cause a sight distance limitation, a traffic safety hazard, at these entrances. The following is a discussion of these issues and recommended solutions. The buildings are identified on the applicant's site plan and the following discussion refers to the buildings as indicated on that plan.

At the west end of building E (lumber storage building along south boundary of tax lot 1000), there is a fenced off area with container bins that provide free wood to people who will haul it away. Between this fenced area and the easterly edge of pavement of Kropf Road, it appears that employee vehicles are parked which limit available sight distance to the south for drivers exiting the adjacent driveway between buildings A and E. A similar issue is present just to the south of the northerly driveway, located between buildings A and F. Again, between a fenced area and the edge of pavement, parked vehicles limit available sight distance to the south. Maximizing sight distance is important here because Kropf Road is not posted for speed and is therefore governed by the "Basic Rule", with speeds allowed up to 55 miles per hour. The vehicles parked along the west side of building A are far enough from Kropf Road that this parking area may continue to be used without limiting sight distance at the existing driveway entrances.

The site is large and an employee parking area could be established so that employees would not need to park adjacent to Kropf Road. This road is classified in the Comprehensive Plan as a minor arterial roadway and, under this designation, parking is generally restricted along minor arterials according to Comprehensive Plan Table V-2.

The Traffic Engineering Sec. staff recommend that no vehicles be parked between the edge of pavement (of Kropf Rd.) and the fenced areas west of building E, and also between buildings A and F, and that an on-site employee parking area be established so that employees are not permitted to park along side the edge of Kropf Road. A condition requiring the owner to monitor this situation and provide enforcement would also be helpful as County staff would not be able to monitor the situation effectively. Alternatively, some low landscaping (no more than 30-inches in height at maturity, as measured from the easterly edge of pavement) could be installed and maintained that would effectively eliminate the parking areas between the fences and Kropf Road.

The Planning staff finds that a condition of approval implementing the Traffic Engineering Sec. recommendations is warranted to ensure that the available sight distance at the two entrances into tax lot 1000 is maximized for traffic safety purposes.

The applicant's site plan does not indicate where access to the new buildings will be provided. The staff finds that a condition of approval is warranted requiring the applicant to provide access to the new buildings that complies with the emergency vehicle access requirements of the Monitor Fire District no. 58 Fire Marshal. In addition, if an additional access is proposed onto Kropf Rd., the applicant shall obtain a commercial entrance permit from the County Engineering Div. The applicant will need to consult with Robert Hixson (503-353-4708) of the Traffic Engineering Div. to determine if an additional entrance point will be permitted. If not, the applicant will need to provide for access to the new structures through the existing entrances to the mill facility. Some flexibility in the final position of the structures will be permitted by the County Planning Div. to account for this, if necessary. As noted previously, the County does limit the number of entrances to commercial and residential uses from Minor Arterial streets.

The site plan also indicates that two of the proposed buildings as shown on the site plan will straddle the property boundary line separating tax lots 1100 and 1101. The latter is a 20.5 ft. wide strip of land between tax lots 1000 and 1100. This strip of land is not a separate legal Lot of Record, as defined in Sec. 202 of the ZDO. Under the building code and ZDO standards, structures are not permitted to cross property lines; therefore, prior to the issuance of building permits for these structures, the applicant shall request that the County Assessor cancel tax lot 1101 and combine it with tax lot 1000 and a copy of the approved request shall be submitted to the Planning Div. in conjunction with submittal of the building permit applications to verify that this action has been taken.

8. The Planning Div. staff finds that the proposed alteration of a nonconforming use, subject to conditions as discussed above, will not cause additional adverse impacts upon the surrounding area when compared with the impacts of the existing nonconforming use.

DECISION: **Approval with conditions.** Based upon the Findings discussed above, it is the decision of the Clackamas County Planning Director, by his designate, to approve this application for an alteration of a nonconforming use subject to the following conditions of approval.

CONDITIONS OF APPROVAL

1. This decision is based upon the application, site plan submitted by the applicant, the Findings discussed above and the conditions of approval contained herein. Any changes to the proposal, except as required by these conditions and approved by the Planning Div., shall be reviewed by the Planning Div. as a separate application.

2. Prior to the commencement of construction, the applicant shall obtain any Building, Plumbing, Electrical, Mechanical or other specialty code permits deemed necessary by the County Building Codes Division.

3. Prior to occupancy of the structures, the applicant shall obtain approved final inspections and certificates of occupancy from the County Building Codes Div.

4. Prior to the issuance of Building Permits for the new structures, the applicant shall file a written request with the County Assessor to cancel tax lot 1101 and combine it with tax lot 1000 and a copy of the approved request shall be submitted to the Planning Div. to verify that this action has been taken in conjunction with the applications for building permits for the new structures

5. The structure setback requirements of the EFU zoning district, a minimum of 30 ft. from the front property line (Kropf Rd. right of way), and a minimum of 10 ft. from the side (north and south) and rear (east) property boundaries shall be met.

6. Prior to the issuance of Building Permits for the new structures, the applicant shall submit an employee, visitor and truck parking plan to Robert Hixson of the County Traffic Engineering Sec. demonstrating that on-site vehicle parking will not obstruct sight distance at the existing and any proposed new entrances (if any) onto S. Kropf Rd. as discussed in the Findings above. The applicant shall implement the approved parking plan prior to occupancy of the new structures.

7. Prior to the issuance of Building Permits for the new structures, the applicant shall obtain a permit for a commercial driveway entrance onto Kropf Rd. from the County Engineering Div. if any new entrance(s) onto Kropf Rd. is proposed.

8. Prior to the issuance of Building Permits for the new structures, the applicant shall submit a revised site plan depicting any proposed new entrance(s), or an internal access drive(s) from the existing entrances in tax lot 1000, parking and structure locations to the Planning Div. and County Engineering Div. (Robert Hixson) for review and approval.

9. The applicant shall comply with all relevant requirements of the Monitor Fire District no. 58 Fire Marshal regarding fire protection water supply, emergency vehicle access and any other fire and life safety requirements.

10. Compliance with these conditions of approval is mandatory and non-compliance may be cause for revocation of this permit.

NOTICE TO MORTGAGEE, LIENHOLDER, VENDOR, OR SELLER: ORS CHAPTER 215 REQUIRES THAT IF YOU RECEIVE THIS NOTICE, IT MUST BE PROMPTLY FORWARDED TO THE PURCHASER.

IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE. IF YOU DISAGREE WITH THESE FINDINGS OR CONDITIONS, YOU MAY APPEAL THIS DECISION TO THE CLACKAMAS COUNTY HEARINGS OFFICER. THE COST OF THE APPEAL IS $250.00. YOUR APPEAL MUST BE RECEIVED IN THE PLANNING DIVISION OFFICE BY 5:00 P.M. ON THE LAST DATE TO APPEAL WHICH IS **NOVEMBER 29, 2006.** THIS DECISION IS NOT EFFECTIVE UNTIL THE DAY AFTER THE APPEAL DEADLINE PROVIDED THAT NO APPEAL IS FILED.

11-19-06

Clackamas County
Department of Transportation and Development
Traffic Safety Engineering Section

Attn: Robert Hixson

Concerning **File # Z0716-06-E** Rock Creek Mill, LLC, Jerry McIntire
Notice of Decision – Alteration of a Nonconforming Use – Approval with Conditions

Dear Mr. Hixson,

Concerning Conditions of Approval, items # 6, 7, 8. (Parking plan and traffic movement on the mill site.)

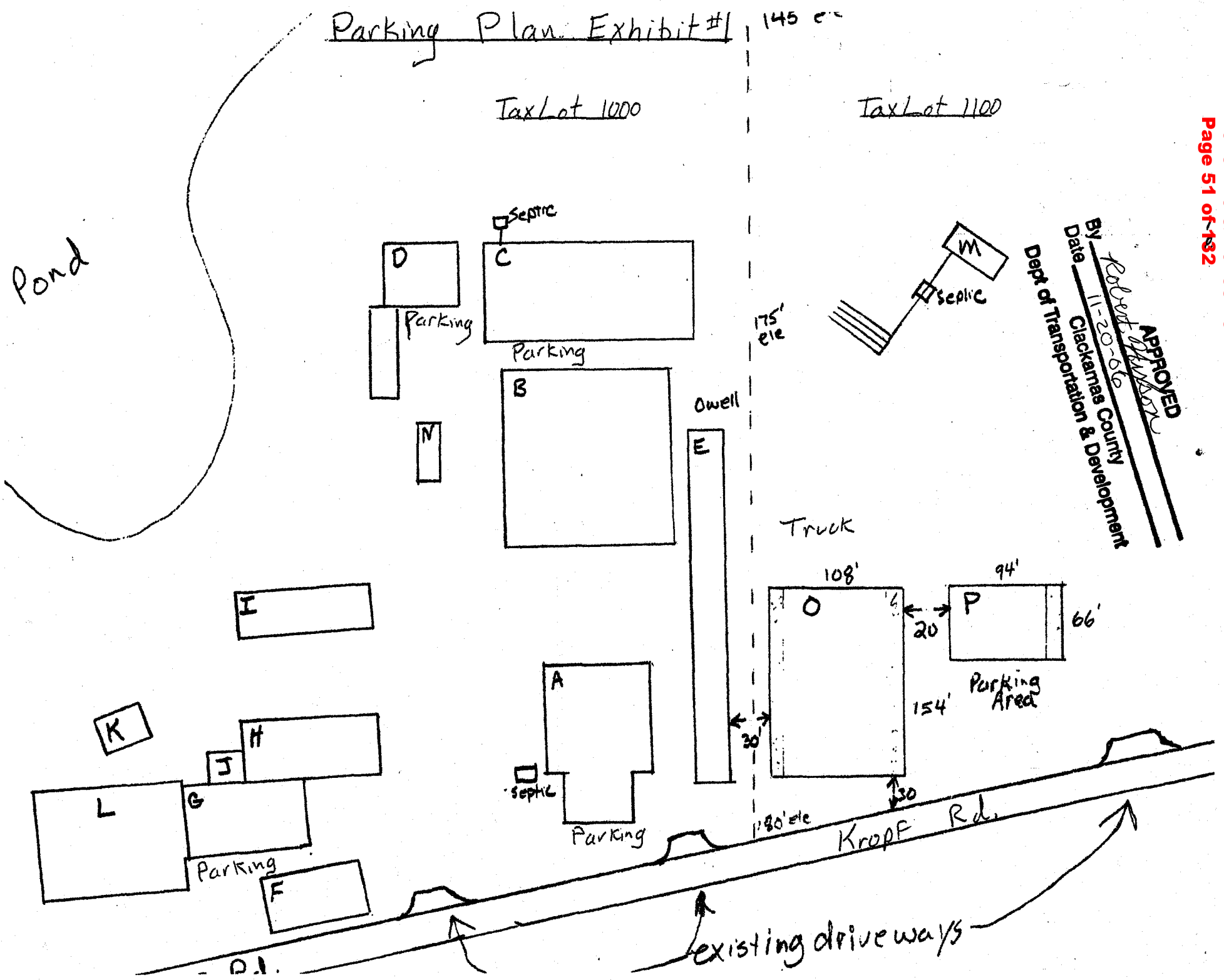
Exhibit #1 shows all existing employee parking and the parking area for the proposed buildings O & P. On site parking at buildings O & P will be situated on the west side of building P. There will be an area approximately 50' X 94' for parking in this area. This parking area will be at least 50 feet from Kropf Rd. and access to the road will be from the existing driveway on Tax Lot 1100. Although there will be no trucks permanently parked on this site, the area East of building O, (approx. 100' X 150') will serve as a truck maneuvering/turnaround/delivery area.

On August 1, 2006, I met with you at this location to discuss plans for the driveway locations and traffic safety. You noted that there is an existing driveway, and it was decided to use this access. I will be improving this access to current county standards to provide safer ingress and egress to Kropf Rd. I am not proposing any new driveways on this property.

All parking areas discussed in Planning Division Findings p.3, #7, have been permanently posted as "NO PARKING" areas. Employers and Employees have been notified not to park in these areas.

There are no plans to create an internal access between these tax lots.
If a need for access between these lots arise in the future, it would probably be located between buildings B & C, approximately 300' east of Kropf Rd.

Jerry M Intire


Parking Plan Exhibit #1
Tax Lot 1000
Tax Lot 1100
Pond
Septic
D
C
Parking
Parking
175' ele
M
Septic
APPROVED
By Robert Hixson
Date 11-20-06
Clackamas County
Dept of Transportation & Development
B
N
E
Owell
Truck
108'
94'
O
P
20
66'
154'
Parking Area
I
A
K
H
J
L
G
Septic
30'
30
180' ele
Parking
Kropf Rd.
F
existing driveways

McIntire, Rick

From: Stohr, Ted
Sent: Friday, September 15, 2006 11:21 AM
To: McIntire, Rick
Subject: Z0716-06

Rick,
Z0716-06 APPROVED WITH CONDITIONS: SUBJECT TO OBTAINING THE NEEDED PERMITS FOR BUILDING CONSTRUCTION.
Thank you.
Ted Stohr
Building Plans Examiner
Clackamas County Building Codes Division
Phone: (503) 353-4786
Fax: (503) 353-4741
teds@co.clackamas.or.us

Clackamas County

DEPARTMENT OF
TRANSPORTATION AND DEVELOPMENT

Sunnybrook Service Center

Campbell Gilmour
Director

NOTICE OF LAND USE APPLICATION IN YOUR AREA

Date: 09/13/2006

File Number: Z0716-06

Application: Alteration/Chg of Non-Conf Use

From: Clackamas County Planning Division

Notice Mailed To: Property owners within 750 feet
Community Planning Organizations (CPO)
Interested Citizens and Agencies

Explanation of this Notice:
AN ALTERATION OF NON-CONFORMING USE, A MODIFICATION OF AN APPROVAL FOR TWO NEW BUILDINGS, A RAW MATERIALS STORAGE BUILDING AND A PELLET MILL BUILDING, FILE NO. Z0408-06-E, TO INCREASE THE SIZES OF THE TWO BUILDINGS TO 12,320 S.F. AND 4312 S.F. , RESPECTIVELY IN CONJUNCTION WITH AN EXISTING WOOD PRODUCTS MANUFACTURING FACILITY.

Property Owner: ROCK CREEK MILL LLC
PO BOX 91
CANBY, OR 97013

Applicant: MCINTIRE JERRY
PO BOX 91
CANBY, OR 97013

Location: 33532 S KROPF ROAD

Legal Description: (map & taxlot) **Acres:** 30
51E21 -01000
51E21 -01100
51E21 -01101

Zone: EFU Exclusive Farm Use (80 Ac)

Staff: Rick McIntire 503-353-4516 **e-mail:** RickM @co.clackamas.or.us

EXHIBIT 2
Z0437-25 & Z0438-25
Page 54 of 132

How to Comment on this Application:

1. To be sure your comments will be considered prior to the decision, we need to have them within 15 days of the date of this notice.

File Number: Z0716-06

2. You may use the space provided below, mail a separate letter or e-mail the information. Please include the file number and address the information to the staff member handling this matter. In the event you choose e-mail, please limit your correspondence only to the issues of the application.

3. Return your mailed comments to: Clackamas County Planning Division, 9101 SE Sunnybrook Blvd, Clackamas, OR 97015; FAX to (503) 353-4550.

Community Planning Organization: The following recognized Community Planning Organization (CPO) has been notified of this application. This organization may develop a recommendation on this application. You are welcome to contact this organization and attend their meeting. If this Community Planning Organization is currently inactive, and you are interested in becoming involved in Land Use Planning in your area, please contact the Citizen Involvement office at (503) 655-8552.

SOUTH CANBY CPO (INACTIVE)

Decision Process: In order to be approved, this proposal must meet the approval criteria or standards in the Zoning and Development Ordinance, Section(s) 401 & 1206

The Ordinance criteria for evaluating this application and all documents and evidence submitted regarding this application are available for inspection. Copies of the application may be purchased at the Planning Division Office during weekday office hours, 8:00am to 5:00pm. The Ordinance criteria are also available at this office or can be reviewed at the County's website at www.co.clackamas.or.us/dtd/zoning/.

A decision on this proposal will be made by the Planning Division. We will consider the criteria as well as any comments and either approve, approve with conditions, or deny this proposal. We will mail you a copy of the decision. If you disagree with the decision you may appeal to the Land Use Hearings Officer who will conduct a public hearing. There is a $250.00 appeal fee.

Comments:

_____

_____

_____

_____

_____ _____

Your Name/Organization Telephone Number

_____

Address

Clackamas County

DEPARTMENT OF
TRANSPORTATION AND DEVELOPMENT

Sunnybrook Service Center

COUNTY ACCEPTANCE OF COMPLETE LAND USE APPLICATION

ORIGINAL DATE RECEIVED: 9/6/06

FILE NUMBER: Z0716-06-E

APPLICATION TYPE: Expansion of N.C.U.

This Planning Division Staff reviewed this application on

9/12/06.

It was determined it to be complete on

9/06/06.

Comments:

Signed

Sr. Planner
Title

~~120~~/150 DAY DEADLINE: 2/2/07

EXHIBIT 2
Z0437-25 & Z0438-25
Page 56 of 132

LAND USE APPLICATION

CLACKAMAS COUNTY PLANNING DIVISION
9101 SE SUNNYBROOK BLVD., CLACKAMAS. OREGON 97015 PHONE (503) 353-4500 FAX (503) 353-4550
www.co.clackamas.or.us EMAIL: zoninginfo@co.clackamas.or.us

FOR STAFF USE ONLY

- ☐ TEMPORARY PERMIT FOR CARE (ST)
  RENEWAL_____
- ☐ ALTERATION OF NON-CONFORMING USE
  _____
- ☐ HOME OCCUPATION (HO)
  RENEWAL_____
- ☐ NON FARM USE (N)
- ☐ FARM DWELLING
  _____
- ☐ FOREST DWELLING
  _____
- ☐ COMP. PLAN AMENDMENT
- ☐ ZONE CHANGE
- ☐ CONDITIONAL USE (C)
- ☐ SUBDIVISION SHORT (1-10) (SS)
- ☐ SUBDIVISION LONG (11+) (SL)
- ☐ PARTITION (M)
- ☐ VARIANCE (V)
- ☐ PROPERTY LINE ADJUSTMENT
- ☒ OTHER_____

File No.: Z0716-06-E
Date Received: 9/6/06 Fee: $520
Hearing Date: _____
Staff Member: lyp
Zone: EFU
Comp. Plan: _____
Violation #: _____
CPO: South Canby (Inactive)
Development No.: _____
Project No.: PR 1236 06

See Z0408-06-E

APPLICANT INFORMATION

PLEASE TYPE OR PRINT IN BLACK INK ONLY

WHAT IS PROPOSED Expansion of Pellett mill - change building sizes - modification of Z0408-06-E

NAME OF APPLICANT Jerry McIntire

MAILING ADDRESS 9545 S. Gribble Rd CITY Canby ST ZIP 97013

APPLICANT IS: ☒ LEGAL OWNER ☐ CONTRACT BUYER ☐ OPTION BUYER ☐ AGENT

NAME OF CONTACT PERSON (if other than applicant) _____

MAILING ADDRESS OF CONTACT _____ ZIP _____

APPLICANT PHONE NUMBERS: Wk 503 250 0240 Hm 266 9614 E-Mail Address: _____

CONTACT PERSON PHONE NUMBERS: Wk _____ Hm _____ E-Mail Address: _____

SITE ADDRESS: 33532 S. Kropf Rd TOTAL LAND AREA: 30 Ac

LEGAL DESCRIPTION: T 5S R 1E SECTION 21 TAX LOT(S) 1000 1100 1101

ADJACENT PROPERTIES UNDER SAME OWNERSHIP: T___ R___ SECTION _____ TAX LOT(S) _____

PRESENT USE OF PROPERTY: Wood working + milling

METHOD OF SEWAGE DISPOSAL: Septic

WATER SUPPLY: Well

OTHER PERSONS (IF ANY) TO BE MAILED NOTICES REGARDING THIS APPLICATION:

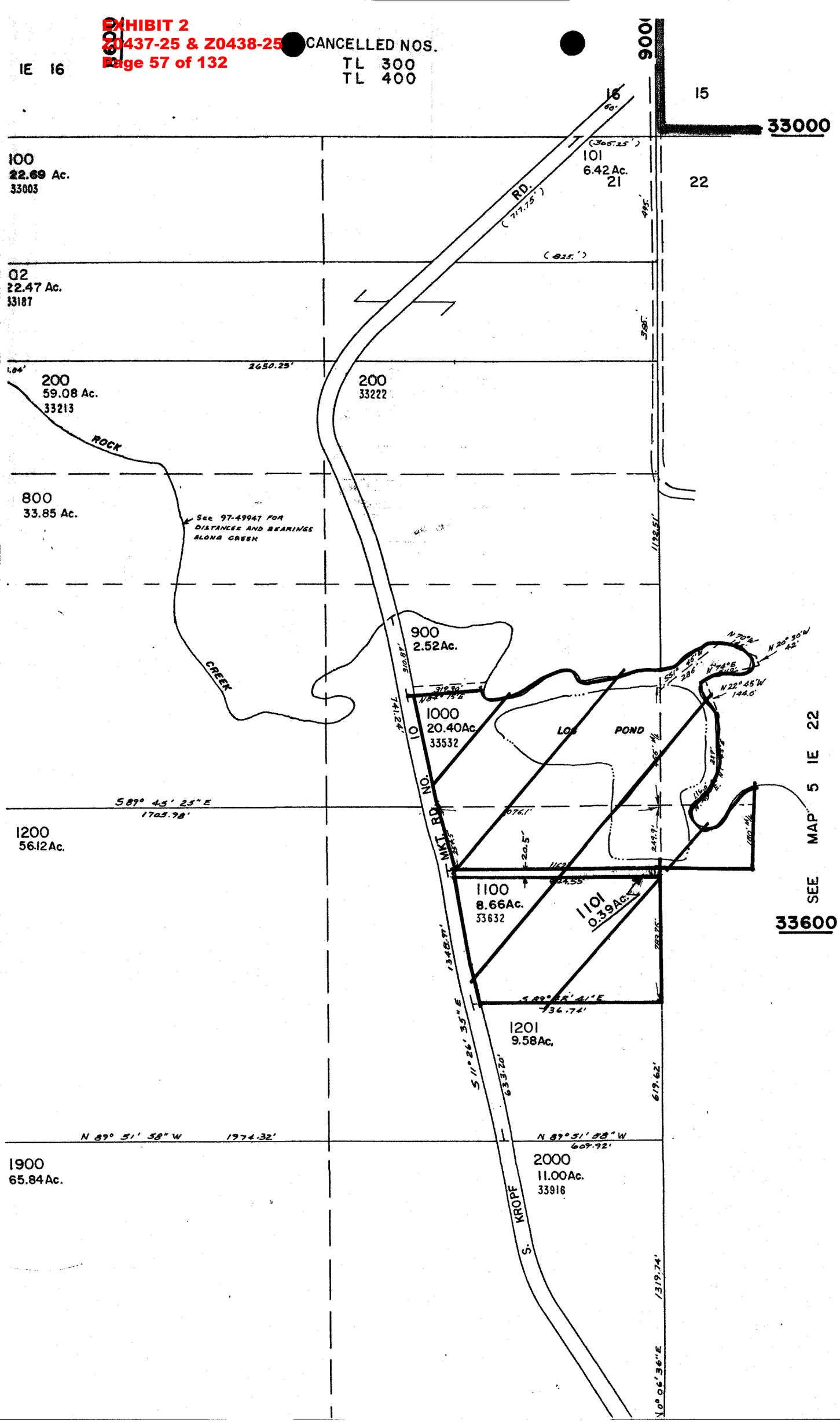
NAME	ADDRESS	ZIP	RELATIONSHIP

I hereby certify the statements contained herein, along with the evidence submitted, are in all respects true and correct to the best of my knowledge.

Jerry McIntire 9-6-06 Jerry McIntire 9-6-06
OWNER'S NAME (PRINT) DATE APPLICANT'S NAME (PRINT) DATE

SIGNATURE SIGNATURE

CCP-PL10 (Rev. 1/04)


CANCELLED NOS.
TL 300
TL 400
9001
33000
16
15
22
21
100
22.69 Ac.
33003
101
6.42 Ac.
RD.
(717.75')
(825.')
(305.25')
Q2
22.47 Ac.
33187
200
59.08 Ac.
33213
2650.25'
200
33222
ROCK
CREEK
800
33.85 Ac.
See 97-49947 FOR DISTANCES AND BEARINGS ALONG CREEK
900
2.52 Ac.
1000
20.40 Ac.
33532
LOG POND
MKT. RD. NO. 101
S 89° 45' 25" E
1705.98'
1200
56.12 Ac.
1100
8.66 Ac.
33632
1101
0.39 Ac.
1201
9.58 Ac.
S 11° 26' 35" E
1348.77'
633.20'
S 89° 28' 41" E
736.74'
N 89° 51' 58" W
1974.32'
N 89° 31' 58" W
609.92'
1900
65.84 Ac.
2000
11.00 Ac.
33916
S. KROPF
N 0° 06' 36" E
1319.74'
SEE MAP 5 1E 22
33600

Clackamas County
Geographic Information Systems
121 Library Court
Oregon City, OR 97045

Property Report

ROCK CREEK MILL LLC
PO BOX 91
CANBY, OR 97013

Site Address:	**NO SITUS**
Taxlot Number:	**51E21 01101**
Land Value:	**966**
Building Value:	**0**
Total Value:	**966**
Acreage:	**0.39**
Year Built:	
Sale Date:	**11/13/2001 0:00:**
Sale Amount:	**795000**
Sale Type:	**X**

Land Class:
Residential land, vacant

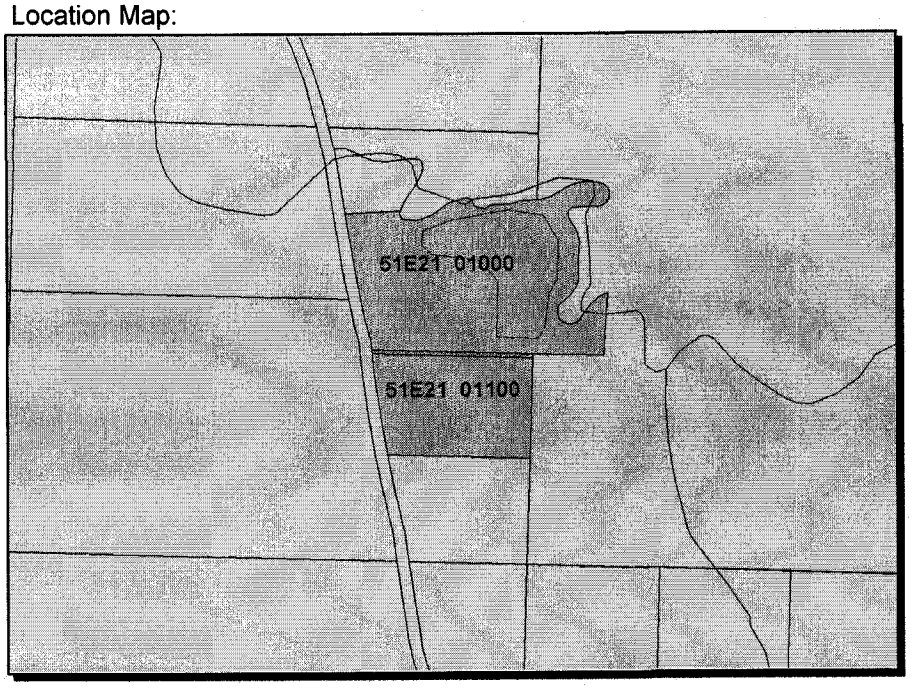
Building Class:

Neighborhood:
Molalla rural south 100, 101

Taxcode Districts: **35032**

Fire	**Monitor Fire Dist #58**
Park	**Unknown**
School	**Molalla River**
Sewer	**Unknown**
Water	**Unknown**
Cable	**Willamette Broadband (Canby)**
CPO	**South Canby**
Garb/Recyc	**Molalla Sanitary**
Jurisdiction	**Clackamas**

Location Map:



Site Characteristics:

UGB:	**Out**
Flood Zone:	**No**

Zoning Designation(s):

Zone	Overlay:	Acreage:
EFU		**0.38**

This map and all other information have been compiled for preliminary and/or general purposes only. This information is not intended to be complete for purposes of determining land use restrictions, zoning, title, parcel size, or suitability of any property for a specific use. Users are cautioned to field verify all information before making decisions.

Printed at 3:28 PM on 09/07/2006

Clackamas County

SUPPLEMENTAL APPLICATION
ALTERATION/CHANGE OF NONCONFORMING USE

APPLICANT INFORMATION

Name: Jerry McIntire File # Z0716-06-E

WHAT IS AN ALTERATION OR CHANGE OF A NONCONFORMING USE?:

The County Zoning & Development Ordinance (ZDO), Sec. 202, defines a Nonconforming Use as "A use of any building, structure, or land allowed by right when established or that obtained a required land use approval when established but, due to a change in the zone or zoning regulations, is now prohibited in the zone." A Nonconforming Use may be a dwelling or other structure(s), a commercial or industrial use, or any other use in a zoning district that was permitted when established, but is not now listed as a permitted use or structure in the zoning district in which it is located. The ZDO allows for alterations to, or changes in, a Nonconforming Use subject to the provisions of Sec. 1206 of the ZDO. An alteration to, or change in, a Nonconforming Use may include, but is not limited to, structural additions, changes to the usage of areas of the property, signing changes, increases in number of employees, a change of hours and/or days of operation, operational changes, and changes to the use itself, etc.

WHAT IS NEEDED FOR APPROVAL?:

An alteration of, or change in, a Nonconforming Use **MAY** be permitted after evaluation of the requested alteration with respect to the criteria contained in Sec. 1206 of the ZDO. The County must make written findings to support the decision. The applicant is responsible for providing evidence to support the request for an alteration or change.

WHAT ARE CHANCES FOR APPROVAL?:

Staff cannot predetermine the decision on this or any other land use application. A decision of approval or denial will only be made after the complete application is processed, comments are sought, and the application is reviewed by the Planning staff. This includes review of citizen and agency comments. The decision is based on criteria appropriate to this application as listed in Sec. 1206 of the ZDO.

APPLICATION PROCESS:

This permit application is subject to the Administrative Action process and public notice pursuant to Subsec. 1305.02 of the ZDO. Public comments received from the Community Planning Organizations (CPO), property owners, agencies and other interested parties may affect the decision on the application. Special conditions may be attached to any approvals to mitigate potential adverse impacts of the alteration or change. Any decision on this application can be appealed to the County

Land Use Hearings Officer and to the State Land Use Board of Appeals (LUBA) by the applicant or any other interested person.

STAFF WILL ATTACH THE FOLLOWING PERTINENT INFORMATION:

_____ Land Use Application _____ CPO Information

_____ Sample Plot Plan _____ Application Process

ZDO Sections _____ & 1206

HOW LONG WILL IT TAKE TO GET A FINAL DECISION ON THIS APPLICATION?:

Approximately 45 days for the initial staff decision. If the staff decision is appealed, the final County decision by the Land Use Hearings Officer may take an additional 8 to 10 weeks (approximate).

COMPLETE APPLICATIONS REQUIRE THE FOLLOWING:

1. Land Use Application – Information about the applicant and land involved in the request.

2. Supplemental Application – Information requested on this form. Please be as complete and thorough as possible. Use additional sheets of paper as necessary to completely describe your proposal and answer the questions contained herein.

3. Application Fee - $_____

4. Plot Plan – The site development plan must be drawn to scale on **8.5" x 11" or 8.5" x 14"** paper. The plan must show and clearly identify the **existing and proposed** development of the property including all structures, parking areas, drainfield locations, landscaping and/or significant vegetation, slope of the property, entrance/access location(s), north arrow, the scale of the drawing, dimensions of the property and structures.

5. Building Profile (if applicable) – The building profiles shall be drawn to scale on **8.5" x 11" or 8.5" x 14"** paper and must clearly depict the proposed new structures or additions to existing structures.

CRITERIA FOR APPROVAL: SEE SEC. 1206 FOR SPECIFIC REQUIREMENTS, THEN ANSWER THE FOLLOWING:

1. When was the existing use, structures and/or physical improvements established? (please give specific dates if possible). Describe the buildings, vehicles, equipment and materials used, days and hours of operation, number of employees and other operational and physical information. Submit land use, building, septic, or other permit documents; utility records, dated photographs, tax appraisal information, dated aerial photographs, tax records, receipts, licenses, notarized affidavits, etc. to document the date of establishment of the use, structure(s) and/or physical improvements, and the continuity of the use since established.

See Attached

2. Describe any changes in the existing use, structures and/or physical improvements since establishment. Describe the buildings, vehicles, equipment and materials used, days and hours of operation, number of employees and other operational and physical information as changes occurred.

See attached

3. Describe in detail the proposed changes to the use, structure(s), and/or physical improvements. Describe all structural and operational changes proposed.

See attached

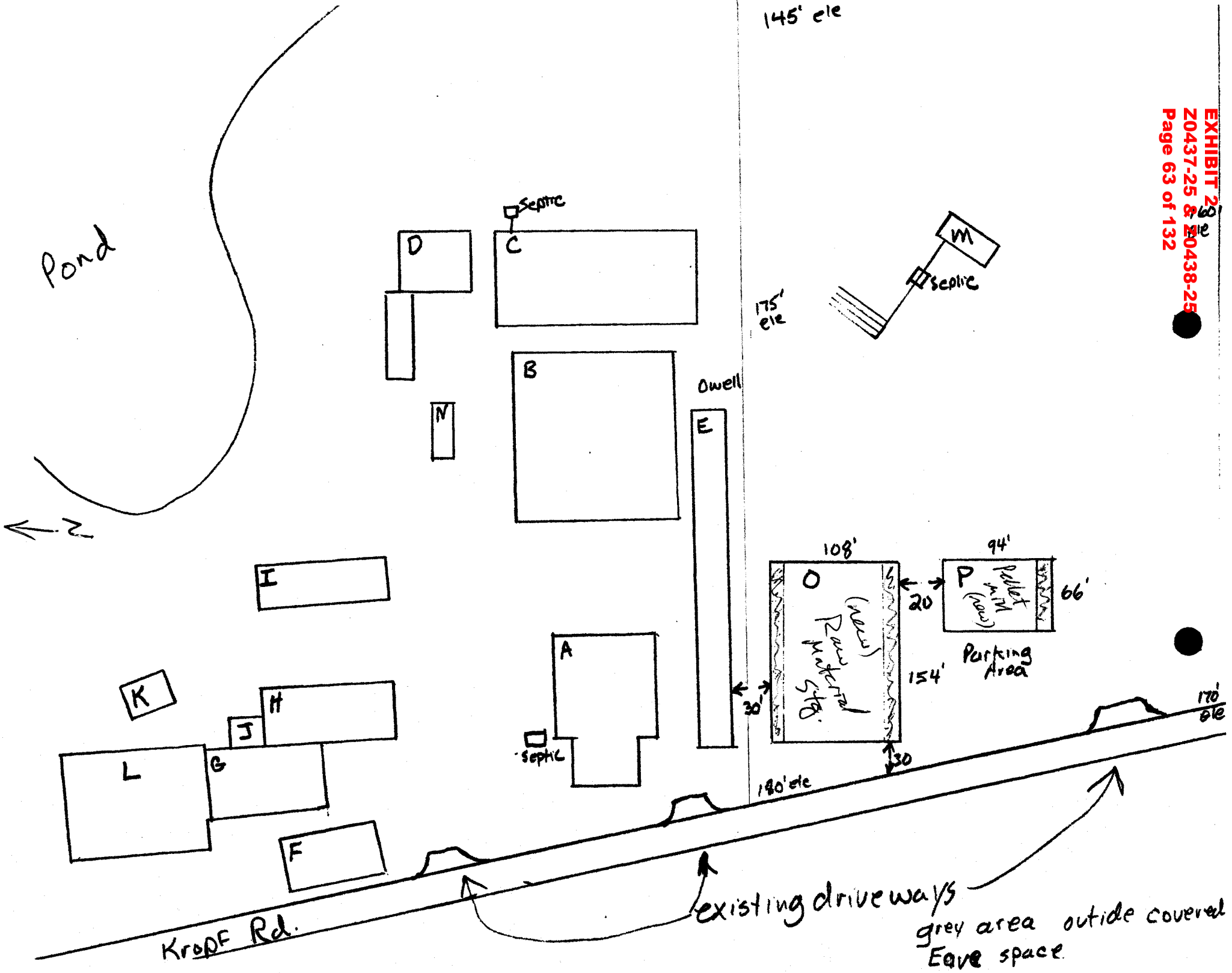
4. Describe in detail why the alterations of the structure(s) and/or physical improvements, and/or the changes in the use will not create additional adverse impacts upon the surrounding neighborhood. Describe any measures planned to mitigate the potential adverse impacts of the changes; e.g. screening, buffering, pollution control equipment, acoustical insulation or barriers, traffic management plan, etc.

1. The mill was established in 1941 and has been in continuous operation since that time. The operations employ 30 people, driving 20 cars per day. Hours of operation are from 5am to 9pm six days a week. In our previous approval #Z0245-05, I submitted photos from 1955 and 2002 to help document the continual use of property. Unfortunately I do not have another copy of these photos.

2. In the early 1960's the saw mill burned down. Since that time the dry kiln, wood fabricating, planing, and molding have continued. In the early 1990's a pellet mill was added to make more productive use of the wood waste. There are 13 industrial buildings ranging from 500 to 12,000 square feet. Days and hours of use and number of employees does fluctuate with the seasons, but over the years has been somewhat consistent.

3. The current proposal is for an expansion of the pellet production. Because the current pellet mill is running at full capacity and cannot keep up with the demand, it is our intention to add two new buildings. These are shown on the plot plan as buildings O and P. O would be a 12,320 square foot raw materials storage building with 4,312 square feet of covered eave space outside the building for storage of the finished pellets. P would be a 5,280 square foot building to house a pellet mill. This building will have under eave space on one side totaling 924 square feet. The new facility will have the capacity to increase production by 60%. The proposed noncombustible steel buildings will be built only after engineering and plans are approved and all necessary permits are obtained. We are submitting this application as a revision to our earlier approval, file # Z0408-06E. We underestimated our need for space. We are also trying to make a used building work for our needs.

4. This expansion will create one additional labor position. There would be additional truck traffic in and out of the facility of 1 or 2 trucks per day. The properties are located in a rural agricultural area. We feel that there would be not be a negative impact on the neighborhood. There are no neighbors within 750 feet of the properties and no active CPO in the area.


145' ele
Pond
Septic
D
C
M
Septic
160' ele
175' ele
B
Owell
N
E
I
108'
94'
O
(new) Raw Material Stg.
20
P
Pallet Mill (new)
66'
Parking Area
154'
A
K
H
J
L
G
Septic
30'
30
170' ele
180' ele
F
existing driveways
grey area outide covered
Eave space
Kropf Rd.

Rock Creek Mill
Plot Plan
And
Building Assignments

A. Front Fabricating Shop and Office
B. Planer Building
C. Molding Building
D. Pellet Building
E. South Lumber Storage
F. Machine Shop
G. Dry Kiln
H. Middle Lumber Shed
I. Sticker Building
J. Boiler Room
K. Small Kiln
L. North Lumber Storage
M. Caretaker's Mobile Home
N. Sawdust Bunker
O. Purposed Raw Material Storage Building
P. Purposed Pellet Mill Building

EXHIBIT 2
Z0437-25 & Z0438-25
Page 65 of 132

Clackamas County

DEPARTMENT OF
TRANSPORTATION AND DEVELOPMENT

Sunnybrook Service Center

FACSIMILE TRANSMISSION

COVER SHEET

DATE: 8-1-06

TO: JERRY McINTIRE

COMPANY: ROCK CREEK MILL

FAX NUMBER: 503-266-1756

FROM: ROBERT HIXSON

COMPANY: **CLACKAMAS COUNTY – DTD**
Sunnybrook Service Center
9101 SE Sunnybrook Blvd
Clackamas OR 97015

FAX NUMBER: (503) 353-4659

VOICE NUMBER: (503) 353-4708

TOTAL PAGES, including this cover sheet: 3

COMMENTS: JERRY, SINCE THE DRIVEWAY WORK CONSISTS OF AN UPGRADE OF THE EXISTING DRIVEWAY AND NOT A NEW DRIVEWAY, CONDITION G DOES NOT APPLY. THE PLANS REVIEWER I SPOKE WITH SAID YOU WOULD NOT NEED TO SUBMIT A PLAN FOR THE DRIVEWAY OR PAY A FEE. WE JUST NEED IT BUILT TO STANDARDS. Robert

Land Use Application
Clackamas County Planning Division
9101 SE Sunnybrook Blvd, Clackamas, OR 97015
Phone (503) 353-4400 Fax (503) 353-4550

Type of Application:ZE
Status: PENDING
Lots: 0
Flex Lots (Y/N):
Staff Reviewer: RAM
Staff Member: LPSB

File No: Z0716-06
Received: 09/06/2006
Decision:
Appealed:
Final:
Expired:
Hearing:

Zone: EFU

Code Enforcement #:
Comm Planning Org (Y/N):

OWNER : ROCK CREEK MILL LLC
PO BOX 91
CANBY, OR 97013

APPLICANT : MCINTIRE JERRY
PO BOX 91
CANBY, OR 97013 503-266-9614

Applicant: Legal Owner
Proposal:
ALTERATION OF NON-CONFORMING USE

Site Address: 33532 S KROPF RD CLAC
Legal Description: 51E21 -01000

Adjacent Properties:
Present Use: WOOD WORKING & M

Total Fees: $520.00
Balance Due: $0.00
document:receiptzs

EXHIBIT 2
Z0437-25 & Z0438-25
Page 67 of 132

NAME: Jerry McIntire

MAIL DATE:

Z0716-06-E

750'

TOWNSHIP	RANGE	SECTION	TAX LOT	TOWNSHIP	RANGE	SECTION	TAX LOT
5	1E	21	1000				
			1100				
			1101				

EMMA/FORM

MAS
Y
ROOK SERVICE CENTER
ENT OF TRANSPORTATION AND DEVELOPMENT
SUNNYBROOK BLVD. | CLACKAMAS, OR 97015

JERRY MCINTIRE
9545 S GRIBBLE ROAD
CANBY OR 97013

Z0716-06-E

WROLSTAD THOMAS D TRUSTEE
33187 S KROPF RD
MOLALLA OR 97038

WROLSTAD RONALD E TRUSTEE
3210 SW CHINTIMINI
CORVALLIS OR 97333

CLACKAMAS COUNTY
902 ABERNETHY RD
OREGON CITY OR 97045

ROCK CREEK MILL LLC
PO BOX 91
CANBY OR 97013

MCINTIRE JERRY & BEVERLY
PO BOX 91
CANBY OR 97013

GASSNER MICHAEL J TRUSTEE
8418 S GIBSON RD
MOLALLA OR 97038

VANAUSDELL P DIXON TRUSTEE
1295 HEATHER LN SE
SALEM OR 97302

VANNICE CHARLES
402 NORWAY AVE
SILVERTON OR 97381

NOTICE OF DISTRIBUTION

FILE NO(S) Z0716-06-E HEARING DATE _____

NAME/AGENCY	DATE MAILED Notice	Decision
CITY OF — (Adjacent/Nearby Cities; UGMA Areas)		
COUNTY OF (Adjacent Counties) —		
SCHOOL DISTRICT —		
SEWER DISTRICT —		
WATER DISTRICT —		
STORM WATER MGMT DIST —		
FIRE DISTRICT Monitor #58	9/13/06	11/16/06
PARKS DISTRICT —		
TRI-MET —		
CPO South Canby (Inactive)		
AIRPORT (Public Use) —		
DTD/COUNTY DIVISIONS		
TRAFFIC ENGR Hixson	"	"
CONSTR & DEV —		
CCSD #5 (LIGHTING) —		
WEIGHMASTER —		
SOILS/WES yes	"	"
BUILDING R. Caniga	"	"
WES —		
PLANNERS (Historic, DR, SSV, Regional Center) —		
ASSESSOR & TAX — (Cell Towers/Collocations, AG/Forest & Mining)		
COUNTY HEALTH DIVISION — (Food Service Providers, Espresso Stands, Etc.)		
COMMUNITY ENVIRONMENT —		
STATE AGENCIES		
ODOT —		
OREGON DEPT OF AVIATION — (Cell Towers, Nearby Airports)		
DIV OF STATE LANDS —		
CORP OF ENGINEERS —		
DOGAMI —		
DEQ —		
DLCD —		
METRO —		
OTHER —		
PROPERTY OWNERS (750' FEET)	"	"
ADJACENT COUNTY PROPERTY OWNERS —		

PLANNING DIVISION

LAND USE FILES

FILE NUMBER: Z0408-06-E

LEGAL DESCRIPTION:

T 5 **S, R** 1 **E, SECTION** 21

TAX LOT(S) 1000, 1100, 1101

NOTICE OF DECISION -
ALTERATION OF A NONCONFORMING USE -**APPROVAL WITH CONDITONS**

CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
LAND USE AND ENVIRONMENTAL PLANNING DIVISION
9101 SE Sunnybrook Blvd., Clackamas, OR 97015
Telephone: 353-4500/4501

TO: Applicant, Citizens Planning Organization, Agencies, and Property Owners within 750 feet of this application.

DATE: July 27, 2006

LAST DATE TO APPEAL: August 8, 2006

FILE NO.: Z0408-06-E

STAFF CONTACT: Rick McIntire (503-353-4516; rickm@co.clackamas.or.us)

APPLICANT: Rock Creek Mill, LLC, c/o Jerry McIntire, P.O. Box 91, Canby, OR 97013

OWNER OF PROPERTY: Rock Creek Mill, LLC (tax lots 1000 and 1101) and Jerry & Beverly McIntire (tax lot 1100)

LEGAL DESCRIPTION: T5S, R1E, Section 21, Tax Lot(s) 1000, 1100 & 1101, W.M.

SITE ADDRESS: 33532 (tax lots 1000/1101) & 33632 S. Kropf Rd., Molalla, OR

TOTAL AREA INVOLVED: Approximately 29.45 acres.

PRESENT ZONING: Exclusive Farm Use (EFU), 80 acre district.

CITIZENS PLANNING ORGANIZATION FOR AREA: South Canby CPO (inactive)

PROPOSAL: An alteration of a nonconforming use, a wood products manufacturing facility, to permit construction and operation of three (3) new structures; a 600 s.f. infeed hopper building, a 5000 s.f. raw materials storage building and a 1200 s.f. building housing a new pellet mill.

FINDINGS: The Planning Division has reviewed this application for an alteration of a nonconforming use. This application is subject to Section 1206 of the Clackamas County Zoning and Development

Ordinance (ZDO). The Planning Division has reviewed this section of the ZDO with respect to this proposal and makes the following findings:

1. The applicant is requesting approval an alteration of a nonconforming use, a wood products manufacturing facility, to permit construction and operation of three (3) new structures; a 600 s.f. infeed hopper building, a 5000 s.f. raw materials storage building and a 1200 s.f. building housing a new pellet mill. Approval of this application and implementation of the proposed use would result in one additional employee and 1-2 additional truck trips per day. The proposed structures would be located in the northwest corner of tax lots 1100 and 1101 just to the south of a long lumber storage building along the south boundary of tax lot 1000.

   The subject properties are located on the east side of S. Kropf Rd., approximately one-half mile north of the intersection with S. Gibson Rd. Tax lots 1000 and 1101 are developed with 13 existing buildings used for the wood processing/lumber milling facility. Tax lot 1100 is developed with a manufactured home in the approximate center of that lot. A large part of tax lot 1000 contains an old mill pond and the east and north sides of this lot are bounded by Rock Creek.

2. Pursuant to subsection 1206.05B(2) of the ZDO, the applicant must first verify that the existing use(s), structure(s) and/or other physical improvements were established as a protected nonconforming use as defined in Sec. 202 of the ZDO. Sec. 202 of the ZDO defines a "Nonconforming Use" as:

   > "A use of any building, structure or land allowed by right when established or that obtained a required land use approval when established but, due to a change in the zone or zoning regulations, is now prohibited in the zone."

   The subject properties are currently zoned Exclusive Farm Use (EFU). The use and development of property in this zoning district is subject to the provisions of Sec. 401 of the ZDO. The wood products manufacturing facility is not listed as a permitted primary, accessory, subject to Planning Director review or conditional use in the EFU zoning district. Single family dwellings, including manufactured homes, are listed as a use subject to Planning Director review in the EFU zoning district. On September 1, 1976, the EFU designation was applied to the subject properties as the first restrictive zoning regulations applicable to the subject property. A number of amendments to the EFU district regulations have been adopted over the years since then, however, the existing and proposed uses have never been listed as permitted primary uses in this zoning district.

3. In order to demonstrate the establishment of a nonconforming use, the applicant must demonstrate the following: (1) that the use(s) and structure(s) were established prior to the effective date of the initial zoning of the property; **or** (2) that the use(s) and structure(s) were allowed by right under the zoning applicable at the time of establishment; **or** (3) that a required land use permit; e.g. unzoned area development permit, conditional use permit, etc., was obtained from the County to establish the use(s) and structure(s) prior to a change in zoning regulations pursuant to subsection 1206.06B of the ZDO.

The subject property has been the subject of three prior land use actions. On February 26, 1993 (Planning file no. Z0092-03-E), the Planning Division found that the wood products manufacturing and processing facility was a lawfully established nonconforming use established in 1941. In that decision, a pellet mill was permitted as an alteration of the nonconforming use. On August 5, 1997 (Planning file no. Z0721-97-E), the Planning Division approved an alteration of the nonconforming use to permit an addition to one of the existing buildings to provide for additional covered storage space. On June 15, 2005 (Planning file no. Z0254-05-E), the Planning Division approved an alteration of the nonconforming use to allow the inclusion of tax lot 1100 and an existing manufactured home to be used as a residence for a watchman/caretaker for the mill facility.

Conclusion: The record establishes that the existing wood products manufacturing facility, use, structure(s) and other physical improvements on tax lots 1000, 1100 and 1101 was established as a nonconforming use upon the adoption of restrictive zoning regulations on September 1, 1976 and as altered under the 1993, 1997 and 2005 land use permit approvals noted above.

4. If the applicant proves that nonconforming use status has been established, the nonconforming use may be continued pursuant to subsec. 1206.01 of the ZDO. Subsec. 1206.01 of the ZDO states:

> "A nonconforming use may be continued although not in conformity with the regulations for the zone in which the use is located."

5, If the applicant has demonstrated that a nonconforming use has been lawfully established, the applicant must also provide evidence as to the nature, extent, existence and continuity of the nonconforming use and that the nonconforming use has not been discontinued for any period exceeding twelve (12) consecutive months during the 20-year period immediately preceding the date of the application for verification pursuant to subsec. 1206.02 of the ZDO and ORS 215.130(11). Subsec. 1206.02 of the ZDO states:

> "If a nonconforming use is discontinued for a period of more than twelve (12) consecutive months, the use shall not be resumed unless the resumed use conforms with the requirements of the Ordinance and other regulations applicable at the time of the proposed resumption."

Based upon the land use permit record and the applicant's statement in the application, the staff concludes that the nonconforming use of tax lots 1000, 1100 and 1101 has not been discontinued for any period in excess of twelve (12) consecutive months since the adoption of restrictive zoning regulations or during the 20-year period preceding the date of filing of this application.

6. Pursuant to subsection 1206.05B(1) of the ZDO, in order to approve this request, the proposed alteration of the nonconforming use, structure and/or other physical improvements shall have no greater adverse impact upon the neighborhood than the existing use, structure(s) and/or physical improvements. The Planning Director, or designate, may impose conditions designed

to mitigate any potential additional adverse impacts pursuant to subsection 1206.05B(3) of the ZDO.

7. The subject properties are located in an area that is largely agricultural in nature. There are no homes in close proximity to the site. It appears that the nearest is 750 ft. or more from the facility.

The proposed steel structures will be placed in the northwest corner of tax lots 1100 and 1101 adjacent to an existing lumber storage building. The applicant states that implementation of the expanded pellet mill use will result in the addition of one employee and 1-2 truck trips per day. All of the proposed processing and materials storage uses will occur entirely within the proposed enclosed structures, thereby limiting potential additional noise impacts upon the surrounding area.

The County Traffic Engineering Div. staff have also reviewed this proposal and have determined that S. Kropf Rd. has sufficient capacity to accommodate the small increase in employee and truck traffic described by the applicant. However, the Traffic Engineering staff has recommended some changes in the location of existing employee parking in proximity to the two entrances from Kropf Rd. which presently cause a sight distance limitation, a traffic safety hazard, at these entrances. The following is a discussion of these issues and recommended solutions. The buildings are identified on the applicant's site plan and the following discussion refers to the buildings as indicated on that plan.

At the west end of building E (lumber storage building along south boundary of tax lot 1000), there is a fenced off area with container bins that provide free wood to people who will haul it away. Between this fenced area and the easterly edge of pavement of Kropf Road, it appears that employee vehicles are parked which limit available sight distance to the south for drivers exiting the adjacent driveway between buildings A and E. A similar issue is present just to the south of the northerly driveway, located between buildings A and F. Again, between a fenced area and the edge of pavement, parked vehicles limit available sight distance to the south. Maximizing sight distance is important here because Kropf Road is not posted for speed and is therefore governed by the "Basic Rule", with speeds allowed up to 55 miles per hour. The vehicles parked along the west side of building A are far enough from Kropf Road that this parking area may continue to be used without limiting sight distance at the existing driveway entrances.

The site is large and an employee parking area could be established so that employees would not need to park adjacent to Kropf Road. This road is classified in the Comprehensive Plan as a minor arterial roadway and, under this designation, parking is generally restricted along minor arterials according to Comprehensive Plan Table V-2.

The Traffic Engineering Sec. staff recommend that no vehicles be parked between the edge of pavement (of Kropf Rd.) and the fenced areas west of building E, and also between buildings A and F, and that an on-site employee parking area be established so that employees are not permitted to park along side the edge of Kropf Road. A condition requiring the owner to monitor this situation and provide enforcement would also be helpful as County staff would not be able to monitor the situation effectively. Alternatively, some low landscaping (no more than

30-inches in height at maturity, as measured from the easterly edge of pavement) could be installed and maintained that would effectively eliminate the parking areas between the fences and Kropf Road.

The Planning staff finds that a condition of approval implementing the Traffic Engineering Sec. recommendations is warranted to ensure that the available sight distance at the two entrances into tax lot 1000 is maximized for traffic safety purposes.

The applicant's site plan does not indicate where access to the new buildings will be provided. The staff finds that a condition of approval is warranted requiring the applicant to provide access to the new buildings that complies with the emergency vehicle access requirements of the Monitor Fire District no. 58 Fire Marshal. In addition, if an additional access is proposed onto Kropf Rd., the applicant shall obtain a commercial entrance permit from the County Engineering Div. The applicant will need to consult with Robert Hixson (503-353-4708) of the Traffic Engineering Div. to determine if an additional entrance point will be permitted. If not, the applicant will need to provide for access to the new structures through the existing entrances. Some flexibility in the final position of the structures will be permitted by the County Planning Div. to account for this, if necessary. As noted previously, the County does limit the number of entrances to commercial and residential uses from Minor Arterial streets.

The site plan also indicates that two of the proposed buildings as shown on the site plan will straddle the property boundary line separating tax lots 1100 and 1101. The latter is a 20.5 ft. wide strip of land between tax lots 1000 and 1100. This strip of land is not a separate legal Lot of Record, as defined in Sec. 202 of the ZDO. Under the building code and ZDO standards, structures are not permitted to cross property lines; therefore, prior to the issuance of building permits for these structures, the applicant shall request that the County Assessor cancel tax lot 1101 and combine it with tax lot 1000 and a copy of the approved request shall be submitted to the Planning Div. to verify that this action has been taken.

8. The Planning Div. staff finds that the proposed alteration of a nonconforming use, subject to conditions as discussed above, will not cause additional adverse impacts upon the surrounding area when compared with the impacts of the existing nonconforming use.

DECISION: **Approval with conditions.** Based upon the Findings discussed above, it is the decision of the Clackamas County Planning Director, by his designate, to approve this application for an alteration of a nonconforming use subject to the following conditions of approval.

CONDITIONS OF APPROVAL

1. This decision is based upon the application, site plan submitted by the applicant, the Findings discussed above and the conditions of approval contained herein. Any changes to the proposal, except as required by these conditions and approved by the Planning Div., shall be reviewed by the Planning Div. as a separate application.

2. Prior to the commencement of construction, the applicant shall obtain any Building, Plumbing, Electrical, Mechanical or other specialty code permits deemed necessary by the County Building Codes Division.

3. Prior to occupancy of the structures, the applicant shall obtain approved final inspections and certificates of occupancy from the County Building Codes Div.

4. Prior to the issuance of Building Permits for the new structures, the applicant shall file a written request with the County Assessor to cancel tax lot 1101 and combine it with tax lot 1000 and a copy of the approved request shall be submitted to the Planning Div. to verify that this action has been taken.

5. Prior to the issuance of Building Permits for the new structures, the applicant shall submit an employee, visitor and truck parking plan to Robert Hixson of the County Traffic Engineering Sec. demonstrating that on-site vehicle parking will not obstruct sight distance at the existing and any proposed new entrances onto S. Kropf Rd. as discussed in the Findings above. The applicant shall implement the approved parking plan prior to occupancy of the new structures.

6. Prior to the issuance of Building Permits for the new structures, the applicant shall obtain a permit for a commercial driveway entrance onto Kropf Rd. from the County Engineering Div. if a new entrance is proposed.

7. Prior to the issuance of Building Permits for the new structures, the applicant shall submit a revised site plan depicting any proposed new entrance(s), or an internal access drive(s) from the existing entrances in tax lot 1000, parking and structure locations to the Planning Div. and County Engineering Div. (Robert Hixson) for review and approval.

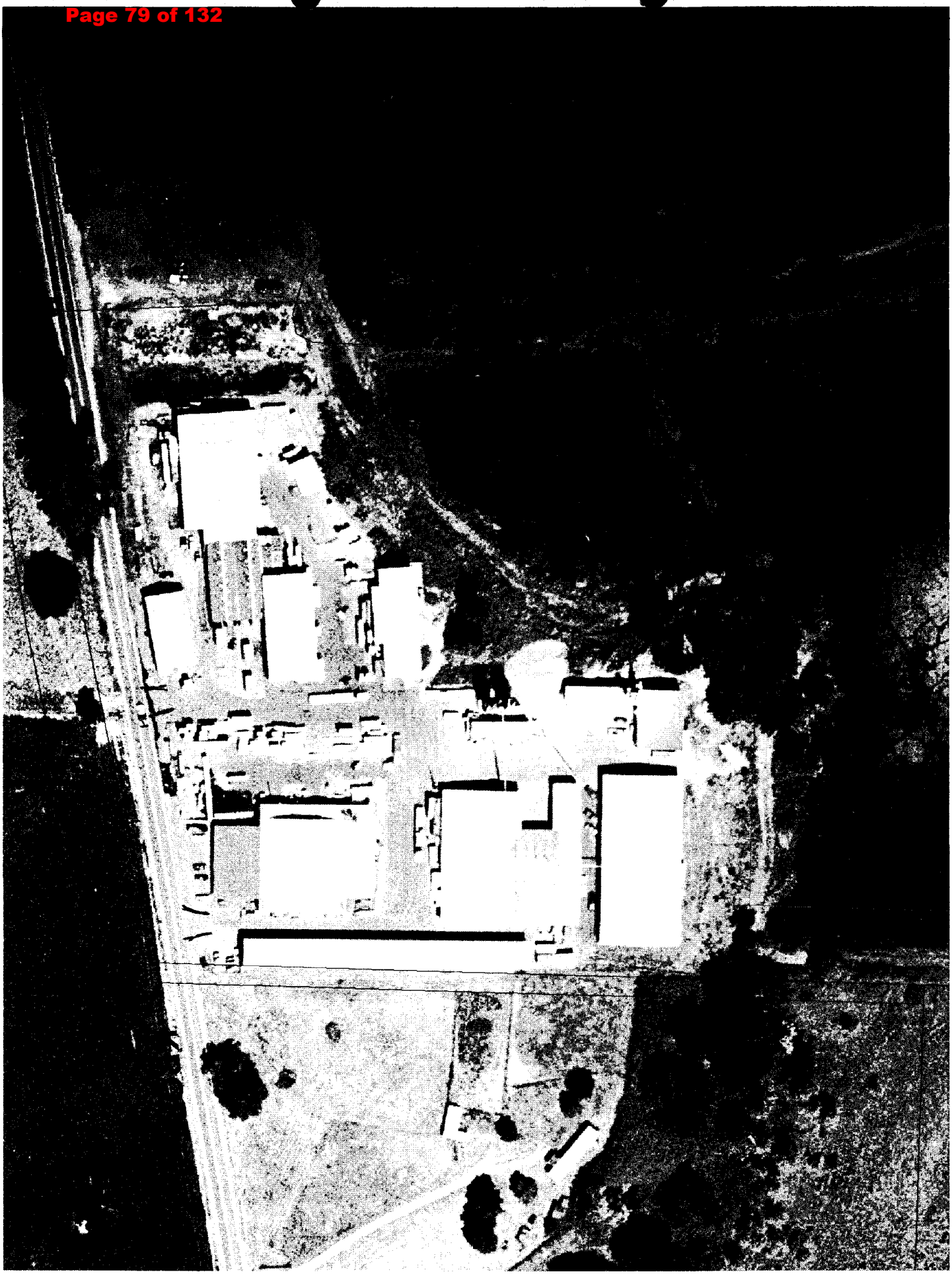
8. The applicant shall comply with all relevant requirements of the Monitor Fire District no. 58 Fire Marshal regarding fire protection water supply, emergency vehicle access and any other fire and life safety requirements.

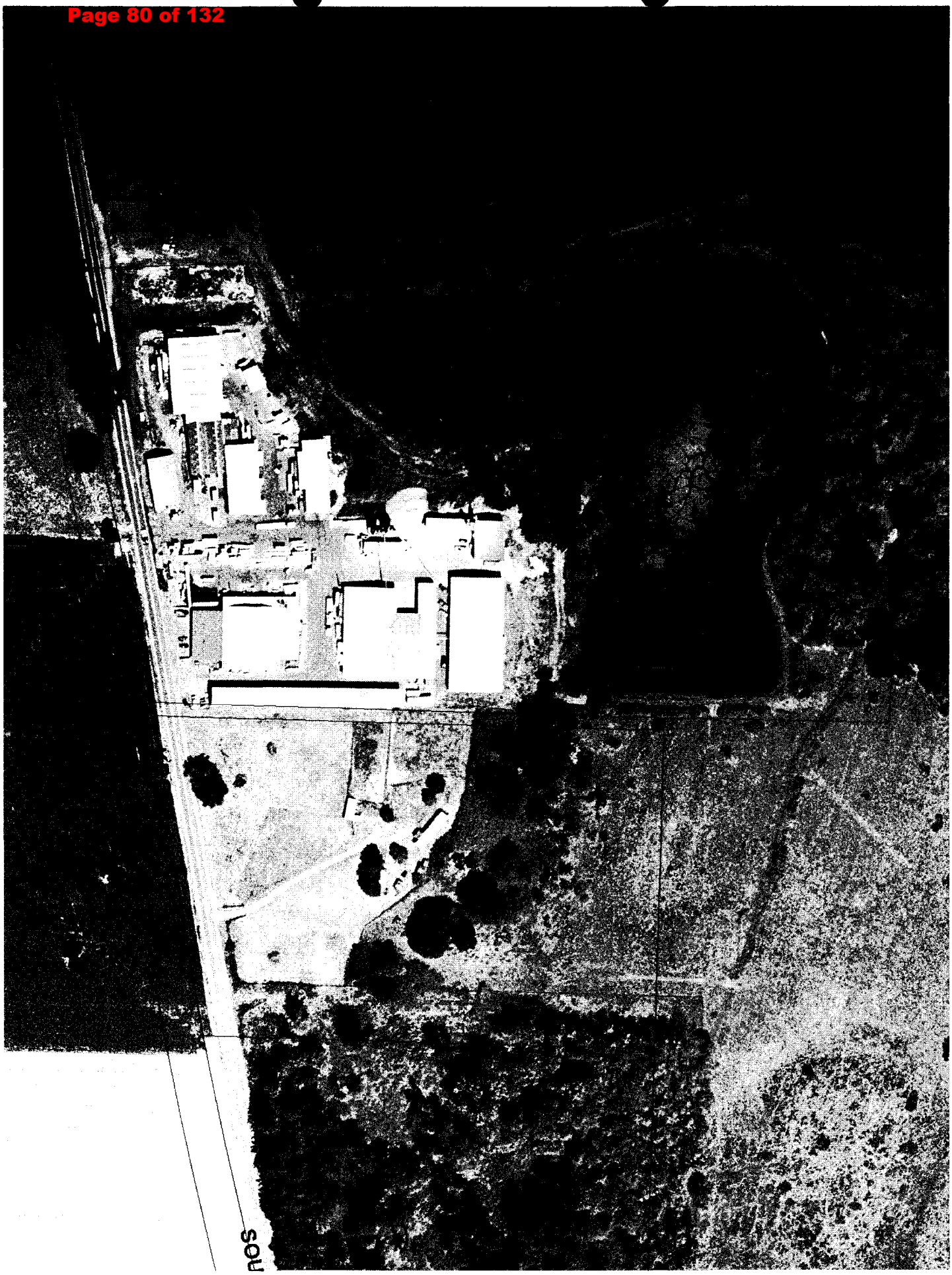
9. Compliance with these conditions of approval is mandatory and non-compliance may be cause for revocation of this permit.

NOTICE TO MORTGAGEE, LIENHOLDER, VENDOR, OR SELLER: ORS CHAPTER 215 REQUIRES THAT IF YOU RECEIVE THIS NOTICE, IT MUST BE PROMPTLY FORWARDED TO THE PURCHASER.

IF YOU HAVE ANY QUESTIONS ABOUT THIS APPLICATION, PLEASE CONTACT THE PLANNING DIVISION OFFICE. IF YOU DISAGREE WITH THESE FINDINGS OR CONDITIONS, YOU MAY APPEAL THIS DECISION TO THE CLACKAMAS COUNTY HEARINGS OFFICER. THE COST OF THE APPEAL IS $250.00. YOUR APPEAL MUST BE RECEIVED IN THE PLANNING DIVISION OFFICE BY 5:00 P.M. ON THE LAST DATE TO

APPEAL WHICH IS **AUGUST 8, 2006.** THIS DECISION IS NOT EFFECTIVE UNTIL THE DAY AFTER THE APPEAL DEADLINE PROVIDED THAT NO APPEAL IS FILED.




sou

Traf Eng

McIntire, Rick

From: Hixson, Robert
Sent: Friday, June 16, 2006 8:17 AM
To: McIntire, Rick
Subject: Z0408-06-E, Rock Creek Mill

Rick,

I have been to the site and have concerns regarding sight distance. At the ~~east~~ west end of building E, there is a fenced off area with container bins that provide free wood to people who will haul it away. Between this fenced area and the easterly edge of pavement of Kropf Road, vehicles, possibly employee vehicles, are parked and limit sight distance to the south for drivers exiting the adjacent driveway between buildings A and E. A similar issue is present just to the south of the northerly driveway, located between buildings A and F. Again, between a fenced area and the edge of pavement, parked vehicles limit sight distance to the south.

Maximizing sight distance is important here because Kropf Road is not posted for speed and is therefore governed by the "Basic Rule", with speeds allowed up to 55 miles per hour.

The site is large and an employee parking area could be established so that employees would not need to park adjacent to Kropf Road, which is a minor arterial and parking is generally restricted along minor arterials according to Comprehensive Plan Table V-2.

The vehicles parked ~~east~~ west of building A are far enough from Kropf Road that this parking area may continue to be used without limiting sight distance at the existing driveways.

I would recommend that no vehicles be parked between the edge of pavement and the fenced areas ~~east~~ west of building E, and also between buildings A and F, and that an employee parking area be established so that employees would not be permitted to park along side the edge of Kropf Road. A condition requiring the owner to monitor this situation and provide enforcement would also be helpful as County staff would not be able to monitor the situation effectively. Alternatively, some low landscaping (no more than 30-inches in height at maturity, as measured from the easterly edge of pavement) could be installed and maintained that would eliminate the parking areas between the fences and Kropf Road.

Robert

SOILS/WES

Clackamas County

DEPARTMENT OF
TRANSPORTATION AND DEVELOPMENT

Sunnybrook Service Center

Campbell Gilmour
Director

NOTICE OF LAND USE APPLICATION IN YOUR AREA

Date: 05/31/2006

File Number: Z0408-06

Application: Alteration/Chg of Non-Conf Use

From: Clackamas County Planning Division

Notice Mailed To: Property owners within 750 feet
Community Planning Organizations (CPO)
Interested Citizens and Agencies

Explanation of this Notice:
AN ALTERATION OF NON-CONFORMING USE, A WOOD PRODUCTS MANUFACTURING FACILITY, TO ADD THREE NEW STRUCTURES INCLUDING A 600 S.F. INFEED HOPPER BUILDING, A 5,000 S.F. RAW MATERIALS STORAGE BUILDING AND A 1200 S.F. PELLETT MILL BUILDING.

Property Owner: ROCK CREEK MILL LLC
PO BOX 91
CANBY, OR 97013

Applicant: MCINTIRE JERRY
PO BOX 91
CANBY, OR 97013

no obj - influence of
this - individual
, person is
de minimis -
no bldg foundations
or utilities
of septic components
RM

Location: 33532 S KROPF RD

Legal Description: (map & taxlot) **Acres:** 29.06
51E21 01000, 01100

Zone: EFU Exclusive Farm Use (80 Ac)

Staff: Rick McIntire 503-353-4516 **e-mail:** RickM @co.clackamas.or.us

How to Comment on this Application:
1. To be sure your comments will be considered prior to the decision, we need to have them within 15 days of the date of this notice.

File Number: Z0408-06

2. You may use the space provided below, mail a separate letter or e-mail the information. Please include the file number and address the information to the staff member handling this matter. In the event you choose e-mail, please limit your correspondence only to the issues of the application.

3. Return your mailed comments to: Clackamas County Planning Division, 9101 SE Sunnybrook Blvd, Clackamas, OR 97015; FAX to (503) 353-4550.

Community Planning Organization: The following recognized Community Planning Organization (CPO) has been notified of this application. This organization may develop a recommendation on this application. You are welcome to contact this organization and attend their meeting. If this Community Planning Organization is currently inactive, and you are interested in becoming involved in Land Use Planning in your area, please contact the Citizen Involvement office at (503) 655-8552.

SOUTH CANBY CPO (INACTIVE)

Decision Process: In order to be approved, this proposal must meet the approval criteria or standards in the Zoning and Development Ordinance, Section(s) 401 & 1206

The Ordinance criteria for evaluating this application and all documents and evidence submitted regarding this application are available for inspection. Copies of the application may be purchased at the Planning Division Office during weekday office hours, 8:00am to 5:00pm. The Ordinance criteria are also available at this office or can be reviewed at the County's website at www.co.clackamas.or.us/dtd/zoning/.

A decision on this proposal will be made by the Planning Division. We will consider the criteria as well as any comments and either approve, approve with conditions, or deny this proposal. We will mail you a copy of the decision. If you disagree with the decision you may appeal to the Land Use Hearings Officer who will conduct a public hearing. There is a $250.00 appeal fee.

Comments:

_____

_____

_____

_____

_____ _____

Your Name/Organization Telephone Number

_____

Address

CLACKAMAS COUNTY ENVIRONMENTAL SERVICES
902 Abernethy Road, Oregon City, OR 97045

APPLICATION APPROVED
Date of Approval 7/25/83
Date Issued 7/25/83 LH

SEPTIC TANK PERMIT

APPLICATION
for a Permit to *Construct* a
New or *Repair* a Subsurface or Alternative Sewage
Disposal System

Permit No. SK 313-83
Fee For Permit 55.00
Serial No 0818801

TO BE FILLED IN BY APPLICANT (Type or Print)

To Be Filled In By Applicant (Print or Type)

A. REFERENCE INFORMATION:

Section 21 T 5S R 1E Building Permit No

Tax Lot ~~6700~~ 01100 Zone Approval Subject to 1C40-81.T

Lot Blk Subdivision renewal # in 962-82-ST

Location Address 33602 S Kropf Rd. 7/24/83 G M Gomes

Molalla, OR. 97038

Owner's Name Louis E. Wachstad Installer's Name Weddle Well Drilling & Back Hoe Service

Address 33272 S Kropf Rd. Address 10501 - 45th Ave N.E.

City Molalla State OR City Brooks State OR.

Phone (503) 651-2326 Zip 97038 Phone (503) 393-4807 Zip 97301

*NOTE Only the property owner, contract purchaser, or a licensed installer may perform work on or related to installation of the sewage disposal system authorized under this permit.

B. GENERAL DESCRIPTION:

☐ NEW INSTALLATION ☐ REPAIR ☐ ALTERATION

INSTALLATION WILL SERVE ☐ HOUSE ☒ MOBILE HOME ☐ COMMERCIAL ☐ OTHER

NO. OF LIVING UNITS NO. OF BEDROOMS 3

WATER SUPPLY WILL BE ☐ PUBLIC ☒ COMMUNITY ☐ PRIVATE ☐ OTHER

A plot plan drawn to scale on 8½" x 14" paper must be submitted with each permit and must show: Property lines and dimensions – proposed and existing structures – location of well and/or water service lines – location of septic tank and drainfield and/or sewer lines – proposed location of rainlines and method of disposal – location of driveways, patio slab, parking area and walkways – contour or ground elevation at property corners – proposed main floor and garage floor elevations – proposed setbacks from all property lines.

I certify that I am licensed under ORS 454.695 to perform work on this sewage disposal system or that I am the owner or contract purchaser of the subject property. I hereby certify that the information contained on this application is true and correct to the best of my knowledge and belief

*NOTE A final over inspection is required and will be made within seven days of your request. This Permit expires one year from date of issuance

Louis Wachstad
SIGNATURE (Owner/Installer)

DATE 7/25/83

(FOR OFFICIAL USE ONLY)

SEWAGE DISPOSAL REQUIREMENTS:

TYPE OF SYSTEM ☒ STANDARD ☐ CAPPING FILL ☐ SAND FILTER ☐ VARIANCE ☐ OTHER

SEPTIC TANK CAPACITY 1000 GALLONS DRAINFIELD EQUAL ___ OR SERIAL X DISTRIBUTION

TOTAL LENGTH OF LINES 450 FEET NUMBER OF LINES 4 DISTANCE BETWEEN LINES 10 FEET

MINIMUM TRENCH DEPTH 30 INCHES GROUNDWATER INTERCEPTOR DEPTH ___ INCHES

MAXIMUM TRENCH DEPTH 12 INCHES

COMMENTS: OFF Site water from mill on adjacent property.

SEWAGE DISPOSAL SYSTEM INSPECTION REPORT

CLACKAMAS COUNTY
DEVELOPMENT SERVICES DEPARTMENT
Phone: 655-8521
902 Abernethy Road
Oregon City, Oregon 97045

Permit No. S X-313-83
Date Received 7/25/83
Time Received 8:15 A.M. P.M.
Owner Wrolstad
Installer Riddle

INSPECTION TO BE MADE:
Mon. Tue. Wed. Thur Fri. A.M. P.M.

Legal Description: Tax Lot 1100 Section 21 T 5 S, R 1E W.M.
Location 33602 S Kropf Road

ITEM	APPROVED	APPROVED WITH CORRECTIONS (see below)	NOT APPROVED (see below)
Septic Tank 1000 Gal. ST	X	☐	☐
Effluent Sewer	X (3)	☐	☐
Distribution Box Drop Boxes	☐	X (1)	☐
Header Lines	X	☐	☐
Leachlines (total) 450 Ft. STONE	X (2)	☐	☐
Capping Fill (depth)	☐	☐	☐
Dosing Tank and Pump	☐	☐	☐
Pressure Line Pressure Piping	☐	☐	☐
Sand Filter	☐	☐	☐
Curtain Drainage Tile	☐	☐	☐
Other	☐	☐	☐

COMMENTS (1) Grade all pipes & boxes on outside
(2) Max trench depth was limited to 30" - Since 18" gravel on deep 'a 36" Soil Re-inspected approx depth OK, Other 2 lines However, drawn in future excess trench depth without consultation and authorization by County Sanitarian
(3) Compact soil complete bedding in 24" minimum eroded back

* Owner reports no existing septic tank or storage septic on this property. Jan 26 7-26-83 RB

The construction of this subsurface sewage disposal system DOES NOT meet current minimum State standards. See comments above for the corrections necessary. A reinspection is required. All corrections must be complete and a reinspection requested within days of the date of this notice. The 24-hour inspection recorder phone number is 655-8880.

Inspector _____ Date _____ Time _____ A.M. P.M.

CERTIFICATE OF SATISFACTORY COMPLETION

This subsurface sewage disposal system has been inspected and found to meet current minimum State construction standards. In accordance with O.R.S. 454.695, this Certificate is issued as evidence of Satisfactory Completion of a [illegible] System at this location. The system can be backfilled after any corrections noted above are made.

Inspector Donald N Rusch Date 7-26-83 Time 12:56 A.M. (P.M.)

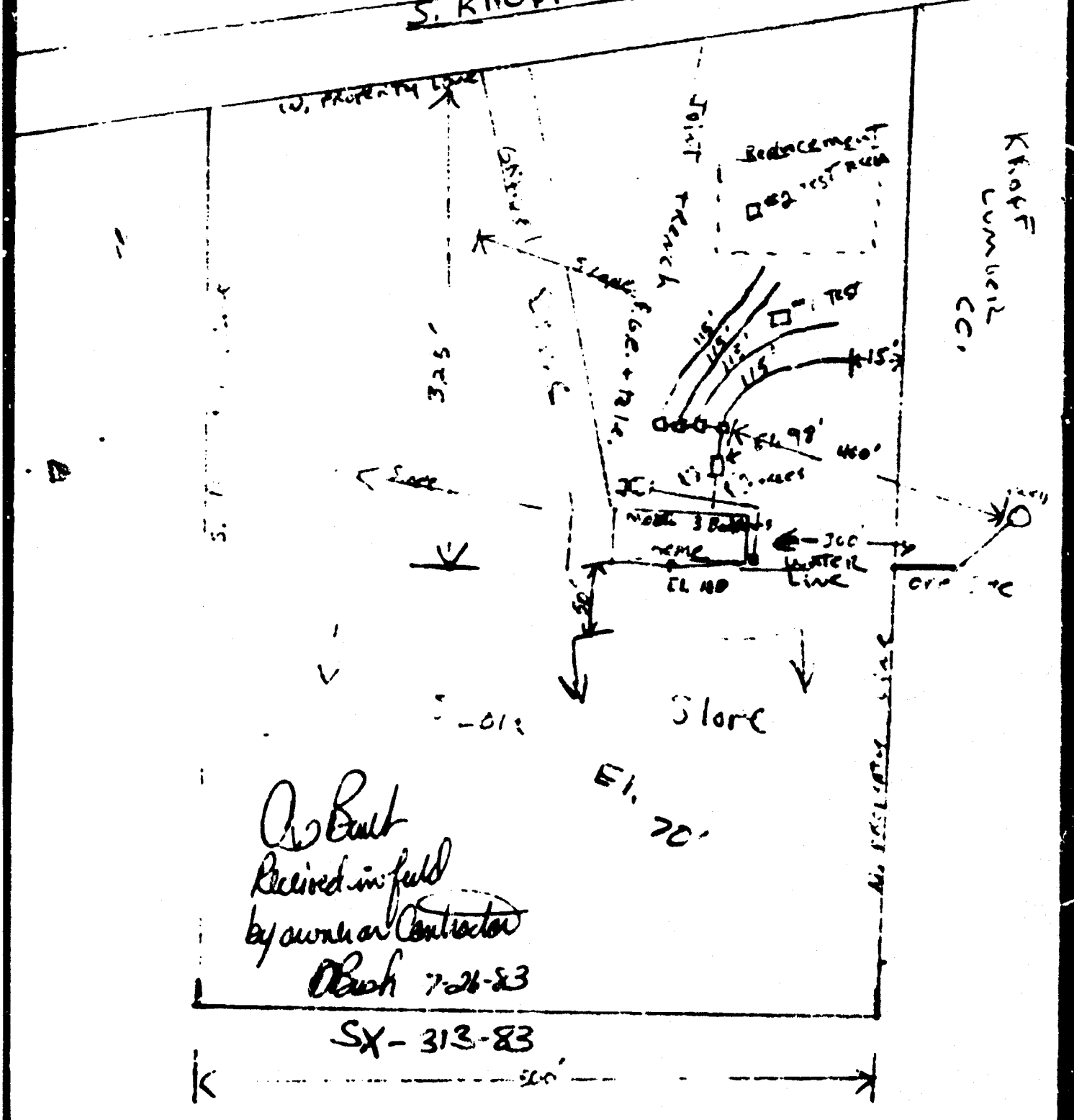
1" = 100'

Section 21 T. 5 S. R. 1E

THIS LOT 1102

N

S. KROUF RD.



Received in field
by owner or Contractor
[signature] 7-26-83

SX-313-83

Clackamas County

DEPARTMENT OF
TRANSPORTATION AND DEVELOPMENT

Sunnybrook Service Center

Campbell Gilmour
Director

NOTICE OF LAND USE APPLICATION IN YOUR AREA.

Date: 05/31/2006

File Number: Z0408-06

Application: Alteration/Chg of Non-Conf Use

From: Clackamas County Planning Division

Notice Mailed To: Property owners within 750 feet
Community Planning Organizations (CPO)
Interested Citizens and Agencies

Explanation of this Notice:
AN ALTERATION OF NON-CONFORMING USE, A WOOD PRODUCTS MANUFACTURING FACILITY, TO ADD THREE NEW STRUCTURES INCLUDING A 600 S.F. INFEED HOPPER BUILDING, A 5,000 S.F. RAW MATERIALS STORAGE BUILDING AND A 1200 S.F. PELLETT MILL BUILDING.

Property Owner: ROCK CREEK MILL LLC
PO BOX 91
CANBY, OR 97013

Applicant: MCINTIRE JERRY
PO BOX 91
CANBY, OR 97013

Location: 33532 S KROPF RD

Legal Description: (map & taxlot) **Acres:** 29.06
51E21 01000, 01100

Zone: EFU Exclusive Farm Use (80 Ac)

Staff: Rick McIntire 503-353-4516 **e-mail:** RickM @co.clackamas.or.us

How to Comment on this Application:
1. To be sure your comments will be considered prior to the decision, we need to have them within 15 days of the date of this notice.

File Number: Z0408-06

2. You may use the space provided below, mail a separate letter or e-mail the information. Please include the file number and address the information to the staff member handling this matter. In the event you choose e-mail, please limit your correspondence only to the issues of the application.

3. Return your mailed comments to: Clackamas County Planning Division, 9101 SE Sunnybrook Blvd, Clackamas, OR 97015; FAX to (503) 353-4550.

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SOUTH CANBY CPO (INACTIVE)

Decision Process: In order to be approved, this proposal must meet the approval criteria or standards in the Zoning and Development Ordinance, Section(s) 401 & 1206

The Ordinance criteria for evaluating this application and all documents and evidence submitted regarding this application are available for inspection. Copies of the application may be purchased at the Planning Division Office during weekday office hours, 8:00am to 5:00pm. The Ordinance criteria are also available at this office or can be reviewed at the County's website at www.co.clackamas.or.us/dtd/zoning/.

A decision on this proposal will be made by the Planning Division. We will consider the criteria as well as any comments and either approve, approve with conditions, or deny this proposal. We will mail you a copy of the decision. If you disagree with the decision you may appeal to the Land Use Hearings Officer who will conduct a public hearing. There is a $250.00 appeal fee.

Comments:

_____

_____

_____

_____

_____ _____

Your Name/Organization Telephone Number

_____

Address

Clackamas County

DEPARTMENT OF
TRANSPORTATION AND DEVELOPMENT

Sunnybrook Service Center

COUNTY ACCEPTANCE OF COMPLETE LAND USE APPLICATION

ORIGINAL DATE RECEIVED: 5/23/06

FILE NUMBER: Z0408-06-E

APPLICATION TYPE: Alteration of Non Conform use

This Planning Division Staff reviewed this application on

5/30/06.

It was determined it to be complete on

5/23/06.

Comments:

Signed

Sr. Planner
Title

120/150 DAY DEADLINE: 10/20/06

EXHIBIT 2
~~Z0437-25 & Z0438-25~~
Page 90 of 132

LAND USE APPLICATION

CLACKAMAS COUNTY PLANNING DIVISION
9101 SE SUNNYBROOK BLVD., CLACKAMAS. OREGON 97015 PHONE (503) 353-4500 FAX (503) 353-4550
www.co.clackamas.or.us EMAIL: zoninginfo@co.clackamas.or.us

FOR STAFF USE ONLY

- ☐ TEMPORARY PERMIT FOR CARE (ST)
  RENEWAL_____
- ☒ ALTERATION OF NON-CONFORMING USE
  _____
- ☐ HOME OCCUPATION (HO)
  RENEWAL_____
- ☐ NON FARM USE (N)
- ☐ FARM DWELLING
  _____
- ☐ FOREST DWELLING
  _____
- ☐ COMP. PLAN AMENDMENT
- ☐ ZONE CHANGE
- ☐ CONDITIONAL USE (C)
- ☐ SUBDIVISION SHORT (1-10) (SS)
- ☐ SUBDIVISION LONG (11+) (SL)
- ☐ PARTITION (M)
- ☐ VARIANCE (V)
- ☐ PROPERTY LINE ADJUSTMENT
- ☐ OTHER_____

File No.: Z0408-06-E
Date Received: 5/31/06 Fee: $520.00
Hearing Date: _____
Staff Member: _____
Zone: EFU
Comp. Plan: _____
Violation #: NONE
CPO: Molalla CPO (notify)
Development No.: _____
Project No.: PR1236006

APPLICANT INFORMATION

PLEASE TYPE OR PRINT IN BLACK INK ONLY

WHAT IS PROPOSED 3 New buildings For increased production of wood pellets. (O 600 sq. Ft) (P 5,000 sqFt) (Q 1200 sqFt)

NAME OF APPLICANT Jerry McIntire

MAILING ADDRESS P.O. Box 91 CITY Canby ST Or ZIP 97013

APPLICANT IS: ☒ LEGAL OWNER ☐ CONTRACT BUYER ☐ OPTION BUYER ☐ AGENT

NAME OF CONTACT PERSON (if other than applicant) _____

MAILING ADDRESS OF CONTACT _____ ZIP_____

APPLICANT PHONE NUMBERS: Wk 503 250-0280 Hm 503-266-9614 E-Mail Address: McIntire@Canby.

CONTACT PERSON PHONE NUMBERS: Wk_____ Hm_____ E-Mail Address: _____

SITE ADDRESS: 33532 + 33632 S. Kropf Rd. TOTAL LAND AREA: 28 acers

LEGAL DESCRIPTION: T 5 R 1E SECTION 21 TAX LOT(S) 1000, 1100

ADJACENT PROPERTIES UNDER SAME OWNERSHIP: T___ R___ SECTION_____ TAX LOT(S)_____

PRESENT USE OF PROPERTY: 4 Types Wood Processing, Drying, Planning, Fabricating, +Pellet

METHOD OF SEWAGE DISPOSAL: Septic

WATER SUPPLY: Well

OTHER PERSONS (IF ANY) TO BE MAILED NOTICES REGARDING THIS APPLICATION:

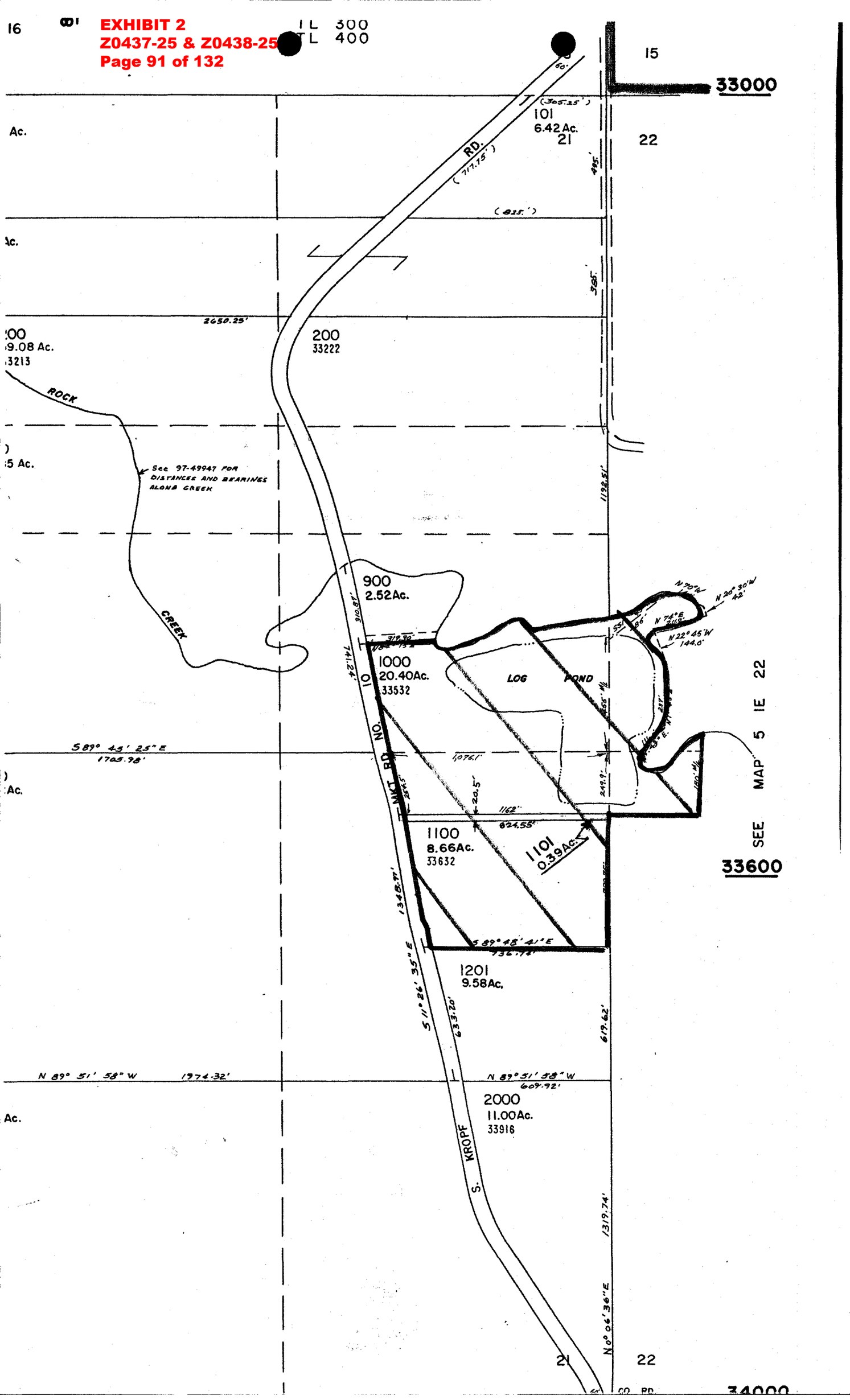
NAME	ADDRESS	ZIP	RELATIONSHIP

I hereby certify the statements contained herein, along with the evidence submitted, are in all respects true and correct to the best of my knowledge.

Jerry McIntire (OWNER'S NAME (PRINT)) 5-22-06 (DATE) _____ (APPLICANT'S NAME (PRINT)) _____ (DATE)

Jerry McIntire (SIGNATURE) _____ (SIGNATURE)

CCP-PL10 (Rev. 1/04)


16
TL 300
TL 400
15
33000
101
6.42 Ac.
21
22
RD.
(717.75')
(825')
(305.25')
60'
495'
365'
2650.25'
200
33222
ROCK
CREEK
See 97-49947 FOR DISTANCES AND BEARINGS ALONG CREEK
900
2.52 Ac.
1000
20.40 Ac.
33532
LOG POND
N 70° W
N 20° 30' W 42'
N 74° E 218'
N 22° 45' W 144.0'
1192.51'
1412.4'
940.68'
719.36'
1076.1'
S 89° 43' 25" E 1705.98'
MKT RD NO. 10
254.5'
20.5'
1162'
824.55'
249.9'
1100
8.66 Ac.
33632
1101
0.39 Ac.
1348.77'
S 89° 48' 41" E 936.74'
1201
9.58 Ac.
S 11° 26' 35" E 633.20'
619.62'
SEE MAP 5 1E 22
33600
N 89° 51' 58" W 1974.32'
N 89° 51' 58" W 609.92'
2000
11.00 Ac.
33916
S. KROPF
1319.74'
N 0° 06' 36" E
21
22
CO RD
34000

Clackamas County

SUPPLEMENTAL APPLICATION
ALTERATION/CHANGE OF NONCONFORMING USE

APPLICANT INFORMATION

Name: Jerry McIntire File # Z0408-06E

WHAT IS AN ALTERATION OR CHANGE OF A NONCONFORMING USE?:

The County Zoning & Development Ordinance (ZDO), Sec. 202, defines a Nonconforming Use as "A use of any building, structure, or land allowed by right when established or that obtained a required land use approval when established but, due to a change in the zone or zoning regulations, is now prohibited in the zone." A Nonconforming Use may be a dwelling or other structure(s), a commercial or industrial use, or any other use in a zoning district that was permitted when established, but is not now listed as a permitted use or structure in the zoning district in which it is located. The ZDO allows for alterations to, or changes in, a Nonconforming Use subject to the provisions of Sec. 1206 of the ZDO. An alteration to, or change in, a Nonconforming Use may include, but is not limited to, structural additions, changes to the usage of areas of the property, signing changes, increases in number of employees, a change of hours and/or days of operation, operational changes, and changes to the use itself, etc.

WHAT IS NEEDED FOR APPROVAL?:

An alteration of, or change in, a Nonconforming Use **MAY** be permitted after evaluation of the requested alteration with respect to the criteria contained in Sec. 1206 of the ZDO. The County must make written findings to support the decision. The applicant is responsible for providing evidence to support the request for an alteration or change.

WHAT ARE CHANCES FOR APPROVAL?:

Staff cannot predetermine the decision on this or any other land use application. A decision of approval or denial will only be made after the complete application is processed, comments are sought, and the application is reviewed by the Planning staff. This includes review of citizen and agency comments. The decision is based on criteria appropriate to this application as listed in Sec. 1206 of the ZDO.

APPLICATION PROCESS:

This permit application is subject to the Administrative Action process and public notice pursuant to Subsec. 1305.02 of the ZDO. Public comments received from the Community Planning Organizations (CPO), property owners, agencies and other interested parties may affect the decision on the application. Special conditions may be attached to any approvals to mitigate potential adverse impacts of the alteration or change. Any decision on this application can be appealed to the County

Land Use Hearings Officer and to the State Land Use Board of Appeals (LUBA) by the applicant or any other interested person.

STAFF WILL ATTACH THE FOLLOWING PERTINENT INFORMATION:

_____ Land Use Application _____ CPO Information

_____ Sample Plot Plan _____ Application Process

ZDO Sections _____ & 1206

HOW LONG WILL IT TAKE TO GET A FINAL DECISION ON THIS APPLICATION?:

Approximately 45 days for the initial staff decision. If the staff decision is appealed, the final County decision by the Land Use Hearings Officer may take an additional 8 to 10 weeks (approximate).

COMPLETE APPLICATIONS REQUIRE THE FOLLOWING:

1. Land Use Application – Information about the applicant and land involved in the request.

2. Supplemental Application – Information requested on this form. Please be as complete and thorough as possible. Use additional sheets of paper as necessary to completely describe your proposal and answer the questions contained herein.

3. Application Fee - $_____

4. Plot Plan – The site development plan must be drawn to scale on **8.5" x 11" or 8.5" x 14"** paper. The plan must show and clearly identify the **existing and proposed** development of the property including all structures, parking areas, drainfield locations, landscaping and/or significant vegetation, slope of the property, entrance/access location(s), north arrow, the scale of the drawing, dimensions of the property and structures.

5. Building Profile (if applicable) – The building profiles shall be drawn to scale on **8.5" x 11" or 8.5" x 14"** paper and must clearly depict the proposed new structures or additions to existing structures.

CRITERIA FOR APPROVAL: SEE SEC. 1206 FOR SPECIFIC REQUIREMENTS, THEN ANSWER THE FOLLOWING:

1. When was the existing use, structures and/or physical improvements established? (please give specific dates if possible). Describe the buildings, vehicles, equipment and materials used, days and hours of operation, number of employees and other operational and physical information. Submit land use, building, septic, or other permit documents; utility records, dated photographs, tax appraisal information, dated aerial photographs, tax records, receipts, licenses, notarized affidavits, etc. to document the date of establishment of the use, structure(s) and/or physical improvements, and the continuity of the use since established.

See attached Page

2. Describe any changes in the existing use, structures and/or physical improvements since establishment. Describe the buildings, vehicles, equipment and materials used, days and hours of operation, number of employees and other operational and physical information as changes occurred.

See attached

3. Describe in detail the proposed changes to the use, structure(s), and/or physical improvements. Describe all structural and operational changes proposed.

See attached

4. Describe in detail why the alterations of the structure(s) and/or physical improvements, and/or the changes in the use will not create additional adverse impacts upon the surrounding neighborhood. Describe any measures planned to mitigate the potential adverse impacts of the changes; e.g. screening, buffering, pollution control equipment, acoustical insulation or barriers, traffic management plan, etc.

See Attached

1. The mill was established in 1941 and has been in continuous operation since that time. The operations employ 30 people, driving 20 cars per day. Hours of operation are from 5am to 9pm six days a week. In our previous approval #Z0245-05, I submitted photos from 1955 and 2002 to help document the continual use of property. Unfortunately I do not have another copy of these photos.

2. In the early 1960's the saw mill burned down. Since that time the dry kiln, wood fabricating, planing, and molding have continued. In the early 1990's a pellet mill was added to make more productive use of the wood waste. There are 13 industrial buildings ranging from 500 to 12,000 square feet. Days and hours of use and number of employees does fluctuate with the seasons, but over the years has been somewhat consistent.

3. The current proposal is for an expansion of the pellet production. Because the current pellet mill is running at full capacity and cannot keep up with the demand, it is our intention to add three new buildings. These are shown on the plot plan as buildings O, P, and Q. O would be a 600 square foot infeed hopper building. P would be a 5,000 square foot raw materials storage building. Q would be a 1,200 square foot building to house a pellet mill. The new facility will have the capacity to increase production by 60%. The proposed noncombustible steel buildings will be built only after plans are approved and all necessary permits are obtained.

4. This expansion will create one additional labor position. There would be additional truck traffic in and out of the facility of 1 or 2 trucks per day. The properties are located in a rural agricultural area. We feel that there would be not be a negative impact on the neighborhood. There are no neighbors within 750 feet of the properties and no active CPO in the area.

Rock Creek Mill
Plot Plan
And
Building Assignments

A. Front Fabricating Shop and Office
B. Planer Building
C. Molding Building
D. Pellet Building
E. South Lumber Storage
F. Machine Shop
G. Dry Kiln
H. Middle Lumber Shed
I. Sticker Building
J. Boiler Room
K. Small Kiln
L. North Lumber Storage
M. Caretaker's Mobile Home
N. Sawdust Bunker
O. Purposed Feed Hopper Building
P. Purposed Raw Material Storage Building
Q. Purposed Pellet Mill Building

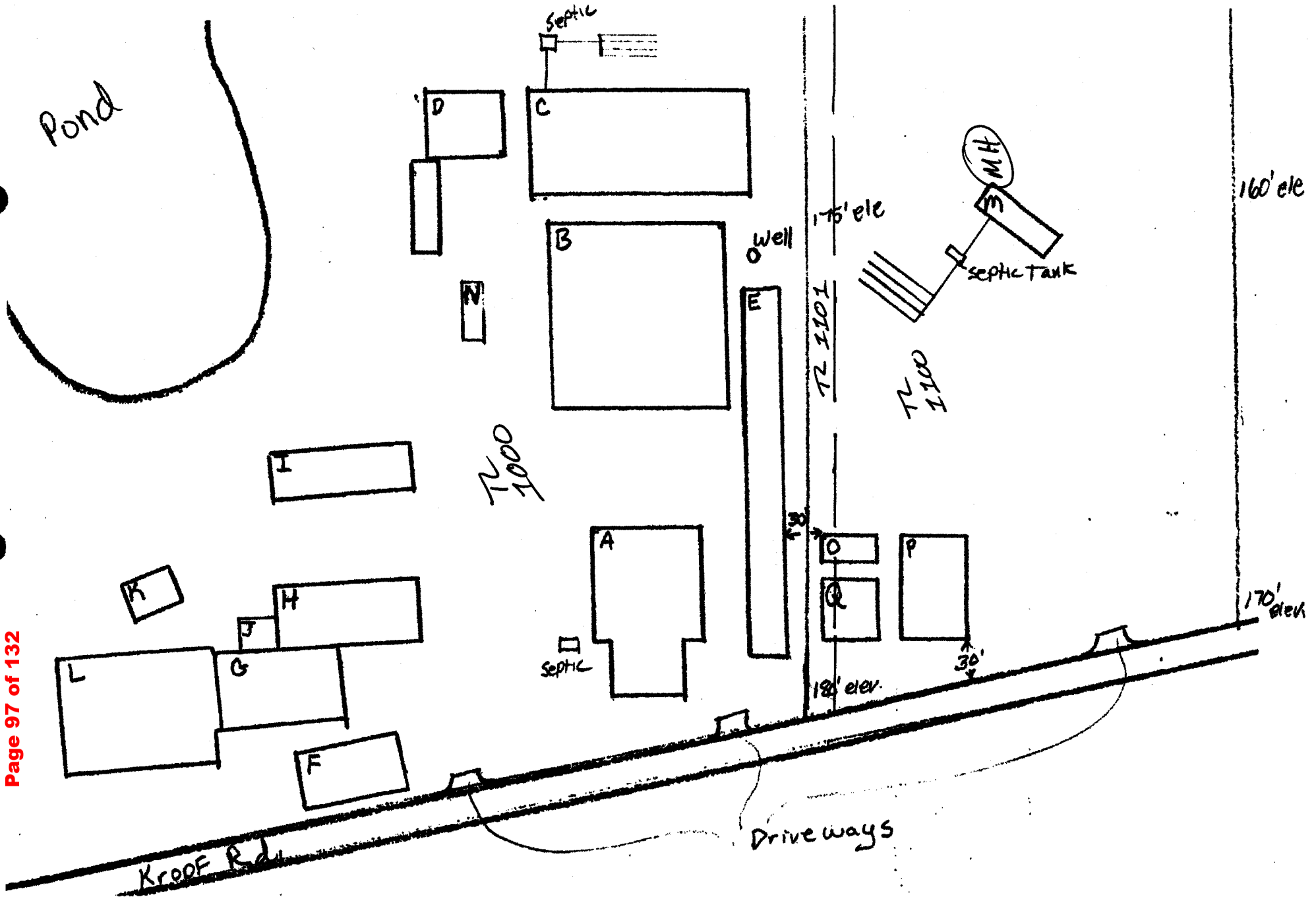


EXHIBIT 2
Z0437-25 & Z0438-25
Page 97 of 132

Land Use Application
Clackamas County Planning Division
9101 SE Sunnybrook Blvd, Clackamas, OR 97015
Phone (503) 353-4400 Fax (503) 353-4550

Type of Application:ZE
Status: PENDING
Lots: 0
Flex Lots (Y/N):
Staff Reviewer: RAM
Staff Member: RAM/LM

File No: Z0408-06
Received: 05/23/2006
Decision:
Appealed:
Final:
Expired:
Hearing:

Zone: EFU

Code Enforcement #:
Comm Planning Org (Y/N):

OWNER : ROCK CREEK MILL LLC
PO BOX 91
CANBY, OR 97013

APPLICANT : MCINTIRE JERRY
PO BOX 91
CANBY, OR 97013 503-266-9614

Applicant: Legal Owner
Proposal:
ALTERATION OF NON-CONFORMING USE

Site Address: 33532 S KROPF RD CLAC
Legal Description: 51E21 -01000
51E21 -01100

Adjacent Properties:
Present Use:

Total Fees: $520.00
Balance Due: $0.00
document:receiptzs

Z0408-06-E

NAME: Jeny McIntire

MAIL DATE:

750'

TOWNSHIP	RANGE	SECTION	TAX LOT	TOWNSHIP	RANGE	SECTION	TAX LOT
5	1E	21	1000, 1100				

EMMA/FORM

MAS
Y
ROOK SERVICE CENTER
ENT OF TRANSPORTATION AND DEVELOPMENT
UNNYBROOK BLVD. | CLACKAMAS, OR 97015

JERRY MCINTIRE
PO BOX 91
CANBY, OR 97013

Z040806-E

WROLSTAD THOMAS D TRUSTEE
33187 S KROPF RD
MOLALLA OR 97038

WROLSTAD RONALD E TRUSTEE
3210 SW CHINTIMINI
CORVALLIS OR 97333

CLACKAMAS COUNTY
902 ABERNETHY RD
OREGON CITY OR 97045

ROCK CREEK MILL LLC
PO BOX 91
CANBY OR 97013

MCINTIRE JERRY & BEVERLY
PO BOX 91
CANBY OR 97013

GASSNER MICHAEL J TRUSTEE
8418 S GIBSON RD
MOLALLA OR 97038

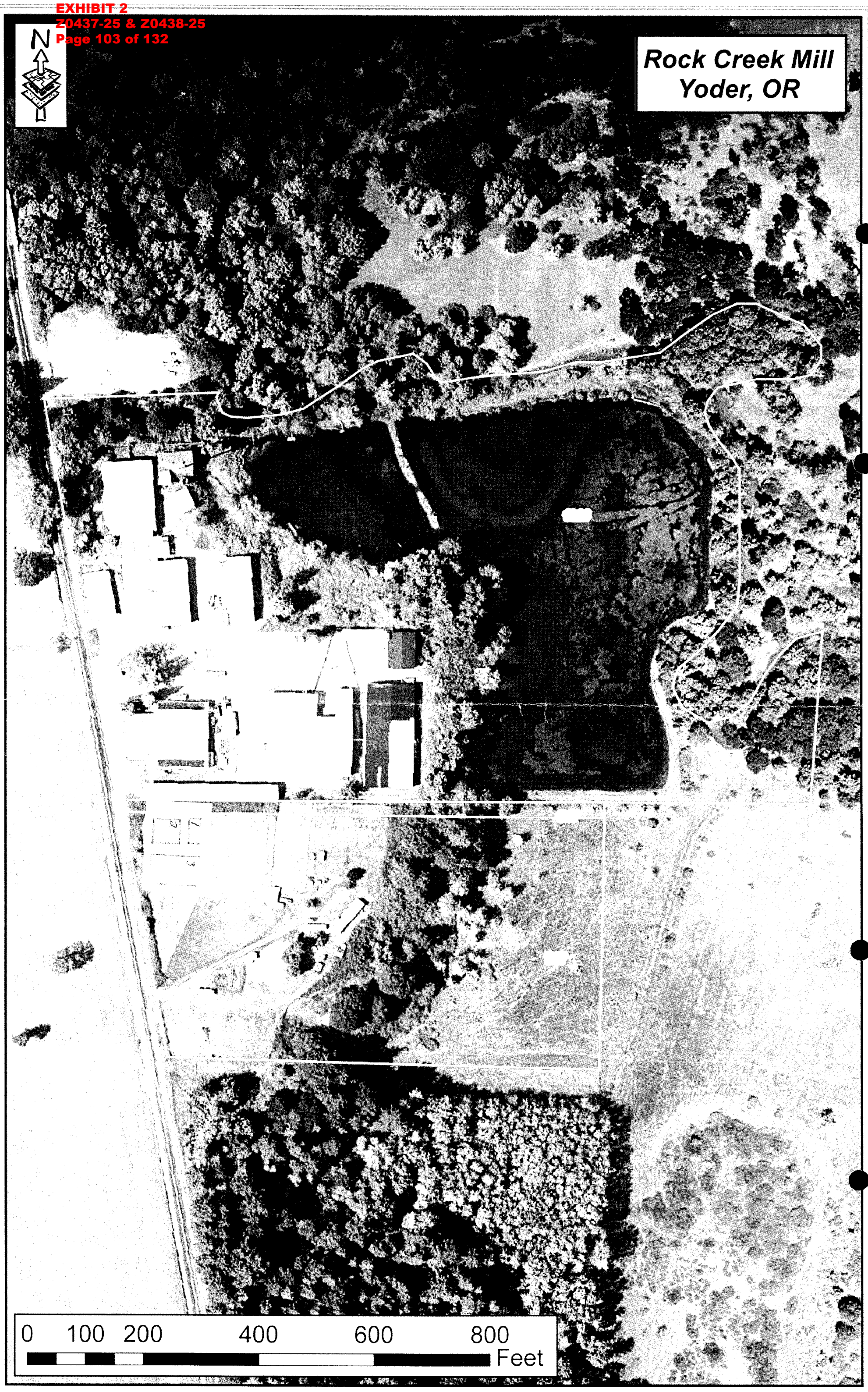
VANAUSDELL P DIXON
1295 HEATHER LN SE
SALEM OR 97302

F2C2 LLC
1129 NW 8TH WAY
CANBY OR 97013

NOTICE OF DISTRIBUTION

FILE NO(S) 20408-06E HEARING DATE _____

NAME/AGENCY	DATE MAILED Notice	Decision
CITY OF — (Adjacent/Nearby Cities; UGMA Areas)		
COUNTY OF (Adjacent Counties) —		
SCHOOL DISTRICT —		
SEWER DISTRICT —		
WATER DISTRICT —		
STORM WATER MGMT DIST —		
FIRE DISTRICT monitor Fire Dist #58	5/31/06	7/27/06
PARKS DISTRICT —		
TRI-MET —		
CPO South Canby (inactive)	—	—
AIRPORT (Public Use) —		
DTD/COUNTY DIVISIONS		
TRAFFIC ENGR Hixson	✓	✓
CONSTR & DEV —		
CCSD #5 (LIGHTING) —		
WEIGHMASTER —		
SOILS/WES yes	✓	✓
BUILDING yes	✓	✓
WES —		
PLANNERS (Historic, DR, SSV, Regional Center) —		
ASSESSOR & TAX — (Cell Towers/Collocations, AG/Forest & Mining)		
COUNTY HEALTH DIVISION — (Food Service Providers, Espresso Stands, Etc.)		
COMMUNITY ENVIRONMENT —		
STATE AGENCIES		
ODOT —		
OREGON DEPT OF AVIATION — (Cell Towers, Nearby Airports)		
DIV OF STATE LANDS —		
CORP OF ENGINEERS —		
DOGAMI —		
DEQ —		
DLCD —		
METRO —		
OTHER —		
PROPERTY OWNERS (750 FEET)	✓	✓
ADJACENT COUNTY PROPERTY OWNERS —		


N
Rock Creek Mill
Yoder, OR
0 100 200 400 600 800
Feet

PLANNING DIVISION
LAND USE FILES

Z FILE NUMBER: Z0472-13-E

ADDRESS: 33632 S. Kropf Rd.
Molalla, OR 97038

LEGAL DESCRIPTION:

T 5 S, R 1 E, SECTION 21
TAX LOT(S) 1000, 1100

T _____ S, R _____ E, SECTION _____
TAX LOT(S) _____

CLACKAMAS COUNTY

Land Use and Zoning
Development Services Building
Mike McCallister, Manager
150 Beavercreek Road, Oregon City, OR 97045
Phone: (503) 742-4500 fax: (503) 742-4550
e-mail: zoninginfo@co.clackamas.or.us
Web: http://www.clackamas.us/transportation/planning/

NOTICE OF LAND USE DECISION

This document represents the Planning and Zoning Staff findings and conditions of approval for a Land Use Application, File No. Z0472-13-E, as cited below. It contains three parts:

Section 1 – Summary, Section 2 – Conditions of Approval and Section 3 – Findings.

SECTION 1 – SUMMARY

DATE: November 14, 2013

APPEAL DEADLINE: November 26, 2013

CASE FILE NO.: Z0472-13-E

STAFF CONTACT: Rick McIntire, (503)742-4516, rickm@co.clackamas.or.us

LOCATION: 33632 S. Kropf Rd., Molalla, OR

REFERENCE PARCEL NUMBER: T5S R1E Section 21, Tax Lot(s) 1000 & 1100

APPLICANT: Rock Creek Mill, LLC, P.O. Box 91, Canby, OR 97013

OWNER: Applicant

TOTAL AREA: Approximately 30 acres

ZONING: Exclusive Farm Use (EFU)

CITIZENS PLANNING ORGANIZATION: South Canby CPO (Inactive)

PROPOSAL: An Alteration of a nonconforming use, a wood products manufacturing facility, to construct an approximately 10,080 s.f. building for storage and shipping use in conjunction with the existing pellet mill production in three other buildings on the site. No additional employees or other operational changes are proposed.

NOTICE TO MORTGAGEE, LIENHOLDER, VENDOR OR SELLER: ORS Chapter 215 requires that if you receive this notice, you must promptly forward it to the purchaser.

SCANNED

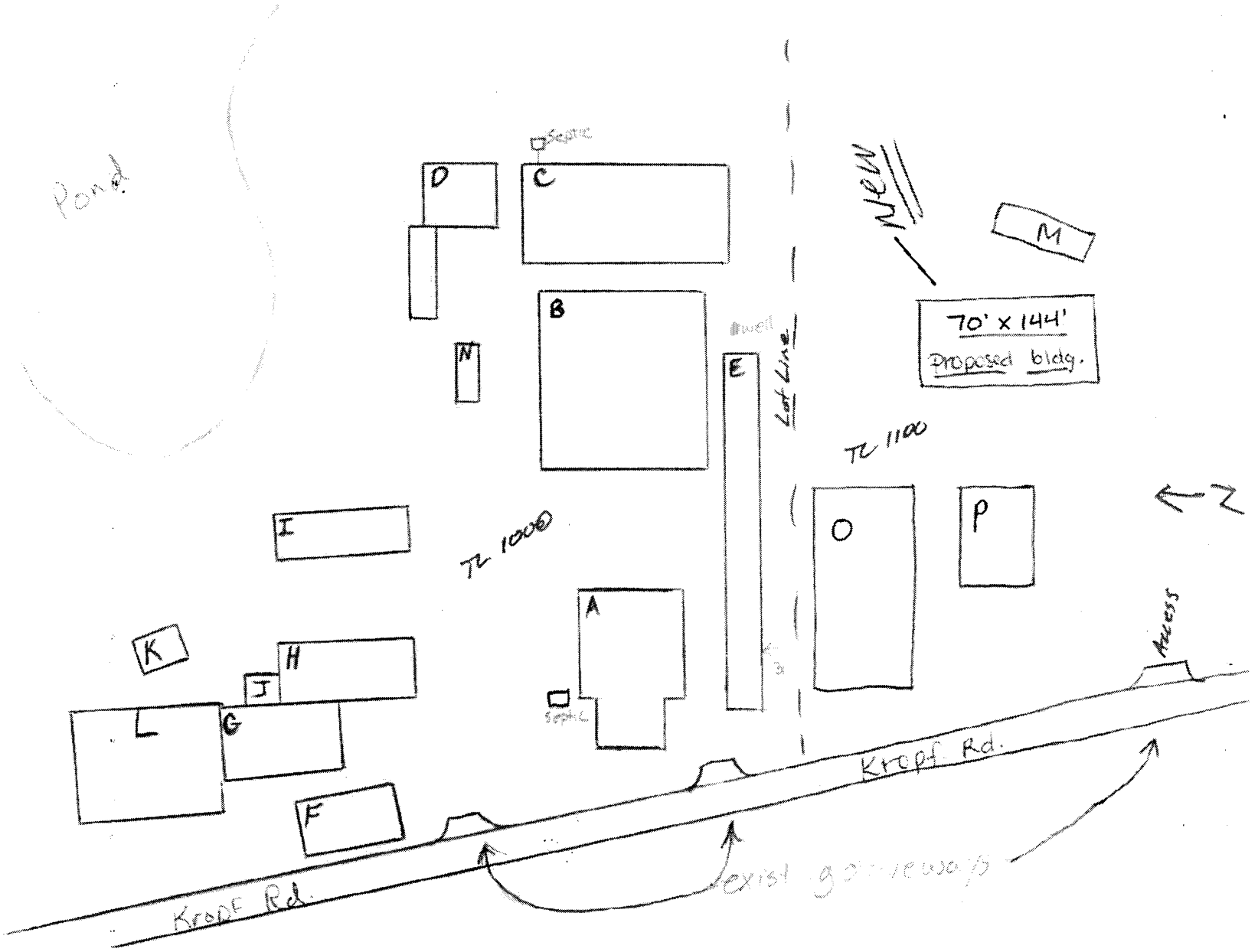
OPPORTUNITY TO REVIEW THE RECORD: A copy of the Planning and Zoning Staff Decision and all evidence submitted with this application is available for inspection, at no cost, at the Planning and Zoning office during normal business hours. Copies of all documents may be purchased at the rate of 11-cents per page. The Land Use Decision contains the findings and conclusions upon which the decision is based along with any conditions of approval.

APPEAL RIGHTS: Any party disagreeing with this decision or the conditions of approval, may appeal this decision to the Clackamas County Land Use Hearings Officer. The cost of the appeal is $250.00. An appeal must be received by the Planning and Zoning Division by 4:00 p.m. on the last day to appeal which is **November 26, 2013.** This decision will not be effective until the day after the appeal deadline provided an appeal is not filed prior. Unless an appeal is received by the appeal deadline, this decision will be final and no additional written confirmation will be sent. Any party or parties appealing this decision may withdraw their appeal at any time prior to the hearing or final decision by the Hearings Officer. A party wishing to maintain individual appeal rights may wish to file an individual appeal and pay the $250.00 fee, even if an appeal by another party or parties has been filed.

APPLICABLE APPROVAL CRITERIA: This application is subject to Clackamas County Zoning and Development Ordinance (ZDO) Sections(s) 202, 401 and 1206.

Location Map




Pond
D
C
B
N
E
M
Well
70' x 144'
Proposed bldg.
Lot Line
TL 1100
TL 1000
I
O
P
A
K
H
J
L
G
F
Septic
Access
Kropf Rd.
Kropf Rd.
exist

RECOMMENDATION: Approval subject to conditions.

SECTION 2 – CONDITIONS OF APPROVAL:

The Clackamas County Planning and Zoning staff grants APPROVAL of this application for an Alteration of a Nonconforming Use subject to compliance with the following conditions:

I. General and Advisory Conditions:

1) This application is approved for the alteration of the nonconforming use as described in the application, the Findings discussed above and subject to the conditions of approval contained herein. Any additional alterations or changes in use shall be reviewed under separate application by the Planning and Zoning Div.

2) The applicant shall obtain any building, electrical, mechanical or any other permit deemed necessary by the County Building Codes Division prior to the commencement of construction and occupancy of the proposed building. Contact 503-742-4240, or dtdbps@co.clackamas.or.us or bldservice@clackmas.us .

3) The applicant shall obtain any necessary approvals required by the Monitor Fire District No. 58 Fire Marshal prior to the commencement of construction and shall, thereafter, comply with any operational requirements of that agency applicable to the use.

4) The applicant shall obtain any permits for sewage disposal deemed necessary by the County WES, Soils Section prior to issuance of a building permit for the proposed structure.

5) Pursuant to Section 1206.07A of the ZDO, the proposed use shall be implemented within four years of the date of this decision providing that the existing nonconforming use is not discontinued for any period exceeding 12 consecutive months prior to the expiration of this required implementation period. Failure to substantially implement the proposed use within four years of the date of this decision will void this decision.

6) Compliance with these conditions of approval is mandatory and non-compliance may be cause for revocation of this permit.

SECTION 3 – FINDINGS

This application is subject to the relevant provisions of Section(s) 202, 401, 702 and 1206 of the Clackamas County Zoning and Development Ordinance (ZDO). The Clackamas County Planning and Zoning Staff have reviewed these Sections of the ZDO in conjunction with this proposal and make the following findings and conclusions:

1. The applicant is requesting approval of an Alteration of a Nonconforming Use, a wood products manufacturing facility, to construct an approximately 10,080 s.f. building for storage and shipping use in conjunction with the existing pellet mill production in three other buildings on the site. No additional employees or other operational changes are proposed.

2. The subject property is located on the east side of S. Kropf Rd., approximately one-half mile north of the intersection with S. Gibson Rd. Tax lots 1000 and 1100 are developed with 13 existing buildings currently used for the wood processing/lumber milling facility. The existing operations employ 30 persons. The hours of operation are from 5:00 a.m. to 9:00 p.m. six days per week. Tax lot 1100 is also developed with a manufactured home in the approximate center of that lot. A large part of tax lot 1000 contains an old mill pond and the east and north sides of this lot are bounded by Rock Creek.

3. Pursuant to subsection 1206.05B(2) of the ZDO, the applicant must first verify that the existing use(s), structure(s) and/or other physical improvements were established as a protected nonconforming use as defined in Sec. 202 of the ZDO. Sec. 202 of the ZDO defines a "Nonconforming Use" as:

   > "A use of any building, structure or land allowed by right when established or that obtained a required land use approval when established but, due to a change in the zone or zoning regulations, is now prohibited in the zone."

4. In order to demonstrate the establishment of a nonconforming use, the applicant must demonstrate the following: (1) that the use(s) and structure(s) were established prior to the effective date of the initial zoning of the property; **or** (2) that the use(s) and structure(s) were allowed by right under the zoning applicable at the time of establishment; **or** (3) that a required land use permit; e.g. conditional use permit, was obtained from the County to establish the use(s) and structure(s) prior to a change in zoning regulations pursuant to subsection 1206.06B of the ZDO.

   A. The subject properties are currently zoned Exclusive Farm Use (EFU). The use and development of property in this zoning district is subject to the provisions of Sec. 401 of the ZDO. The wood products manufacturing facility is not listed as a permitted primary, accessory, subject to Planning Director review or conditional use in the EFU zoning district. Single family dwellings, including manufactured homes, are listed as a use subject to Planning Director review in the EFU zoning district. On September 1, 1976, the EFU designation was applied to the subject properties as the first restrictive zoning regulations applicable to the subject property. A number of amendments to the EFU district regulations have been adopted over the years since then, however, the existing and proposed uses have never been listed as permitted primary uses in this zoning district.

   B. The subject property has been the subject of five prior land use actions. On February 26, 1993 (Planning file no. Z0092-03-E), the Planning Division found that the wood products manufacturing and processing facility was a lawfully established nonconforming use established in 1941. In that decision, a pellet mill was permitted as an alteration of the nonconforming use. On August 5, 1997 (Planning file no.

Z0721-97-E), the Planning Division approved an alteration of the nonconforming use to permit an addition to one of the existing buildings to provide for additional covered storage space. On June 15, 2005 (Planning file no. Z0254-05-E), the Planning Division approved an alteration of the nonconforming use to allow the inclusion of tax lot 1100 and an existing manufactured home to be used as a residence for a watchman/caretaker for the mill facility. On July 27, 2006 (Planning file no. Z0408-06-E) was approved to construct an infeed hopper building, a pellet mill building and a raw materials storage building. The current application is a request for a medication of the latter approval. On November 17, 2006, (Planning File No. Z0716-06-E) was approved to modify the sizes of the buildings permitted under Z0408-06-E.

C. **Conclusion:** The record establishes that the existing wood products manufactureing uses and structures were established on the subject property prior to the adoption of zoning regulations and modifications have been approved by the County at various times thereafter; therefore, the existing uses and structures were established as a nonconforming use as of the adoption of the initial zoning regulations on Feb. 16, 1967. This criterion is satisfied.

5. If the applicant proves that nonconforming use status has been established, the nonconforming use may be continued pursuant to subsec. 1206.01 of the ZDO. Subsec. 1206.01 of the ZDO states:

> "A nonconforming use may be continued although not in conformity with the regulations for the zone in which the use is located."

6. If the applicant has demonstrated that a nonconforming use has been lawfully established, the applicant must also provide evidence as to the nature, extent, existence and continuity of the nonconforming use and that the nonconforming use has not been discontinued for any period exceeding twelve (12) consecutive months during the 20-year period immediately preceding the date of the application for verification pursuant to subsec. 1206.02 of the ZDO and ORS 215.130(11). Subsec. 1206.02 of the ZDO states:

> "If a nonconforming use is discontinued for a period of more than twelve (12) consecutive months, the use shall not be resumed unless the resumed use conforms with the requirements of the Ordinance and other regulations applicable at the time of the proposed resumption."

A. The facility has been in continuous operation on the site since at least 1967 and there are no indications that this use has been discontinued at any time since for a period in excess of 12 consecutive months.

B. The Planning Div. staff finds that the nonconforming use has not been discontinued, interrupted or abandoned for any period in excess of twelve (12) consecutive months since the adoption of zoning regulations on Feb. 16, 1967.

7. Pursuant to subsection 1206.05B(1) of the ZDO, in order to approve this request, the proposed alteration of the nonconforming use, structure and/or other physical improvements shall have no greater adverse impact upon the neighborhood than the

existing use, structure(s) and/or physical improvements. The Planning Director, or designate, may impose conditions designed to mitigate any potential additional adverse impacts pursuant to subsection 1206.05B(3) of the ZDO.

A. This standard does not strictly require that the proposed use be compatible in all respects with surrounding development, only that the proposed alteration of the nonconforming use will not cause **greater** adverse impacts to the surrounding neighborhood when compared with the existing (prior) nonconforming use. In addition, the Planning and Zoning Division must consider whether any potential additional adverse impacts that are identified can be mitigated. Potential mitigation measures could include a number of things, including limitations on days and hours of operations, requiring additional landscaping and other buffering and aesthetic improvements, limitations on building and site lighting, signing and building colors, limitations on access points to adjacent streets, etc.

B. The subject properties are located in an area that is largely agricultural in nature. There are no homes in close proximity to the site. It appears that the nearest is 750 ft. or more from the facility. The proposed structure will be located immediately to the east of the two southerly buildings and will use the same access drive as those structures.

C. The proposed structure and use of the structure will provide for indoor storage of products manufactured on the site and is not anticipated to require additional employees or contribute additional vehicle traffic to or from the site; therefore, no additional impacts to the local transportation system or adequacy of the on-site parking facilities will occur.

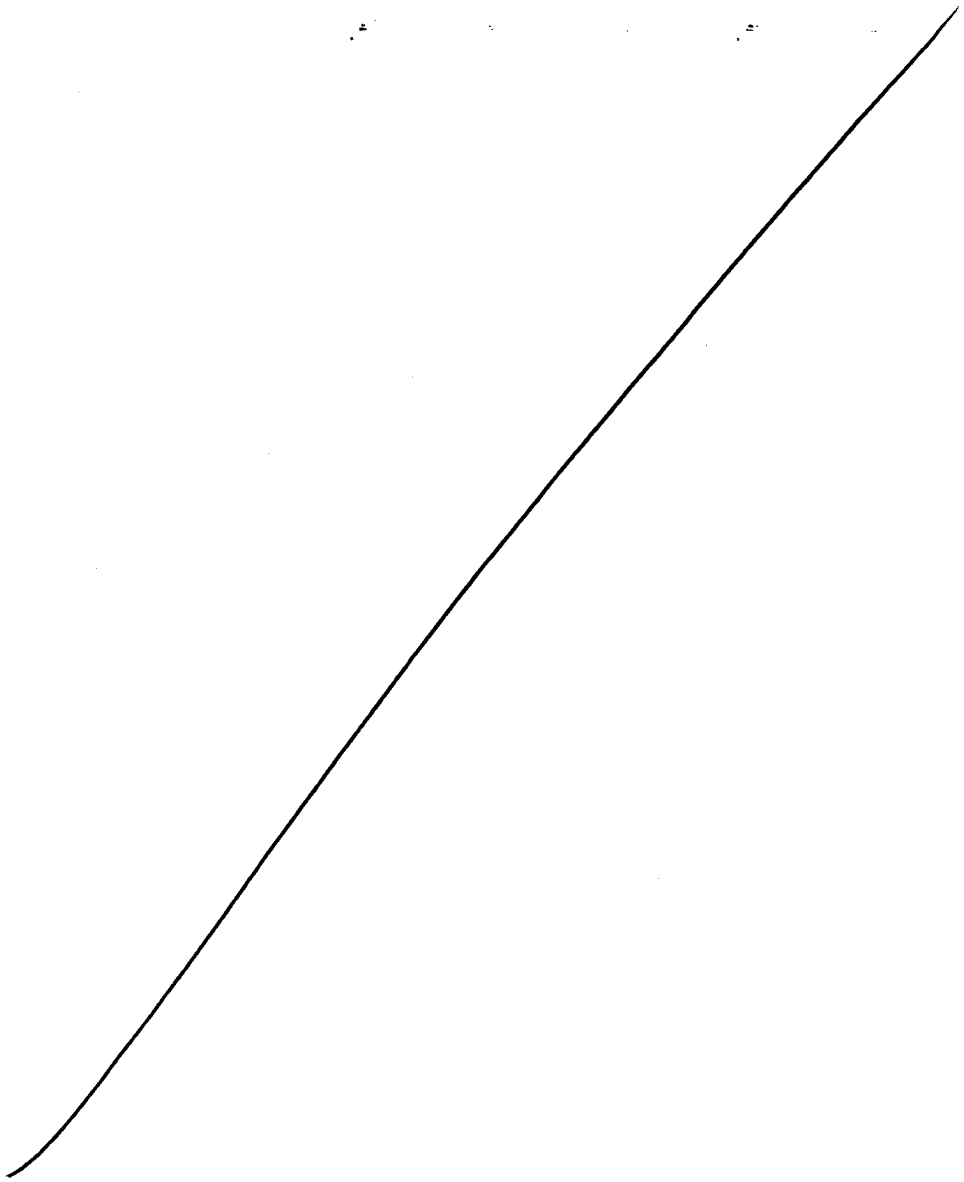
D. Approval of this request will also require that the structure be sited as shown on the site plan (see earlier in this report) and not closer than five feet from the northerly adjacent property line.

E. Building, electrical and possibly other specialty code permits, including a fire and life safety review, will also be required prior to the commencement of construction. Approval of this request will also require compliance with the fire and life safety regulations of the Clackamas County Fire District No. 1 Fire Marshal. This is typically addressed during review of the Building Permit application by the County Building Codes Division.

F. **Conclusion:** Based upon the Findings discussed above, the staff finds that approval of this alteration of a nonconforming use, as described in the application materials and in the findings herein, will not cause any **additional** adverse impacts to the surrounding area when compared with the existing nonconforming use with the conditions described above. **This criterion is satisfied.**

SUMMARY: The Planning and Zoning Staff finds that the applicant has submitted information which demonstrates that the proposal can satisfy the relevant approval standards of the Zoning and Development Ordinance and other County regulations, as outlined in Section 3 of this report. The imposition of, and compliance with, Conditions of Approval found in Section 2 will assure compliance with these relevant requirements.

DECISION: Based upon the findings and conclusions herein, the proposed Alteration of a Nonconforming Use is hereby **APPROVED** subject to the conditions of approval found in Section 2.



McIntire, Rick

From: Hixson, Robert
Sent: Friday, October 18, 2013 10:25 AM
To: McIntire, Rick
Subject: Z0472-13-E, Rock Creek Mill LLC

Hi Rick,

Engineering has no objections to the proposed alteration and no recommended conditions of approval.

Robert

Robert Hixson
Clackamas County, DTD Engineering
150 Beavercreek Road
Oregon City, OR 97045
503-742-4708 (phone)
503-742-4659 (fax)
roberth@co.clackamas.or.us
Office hours: 7:30 AM - 4:00 PM Monday - Friday

Oregon Department of Environmental Quality
LAND USE COMPATIBILITY STATEMENT (LUCS)

SECTION 1 - TO BE COMPLETED BY APPLICANT

1A. Applicant Name: Hexion, Inc.	**1B. Project Name:** Hexion Dry Kiln
Contact Name: Steve Loper	**Physical Address:** 33532 S. Kropf Road
Mailing Address: 520 112th, Ave NE	**City, State, Zip:** Molalla, OR 97038
City, State, Zip: Bellevue, WA 98004	**Tax Lot #:** 1000
Telephone: 425-531-0881	**Township:** 5 S **Range:** 1 E **Section:** 21
Tax Account #: EIN 13-0511250	**Latitude:** N45 Deg, 7' 20.7369"
	Longitude: W122 Deg, 41' 2.1838"

1C. Describe the project, include the type of development, business, or facility and services or products provided (attach additional information if necessary):

Install a lumber dry kiln to re-dry pressure-treated lumber.

1D. Check the type of DEQ permit(s) or approval(s) being applied for at this time.

- ☒ Air Quality Notice of Construction
- ☐ Air Contaminant Discharge Permit *(excludes portable facility permits)*
- ☐ Air Quality Title V Permit
- ☐ Air Quality Indirect Source Permit
- ☐ Parking/Traffic Circulation Plan
- ☐ Solid Waste Land Disposal Site Permit
- ☐ Solid Waste Treatment Facility Permit
- ☐ Solid Waste Composting Facility Permit (includes Anaerobic Digester)
- ☐ Conversion Technology Facility Permit
- ☐ Solid Waste Letter Authorization Permit
- ☐ Solid Waste Material Recovery Facility Permit
- ☐ Solid Waste Energy Recovery Facility Permit
- ☐ Solid Waste Transfer Station Permit
- ☐ Waste Tire Storage Site Permit
- ☐ Pollution Control Bond Request
- ☐ Hazardous Waste Treatment, Storage, or Disposal Permit
- ☐ Clean Water State Revolving Fund Loan Request
- ☐ Wastewater/Sewer Construction Plan/Specifications *(includes review of plan changes that require use of new land)*
- ☐ Water Quality NPDES Individual Permit
- ☐ Water Quality WPCF Individual Permit *(for onsite construction-installation permits use the DEQ Onsite LUCS form)*
- ☐ Water Quality NPDES Stormwater General Permit *(1200-A, 1200-C, 1200-CA, 1200-COLS, and 1200-Z)*
- ☐ Water Quality General Permit *(all general permits, except 600, 700-PM, 1700-A, and 1700-B when they are mobile.)*
- ☐ Water Quality 401 Certification for federal permit or license

1E. This application is for: ☐ Permit Renewal ☐ New Permit ☐ Permit Modification ☐ Other:

SECTION 2 - TO BE COMPLETED BY CITY OR COUNTY PLANNING OFFICIAL

Instructions: Written findings of fact for all local decisions are required; written findings from previous actions are acceptable. For uses allowed outright by the acknowledged comprehensive plan, DEQ will accept written findings in the form of a reference to the specific plan policies, criteria, or standards that were relied upon in rendering the decision with an indication of why the decision is justified based on the plan policies, criteria, or standards.

2A. The project proposal is located: ☐ Inside city limits ☐ Inside UGB ☒ Outside UGB

2B. Name of the city or county that has land use jurisdiction *(the legal entity responsible for land use decisions for the subject property or land use)*:

Clackamas County

Oregon Department of Environmental Quality
LAND USE COMPATIBILITY STATEMENT (LUCS)

SECTION 2 - TO BE COMPLETED BY CITY OR COUNTY PLANNING OFFICIAL

Applicant Name: Hexion, Inc. **Project Name:** Hexion Dry Kiln

2C. Is the activity allowed under Measure 49 (2007)? ☒ No, Measure 49 is not applicable ☐ Yes; if yes, then check one:

☐ Express; approved by DLCD order #:

☐ Conditional; approved by DLCD order #:

☐ Vested; approved by local government decision or court judgment docket or order #:

2D. Is the activity a composting facility?
☒ No ☐ Yes; Senate Bill 462 (2013) notification requirements have been met.

2E. Is the activity or use compatible with your acknowledged comprehensive plan as required by OAR 660-031?
Please complete this form to address the activity or use for which the applicant is seeking approval (see 1.C on the previous page). If the activity or use is to occur in multiple phases, please ensure that your approval addresses the phases described in 1.C. For example, if the applicant's project is described in 1.C as a subdivision and the LUCS indicates that only clearing and grading are allowed outright but does not indicate whether the subdivision is approved, DEQ will delay permit issuance until approval for the subdivision is obtained from the local planning official.

☐ The activity or use is specifically exempt by the acknowledged comprehensive plan; explain:

☒ **YES**, the activity or use is pre-existing nonconforming use allowed outright by *(provide reference for local ordinance)*:
Zoning & Development ordinance Sec. 1206

☐ **YES**, the activity or use is allowed outright by *(provide reference for local ordinance)*:

☐ **YES**, the activity or use received preliminary approval that includes requirements to fully comply with local requirements; findings are attached.

☐ **YES**, the activity or use is allowed; findings are attached.

☐ **NO**, see 2.C above, activity or use allowed under Measure 49; findings are attached.

☐ **NO**, *(complete below or attach findings for noncompliance and identify requirements the applicant must comply with before compatibility can be determined)*:
Relevant specific plan policies, criteria, or standards:

Provide the reasons for the decision:

Additional comments (attach additional information as needed):

Replacement of an existing kiln in the same location for the same purpose. Nonconforming use verified in 1993 by File No. Z0093-93-E.

Planning Official Signature: Glen Hamburg **Title:** Planner I

Print Name: Glen R. Hamburg **Telephone #:** (503) 742-4523 **Date:** April 7, 2017

If necessary, depending upon city/county agreement on jurisdiction outside city limits but within UGB:

Planning Official Signature: **Title:**

Print Name: **Telephone #:** **Date:**

Hamburg, Glen

From: Loper, Steven <steven.loper@hexion.com>
Sent: Friday, April 07, 2017 7:30 AM
To: Hamburg, Glen
Subject: RE: LUCS - Hexion
Attachments: Hexion Molalla Dry Kiln Location for LUCS.pptx

Glen, in the attached aerial view of the site on slide two, you can see where we intend to demolish an old 34' x 20' kiln and replace it with a new 20' x 54' kiln. The purpose of the new kiln is the same as the old kiln: Re-drying lumber that has been pressure-treated at another location. A lumber drying kiln is essentially a specialized building equipped with fans, heating system and humidity control system to dry lumber. There are two other kilns on the site in operation with the same purpose. I'm available if you have any further questions. Thanks for your assistance.

Steve Loper
Global Director of Major Projects and Programs
Hexion Inc. - Forest Products Division
Steven.loper@hexion.com
Office +1 425 462 5454
Mobile +1 425 531 0881

*"**Valor withers without adversity**"*

From: Hamburg, Glen [mailto:GHamburg@co.clackamas.or.us]
Sent: Thursday, April 06, 2017 9:53 AM
To: Loper, Steven
Subject: RE: LUCS - Hexion

**** EXTERNAL EMAIL – Exercise caution, this email originated from outside of the company. DO NOT reply to, open attachments or click links if the email looks suspicious or is from an unknown sender. ****

Good morning Steve,

I've not forgotten about your LUCS. However, I need a bit more information before I can sign off. The subject property has a non-conforming use, which was altered and approved last in 2013. I need to make sure that the use propsed in the LUCS is consistent with that approval.

The use in the LUCS is described as "*install[ation] of a dry kiln to re-dry pressure-treated lumber*". Will this require a new structure on the property, or the change of a structure? Or, is this simply the addition of a piece of equipment inside of an existing structure? Please send a site plan showing where the kiln will be on the property and in which structure. Also, please explain how this use is the same as or similar to the current approved uses on the property.

Best,

Glen Hamburg
Planner 1
Clackamas County Planning & Zoning
150 Beavercreek Rd
Oregon City, OR 97045
Tel: 503.742.4523
Availability: Tuesday-Friday, 7am-6pm

CLACKAMAS COUNTY

The Clackamas County Department of Transportation and Development is dedicated to providing excellent customer service. Please help us to serve you better by giving us your feedback. We appreciate your comments and will use them to evaluate and improve the quality of our public service.

From: ZoningInfo
Sent: Wednesday, April 05, 2017 3:58 PM
To: Hamburg, Glen <GHamburg@co.clackamas.or.us>
Subject: FW: LUCS - Hexion

From: Loper, Steven [mailto:steven.loper@hexion.com]
Sent: Wednesday, April 05, 2017 9:34 AM
To: ZoningInfo <ZoningInfo@co.clackamas.or.us>
Subject: LUCS - Hexion

Please find attached a LUCS form for completion and return. I am available to answer any questions. If this form must be delivered in person, or in physical form, please let me know.

Steve Loper
Global Director of Major Projects and Programs
Hexion Inc. - Forest Products Division
Steven.loper@hexion.com
Office +1 425 462 5454
Mobile +1 425 531 0881

"Valor withers without adversity"

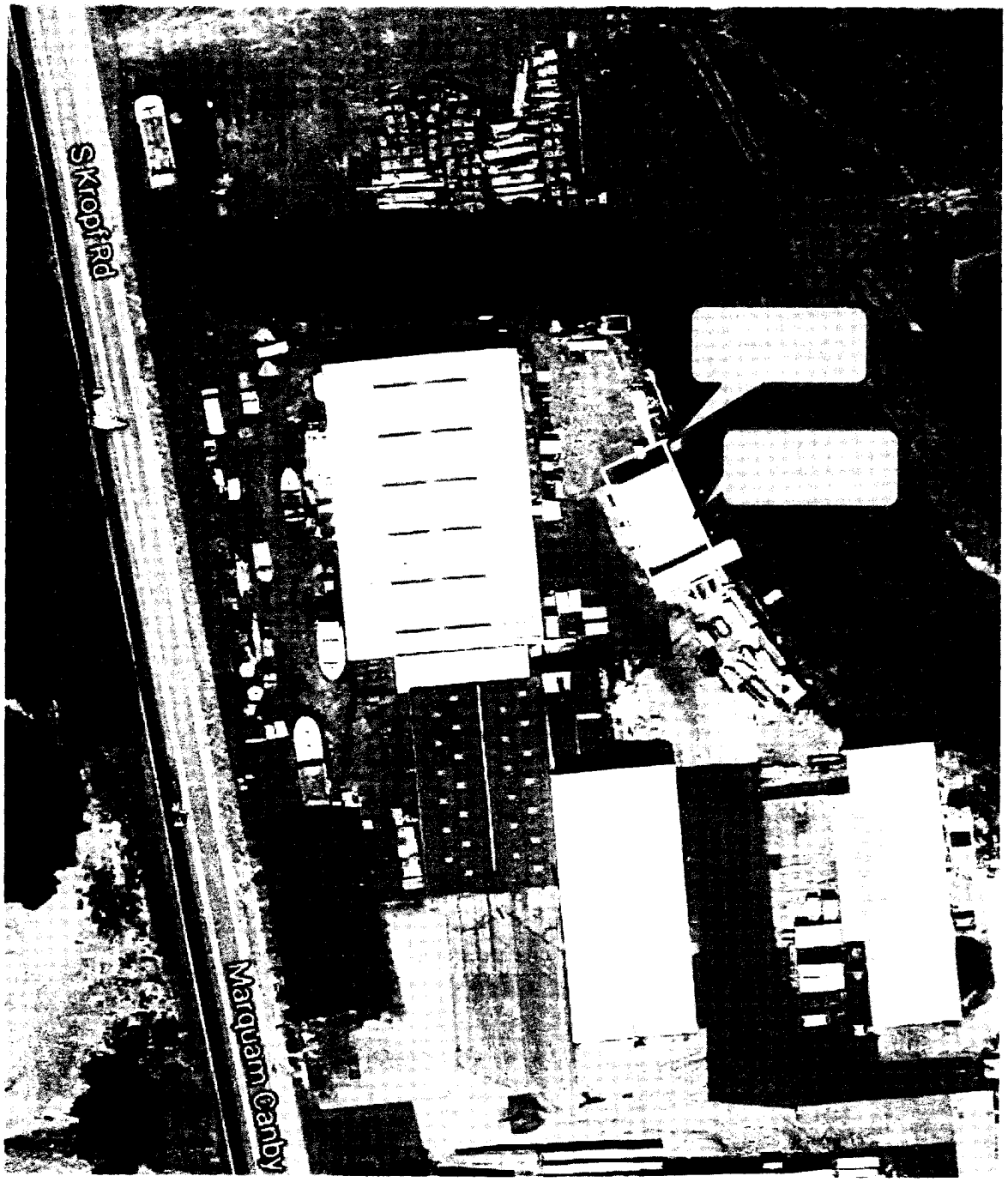
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Although Hexion routinely screens incoming and outgoing mail messages for viruses, addressees should scan this e-mail and any attachments for viruses themselves. Hexion does not guarantee in any way the absence of viruses in this e-mail or any attachments and disclaims any liability in case of security problem that this message may cause to any system.



Scale = ~50 ft

Hexion Molalla Dry Kiln
Precision Drying Services Site
33532 S. Kropf Road, Molalla, OR 97038

Nominally 20' x 54' over existing kiln and slab (to be demolished)

LAND USE APPLICATION

CLACKAMAS COUNTY PLANNING DIVISION
150 BEAVERCREEK ROAD, OREGON CITY, OREGON 97045 PHONE (503) 742-4500 FAX (503) 742-4550
www.clackamas.us EMAIL: zoninginfo@co.clackamas.or.us

FOR STAFF USE ONLY

- ☐ TEMPORARY PERMIT _____ NEW / RENEWAL
- ☐ HOME OCCUPATION (HO) _____ NEW / RENEWAL
- ☒ ALTERATION OF NON-CONFORMING USE
- ☐ NON FARM USE (N)
- ☐ FARM DWELLING _____
- ☐ FOREST DWELLING _____
- ☐ FLOODPLAIN DEVELOPMENT
- ☐ COMP. PLAN AMENDMENT
- ☐ ZONE CHANGE
- ☐ CONDITIONAL USE (C)
- ☐ SUBDIVISION SHORT (1-10) (SS)
- ☐ SUBDIVISION LONG (11+) (SL)
- ☐ PARTITION (M)
- ☐ VARIANCE (V)
- ☐ PROPERTY LINE ADJUSTMENT
- ☐ PRINCIPAL RIVER
- ☐ OTHER _____

File No.: Z0472-13-E
Date Received: 9/20/13 Fee: $7035
Hearing Date: _____
Zone: EFU
Comp. Plan: _____
Violation #: _____
Development No.: _____
Project No.: PR1231606
see Z0254-05-E
Z0409-06-E
Z0716-06-E
Z0721-97

APPLICANT INFORMATION

WHAT IS PROPOSED 10,080 square foot storage building (pole barn)

NAME OF APPLICANT Jerry G. McIntire (Rock Creek Mill)

MAILING ADDRESS P.O. Box 91 CITY Canby ST OR ZIP 97013

APPLICANT IS: ☒ LEGAL OWNER ☐ CONTRACT BUYER ☐ OPTION BUYER ☐ AGENT

NAME OF CONTACT PERSON (if other than applicant) _____

MAILING ADDRESS OF CONTACT _____ ZIP _____

APPLICANT PHONE NUMBERS: Wk 503-250-0280 Hm _____ E-Mail Address: Canbymcintire@gmail.com

CONTACT PERSON PHONE NUMBERS: Wk _____ Hm _____ E-Mail Address: _____

SITE ADDRESS: 33632 S Kropf Rd Molalla, OR 97038 TOTAL LAND AREA: tax lot 1000, 1100 30 acres

LEGAL DESCRIPTION: T 5S R 1E SECTION 21 TAX LOT(S) 1000, 1100, ~~1101~~

ADJACENT PROPERTIES UNDER SAME OWNERSHIP: T___ R___ SECTION _____ TAX LOT(S) _____

PRESENT USE OF PROPERTY: Pellet Mill

METHOD OF SEWAGE DISPOSAL: Septic

WATER SUPPLY: Well

OTHER PERSONS (IF ANY) TO BE MAILED NOTICES REGARDING THIS APPLICATION:

NAME	ADDRESS	ZIP	RELATIONSHIP

I hereby certify the statements contained herein, along with the evidence submitted, are in all respects true and correct to the best of my knowledge.

Jerry G McIntire 9/20/13
PROPERTY OWNER'S NAME (PRINT) DATE

_____ _____
APPLICANT'S NAME (PRINT) DATE

Jerry McIntire
PROPERTY OWNER'S SIGNATURE

_____
APPLICANT'S SIGNATURE

1. The mill was established in 1941 and has been in continuous operation since that time. The operations employ 30 people, driving 20 cars per day. Hours of operation are from 5am to 9pm six days a week. In our previous approval #Z0245-05, I submitted photos from 1955 and 2002 to help document the continual use of property. Unfortunately I do not have another copy of these photos. and Z0408-00-E & Z0716-00-E, Z0721-97-E

2. In the early 1960's the saw mill burned down. Since that time the dry kiln, wood fabricating, planing, and molding have continued. In the early 1990's a pellet mill was added to make more productive use of the wood waste. There are 13 industrial buildings ranging from 500 to 12,000 square feet. Days and hours of use and number of employees does fluctuate with the seasons, but over the years has been somewhat consistent.

3. The current proposal is for a storage/shipping building used in conjunction with current pellet mill production in buildings "O", "P", and "D" shown on the plot plan that is also attached. The proposed building "Q" would be a 10,080 sq foot pole building.

4. At this time there shouldn't be any additional employees added or additional truck traffic because of expansion. We're trying to create storage space in order to build inventory in winter months in order to avoid seasonal layoffs. The properties are located in a rural agricultural area. We feel that there would be not be a negative impact on the neighborhood. There are no neighbors within 750 feet of the properties and no active CPO in the area.

CLACKAMAS COUNTY

SUPPLEMENTAL APPLICATION

ALTERATION/CHANGE OF NONCONFORMING USE

(November - 2008)

APPLICANT INFORMATION

Name: Jerry G. McIntire File #_____

WHAT IS AN ALTERATION OR CHANGE OF A NONCONFORMING USE?:

The County Zoning & Development Ordinance (ZDO), Sec. 202, defines a Nonconforming Use as "A use of any building, structure, or land allowed by right when established or that obtained a required land use approval when established but, due to a change in the zone or zoning regulations, is now prohibited in the zone." A Nonconforming Use may be a dwelling or other structure(s), a commercial or industrial use, or any other use in a zoning district that was permitted when established, but is not now listed as a permitted use or structure in the zoning district in which it is located. The ZDO allows for alterations to, or changes in, a Nonconforming Use subject to the provisions of Sec. 1206 of the ZDO. An alteration to, or change in, a Nonconforming Use may include, but is not limited to, structural additions, changes to the usage of areas of the property, signing changes, increases in number of employees, a change of hours and/or days of operation, operational changes, and changes to the use itself, etc.

WHAT IS NEEDED FOR APPROVAL?:

An alteration of, or change in, a Nonconforming Use **MAY** be permitted after evaluation of the requested alteration with respect to the criteria contained in Sec. 1206 of the ZDO. The County must make written findings to support the decision. The applicant is responsible for providing evidence to support the request for an alteration or change.

WHAT ARE CHANCES FOR APPROVAL?:

Staff cannot predetermine the decision on this or any other land use application. A decision of approval or denial will only be made after the complete application is processed, comments are sought, and the application is reviewed by the Planning staff. This includes review of citizen and agency comments. The decision is based on criteria appropriate to this application as listed in Sec. 1206 of the ZDO.

APPLICATION PROCESS:

This permit application is subject to the Administrative Action process and public notice pursuant to Subsec. 1305.02 of the ZDO. Public comments received from the Community Planning Organizations (CPO), property owners, agencies and other interested parties may affect the decision on the application. Special conditions may be attached to any approvals to mitigate potential adverse impacts of the alteration or change. Any decision on this application can be appealed to the County Land Use Hearings Officer and to the State Land Use Board of Appeals (LUBA) by the applicant or any other interested person.

STAFF WILL ATTACH THE FOLLOWING PERTINENT INFORMATION:

_____ Land Use Application _____ CPO Information

_____ Sample Plot Plan _____ Application Process ZDO Sections _____ & 1206

HOW LONG WILL IT TAKE TO GET A FINAL DECISION ON THIS APPLICATION?:

Approximately 45 days for the initial staff decision. If the staff decision is appealed, the final County decision by the Land Use Hearings Officer may take an additional 8 to 10 weeks (approximate).

COMPLETE APPLICATIONS REQUIRE THE FOLLOWING:

1. Land Use Application – Information about the applicant and land involved in the request.

2. Supplemental Application – Information requested on this form. Please be as complete and thorough as possible. Use additional sheets of paper as necessary to completely describe your proposal and answer the questions contained herein.

3. Application Fee - $_____ (*Fee is nonrefundable upon decision or staff report; partial refund if withdrawn after notice; full refund if withdrawn prior to notice.*)

4. Plot Plan – The site development plan must be drawn to scale on **8.5" x 11" or 8.5" x 14"** paper. The plan must show and clearly identify the **existing and proposed** development of the property including all structures, parking areas, drain field locations, landscaping and/or significant vegetation, slope of the property, entrance/access location(s), north arrow, the scale of the drawing, dimensions of the property and structures.

5. Building Profile (if applicable) – The building profiles shall be drawn to scale on **8.5" x 11" or 8.5" x 14"** paper and must clearly depict the proposed new structures or additions to existing structures.

CRITERIA FOR APPROVAL: SEE SEC. 1206 FOR SPECIFIC REQUIREMENTS, THEN ANSWER THE FOLLOWING:

1. When was the existing use, structures and/or physical improvements established? (please give specific dates if possible). Describe the buildings, vehicles, equipment and materials used, days and hours of operation, number of employees and other operational and physical information. Submit land use, building, septic, or other permit documents; utility records, dated photographs, tax appraisal information, dated aerial photographs, tax records, receipts, licenses, notarized affidavits, etc. to document the date of establishment of the use, structure(s) and/or physical improvements, and the continuity of the use since established.

   See attached

2. Describe any changes in the existing use, structures and/or physical improvements since establishment. Describe the buildings, vehicles, equipment and materials used, days and hours of operation, number of employees and other operational and physical information as changes occurred.

   See attached

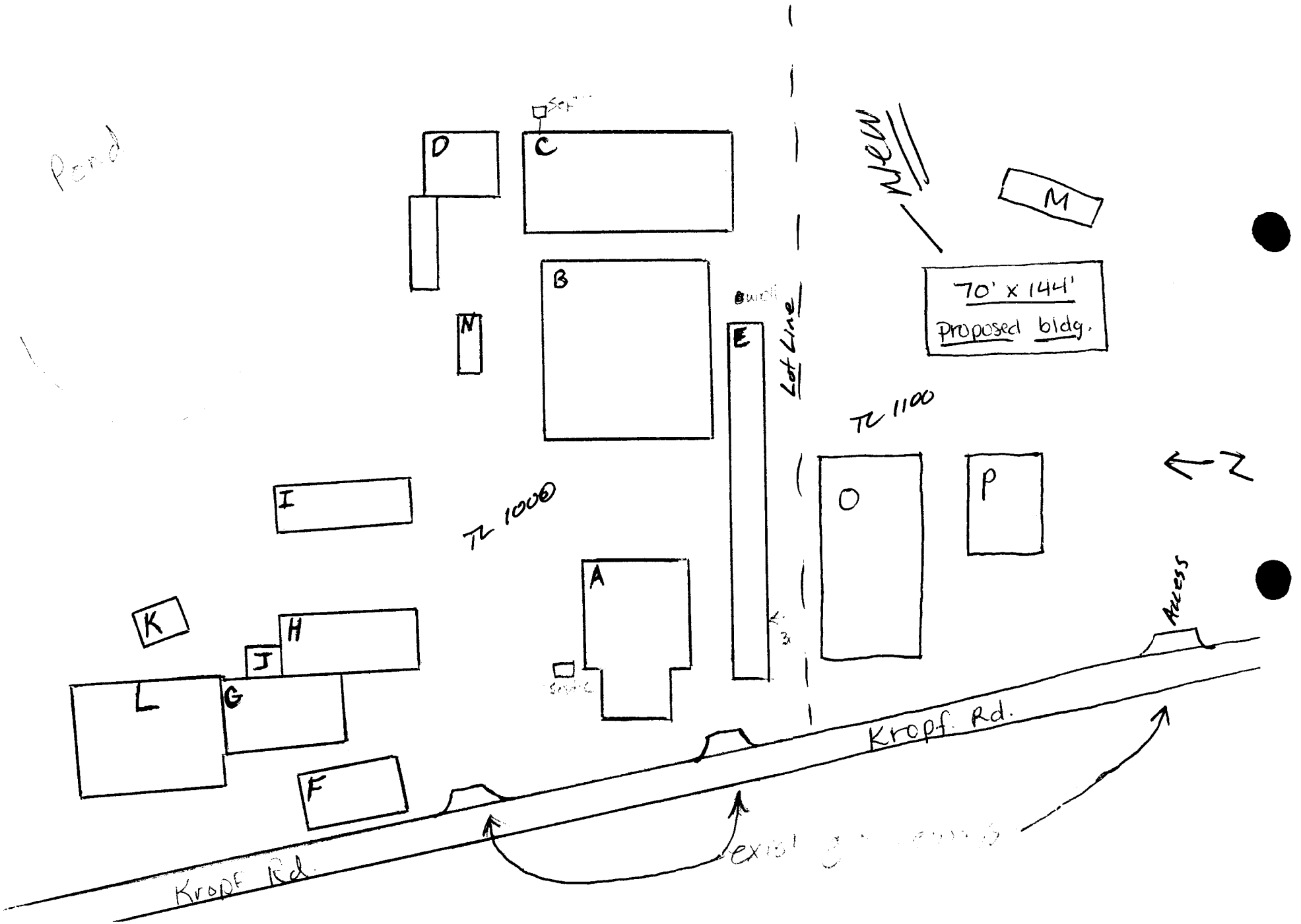
3. Describe in detail the proposed changes to the use, structure(s), and/or physical improvements. Describe all structural and operational changes proposed.

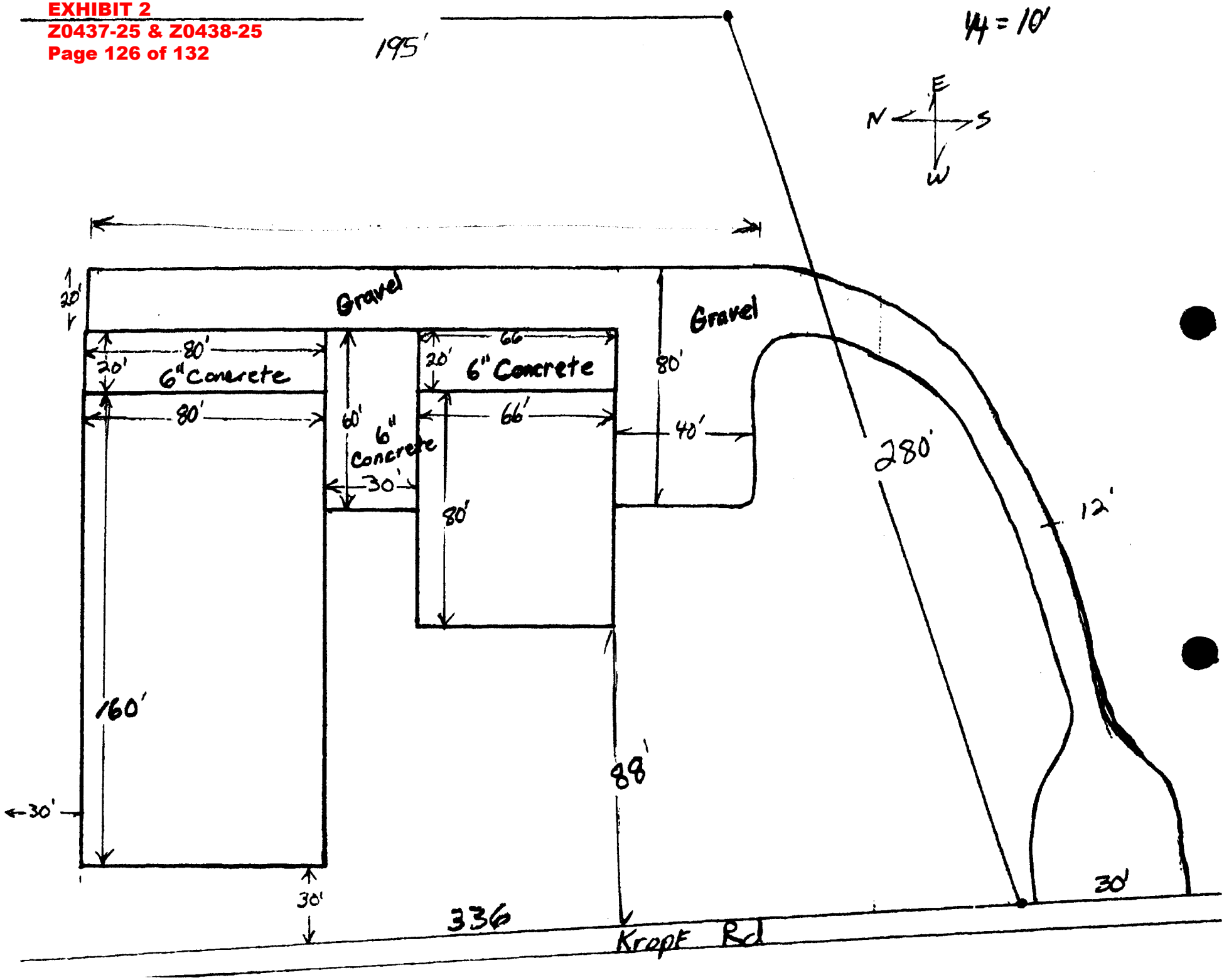
See attached

4. Describe in detail why the alterations of the structure(s) and/or physical improvements, and/or the changes in the use will not create additional adverse impacts upon the surrounding neighborhood. Describe any measures planned to mitigate the potential adverse impacts of the changes; e.g. screening, buffering, pollution control equipment, acoustical insulation or barriers, traffic management plan, etc.

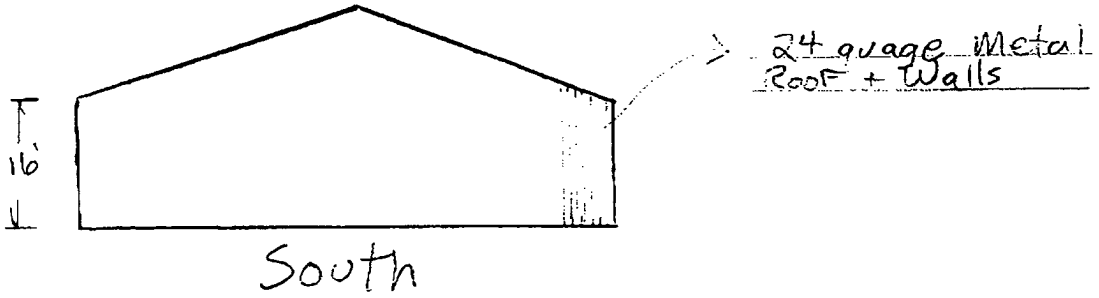
See attached

Please direct questions to Rick McIntire, Sr. Planner at 503-742-4516 or rickm@co.clackamas.or.us

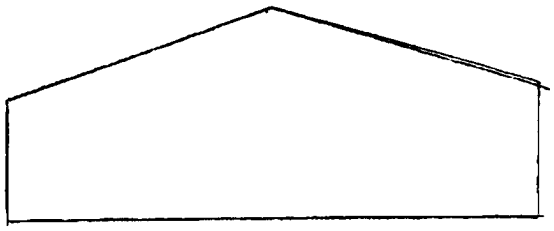

Pond
D
C
B
N
E
M
Lot Line
70' x 144'
Proposed bldg.
TL 1100
TL 1000
I
O
P
A
K
H
J
L
G
F
Kropf Rd.
Kropf Rd.
Access


1/4 = 10'
195'
E
N
S
W
20'
Gravel
80'
20'
6" Concrete
80'
60'
6" Concrete
30'
66
20'
6" Concrete
66'
80'
Gravel
40'
280'
12'
80'
160'
88'
30'
30'
336
Krapf Rd
30'

Proposed Building Elevations

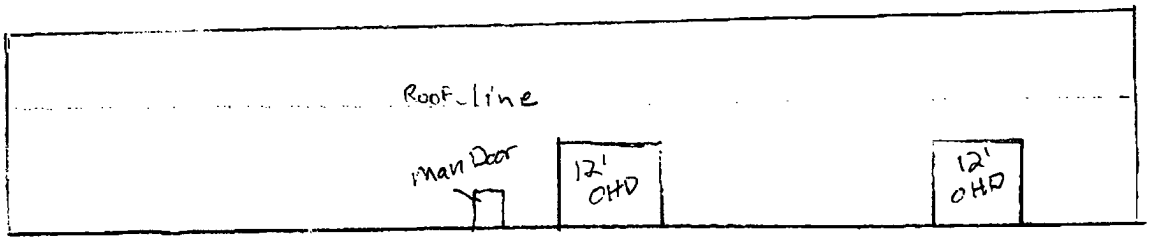


South

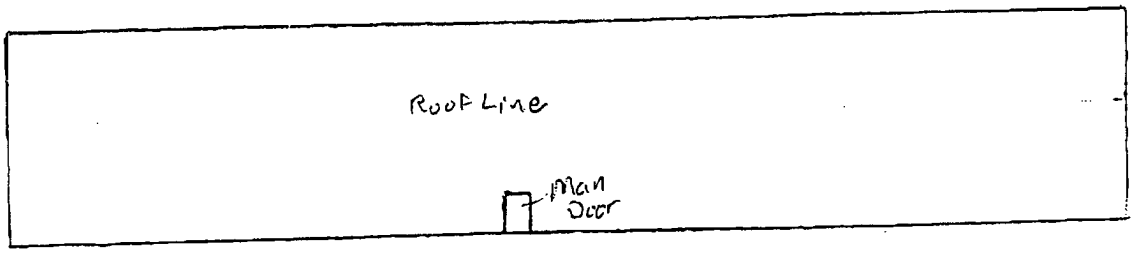


North

70'



West
144'



East

Department of Transportation & Development
Planning & Zoning
Mike McCallister, Planning Director
150 Beavercreek Road | Oregon City, OR | 97045
Phone: (503) 742-4500 | Fax: (503) 742-4550
E-mail: zoninginfo@co.clackamas.or.us
Web: http://www.clackamas.us/transportation/planning/

NOTICE OF LAND USE APPLICATION IN YOUR AREA

Date: 10/08/2013

File Number: Z0472-13

Application: Nonconforming Use - Alteration/Change

From: Clackamas County Planning and Zoning

Notice Mailed To: Property owners within 750 feet
Community Planning Organizations (CPO)
Interested Citizens and Agencies

Explanation of this Notice:

An Alteration of a Nonconforming Use, a wood products manufacturing facility, to construct an approximately 10,080 s.f. building for storage and shipping uses in conjunction with the existing pellet mill production in three other buildings on the site. No additional employees or other operational changes are proposed at this time.

Property Owner: ROCK CREEK MILL LLC
PO BOX 91
CANBY, OR 97013

Applicant: MCINTIRE JERRY-ROCK CREEK MILL
PO BOX 91
CANBY, OR 97013

Location: 33532 S KROPF RD
MOLALLA 97038

Legal Description: 51E21 01000/11100 **Acres:** 30.74

Zone: EFU

Staff: Rick McIntire 503-742-4516 **E-mail:** rickmci@co.clackamas.or.us

How to Comment on this Application:

1. To be sure your comments will be considered prior to the decision, we need to have them within 15 days of the date of this notice.

File Number: Z0472-13

2. You may use the space provided below, mail a separate letter or e-mail the information. Please include the file number and address the information to the staff member handling this matter. In the event you choose e-mail, please limit your correspondence only to the issues of the application.

3. Return your mailed comments to: Clackamas County Land Use and Zoning, 150 Beavercreek Rd, Oregon City, OR 97045; FAX to (503) 742-4550.

Community Planning Organization: The following recognized Community Planning Organization (CPO) has been notified of this application. This organization may develop a recommendation on this application. You are welcome to contact this organization and attend their meeting. If this Community Planning Organization is currently inactive, and you are interested in becoming involved in Land Use Planning in your area, please contact the Citizen Involvement Office at (503) 655-8552.

SOUTH CANBY CPO - INACTIVE

Decision Process: In order to be approved, this proposal must meet the approval criteria or standards in the Zoning and Development Ordinance, Section(s)

202, 401, 1206

The Ordinance criteria for evaluation this application can be obtained from this office or viewed at www.clackamas.us/planning.zdo.htm. You may view the submitted application at the following link, http://web3.co.clackamas.or.us/landuse/ within five days of the date of this notice, or at our office during weekday office hours, 9:00 am to 4:00 pm, Monday through Thursday.

A decision on this proposal will be made and a copy will be mailed to you. If you disagree with the decision you may appeal to the Land Use Hearings Officer who will conduct a public hearing. There is a $250 appeal fee.

Comments:

_____

_____

_____

_____

_____ _____

Your Name/Organization Telephone Number

EXHIBIT 2
Z0437-25 & Z0438-25
Page 130 of 132

NOTICE OF DISTRIBUTION

FILE NO(S) Z0472-13-E HEARING DATE _____

DATE MAILED

NAME / AGENCY	Notice	Decision	Hearings Officer Notice
AIRPORT (Public Use) —			
CITY OF — (Adjacent/Nearby Cities; UGMA Areas)			
CPO South Canby CPO - Inactive	*	*	*
FIRE DISTRICT Monitor #58	10-8-13	11-14-13	
PARKS DISTRICT —			
SCHOOL DISTRICT —			
SEWER DISTRICT —			
TRI-MET —			
WATER DISTRICT —			
DTD/COUNTY DIVISIONS			
ASSESSOR & TAX — (Cell Towers/Collocations, Ag/Forest & Mining)			
BUILDING —			
CODE ENFORCEMENT —	**	**	**
COUNTY HEALTH DIVISION — (Food Service Providers, Espresso Stands, Etc.)			
PLEASE CHECK ALL ENGR DEPARTMENTS THAT APPLY			
ENGR (SS,SL,M,TE) Ken Kent YES	** ✓ **	** ✓ **	** **
ENGR (DR, CU, Etc.) Robert Hixson YES	** ✓ **	** ✓ **	** **
ENGR (TRAFFIC STUDY) – Rick Nys —	** **	** **	** **
ENGR (LIGHTING – CCSD#5) – —	** **	** **	** **
ENGR (FLOODPLAIN) – Ugo —	** **	** **	** **
ENGR (Post Land Use Meeting Letter Rqd?) — (Yes/No)		Sent _____	Sent _____
ENGINEERING ~~HARD COPY~~	✓	✓	
OFFICE OF SUSTAINABILITY —			
PLANNER — (Historic, Design Review, Sunnyside Village, Reg. Ctr)			
SOILS YES	✓	✓	
WATER ENVIRONMENT SVCS —			
WEIGHMASTER —			
STATE AGENCIES			
CORP OF ENGINEERS —			
DEQ —			
DEPT STATE LANDS —			
DLCD —			
DOGAMI —			
METRO —			
ODOT – Region — District —			
OR DEPT OF AVIATION — (Cell Towers, Nearby Airports)			
PROPERTY OWNERS (750' FEET)	✓	✓	
OVERSIZE DRAWINGS	Yes _____	No _____	

* - Email All Information
** - Email Notice/Decision Only

EXHIBIT A

Form Updated 09/27/12

CLACKAMAS COUNTY
902 ABERNETHY RD
OREGON CITY , OR 97045

GASSNER MICHAEL J TRUSTEE
8418 S GIBSON RD
MOLALLA , OR 97038

ROCK CREEK MILL LLC
PO BOX 91
CANBY , OR 97013

VANAUSDELL P DIXON TRUSTEE
PO BOX 5304
SALEM , OR 97304

VANNICE CHARLES
402 NORWAY AVE
SILVERTON , OR 97381

WILSON DAVID J & LORIN A
33222 S KROPF RD
MOLALLA , OR 97038

WROLSTAD RONALD E TRUSTEE
3210 SW CHINTIMINI
CORVALLIS , OR 97333

WROLSTAD THOMAS D TRUSTEE
33187 S KROPF RD
MOLALLA , OR 97038

CLACKAMAS COUNTY

Planning & Zoning
Development Services Building
150 Beavercreek Road | Oregon City, OR | 97045
Phone: (503) 742-4500 | Fax: (503) 742-4550
E-mail: zoninginfo@co.clackamas.or.us
Web: http://www.clackamas.us/transportation/planning/

LAND USE APPLICATION

DEEMED COMPLETE

ORIGINAL DATE SUBMITTED: 9-20-13

FILE NUMBER: Z0472-13-E

APPLICATION TYPE: Alteration/Change Nonconforming Use

The Planning and Zoning Division staff deemed this application complete for the purposes of Oregon Revised Statutes (ORS) 215.427 on: 9/30/13

Signature

Sr. Planner
Title

Dick McIntire
Print Name

Comments: _____

Check one:

o The subject property is located inside an urban growth boundary. The 120-day deadline for final action on the application pursuant to ORS 215.427(1) is:

_____

x The subject property is not located inside an urban growth boundary. The 150-day deadline for final action on the application pursuant to ORS 215.427(1) is:

2-27-14

Fritzie, Martha

From: Snuffin, Christian
Sent: Monday, July 6, 2026 3:58 PM
To: Fritzie, Martha
Subject: RE: Z0437-25 & Z0438-25

Yes, I think the condition should limit the site to the existing building footprint as assumed in the traffic analysis, which uses 87.1ksf (not 92ksf).

The condition limiting the site to industrial uses only is applicable per ORS 197.719, but that alone is not sufficient for the transportation finding. The transportation analysis is not based on all possible industrial uses or unlimited RI development. It is based on the applicant's proposed limitation to the existing building footprint and a manufacturing use scenario that generates 58 PM peak hour trips, or a net increase of 53 PM trips.

Christian Snuffin, PE, Senior Traffic Engineer
Clackamas County | Transportation & Development | Traffic Safety
503-680-5623 (Cell) | 503-742-4716 (Office)
150 Beavercreek Road, Oregon City, OR 97045
Hours: Mon – Thu, 7:00 a.m. – 5:30 p.m.



From: Fritzie, Martha <MFritzie@clackamas.us>
Sent: Monday, July 6, 2026 2:29 PM
To: Snuffin, Christian <CSnuffin@clackamas.us>
Subject: RE: Z0437-25 & Z0438-25

Thanks. So if I understand correctly there needs to be a condition limiting the site to the existing square footage of the buildings (around 92,000SF)?

There will be a condition limiting the uses to only industrial (not retail, commercial or residential) because of the rules they are using to get the zone change. Will that be sufficient?

Martha

Martha Fritzie, Principal Planner
Clackamas County | Transportation & Development | Land Use Planning
(503) 742-4529
150 Beavercreek Road | Oregon City, OR 97045

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This is not a land use decision as defined by Oregon Revised Statutes 197.015(10).

From: Snuffin, Christian <CSnuffin@clackamas.us>
Sent: Monday, July 6, 2026 1:43 PM
To: Fritzie, Martha <MFritzie@clackamas.us>
Subject: RE: Z0437-25 & Z0438-25

Hi Martha,

I have reviewed the applicant's transportation analysis for Z0437-25/Z0438-25. The findings are sufficient to support affirmative findings for ZDO 1202.03(C) and 1202.03(D), provided the approval includes a condition limiting the potential development/use intensity consistent with the assumptions in the traffic analysis.

The applicant's analysis assumes the RI-zoned area would be limited to the existing building footprint and evaluates a reasonable worst-case manufacturing use, resulting in 58 PM peak-hour trips, or a net increase of 53 PM peak-hour trips. Based on the submitted analysis, the study intersections are projected to operate within applicable County and ODOT mobility standards, and the proposed zone change is not expected to significantly affect the adequacy of the transportation system.

The crash history and safety discussion are also sufficient to support a finding that the transportation system is adequate to safely serve the level of development anticipated by the proposed zone change.

Please let me know if there are any questions. Thanks!

Christian Snuffin, PE, Senior Traffic Engineer
Clackamas County | Transportation & Development | Traffic Safety
503-680-5623 (Cell) | 503-742-4716 (Office)
150 Beavercreek Road, Oregon City, OR 97045
Hours: Mon – Thu, 7:00 a.m. – 5:30 p.m.



From: Fritzie, Martha <MFritzie@clackamas.us>
Sent: Wednesday, July 1, 2026 8:05 AM

To: Snuffin, Christian <CSnuffin@clackamas.us>
Subject: Z0437-25 & Z0438-25

Hi Christian – I am putting together the staff report for this proposed Comp Plan/zone change and realized I did not have any comments from you regarding the traffic study. You may have sent them to Taylor Campi – who was working on these files – but she is no longer with the county and I have taken them over.

Could you please let me know if the traffic study findings are sufficient write affirmative findings for ZDO Section 1202.03(C) and (D)?

Thanks,
Martha

Martha Fritzie, Principal Planner
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Fritzie, Martha

From: Spencer Petrauski <Spencer.Petrauski@vf-law.com>
Sent: Friday, July 24, 2026 3:02 PM
To: Fritzie, Martha
Cc: Andrew Stamp; Sven Schimmel; Snuffin, Christian
Subject: Z0437-25 & Z0438-25, Supplemental Materials for BCC Hearing/Staff Report
Attachments: Ex 21 - AKS Transportation Addendum, Rock Creek Mill Zone Change.pdf; Ex 22 - Declaration of Mitch Magenheimer (Final).pdf; Ex 23 - GaiaTech Phase-1 DEQ Site Assessment Report - Traeger (2013).pdf; Ex 24 - EIC Soil & Fuel Tank Environmental Report_Mill Site (1998).pdf

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Hi Martha,

Attached are the supplemental materials for County File Nos. Z0437-25 and Z0438-25, the Mill Site Conversion application for 33532 S. Kropf Road.

The attachments are:

1. Ex. 21 - AKS Transportation Addendum, Rock Creek Mill Zone Change.

2. Ex. 22 - Declaration of Mitch Magenheimer.

3. Ex. 23 - GaiaTech Draft Phase I Environmental Site Assessment, Traeger Wood Pellet Grills, 33632 SE Kropf Road, May 2013.

4. Ex. 24 - Environmental Investigation Corporation Contaminated Soil Cleanup Report, Kropf Lumber Company, Inc., 33532 South Kropf Road, dated October 14, 1998; and

Please include these materials in the record for the Board of County Commissioners hearing.

Thank you, and please let me know if you need anything else from us before the staff report and Board packet are finalized.

Best,

Spencer Petrauski | Attorney
VF Law | www.vf-law.com
6000 Meadows Road, Suite 500 | Lake Oswego, OR 97035
Direct: 503-498-9769 | Facsimile: 503-598-7758

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From: Fritzie, Martha <MFritzie@clackamas.us>
Sent: Wednesday, July 22, 2026 10:56 AM
To: Spencer Petrauski <Spencer.Petrauski@vf-law.com>; Snuffin, Christian <CSnuffin@clackamas.us>
Cc: Andrew Stamp <Andrew.Stamp@vf-law.com>; Sven Schimmel <Sven.Schimmel@vf-law.com>
Subject: [EXTERNAL]RE: [EXTERNAL]RE: Z0437-25 & Z0438-25 - additional materials

Thank you, Spencer. Please also cc Christin Snuffin (email above) when you send the revised traffic study.

Martha

Martha Fritzie, Principal Planner
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(503) 742-4529
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response to changes to state law or administrative rule, future legislative amendments of the Zoning and Development Ordinance, decisions of courts or administrative tribunals, or quasi-judicial land use decisions.

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From: Spencer Petrauski <Spencer.Petrauski@vf-law.com>
Sent: Wednesday, July 22, 2026 10:46 AM
To: Fritzie, Martha <MFritzie@clackamas.us>
Cc: Andrew Stamp <Andrew.Stamp@vf-law.com>; Sven Schimmel <Sven.Schimmel@vf-law.com>
Subject: Re: [EXTERNAL]RE: Z0437-25 & Z0438-25 - additional materials

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Hi Martha,

Based on the historical records and available site information, AKS is using an estimated total building area of approximately 94,682 square feet for Buildings A through L and N. That estimate includes the lean-to attached to Building A and the covered storage provided by Building E.

To address the County's request, AKS is preparing the traffic-study addendum using a conservative maximum building area of up to 100,000 square feet. The addendum will acknowledge that, for purposes of this rezone, the proposed RI-zoned area is limited to the existing buildings within the identified mill-site boundary.

I will send the addendum as soon as it is complete.

Best,

Spencer Petrauski | Attorney
VF Law | www.vf-law.com
6000 Meadows Road, Suite 500 | Lake Oswego, OR 97035
Direct: 503-498-9769 | Facsimile: 503-598-7758

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From: Fritzie, Martha <MFritzie@clackamas.us>
Sent: Monday, July 20, 2026 6:28 PM
To: Spencer Petrauski <Spencer.Petrauski@vf-law.com>
Cc: Andrew Stamp <Andrew.Stamp@vf-law.com>
Subject: [EXTERNAL]RE: Z0437-25 & Z0438-25 - additional materials

Thank you for the update. That timing should work. What is the verified square footage that you are working with?

Martha Fritzie, Principal Planner

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From: Spencer Petrauski <Spencer.Petrauski@vf-law.com>
Sent: Monday, July 20, 2026 5:27 PM
To: Fritzie, Martha <MFritzie@clackamas.us>
Cc: Andrew Stamp <Andrew.Stamp@vf-law.com>
Subject: Re: Z0437-25 & Z0438-25 - additional materials

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Hi Martha,

For Z0437-25 and Z0438-25, we have our engineers at AKS preparing the TIA addendum with an update to the building square footages. AKS has confirmed that it can complete the addendum and I can send it to County staff by **Thursday, July 23** or at the latest the morning of **Friday, July 24.**

I will send the addendum to the TIA along with some other materials requested by the Planning Commission during the hearing.

Best,

Spencer

Spencer Petrauski | Attorney

VF Law | www.vf-law.com

6000 Meadows Road, Suite 500 | Lake Oswego, OR 97035

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From: Fritzie, Martha <MFritzie@clackamas.us>
Sent: Wednesday, July 15, 2026 1:57 PM
To: Andrew Stamp <Andrew.Stamp@vf-law.com>
Cc: Spencer Petrauski <Spencer.Petrauski@vf-law.com>
Subject: [EXTERNAL]Z0437-25 & Z0438-25 - additional materials

Hi Andrew. I have attached the notice for the proposed Goal 14 exception that we discussed the other day (file Z0182-26 & Z0277-23).

I also wanted to check in on your files (Z0437-25 & Z0438-25). We are on a pretty quick turnaround for the verification of the building square footage and any addendum to the traffic study that may be needed. I need to have my staff report and packet of materials for the Board finished by Monday, July 27th and will need your information before that date. Please let me know when you think you can get the information to me.

And let me know if you have any questions,

Martha

Martha Fritzie, Principal Planner

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PORTLAND, OR 97205
(503) 248-0313

REGISTERED PROFESSIONAL ENGINEER
16168
Digitally Signed 2026.07.24 13:51:24-07'00'
OREGON
SEPT. 15, 1992
JENNIFER ELISE DANZIGER
RENEWS: 12/31/2027

Date: July 24, 2026
To: Clackamas County
From: Jennifer Danziger, PE
Project Name: Rock Creek Mill Zone Change
AKS Job No.: **15602**
Project Site: 33532 S Kropf Road

Subject: **Rock Creek Mill Zone Change – Transportation Addendum**

Introduction

This memorandum serves as an addendum to the letters prepared by Brent Ahrend, PE at Mackenzie addressing the proposed rezoning of the Rock Creek Mill site located at 33532 S Kropf Road on Tax Lot 1000 of Clackamas County Assessor's Map 51E21. The first letter, dated October 7, 2025, provided a capacity analysis for the proposed Rock Creek Mill zone change from Exclusive Farm Use (EFU) to Rural Industrial (RI). The second letter, dated October 15, 2025, presented a Clackamas County Zoning and Development Ordinance (ZDO) and Transportation Planning Rule (TPR) analysis.

The analysis presented in those letters was based on redevelopment of the site limited to the existing building footprint. The combined footprint was estimated at 87,100 square feet (SF). Available site plans and listed floor areas included in historical land use records identify approximately 94,682 SF of existing building area. For purposes of this transportation addendum, AKS conservatively analyzed up to 100,000 SF of existing gross building floor area. This assumption does not authorize new building area; it still reflects the limitation in ORS 197.719(6)(a), which restricts the mill-site boundary to areas improved for wood-products processing or manufacturing.

Updated Trip Generation

To estimate the number of trips that could be generated by the proposed zone change, trip rates from the *Trip Generation Manual* [1] were used. Data from the land use code (LUC) 140*, Manufacturing*, is used to estimate the planned development's trip generation based on the gross building floor area. The trips for the existing site use are based on traffic counts collected April 18, 2024. The resulting trip generation estimates are summarized in Table 1. Detailed trip generation calculations are attached.

With redevelopment of the site under the proposed zoning, total trip generation is estimated at 63 PM peak hour trips, an increase of up to 58 trips compared with existing site activity.

[1] Institute of Transportation Engineers (ITE), *Trip Generation Manual*, 12th Edition, August 2025.

Table 1: Trip Generation Summary

Condition	ITE Code	Land Use	Size	PM Peak Hour		
				In	Out	Total
Existing	NA	Manufacturing	100 KSF	2	3	5
Proposed	140	Manufacturing	100 KSF	18	45	63
Net Change				**16**	**42**	**58**

Notes: KSF = 1,000 SF

Existing site trips were subtracted from the network and the trips with the proposed rezoning were added to the network using the following distribution utilized in the Mackenzie analysis:

- 35 percent of trips traveling to/from the west along OR Highway 211
- 25 percent of trips traveling to/from the east along OR Highway 211
- 10 percent of trips traveling to/from the north along S Kropf Road
- 30 percent of trips traveling to/from the south/west along OR Highway 213

Updated Traffic Volumes

Figure 1 shows the updated traffic volumes including:

- 2033 Horizon with Existing Zoning (Mackenzie Pre-Development)
- Site Volumes with Existing Zoning
- Site Volumes with Proposed Zoning
- 2033 Horizon with Proposed Zoning (Mackenzie Post-Development)

Updated Operational Analysis

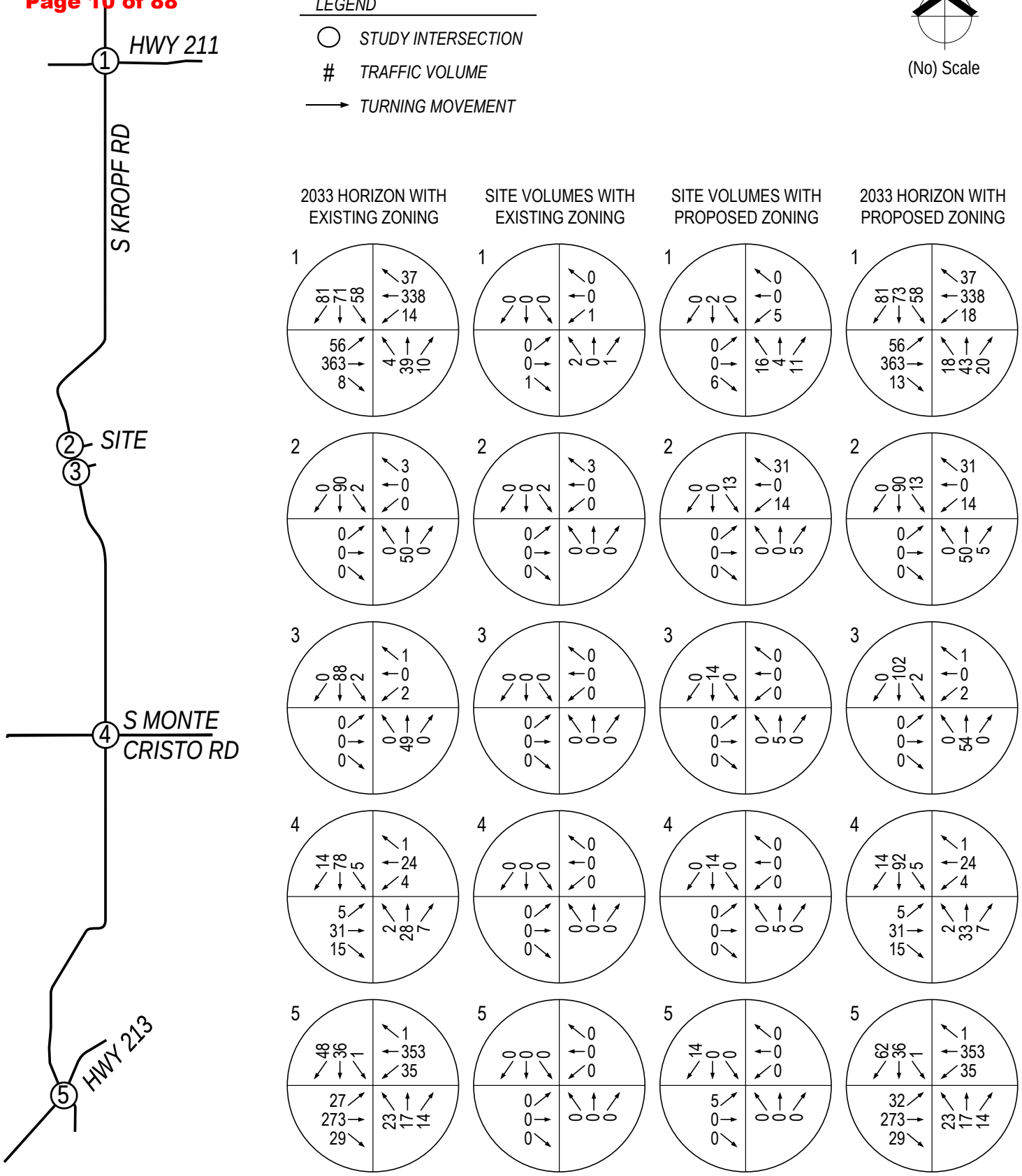
Traffic operations for the horizon year (2033) with and without the proposed zone change were updated using the Synchro software, which employs the latest Highway Capacity Manual[2] (HCM) methodologies. Results are summarized in Table 2. Detailed operational reports are attached.

Table 2: Horizon Year Intersection Operations

Intersection	Performance Measure	2033 with Existing Zoning			2033 with Proposed Zoning		
		V/C	LOS	Delay (s)	V/C	LOS	Delay (s)
OR Hwy 211 & Kropf Rd	V/C <= 0.75	0.60	E	43	0.63	E	47
Mill Site & Kropf Rd	LOS E	0.01	A	9	0.06	A	9
Traeger Site & Kropf Rd	LOS E	0.01	A	9	0.01	A	9
Monte Cristo Rd & Kropf Rd	LOS E	0.08	B	10	0.09	B	11
OR Hwy 213 & Kropf Rd	V/C <= 0.75	0.20	C	20	0.23	C	21

As shown in Table 2, all intersections meet the applicable performance standards with both existing and proposed zoning for the horizon year.

[2] Transportation Research Board (TRB), *Highway Capacity Manual,* 7th Edition, 2022.



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TRAFFIC VOLUMES
PM PEAK HOUR

Figure 1
Rock Creek Mill
Clackamas County
Project 15602 7/23/2026

Updated Crash Analysis

Using data obtained from ODOT's Crash Data System, five years of the most recent reported crash history (January 2020 through December 2024) was reviewed for the study area. The updated crash history is summarized in Table 3 and raw crash data is attached.

Table 3: Intersection Crash Rates

Intersection	Year					Total Crashes	ADT	Crash Rate
	2020	2021	2022	2023	2024			
OR Hwy 211 & Kropf Rd	5	1	3	3	5	17	11,270	0.827
Mill Site & Kropf Rd	0	0	1	0	0	1	1,610	0.340
Traeger Site & Kropf Rd	0	0	0	0	0	0	1,570	0.000
Monte Cristo Rd & Kropf Rd	0	0	0	0	3	3	2,380	0.691
OR Hwy 213 & Kropf Rd	2	1	2	0	3	8	8,920	0.491

Intersection Crash Rates

Following the methodology in the Mackenzie letter, intersection crash rates were calculated based on the five years of data and an average daily traffic volume (ADT) estimated from the existing 2024 volumes multiplied by a daily-to-peak factor of 12. The crash rate reflects the number of crashes occurring per million entering vehicles (MEV) at the intersection.

All intersections have crash rates below 1.0 crashes/MEV; therefore, no further analysis is recommended based on crash rates.

Site Access Crash

One crash was reported in 2022 at the Rock Creek Mill site access. That crash involved a vehicle making a right turn as it exited the site that was struck by a northbound vehicle on Kropf Road. The driver exiting the site was reported as failing to yield the right-of-way. The driver of the northbound vehicle sustained injuries report as Type A, suspected serious injury, while the driver exiting the site sustained no injuries. The crash occurred between 6:00 and 7:00 AM on a weekday with clear weather, daylight, and a dry road surface.

Apart from that collision, no other crashes were reported at the Mill Site access during the five-year period. Based on the absence of repeated crashes at that location, no established crash pattern was identified, and no additional mitigation is necessary.

ODOT SPIS

The ODOT 2024 Safety Priority Index System (SPIS) list is based on reported crash data for the years 2021 through 2023. No study area intersections were listed in the highest 15 percent[3] of the SPIS list. This changed from the 2022 SPIS rating in the Mackenzie report and may reflect the safety improvements implemented at the intersection of OR Highway 211 & S Kropf Road in 2019.

Conclusions

Mackenzie concluded the proposed zone change will cause a small potential increase in traffic, and the safety of the transportation system will remain adequate. The updated crash and SPIS data support the conclusion that the transportation system is adequate to serve the level of development anticipated by the proposed zone change.

[3] Oregon Department of Transportation, Safety Priority Index System, 2024 - On-State, Top 15% Groups - By Score

ZDO and TPR Requirements

Clackamas County ZDO sections 1202.03.C and 1202.03.D have transportation requirements for a zone change which include an analysis of the TPR. These requirements were reviewed to determine if the updated transportation analysis would affect any of the conclusions in the Mackenzie letter dated October 15, 2025.

The proposed zone change from EFU to RI would have potential for increased trip generation over the current site levels; however, the increase would not result in a significant effect on the capacity, classification, or safety of the transportation system. Based on the updated trip generation, operations analysis, and crash review, the transportation system is adequate and will remain adequate with approval of the proposed zone change. AKS evaluated the proposed RI zoning using a conservative assumption of up to 100,000 square feet of existing gross building floor area. This assumption does not authorize new building area, and it does not change the applicant's proposal to limit RI use intensity to the existing buildings.

The updated analysis was prepared in accordance with the Transportation Planning Rule, OAR 660-012-0060, the applicable Clackamas County Roadway Standards, and the ODOT Analysis Procedures Manual for state-jurisdiction facilities. All study intersections within the impact area are projected to continue operating within applicable County and ODOT mobility standards. The updated crash review also confirms that the transportation system is adequate to serve the level of development anticipated by the proposed zone change.

Accordingly, ZDO 1202.03(C), ZDO 1202.03(D), and the applicable TPR requirements are satisfied. No transportation mitigation is recommended.

Attachments:
Trip Generation
Synchro Outputs
Crash Report

TRIP GENERATION CALCULATIONS
Source: Trip Generation Manual, 12th Edition

Land Use:	Manufacturing
Land Use Code:	140
Land Use Subcategory:	All Sites
Setting/Location	General Urban/Suburban
Variable:	KSF GFA
Trip Type:	Vehicle
Formula Type:	Rate
Variable Quantity:	100

AM PEAK HOUR

Trip Rate: 0.51

	Enter	Exit	Total
Directional Split	75%	25%	
Trip Ends	38	13	51

PM PEAK HOUR

Trip Rate: 0.63

	Enter	Exit	Total
Directional Split	29%	71%	
Trip Ends	18	45	63

WEEKDAY

Trip Rate: 4.27

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	213	213	426

SATURDAY

Trip Rate: 0.97

	Enter	Exit	Total
Directional Split	50%	50%	
Trip Ends	49	49	98

Intersection	
Int Delay, s/veh	8.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	363	13	18	338	37	18	43	20	58	73	81
Future Vol, veh/h	56	363	13	18	338	37	18	43	20	58	73	81
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	Yield	-	-	Stop	-	-	Stop
Storage Length	-	-	50	-	-	50	-	-	20	-	-	20
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	4	6	14	31	9	2	50	11	22	11	11	5
Mvmt Flow	58	378	14	19	352	39	19	45	21	60	76	84

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	352	0	0	378	0	0	922	884	378	907	884	352
Stage 1	-	-	-	-	-	-	495	495	-	390	390	-
Stage 2	-	-	-	-	-	-	428	390	-	517	495	-
Critical Hdwy	4.14	-	-	4.41	-	-	7.6	6.61	6.42	7.21	6.61	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.6	5.61	-	6.21	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.6	5.61	-	6.21	5.61	-
Follow-up Hdwy	2.236	-	-	2.479	-	-	3.95	4.099	3.498	3.599	4.099	3.345
Pot Cap-1 Maneuver	1196	-	-	1038	-	-	207	275	627	247	275	685
Stage 1	-	-	-	-	-	-	477	531	-	617	593	-
Stage 2	-	-	-	-	-	-	521	593	-	525	531	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1196	-	-	1038	-	-	119	252	627	183	252	685
Mov Cap-2 Maneuver	-	-	-	-	-	-	119	252	-	183	252	-
Stage 1	-	-	-	-	-	-	447	498	-	602	579	-
Stage 2	-	-	-	-	-	-	388	579	-	433	498	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	1.06	0.39	27.82	33.04
HCM LOS			D	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	189	627	241	-	-	91	-	-	216	685
HCM Lane V/C Ratio	0.336	0.033	0.049	-	-	0.018	-	-	0.633	0.123
HCM Ctrl Dly (s/v)	33.4	10.9	8.2	0	-	8.5	0	-	46.7	11
HCM Lane LOS	D	B	A	A	-	A	A	-	E	B
HCM 95th %tile Q(veh)	1.4	0.1	0.2	-	-	0.1	-	-	3.7	0.4

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	31	50	5	13	90
Future Vol, veh/h	14	31	50	5	13	90
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	33	2	2	2	2
Mvmt Flow	15	34	54	5	14	98

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	183	57	0	0	60	0
Stage 1	57	-	-	-	-	-
Stage 2	126	-	-	-	-	-
Critical Hdwy	6.42	6.53	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.597	-	-	2.218	-
Pot Cap-1 Maneuver	806	928	-	-	1544	-
Stage 1	965	-	-	-	-	-
Stage 2	900	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	798	928	-	-	1544	-
Mov Cap-2 Maneuver	798	-	-	-	-	-
Stage 1	956	-	-	-	-	-
Stage 2	900	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.31	0	0.93
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	884	227	-
HCM Lane V/C Ratio	-	-	0.055	0.009	-
HCM Ctrl Dly (s/v)	-	-	9.3	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	1	54	0	2	102
Future Vol, veh/h	2	1	54	0	2	102
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	1	59	0	2	111

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	174	59	0	0	59	0
Stage 1	59	-	-	-	-	-
Stage 2	115	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	816	1007	-	-	1545	-
Stage 1	964	-	-	-	-	-
Stage 2	910	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	815	1007	-	-	1545	-
Mov Cap-2 Maneuver	815	-	-	-	-	-
Stage 1	962	-	-	-	-	-
Stage 2	910	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	9.15	0	0.14
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	870	35	-
HCM Lane V/C Ratio	-	-	0.004	0.001	-
HCM Ctrl Dly (s/v)	-	-	9.2	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	3.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	31	15	4	24	1	2	33	7	5	92	14
Future Vol, veh/h	5	31	15	4	24	1	2	33	7	5	92	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	79	79	79	79	79	79	79	79	79
Heavy Vehicles, %	2	4	2	2	9	2	50	4	2	2	8	15
Mvmt Flow	6	39	19	5	30	1	3	42	9	6	116	18

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	200	194	125	200	198	46	134	0	0	51	0	0
Stage 1	138	138	-	51	51	-	-	-	-	-	-	-
Stage 2	62	56	-	149	147	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.54	6.22	7.12	6.59	6.22	4.6	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.54	-	6.12	5.59	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.54	-	6.12	5.59	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.036	3.318	3.518	4.081	3.318	2.65	-	-	2.218	-	-
Pot Cap-1 Maneuver	759	698	925	759	685	1023	1202	-	-	1556	-	-
Stage 1	865	779	-	962	839	-	-	-	-	-	-	-
Stage 2	949	845	-	854	762	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	719	693	925	697	681	1023	1202	-	-	1556	-	-
Mov Cap-2 Maneuver	719	693	-	697	681	-	-	-	-	-	-	-
Stage 1	861	775	-	960	837	-	-	-	-	-	-	-
Stage 2	912	843	-	790	759	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	10.24	10.5	0.38	0.33
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	83	-	-	751	691	79	-	-
HCM Lane V/C Ratio	0.002	-	-	0.086	0.053	0.004	-	-
HCM Ctrl Dly (s/v)	8	0	-	10.2	10.5	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.2	0	-	-

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	32	273	29	35	353	1	23	17	14	1	36	62
Future Vol, veh/h	32	273	29	35	353	1	23	17	14	1	36	62
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	98	98	98	98	98	98	98	98	98	98	98	98
Heavy Vehicles, %	4	9	11	3	5	2	19	13	2	2	12	7
Mvmt Flow	33	279	30	36	360	1	23	17	14	1	37	63

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	361	0	0	308	0	0	809	791	293	785	806	361
Stage 1	-	-	-	-	-	-	359	359	-	432	432	-
Stage 2	-	-	-	-	-	-	450	433	-	353	373	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.29	6.63	6.22	7.12	6.62	6.27
Critical Hdwy Stg 1	-	-	-	-	-	-	6.29	5.63	-	6.12	5.62	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.29	5.63	-	6.12	5.62	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.671	4.117	3.318	3.518	4.108	3.363
Pot Cap-1 Maneuver	1186	-	-	1247	-	-	280	309	746	310	305	673
Stage 1	-	-	-	-	-	-	626	608	-	602	565	-
Stage 2	-	-	-	-	-	-	557	563	-	664	601	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1186	-	-	1247	-	-	208	288	746	268	284	673
Mov Cap-2 Maneuver	-	-	-	-	-	-	208	288	-	268	284	-
Stage 1	-	-	-	-	-	-	605	588	-	580	545	-
Stage 2	-	-	-	-	-	-	454	543	-	611	581	-

Approach	EB	WB	NB	SB
HCM Ctrl Dly, s/v	0.78	0.72	20.53	15.46
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	287	169	-	-	162	-	-	445
HCM Lane V/C Ratio	0.192	0.028	-	-	0.029	-	-	0.227
HCM Ctrl Dly (s/v)	20.5	8.1	0	-	8	0	-	15.5
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.1	-	-	0.9

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Highway 161 ALL ROAD TYPES, MP 7.49 to 7.69 01/01/2020 to 12/31/2024, Both Add and Non-Add mileage, ALL Crashes Severity, ALL Crashes Circumstance

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2024														
ANGLE	0	2	0	2	0	2	0	2	0	2	0	2	0	0
REAR-END	0	2	0	2	0	4	0	1	1	2	0	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	0	1	0	1	1	0	0
YEAR 2024 TOTAL	**0**	**4**	**1**	**5**	**0**	**6**	**0**	**3**	**2**	**4**	**1**	**4**	**0**	**0**
YEAR: 2023														
ANGLE	0	2	0	2	0	2	0	2	0	2	0	2	0	0
FIXED / OTHER OBJECT	0	1	0	1	0	2	0	1	0	1	0	1	0	1
YEAR 2023 TOTAL	**0**	**3**	**0**	**3**	**0**	**4**	**0**	**3**	**0**	**3**	**0**	**3**	**0**	**1**
YEAR: 2022														
ANGLE	0	1	0	1	0	3	1	1	0	1	0	1	0	0
REAR-END	0	0	1	1	0	0	1	0	1	1	0	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	0	1	1	0	0
YEAR 2022 TOTAL	**0**	**1**	**2**	**3**	**0**	**3**	**2**	**2**	**1**	**2**	**1**	**3**	**0**	**0**
YEAR: 2021														
ANGLE	0	1	0	1	0	2	0	1	0	1	0	1	0	0
YEAR 2021 TOTAL	**0**	**1**	**0**	**1**	**0**	**2**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
YEAR: 2020														
ANGLE	0	1	0	1	0	1	0	1	0	0	1	1	0	0
FIXED / OTHER OBJECT	0	1	1	2	0	1	0	2	0	2	0	0	0	2
REAR-END	0	1	0	1	0	2	0	1	0	1	0	0	1	0

CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Highway 161 ALL ROAD TYPES, MP 7.49 to 7.69 01/01/2020 to 12/31/2024, Both Add and Non-Add mileage, ALL Crashes Severity, ALL Crashes Circumstance

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
TURNING MOVEMENTS	0	1	0	1	0	1	1	1	0	1	0	1	0	0
YEAR 2020 TOTAL	**0**	**4**	**1**	**5**	**0**	**5**	**1**	**5**	**0**	**4**	**1**	**2**	**1**	**2**
FINAL TOTAL	**0**	**13**	**4**	**17**	**0**	**20**	**3**	**14**	**3**	**14**	**3**	**13**	**1**	**3**

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CDS380 — OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION — Page: 1
07/23/2026 — TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

161: WOODBURN-ESTACADA — **Highway 161 ALL ROAD TYPES, MP 7.49 to 7.69 01/01/2020 to 12/31/2024, Both Add and Non-Add mileage, ALL Crashes Severity, ALL Crashes Circumstance**

1 - 5 of 17 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	D M R J S W O L G N H R K	DATE / DAY / TIME / LAT	COUNTY / CITY / URBAN AREA / LONG	RD# FC / COMPNT / MLG TYP / MILEPNT	CONN# / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00896	Y	N N N N N N	03/17/2024	CLACKAMAS	1 06		STRGHT		N	N	CLR	S-STRGHT	01	NONE 0	STRGHT											30,27,29
STATE			SU		MN 0		UN	(NONE)	UNKNOWN	N	DRY	REAR		PRVTE	W -E									000		00
N			11A		7.53		03			N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	19	M	NONE		050,016,042	038		30,27,29
N			45 9 3.16	-122 40 57.39		016100100S00		(02)													OR<25					
													02	NONE 0	STRGHT											
														PRVTE	W -E									000		00
														PSNGR CAR		01	DRVR	INJC	43	M	OR-Y		000	000		00
																					OR<25					
													02	NONE 0	STRGHT											
														PRVTE	W -E									000		00
														PSNGR CAR		02	PSNG	INJC	47	F			000	000		00
01058	N	N N N N N N	04/05/2020	CLACKAMAS	1 06		STRGHT		N	Y	CLR	FIX OBJ	01	NONE 9	STRGHT										043	26
STATE			SU		MN 0		UN	(NONE)	NONE	N	DRY	FIX		N/A	E -W									007		00
Y			4P		7.57		07			N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N			45 9 3.4	-122 40 54.46		016100100S00		(02)													UNK					
01928	N	N N N N N N	06/13/2023	CLACKAMAS	1 06		INTER	CROSS	N	Y	CLR	FIX OBJ	01	NONE 0	STRGHT										092,079 ,010	26
UNK			TU		MN 0		N		UNKNOWN	N	DRY	FIX		PRVTE	W -E									007	092,079 ,010	26
N			2P		7.59		05	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	24	F	OTH-Y		081	017		26
N			45 9 3.53	-122 40 52.98		016100100S00															N-RES					
													01	NONE 0	STRGHT											
														PRVTE	W -E									007	092,079 ,010	26
														PSNGR CAR		02	PSNG	INJB	25	F			000	000		00
00550	N	N N N N N N	02/21/2022	CLACKAMAS	1 06		INTER	CROSS	N	N	SLT	S-1STOP	01	NONE 9	STRGHT										124	29
NONE			MO		MN 0		S		STOP SIGN	N	ICE	REAR		N/A	S -N									000		00
N			2P		7.59		06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N			45 9 3.53	-122 40 52.98		016100100S00															UNK					
													02	NONE 9	STOP											
														N/A	S -N									011		00
														SEMI TOW		01	DRVR	NONE	00	Unk	UNK		000	000		00
																					UNK					
80157	N	N N N N N N	03/05/2024	CLACKAMAS	1 06		INTER	CROSS	N	N	CLD	S-1STOP	01	NONE 0	STRGHT											27,29
STATE			TU		MN 0		W		STOP SIGN	N	WET	REAR		PRVTE	W -E									000		00
N			7A		7.59		06	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	17	F	OR-Y		016,026	038		27,29
N			45 9 3.53	-122 40 52.98		016100100S00															OR<25					
													02	NONE 0	STOP											
														PRVTE	W -E									012		00
														PSNGR CAR		01	DRVR	INJB	25	F	OR-Y		000	000		00
																					OR>25					
													02	NONE 0	STOP											
														PRVTE	W -E									012		00
														PSNGR CAR		02	PSNG	INJC	05	M			000	000		00

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161: WOODBURN-ESTACADA **Highway 161 ALL ROAD TYPES, MP 7.49 to 7.69 01/01/2020 to 12/31/2024, Both Add and Non-Add mileage, ALL Crashes Severity, ALL Crashes Circumstance**

6 - 10 of 17 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D R U S	J G S	S N V	W H L	O R K	DATE / DAY / TIME / LAT	COUNTY / CITY / URBAN AREA / LONG	RD# FC / COMPNT / MLG TYP / MILEPNT	CONN# / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS / RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00288	N	N	N	N	N	N	N	01/27/2022	CLACKAMAS	1 06		INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 9	TURN-L										02
STATE								TH		MN 0		CN		STOP SIGN	N	DRY	TURN		N/A	S -W								015		00
N								7P		7.59		01	2		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N								45 9 3.53	-122 40 52.98		016100100S00															UNK					
																		02	NONE 9	STRGHT										
																			N/A	N -S								015		00
																			PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																										UNK					
03697	N	N	N	N	N	N	N	10/14/2024	CLACKAMAS	1 06		INTER	CROSS	N	N	CLD	ANGL-OTH	01	NONE 0	STRGHT										27,02
COUNTY								MO		MN 0		CN		STOP SIGN	N	DRY	ANGL		PRVTE	N -S								015		00
N								4P		7.59		01	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	18	M	OR-Y		016,028	038		27,02
N								45 9 3.53	-122 40 52.98		016100100S00															OR<25					
																		02	NONE 0	STRGHT										
																			PRVTE	E -W								000		00
																			PSNGR CAR		01	DRVR	INJB	21	M	OR-Y		000	000		00
																										OR<25					
04436	N	N	N	N	N	N	N	12/02/2024	CLACKAMAS	1 06		INTER	CROSS	N	N	FOG	ANGL-OTH	01	NONE 9	TURN-L										02
STATE								MO		MN 0		CN		STOP SIGN	N	WET	TURN		N/A	N -E								015		00
N								6A		7.59		01	2		N	DARK	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
N								45 9 3.53	-122 40 52.98		016100100S00															UNK					
																		02	NONE 9	STRGHT										
																			N/A	E -W								000		00
																			PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
																										UNK					
01481	N	N	N	N	N	N	N	06/03/2021	CLACKAMAS	1 06		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
STATE								TH		MN 0		CN		STOP SIGN	N	DRY	ANGL		PRVTE	E -W								000		00
N								9A		7.59		02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	33	M	OR-Y		000	000		00
N								45 9 3.56	-122 40 53		016100100S00															OR<25					
																		02	NONE 0	STRGHT										
																			PRVTE	S -N								015	013	00
																			PSNGR CAR		01	DRVR	INJC	45	F	OTH-Y		028	000		02
																										N-RES					
																		02	NONE 0	STRGHT										
																			PRVTE	S -N								015	013	00
																			PSNGR CAR		02	PSNG	INJA	53	F			000	000		00
																		03	NONE 0	TURN-R										
																			PRVTE	N -W								022		00
																			PSNGR CAR		01	DRVR	NONE	34	F	OR-Y		000	000		00
																										OR<25					
00757	N	N	N	N	N	N	N	02/26/2020	CLACKAMAS	1 06		INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 1	STRGHT										02,08
STATE								WE		MN 0		CN		TRF SIGNAL	N	DRY	TURN		PRVTE	E -W								000		00
N								2P		7.59		03	0		N	DAY	INJ		SEMI TOW		01	DRVR	NONE	50	M	OR-Y		000	000		00
N								45 9 3.55	-122 40 53.01		016100100S00															OR>25					
																		02	NONE 0	TURN-L										
																			PRVTE	W -N								000		00
																			PSNGR CAR		01	DRVR	INJB	18	F	OR-Y		028,004	000		02,08
																										OR<25					

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161: WOODBURN-ESTACADA **Highway 161 ALL ROAD TYPES, MP 7.49 to 7.69 01/01/2020 to 12/31/2024, Both Add and Non-Add mileage, ALL Crashes Severity, ALL Crashes Circumstance**

11 - 15 of 17 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R J S V	U G S	I N	C H	O R L	W K	DATE / DAY / TIME / LAT	COUNTY / CITY / URBAN AREA / LONG	RD# FC / COMPNT / MLG TYP / MILEPNT	CONN# / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01244	N	N	N	N	N	N	N	N	04/28/2022	CLACKAMAS	1 06		INTER	CROSS	N	N	CLD	ANGL-OTH	01	NONE	STRGHT										02
STATE									TH		MN 0		CN		STOP SIGN	N	DRY	ANGL		PRVTE	W -E								000		00
N									8A		7.59		03	2		N	DAY	INJ		TRUCK		01	DRVR	INJB	24	M	OR-Y		000	000		00
N									45 9 3.53	-122 40 52.98		016100100S00															OR<25					
																			02	NONE	STRGHT										
																				RENTL	N -S								015		00
																				PSNGR CAR		01	DRVR	INJC	40	M	OR-Y		028	000		02
																											OR<25					
																			02	NONE	STRGHT										
																				RENTL	N -S								015		00
																				PSNGR CAR		02	PSNG	INJC	18	M			000	000		00
04378	N	N	N	N	N	N	N	N	12/14/2023	CLACKAMAS	1 06		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										061,121	27,02
STATE									TH		MN 0		CN		STOP SIGN	N	DRY	ANGL		PRVTE	N -S								000		00
N									2P		7.59		03	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	38	M	OR-Y		016,028	038		27,02
N									45 9 3.53	-122 40 52.98		016100100S00															OR>25					
																			02	NONE 0	STRGHT										
																				PRVTE	W -E								000	061,121	00
																				PSNGR CAR		01	DRVR	INJB	68	M	OR-Y		000	000		00
																											OR<25					
02588	N	N	N	N	N	N	N	N	07/20/2024	CLACKAMAS	1 06		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											27,02
COUNTY									SA		MN 0		CN		STOP SIGN	N	DRY	ANGL		PRVTE	W -E								000		00
N									10A		7.59		03	2		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	59	M	OR-Y		000	000		00
N									45 9 3.53	-122 40 52.98		016100100S00															OR<25					
																			01	NONE 0	STRGHT										
																				PRVTE	W -E								000		00
																				PSNGR CAR		02	PSNG	INJB	57	M			000	000		00
																			02	NONE 0	STRGHT										
																				PRVTE	N -S								015		00
																				PSNGR CAR		01	DRVR	NONE	34	F	OR-Y		016,028	038		27,02
																											OR<25					
01723	N	N	N	N	N	N	N	N	07/03/2020	CLACKAMAS	1 06		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											02
STATE									FR		MN 0		CN		STOP SIGN	N	DRY	ANGL		PRVTE	W -E								000		00
N									5A		7.59		04	0		N	DAWN	INJ		MTRCYCLE		01	DRVR	INJA	40	M	OR-Y		000	000		00
N									45 9 3.54	-122 40 52.98		016100100S00															OR>25					
																			02	NONE 0	STRGHT										
																				PRVTE	S -N								015		00
																				PSNGR CAR		01	DRVR	NONE	61	F	OR-Y		028	000		02
																											OR>25					
02823	N	N	N	N	N	N	N	N	08/19/2023	CLACKAMAS	1 06		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										079	27,14,02
STATE									SA		MN 0		CN		STOP SIGN	N	DRY	ANGL		PRVTE	S -N								000		00
N									5P		7.59		04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	72	M	OR-Y		016,003,028	038		27,14,02
N									45 9 3.53	-122 40 52.98		016100100S00															OR>25					
																			02	NONE 0	STRGHT										
																				PRVTE	W -E								000	079	00
																				PSNGR CAR		01	DRVR	INJC	41	M	OR-Y		000	000		00
																											OR>25					

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirement, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

161: WOODBURN-ESTACADA **Highway 161 ALL ROAD TYPES, MP 7.49 to 7.69 01/01/2020 to 12/31/2024, Both Add and Non-Add mileage, ALL Crashes Severity, ALL Crashes Circumstance**

16 - 17 of 17 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P / E D	A L	D M / R J / U G	S V	I N	C H	O R	W L	DATE / DAY / TIME / LAT	COUNTY / CITY / URBAN AREA / LONG	RD# FC / COMPNT / MLG TYP / MILEPNT	CONN# / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00980	N	N	N	N					03/19/2020	CLACKAMAS	1 06		STRGHT		Y	N	CLR	S-OTHER	01	NONE 0	STRGHT										29
NO RPT									TH		MN 0		UN	(NONE)	NONE	N	DRY	REAR		PRVTE	E -W								000		00
N									1P		7.61		04			N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	35	F	OR-Y		026	000		29
N									45 9 3.57	-122 40 51.51		016100100S00		(02)													OR<25					
																			02	NONE 0	TURN-R										
																				PRVTE	E -N								000		00
																				PSNGR CAR		01	DRVR	INJC	67	M	OR-Y		000	000		00
																											OR<25					
																			02	NONE 0	TURN-R										
																				PRVTE	E -N								000		00
																				PSNGR CAR		02	PSNG	INJC	66	F			000	000		00
03596	N	N	N	N	N	N	N		12/28/2020	CLACKAMAS	1 06		STRGHT		N	Y	CLD	FIX OBJ	01	NONE 0	STRGHT										121	21
STATE									MO		MN 0		UN	(NONE)	UNKNOWN	N	DRY	FIX		PRVTE	W -E								000	121	21
Y									4P		7.64		01			N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	41	M	OTH-Y		081	000		10
N									45 9 3.58	-122 40 49.25		016100100S00		(02)													N-RES					

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

S KROPF RD-OLD 61010, MP 3.39 to 3.59, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2020 to 12/31/2024

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2022														
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	0	0	0
YEAR 2022 TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**
FINAL TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**

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CDS380 — OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION — Page: 1
07/23/2026 — TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
COUNTY ROAD CRASH LISTING
CLACKAMAS COUNTY — **S KROPF RD-OLD 61010, MP 3.39 to 3.59, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2020 to 12/31/2024**
1 - 1 of 1 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A	L	C	D M R J S W N H R K	DATE / TIME / LAT	MILEPNT / DIST FROM / INTERSECT / LONG	COUNTY ROADS / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT EVENT	CAUSE
01764	N	N	N	N	N N	06/16/2022	3.49	S KROPF RD-OLD 61010	ALLEY		N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT										02
COUNTY						TH			UN	(NONE)	UNKNOWN	N	DRY	TURN		PRVTE	S -N										00
N						6A			03			N	DAY	INJ		PSNGR CAR		01	DRVR	INJA	49	M	OR-Y		000	000	00
N						45 7 16.46	-122 41 4.8			(02)													OR<25				
															02	NONE 0	TURN-R										
																PRVTE	E -N									018	00
																PSNGR CAR		01	DRVR	NONE	39	M	OR-Y		028,004	000	02
																							OR>25				

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

S MONTE CRISTO RD, MP 2.42 to 2.52, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2020 to 12/31/2024

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2024														
ANGLE	0	3	0	3	0	4	0	2	1	2	1	3	0	0
YEAR 2024 TOTAL	**0**	**3**	**0**	**3**	**0**	**4**	**0**	**2**	**1**	**2**	**1**	**3**	**0**	**0**
FINAL TOTAL	**0**	**3**	**0**	**3**	**0**	**4**	**0**	**2**	**1**	**2**	**1**	**3**	**0**	**0**

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON.. DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
COUNTY ROAD CRASH LISTING

CLACKAMAS COUNTY

S MONTE CRISTO RD, MP 2.42 to 2.52, ALL Crashes Severity, ALL Crashes Circumstance, 01/01/2020 to 12/31/2024

1 - 3 of 3 Crash records shown.

SER# / INVEST RD DPT UNLOC?	S P E D	A L C	D M R U G S	J I N V	S C H L	W O R K	DATE / DAY / TIME / LAT	MILEPNT / DIST FROM / INTERSECT / LONG	COUNTY ROADS / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01674	N	N	N	N	N	N	05/20/2024	2.47	S MONTE CRISTO RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											27,03
COUNTY			MO							CN		STOP SIGN	N	DRY	ANGL		PRVTE	S -N									000		00
N			7P					0		02	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJB	21	M	OR-Y		000	000		00
N			45 6 .3				-122 40 52.5																	OR<25					
																02	NONE 0	STRGHT											
																	PRVTE	E -W									000		00
																	PSNGR CAR		01	DRVR	INJB	23	M	OR-Y		016,021	038		27,03
																								OR<25					
03953	Y	N	N	N	N	N	10/29/2024	2.47	S MONTE CRISTO RD	INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT											03,01
COUNTY			TU							CN		STOP SIGN	N	DRY	ANGL		UNKN	W -E									000		00
N			8P					0		03	0		N	DARK	INJ		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		021,047	000		03,01
N			45 6 .3				-122 40 52.5																	UNK					
																02	NONE 0	STRGHT											
																	PRVTE	N -S									000		00
																	PSNGR CAR		01	DRVR	INJB	20	M	OR-Y		000	000		00
																								OR<25					
00653	N	N	N	N	N	N	02/26/2024	2.47	S MONTE CRISTO RD	INTER	CROSS	N	N	CLD	ANGL-OTH	01	NONE 0	STRGHT											02
COUNTY			MO							CN		STOP SIGN	N	WET	ANGL		PRVTE	S -N									000		00
N			7A					0		04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	NONE	49	M	OR-Y		000	000		00
N			45 6 .3				-122 40 52.5																	OR>25					
																02	NONE 0	STRGHT											
																	PRVTE	W -E									015		00
																	PSNGR CAR		01	DRVR	INJA	57	F	OR-Y		028	000		02
																								OR<25					

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CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Highway 160 ALL ROAD TYPES, MP 22.76 to 22.96 01/01/2020 to 12/31/2024, Both Add and Non-Add mileage, ALL Crashes Severity, ALL Crashes Circumstance

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2024														
FIXED / OTHER OBJECT	0	1	0	1	0	1	0	1	0	0	1	1	0	1
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2024 TOTAL	**0**	**1**	**2**	**3**	**0**	**1**	**0**	**3**	**0**	**2**	**1**	**3**	**0**	**1**
YEAR: 2022														
ANGLE	0	1	0	1	0	1	0	1	0	0	1	1	0	0
TURNING MOVEMENTS	0	1	0	1	0	2	0	1	0	1	0	1	0	0
YEAR 2022 TOTAL	**0**	**2**	**0**	**2**	**0**	**3**	**0**	**2**	**0**	**1**	**1**	**2**	**0**	**0**
YEAR: 2021														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
YEAR 2021 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**
YEAR: 2020														
FIXED / OTHER OBJECT	0	1	0	1	0	1	0	1	0	0	1	1	0	1
TURNING MOVEMENTS	0	1	0	1	0	2	0	1	0	1	0	0	0	0
YEAR 2020 TOTAL	**0**	**2**	**0**	**2**	**0**	**3**	**0**	**2**	**0**	**1**	**1**	**1**	**0**	**1**
FINAL TOTAL	**0**	**5**	**3**	**8**	**0**	**7**	**0**	**8**	**0**	**5**	**3**	**7**	**0**	**2**

Disclaimer: The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate. Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CDS380 — OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION — Page: 1
07/23/2026 — TRANSPORTATION DATA SECTION - CRASH ANAYLYSIS AND REPORTING UNIT
CONTINUOUS SYSTEM CRASH LISTING

160: CASCADE HWY SOUTH — **Highway 160 ALL ROAD TYPES, MP 22.76 to 22.96 01/01/2020 to 12/31/2024, Both Add and Non-Add mileage, ALL Crashes Severity, ALL Crashes Circumstance**

1 - 6 of 8 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R U G S	J N V	S H L	W O R K	DATE / DAY / TIME / LAT	COUNTY / CITY / URBAN AREA / LONG	RD# FC / COMPNT / MLG TYP / MILEPNT	CONN# / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S E X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
01982	N	N	N	N	N	N	05/26/2024	CLACKAMAS	1 06		INTER	CROSS	N	Y	CLR	FIX OBJ	01	NONE 0	STRGHT										092,053	26
STATE							SU		MN 0		N		STOP SIGN	N	DRY	FIX		PRVTE	S -N									007	092,053	26
N							10P		22.86		06	0		N	DARK	INJ		PSNGR CAR		01	DRVR	NONE	25	M	OR-Y		000	000		00
N							45 4 22.66	-122 41 9.09		016000100S00															OR<25					
																	01	NONE 0	STRGHT											
																		PRVTE	S -N									007	092,053	26
																		PSNGR CAR		02	PSNG	INJB	23	F			000	000		00
00877	N	Y	N	N	N	N	03/07/2020	CLACKAMAS	1 06		INTER	CROSS	N	Y	CLR	FIX OBJ	01	NONE 0	STRGHT										058,091 ,010	16
STATE							SA		MN 0		E		NONE	N	DRY	FIX		PRVTE	SW-NE									000	058,091 ,010	00
N							1A		22.86		05	0		N	DLIT	INJ		PSNGR CAR		01	DRVR	INJC	23	M	OR-Y		081	025		16
N							45 4 22.66	-122 41 9.1		016000100S00															OR>25					
01893	N	N	N	N	N	N	06/08/2024	CLACKAMAS	1 06		INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 9	STRGHT											29
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N							5P		22.86		06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
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																		N/A	S -N									012		00
																		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
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00265	N	N	N	N			01/26/2022	CLACKAMAS	1 06		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE	STRGHT											02
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02832	N	N	N	N			09/07/2021	CLACKAMAS	1 06		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 9	STRGHT											02
NONE							TU		MN 0		CN		STOP SIGN	N	DRY	ANGL		N/A	S -N									000		00
N							UNK		22.86		02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
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02371	N	N	N	N	N	N	08/05/2022	CLACKAMAS	1 06		INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 0	TURN-L											02
STATE							FR		MN 0		CN		STOP SIGN	N	DRY	TURN		PRVTE	N -E									000		00
N							1P		22.86		04	0		N	DAY	INJ		PSNGR CAR		01	DRVR	INJC	55	F	OR-Y		028	000		02
N							45 4 22.66	-122 41 9.09		016000100S00															OR<25					
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																		PRVTE	S -N									000		00
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																									OR<25					

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160: CASCADE HWY SOUTH **Highway 160 ALL ROAD TYPES, MP 22.76 to 22.96 01/01/2020 to 12/31/2024, Both Add and Non-Add mileage, ALL Crashes Severity, ALL Crashes Circumstance**

7 - 8 of 8 Crash records shown.

SER# / INVEST / RD DPT / UNLOC?	S P E D	A L C	D M R J U G S V	S H L	W O R K	DATE / DAY / TIME / LAT	COUNTY / CITY / URBAN AREA / LONG	RD# FC / COMPNT / MLG TYP / MILEPNT	CONN# / FIRST STREET / SECOND STREET / LRS	RD CHAR / DIRECT / LOCTN	INT-TYPE (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF-CONTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH / COLL / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	A G E	S X	LICNS RES	PED LOC	ERROR	ACT	EVENT	CAUSE
00009	N	N	N	N	N	01/01/2024	CLACKAMAS	1 06		INTER	CROSS	N	N	CLR	O-1 L-TURN	01	NONE 9	STRGHT										082	02,08,40
NONE						MO		MN 0		CN		UNKNOWN	N	DRY	TURN		N/A	S -N									000		00
N						12P		22.86		04	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	Unk	UNK		000	000		00
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																02	NONE 9	TURN-L											
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81882	N	Y	Y	N	N	06/14/2020	CLACKAMAS	1 06		ALLEY		N	N	CLD	ANGL-OTH	01	NONE 1	STRGHT											27,16,02
STATE						SU		MN 0		UN	(NONE)	NONE	N	DRY	TURN		PRVTE	N -S									000		00
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																								OR<25					

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In the matter of:

M&S INVESTMENTS, LLC
POST-ACKNOWLEDGMENT AND
ZONING MAP AMENDMENT
COUNTY FILE NOS. Z0437-25 AND
Z0438-25. (MILL SITE CONVERSION) .

DECLARATION OF MITCH MAGENHEIMER

I, Mitch Magenheimer, declare under penalty of perjury under the laws of the State of Oregon that the following is true and correct:

1. I am over the age of 18 and competent to testify herein.
2. I am a member and the owner of M&S Investments LLC, an Oregon domestic limited liability company registered with the Oregon Secretary of State. M&S Investments LLC is the applicant and property owner for Clackamas County File Nos. Z0437-25 and Z0438-25.
3. The application concerns a Post-Acknowledgment Plan Map Amendment and Zoning Map Amendment, also referred to as the Mill Site Conversion application, for property located at 33532 Kropf Road, Molalla, Oregon. The property is also identified as T5S, R1E, Section 21, Tax Lot 1000.
4. I purchased the Mill Site, through M & S Investments LLC, on or about April 30th, 2015. Before completing the purchase, I asked Lance Downs, an environmental professional, to review the environmental condition of the property and advise me regarding whether the property's prior mill use created environmental concerns that would affect the purchase.
5. Lance Downs performed the review I requested. My understanding is that the review included environmental due diligence generally associated with a Phase I Environmental Site Assessment, including review of the property history and available environmental

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information. The review included a site a visit as well as an interview of the previous owner.

6. Before a written Phase I Environmental Site Assessment report was prepared or finalized, Lance Downs discussed the condition of the property with me.

7. Based on those discussions and the information provided to me, I was satisfied with the property condition for purchase purposes. At that point, I decided not to have a written Phase I Environmental Site Assessment report prepared or finalized. I had already received the information I needed to proceed with the purchase and did not want to incur additional cost for a written report that was no longer necessary for my decision. In addition to Lance's professional opinion, I grew up 3 minutes from the property and know all the neighbors as well as the previous 2 owners of the property. Due to the availability of the information and interviews that I conducted, there was no information that jumped out to me as an environmental issue.

8. For that reason, no written Phase I Environmental Site Assessment report was completed for my purchase of the Mill Site. I therefore do not have a Phase I Environmental Site Assessment report to submit into the record for Clackamas County File Nos. Z0437-25 and Z0438-25.

9. However we will be submitting a 1998 Contaminated Soil Cleanup Report prepared by Environmental Investigation Corporation concerning the former Kropf Lumber Company site at 33532 South Kropf Road. The report identifies the site as Oregon Department of Environmental Quality UST Facility No. 9936 and UST Cleanup File No. 03-98-0815.

10. The 1998 report states that three underground storage tanks were decommissioned on September 14, 1998. It also states that petroleum-contaminated soil was identified in two tank excavations.

11. The 1998 report states that approximately 40 tons of petroleum-contaminated soil was removed from the gasoline tank excavation and transported for recycling. It further states that samples collected after removal reported no petroleum contamination at or above the test method detection limit.

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12. The 1998 report states that the petroleum-contaminated soils remaining at the site were below the cleanup level established using the Oregon DEQ Soil Matrix evaluation. The report concludes that no apparent threat existed to the environment or public health from the petroleum release and recommends that no additional investigation or cleanup was warranted.

13. We are submitting the 1998 report for transparency and to provide County staff and the Board of County Commissioners with the environmental information available in the Applicant's records.

14. A separate Phase I Environmental Site Assessment was prepared in May 2013 by GaiaTech Incorporated for the Traeger Wood Pellet Grills facility at 33632 SE Kropf Road, Molalla, Oregon. That property is located south of the Mill Site and is identified as T5S, R1E, Section 21, Tax Lot 01100. The Traeger property is not part of Clackamas County File Nos. Z0437-25 and Z0438-25.

15. The Traeger Phase I Environmental Site Assessment report states that the facility was listed in environmental databases as Precision Drying Services, Kropf Lumber Company, Inc., and Mullen Lumber, Inc.; that three underground storage tanks were registered as decommissioned; that a leaking underground storage tank incident was reported on September 28, 1998; and that cleanup was completed on August 10, 1999. The report further states that, because of the facility's regulatory status and the underground storage tank removals, the potential for impact to the Traeger site was low.

16. We are submitting the May 2013 Phase I report for the contiguous TL 1100 property for transparency and to provide County staff and the Board of County Commissioners with the environmental information available in the Applicant's records.

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I HEREBY DECLARE THAT THE ABOVE STATEMENT IS TRUE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

DATED this 23 day of July, 2026, at Canby, Oregon.

Mitch Magenheimer

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Oregon

CONFIDENTIAL

DRAFT PHASE I ENVIRONMENTAL SITE ASSESSMENT

TRAEGER WOOD PELLET GRILLS
33632 SE KROPF ROAD
MOLALLA, OREGON

PREPARED FOR
TRILANTIC CAPITAL PARTNERS

MAY 2013

Prepared by:

DRAFT

Michael W. Gorman
Senior Project Specialist
Environmental Professional

Technical Review and Concurrence by:

DRAFT

Lisa C. Kotora
Director – Employee Development
Environmental Professional

QA/QC

GAIATECH PROJECT NO. 151098.621.0

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EXECUTIVE SUMMARY

Trilantic Capital Partners, retained GaiaTech Incorporated (GaiaTech) to conduct a Phase I Environmental Site Assessment (ESA) of the Traeger Wood Pellet Grills (Traeger) facility located at 33632 SE Kropf Road in Molalla, Clackamas County, Oregon (the site). GaiaTech conducted the Phase I ESA to identify Recognized Environmental Conditions (RECs), as defined by the American Society for Testing and Materials (ASTM) *Standard Practice for Environmental Site Assessments* – E 1527-05 (ASTM-05). GaiaTech performed the Phase I ESA to constitute all appropriate inquiry consistent with good commercial and customary practice.

Information obtained through the Clackamas County Assessment & Taxation office and confirmed by the site representative indicated that the site is owned by Rock Creek Mill. Traeger leases the site from Rock Creek Mill.

Traeger manufactures wooden pellets used in the outdoor cooking industry. Operations conducted at the site include grinding wood fibers, drying the fibers, and additional grinding. A food-grade oil is added in the pellet forming operation and the completed pellets are bagged and packed for shipping.

The 5-acre site is developed with two buildings and a manufactured home. Building A, located on the northwest portion of the site, contains 11,200 square feet and is used for the initial grinding and drying of the wood fibers. Building B, located south of Building A, contains 5,280 square feet and is used for pellet formation and packaging of the final product. A manufactured home is located on the eastern side of the site and is used for administrative purposes. Wood fibers are stored in a pile on the northeast side of the site. The exterior yard space consists of a gravel-covered area that surrounds Buildings A & B on the east sides. There are landscaped areas to the west of Buildings A & B. No pits, mounds, or other obvious terrain anomalies were identified at the site. No areas of significant staining or distressed vegetation were identified at the site.

The site appears to have been developed in the early to mid-1990s as part of the larger lumber & saw mill located to the north of the site. The manufactured home was present in the mid-1990s, on the eastern portion of the site. The current Buildings A & B were developed for Traeger in 2007. No historical site operations with a potential to impact the site were identified.

The surrounding area to the north was developed as a lumber yard by at least the 1950s. The lumber complex, referred to as the Rock Creek Mill, was used as a saw mill and lumber processing facility. The area to the east of the site was used as a log pond for the Rock Creek Mill until the late 1990s, when it was converted to a recreational area. The areas to the south and west of the site have historically been undeveloped. No obvious potential environmental impacts to the site from current or historical uses of the surrounding properties were identified.

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GaiaTech has performed this Phase I ESA in conformance with the scope and limitations of ASTM-05 of the Traeger facility located at 33632 SE Kropf Road in Molalla, Clackamas County, Oregon. Any exceptions to, or deletions from, this practice are described in Section 1.0 of this report.

This assessment has revealed no evidence of RECs in connection with the site.

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1.0 INTRODUCTION

1.1 Purpose

Trilantic Capital Partners, retained GaiaTech Incorporated (GaiaTech) to conduct a Phase I Environmental Site Assessment (ESA) of the Traeger Wood Pellet Grills (Traeger) facility located at 33632 SE Kropf Road in Molalla, Clackamas County, Oregon (the site). The Phase I ESA was conducted to identify Recognized Environmental Conditions (RECs), as defined by the American Society for Testing and Materials (ASTM) *Standard Practice for Environmental Site Assessments* – E 1527-05 (ASTM-05). GaiaTech performed the Phase I ESA to constitute all appropriate inquiry consistent with good commercial and customary practice.

1.2 Scope of Work

GaiaTech performed the Phase I ESA site inspection on May 14, 2013. Mr. Scott Wilson, Vice President, provided information regarding the site and accompanied GaiaTech during the site inspection. Mr. Wilson has been associated with the site since 2007 and with Traeger since 2000.

GaiaTech conducted the Phase I ESA in overall accordance with industry standards, including the requirements of ASTM-05 or the federal All Appropriate Inquiry (AAI) standard. The Phase I ESA included the following activities, subject to any limitations noted in this report:

1. Interviews with site owner(s), key site manager(s), and/or major occupant(s) and a review of site records with regard to current and former site operations that may have impacted the site.

2. A comprehensive site inspection to identify and evaluate potential sources of environmental impact, including but not limited to waste and chemical storage areas, underground storage tanks (USTs), aboveground storage tanks (ASTs), equipment containing polychlorinated biphenyls (PCBs), wastewater and storm water discharges, and air emissions. The inspection included observations for evidence of chemical spills, releases, or on-site waste disposal. A Site Location Map and a Site Layout and Area Map are included in Appendix A. Photographs of the site are included in Appendix B.

3. A review of historical information for potential on- or off-site sources of impact to the site. To the extent feasible under the conditions of the assessment, the historical information obtained included: verbal information and records from site and/or local agency representatives; previous reports; construction plans; building permits; property record cards; topographic maps; fire insurance maps;

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historical city directories; and aerial photographs. Copies of relevant historical documentation are included in Appendix C.

4. A visual survey of the properties in the vicinity of the site as observed from the site boundaries and public rights-of-way to evaluate the potential for impact to the site from these properties. A Site Layout and Area Map is included in Appendix A.

5. A review of tribal, state, and federal environmental database information, provided by Environmental Data Resources, Inc. (EDR) supplemented by agency interviews and record review, where appropriate. The database search was conducted using ASTM-designated search parameters; for parameters requiring a search of the site and adjacent properties only, the search radii were extended to ensure that ASTM-required search distances from the property boundary were met. Facilities listed in the database report as "unplottable" were reviewed to evaluate whether any are located in the immediate vicinity of the site, based on field observations. The database search report is included as Appendix D.

6. Review of public health records and records of institutional and engineering controls pertaining to the site, as available through state listings provided by EDR, recorded on the current deed, or readily available in land title records.

GaiaTech also performed the following activity in addition to those activities that comprise the ASTM scope of work:

- A limited visual survey to identify typically suspect asbestos-containing materials (ACM). No sampling was conducted.

This assessment was conducted by or under the supervision of an individual meeting the definition of an Environmental Professional under ASTM-05 and the federal AAI standard. Tasks not performed by an Environmental Professional were performed by individuals qualified based on education, training and experience to conduct such tasks for a property of the nature, history and setting of the site. By signing the cover page of this report, the Environmental Professional of record attests the Environmental Professional meets the definition of an Environmental Professional as defined in 40 CFR Part 312, and that this assessment was conducted in conformance with the standards and practices set forth in 40 CFR Part 312.

2.0 SITE CHARACTERISTICS

2.1 Site Location

The site is located at 33632 SE Kropf Road in Molalla, Clackamas County, Oregon. The site is located at the eastern side of Kropf Road, approximately 2 miles southwest of Molalla.

2.2 Site Description

a) Site Ownership

Information obtained through the Clackamas County Tax Assessor's office and confirmed by Mr. Wilson indicated that the site is owned by Rock Creek Mill, LLC. Traeger leases the site from Rock Creek Mill and no environmental issues were identified in the lease.

Information obtained through the Clackamas County Clerk's Office indicates that the most recent deed activity for the site consists of a Bargain and Sales Deed issued to Rock Creek Mill, LLC from Jerry and Beverly McIntire dated March 30, 2007. No Activity and Use Limitations (AULs) or environmental liens were attached to the deed.

b) Current Use of the Site

Traeger manufactures wooden pellets used in the outdoor cooking industry. Operations conducted at the site include grinding wood fibers, drying the fibers, and additional grinding. A food-grade oil is added in the pellet forming operation and the completed pellets are bagged and packed for shipping.

In conjunction with the operations, Traeger operates two front loaders. Contractors fuel and service the vehicles on-site.

c) Structures, Improvements and Other Features

The 5-acre site is developed with two buildings and a manufactured home. Building A contains 11,200 square feet and is used for the initial grinding and drying of the wood fibers. Building A is located on the northwest portion of the site. Building B contains 5,280 square feet and is located to the south of Building A. Building B is used for pellet formation and packaging of the final product. A manufactured home is located on the eastern side of the site and is used for administrative purposes. Wood fibers are stored in a pile on the northeast side of the site.

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The exterior yard space consists of a gravel-covered area that surrounds Buildings A & B on the east sides. There are landscaped areas to the west of Buildings A & B. No pits, mounds, or other obvious terrain anomalies were identified at the site. No areas of significant staining or distressed vegetation were identified at the site.

The building is heated with natural gas and cooled electrically. Water is provided by an on-site well. Portable toilets are provided for Buildings A & B and a septic system is provided for the manufactured home.

2.3 Environmental Setting

a) Topography and Drainage

The 7.5-minute topographic map of the area (*Scotts Mill, OR* quadrangle, 1985) indicates that the site is located at an approximate elevation of 160 feet. The site is located in a relatively flat area. Surface water drainage at the site is routed overland and likely discharges to a pond located adjacent to the east of the site.

b) Soils, Geology, and Hydrogeology

According to information provided in the environmental database search report, the soils in the site area consist primarily of Cove series. These soils consist primarily of silty clays and have slow infiltration rates.

Depth to bedrock information for the site area was not readily available. Shallow groundwater appears to be present in the site area between approximately 20 to 40 feet below ground surface (bgs). Site and area-specific groundwater flow information was not readily available; however, based on area topography, groundwater is expected to flow to the east toward the pond.

c) Water Resources

Potable water is supplied to the site by a well. Bottled drinking water is provided to the employees.

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3.0 SITE HISTORY

3.1 Overview of Site History

The site appears to have been developed in the early to mid-1990s as part of the larger lumber & saw mill located to the north of the site. The manufactured home was present in the mid-1990s, on the eastern portion of the site. The current Buildings A & B were developed for Traeger in 2007.

No historical site operations with a potential to impact the site were identified.

3.2 Historical Photographs and Maps

GaiaTech reviewed available historical aerial photographs and topographic maps from the sources listed in Section 7.0. According to EDR, no Sanborn fire insurance maps were available for the site area. The information from these sources is summarized below.

Period	Description
1942 Aerial 1970 Aerial	The site is developed as agricultural land.
1994 Aerial 2000 Aerial 2005 Aerial 2006 Aerial	The manufactured home is present on the eastern portion of the site. In addition, a small structure is present to the manufactured home.
2009 Aerial 2012 Aerial	Buildings A & B have been constructed and the site appears as it does in its current configuration.

3.3 Interviews and Agency Records

a) Information Provided by Site Representatives, Site Owner and Report User

Mr. Wilson indicated that Traeger began operations at the site in 2007. Mr. Wilson indicated that the site was undeveloped prior to 2007. Mr. Wilson also stated that the area to the north has been used for lumber processing since the 1950s, but to his knowledge, no wood treating activities have been conducted at the adjacent saw mill.

GaiaTech provided a written questionnaire consistent with Appendix X3 of ASTM-05 to Trilantic Capital Partners to be completed as the User of the report. At the time of issuance of this report, GaiaTech had not received the completed User questionnaire.

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b) Agency Interviews and File Review

GaiaTech contacted or filed Freedom of Information Act (FOIA) requests with various agencies to obtain environmentally relevant information regarding the site. A listing of the various agencies contacted is provided in Section 7.0. Pertinent information from these agencies is summarized as follows.

- Clackamas County Assessment & Taxation: According to the property record card, the site is owned by Rock Creek Mill and the parcel contains 5 acres. No information of environmental significance was identified on the card.

- Clackamas County Clerk's Office: Information obtained through the Clackamas County Clerk's Office indicates that the most recent deed activity for the site consists of a Bargain and Sales Deed issued to Rock Creek Mill, LLC from Jerry and Beverly McIntire dated March 30, 2007. No Activity and Use Limitations (AULs) or environmental liens were attached to the deed.

- Molalla Building Department: GaiaTech contacted the Molalla Building Department regarding files for the site. According to department representatives, the site is located outside city limits and no records exist for the site.

- Clackamas County Building Codes: GaiaTech contacted the Clackamas County Building Codes regarding files for the site. According to department representatives, there are no documents for the site.

c) Database Search Report

GaiaTech reviewed a database search report of federal and state environmental databases to determine if the site or any of the nearby properties are listed and have a potential to adversely impact the site. Detailed descriptions of the databases that were searched and definitions of database acronyms are included within the Executive Summary Section and the Government Records Section of the database search report.

3.4 Prior Environmental Reports

Mr. Wilson was not aware of any previous environmental reports for Traeger. No prior environmental reports were available for GaiaTech's review.

3.5 City Directories and Other Historical Sources

GaiaTech attempted to review historical city directories at the Clackamas County Library. However, city directories were not available.

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4.0 SURROUNDING PROPERTIES

4.1 Surrounding Property Overview

The surrounding area to the north was developed as a lumber yard by at least the 1950s. The lumber complex, referred to as the Rock Creek Mill, was used as a saw mill and lumber processing facility. The area to the east of the site was used as a log pond for the Rock Creek Mill until the late 1990s, when it was converted to a recreational area. The areas to the south and west of the site have historically been undeveloped.

No obvious potential environmental impacts to the site from current or historical uses of the surrounding properties were identified.

4.2 Area Observations

The use of the properties surrounding the site is summarized below.

North: The site is bordered to the north by the Rock Creek Mill. Farther north is undeveloped land.

East: The site is bordered to the east by a former logging pond. The pond is currently used for recreational purposes. Farther east is undeveloped land.

South: The site is bordered to the south by undeveloped land.

West: The site is bordered to the west by Kropf Road, followed by undeveloped land.

The neighboring properties generally appear well-maintained. Mullen Lumber, Kropf Lumber, and Precision Drying Services, all part of the Rock Creek Mill, were identified in the environmental database report reviewed, as discussed further in Section 4.4.

4.3 Area History

a) Historical Photographs and Maps

GaiaTech reviewed readily available historical topographic maps and aerial photographs obtained from the sources listed in Section 7.0. As discussed above, no Sanborn fire insurance maps were available for the site area. The information from these sources is summarized below.

Period	Description
1942 Aerial 1970 Aerial	The Rock Creek Mill has been developed to the north of the site. Farther north is a farm house. Agricultural land surrounds the site to the east, south, and west. The log pond used for by the Rock Creek Mill is present to the northeast of the site. Kropf Road is present to the west of the site.
1994 Aerial 2000 Aerial 2005 Aerial 2006 Aerial 2009 Aerial 2012 Aerial	There are additional buildings at the Rock Creek Mill. The surrounding properties appear as they do in its current configuration.

b) City Directories and Other Historical Sources

Mr. Wilson was not aware of any potential or known environmental impacts associated with the neighboring facilities.

GaiaTech attempted to review historical city directories at the Clackamas County Library. However, city directories were not available.

4.4 Environmental Database Review

GaiaTech reviewed the database search report discussed in Section 3.3 to evaluate the potential for surrounding properties identified on environmental databases reviewed to have impacted the site. Detailed descriptions of the databases that were searched and definitions of database acronyms are included within the Executive Summary Section and the Government Records Section of the database search report, which is included as Appendix D. Relevant listings for surrounding properties are discussed below.

- A facility, located at 33532 South Kropf Road adjacent north of the site in a presumed crossgradient direction, was identified in the environmental database report reviewed on the AST, UST, LUST and HSIS databases as Precision Drying Services, Kropf Lumber Company, Inc., and Mullen Lumber, Inc. One 200- to 499-cubic-foot propane AST and one 500- to 999-gallon diesel AST are registered at the facility. Additionally, three USTs, unknown size and contents, are registered as decommissioned. A LUST incident was reported on September 28, 1998, and cleanup was completed on August 10, 1999. The facility registered on the Hazardous Substance Information Survey (HSIS) for oxygen, propane, acetylene and petroleum distillates/hydrocarbons. Based on the proximity to the site, there is potential for impact; however, based on the regulatory status and because the USTs have been removed, the potential for

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impact is low.

5.0 SITE INSPECTION

5.1 Materials Use and Storage

Based on information provided by site representatives and GaiaTech's field observations, the primary materials used and stored at the site include the following:

- *Hardwood Sawdust/Mulch:* 210 tons located on the northern portion of the site. Used as the base for the wood pellets.
- *Diesel Fuel:* Two 55-gallon drums located in Building B. Used for the front loader fueling.
- *Grease:* Two 55-gallon drums located in Building B. Used for machine maintenance.
- *Food-Grade Soybean Oil:* Eight 275-gallon totes located in Building B. Used for pellet production.
- *Propane:* One 250-gallon AST located to the southwest of Building B. Used for forklift fueling.
- *Welding Gases:* two cylinders located in Building B. Used for maintenance welding.

In addition to the primary chemicals used at the facility, GaiaTech observed small containers of various maintenance and janitorial products and lubricants stored at the site.

In general, chemical storage areas were well-maintained and in good condition. With the exception of the propane AST, materials are stored inside the building. The concrete floors within the chemical storage areas were observed to be in good condition with no indications of significant cracking, deterioration or evidence of staining.

Mr. Wilson was not aware of any spills or releases since site operations began. GaiaTech did not observe obvious visual indications of spills or releases, with the exception of the minor staining discussed in Section 2.2. No historical spills or releases were identified in GaiaTech's review of historical source information.

5.2 Storage Tanks

a) Underground Storage Tanks (USTs)

According to Mr. Wilson and consistent with GaiaTech's observations, no USTs are currently present or have historically been present at the site. The site was not identified in the environmental database as having USTs.

b) Aboveground Storage Tanks (ASTs)

One 250-gallon propane AST was observed at the site. The AST is located to the southwest of Building B. The AST was observed to be in good condition and no staining was observed in the vicinity of the AST.
Mr. Wilson was not aware of other historical ASTs, and no evidence of historical ASTs was identified through GaiaTech's review of available historical information or during the site inspection.

5.3 Hazardous Waste

Based on GaiaTech's observations and information from site representatives, Traeger does not currently generate hazardous waste. Mr. Wilson was not aware of historical hazardous waste generation at the site.

GaiaTech did not identify evidence of on-site disposal of hazardous wastes.

5.4 Non-Hazardous Waste

Non-hazardous waste generated at the site includes cardboard and general refuse. Cardboard is collected in a dumpster and recycled. General refuse is collected in a dumpster and pick up on a weekly basis by Molalla Sanitary. No staining was observed in the vicinity of the dumpster.

GaiaTech did not identify evidence of on-site waste disposal.

5.5 Wastewater Discharges

Sanitary wastewater from the manufactured home is discharged to a septic system. The sanitary wastewater discharges are not likely to represent a potential for environmental impact to the site.

Portable toilets are used for the personnel in Buildings A & B. No process wastewater is generated or discharged at the site.

5.6 Storm Water Discharges

Storm water runoff at the site sheet flows off site to the east and off site to the west of the site. No visual indications of oil or other pollutants were noted in the vicinity of the drains or ditch. No indications of impact to storm water were apparent.

5.7 Air Emissions

GaiaTech did not identify obvious air emission sources with a potential to physically impact the site.

5.8 Polychlorinated Biphenyls (PCBs)

Two pad-mounted transformers were observed at the site. The transformers were labeled "Non-PCB" and appeared in good condition with no evidence of leaks or spills. According to Mr. Wilson, the transformers are owned by Portland General Electric (PGE). As likely owner, PGE would be responsible for potential leaks or spills from the transformers. GaiaTech did not observe other potential PCB-containing equipment at the site.

5.9 Asbestos-Containing Materials (ACMs)

Mr. Wilson was not aware of asbestos surveys for the site and none were identified in available site records. GaiaTech did not identify potential ACMs at the site. Buildings A & B consist corrugated metal and concrete and were constructed in 2007, after asbestos stopped being commonly used in the construction industry.

6.0 FINDINGS AND CONCLUSIONS

GaiaTech has performed this Phase I ESA in conformance with the scope and limitations of ASTM-05 of the Traeger facility located at 33632 SE Kropf Road in Molalla, Clackamas County, Oregon. Any exceptions to, or deletions from, this practice are described in Section 1.0 of this report.

This assessment has revealed no evidence of RECs in connection with the site.

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7.0 REFERENCES

The following sources were used in conducting the Phase I Environmental Site Assessment detailed in this report. Where information obtained from these sources was determined to be useful by the Environmental Professional, it is summarized in the body of this report.

Agency/Company	Person Contacted	Telephone	Regarding
Traeger (Site Representatives)	Mr. Scott Wilson	503.266.1759	General site information and site history
Clackamas County Assessment & Taxation 150 Beaver Creek Road Oregon City, OR	Office representative	503.655.8671	General site information and site ownership information
Clackamas County Clerk 2051 Kaen Road Oregon City, OR	Office representative	503.655.8698	Site ownership information. Historical deeds
Molalla Fire Department 320 North Molalla Drive Molalla, OR	Office representative	503.829.2200	USTs, ASTs, spills, hazardous materials response calls, fires, inspections
U.S. Geological Survey	7.5-Minute Topographic Map, Fort Worth, TX	NA	Topography
Environmental Data Resources 440 Wheelers Farms Rd Milford, CT	Lauren Carlucci	800.241.6505	Environmental Database Search Report, historical aerial photographs, Sanborn map search
Internet resources	NA	NA	Aerial photographs (Historic Aerials, Google Maps, Google Earth), NRCS Web Soil Survey, Environmental Database Searches (EDR OnDemand, EPA ECHO, Envirofacts)

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8.0 LIMITATIONS, EXCEPTIONS, AND SIGNIFICANT ASSUMPTIONS

GaiaTech performed this Phase I ESA on behalf of and exclusively for Trilantic Capital Partners. This report and the findings shall not be relied upon, in whole or in part, by any other party, except by or with the express consent of GaiaTech and an authorized representative of Trilantic Capital Partners.

This assessment is subject to the stated limitations of ASTM-05 or the federal AAI standard, as applicable, and other qualifications as described within the report. Any reliance upon this report by third parties beyond its intended purpose shall be at the parties' sole risk. In the event reliance on this report is extended to additional parties, these parties may become "users" as defined by ASTM-05 and should independently confirm that they have addressed the User requirements outlined in ASTM-05.

The purpose of this Phase I ESA was to identify potential issues that would be considered RECs as defined by ASTM-05, or the existence of hazardous substances under the federal AAI standards. Noteworthy issues were also evaluated; however, this review was based on the time frame, budget and scope of the project. The review was intended to identify issues of relevance to the contemplated transaction that this report was prepared to support.

GaiaTech makes an effort to review historical information back to 1940 or to the first developed use of the property (whichever is earlier), subject to the availability of readily obtainable historical sources. Significant gaps in the history of a site due to a lack of reasonably ascertainable information can credibly be attributed to "data gap" as defined by the federal AAI standard or "data failure" as defined by ASTM. Unless otherwise described in the body of this report, if any one or more of the standard sources under ASTM-05 was not reviewed, this was due to information from the source not being readily available or a determination by the Environmental Professional that the standard source was not likely to be useful, and is therefore not considered a significant data gap or data failure which would affect the ability of the Environmental Professional to form a conclusion regarding the site.

Unless otherwise indicated herein, GaiaTech was not made aware of any specialized knowledge of the landowner or client, any relationship of the purchase price to the fair market value of the site that may be indicative of an environmental concern, or any environmental liens or other activity and use limitations known by the client or user of the report. In the absence of this information, GaiaTech is not able to form conclusions about the environmental condition of the site that may otherwise have been evident had any such information been made available. Unless otherwise indicated herein, the reason for performing this Phase I ESA is assumed to be (at least in part) to qualify for the innocent landowner, contiguous property owner, or bona fide prospective purchaser liability defense under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA).

It should be noted that past agricultural use is considered a developed use under ASTM; any past use of the site for agricultural purposes suggests a potential for residual agricultural chemicals at the site. Unless otherwise stated in this report, no evidence or reports of chemical spills or misuses of agricultural chemicals at the site were identified.

During this Phase I ESA, GaiaTech relied upon the information provided by site representatives, regulatory officials and other informed individuals. GaiaTech has assumed, where reasonable, that the information reviewed is true and accurate but assumes no responsibility or liability for its accuracy or completeness. GaiaTech's site observations are of the conditions observed at the time of the assessment.

GaiaTech reviewed an environmental database search report. GaiaTech's conclusions based on the search report are limited to the accuracy of that report. To the extent practicable, GaiaTech's field observations were used to verify the information or identify errors and inconsistencies in the search report regarding the listed facilities in the immediate vicinity of the site, consistent with the federal AAI standard.

Conclusions provided with regard to subsurface soil and groundwater impacts are limited to those that can be formed based on a non-intrusive investigation. GaiaTech has considered all the information collected during this assessment to ascertain the potential presence of a release or threatened release of hazardous substances at the property. Based on the totality of information, GaiaTech has assessed whether or not an obvious conclusion may be drawn that there are conditions indicative of a release or threatened release, and considered whether the parties should be able to detect the release by conducting a subsurface investigation. Where GaiaTech concludes that the potential for impact is present, it should be understood that such impact can only be identified or ruled out through subsurface investigation. The absence of environmental hazards in the subsurface cannot be guaranteed based on conditions observed on the surface. The scope of this project did not include subsurface soil or groundwater sampling.

The estimated groundwater gradients (flow directions) referenced throughout this report are based on field observations of the topography of the area, review of topographic map(s), information in the database search report, and other information as available. It should be noted that groundwater flow directions can be highly variable in neighboring areas, and can be influenced by factors such as water production wells or re-grading or development in the area.

The review of available wetlands information, if performed, was intended for purposes of evaluating risks associated with potential on-site impacts and does not represent a jurisdictional wetlands delineation. A certified wetlands delineation may be necessary prior to further site development.

The visual inspection for potential ACM included materials that have historically been shown to have a potential to contain asbestos. Unless otherwise noted in this report, GaiaTech's review of ACM is limited to interior building materials. The limited visual survey for potential ACM is intended to provide an indication of the potential for significant environmental issues

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associated with ACM and should not be regarded as a comprehensive survey for demolition or other purposes. Testing should generally be conducted to identify regulated ACM prior to remodeling or demolition of the site structures.

The scope of this report is limited to matters expressly covered. Implementation or use of the recommendations, findings or conclusions of this report does not preclude the potential for present or future environmental liability or ensure the fulfillment of a property owner's obligation to provide full environmental disclosure in accordance with any local, state or federal laws.

EIC

Environmental Investigation Corporation

October 14, 1998

Kropf Lumber Company, Inc.
Mr. Ivan Kropf
33532 South Kropf Road
Molalla, Oregon 97038

Re: Contaminated Soil Cleanup Report
Kropf Lumber Company, Inc.
33532 South Kropf Road
Molalla, Oregon 97038

Dear Mr. Kropf:

Enclosed is a copy of the Contaminated Soil Cleanup Report for the Kropf Lumber Company project. The site is designated as UST Cleanup File # 03-98-0815 by the Oregon Department of Environmental Quality.

Petroleum contaminated soil was found during the UST decommissioning project. Approximately 40 tons of contaminated soil was excavated and transported for recycling. Laboratory analysis of soil collected from the excavation after removal of the contamination, reported no concentrations of petroleum contamination. Laboratory analyses of the petroleum contaminated soil remaining at the site reported concentrations below the cleanup level.

Information obtained indicate that contaminated soil at the site poses no public threat or environment hazard. EIC has recommended that no further investigation or cleanup is necessary at this site. A copy of the report has been sent to Mr. Andree Pollock of the Oregon Department of Environmental Quality.

If you have any question regarding this project, please call me at (503) 255-0046.

Yours Truly,
Environmental Investigation Corporation

John E. Baker
President

P.O. Box 20864, Portland, Oregon 97294 • Phone (503) 255-0046 • Fax (503) 257-8655

EIC

Environmental Investigation Corporation

October 14, 1998

Mr. Andree Pollock
Oregon Department of Environmental Quality
Underground Storage Tank Cleanup
Suite 400, 2020 S.W. Fourth Avenue
Portland, Oregon 97201-4987

Re: Contaminated Soil Cleanup Report
Kropf Lumber Company, Inc.
33532 South Kropf Road
Molalla, Oregon 97038

Dear Mr. Pollock:

Enclosed is a copy of the Contaminated Soil Cleanup Report for the Kropf Lumber Company project. The site is designated as UST Facility # 9936 and as UST Cleanup File # 03-98-0815.

On September 14, 1998, three UST's were decommissioned at the Kropf Lumber Company, Inc. Each tank was removed from a separated excavation. Laboratory analysis of soil samples collected from the tank excavations, reported concentrations of petroleum contamination in the soil of two excavations. Petroleum contamination was identified below the former diesel tank and the former gasoline tank.

Using the Matrix Evaluation the Kropf Lumber Company, Inc., site scores a 31, designating it as a Level 2 site. Concentrations of petroleum contamination detected in the soils in the former diesel tank excavation were below the cleanup requirement. Concentrations of petroleum contamination detected in the soils below the former gasoline tank were above the cleanup requirement.

Approximately 40 tons of petroleum contaminated soil was removed from the gasoline tank excavation. The contaminated soil was transported for recycling to Marion County Soil Recycling Facility. Laboratory analysis of soil samples collected from the excavation after removal of the contamination, reported no concentrations of petroleum contamination.

Information obtained indicate that contaminated soil at the site poses no public threat or environment hazard. EIC has recommended that no further investigation or cleanup is necessary at this site. If you have any question regarding this project, please call me at (503) 255-0046.

Yours Truly,
Environmental Investigation Corporation

John E. Baker
President

P.O. Box 20864, Portland, Oregon 97294 • Phone (503) 255-0046 • Fax (503) 257-8655

Contaminated Soil Cleanup Report
ODEQ # 03-98-0815

Kropf Lumber Company, Inc.
33532 South Kropf Road
Molalla, Oregon 97038

October 13, 1998

Prepared for:
Mr. Paul Anderson
Anderson's Backhoe Service
PO Box 289
Silverton, Oregon 97381

Prepared by:
Environmental Investigation Corporation
PO Box 20864
Portland, Oregon 97294

PN: 4555.01

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Introduction

Environmental Investigation Corporation (EIC) has prepared this report for the cleanup of petroleum contaminated soils discovered after the removal of an underground storage tank (UST). The site is known as Kropf Lumber Company, Inc., and is located at 33532 South Kropf Road in Molalla, Oregon. The site is designated as UST Facility #9936 and as UST Cleanup File # 03-98-0815 by Oregon Department of Environmental Quality (ODEQ).

Excavating, soil sampling and laboratory analyses of soil sample were used to estimate the extent and degree of petroleum contamination. This report presents the results of the cleanup of contaminated soil at the site and recycling of the contaminated soil.

A site location map is presented in Figure No. 1.

Progress Summary

Tank Removal

On September 14, 1998, three registered UST's were removed at the site by Anderson Backhoe Service (ABS). The size and contents of the tanks were reported as one 2,000 gallon gasoline (permit #BKKCK), one 1,000 gallon diesel (permit #BKKCA) and one 10,000 gallon diesel (permit #BKKCB). Each tank was excavated from a separate excavation at the site. The tank locations are presented in Figure No. 2.

Prior to removal of the tanks the remaining product and rinsate were pumped and transported for recycling by Oil Re-Refining Co., Inc., to Fuel Processors located in Portland, Oregon. Following removal, the tanks were transported to Schnitzer Steel Products Company located in Portland, Oregon, for recycling. A copy of the product recycling and the scrap steel receipt are presented in Appendix A of this report.

Petroleum contaminated soil was observed in the southern end of the gasoline tank excavation (fill end of tank). No evidence of petroleum contamination was observed in either of the diesel tank excavations. However, laboratory analysis detected concentrations of petroleum in the 1,000 gallon diesel tank excavation. The tanks were observed to be in fair condition. Water was not encountered in the excavations.

Following the removal of the tanks, two soil samples were collected from each excavation. The samples of native soil were collected from one foot into the bottom of the excavation. The samples were analyzed by method Total Petroleum Hydrocarbon - Hydrocarbon Identification Scan (TPH-HCID).

TPH-HCID analyses of the samples collected from the gasoline tank excavation reported the presence of gasoline and oil petroleum in the southern soil sample (KLTK-1A) and no concentrations of petroleum were detected in the northern soil sample (KLTK-1B). The southern soil sample (KLTK-1A) was also analyzed by method Total Petroleum Hydrocarbon - Gasoline (TPH-G) and Total Petroleum Hydrocarbon - Diesel (TPH-D). TPH-G analysis of the sample reported the concentration of gasoline petroleum at 150 parts per million (ppm). TPH-D analysis of the sample reported the concentration of diesel petroleum at 59 ppm and oil petroleum at 490 ppm.

TPH-HCID analyses of the samples collected from the 1,000 gallon diesel tank excavation reported the presence of diesel and oil petroleum in the eastern soil sample (KLTK-2A) and diesel petroleum in the western soil sample (KLTK-1B). The samples were also analyzed by method TPH-D. TPH-D analysis of the eastern soil sample (KLTK-2A) reported the concentrations of diesel petroleum at 170 ppm and oil petroleum at 290 ppm. TPH-D analysis of the western soil sample (KLTK-2B) reported the concentrations of diesel petroleum at 170 ppm and oil petroleum at 75 ppm.

TPH-HCID analyses of the samples collected from the 10,000 gallon diesel tank excavation detected no concentrations of petroleum contamination in either of the samples (KLTK-3A and KLTK-3B).

Table 1

Analysis of Soil Samples after UST Removal

Sample ID	Location	Depth	HCID	Gas	Diesel	Oil
KLTK-1A	southern	9'	Gas, Oil	150	59	490
KLTK-1B	northern	9'	ND	--	--	--
KLTK-2A	eastern	6'	Diesel, Oil	--	170	290
KLTK-2B	western	6'	Diesel	--	170	75
KLTK-3A	northern	11	ND	--	--	--
KLTK-3B	southern	11	ND	--	--	--

Results are reported in mg/kg or parts per million (ppm).
ND means not detected at or above the test method detection limit.

The locations of soil samples collected following removal of the tanks are presented in Figure No. 3. Copies of the laboratory results are presented in Appendix B of this report.

Contaminated Soil Cleanup

On October 5, 1998, approximately 40 tons of petroleum contaminated soil was excavated from the gasoline tank excavation. The contaminated soil was transported to Marion County Soil Recycling Facility for recycling. The recycling facility is located at 17827 Whitney Lane NE, in Woodburn, Oregon.

After the removal of the petroleum contamination, two soil samples were collected from the excavation to verify cleanup of petroleum contaminated soil. The soil samples were analyzed by method TPH-G and by method TPH-D. TPH-G and TPH-D analyses reported no concentrations of petroleum contamination at or above the test method detection limit.

Table 2

Analysis of Soil Samples after PCS Removal

Sample No.	Location	Depth	TPH-G	TPH-D
EXC-1	floor	14'	ND	ND
EXC-2	wall	11.5'	ND	ND

Results are reported in mg/kg or parts per million (ppm).
ND means not detected at or above the test method detection limit.

A map showing soil sample locations following the removal of the petroleum contaminated soils are presented in Figure No. 4. Copies of the laboratory results are presented in Appendix B of this report. Copies of the contaminated soil recycling receipt are presented in Appendix C of this report.

Site Description

The address for the site is 33532 South Kropf Road in Molalla, Oregon. The site is located approximately six miles east of Molalla, Oregon. The site consists of multiple building situated on the property that are associated with a lumber company. The 2,000 gallon gasoline tank and the 1,000 gallon diesel tank were located north of the office. The 10,000 gallon diesel tank was located south of the wood dryer building.

The subject site is located in Township 5 South, Range 1 East, Section 21, of the Willamette Baseline and Meridian. The surface topography in the area is relatively flat with a gradual downward slope towards the west. Surface elevation at the site is approximately 180 feet above mean sea level. The largest surface body of water is a pond located on the subject property. Rock Creek is located approximately immediately north of the pond.

Geology

Soil at the site is classified by the USDA Soil Conservation Service as the Aloha-Woodburn Associations. The vicinity of the subject site, the Aloha silt loam has a high intensity of mapping. The Aloha silt loam consists of somewhat poorly drained and moderately well drained soils that have formed in stratified glaciolacustrine deposits. The soils have a slope of 3 to 6 percent. Permeability is moderately slow. Runoff is slow, and erosion is not a hazard or is a slight hazard. The water table is near the surface during the winter and spring. Soil encountered at the site consisted of clays.

Sampling Methodology

Soil samples were logged according to geologic and Unified Soil Classification guidelines established by the American Society for Testing and Materials (ASTM). Visual and olfactory indications of petroleum hydrocarbon contamination were also noted and logged for each sample.

Clean, disposable polyethylene gloves were worn for the collection of each discrete sample. The soil sample was transferred into a laboratory-cleaned, eight-ounce, clear glass, wide-mouth jar fitted with a Teflon-lined screw cap, with an appropriate label. The sample containers were supplied by an independent analytical laboratory and were cleaned to EPA standards. The sample containers were filled to the maximum capacity to minimize head space and potential volatile losses if any. The samples were immediately placed into a cooler with ice following sample collection.

The sampling was carried out according to the ODEQ recommended protocols and proper chain-of-custody procedures. The soil samples remained in cool storage until delivered for analysis to Environmental Services Laboratory, Inc., located at 17400 SW Upper Boones Ferry Road, Suite 270 in Portland, Oregon.

Soil Matrix Evaluation

The site qualifies for the Numeric Soil Cleanup Standard as defined by the Oregon Administrative Rules. Using the Matrix Evaluation the Kropf Lumber Company, Inc., site scores a 31, designating it as a Level 2 site. The cleanup standard for a Level 2 site is 80 ppm for gasoline contaminated soil and 500 ppm for diesel and oil contaminated soil. An explanation for each of the site-specific parameters in the Matrix Evaluation is provided below.

Depth to Groundwater

According to the Soil Survey of Clackamas County Area, Oregon by USDA Soil Conservation Service, a high water table is near the surface in the vicinity of the site during the winter and spring. When the depth to groundwater is less than 25 feet, the parameter score is 10.

Mean Annual Precipitation

No meteorological station is present in the Molalla, according to the Oregon State Climatologist. The annual precipitation of the Molalla area is 40 to 45 inches, as described by the Soil Conservation Service. When the mean annual rainfall is between 20 and 45 inches per year, the parameter score is 5.

Native Soil Type

The soil encountered during the excavation activities consisted of clay having a low to moderate permeability and a high plasticity. Under the Matrix evaluation the parameter score for such soils is 1.

Sensitivity of Uppermost Aquifer

The source of drinking water for the area of the site is from groundwater wells. The degree of communication between the uppermost aquifer and the aquifer associated with the drinking water wells is unknown, this parameter was evaluated conservatively and the score assigned this parameter is 10, which is reserved for a sole source aquifer.

Potential Receptors

Examination of well logs for Township 5 South, Range 1 East, Section 21 from the Oregon Department of Water Resources in Salem, Oregon. The examination revealed 9 logs for domestic wells and 2 logs for irrigation wells. One domestic well and one irrigation well have been installed at the subject property. Since no information regarding the degree of communication between the uppermost aquifer and the water-bearing zones below that aquifer, this parameter was evaluated conservatively and the people served by these wells considered at risk as potential receptors. Thus, the combination of the distance (near) and number of potential receptors (few) qualifies the site for the medium score of 5.

Summary

On September 14, 1998, one 2,000 gallon gasoline tank, one 1,000 gallon diesel and one 10,000 gallon diesel tank were removed from the Kropf Lumber Company, Inc., site. The site is located at 33532 Kropf Road, in Molalla, Oregon. The tanks were observed to be in fair condition. Petroleum contaminated soil was observed in the gasoline tank excavation at a depth of nine feet. No visual of olfactory evidence of petroleum contamination was observed in either of the diesel tank excavations. Groundwater was not observed in the tank excavations.

Two soil samples were collected from the bottom of the 2,000 gallon gasoline tank excavation for analyses. Each soil sample was analyzed for petroleum contamination by method TPH-HCID. TPH-HCID analysis of the soil sample collected from the northern end of the excavation, indicated that no concentration of petroleum contamination was detected. TPH-HCID analysis of the soil sample collected from the southern end of the excavation, reported the presence of gasoline and oil petroleum contamination. Additional analyses of the sample reported the concentrations of petroleum in the gasoline range at 150 ppm, the diesel range at 59 ppm, and the oil range at 490 ppm.

Two soil samples were collected from the bottom of the 1,000 gallon diesel tank excavation for analyses. Each soil sample was analyzed for petroleum contamination by method TPH-HCID. TPH-HCID analysis of each sample indicated the presence of diesel petroleum contamination. Additional analyses reported the concentrations of petroleum in the diesel range at 170 ppm, and the oil range at 290 ppm in one sample, and the diesel range at 170 ppm, and the oil range at 75 ppm in the other sample.

Two soil samples were collected from the bottom of the 10,000 gallon diesel tank excavation for analyses. Each soil sample was analyzed for petroleum contamination by method TPH-HCID. TPH-HCID analysis of the soil samples indicated that no concentrations of petroleum contamination were detected.

Petroleum contaminated soil at the site qualifies for the ODEQ Soil Matrix evaluation. Using the Matrix Evaluation the Kropf Lumber Company, Inc., site scores a 31, designating it as a Level 2 site. The cleanup standard for a Level 2 site is 80 ppm for gasoline contaminated soil and 500 ppm for diesel or oil contaminated soil.

Based on the ODEQ Soil Matrix evaluation for the Kropf Lumber Company, Inc., site the petroleum contaminated soil discovered below the southern end of the gasoline tank was above the cleanup requirement. Laboratory analysis of the soil samples collected from the diesel tank excavation reported concentration of petroleum below the cleanup requirement.

Approximately 40 tons of petroleum contaminated soil was excavated from the southern end of the gasoline tank excavation. The contaminated soil removed from excavation was transported for recycling to Marion County Soil Recycling Facility located in Woodburn, Oregon. After the removal of the contaminated soil, samples were collected from the excavation to verify cleanup. Laboratory analyses of the soil samples reported no concentrations of petroleum contamination by methods TPH-G and TPH-D.

Reported concentrations of petroleum contaminated soils remaining at the site are below the cleanup level established using the ODEQ Soil Matrix evaluation. At this time no apparent threat exists to the environment or public health from the petroleum release at the Kropf Lumber Company, Inc., site. Based on the information obtained at this time, EIC recommends that no additional investigation or cleanup of the site is warranted.

References

Site Location;

Kropf Lumber Company, Inc.
33532 South Kropf Road
Molalla, Oregon 97038

Maps Used;

USGS Topographic Quadrangle: Scotts Mills, Oregon, 7.5 Minute Series, Photo-revised 1985
USGS Topographic Quadrangle: Yoder, Oregon, 7.5 Minute Series, Photo-revised 1985

Interviews;

Mr. Ivan Kropf, Kropf Lumber Company, Inc.
Mr. Paul Anderson, Anderson Backhoe Service
Mr. John Ruddick, Environmental Health Management, Inc.
Oregon State Climatologist

Regulatory Sources; Oregon Department of Environmental Quality:

UST Cleanup Manual: Cleanup Rules for Leaking Petroleum UST Systems and Numeric Soil Cleanup Levels for Motor Fuel and Heating Oil and Associated Guidance Documents. Prepared by State of Oregon, Department of Environmental Quality, UST Cleanup Section.

Quality Assurance Project Plan Guideline For the State of Oregon Leaking Underground Storage Tank (LUST) Program, Prepared by State of Oregon, Department of Environmental Quality.

Other Sources;

USDA Soil Conservation Service, Soil Survey of Clackamas County, September 1972.

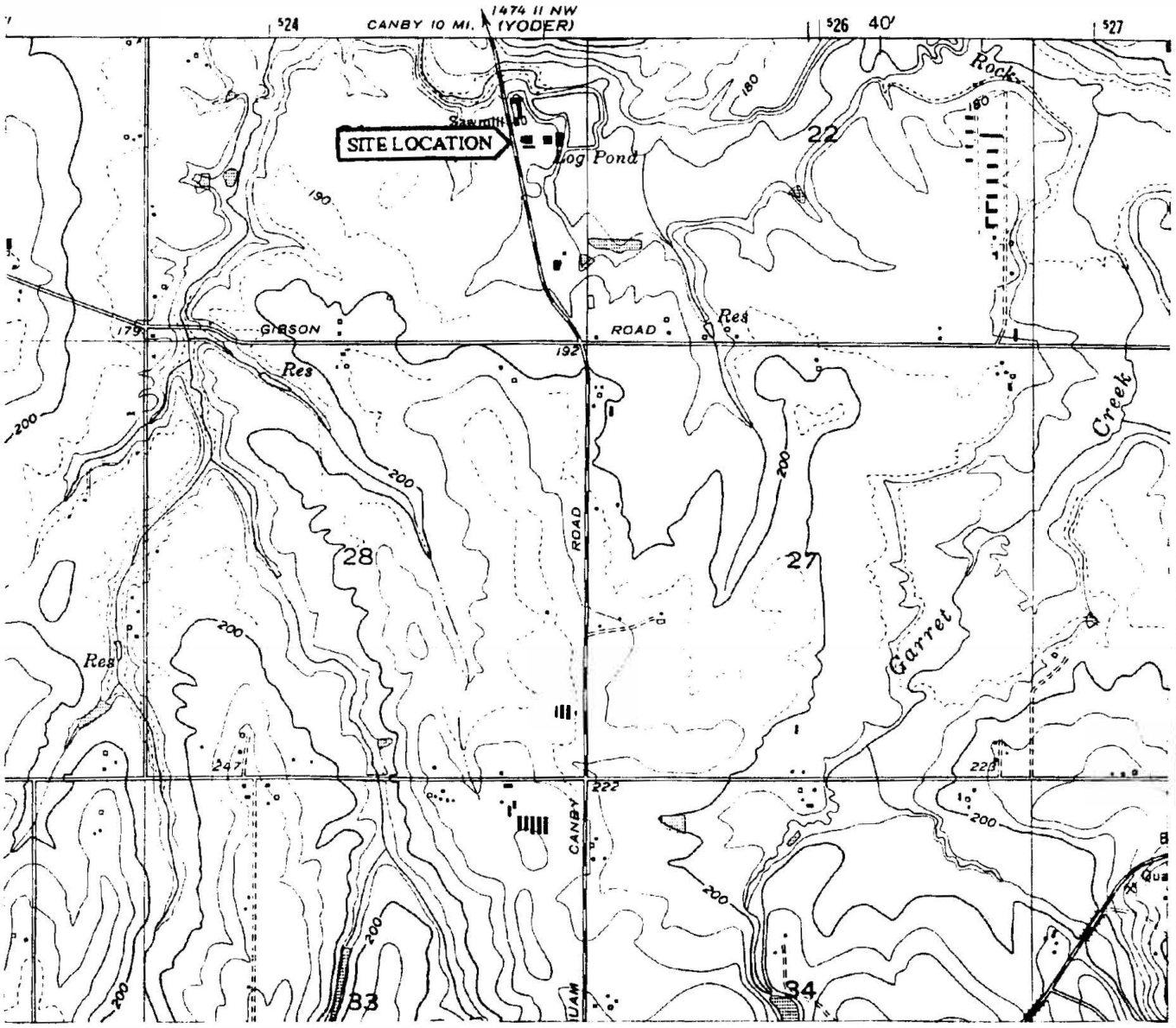


Figure No: 1 Site Location Map

BASE: Portions of U.S. Geological Survey Map
7.5 Minute Series of Scotts Mills Quadrangle, Oregon.
Scale: 1:24,000 Contour Interval = 20 feet

N

EIC Environmental Investigation Corporation	Kropf Lumber Company, Inc. 33532 South Kropf Road Molalla, OR 97038
Proj No: 4555 | Date: 10-12-98	

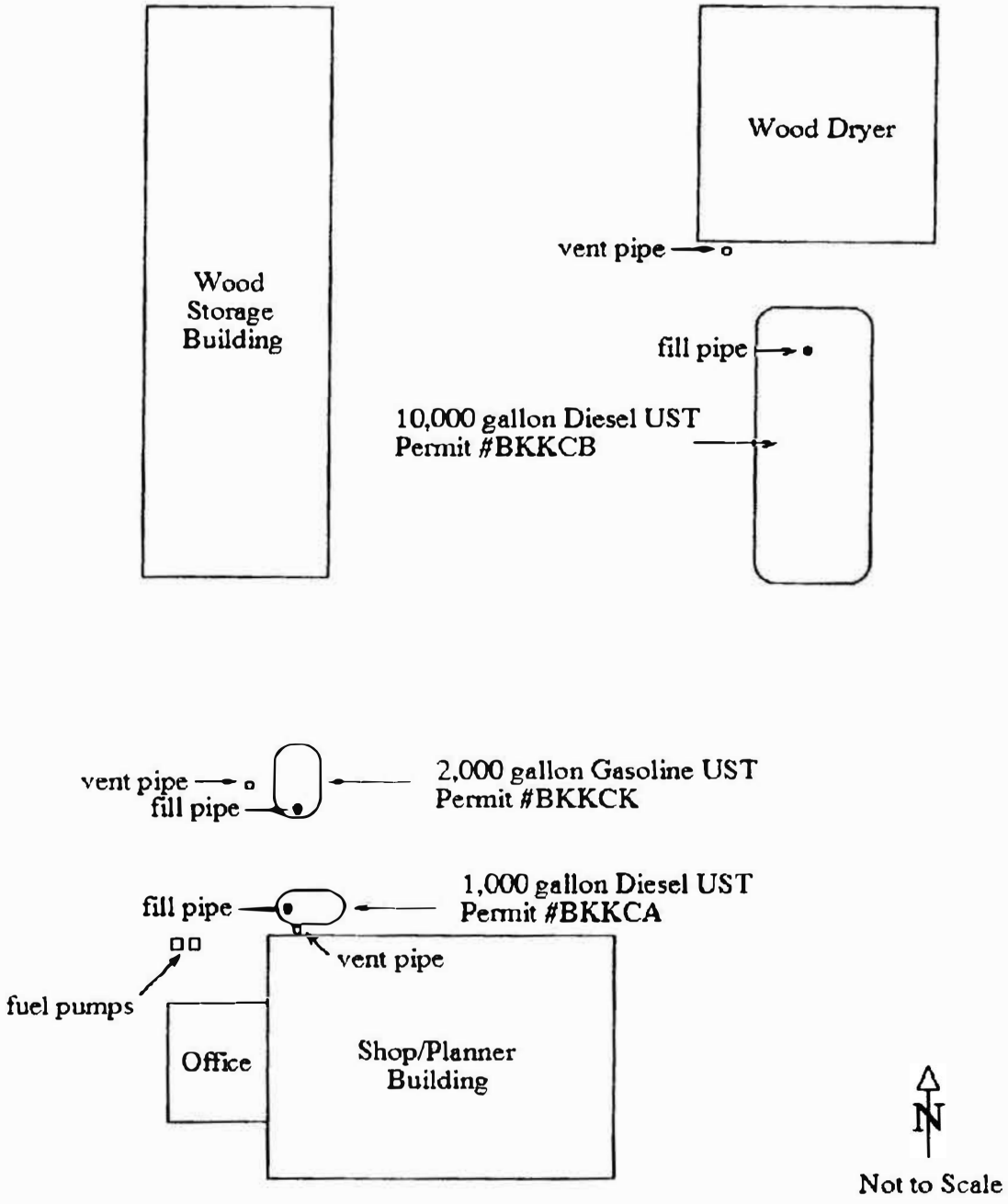


Figure No: 2 UST Location Map

EIC Environmental Investigation Corporation	
Proj No: 4555	Date: 10-12-98

Kropf Lumber Company, Inc.
33532 South Kropf Road
Molalla, OR 97038

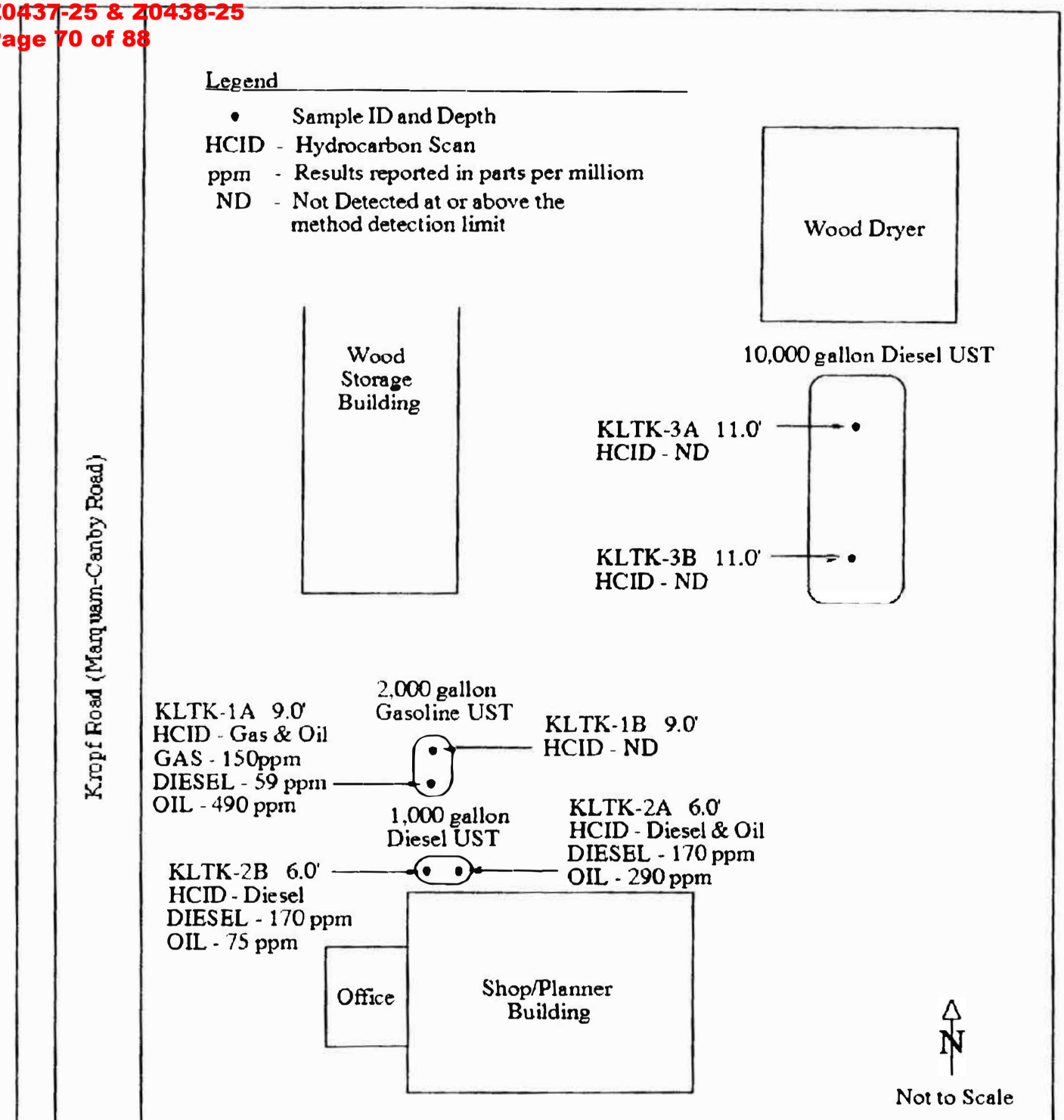
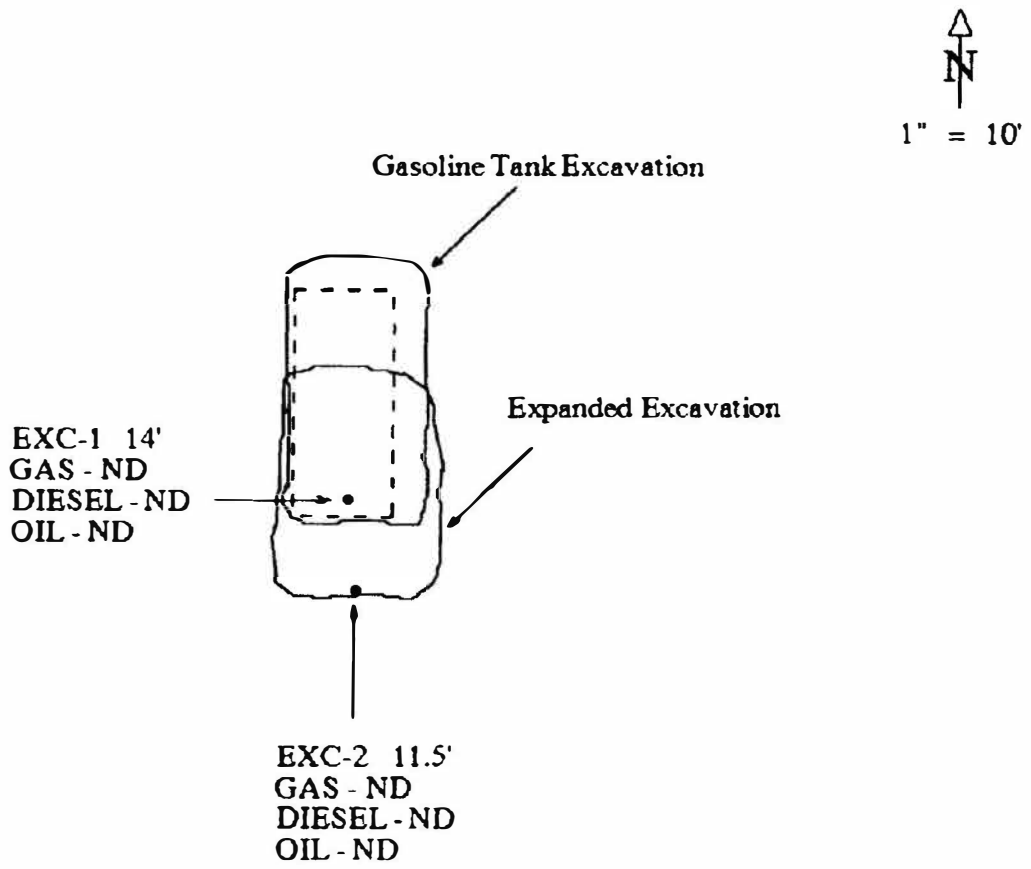


Figure No: 3 Soil Sample Location Map

EIC Environmental Investigation Corporation	**Kropf Lumber Company, Inc.** **33532 South Kropf Road** **Molalla, OR 97038**
Proj No: 4555 | **Date: 10-12-98**	



Legend

- • Sample ID and Depth
- ND Not Detected at or above the method detection limit

Former Diesel Tank Excavation

Building

Figure No: 4 Soil Sample Location Map

EIC Environmental Investigation Corporation	**Kropf Lumber Company, Inc.** **33532 South Kropf Road** **Molalla, OR 97038**
Proj No: 4555 | **Date: 10-13-98**	

OIL RE-REFINING CO., INC.

701 Bozarth
P.O. Box 1407
Woodland, WA 98674
EPA # WAD 980986812

24 Hour Emergency
(583) 286-8352
~~1-800-367-8894~~

ID# 7850

No. 65386

Cust. I.D. ~~7850~~

Call Back

Generator Kraft Lumber Date 9-10-98
33532 S Hayford Mt Hood OR 651-2551
Address City State Zip Phone

Consigned To: Evergreen Processors of the Pacific NW
Destination: 4150 N Suttle Rd Portland OR
Via Carrier: OIL REFINING CO
Driver: Tod Truck No.: 0159 Miles Run:

Billing Address
ABS
P.O. Box 289 97387
Silverton OR
Profile Date: 9-10-98
CK# P.O.#
Load Ticket # 982354

Gallons	Description	Weight	Rate Per Gallon	Rate Per Hour	Charge Paid
	COMBUSTIBLE LIQUID NOS NA 1993 III				
1210	DIESEL		.10		121.00
5hrs	Forklift Time		5/hr		302.50
	TRANSPORT TO RECYCLE				
	Total				423.50

Customer warrants that the waste petroleum products being transferred by the above collector do not contain any contaminants including, without limitation, pesticides, chlorinated solvents at concentrations greater than 1000 PPM, PCB's at greater concentrations greater than 2 PPM (or 50 PPM with Manifest), or any other material classified as hazardous waste by 40 CFR part 261, Subparts C and D (implementing the Federal Resource Conservation and Recovery Act) or by any equivalent State hazardous waste or hazardous substance classification program. Should laboratory tests find this waste product not in compliance with 40 CFR Part 261, customer (generator) agrees to pay for "disposal" costs incurred.

OIL RE-REFINING CO., INC.

701 Bozarth
P.O. Box 1407
Woodland, WA 98674
EPA # WAD 980984012

24 Hour Emergency
(503) 286-8352
1-800-367-8894

No. 65383

Cust. I.D. _____

Call Back _____

Generator: Kruft Lumber Date: 9-9-98

33532 Kruft Rd Mollala OR 97038 873-6496
Address City State Zip Phone

Consigned To: Fuel Processors OR# 980675682

Destination: 4150 N Suttle Rd Portland OR

Via Carrier: OLR Refining Co

Driver: [illegible] Truck No.: 0157 Miles Run:

Billing Address
ABS Co
P.O. Box 289
Silverton OR

Profile Date: 9-9-98

CK# P.O.#

Load Ticket # 982336

Gallons	Description	Weight	Rate Per Gallon	Rate Per Hour	Charge Paid
1650	COMBUSTIBLE LIQUID NOS NA 1993 III		10		165.00
	DIESEL				
					247.50
45	hours trucking from UST to Decanter				
	from pit to Rack				
	Total				412.50

Customer warrants that the waste petroleum products being transferred by the above collector do not contain any contaminants including, without limitation, pesticides, chlorinated solvents at concentrations greater than 1000 PPM, PCB's at greater concentrations greater than 2 PPM (or 50 PPM with Manifest), or any other material classified as hazardous waste by 40 CFR part 261, Subparts C and D (implementing the Federal Resource Conservation and Recovery Act) or by any equivalent State hazardous waste or hazardous substance classification program. Should laboratory tests find this waste product not in compliance with 40 CFR Part 261, customer (generating) agrees to pay for all disposal costs incurred.

SCHNITZ[redacted]ODUCTS PORTLAND CHECK # 782161

08:07 : ANDERS[redacted]ACKHOE SERVICE

DATE	[redacted]	NET WEIGHT	PRICE	AMOUNT
7 SEP 98	103-00 UNPREPARED	7.370	$12.00/NT	$88.44
	GROSS lb: 45340 TARE lb: 30600 NET lb: 14740			
			CHECK TOTAL:	$88.44

750001

Environmental Services Laboratory, Inc. E S L

17400 SW Upper Boones Ferry Road • Suite 270 • Portland, OR 97224 • (503) 670-8520

John Ruddick
Environmental Health Mgmt.
PO Box 1746
Lake Oswego, OR 97035

Date: 09/21/1998
ESL Account No.: 90370
ESL Job Number: 98.01821

Project: KROFF
Location:

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample Number	Sample Description	Matrix Type	Date Taken	Date Received
105814	KLTK-1A	SOIL	09/14/1998	09/14/1998
105815	KLTK-1B	SOIL	09/14/1998	09/14/1998
105816	KLTK-2A	SOIL	09/14/1998	09/14/1998
105817	KLTK-2B	SOIL	09/14/1998	09/14/1998
105818	KLTK-3A	SOIL	09/14/1998	09/14/1998
105819	KLTK-3B	SOIL	09/14/1998	09/14/1998

Approved by:

Andi Hoevet
Project Manager
ESL, INC.

Technical Review
ESL, INC.

The results from these samples relate only to the items tested. This report shall not be reproduced, except in full, without the written approval of the laboratory.

ANALYTICAL SERVICES FOR THE ENVIRONMENT

ANALYTICAL REPORT

John Ruddick
Environmental Health Mgmt.
PO Box 1746
Lake Oswego, OR 97035

09/21/1998
Job No.: 98.01821

Page: 2

Project Name: KROFF
Date Received: 09/14/1998

Sample Number 105814 Sample Description KLTK-1A

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	74	0.01	%	09/16/1998	
TPH-G (S) PREP		-			09/17/1998	
NWTPH-Dx (S) Prep	NWTPH-Dx	-			09/16/1998	
NWTPH-Dx (S)						
Dilution Factor	NWTPH-Dx	1			09/18/1998	
Diesel Range Organics C10-C28	NWTPH-Dx	59.	30.	mg/kg d	09/18/1998	B1
Heavy Oil Range C28-C32	NWTPH-Dx	430	68.	mg/kg d	09/18/1998	
NWTPH-HCID (S) Prep	NWTPH-HCID	-			09/15/1998	
NWTPH-HCID (S)						
Gas Range Organics C7-C12	NWTPH-HCID	GAS	37.	mg/kg d	09/15/1998	
Diesel Range Organics C12-C24	NWTPH-HCID	ND	68.	mg/kg d	09/15/1998	
Heavy Oil Range (>C24)	NWTPH-HCID	OIL	140	mg/kg d	09/15/1998	
NWTPH-Gx (S)						
Dilution Factor	NWTPH-Gx	10			09/21/1998	
Gas Range Organics C7-C12	NWTPH-Gx	150	68.	mg/kg d	09/21/1998	

Sample Number 105815 Sample Description KLTK-1B

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	73	0.01	%	09/16/1998	
NWTPH-HCID (S) Prep	NWTPH-HCID	-			09/15/1998	
NWTPH-HCID (S)						
Gas Range Organics C7-C12	NWTPH-HCID	ND	37.	mg/kg d	09/15/1998	
Diesel Range Organics C12-C24	NWTPH-HCID	ND	68.	mg/kg d	09/15/1998	
Heavy Oil Range (>C24)	NWTPH-HCID	ND	140	mg/kg d	09/15/1998	

Sample Number 105816 Sample Description KLTK-2A

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	78	0.01	%	09/16/1998	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

ANALYTICAL REPORT

John Ruddick
Environmental Health Mgmt.
PO Box 1746
Lake Oswego, OR 97035

09/21/1998
Job No.: 98.01821

Page: 3

Project Name: KROFF
Date Received: 09/14/1998

Sample Number 105016 Sample Description KLTK-2A

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
NWTPH-Dx (S) Prep	NWTPH-Dx	-			09/18/1998	
NWTPH-Dx (S)						
Dilution Factor	NWTPH-Dx	1			09/18/1998	
Diesel Range Organics C10-C28	NWTPH-Dx	170	19.	mg/kg d	09/18/1998	
Heavy Oil Range C28-C32	NWTPH-Dx	290	64.	mg/kg d	09/18/1998	
NWTPH-HCID (S) Prep	NWTPH-HCID	-			09/15/1998	
NWTPH-HCID (S)						
Gas Range Organics C7-C12	NWTPH-HCID	ND	26.	mg/kg d	09/15/1998	
Diesel Range Organics C12-C24	NWTPH-HCID	DIESEL	66.	mg/kg d	09/15/1998	
Heavy Oil Range (>C24)	NWTPH-HCID	OIL	130	mg/kg d	09/15/1998	

Sample Number 105017 Sample Description KLTK-2B

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	76	0.01	%	09/16/1998	
NWTPH-Dx (S) Prep	NWTPH-Dx	-			09/18/1998	
NWTPH-Dx (S)						
Dilution Factor	NWTPH-Dx	1			09/18/1998	
Diesel Range Organics C10-C28	NWTPH-Dx	170	20	mg/kg d	09/18/1998	
Heavy Oil Range C28-C32	NWTPH-Dx	75.	66.	mg/kg d	09/18/1998	
NWTPH-HCID (S) Prep	NWTPH-HCID	-			09/15/1998	
NWTPH-HCID (S)						
Gas Range Organics C7-C12	NWTPH-HCID	ND	26.	mg/kg d	09/15/1998	
Diesel Range Organics C12-C24	NWTPH-HCID	DIESEL	66.	mg/kg d	09/15/1998	
Heavy Oil Range (>C24)	NWTPH-HCID	ND	130	mg/kg d	09/15/1998	

Sample Number 105018 Sample Description KLTK-3A

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	86	0.01	%	09/16/1998	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

ANALYTICAL REPORT

John Ruddick
Environmental Health Mgmt.
PO Box 1746
Lake Oswego, OR 97035

09/21/1998
Job No.: 98.01821

Page: 4

Project Name: KROFF
Date Received: 09/14/1998

Sample Number 105818 Sample Description XLTX-3A

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
NWTPH-HCID (S) Prep	NWTPH-HCID	-			09/15/1998	
NWTPH-HCID (S)						
Gas Range Organics C7-C12	NWTPH-HCID	ND	20.	mg/kg d	09/15/1998	
Diesel Range Organics C12-C24	NWTPH-HCID	ND	60.	mg/kg d	09/15/1998	
Heavy Oil Range (>C24)	NWTPH-HCID	ND	120	mg/kg d	09/15/1998	

Sample Number 105819 Sample Description XLTX-3B

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	80	0.01	%	09/16/1998	
NWTPH-HCID (S) Prep	NWTPH-HCID	-			09/15/1998	
NWTPH-HCID (S)						
Gas Range Organics C7-C12	NWTPH-HCID	ND	25.	mg/kg d	09/15/1998	
Diesel Range Organics C12-C24	NWTPH-HCID	ND	62.	mg/kg d	09/15/1998	
Heavy Oil Range (>C24)	NWTPH-HCID	ND	120	mg/kg d	09/15/1998	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

Sent By: Environmental Health Management; 503 557 7659; Oct-16-98 14:35; Page 1/2

American Environmental Network

CHAIN OF CUSTODY

Company: EHM
Project Manager: JOHN RUDDICK
LABORATORY #
Address: PO Box 1746, LAKE OSWEGO, OR 97035
Phone: 557-7659 Fax: 557-7659

☐ AEN Disposal @ $5.00 each ☐ Return

				PETROLEUM HYDROCARBONS										ORGANICS								INORGANICS			TCLP			
				TPH-HCID Stoddard DRO/HFK	TPH-D Stoddard OR/WA	TPH-D Diesel OR/WA	TPH-418.1 Stoddard OR/WA	EPA 418.1	8015M	8020M - BETX only	8310 HPLC PAHs	8270 SIMS PAHs	8010 Halogenated VOCs	8020 Aromatic VOCs	8040 Phenols	8240 GC/MS Volatiles	8270 GC/MS Semivolatiles	8080 OC Pesticides/PCBs	8080m PCBs only	RCRA Metals (8)	Priority Pollutant Metals (13)	Metals:	TCLP Metals (8)	TCLP Volatiles 8240 24-EXT	TCLP Semivolatiles 8270				
KLTK-1A	9/14/98	1030	SOIL	X																								
-1B		1015		X																								
-2A		1020		X																								
-2B		1025		X																								
-3A		1040		X																								
-3B		1100		X																								

PROJECT NUMBER:
PROJECT NAME: KROPF
PURCHASE ORDER NUMBER:
ONGOING PROJECT? YES ☐ NO ☐

TOTAL NUMBER OF CONTAINERS: 4
COC SEALS INTACT? Y / N / NA: Y
RECEIVED INTACT? Y / N: Y
RECEIVED COLD? Y /N: Y

TAT: (NORMAL) 2 WKS (RUSH) ☐ 24 HR ☐ 48 HRS ☐ 72 HRS ☐ 1 WK
GREATER THAN 24 HR. NOTICE? YES ☐ NO ☐ (LAB USE ONLY)
SPECIAL INSTRUCTIONS:

Sampled by:
Received via:

Relinquished by:	Relinquished by:	Relinquished by:
Signature: Time: 1500	Signature: Time:	Signature: Time:
Printed Name: Date: 9/14	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Company:
Signature: Time: 1500	Signature: Time:	Signature: Time:
Printed Name: Date: 9/14/98	Printed Name: Date:	Printed Name: Date:
Company:	Company:	AEN, INC.

DISTRIBUTION: White, Canary - AEN • Pink - Originator

To assist us in selecting the proper method:
Which regulation apply: RCRA ___ NPDES Wastewater ___ UST ___ Drinking Water ___ Other ___ None ___

Is this work being conducted for regulatory enforcement action? YES NO
Is this work being conducted for regulatory compliance monitoring? YES NO

AEN, INC. 17400 SW Upper Boones Ferry Rd., Suite 270 Portland, Oregon 97224 • (503) 684-0447 FAX: (503) 620-0983

Environmental Services Laboratory, Inc. E S L

17400 SW Upper Boones Ferry Road • Suite 270 • Portland, OR 97224 • (503) 670-8520

John Ruddick
Environmental Health Mgmt.
PO Box 1746
Lake Oswego, OR 97035

Date: 10/12/1998
ESL Account No.: 90370
ESL Job Number: 98.01947

Project: Kropf Lumber Co.
Location:

Sample analysis in support of the project referenced above has been completed and results are presented on the following pages. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Sample Number	Sample Description	Matrix Type	Date Taken	Date Received
106256	EXC-1	SOIL	10/08/1998	10/08/1998
106257	EXC-2	SOIL	10/08/1998	10/08/1998

Approved by:

Andi Hoevet
Project Manager
ESL, INC.

Technical Review
ESL, INC.

The results from these samples relate only to the items tested. This report shall not be reproduced, except in full, without the written approval of the laboratory.

ANALYTICAL SERVICES FOR THE ENVIRONMENT

ANALYTICAL REPORT

John Ruddick
Environmental Health Mgmt.
PO Box 1746
Lake Oswego, OR 97035

10/12/1998
Job No.: 98.01947

Page: 2

Project Name: Kropf Lumber Co.
Date Received: 10/05/1998

Sample Number 106256 Sample Description EXC-1

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	73	0.01	%	10/08/1998	
TPH-G (S) PREP		-			10/07/1998	
NWTPH-Dx (S) Prep	NWTPH-Dx	-			10/07/1998	
NWTPH-Dx (S)						
Dilution Factor	NWTPH-Dx	5			10/10/1998	
Diesel Range Organics C10-C25	NWTPH-Dx	ND	30	mg/kg d	10/10/1998	
Heavy Oil Range C25-C32	NWTPH-Dx	ND	68.	mg/kg d	10/10/1998	
NWTPH-Gx (S)						
Dilution Factor	NWTPH-Gx	1			10/07/1998	
Gas Range Organics C7-C12	NWTPH-Gx	ND	6.8	mg/kg d	10/07/1998	

Sample Number 106257 Sample Description EXC-2

PARAMETERS	METHODS	RESULTS	REPORT LIMIT	UNITS	DATE ANALYZED	FLAG
Solids, Total	160.3	72	0.01	%	10/08/1998	
TPH-G (S) PREP		-			10/07/1998	
NWTPH-Dx (S) Prep	NWTPH-Dx	-			10/07/1998	
NWTPH-Dx (S)						
Dilution Factor	NWTPH-Dx	1			10/10/1998	
Diesel Range Organics C10-C25	NWTPH-Dx	ND	31.	mg/kg d	10/10/1998	
Heavy Oil Range C25-C32	NWTPH-Dx	ND	69.	mg/kg d	10/10/1998	
NWTPH-Gx (S)						
Dilution Factor	NWTPH-Gx	1			10/07/1998	
Gas Range Organics C7-C12	NWTPH-Gx	ND	6.9	mg/kg d	10/07/1998	

A sample result of ND indicates the parameter was Not Detected at the reporting limit.

Sent By: Environmental Health Management; 503 557 7659; Oct-16-98 14:37; Page 2/2

Environmental Services Laboratory, Inc

CHAIN OF CUSTODY

17400 SW Upper Boones Ferry Road • Suite 270 • Portland, OR 97224 • (503) 670-8520 • FAX (503) 670-9243

Company: EHM — Project Manager: JOHN RUDNICK — LABORATORY #

Address: PO BOX 1746 LAKE OSWEGO OR 97035

Phone: (503) 557-7659 — Fax: 557-7659

SAMPLE DISPOSAL INSTRUCTIONS

ANALYSIS REQUEST

SAMPLE ID	DATE	TIME	MATRIX	LAB ID	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	BTEX only	EPA 8260 PAH	Halogenated VOCs/GCMS	Aromatic VOCs/GCMS	EPA 8260 GCMS Volatiles	EPA GCMS Semivolatiles	EPA 8081 OC Pesticides/PCBs	EPA 8082 PCBs only	RCRA Metals (8)	Priority Pollutant Metals (13)	Metals:	TCLP Metals (8)	TCLP Volatiles EPA 1311 ZHE-EXT	TCLP Semivolatiles EPA 1311	# OF CONTAINERS
EXC-1	[illegible]		Soil			X	X															
EXC-2	[illegible]		Soil			X	X															

PROJECT INFORMATION

PROJECT NAME:

PROJECT NAME/PROJECT #: [illegible] Lumber Co.

PURCHASE ORDER #/BILL TO:

ONGOING PROJECT? YES NO

SAMPLE RECEIPT

TOTAL NUMBER OF CONTAINERS: 2

COC SEALS INTACT? Y/N/NA

RECEIVED INTACT? Y/N

RECEIVED COLD? Y/N

PRIOR AUTHORIZATION REQUIRED FOR RUSH PROJECTS

TAT (CHECK ALL): 2 WKS (STD) 24 HR 48 HRS 72 HRS 1 WK

GREATER THAN 24 HR. NOTICE? YES NO (LAB USE ONLY)

SPECIAL INSTRUCTIONS:

Sampled by: [signature]

Received via:

RELINQUISHED BY: 1.	RELINQUISHED BY: 2.	RELINQUISHED BY: 3.
SIGNATURE: [signature] Time: [illegible]	SIGNATURE: Time:	SIGNATURE: Time:
Printed Name: [illegible] Date: 10/15/98	Printed Name: Date:	Printed Name: Date:
Company:	Company:	Company:
RECEIVED BY: 1.	RECEIVED BY: 2.	RECEIVED BY: (LAB) 3.
Signature: [signature] Time: 1540	Signature: Time:	Signature: Time:
Printed Name: [illegible] Date: 10/15/98	Printed Name: Date:	Printed Name: Date:
Company: [illegible]	Company:	ESL Inc.:

DISTRIBUTION: White, Canary - ESL, Pink - Originator

EXHIBIT 4
Z0437-25 & Z0438-25
Page 86 of 88

USR

MARION COUNTY SOIL RECYCLING FACILITY
SOIL MANIFEST

Project specific generator number: _____ Date of shipment: _____ Manifest number: 4016

TO BE COMPLETED BY CORPORATE HEADQUARTERS

Generator information

COMPANY NAME: Kropf Lumber Co.
STREET/P.O. BOX: 33532 S. Kropf Rd.
CITY/STATE/ZIP: Molalla, OR 97038
USR ACCOUNT #:
CONTACT PERSON: Ivan Kropf
TELEPHONE NUMBER:

Consultant information

COMPANY NAME: Environmental Investigation Corporation
STREET/P.O. BOX: P.O. Box 20864
CITY/STATE/ZIP: Portland, OR 97284
USR ACCOUNT #:
CONTACT PERSON: John Baker
TELEPHONE NUMBER: 503-255-0046

Destination information

NAME: Marion County Soil Recycling Facility
STREET/P.O. BOX: 17827 Whitney Lane N.E.
CITY/STATE/ZIP: Woodburn, Oregon 97071
FORM OF SHIPMENT: ☐ Bulk ☐ Drum*
*If drum, must be labeled as to content

Site of generation

FACILITY NAME: Kropf Lumber Co.
STREET ADDRESS: 33532 S. Kropf Rd.
CITY/STATE/ZIP: Molalla, OR 97038

Transporter information

COMPANY NAME: Anderson's Backhoe Service
STREET/P.O. BOX: P.O. Box 289
CITY/STATE/ZIP: Silverton, OR 97381
USR ACCOUNT #:
CONTACT PERSON: Paul Anderson
TELEPHONE NUMBER: 503-931-3224

Soil information (check the appropriate boxes)

Type of contamination	Cause of contamination
☒ Gasoline	☐ Leaking UST
☒ Diesel	☐ Leaking AST
☐ Waste Oil	☒ Other (specify): UST Decommission
☐ Kerosene	
☐ Other: _____	

TO BE COMPLETED AT FACILITY

Weights

Gross weight: 47280
Tare weight: 20840
Net weight: 26440
SCALE HOUSE SIGNATURE: Oak

Load inspection

INSPECTOR SIGNATURE: Paul Anderson
COMMENTS:

Certifications

Generator's and/or consultant's certification

I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data and Acceptance document completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

NAME: JOHN BAKER, EIC SIGNATURE: [signature] DATE: 10-5-98 TIME LOADED OUT:

Transporter's certification

I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

NAME: A.B.I. Co. SIGNATURE: [signature] DATE: 10/5/98

Facility certification

I acknowledge receipt of the soil outlined in this document except as described below.

NAME: GALEN GRAHM SIGNATURE: [signature] DATE: 10/5/98

FACILITY COMMENTS:

United Soil Recycling
17827 Whitney Lane N.E.
Woodburn, Oregon 97071
Ph. 503-981-9159 Fax. 503-982-1182

USR ACCOUNTING (NUMERIC)

EXHIBIT 4
Z0437-25 & Z0438-25
Page 87 of 88

USR

MARION COUNTY SOIL RECYCLING FACILITY SOIL MANIFEST

Project specific generator number: _____ Date of shipment: _____ Manifest number: 4017

TO BE COMPLETED BY CORPORATE HEADQUARTERS

Generator information

COMPANY NAME: Kropf Lumber Co.
STREET/P.O. BOX: 33532 S. Kropf Rd.
CITY/STATE/ZIP: Molalla, OR 97038
USR ACCOUNT #:
CONTACT PERSON: Ivan Kropf
TELEPHONE NUMBER:

Consultant information

COMPANY NAME: Environmental Investigation Corporation
STREET/P.O. BOX: P.O. Box 20864
CITY/STATE/ZIP: Portland, OR 97294
USR ACCOUNT #:
CONTACT PERSON: John Baker
TELEPHONE NUMBER: 503-255-0046

Destination information

NAME: Marion County Soil Recycling Facility
STREET/P.O. BOX: 17827 Whitney Lane N.E.
CITY/STATE/ZIP: Woodburn, Oregon 97071
FORM OF SHIPMENT: ☐ Bulk ☐ Drum*
*If drum, must be labeled as to content

Site of generation

FACILITY NAME: Kropf Lumber Co.
STREET ADDRESS: 33532 S. Kropf Rd.
CITY/STATE/ZIP: Molalla, OR 97038

Transporter information

COMPANY NAME: Anderson's Backhoe Service
STREET/P.O. BOX: P.O. Box 289
CITY/STATE/ZIP: Silverton, OR 97381
USR ACCOUNT #:
CONTACT PERSON: Paul Anderson
TELEPHONE NUMBER: 503-931-3224

Soil information (check the appropriate boxes)

Type of contamination	Cause of contamination
☒ Gasoline	☐ Leaking UST
☒ Diesel	☐ Leaking AST
☐ Waste Oil	☒ Other (specify):
☐ Kerosene	UST
☐ Other: _____	Decommission

TO BE COMPLETED AT FACILITY

Weights

Gross weight: 47560
Tare weight: 21060
Net weight: 26500
SCALE HOUSE SIGNATURE: Dal

Load inspection

INSPECTOR SIGNATURE: Paul Anderson
COMMENTS:

Certifications

Generator's and/or consultant's certification

I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data and Acceptance document completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

NAME: JOHN BAKER, EIC | SIGNATURE: [signature] EIC | DATE: 10-5-98 | TIME LOADED OUT: 2:00 PM

Transporter's certification

I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

NAME: ABS Co. | SIGNATURE: [signature] | DATE: 10/5/98

Facility certification

I acknowledge receipt of the soil outlined in this document except as described below.

NAME: John Olson | SIGNATURE: [signature] | DATE: 10-5-98
FACILITY COMMENTS:

United Soil Recycling
17827 Whitney Lane N.E.
Woodburn, Oregon 97071
Ph. 503-981-9159 Fax. 503-982-1182

USR ACCOUNTING (NUMERIC)

USR

MARION COUNTY SOIL RECYCLING FACILITY SOIL MANIFEST

Project specific generator number: _____ Date of shipment: _____ Manifest number: 4018

TO BE COMPLETED BY CORPORATE HEADQUARTERS

Generator information

COMPANY NAME: Kropf Lumber Co.
STREET/P.O. BOX: 33532 S. Kropf Rd.
CITY/STATE/ZIP: Molalla, OR 97038
USA ACCOUNT #:
CONTACT PERSON: Ivan Kropf
TELEPHONE NUMBER:

Consultant information

COMPANY NAME: Environmental Investigation Corporation
STREET/P.O. BOX: P.O. Box 20864
CITY/STATE/ZIP: Portland, OR 97294
USA ACCOUNT #:
CONTACT PERSON: John Baker
TELEPHONE NUMBER: 503-255-0046

Destination information

NAME: Marion County Soil Recycling Facility
STREET/P.O. BOX: 17827 Whitney Lane N.E.
CITY/STATE/ZIP: Woodburn, Oregon 97071
FORM OF SHIPMENT: ☐ Bulk ☐ Drum*
*If drum, must be labeled as to content

Site of generation

FACILITY NAME: Kropf Lumber Co.
STREET ADDRESS: 33532 S. Kropf Rd.
CITY/STATE/ZIP: Molalla, OR 97038

Transporter information

COMPANY NAME: Anderson's Backhoe Service
STREET/P.O. BOX: P.O. Box 289
CITY/STATE/ZIP: Silverton, OR 97381
USA ACCOUNT #:
CONTACT PERSON: Paul Anderson
TELEPHONE NUMBER: 503-931-3224

Soil information (check the appropriate boxes)

Type of contamination	Cause of contamination
☒ Gasoline	☐ Leaking UST
☒ Diesel	☐ Leaking AST
☐ Waste Oil	☒ Other (specify): UST Decommission
☐ Kerosene	
☐ Other: _____	

TO BE COMPLETED AT FACILITY

Weights

Gross weight: 47460
Tare weight: 20220
Net weight: 26240
SCALE HOUSE SIGNATURE: [illegible]

Load inspection

INSPECTOR SIGNATURE: Paul Anderson
COMMENTS:

Certifications

Generator's and/or consultant's certification

I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data and Acceptance document completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

NAME: JOHN BAKER EIC | SIGNATURE: [signature] BL EIC | DATE: 10-5-98 | TIME LOADED OUT: 2:[illegible] PM

Transporter's certification

I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

NAME: A/S Co. | SIGNATURE: [signature] | DATE: 10-5-98

Facility certification

I acknowledge receipt of the soil outlined in this document except as described below.

NAME: GALEN GRAHAM | SIGNATURE: [signature] | DATE: 10/5-98

FACILITY COMMENTS:

United Soil Recycling
17827 Whitney Lane N.E.
Woodburn, Oregon 97071
Ph. 503-981-9159 Fax. 503-982-1182

USR ACCOUNTING (NUMERIC)

From: Snuffin, Christian
To: Fritzie, Martha
Subject: RE: [EXTERNAL]RE: Z0437-25 & Z0438-25 - additional materials
Date: Monday, July 27, 2026 1:14:38 PM
Attachments: image002.png

Hi Martha,

I reviewed the AKS Transportation Addendum dated July 24, 2026. I do not have any concerns with the updated analysis.

The addendum resolves the prior square-footage discrepancy by conservatively analyzing up to 100,000 square feet of gross building floor area. This exceeds the building-area figures previously identified in the application materials and does not authorize new building area.

Based on the updated trip generation, operational analysis, and crash review, the transportation system is adequate and will remain adequate with approval of the proposed zone change. The study intersections are projected to continue operating within applicable County and ODOT mobility standards, and the updated safety analysis does not identify a need for transportation mitigation.

I believe the updated analysis satisfies the transportation requirements of ZDO 1202.03(C), ZDO 1202.03(D), and the applicable Transportation Planning Rule requirements, provided the approval continues to include a condition limiting RI use intensity to the existing buildings and/or to trip generation not exceeding the level analyzed in the transportation addendum unless additional transportation analysis is submitted and approved.

Thanks,

Christian Snuffin, PE, Senior Traffic Engineer
Clackamas County | Transportation & Development | Traffic Safety
503-680-5623 (Cell) | 503-742-4716 (Office)
150 Beavercreek Road, Oregon City, OR 97045
Hours: Mon – Thu, 7:00 a.m. – 5:30 p.m.



WERE YOU HAPPY WITH THE SERVICE YOU RECEIVED TODAY?

From: Fritzie, Martha <MFritzie@clackamas.us>
Sent: Wednesday, July 22, 2026 11:01 AM
To: Snuffin, Christian <CSnuffin@clackamas.us>
Subject: RE: [EXTERNAL]RE: Z0437-25 & Z0438-25 - additional materials

Thank you!

Martha Fritzie, Principal Planner
Clackamas County | Transportation & Development | Land Use Planning
(503) 742-4529
150 Beavercreek Road | Oregon City, OR 97045

Hours 7:30am to 6:00pm | Monday – Thursday

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This is not a land use decision as defined by Oregon Revised Statutes 197.015(10).

From: Snuffin, Christian <CSnuffin@clackamas.us>
Sent: Wednesday, July 22, 2026 11:00 AM
To: Fritzie, Martha <MFritzie@clackamas.us>
Subject: RE: [EXTERNAL]RE: Z0437-25 & Z0438-25 - additional materials

Hi Martha, that's no problem. I should be able to turn it around by EOB Monday.

Christian Snuffin, PE, Senior Traffic Engineer
Clackamas County | Transportation & Development | Traffic Safety
503-680-5623 (Cell) | 503-742-4716 (Office)
150 Beavercreek Road, Oregon City, OR 97045
Hours: Mon – Thu, 7:00 a.m. – 5:30 p.m.


WERE YOU HAPPY WITH THE SERVICE YOU RECEIVED TODAY?

From: Fritzie, Martha <MFritzie@clackamas.us>
Sent: Wednesday, July 22, 2026 10:54 AM

To: Snuffin, Christian <CSnuffin@clackamas.us>
Subject: FW: [EXTERNAL]RE: Z0437-25 & Z0438-25 - additional materials

Hi Christian – Please see below. It looks like the applicant is updating the traffic study to model 100K SF on the mill site. I asked them to have it to me before the end of the week because I need to submit the Board hearing packet early next week. To that end – I am hoping you will be able to review the revised traffic study pretty quickly once it is in. Like by the end of the day next Monday?

Sorry for the quick turnaround but please let me know if will be able to review that quickly.

Martha

Martha Fritzie, Principal Planner
Clackamas County | Transportation & Development | Land Use Planning
(503) 742-4529
150 Beavercreek Road | Oregon City, OR 97045

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This is not a land use decision as defined by Oregon Revised Statutes 197.015(10).

From: Spencer Petrauski <Spencer.Petrauski@vf-law.com>
Sent: Wednesday, July 22, 2026 10:46 AM
To: Fritzie, Martha <MFritzie@clackamas.us>
Cc: Andrew Stamp <Andrew.Stamp@vf-law.com>; Sven Schimmel <Sven.Schimmel@vf-law.com>
Subject: Re: [EXTERNAL]RE: Z0437-25 & Z0438-25 - additional materials

Warning: External email. Be cautious opening attachments and

links.

Hi Martha,

Based on the historical records and available site information, AKS is using an estimated total building area of approximately 94,682 square feet for Buildings A through L and N. That estimate includes the lean-to attached to Building A and the covered storage provided by Building E.

To address the County's request, AKS is preparing the traffic-study addendum using a conservative maximum building area of up to 100,000 square feet. The addendum will acknowledge that, for purposes of this rezone, the proposed RI-zoned area is limited to the existing buildings within the identified mill-site boundary.

I will send the addendum as soon as it is complete.

Best,

Spencer Petrauski | Attorney
VF Law | www.vf-law.com
6000 Meadows Road, Suite 500 | Lake Oswego, OR 97035
Direct: 503-498-9769 | Facsimile: 503-598-7758

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Tax Advice Notice: IRS Circular 230 requires us to advise you that if this communication or any attachment contains any tax advice, the advice is not intended to be used and cannot be used for the purpose of avoiding federal tax penalties. A taxpayer may rely on professional advice to avoid federal tax penalties only if the advice is reflected in a comprehensive tax opinion that conforms to stringent requirements.

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Communication" to opt out of further email communication.

From: Fritzie, Martha <MFritzie@clackamas.us>
Sent: Monday, July 20, 2026 6:28 PM
To: Spencer Petrauski <Spencer.Petrauski@vf-law.com>
Cc: Andrew Stamp <Andrew.Stamp@vf-law.com>
Subject: [EXTERNAL]RE: Z0437-25 & Z0438-25 - additional materials

Thank you for the update. That timing should work. What is the verified square footage that you are working with?

Martha Fritzie, Principal Planner

Clackamas County | Transportation & Development | Land Use Planning

(503) 742-4529

150 Beavercreek Road | Oregon City, OR 97045

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This is not a land use decision as defined by Oregon Revised Statutes 197.015(10).

From: Spencer Petrauski <Spencer.Petrauski@vf-law.com>
Sent: Monday, July 20, 2026 5:27 PM
To: Fritzie, Martha <MFritzie@clackamas.us>
Cc: Andrew Stamp <Andrew.Stamp@vf-law.com>
Subject: Re: Z0437-25 & Z0438-25 - additional materials

Warning: External email. Be cautious opening attachments and links.

Hi Martha,

For Z0437-25 and Z0438-25, we have our engineers at AKS preparing the TIA addendum with an update to the building square footages. AKS has confirmed that it can complete the addendum and I can send it to County staff by **Thursday, July 23** or at the latest the morning of **Friday, July 24.**

I will send the addendum to the TIA along with some other materials requested by the Planning Commission during the hearing.

Best,

Spencer

Spencer Petrauski | Attorney

VF Law | www.vf-law.com

6000 Meadows Road, Suite 500 | Lake Oswego, OR 97035

Direct: 503-498-9769 | Facsimile: 503-598-7758

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FDCPA Notice: This communication is from a debt collector attempting to collect a debt. Any information obtained will be used for that purpose. Reply "Stop Email Communication" to opt out of further email communication.

From: Fritzie, Martha <MFritzie@clackamas.us>
Sent: Wednesday, July 15, 2026 1:57 PM
To: Andrew Stamp <Andrew.Stamp@vf-law.com>
Cc: Spencer Petrauski <Spencer.Petrauski@vf-law.com>
Subject: [EXTERNAL]Z0437-25 & Z0438-25 - additional materials

Hi Andrew. I have attached the notice for the proposed Goal 14 exception that we discussed the other day (file Z0182-26 & Z0277-23).

I also wanted to check in on your files (Z0437-25 & Z0438-25). We are on a pretty quick turnaround for the verification of the building square footage and any addendum to the traffic study that may be needed. I need to have my staff report and packet of materials for the Board finished by Monday, July 27th and will need your information before that date. Please let me know when you think you can get the information to me.

And let me know if you have any questions,

Martha

Martha Fritzie, Principal Planner

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