



DAN JOHNSON
DIRECTOR

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
DEVELOPMENT SERVICES BUILDING
150 BEAVERCREEK ROAD OREGON CITY, OR 97045

December 18, 2025

BCC Agenda Date/Item: _____

Board of County Commissioners
Clackamas County

Approval of a Public Improvement Contract with Global Electric, Inc. for the construction of the Clackamas County School Beacon Upgrades Project. Total Contract Value is \$398,795.00 for eleven months. Funding through Community Road Fund. No County General Funds are involved.

Previous Board Action/Review	N/A		
Performance Clackamas	This project supports Strong Infrastructure.		
Counsel Review	Yes	Procurement Review	Yes
Contact Person	Bob Knorr	Contact Phone	503-742-4680

EXECUTIVE SUMMARY: This project will upgrade nine (9) solar-powered school flashing beacons to direct AC power from PGE power poles, which is necessary to improve safety and continuous operation during the school year. When multiple consecutive non-sunny days occur, the solar-powered beacons struggle to maintain adequate power, resulting in unreliable performance. In some cases, the beacons fail to activate due to insufficient energy, creating potential safety risks.

This issue also increases maintenance demands, requiring staff to monitor beacon functionality and replace depleted batteries. These activities add significant life-cycle costs and place a heavy burden on the already limited Traffic Signal Maintenance team. The project will be funded through Community Road Fund, with construction scheduled for completion by November 15, 2026.

PROCUREMENT PROCESS: This project was advertised in accordance with ORS and LCRB Rules on October 2, 2025 through Invitation to Bid 2025-75. Bid Proposals were publicly opened on October 30, 2025, and the County received five (5) bids in response from Global Electric, Inc. for \$398,795.00; Aaken Corporation for \$471,235.00; Colton Homes, Inc. dBA Colton Construction for \$428,800.00; Mill Plain Electric, Inc. for \$464,650.00; and Northstar Electrical Contractors, Inc. for

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\$404,800.00. After review of the Bid Proposals, contracting with Global Electric, Inc. was determined to be the lowest responsive bidder.

RECOMMENDATION: Staff respectfully recommends the Board of County Commissioners approve and sign this public improvement contract with Global Electric, Inc. for the Clackamas County School Beacon Upgrades Project.

Respectfully submitted,

Dan Johnson

Dan Johnson
Director of Transportation & Development



CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT
Contract #0000001555

This Public Improvement Contract (the "Contract") is made by and between the Clackamas County, a political subdivision of the State of Oregon ("Owner"), and **Global Electric, Inc.** ("Contractor"), both collectively referred to as the "Parties". This Contract shall become effective on the date this Contract has been signed by all the Parties and shall expire upon completion the completion of all obligations under the terms of this Contract unless terminated earlier by the Parties.

Project Name: #2025-75 Clackamas County School Beacon Upgrades Project

1. Contract Price, Contract Documents and Work.

The Contractor hereby agrees to perform all the work described in, and reasonably inferred from, the Contract Documents, as further defined below ("Work"). In consideration of the Contractor performing the Work in accordance with the terms of the Contract, the Owner agrees to pay the Contractor an amount not to exceed **Three Hundred Ninety-Eight Thousand Seven Hundred Ninety-Five Dollars (\$398,795.00)** (the "Contract Price"). Payment will be made in accordance with the terms and conditions provided in the Contract Documents. The Contract Price is the amount contemplated by the Base Bid, as indicated in the accepted Bid.

The following documents are incorporated by reference in this Contract and made a part hereof ("Contract Documents"):

- Notice of Contract Opportunity
- Supplemental Instructions to Bidders
- Bid Form
- Prevailing Wage Rates
- Plans, Specifications and Drawings
- Instructions to Bidders
- Bid Bond
- Performance Bond and Payment Bond
- Payroll and Certified Statement Form

The Plans, Specifications and Drawings expressly incorporated by reference into this Contract include, but are not limited to, the Special Provisions for Construction Clackamas County School Beason Upgrades (the "Specifications"), together with the provisions of the Oregon Standard Specifications for Construction (2021) referenced therein.

The Contractor shall comply with the prohibitions set forth in ORS 652.220, compliance of which is a material element of this Contract and failure to comply is a material breach that entitles County to exercise any rights and remedies available under this Contract including, but not limited to, termination for default.

2. Representatives.

Contractor has named Justin Vilendre as its Authorized Representative to act on its behalf. Owner designates, or shall designate, its Authorized Representative as indicted below (check one):

☒ Unless otherwise specified in the Contract Documents, the Owner designates Robert Knorr as its Authorized Representative in the administration of this Contract. The above-named individual shall be the initial point of contact for matters related to Contract performance, payment, authorization, and to carry out the responsibilities of the Owner.

☐ Name of Owner's Authorized Representative shall be submitted by Owner in a separate writing.

3. Key Persons.

The Contractor's personnel identified below shall be considered Key Persons and shall not be replaced during the project without the written permission of Owner, which shall not be unreasonably withheld. If the Contractor intends to substitute personnel, a request must be given to Owner at least 30 days prior to the intended time of substitution. When replacements have been approved by Owner, the Contractor shall provide a transition period of at least 10 working days during which the original and replacement personnel shall be working on the project concurrently. Once a replacement for any of these staff members is authorized, further replacement shall not occur without the written permission of Owner. The Contractor's project staff shall consist of the following personnel:

Project Executive: Justin Vilendre shall be the Contractor's project executive and will provide oversight and guidance throughout the project term.

Project Manager: David Wren shall be the Contractor's project manager and will participate in all meetings throughout the project term.

Job Superintendent: Cody Janzen shall be the Contractor's on-site job superintendent throughout the project term.

Project Engineer: Parker Hoffman shall be the Contractor's project engineer, providing assistance to the project manager, and subcontractor and supplier coordination throughout the project term.

4. Contract Dates.

The Contractor agrees to complete the Work in accordance with the following key dates:

COMMENCEMENT DATE: Upon Issuance of Notice to Proceed ("NTP")

SUBSTANTIAL COMPLETION DATE: September 30, 2026

FINAL COMPLETION DATE: November 15, 2026

Time is of the essence for this Contract. It is imperative that the Work in this Contract reach Substantial Completion and Final Completion by the above specified dates.

5. Insurance Certificates and Required Performance and Payment Bonds.

5.1 In accordance with Section 00170.70 of the Specifications, Contractor shall furnish proof of the required insurance naming Clackamas County as an additional insured. Insurance certificates may be returned with the signed Contract or may be emailed to the Owner's Contract Analyst.

5.2 Primary Coverage: Insurance carried by Contractor under the Contract shall be the primary coverage. The coverages indicated are minimums unless otherwise specified in the Contract Documents.

5.2.1 Workers' Compensation: All employers, including Contractor, that employ subject workers who work under the Contract in the State of Oregon shall comply with ORS 656.017 and provide the required Workers' Compensation coverage, unless such employers are exempt under ORS 656.126. This shall include Employer's Liability Insurance with coverage limits of not less than the minimum amount required by statute for each accident. Contractors who perform the Work without the assistance or labor of any employee need not obtain such coverage if the Contractor certifies so in writing. Contractor shall ensure that each of its Subcontractors complies with these requirements. The Contractor shall require proof of such Workers' Compensation coverage by receiving and keeping on file a certificate of insurance from each Subcontractor or anyone else directly employed by either the Contractor or its Subcontractors.

5.3 Builder's Risk Insurance: During the term of the Contract, for new construction the Contractor shall obtain and keep in effect Builder's Risk insurance on an all risk forms, including earthquake and flood, for an amount equal to the full amount of the Contract, plus any changes in values due to modifications, Change Orders and loss of materials added. Such Builder's Risk shall include, in addition to earthquake and flood, theft, vandalism, mischief, collapse, transit, debris removal, and architect's fees "soft costs" associated with delay of Project due to insured peril. Any deductible shall not exceed \$50,000 for each loss, except the earthquake and flood deductible which shall not exceed 2 percent of each loss or \$50,000, whichever is greater. The deductible shall be paid by Contractor. The policy will include as loss payees Owner, the Contractor and its Subcontractors as their interests may appear.

5.4 Builder's Risk Installation Floater: For Work other than new construction, Contractor shall obtain and keep in effect during the term of the Contract, a Builder's Risk Installation Floater for coverage of the Contractor's labor, materials and equipment to be used for completion of the Work performed under the Contract. The minimum amount of coverage to be carried shall be equal to the full amount of the Contract. The policy will include as loss payees Owner, the Contractor and its Subcontractors as their interests may appear. Owner may waive this requirement at its sole and absolute discretion.

5.4.1 Such insurance shall be maintained until Owner has occupied the facility.

5.4.2 A loss insured under the Builder's Risk insurance shall be adjusted by the Owner and made payable to the Owner as loss payee. The Contractor shall pay Subcontractors their just shares of insurance proceeds received by the Contractor, and by appropriate agreements, written where legally required for validity, shall require Subcontractors to make payments to their Sub-subcontractors in similar manner. The Owner shall have power to adjust and settle a loss with insurers.

5.5 "Tail" Coverage: If any of the required liability insurance is arranged on a "claims made" basis, "tail" coverage will be required at the completion of the Contract for a duration of 36 months or the maximum time period available in the marketplace if less than 36 months. Contractor shall furnish certification of "tail" coverage as described or continuous "claims made" liability coverage for 36 months following Final Completion. Continuous "claims made" coverage will be acceptable in lieu of "tail" coverage, provided its retroactive date is on or before the effective date of the Contract. Owner's receipt of the policy endorsement evidencing such coverage shall be a condition precedent to Owner's obligation to make final payment and to Owner's final acceptance of Work or services and related warranty (if any).

5.6 Notice of Cancellation or Change: If the Contractor receives a non-renewal or cancellation notice from an insurance carrier affording coverage required herein, or receives notice that coverage no longer complies with the insurance requirements herein, Contractor agrees to notify Owner by fax within five (5) business days with a copy of the non-renewal or cancellation notice, or written specifics as to which coverage is no longer in compliance. When notified by Owner, the Contractor agrees to stop Work pursuant to the Contract at Contractor's expense, unless all required insurance remain in effect. Any failure to comply with the reporting provisions of this insurance, except for the potential exhaustion of aggregate limits, shall not affect the coverages provided to the Owner and its institutions, divisions, officers, and employees.

Owner shall have the right, but not the obligation, of prohibiting Contractor from entering the Project Site until a new certificate(s) of insurance is provided to Owner evidencing the replacement coverage. The Contractor agrees that Owner reserves the right to withhold payment to Contractor until evidence of reinstated or replacement coverage is provided to Owner.

5.7 Before execution of the Contract, the Contractor shall file with the Construction Contractors Board, and maintain in full force and effect, the separate public works bond required by Oregon Revised Statutes, Chapter 279C.830 and 279C.836, unless otherwise exempt under those provisions. The Contractor shall also include in every subcontract a provision requiring the Subcontractor to have a public works bond filed with the Construction Contractors Board before starting Work, unless otherwise exempt, and shall verify that the Subcontractor has filed a public works bond before permitting any Subcontractor to start Work.

5.8 When the Contract Price is \$50,000 or more, the Contractor shall furnish and maintain in effect at all times during the Contract Period a performance bond in a sum equal to the Contract Price and a separate payment bond also in a sum equal to the Contract Price. Contractor shall furnish such bonds even if the Contract Price is less than the above thresholds if otherwise required by the Contract Documents.

5.9 Bond forms furnished by the Owner and notarized by Contractor's surety company authorized to do business in Oregon are the only acceptable forms of performance and payment security, unless otherwise specified in the Contract Documents.

6. Responsibility for Damages/Indemnity.

6.1 Contractor shall be responsible for all damage to property, injury to persons, and loss, expense, inconvenience, and delay that may be caused by, or result from, the carrying out of the Work to be done under the Contract, or from any act, omission or neglect of the Contractor, its Subcontractors, employees, guests, visitors, invitees and agents.

6.2 To the fullest extent permitted by law, Contractor shall indemnify, defend (with counsel approved by Owner) and hold harmless the Owner and its elected officials, officers, directors, agents, and employees (collectively "Indemnitees") from and against all liabilities, damages, losses, claims, expenses, demands and actions of any nature whatsoever which arise out of, result from or are related to: (a) any damage, injury, loss, expense, inconvenience or delay described in this Section 6.1; (b) any accident or occurrence which happens or is alleged to have happened in or about the Project Site or any place where the Work is being performed, or in the vicinity of either, at any time prior to the time the Work is fully completed in all respects; (c) any failure of the Contractor to observe or perform any duty or obligation under the Contract Documents which is to be observed or performed by the Contractor, or any breach of any agreement, representation or warranty of the Contractor contained in the Contract Documents or in any subcontract; (d) the negligent acts or omissions of the Contractor, a Subcontractor or anyone directly or indirectly employed by them or any one of them or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss or expense is caused in part by a party indemnified hereunder (except to the extent otherwise void under ORS 30.140); and (e) any lien filed upon the Project or bond claim in connection with the Work. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this Section 6.2.

6.3 In claims against any person or entity indemnified under Section 6.2 by an employee of the Contractor, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under Section 6.2 shall not be limited on amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts.

7. Tax Compliance.

The Contractor shall comply with all federal, state and local laws, regulation, executive orders and ordinances applicable to this Contract. Contractor represents and warrants that it has complied, and will continue to comply throughout the duration of this Contract and any extensions, with all tax laws of this state or any

political subdivision of this state, including but not limited to ORS 305.620 and ORS chapters 316, 317, and 318. Any violation of this section shall constitute a material breach of this Contract and shall entitle Owner to terminate this Contract, to pursue and recover any and all damages that arise from the breach and the termination of this Contract, and to pursue any or all of the remedies available under this Contract or applicable law.

8. Confidential Information.

Contractor acknowledges that it and its employees or agents may, in the course of performing their responsibilities under this Contract, be exposed to or acquire information that is confidential to Owner. Any and all information of any form obtained by Contractor or its employees or agents in the performance of this Contract shall be deemed confidential information of Owner ("Confidential Information"). Contractor agrees to hold Confidential Information in strict confidence, using at least the same degree of care that Contractor uses in maintaining the confidentiality of its own confidential information, and not to copy, reproduce, sell, assign, license, market, transfer or otherwise dispose of, give, or disclose Confidential Information to third parties or use Confidential Information for any purpose unless specifically authorized in writing under this Contract.

9. Counterparts.

This Contract may be executed in several counterparts, all of which when taken together shall constitute an agreement binding on all Parties, notwithstanding that all Parties are not signatories to the same counterpart. Each copy of the Contract so executed shall constitute an original.

10. Integration.

All provisions of state law required to be part of this Contract, whether listed in the Specifications, Contract Documents or otherwise, are hereby integrated and adopted herein. Contractor acknowledges the obligations thereunder and that failure to comply with such terms is a material breach of this Contract.

The Contract Documents constitute the entire agreement between the parties. There are no other understandings, agreements or representations, oral or written, not specified herein regarding this Contract. Contractor, by the signature below of its authorized representative, hereby acknowledges that it has read this Contract, understands it, and agrees to be bound by its terms and conditions.

11. Liquidated Damages

The Contractor acknowledges that the Owner will sustain damages as a result of the Contractor's failure to substantially complete the Project in accordance with the Contract Documents. These damages may include, but are not limited to delays in completion, use of the Project, and costs associated with Contract administration and use of temporary facilities. The liquidated damages amount is not a penalty, but a reasonable estimate of the loss the Owner will suffer. Liquidated damages are set forth in the Contract Documents and may include the following:

11.1 \$500.00 per 15 minutes, or for a portion of 15 minutes, per lane, as set forth in 00180.85. (c).

12. Compliance with Applicable Law. Contractor shall comply with all federal, state, county, and local laws, ordinances, and regulations applicable to the Work to be done under this Contract including, but not limited to, compliance with the prohibitions set forth in ORS 652.220, compliance of which is a material element of this Contract and failure to comply is a material breach that entitles County to exercise any rights and remedies available under this Contract including, but not limited to, termination for default.

13. Responsibility for Taxes. Contractor is solely responsible for payment of any federal, state, or local taxes required as a result of the Contract or the Work including, but not limited, to payment of the corporate activity

tax imposed under enrolled HB 3427 (2019 Oregon regular legislative session). Contractor may not include its federal, state, or local tax obligations as part of the cost to perform the Work.

14. Escrow and Retainage. If retainage is withheld, unless the Contractor requests and the Owner accepts a form of retainage permitted under ORS 279C.560, the Owner will deposit the retainage in an interest-bearing escrow account as required by ORS 279C.570(2). The Contractor shall execute such documentation and instructions respecting the interest-bearing escrow account as the Owner may require to protect its interests, including but not limited to a provision that no funds may be paid from the account to anyone without the Owner's advance written authorization.

15. No Attorney Fees. In the event any arbitration, action or proceeding, including any bankruptcy proceeding, is instituted to enforce any term of this Contract, each party shall be responsible for its own attorneys' fees and expenses.

In witness whereof, Owner executes this Contract and the Contractor does execute the same as of the day and year first above written.

Contractor DATA:

Global Electric, Inc.

32480 NW Cottage Street

North Plains, Oregon 97133

Contractor CCB # 156838 Expiration Date: 8/28/2027

Oregon Business Registry # 161805-98 Entity Type: DBC

State of Formation: Oregon

Payment information will be reported to the IRS under the name and taxpayer ID# provided by the Contractor. Information must be provided prior to contract approval. Information not matching IRS records could subject Contractor to 28 percent backup withholding.

Global Electric, Inc.

Clackamas County

Justin Vilendre

12/3/2025

Authorized Signature

Date

Chair

Date

Justin Vilendre / Operations Manager

Name / Title Printed

Recording Secretary

Approved for Legal Sufficiency:

Amanda Kell
County Counsel

12/10/2025

Date



CLACKAMAS COUNTY PUBLIC IMPROVEMENT CONTRACT OPPORTUNITY

Table of Contents

Section B-1.....	Notice of Public Improvement Contract Opportunity
Section B-2.....	Instructions to Bidders
Section B-3.....	Supplemental Instructions to Bidders
Section B-4.....	Bid Bond
Section B-5.....	Bid Form
Section B-6.....	Public Improvement Contract
Section B-7.....	Supplemental General Conditions
Section B-8.....	General Conditions
Section B-9.....	Performance Bond
Section B-10.....	Payment Bond
Section B-11.....	Project Information, Plans, Specifications and Drawings



**CLACKAMAS COUNTY
NOTICE OF PUBLIC IMPROVEMENT CONTRACT OPPORTUNITY**

**INVITATION TO BID #2025-75
Clackamas County School Beacon Upgrades Project
October 2, 2025**

Clackamas County ("County") through its Board of County Commissioners is accepting sealed bids for the **Clackamas County School Beacon Upgrades Project** until **October 30, 2025, 2:00 PM**, Pacific Time, ("Bid Closing") at the following location:

Bidding Documents can be downloaded from the state of Oregon procurement website ("OregonBuys") at the following address: <https://oregonbuys.gov/bsa/view/login/login.xhtml>, Document No.S-C01010-00015071.

Prospective Bidders will need to sign in to download the information and that information will be accumulated for a Plan Holder's List. Prospective Bidders are responsible for obtaining any Addenda from Website listed above.

Submitting Proposals: Bid Locker

Proposals will only be accepted electronically thru a secure online bid submission service, **Bid Locker**. *Email submissions to Clackamas County email addresses will no longer be accepted.*

- A. Completed proposal documents must arrive electronically via Bid Locker located at <https://bidlocker.us/a/clackamascountry/BidLocker>.
- B. Bid Locker will electronically document the date and time of all submissions. Completed documents must arrive by the deadline indicated in Section 1 or as modified by Addendum. **LATE PROPOSALS WILL NOT BE ACCEPTED.**
- C. Proposers must register and create a profile for their business with Bid Locker in order to submit for this project. It is free to register for Bid Locker.
- D. Proposers with further questions concerning Bid Locker may review the Vendor's Guide located at <https://www.clackamas.us/how-to-bid-on-county-projects>.

Engineers Estimate: \$482,560.00

Contact Information

Procurement Process and Technical Questions: Tralee Whitley at TWhitley@clackamas.us.

Bids will be opened and publicly read aloud at the above Delivery address after the Bid Closing. Bid results will also be posted to the OregonBuys listing shortly after the opening.

To be eligible for award under this Invitation to Bid, bidders (prime contractors) must submit a prequalification application (either ODOT or County) to the County at least two business days prior to the Bid Closing. County will reject bids from bidders who are not prequalified for the class of work indicated prior to the Bid Closing. **Bidders must be prequalified in Electrical (ELEC).**

Prevailing Wage

Prevailing Wage Rates requirements apply to this Project because the maximum compensation for all Owner-contracted Work is more than \$50,000. Contractor and all subcontractors shall comply with the provisions of ORS 279C.800 through 279C.870, relative to Prevailing Wage Rates. The Bureau of Labor and Industries (BOLI) wage rates and requirements set forth in the following BOLI booklet (and any

listed amendments to that booklet), which are incorporated herein by reference, apply to the Work authorized under this Agreement:

PREVAILING WAGE RATES for Public Works Contracts in Oregon, July 5 2025, which can be downloaded at the following web address:, which can be downloaded at the following web address:

http://www.oregon.gov/boli/WHD/PWR/Pages/pwr_state.aspx

The Work will take place in Clackamas County, Oregon.

Clackamas County encourages bids from Minority, Women, and Emerging Small Businesses.



CLACKAMAS COUNTY PUBLIC IMPROVEMENT CONTRACT

INSTRUCTIONS TO BIDDERS

Clackamas County Local Contract Review Board Rules ("LCRB Rules") govern this procurement process. LCRB Rules may be found at: <http://www.clackamas.us/code/documents/appendixc.pdf>. The Instructions to Bidders is applicable to the procurement process for Clackamas County, or any component unit thereof identified on the Notice of Public Improvement Contract Opportunity, herein after referred to as the "Owner."

Article 1. Scope of Work

The work contemplated under this contract with the Owner, includes all labor, materials, transportation, equipment and services necessary for, and reasonably incidental to, the completion of all construction work in connection with the project described in the Project Manual which includes, but is not necessarily limited to, the Notice of Public Improvement Contract Opportunity, Instructions to Bidders, Supplemental Instructions to Bidders, Bid Form, Bid Bond, Public Improvement Contract Form, Performance Bond, Payment Bond, Clackamas County General Conditions for Public Improvement Contracts (10/13/2021), Supplemental General Conditions, and Plans, Specifications and Drawings.

Article 2. Examination of Site and Conditions

Before making a Bid, the Bidder shall examine the site of the work and ascertain all the physical conditions in relation thereto. The Bidder shall also make a careful examination of the Project Manual including the plans, specifications, and drawings and other contract documents, and shall be fully informed as to the quality and quantity of materials and the sources of supply of the materials. Failure to take these steps will not release the successful Bidder from entering into the contract nor excuse the Bidder from performing the work in strict accordance with the terms of the contract at the

price established by the Bid.

The Owner will not be responsible for any loss or for any unanticipated costs, which may be suffered by the successful Bidder, as a result of such Bidder's failure to be fully informed in advance with regard to all conditions pertaining to the work and the character of the work required, including site conditions. No statement made by an elected official, officer, agent, or employee of the Owner in relation to the physical or other conditions pertaining to the site of the work will be binding on the Owner, unless covered by the Project Manual or an Addendum.

Article 3. Interpretation of Project Manual and Approval of Materials Equal to Those Provided in the Specifications

If any Bidder contemplating submitting a Bid for the proposed contract is in doubt as to the true meaning of any part of the plans, specifications or forms of contract documents, or detects discrepancies or omissions, such Bidder may submit to the Architect (read "Engineer" throughout in lieu of Architect as appropriate) a written request for an interpretation thereof at least ten (10) calendar days prior to the date set for the Bid Closing.

When a prospective Bidder seeks approval of a particular manufacturer's material, process or item of equal value, utility or merit other than that designated by the Architect in the Project Manual, the Bidder may submit to the Architect a written request for approval of such substitute at least ten (10) calendar days prior to the date set for the Bid Closing. The prospective Bidder submitting the request will be responsible for its prompt delivery.

Requests of approval for a substitution from that specified shall be accompanied by samples, records of performance, certified copies of tests by

impartial and recognized laboratories, and such other information as the Architect may request.

To establish a basis of quality, certain processes, types of machinery and equipment or kinds of materials may be specified in the Project Manual either by description of process or by designating a manufacturer by name and referring to a brand or product designation or by specifying a kind of material. Whenever a process is designated or a manufacturer's name, brand or item designation is given, or whenever a process or material covered by patent is designated or described, it shall be understood that the words "or approved equal" follow such name, designation or description, whether in fact they do so or not.

Any interpretation of the Project Manual or approval of manufacturer's material will be made only by an Addendum duly issued. All Addenda will be posted to the OregonBuys listing and will become a part of the Project Manual. The Owner will not be responsible for any other explanation or interpretation of the Project Manual nor for any other approval of a particular manufacturer's process or item for any Bidder.

When the Architect approves a substitution by Addendum, it is with the understanding that the Contractor guarantees the substituted article or material to be equal or better than the one specified.

Article 4. Security to Be Furnished by Each Bidder

Each Bid must be accompanied by either 1) a cashier's check or a certified check drawn on a bank authorized to do business in the State of Oregon, or 2) a Bid bond described hereinafter, executed in favor of the Owner, for an amount equal to ten percent (10%) of the total amount Bid as a guarantee that, if awarded the contract, the Bidder will execute the contract and provide a performance bond and payment bond as required. The successful Bidder's check or Bid bond will be retained until the Bidder has entered into a contract satisfactory to Owner and furnished a one hundred percent (100%) performance bond and one hundred percent (100%) payment bond. The Owner

reserves the right to hold the Bid security as described in Article 10 hereof. Should the successful Bidder fail to execute and deliver the contract as provided for in Article 12 hereof, including a satisfactory performance bond and payment bond within twenty (20) calendar days after the Bid has been accepted by the Owner, then the contract award made to such Bidder may be considered canceled and the Bid security may be forfeited as liquidated damages at the option of the Owner. The date of the acceptance of the Bid and the award of the contract as contemplated by the Project Manual shall mean the date of acceptance specified in the Notice of Intent to Award.

Article 5. Execution of Bid Bond

Should the Bidder elect to utilize a Bid bond as described in Article 4 in order to satisfy the Bid security requirements, such form must be completed in the following manner:

- A. Bid bonds must be executed on the County forms, which will be provided to all prospective Bidders by the Owner.
- B. The Bid bond shall be executed on behalf of a bonding company licensed to do business in the State of Oregon.
- C. In the case of a sole individual, the bond need only be executed as principal by the sole individual. In the case of a partnership, the bond must be executed by at least one of the partners. In the case of a corporation, the bond must be executed by stating the official name of the corporation under which is placed the signature of an officer authorized to sign on behalf of the corporation followed by such person's official capacity, such as president, etc. The corporation seal should then be affixed to the bond.
- D. The name of the surety must be stated in the execution over the signature of its duly authorized attorney-in-fact and accompanied by the seal of the surety corporation.

Article 6. Execution of the Bid Form

Each Bid shall be made in accordance with: (i) the sample Bid Form accompanying these instructions; (ii) the appropriate signatures for a sole individual, partnership, corporation or limited liability corporation shall be added as noted in Article 5C above; (iii) numbers pertaining to base Bids shall be stated both in writing and in figures; and (iv) the Bidder's address shall be typed or printed.

The Bid Form relates to Bids on a specific Project Manual. Only the amounts and information asked for on the Bid Form furnished will be considered as the Bid. Each Bidder shall Bid upon the work exactly as specified and provided in the Bid Form. The Bidder shall include in the Bid a sum to cover the cost of all items contemplated by the Contract. The Bidder shall Bid upon all alternates that may be indicated on the Bid Form. When Bidding on an alternate for which there is no charge, the Bidder shall write the words "No Charge" in the space provided on the Bid Form. If one or more alternates are shown on the Bid Form, the Bidder shall indicate whether each is "add" or "deduct."

Article 7. Prohibition of Alterations to Bid

Bids that are incomplete, or contain ambiguities or have differing conditions required by the Bidder, including requested changes or exceptions to the Public Improvement Contract form or other portions of the Project Manual, may be rejected in Owner's sole and absolute discretion.

Article 8. Submission of Bid

Each Bid shall be sealed in an envelope, properly addressed to the Owner, showing on the outside of the envelope the name of the Bidder and the name of the project. Bids will be received at the time and place stated in the Notice of Public Improvement Contract Opportunity.

Article 9. Bid Closing and Opening of Bids

All Bids must be received by the Owner at the place and time set for the Bid Closing. Any Bids received after the scheduled Bid Closing time for

receipt of Bids will be rejected.

At the time of opening and reading of Bids, each Bid received will be publicly opened and read aloud, irrespective of any irregularities or informalities in such Bids.

Generally, Bid results will be posted to the OregonBuys Website within a couple hours of the opening.

Article 10. Acceptance or Rejection of Bids by Owner

Unless all Bids are rejected, the Owner will award a contract based on the lowest responsive Bid from a responsible Bidder. If that Bidder does not execute the contract, it will be awarded to the next lowest responsible Bidder or Bidders in succession.

The Owner reserves the right to reject all Bids and to waive minor informalities. The procedures for contract awards shall be in compliance with the provisions of the LCRB Rules in effect at that time.

The Owner reserves the right to hold the Bid and Bid security of the three lowest Bidders for a period of thirty (30) calendar days from and after the time of Bid opening pending award of the contract. Following award of the contract the Bid security of the three lowest Bidders may be held twenty (20) calendar days pending execution of the contract. All other Bids will be rejected and Bid security will be returned.

In determining the lowest Bidder, the Owner reserves the right to take into consideration any or all authorized base Bids as well as alternates or combinations indicated in the Bid Form.

If no Bid has been accepted within thirty (30) calendar days after the opening of the Bids, each of the three lowest Bidders may withdraw the Bid submitted and request the return of the Bid security.

Article 11. Withdrawal of Bid

At any time prior to the Bid Closing, a Bidder may withdraw its Bid. This will not preclude the

submission of another Bid by such Bidder prior to the time set for the Bid Closing.

After the time set for the Bid Closing, no Bidder will be permitted to withdraw its Bid within the time frames specified in Article 10 for award and execution, except as provided for in that Article.

Article 12. Execution of Contract, Performance Bond and Payment Bond

The Owner will provide the successful Bidder with contract forms within seven (7) calendar days after the completion of the award protest period. The Bidder is required to execute the contract forms as provided, including a performance bond and a payment bond from a surety company licensed to do surety business in the State of Oregon, within seven (7) calendar days after receipt of the contract forms. The contract forms shall be delivered to the Owner in the number called for and to the location as instructed by the Owner.

Article 13. Recyclable Products

Contractors will use recyclable products to the maximum extent economically feasible in the performance of the Contract.

Article 14. Clarification or Protest of the Solicitation Document or Specifications

Any request for clarification or protest of the solicitation document or specifications must be submitted in the manner provided for in the applicable section of the LCRB Rules to the Procurement Representative referenced in the Notice of Public Improvement Contract Opportunity.

A protest of the Solicitation Document must be received within seven (7) business days of the issuance of the Bid or within three (3) business days of issuance of an addendum.

Requests for clarification may be submitted no less than five (5) business days prior to the Bid Closing Date.

Article 15. Protest of Intent to Award

Owner will name the apparent successful Bidder in a "Notice of Intent to Award" letter. Identification of the apparent successful Bidder is procedural only and creates no right in the named Bidder to the award of the contract. Competing Bidders will be notified by publication of the Notice of Intent to Award on the OregonBuys Website of the selection of the apparent successful Bidder(s) and Bidders shall be given seven (7) calendar days from the date on the "Notice of Intent to Award" letter to review the file at the Procurement Division office and file a written protest of award, pursuant to C-049-0450. Any award protest must be in writing and must be delivered by email, hand delivery, or mail to the Procurement Division Director at: Procurement Division, 2051 Kaen Road, Oregon City, OR 97045.

Article 16. Disclosure of First-Tier Subcontractors

Within two (2) working hours after the Bid Closing, all Bidders shall submit to the County a disclosure form identifying any first-tier subcontractors (those entities that would be contracting directly with the prime contractor) that will be furnishing labor and materials on the contract, if awarded, whose subcontract value would be equal to or greater than: (a) Five percent (5%) of the total contract price, but at least \$15,000; or (b) \$350,000, regardless of the percentage of the total contract price.

Disclosures may be submitted with the Bid or may be hand delivered to the Bid Closing address or emailed to the Contract Information Analyst listed on the Notice of Contract Opportunity.



**CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT**

SUPPLEMENTAL INSTRUCTIONS TO BIDDERS

Project Name BID#2025-75 Clackamas County School Beacon Upgrades Project

The following modify the Clackamas County “Instructions to Bidders” for this Project. Where a portion of the Instructions to Bidders has been modified by these Supplemental Instructions to Bidders, the unaltered portions shall remain in effect.

- 1. Electronic Submissions:** The County is requiring all bids for this project be electronically submitted. Complete Bids (including all attachments) will only be accepted electronically thru a secure online bid submission service, Bid Locker. Email submissions to Clackamas County email addresses will no longer be accepted.
<https://bidlocker.us/a/clackamascounty/BidLocker>.
- 2.** To be eligible for award under this Invitation to Bid, bidders (prime contractors) must submit a prequalification application (either ODOT or County) to the County at least two business days prior to the Bid Closing. County will reject bids from bidders who are not prequalified for the class of work indicated prior to the Bid Closing. **Bidders must be prequalified in Electrical (ELEC).**

Bids will be publicly read aloud via the computer application, Zoom. Bidders will be allowed to video conference or listen by phone to the bid results. The projects Zoom meeting can be accessed via the information below:

ZOOM LINKS

Join Zoom Meeting

<https://clackamascounty.zoom.us/j/88000787753>

Meeting ID: 880 0078 7753

One tap mobile

+14086380968,,88000787753# US (San Jose) 16694449171,,88000787753# US

Join instructions

<https://clackamascounty.zoom.us/meetings/88000787753/invitations?signature=mgH9CjHzo0dcDG8lt8wcO5wxOvVo7GmlE4V0sFPKIM>

****The Apparent Low bid results will be posted to the projects OregonBuys listing as soon as possible following the bid opening.**

- 3. Good Faith Effort:** Clackamas County encourages participation in contracts by Historically Underrepresented Businesses. “Historically Underrepresented Businesses”

are State of Oregon-certified and self-identified minority, women and emerging small business as well as firms that are certified federally or by another state or entity with substantially similar requirements as the State of Oregon.

Bidders must perform Good Faith Effort (defined below) and submit **Form 1 and Form 2** for the Bidders Bid to be considered responsive. **Form 1 and Form 2** must be submitted within **two (2) hours** after the Closing Date and Time. Form 1 and Form 2 may be submitted to either the Contact Information Analyst listed on Notice of Contract Opportunity or via the <https://bidlocker.us/a/clackamascounty/BidLocker> listing.

“Good Faith Effort” is a requirement of a prime contractor to reach out to at least three Historically Underrepresented Business Subcontractors for each division of work that will be subcontracted out and to complete the required forms. If fewer than three Historically Underrepresented Business Subcontractors are reasonably available for a particular division of work, the Bidder must specifically note the reason for there being fewer than three contacts. The outreach should be performed with sufficient time to give the subcontractors at least 5 calendar days to respond to the opportunity. Form 3, which documents the actual amount of subcontractors on the project, must be submitted with the project final pay application. Compliance with the Good Faith Effort and submission of Forms 1, 2 and 3 is a contractual requirement for final payment.

The sufficiency of the documentation or the performance of Good Faith Effort shall be in the sole and absolute determination of Clackamas County. Only those Bidders that Clackamas County has determined have not sufficiently performed Good Faith Effort shall have protest rights of the determination for such Bidder. No Bidder shall have protest rights of the sufficiency of any other Bidder completing Good Faith Effort.

**CLACKAMAS COUNTY
GOOD FAITH EFFORT
SUBCONTRACTOR AND SELF-PERFORMED WORK LIST
(FORM 1)**

Prime Contractor Name: Global Electric, Inc.


Total Contract Amount:

Project Name: BID# 2025-75 Clackamas County School Beacon Upgrades Project

PRIME SELF-PERFORMING: Identify below **ALL** GFE Divisions of Work (DOW) to be self-performed. Good Faith Efforts are otherwise required.

DOW BIDDER WILL SELF-PERFORM (GFE not required)	
Erosion Control	
Traffic Control	
Electrical	
Excavation	

PRIME CONTRACTOR SHALL DISCLOSE AND LIST ALL SUBCONTRACTORS, including those Minority-owned, Woman-owned, and Emerging Small Businesses ("M/W/ESB") that you intend to use on the project. Delivery via bid locker <https://bidlocker.us/a/clackamascounty/BidLocker> within 2 hours of the BID/Quote Closing Date/Time.

LIST ALL SUBCONTRACTORS BELOW Use correct legal name of Subcontractor (No Assumed Business Names)	Division of Work (Painting, electrical, landscaping, etc.) List ALL DOW performed by Subcontractors	DOLLAR AMOUNT OF SUBCONTRACT	If Certified or self-reporting MBE/WBE/ESB Subcontractor Check box 		
			MBE	WBE	ESB
Name Cascade Land Surveying Address 22982 Riverside Drive NE City/St/Zip Saint Paul, Oregon 97137 Phone# 503-518-2067 OCCB# NA	Survey	\$3,800.00	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CLACKAMAS COUNTY
GOOD FAITH EFFORT
M/W/ESB CONTACT / BIDS RECEIVED LOG
(FORM 2)

Prime Contractor: Global Electric, Inc.
Project: BID#2025-75 Clackamas County School Beacon Upgrades Project

Prime Contractor must contact or endeavor to contact at least 3 M/W/ESB Subcontractors for each Division of Work. Prime Contractor shall record its contacts with M/W/ESB Subcontractors through use of this log (or equivalent) entering all required information. All columns shall be completed where applicable. Additional forms may be copied if needed.

NAME OF M/W/ESB SUBCONTRACTOR	Divisions of Work (Painting, electrical, landscaping, etc.)	Date Solicitation Letter / Fax Sent	PHONE CONTACT		BID ACTIVITY Check Yes or No			REJECTED BIDS (if bid received & not used)		Notes
					Will Bid	Bid Received	Bid Used	Bid Amount	Reason Not Used (Price, Scope or Other. If Other, explain in Notes>>)	
			Date of Call	Person Receiving Call						
Forty Five North Surveying, LLC	Survey	10-28-2025			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Reality Quantified, LLC	Survey	10-28-2025			<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
Cascade Land Surveying	Survey	10-28-2025			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	\$ 3 , 8 2 5 . 0 0		
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			



CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

BID BOND

Project Name: #2025-75 Clackamas County School Beacon Upgrades Project

We, GLOBAL ELECTRIC, INC., as "Principal,"
(Name of Principal)

and MERCHANTS NATIONAL BONDING, INC., an IOWA Corporation,
(Name of Surety)

authorized to transact Surety business in Oregon, as "Surety," hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns to pay unto Clackamas County ("Obligee") the sum of (\$ (**10%**))

NOT TO EXCEED TEN PERCENT OF AMOUNT BID** dollars.

WHEREAS, the condition of the obligation of this bond is that Principal has submitted its proposal or bid to an agency of the Obligee in response to Obligee's procurement document (No.) for the project identified above which proposal or bid is made a part of this bond by reference, and Principal is required to furnish bid security in an amount equal to ten (10%) percent of the total amount of the bid pursuant to the procurement document.

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

IN WITNESS WHEREOF, we have caused this instrument to be executed and sealed by our duly authorized legal representatives this 6 day of OCTOBER, 2025.

Principal: GLOBAL ELECTRIC, INC.

Surety: MERCHANTS NATIONAL BONDING, INC.

By: [Signature]

Signature

President

Official Capacity

Attest: [Signature]

Corporation Secretary

By: Attorney-In-Fact MICHELLE BENCH

Michelle Bench

Name

6700 WESTOWN PARKWAY

Address

WEST DES MOINES, IA, 50266
City State Zip

541-741-0550 541-741-1674
Phone Fax

MERCHANTS BONDING COMPANY™

POWER OF ATTORNEY

Know All Persons By These Presents, that MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC., both being corporations of the State of Iowa, and MERCHANTS NATIONAL INDEMNITY COMPANY, an assumed name of Merchants National Bonding, Inc., (herein collectively called the "Companies") do hereby make, constitute and appoint, individually,

Michelle Bench; Robin Baird; William Kaufmann

their true and lawful Attorney(s)-in-Fact, to sign its name as surety(ies) and to execute, seal and acknowledge any and all bonds, undertakings, contracts and other written instruments in the nature thereof, on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

This Power-of-Attorney is granted and is signed and sealed by facsimile under and by authority of the By-Laws adopted by the Board of Directors of the Companies.

"The President, Secretary, Treasurer, or any Assistant Treasurer or any Assistant Secretary or any Vice President shall have power and authority to appoint Attorneys-in-Fact, and to authorize them to execute on behalf of the Company, and attach the seal of the Company thereto, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof."

"The signature of any authorized officer and the seal of the Company may be affixed by facsimile or electronic transmission to any Power of Attorney or Certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship or obligations of the Company, and such signature and seal when so used shall have the same force and effect as though manually fixed."

In connection with obligations in favor of the Florida Department of Transportation only, it is agreed that the power and authority hereby given to the Attorney-in-Fact includes any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts required by the State of Florida Department of Transportation. It is fully understood that consenting to the State of Florida Department of Transportation making payment of the final estimate to the Contractor and/or its assignee, shall not relieve this surety company of any of its obligations under its bond.

In connection with obligations in favor of the Kentucky Department of Highways only, it is agreed that the power and authority hereby given to the Attorney-in-Fact cannot be modified or revoked unless prior written personal notice of such intent has been given to the Commissioner - Department of Highways of the Commonwealth of Kentucky at least thirty (30) days prior to the modification or revocation.

In Witness Whereof, the Companies have caused this instrument to be signed and sealed this 29th day of July, 2025.



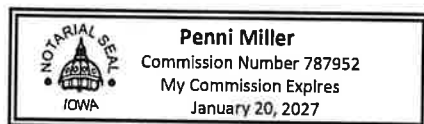
MERCHANTS BONDING COMPANY (MUTUAL)
MERCHANTS NATIONAL BONDING, INC.
MERCHANTS NATIONAL INDEMNITY COMPANY

By

Larry Taylor

STATE OF IOWA
COUNTY OF DALLAS ss.

On this 29th day of July, 2025, before me appeared Larry Taylor, to me personally known, who being by me duly sworn did say that he is President of MERCHANTS BONDING COMPANY (MUTUAL), MERCHANTS NATIONAL BONDING, INC., and MERCHANTS NATIONAL INDEMNITY COMPANY; and that the seals affixed to the foregoing instrument are the Corporate Seals of the Companies; and that the said instrument was signed and sealed in behalf of the Companies by authority of their respective Boards of Directors.



(Expiration of notary's commission
does not invalidate this instrument)

Penni Miller

Notary Public

I, Elisabeth Sandersfeld, Secretary of MERCHANTS BONDING COMPANY (MUTUAL), MERCHANTS NATIONAL BONDING, INC., and MERCHANTS NATIONAL INDEMNITY COMPANY do hereby certify that the above and foregoing is a true and correct copy of the POWER-OF-ATTORNEY executed by said Companies, which is still in full force and effect and has not been amended or revoked.

In Witness Whereof, I have hereunto set my hand and affixed the seal of the Companies on this 6 day of OCTOBER, 2025.



Elisabeth Sandersfeld
Secretary



**CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT**

BID FORM

PROJECT: Clackamas County School Beacon Upgrades Project
BID CLOSING: October 30, 2025, 2:00 PM, Pacific Time
BID OPENING: October 30, 2025, 2:05 PM, Pacific Time

FROM: Global Electric, Inc.

Bidder's Name (must be full legal name, not ABN/DBA)

TO: <https://bidlocker.us/a/clackamascountry/BidLocker>

1. Bidder is (*check one of the following and insert information requested*):

☐ a. An individual; or

☐ b. A partnership registered under the laws of the State of _____; or

☒ c. A corporation organized under the laws of the State of Oregon; or

☐ d. A limited liability corporation organized under the laws
of the State of _____;

and authorized to do business in the State of Oregon hereby proposes to furnish all material and labor and perform all work hereinafter indicated for the above project in strict accordance with the Contract Documents for the Basic Bid as follows:

Three hundred ninety-eight thousand seven hundred ninety-five Dollars (\$ 398,795.00)

and the Undersigned agrees to be bound by the following documents:

- Notice of Public Improvement Contract Opportunity
 - Instructions to Bidders
 - Bid Bond
 - Public Improvement Contract Form
 - Clackamas County General Conditions
 - Prevailing Wage Rates
 - Plans, Specifications and Drawings
 - Supplemental Instructions to Bidders
 - Bid Form
 - Performance Bond and Payment Bond
 - Supplemental General Conditions
 - Payroll and Certified Statement Form
- ADDENDA numbered 0 through 0, inclusive (*fill in blanks*)

2. The Undersigned proposes to add to or deduct from the Base Bid indicated above the items of work relating to the following Alternate(s) as designated in the Specifications: N/A

3. The Undersigned proposes to add to or deduct from the Base Bid indicated above the items or work relating to the following Unit Price(s) as designated in the Specifications, for which any adjustments in the Contract amount will be made in accordance with Section D of the Clackamas County General Conditions: **Provide attached bid schedule with Bid.**

4. The work shall be completed within the time stipulated and specified in the contract documents.

5. Accompanying herewith is Bid Security which is equal to ten percent (10%) of the total amount of the Basic Bid, plus the total sum of all Alternatives (if any).

6. The Undersigned agrees, if awarded the Contract, to execute and deliver to Clackamas County, within twenty (20) calendar days after receiving the Contract forms, a Contract Form, and a satisfactory Performance Bond and Payment Bond each in an amount equal to one hundred percent (100%) of the Contract sum, using forms provided by the Owner. The surety requested to issue the Performance Bond and Payment Bond will be:

Merchant's Bonding Co.

(name of surety company - not insurance agency)

The Undersigned hereby authorizes said surety company to disclose any information to the Owner concerning the Undersigned's ability to supply a Performance Bond and Payment Bond each in the amount of the Contract.

7. The Undersigned further agrees that the Bid Security accompanying the Bid is left in escrow with Clackamas County; that the amount thereof is the measure of liquidated damages which the Owner will sustain by the failure of the Undersigned to execute and deliver the above-named Contract Form, Performance Bond and Payment Bond, each as published, and that if the Undersigned defaults in either executing the Contract Form or providing the Performance Bond and Payment Bond within twenty (20) calendar days after receiving the Contract forms, then the Bid Security shall become the property of the Owner at the Owner's option; but if the Bid is not accepted within thirty (30) calendar days of the time set for the opening of the Bids, or if the Undersigned executes and timely delivers said Contract Form, Performance Bond and Payment Bond, the Bid Security shall be returned.

8. The Undersigned certifies that: (i) This Bid has been arrived at independently and is being submitted without collusion with and without any agreement, understanding, or planned common course of action with any other vendor of materials, supplies, equipment or services described in the invitation to bid designed to limit independent bidding or competition; and (ii) the contents of the Bid have not been communicated by the Undersigned or its employees or agents to any person not an employee or agent of the Undersigned or its surety on any Bond furnished with the Bid and will not be communicated to such person prior to the official opening of the Bid.

9. The undersigned ☒ **HAS**, ☐ **HAS NOT** (*check one*) paid unemployment or income taxes in Oregon within the past 12 months and ☒ **DOES**, ☐ **DOES NOT** (*check one*) a business address in Oregon. The undersigned acknowledges that, if the selected bidder, that the undersigned will have to pay all applicable taxes and register to do business in the State of Oregon before executing the Contract Form.

10. The Undersigned agrees, if awarded a contract, to comply with the provisions of ORS 279C.800 through 279C.870 pertaining to the payment of the prevailing rates of wage.

11. Contractor's CCB registration number is 156838. As a condition to submitting a bid, a Contractor must be registered with the Oregon Construction Contractors Board in accordance with ORS 701.035 to 701.055, and disclose the registration number. Failure to register and disclose the number will make the bid unresponsive and it will be rejected, unless contrary to federal law.

12. The successful Bidder hereby certifies that all subcontractors who will perform construction work as described in ORS 701.005(2) were registered with the Construction Contractors Board in accordance with ORS 701.035 to 701.055 at the time the subcontractor(s) made a bid to work under the contract.

13. The successful Bidder hereby certifies that, in compliance with the Worker's Compensation Law of the State of Oregon, its Worker's Compensation Insurance provider is Arch Insurance Company, Policy No. ZAWCI9987903, and that Contractor shall submit Certificates of Insurance as required.

14. Contractor's Key Individuals for this project (supply information as applicable):
Project Executive: Justin Vilendre, Cell Phone: 503-849-6659,
Project Manager: David Wren, Cell Phone: 503-502-9405,
Job Superintendent: Cody Janzen, Cell Phone: 503-577-1760,
Project Engineer: Parker Hoffman, Cell Phone: 971-533-5103.

15. The Undersigned certifies that it has not discriminated against minority, women, or emerging small businesses in obtaining any subcontracts for this project.


16. The Undersigned certifies that it has a drug testing program in accordance with ORS 279C.505.

REMINDER: Bidder must submit the below First-Tier Subcontractor Disclosure Form.

By signature below, Contractor agrees to be bound by this Bid.

NAME OF FIRM	<u>Global Electric, Inc.</u>
ADDRESS	<u>32480 NW Cottage St, PO Box 162</u> <u>North Plains, OR 97133</u>
TELEPHONE NO	<u>503-647-5650</u>
EMAIL	<u>jvilendre@globalelectricusa.com</u>
SIGNATURE 1)	<u></u> Sole Individual

or 2) _____
Partner

or 3)  _____
Authorized Officer or Employee of Corporation

******* END OF BID *******

Clackamas County School Beacon Upgrades Project**Bid Schedule**

August 5, 2025

ITEM	SECTION	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
General Conditions						
1	00180	WORKPLACE HARASSMENT PREVENTION PLAN	LS	1	\$1,500.00	\$1,500.00
2	00196	EXTRA WORK AS AUTHORIZED	LS	1	\$ 30,000.00	\$ 30,000.00
Temporary Features and Appurtenances						
3	00210	MOBILIZATION	LS	ALL	\$15,000.00	\$15,000.00
4	00221	TEMPORARY WORK ZONE TRAFFIC CONTROL, COMPLETE	LS	ALL	\$41,400.00	\$41,400.00
5	00280	EROSION CONTROL	LS	ALL	\$2,500.00	\$2,500.00
6	00280	INLET PROTECTION, TYPE 3	EACH	2	\$325.00	\$650.00
7	00280	INLET PROTECTION, TYPE 4	EACH	21	\$275.00	\$5,775.00
8	00280	POLLUTION CONTROL PLAN	LS	ALL	\$1,500.00	\$1,500.00
Roadwork						
9	00305	CONSTRUCTION SURVEY WORK	LS	ALL	\$5,000.00	\$5,000.00
10	00320	CLEARING AND GRUBBING	LS	ALL	\$2,500.00	\$2,500.00
Permanent Traffic Control and Illumination Systems						
11	00990	FLASHING BEACON INSTALLATION, OREGON TRAIL ELEMENTARY SCHOOL ZONE	LS	ALL	\$102,700.00	\$102,700.00
12	00990	FLASHING BEACON INSTALLATION, ALDER CREEK MIDDLE SCHOOL ZONE	LS	ALL	\$46,470.00	\$46,470.00
13	00990	FLASHING BEACON INSTALLATION, RIVERSIDE ELEMENTARY SCHOOL ZONE	LS	ALL	\$43,800.00	\$43,800.00
14	00990	FLASHING BEACON INSTALLATION, JENNINGS LODGE ELEMENTARY SCHOOL ZONE	LS	ALL	\$40,000.00	\$40,000.00
15	00990	FLASHING BEACON INSTALLATION, SCOUTERS MOUNTAIN ELEMENTARY SCHOOL ZONE	LS	ALL	\$60,000.00	\$60,000.00
Total					\$398,795.00	

PROPOSED COST BID SCHEDULE \$398,795.00
(Numerically)

(INCLUDE EXTRA WORK)

PROPOSED COST BID SCHEDULE Three hundred ninety-eight thousand seven hundred ninety-five dollars
(Written in Words)

(INCLUDE EXTRA WORK)

COMPANY NAME Global Electric, Inc.AUTHORIZED SIGNATURE 

FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM
PROJECT: 2025-75

BID OPENING: October 30, 2025, 2:00 PM, Pacific Time

Failure to submit this Form by the disclosure deadline will result in a nonresponsive bid.

INSTRUCTIONS:

This First-Tier Subcontractor Disclosure Form ("Form") must be submitted and received at the location specified in the Notice of Public Improvement Contract Opportunity on the advertised Bid Closing, and within two working hours after the advertised Bid Closing Time.

Proposals will only be accepted electronically thru a secure online bid submission service, **Bid Locker**. *Email submissions to Clackamas County email addresses will no longer be accepted.*

- A. Completed proposal documents must arrive electronically via Bid Locker located at <https://bidlocker.us/a/clackamascounty/BidLocker>.
- B. Bid Locker will electronically document the date and time of all submissions. Completed documents must arrive by the deadline indicated in Section 1 or as modified by Addendum.
LATE PROPOSALS WILL NOT BE ACCEPTED.
- C. Proposers must register and create a profile for their business with Bid Locker in order to submit for this project. It is free to register for Bid Locker.
- D. Proposers with further questions concerning Bid Locker may review the Vendor's Guide located at <https://www.clackamas.us/how-to-bid-on-county-projects>.

Subcontractor lists may be submitted with the bid in the same envelope or email at the Bid Closing date and time. Subcontractor lists **MUST** be submitted within **two (2) hours** of the Bid Closing date and time.

List below the name of each subcontractor that will be furnishing labor, or labor and materials, for which disclosure is required, the category of work that the subcontractor will be performing, and the dollar value of the subcontract. Enter **"NONE"** if the value of the project bid is less than \$100,000 or there are no subcontractors that need to be disclosed. ATTACH ADDITIONAL SHEETS IF NECESSARY.

	SUBCONTRACTOR NAME	DOLLAR VALUE	CATEGORY OF WORK
1.	NONE		
2.			
3.			
4.			
5.			
6.			

The above listed first-tier subcontractor(s) are providing labor, or labor and material, with a Dollar Value equal to or greater than:

- a) 5% of the total Contract Price, but at least \$15,000. If the Dollar Value is less than \$15,000 do not list the subcontractor above; or
- b) \$350,000 regardless of the percentage of the total Contract Price.

Firm Name: Global Electric, Inc.

Bidder Signature:  Phone # 503-647-5650



**CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT
PERFORMANCE BOND**

Bond No.: 101628637
Solicitation: #2025-75
Project Name: Clackamas County School Beacon Upgrades Project

MERCHANTS NATIONAL
BONDING, INC. (Surety #1)
(Surety #2)*

Bond Amount No. 1:	\$ 398,795.00**
Bond Amount No. 2: *	\$
Total Penal Sum of Bond:	\$ 398,795.00**

* If using multiple sureties

We, GLOBAL ELECTRIC, INC. as Principal, and the above identified Surety(ies), authorized to transact surety business in Oregon, as Surety, hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto Clackamas County, the sum of (Total Penal Sum of Bond) Three Hundred Ninety Eight Thousand Seven Hundred Ninety Five No/100's (\$398,795.00) (Provided, that we the Sureties bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety); and

WHEREAS, the Principal has entered into a contract with Clackamas County, along with the plans, specifications, terms and conditions of which are contained in the above-referenced Solicitation; and

WHEREAS, the terms and conditions of the contract, together with applicable plans, standard specifications, special provisions, schedule of performance, and schedule of contract prices, are made a part of this Performance Bond by reference, whether or not attached to the contract (all hereafter called "Contract"); and

WHEREAS, the Principal has agreed to perform the Contract in accordance with the terms, conditions, requirements, plans and specifications, and all authorized modifications of the Contract which increase the amount of the work, the amount of the Contract, or constitute an authorized extension of the time for performance, notice of any such modifications hereby being waived by the Surety:

NOW, THEREFORE, THE CONDITION OF THIS BOND IS SUCH that if the Principal herein shall faithfully and truly observe and comply with the terms, conditions and provisions of the Contract, in all respects, and shall well and truly and fully do and perform all matters and things undertaken by Contractor to be performed under the Contract, upon the terms set forth therein, and within the time prescribed therein, or as extended as provided in the Contract, with or without notice to the Sureties, and shall defend, indemnify, and save harmless Clackamas County and its elected officials, officers, employees and agents, against any direct or indirect damages or claim of every kind and description that shall be suffered or claimed to be suffered in connection with or

arising out of the performance of the Contract by the Principal or its subcontractors, and shall in all respects perform said contract according to law, then this obligation is to be void; otherwise, it shall remain in full force and effect for so long as any term of the Contract remains in effect.

Nonpayment of the bond premium will not invalidate this bond nor shall Clackamas County, be obligated for the payment of any premiums.

This bond is given and received under authority of Oregon Revised Statutes Chapter 279C and the Clackamas County Local Contractor Review Board Rules, the provisions of which hereby are incorporated into this bond and made a part hereof.

IN WITNESS WHEREOF, WE HAVE CAUSED THIS INSTRUMENT TO BE EXECUTED AND SEALED BY OUR DULY AUTHORIZED LEGAL REPRESENTATIVES.

Dated this 4th day of December, 20 25.

PRINCIPAL: GLOBAL ELECTRIC, INC.

By: [Signature] 9/25
Signature
President

Attest: [Signature] 9/25
Official Capacity
Corporation Secretary

SURETY: MERCHANTS NATIONAL BONDING, INC.

[Add signatures for each if using multiple bonds]

BY ATTORNEY-IN-FACT:

[Power-of-Attorney must accompany each bond]



MICHELLE BENCH

Michelle Bench Name
Signature

6700 WESTOWN PARKWAY

WEST DES MOINES, IA, 50266
Address

City State Zip
541-741-0550 541-741-1674

Phone Fax



**CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT
PAYMENT BOND**

Bond No.: 101628637

Solicitation: #2025-75

Project Name: Clackamas County School Beacon Upgrades Project

MERCHANTS NATIONAL

BONDING, INC. (Surety #1)

Bond Amount No. 1: \$ 398,795.00**

(Surety #2)*

Bond Amount No. 2:* \$ _____

* *If using multiple sureties*

Total Penal Sum of Bond: \$ 398,795.00**

We, GLOBAL ELECTRIC, INC., as Principal, and the above identified Surety(ies), authorized to transact surety business in Oregon, as Surety, hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto Clackamas County, the sum of (Total Penal Sum of Bond) Three Hundred Ninety Eight Thousand Seven Hundred Ninety Five No/100's (\$398,795.00)*** (Provided, that we the Sureties bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety); and

WHEREAS, the Principal has entered into a contract with Clackamas County, along with the plans, specifications, terms and conditions of which are contained in above-referenced Solicitation; and

WHEREAS, the terms and conditions of the contract, together with applicable plans, standard specifications, special provisions, schedule of performance, and schedule of contract prices, are made a part of this Payment Bond by reference, whether or not attached to the contract (all hereafter called "Contract"); and

WHEREAS, the Principal has agreed to perform the Contract in accordance with the terms, conditions, requirements, plans and specifications, and schedule of contract prices which are set forth in the Contract and any attachments, and all authorized modifications of the Contract which increase the amount of the work, or the cost of the Contract, or constitute authorized extensions of time for performance of the Contract, notice of any such modifications hereby being waived by the Surety:

NOW, THEREFORE, THE CONDITION OF THIS BOND IS SUCH that if the Principal shall faithfully and truly observe and comply with the terms, conditions and provisions of the Contract, in all respects, and shall well and truly and fully do and perform all matters and things by it undertaken to be performed under said Contract and any duly authorized modifications that are made, upon the terms set forth therein, and within the time prescribed therein, or as extended therein as provided in the Contract, with or without notice to the Sureties, and shall defend, indemnify, and save harmless Clackamas County and its elected officials, officers, employees and agents, against any claim for direct or indirect damages of every kind and description that shall be suffered or claimed to be suffered in connection with or arising out of the performance of the Contract by the Contractor or its subcontractors, and shall promptly pay all persons supplying labor, materials or both to the Principal or its subcontractors for prosecution of the work provided in the Contract; and shall promptly pay all contributions due the State Industrial Accident Fund and the State Unemployment Compensation Fund from the Principal or its subcontractors in connection with the performance of the Contract; and shall pay over to the Oregon Department of Revenue all sums required to be deducted and retained from the wages of employees of the Principal and its subcontractors pursuant to ORS 316.167, and

shall permit no lien nor claim to be filed or prosecuted against Clackamas County on account of any labor or materials furnished; and shall do all things required of the Principal by the laws of this State, then this obligation shall be void; otherwise, it shall remain in full force and effect for so long as any term of the Contract remains in effect.

Nonpayment of the bond premium will not invalidate this bond nor shall Clackamas County be obligated for the payment of any premiums.

This bond is given and received under authority of Oregon Revised Statutes Chapter 279C and the Clackamas County Local Contractor Review Board Rules, the provisions of which hereby are incorporated into this bond and made a part hereof.

IN WITNESS WHEREOF, WE HAVE CAUSED THIS INSTRUMENT TO BE EXECUTED AND SEALED BY OUR DULY AUTHORIZED LEGAL REPRESENTATIVES:

Dated this 4th day of December, 2025.

PRINCIPAL: GLOBAL ELECTRIC, INC.

By: [Signature]
Signature
President
Official Capacity

Attest: [Signature]
Corporation Secretary

SURETY: MERCHANTS NATIONAL BONDING, INC.
[Add signatures for each if using multiple bonds]



BY ATTORNEY-IN-FACT:
[Power-of-Attorney must accompany each bond]

MICHELLE BENCH

Michelle Bench
Name
Signature

6700 WESTOWN PARKWAY

WEST DES MOINES, IA, 50266
Address

City State Zip

541-741-0550 541-741-1674

Phone Fax

MERCHANTS BONDING COMPANY™

POWER OF ATTORNEY

Know All Persons By These Presents, that MERCHANTS BONDING COMPANY (MUTUAL) and MERCHANTS NATIONAL BONDING, INC., both being corporations of the State of Iowa, and MERCHANTS NATIONAL INDEMNITY COMPANY, an assumed name of Merchants National Bonding, Inc., (herein collectively called the "Companies") do hereby make, constitute and appoint, individually,

Michelle Bench; Robin Baird; William Kaufmann

their true and lawful Attorney(s)-in-Fact, to sign its name as surety(ies) and to execute, seal and acknowledge any and all bonds, undertakings, contracts and other written instruments in the nature thereof, on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

This Power-of-Attorney is granted and is signed and sealed by facsimile under and by authority of the By-Laws adopted by the Board of Directors of the Companies.

"The President, Secretary, Treasurer, or any Assistant Treasurer or any Assistant Secretary or any Vice President shall have power and authority to appoint Attorneys-in-Fact, and to authorize them to execute on behalf of the Company, and attach the seal of the Company thereto, bonds and undertakings, recognizances, contracts of indemnity and other writings obligatory in the nature thereof."

"The signature of any authorized officer and the seal of the Company may be affixed by facsimile or electronic transmission to any Power of Attorney or Certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligations of the Company, and such signature and seal when so used shall have the same force and effect as though manually fixed."

In connection with obligations in favor of the Florida Department of Transportation only, it is agreed that the power and authority hereby given to the Attorney-in-Fact includes any and all consents for the release of retained percentages and/or final estimates on engineering and construction contracts required by the State of Florida Department of Transportation. It is fully understood that consenting to the State of Florida Department of Transportation making payment of the final estimate to the Contractor and/or its assignee, shall not relieve this surety company of any of its obligations under its bond.

In connection with obligations in favor of the Kentucky Department of Highways only, it is agreed that the power and authority hereby given to the Attorney-in-Fact cannot be modified or revoked unless prior written personal notice of such intent has been given to the Commissioner - Department of Highways of the Commonwealth of Kentucky at least thirty (30) days prior to the modification or revocation.

In Witness Whereof, the Companies have caused this instrument to be signed and sealed this 29th day of July, 2025.



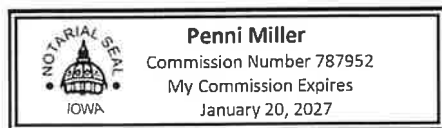
MERCHANTS BONDING COMPANY (MUTUAL)
MERCHANTS NATIONAL BONDING, INC.
MERCHANTS NATIONAL INDEMNITY COMPANY

By

Larry Taylor

STATE OF IOWA
COUNTY OF DALLAS ss.

On this 29th day of July, 2025, before me appeared Larry Taylor, to me personally known, who being by me duly sworn did say that he is President of MERCHANTS BONDING COMPANY (MUTUAL), MERCHANTS NATIONAL BONDING, INC., and MERCHANTS NATIONAL INDEMNITY COMPANY; and that the seals affixed to the foregoing instrument are the Corporate Seals of the Companies; and that the said instrument was signed and sealed in behalf of the Companies by authority of their respective Boards of Directors.



(Expiration of notary's commission
does not invalidate this instrument)

Penni Miller

Notary Public

I, Elisabeth Sandersfeld, Secretary of MERCHANTS BONDING COMPANY (MUTUAL), MERCHANTS NATIONAL BONDING, INC., and MERCHANTS NATIONAL INDEMNITY COMPANY do hereby certify that the above and foregoing is a true and correct copy of the POWER-OF-ATTORNEY executed by said Companies, which is still in full force and effect and has not been amended or revoked.

In Witness Whereof, I have hereunto set my hand and affixed the seal of the Companies on this _____ day of _____, 2025.



Elisabeth Sandersfeld

Secretary



CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT
PROJECT INFORMATION, PLANS, SPECIFICATIONS AND DRAWINGS

PROJECT: 2025-75 Clackamas County School Beacon Upgrades Project

Background:

This project will upgrade solar-powered school flashing beacons to AC power, enhancing their safety and reliability throughout the school year. Solar-powered beacons often struggle to maintain sufficient power on consecutive cloudy days, which can lead to operational failures. When beacons fail to activate due to inadequate power, it creates a significant maintenance burden, requiring frequent monitoring and battery replacements. These additional maintenance demands place a heavy strain on the already limited Traffic Signal Maintenance Staff. Upgrading to AC power will ensure consistent operation and reduce the need for battery-related interventions.

Project Scope:

This is a Signing and Signals project intended to provide safety improvement upgrades at multiple locations including: Alder Creek Middle School, Riverside Elementary, Jennings Lodge Elementary, Scouters Mountain Elementary and Oregon Trail Elementary schools.

Engineers Estimate: \$482,560.00

Key Dates:

All Basic Bid Work may begin as soon as the Notice to Proceed ("NTP") is issued

Substantial Completion: September 30, 2026

Final Completion: November 15, 2026

The Scope further includes the following Plans, Specifications and Drawings:

- Special Provisions for Construction, Clackamas County School Beacon Upgrades, Dated Spring 2026 (39 Pages)
- Clackamas County School Beacon Upgrades, drawing set, Summer 2025 (17 pages)
- Oregon Standard Drawings- Sheets: RD1010; RD1015; TM457; TM460; TM462; TM470; TM482; TM485; TM700; TM701; TM702; TM800; TM820; TM821; TM822; TM841; TM844; TM850; TM853; TM854; TM855 (21 pages)

**SPECIAL PROVISIONS
FOR CONSTRUCTION**

CLACKAMAS COUNTY SCHOOL BEACON UPGRADES

**CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION
AND DEVELOPMENT**

CLACKAMAS COUNTY, OREGON

CLASS OF WORK:
SIGNING AND SIGNALS

SPRING 2026

Prepared By:




CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
SPECIAL PROVISIONS

FOR

Signing, Traffic Signals
Clackamas County School Beacon Upgrades
Clackamas County

PROFESSIONAL OF RECORD CERTIFICATION:

<p>Seal w/signature</p>  <p>Digitally Signed 2025.06.18 16:40:55-07'00'</p> <p>EXPIRES: 06/30/26</p>	<p>I certify the Special Provision Sections listed below are applicable to the design for the subject project for Traffic Signals. Modified Special Provisions were prepared by me or under my supervision.</p> <p>Sections: 00210, 00220, 00221, 00222, 00223, 00224, 00228, 00280, 00290, 00320, 00905, 00940, 00950, 00960, 00962, 00990, 02560, 02910</p>
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FINAL ELECTRONIC DOCUMENT AVAILABLE UPON REQUEST

TABLE OF CONTENTS FOR SPECIAL PROVISIONS

SECTION 00110 – ORGANIZATION, CONVENTIONS, ABBREVIATIONS AND DEFINITIONS.....	4
SECTION 00120 – BIDDING REQUIREMENTS AND PROCEDURES	8
SECTION 00130 – AWARD AND EXECUTION OF CONTRACT	10
SECTION 00140 – SCOPE OF WORK.....	11
SECTION 00150 – CONTROL OF WORK.....	12
SECTION 00160 – SOURCE OF MATERIALS	15
SECTION 00165 – QUALITY OF MATERIALS	16
SECTION 00170 – LEGAL RELATIONS AND RESPONSIBILITIES.....	17
SECTION 00180 – PROSECUTION AND PROGRESS.....	19
SECTION 00190 – MEASUREMENT OF PAY QUANTITIES	22
SECTION 00195 – PAYMENT	23
SECTION 00196 – PAYMENT FOR EXTRA WORK.....	26
SECTION 00197 – PAYMENT FOR FORCE ACCOUNT WORK.....	27
SECTION 00199 – DISAGREEMENTS, PROTESTS AND CLAIMS.....	28
SECTION 00210 - MOBILIZATION.....	30
SECTION 00220 - ACCOMMODATIONS FOR PUBLIC TRAFFIC	30
SECTION 00221 - COMMON PROVISIONS FOR WORK ZONE TRAFFIC CONTROL	30
SECTION 00222 – TEMPORARY TRAFFIC CONTROL SIGNS	31
SECTION 00223 - WORK ZONE TRAFFIC CONTROL LABOR AND VEHICLES	32
SECTION 00224 - TEMPORARY TRAFFIC CHANNELIZING DEVICES.....	32
SECTION 00228 - TEMPORARY PEDESTRIAN AND BICYCLIST ROUTING	32
SECTION 00280 - EROSION AND SEDIMENT CONTROL	32
SECTION 00290 - ENVIRONMENTAL PROTECTION	34
SECTION 00305 - CONSTRUCTION SURVEY WORK.....	34
SECTION 00320 - CLEARING AND GRUBBING	34
SECTION 00905 - REMOVAL AND REINSTALLATION OF EXISTING SIGNS.....	34
SECTION 00940 - SIGNS.....	35
SECTION 00950 - REMOVAL OF ELECTRICAL SYSTEMS.....	35
SECTION 00960 - COMMON PROVISIONS FOR ELECTRICAL SYSTEMS	35
SECTION 00962 - METAL ILLUMINATION AND TRAFFIC SIGNAL SUPPORTS.....	36
SECTION 00990 - TRAFFIC SIGNALS	37
SECTION 02560 - FASTENERS	38
SECTION 02910 - SIGN MATERIALS	38

SPECIAL PROVISIONS

Clackamas County Special Provisions (2024 version October 11, 2024)

SECTION 00110 – ORGANIZATION, CONVENTIONS, ABBREVIATIONS AND DEFINITIONS

Comply with Section 00110 of the Standard Specifications supplemented and/or modified as follows:

00110.05(d) References to Laws, Acts, Regulations, Rules, Ordinances, Statutes, Orders, and Permits

Add the following to the first bullet (Statutes and Rules):

- Clackamas County's Local Contract Review Board (LCRB) Rules are accessible online on the County's website <https://dochub.clackamas.us/documents/drupal/ef976bc9-14f4-495b-9bd8-c69ee7334685>
- EquipmentWatch
www.equipmentwatch.com
- ODOT Construction Section - Qualified Products List (QPL)
www.oregon.gov/ODOT/Construction/Pages/Qualified-Products.aspx
- ODOT Construction Surveying Manual for Contractors
www.oregon.gov/ODOT/ETA/Documents_Geometronics/Construction-Survey-Manual-Contractors.pdf

00110.10 Abbreviations

Add the following:

CCDA - Clackamas County Development Agency
DTD - Clackamas County Department of Transportation and Development
LCRB - Local Contract Review Board
ODFW - Oregon Department of Fish and Wildlife
UNS - Utility Notification System
WES - Water Environment Services of Clackamas County

00110.20 Definitions

Add or modify definitions as follows:

Agreement Form – The written agreement between the Owner and Contractor covering the work to be performed under the contract.

Amendment – A contract modification for Additional Work, Changed Work, Extra Work, Field Directives, or other changes. An Amendment changes the contract value, scope,

and/or time. Amendments require formal approval by the Board of County Commissioners, pursuant to LCRB Rule Division C-049-160, prior to approval of such work.

Approved Equal - Materials or services proposed by the contractor and approved by the County as equal substitutes for those materials or services specified.

Award – Same as “Notice to Intent to Award”.

BCC – The Clackamas County Board of County Commissioners

Bid - A written offer by a bidder on forms furnished by the County to do work stated in the bid documents at the prices quoted. "Bid" is synonymous with "proposal" in these bid documents.

Bid Closing - The date and time for Bid Closing is the same as the date and time for Bid Opening.

Bid Documents- The following documents together comprise the Bid Documents:

- Invitation to Bid, Instructions to Bidders, Bid Form, Bid Proposal, Schedule of Prices, Bid
- Bond, Performance Bond
- Certificate of Insurance, Prevailing Wage Rates
- The "Oregon Standard Specifications for Construction" by ODOT and APWA, 2024 edition.
- Plans and drawings
- Other bid documents included or referenced in the bid documents
- Addenda, if any
- The Agreement Form and Special Provisions

Bonds - The bond or surety bond is a written document given by the surety and principal to the obligee to guarantee a specific obligation.

Change Order - A price agreement for Extra Work, Changed Work, field directives, or other changes. A Change Order does not change the contract value, scope, or time until it is incorporated into an Amendment. Change Orders will be agreed upon, in writing, by the County Project Manager and the Contractor's designated representative.

Contract - The written contract agreement, including amendments, signed by the Contractor and Clackamas County, which describes the work to be done, the contract amount, and defines the relationships and obligations of the Contractor and the County.

Contract Documents - The Invitation to Bid, the Instructions to Bidders, the accepted Bid Proposal and Schedule of Prices, the Subcontractor List, the Bid Bond, the Performance and Payment Bond, the Certificate of Insurance, the Prevailing Wage Rates, the Standard Specifications and Special Provisions, Amendments, the Plans and Drawings, the

Agreement, as well as all documents incorporated by reference therein, and any and all addenda prepared by or at the direction of and adopted by the County and further identified by the signature of the parties and all modifications thereof incorporated in the documents before their execution.

County - The term "County" shall mean Clackamas County, including the Board of County Commissioners, employees and agents of the County authorized to administer the conditions of these contract documents.

Department – A subdivision of the Agency.

Engineer - The County's Project Manager either acting directly or through an authorized representative(s). When referring to approval of extra work or other Contract modifications, "Engineer" also refers to the County's legal authority according to the LCRB rules.

Invitation to Bid - The public announcement (Notice to Contractors) inviting bids for work to be performed or materials to be furnished.

Legal Holiday - As defined in ORS 279C.540.

Lump Sum - A method of payment providing for one all-inclusive cost for the work or for a particular portion of the work.

Notice of Intent to Award - A written notice from the County notifying bidders that the County intends to award to the responsible bidder submitting lowest responsive bid.

ODOT Procurement Office – Clackamas County Purchasing Department.

Owner – Synonymous with Agency.

Plan Holder's List – A list of contractor's names, contact names, phone and fax numbers that the County's Purchasing Department creates during bidding of the Project.

Project Manager – The Owner's representative who directly supervises the engineering and administration of the contract.

Shop Drawings – Synonymous with Working Drawings.

Solicitation Document – Synonymous with Bid Documents.

Standard Drawings – The Agency-prepared detailed drawings for Work or methods of construction that normally do not change from project to project. The Standard Drawings include the ODOT Standard Drawings.

Standard Specifications - "Oregon Standard Specifications for Construction", current edition, published by the Oregon Department of Transportation and as amended by **the Agency**.

State - Where the term "State" or "State of Oregon" or "ODOT" appears in the contract documents it shall mean "Clackamas County", "State of Oregon", or "ODOT" as applicable because of context.

Work Day - Any and every calendar day from January 1 to December 31 of every year, excluding Saturdays, Sundays and Legal Holidays.

END OF SECTION

SECTION 00120 – BIDDING REQUIREMENTS AND PROCEDURES

Comply with Section 00120 of the Standard Specifications supplemented and/or modified as follows:

00120.00 Prequalification of Bidders - Delete and replace with the following:

See Instructions to Bidders. To gain Prequalification of Bidders through ODOT:

- If delivered by electronic mail, the application shall be sent to:

ODOTProcurementOfficeConstruction@odot.oregon.gov
- If delivered by mail or parcel delivery service, the application shall be sent to:

Oregon Department of Transportation
Procurement Construction Contracts, MS #33
355 Capitol Street NE
Salem, OR 97301

00120.01 General Bidding Requirements – Delete and replace with the following:

See Instructions to Bidders.

00120.05 Request for Plans, Special Provisions, and Bid Booklets: – Delete and replace with the following:

See Notice of Public Improvement Contract and Instructions to Bidders.

Copies of the 2024 Oregon Standard Specifications for Construction and Supplements might be found on the Oregon Department of Transportation website at:

http://www.oregon.gov/ODOT/Business/Pages/Standard_Specifications.aspx

The Plans, which are applicable to the Work to be performed under the Contract, are included in these Special Provisions.

00120.30 Changes to Plans, Specifications, or Quantities before Opening of Bids - Delete and replace with the following:

See Instructions to Bidders.

00120.40 Preparation of Bids – Delete and replace this section with the following:

See Instructions to Bidders.

00120.45 Submittal of Bids - Delete and replace with:

See Instructions to Bidders.

00120.50 Submitting Bids for More than One Contract – Delete this subsection.

00120.60 Revision or Withdrawal of Bids - Delete and replace with the following:

See Instructions to Bidders.

00120.70 Rejection of Nonresponsive Bids – Delete and replace with the following:

See Instructions to Bidders.

00120.95 Opportunity for Cooperative Arrangement – Delete this section.

END OF SECTION

SECTION 00130 – AWARD AND EXECUTION OF CONTRACT

Comply with Section 00130 of the Standard Specifications supplemented and/or modified as follows:

00130.00 Consideration of Bids - Delete third paragraph.

00130.10 Award of Contract - Delete and replace with the following:

See Instructions to Bidders.

00130.15 Right to Protest Award – Delete and replace with the following:

See Instructions to Bidders.

00130.30 Contract Booklet – Add the following:

Other documents are part of the contract documents by reference. These include, but are not limited to:

- The "Oregon Standard Specifications for Construction", 2024 Edition, as published by the Oregon Department of Transportation (ODOT).
- "Oregon Standard Drawings" latest edition, as published by ODOT.
- Clackamas County Service District No. 1 "Surface Water Standard Specifications", latest edition.

00130.40 Contract Submittals - Delete and replace with the following:

See Instructions to Bidders.

00130.70 Release of Bid Guaranties – Delete and replace with the following:

See Instructions to Bidders.

END OF SECTION

SECTION 00140 – SCOPE OF WORK

Comply with Section 00140 of the Standard Specifications supplemented and/or modified as follows:

00140.30 Agency-Required Changes in the Work – Replace the last paragraph with the following:

Upon receipt of an Engineer's written order modifying the Work, the Contractor shall perform the Work as modified via Change Order, which may be subject to approval as an Amendment.

If an Amendment incorporating changes to the Work increases the Contract amount, the Contractor shall notify its Surety of the increase and shall provide the Agency with a copy of any resulting modification to bond documents. The Contractor's performance of Work pursuant to Amendments shall neither invalidate the Contract nor release the Surety. Payment for changes in the Work shall be made in accordance with 00195.20. Contract Time adjustments shall be made in accordance with 00180.80.

00140.31 "As-Built" Records - Add the following section:

Maintain a current and accurate record of the work completed during the course of this contract. This may be in the form of "as-built" drawings kept by accurately marking a designated set of the contract plans with the specified information as the Work proceeds. Accurate, complete and current "as-built" drawings are a specified requirement for full partial payment of the work completed. At project completion and as a condition of final payment, the Contractor shall deliver to the Project Manager a complete and legible set of "as-built" drawings.

The "as-built" drawings must show the information listed below. Where the term "locate" or "location" is used, it shall mean record of position with respect to both the construction vertical datum and either construction horizontal datum or a nearby permanent improvement.

- 1) Record location of underground services and utilities as installed.
- 2) Record location of existing underground utilities and services that are to remain and that are encountered during the course of the work.
- 3) Record changes in dimension, location, grade or detail to that shown on the plans.
- 4) Record changes made by change order.
- 5) Record details not in the original plans.
- 6) Provide fully completed shop drawings reflecting all revisions.

END OF SECTION

SECTION 00150 – CONTROL OF WORK

Comply with Section 00150 of the Standard Specifications modified as follows:

00150.00 Authority of the Engineer – Delete and replace the first sentence with the following:

Except as indicated elsewhere in the Contract (e.g. Amendment approval by the BCC), the Engineer has full authority over the Work and its suspension.

00150.05 Cooperative Arrangements – Delete this section.

00150.10 Coordination of Contract Documents

(a) Order of Precedence – Delete this section and replace with the following:

The Engineer will resolve any discrepancies between these documents in the following order of precedence:

- Approved Amendments;
- Approved Change Orders
- Bid Schedule with Schedule of Prices;
- Permits from governmental agencies
- Special Provisions;
- Agency-prepared drawings specifically applicable to the Project and bearing the Project title;
- Reviewed and accepted, stamped Working Drawings;
- Agreement Form;
- Standard Drawings;
- Approved Unstamped Working Drawings;
- Standard Specifications;
- All other Contract Documents not listed above.

Notes on a drawing shall take precedence over drawing details.

Dimensions shown on the drawings, or that can be computed, shall take precedence over scaled dimensions.

00150.15(c) Contractor Responsibilities - Replace this subsection, except for the subsection number and title, with the following:

The Contractor shall perform the Contractor responsibilities described in the ODOT Construction Surveying Manual for Contractors, Chapter 1.6 (see Section 00305) and the following:

- Perform staking layout of Flashing Beacons and appetences.
- Perform earthwork slope staking including intersections and matchlines and set stakes defining limits for clearing which approximate right-of-way and easements.

- Inform the Engineer of any property corners monuments and/or survey markers that are not shown on the plans and are found during construction activities prior to disturbing the monuments. Allow the Agency 2 Work days for referencing all found markers before they are removed. Monuments that are noted on the plans to be protected and are disturbed by the Contractor's activities shall be replaced by the Contractor's surveyor at the Contractor's expense.

The Contractor shall perform the Contractor responsibilities described in the ODOT Construction Surveying Manual for Contractors, Chapter 1.6 (see Section 00305).

00150.50 Cooperation with Utilities: Add the following to the end of Paragraph (a):

There may be other utility servers who are not specifically listed in these Special Provisions or on the Plans that may be adjusting or inspecting their facilities within the project limits.

00150.50(c) Contractor Responsibilities – Add the following to the bulleted list:

- Hold a utility scheduling meeting and monthly utility coordination meetings (see also 00180.42);
- Maintain and re-establish utility location marks according to OAR 952-001-0090(3)(a). Coordinate re-establishment of the location marks with the associated Utility;
- Determine the exact location before excavating within the tolerance zone according to OAR 952-001-0090(3)(c);
- Backfill any exposed utilities as recommended and approved by the Utility representative. Obtain utility locate warning tape from the Utility and replace damaged or removed warning tape. Utility locate warning tape may not be present at all existing utilities;
- Stake, place warning tape, and maintain no work limits around critical Utility facilities as shown or directed by the Engineer and the Utility; and
- In addition to the notification required in OAR 952-001-0090(6), notify the Engineer and the Utility as soon as the Contractor discovers any previously unknown Utility conflicts or issues. Contrary to the OAR, stop excavating until directed by the Engineer and allow the Utility a minimum of two weeks to relocate or resolve the previously unknown utility issues.

The existing underground utilities shown on the Plans have been determined by as-built records and field surveys, but are not guaranteed to be complete or accurate. The Contractor shall be responsible for contacting the individual utility companies to mark locations, and arranging with them for any relocation work that should be required.

The Contractor shall make excavations and borings ahead of the work where necessary to determine the exact location of underground pipes or other features, which might interfere with construction. The Contractor shall support and protect pipes or other services where they cross the trench and shall be responsible for all damages incidental in interruptions of service that may be caused by Contractor operations. Where a new utility line crosses an existing pipeline or other conduit, the trench backfill shall be well compacted in a manner that provides for the required backfill and compaction standards while protecting the utility in question.

Add the following subsection:

00150.50(f) Utility Information (No Anticipated Relocations) - Within the Project limits, there are no anticipated relocations with the Utilities listed below. The Contractor shall use the Oregon Utility Notification Center to obtain a list of utilities in the project area. The Contractor shall contact

those Utilities having buried facilities and request that they locate and mark them for their protection prior to construction.

Table 00150-1

Utility	Contact Person's Name, Email, and Phone Number
Portland General Electric	Penni Bean, penni.bean@pgn.com , (503) 347-9203
Portland General Electric	Tom Herd, tom.herd@pgn.com , (503) 849-7147

The Contractor shall notify, in writing, PGE, with a copy to the Engineer, at least 14 Calendar Days before beginning Work on the Project.

In the event of an emergency, and in addition to the calls required by the Utilities notification system, the Contractor shall call:

- ☐ Marathon Petroleum Corporation / Andeavor 1-800-725-1514; or
- ☐ Avista Corporation 1-800-227-9187; or
- ☐ Cascade Natural Gas Corporation 1-888-522-1130; or
- ☐ Kinder-Morgan Energy 503-224-3390; or
- ☐ Northwest Natural Gas 1-800-882-3377; or
- ☐ Ruby Pipeline (LNG) 1-877-712-2288; or
- ☐ TransCanada GTN 1-800-447-8066; or
- ☐ Williams Pipeline 1-801-584-6948.

PGE - Power Suppliers -

Energized power lines overhang portions of the Work with a minimum vertical clearance of 18 feet. The Contractor shall maintain at least 10 feet of safety clearance. Exceptions require written approval from the Power Supplier and may require an On-Site safety watcher, at no cost to the Contractor. The Contractor shall provide the Engineer a copy of the written approval of exception before beginning Work.

00150.70 Detrimental Operations – Add the following:

Portions of this project might be constructed in close proximity to existing private improvements. All private improvements disturbed by the Contractor's operations shall be repaired or replaced to equal or better condition at the Contractor's expense. The Engineer may withhold from future payments to the Contractor, an amount equal to the costs reasonably estimated by the Engineer to repair or replace, as the case may be, those private improvements disturbed by the Contractor's operations. Engineer shall release the retained amount once Engineer has determined that the Contractor has completed the repair consistent with the requirements of this provision. In addition, prior to construction, the Contractor shall provide to the Engineer videotape showing private property, if any, which may be disturbed during construction.

END OF SECTION

SECTION 00160 – SOURCE OF MATERIALS

Comply with Section 00160 of the Standard Specifications supplemented and/or modified as follows:

00160.20(a) Buy America – Delete this section and replace with the following: Federal highway funds are NOT involved on this Project.

END OF SECTION

SECTION 00165 – QUALITY OF MATERIALS

Comply with Section 00165 of the Standard Specifications modified as follows:

00165.04 Costs of Testing – Replace this section with the following sentence: All testing required to be performed by the Contractor will be at the Contractor's expense.

00165.10(a) Field-Tested Materials – Add the following sentence: The County follows the MFTP on its projects:

00165.10(b) Nonfield-Tested Materials - Add the following sentence:

The County follows the NTMAG on its projects.

END OF SECTION

SECTION 00170 – LEGAL RELATIONS AND RESPONSIBILITIES

Comply with Section 00170 of the Standard Specifications supplemented and/or modified as follows:

00170.02 Permits, Licenses, and Taxes – Add the following:

This project is to be constructed in Clackamas County road right of way and streets. There are no separate road opening permits required from Clackamas County to perform the work required under this contract.

If the County has acquired all necessary rights of way for the project, no modification to Section 00170.03 is required.

00170.61(a) Workers' Compensation - Replace this subsection, except for the subsection number and title, with the following:

The Contractor shall provide workers' compensation coverage for on-the-job injuries as required by 00170.70(e).

00170.65(b)(1) Minimum Wage Rates – Replace the paragraph that begins "The Bureau of Labor and Industries (BOLI) ..." with the following paragraph:

The Bureau of Labor and Industries (BOLI) determines and publishes the existing State prevailing wage rates in the publication *Prevailing Wage Rates for Public Works Contracts*. The Contractor shall pay workers not less than the specified minimum hourly wage rate according to ORS 279C.838 and ORS 279C.840, and shall include this requirement in all subcontracts.

Add the following subsection:

00170.67 Fees - The fee required by ORS 279C.825(1) will be paid by the Agency to the Commissioner of the Oregon Bureau of Labor and Industries under the administrative rules of the Commissioner.

00170.70(a) Insurance Coverages - Add the following to the end of this subsection:

The following insurance coverages and dollar amounts are required pursuant to this subsection:

Insurance Coverages	Combined Single Limit per Occurrence	Annual Aggregate Limit
Commercial General Liability	\$1,000,000	\$2,000,000
Commercial Automobile Liability	\$1,000,000	(aggregate limit not required)

00170.70(d) Additional Insured - Replace the paragraph that begins "The liability insurance coverages of 00170.70(a)..." with the following paragraph:

The liability insurance coverages of 00170.70(a) shall include an Additional Insured Endorsement endorsing the "State of Oregon, the Oregon Transportation Commission and the Oregon Department of Transportation, and their respective officers, members, agents, and employees" as Additional Insureds, but only with respect to the Contractor's activities to be performed under the Contract.

Coverage shall be primary and non-contributory with any other insurance and self-insurance. The liability coverages of 00170.70(a) that are permitted by the Agency to be obtained by an appropriate Subcontractor shall include all of the foregoing as Additional Insureds and shall also include the Contractor and its officers and employees as Additional Insureds.

- Clackamas County and its officers, agents, and employees
- Clackamas County Board of Commissioners

00170.72 Indemnity/Hold Harmless – Delete and replace with the following:

Clackamas County Public Improvement Contract.

Extend indemnity and hold harmless to the Agency and the following:

- Clackamas County and its officers, agents, and employees
- Clackamas County Board of Commissioners

00170.85(b-1) Contractor Warranty for Specific Items – This subsection does not apply:

END OF SECTION

SECTION 00180 – PROSECUTION AND PROGRESS

Comply with Section 00180 of the Standard Specifications supplemented and/or modified as follows:

00180.06 Assignment of Funds Due Under the Contract - Delete first bulleted item.

00180.21 Subcontracting - Add the following to subsection (a):

All contracts with subcontractors or suppliers shall have provisions making the contract assignable to the County, at the option of the County, if the Contractor terminates, goes out of business, declares bankruptcy, or otherwise is unable to perform provided that the County gives the subcontractor notice of assignment within fourteen (14) days of learning of the inability of the Contractor to perform.

The Engineer may revoke consent to subcontract. If the Engineer revokes consent to subcontract, the subcontractor shall be immediately removed from the Project Site.

00180.40 Limitation of Operations - Add the following to subsection (a):

The Contractor must provide, at a minimum, a 48-hour notice to the Clackamas County Project Manager in order to perform any work on Saturdays.

Add the following subsection:

00180.40(c) Specific Limitations - Limitations of operations specified in these Special Provisions include, but are not limited to, the following:

Limitations	Subsection
Cooperation with Utilities	00150.50
Contract Time	00180.50(h)
Closed Lanes	00220.40(e)(1)
Noise Control	00290.32

Be aware of and subject to schedule limitations in the Standard Specifications that are not listed in this Subsection.

00180.41 Project Work Schedules – Add the following:

A Type “B” schedule as detailed in the Supplemental Specifications is required on this Contract. In addition, a three-week look ahead schedule shall be prepared by the Contractor on a weekly basis and submitted to the Engineer. It shall include all construction activities planned for the following three-week period. The three-week look ahead schedule can be hand-written and shall be in a format agreed upon by the Contractor and the Engineer.

00180.43 Commencement and Performance of Work - Add the following bullet item:

- Conduct the work at all times in a manner and sequence that will insure minimal interference with traffic. The Contractor shall not begin work that will interfere with work already started. If it is in the County's best interest to do so, the County may require the Contractor to finish

a portion or unit of the project on which work is in progress or to finish a construction operation before work is started on an additional portion or unit of the project.

Add the following subsection:

00180.50(h) Contract Time - There is one Contract Time on this Project as follows:

- The Contractor shall complete all Work to be done under the Contract not later than September 30, 2026.

00180.70 Suspension of Work - Add the following to the first bullet item:

If the Inspector has reason to believe that any safety provisions are not being adhered to, the Inspector will immediately notify the Contractor's site foreman and/or the appropriate person and the County Project Manager. The purpose of this discussion is to determine the validity of the alleged violation. This will also allow the Contractor a reasonable amount of time to correct or improve any of the provisions for the safety on this project. If the County Project Manager finds the problem still unresolved or uncorrected, they will notify the Contractor's Project Manager and the County's Risk Management Safety Analyst. If the County's Risk Management Safety Analyst finds that the job site contains any unresolved safety issues they will take appropriate action up to and including suspension of the Contractor's operations on all or part of the Work.

Add the following subsection:

00180.85(c) Lane Closures - Lane closures beyond the limits specified will inconvenience the traveling public and will be a cost to the Agency.

It is impractical to determine the actual damages the Agency will sustain in the event Traffic Lanes are closed beyond the limits listed in 00220.40(e). Therefore, the Contractor shall pay to the Agency, not as a penalty, but as liquidated damages, \$500.00 per 15 minutes, or for a portion of 15 minutes, per lane, for any lane closure beyond the limits listed in 00220.40(e).

The Engineer will determine when it is safe to reopen lanes to traffic. Assessment of liquidated damages will stop when all lanes have been safely reopened. Any liquidated damages assessed under these provisions will be in addition to those listed in 00180.85(b).

00180.88 Workplace Harassment Prevention Plan – Submit a workplace harassment prevention plan for review 10 days before the preconstruction conference. The plan shall ensure all workers are guaranteed a safe and respectful work environment regardless of their identity or status. The plan applies to, but is not limited to, a worker's race, gender, creed, or any protected characteristic under state or federal law. At a minimum, the plan shall include:

- A Statement that the Contractor shall provide a safe and respectful workplace on the jobsite for all workers, subcontractors, suppliers, and other persons performing work.
- A description of how the plan will be implemented and monitored during the project duration.
- A list of the in-person trainings that will be conducted for workers of all ranks working on the project to support, promote, and grow a positive jobsite culture.
- A list of meaningful policies including procedures for aggrieved workers in need of recourse.
- How incidents involving bullying or harassment will be investigated and resolved in a prompt, thorough, and impartial manner.

Contractor shall post on the jobsite and make available copies of policies about hate, intimidation, or harassment including how to report incidents and how to receive support. Materials will be provided in all languages necessary to be inclusive of the workforce.

00180.89 Measurement – No measurement of quantities will be made for workplace harassment prevention plan.

00180.95 Payment – Payment for workplace harassment prevention plan will be for developing and implementing the plan during construction of the project, in-person training, developing meaningful policies, and investigating incidents.

END OF SECTION

SECTION 00190 – MEASUREMENT OF PAY QUANTITIES

Comply with Section 00190 of the Standard Specifications supplemented and/or modified as follows:

00190.20(g) Agency-Provided Weigh Technician: Delete and replace subsection (g) with the following:

The Contractor must provide a weigh technician. The Agency will not provide one for the Contractor.

END OF SECTION

SECTION 00195 – PAYMENT

Comply with Section 00195 of the Standard Specifications supplemented and/or modified as follows:

00195.10 Payment for Changes in Material Costs - Delete and replace with the following:

No asphalt cement cost adjustment shall be used on this project.

00195.12 Steel Material Price Escalation/De-Escalation Clause – Add the following sentence:

No steel material price escalation/de-escalations shall be used on this project. There is no option for Contractor participation.}

00195.20(b) Significant Changed Work – Add the following:

Significant is defined as:

- a) An increase or decrease of more than 25 percent of the total cost of the Work calculated from the original proposal quantities and the unit contract prices; or,
- b) An increase or decrease of more than 25 percent in the quantity of any one major contract item.

For condition b) above, a major item is defined as any item that amounts to 10 percent or more of the original total contract price.

00195.50(a)(1) Progress Estimates - Delete the first sentence and replace with the following:

At a regular period each month to be determined at the Preconstruction Conference, the Contractor will make an estimate of the amount and value of pay item work completed and in place. This estimate will be submitted to the Project Manager for review and approval.

(2) Value of Material on Hand - Delete the section and replace with the following:

(2) Value of Material on Hand - The Contractor will make an estimate of the amount and value of acceptable material to be incorporated in the completed work which has been delivered and stored as given in 00195.60(a) for review and approval.

(4) Limitations on Value of Work Accomplished - In the first sentence, change "Engineer's estimate" to "Contractor's reviewed estimate".

00195.50 (b) Retainage - Delete the first paragraph and replace with:

The amount to be retained from progress payments will be 5.0% of the value of payments made, and will be retained in one of the forms specified in Subsection (c) below. The County will withhold Retainage from all force account and change order work.

00195.50(c)(1) Cash, Alternate A – Replace this subsection, except for the subsection number and title, with the following:

Retainage will be deducted from progress payments and held by the Agency until final payment is made according to 00195.90, unless otherwise specified in the Contract.

Except as otherwise provided, the Agency will deposit the cash retainage withheld in an interest bearing account, established through the State Treasurer for the benefit of the Agency, as required by ORS 279C.560(5). Interest earned on the account shall accrue to the Contractor. Amounts retained and interest earned will be included in the final payment made according to 00195.90, unless otherwise specified in the Contract.

Any retainage withheld on Work performed by a Subcontractor will be released to the Contractor according to 00195.50(d).

00195.50(c)(2) Cash, Alternate B (Retainage Surety Bond) - Replace this subsection, except for the subsection number and title, with the following:

The Contractor may submit a Surety bond in lieu of all or a portion of the retainage required under the Contract. The Agency will accept this Surety bond unless the Agency first finds in writing good cause for rejection based on unique project circumstances in accordance with ORS 279C.560(1)(c).

The Surety bond must be in substantially the form specified in ORS 701.435 (4) (Oregon House Bill 4006, 2024), and executed by a Surety bonding company that is authorized to transact Surety business in the State of Oregon and may not be a Surety obligation of an individual. The Surety bond and any proceeds of the Surety bond must be made subject to all claims and liens and in the same manner and priority specified for retainage under ORS 279C.550 to 279C.570 and ORS 279C.600 to 279C.625. Agency will reduce the cash retainage held by an amount equal to the value of the Surety bond and pay the amount of the reduction to Contractor according to ORS 279C.570. Any retainage withheld on Work performed by a Subcontractor will be released to the Contractor according to 00195.50(d).

When the Agency accepts a Surety bond in lieu of retainage from the Contractor, the Contractor shall accept Surety bonds from Subcontractors or Suppliers from which the Contractor has withheld retainage. At any time before final payment a Subcontractor may submit a Surety bond to the Contractor and request that the Contractor submit a Surety bond as described above for the portion of the Contractor's retainage that pertains to the Subcontractor. The Surety bond the Subcontractor provides to the Contractor must meet the Agency requirements specified in the paragraph above. When a Contractor at a Subcontractor's request obtains and submits a Surety bond under this subsection, the Contractor may withhold from payments to the Subcontractor an amount equivalent to the portion of the Contractor's Surety bond premium for which the Subcontractor is responsible in accordance with ORS 279C.560 (Oregon House Bill 4006, 2024).

Within 30 Days after a Subcontractor's request the Contractor shall provide a Surety bond as described above, and the Agency will accept the Surety bond unless:

- the Agency finds in writing good cause for rejection based on unique project circumstances in accordance with ORS 279C.560;
- a Surety bond is not commercially available;
- the Subcontractor refuses to pay to the Contractor the Subcontractor's portion of the Surety bond premium; or
- the Subcontractor refuses to provide the Contractor with a Surety bond that meets the requirements of ORS 279C.560(1)(b).

Notwithstanding 00195.50(d), within 30 Days of receiving a Surety bond from Contractor at a Subcontractor's or Supplier's request, Agency will release to the Contractor the amount held as retainage that is equivalent to the amount the Contractor submitted as a Surety bond. Contractor shall, within 30 Days after receiving a Surety bond from a Subcontractor or Supplier, release to the Subcontractor or Supplier the amount the Contractor holds as retainage that is equivalent to the amount of the Surety bond submitted, in accordance with ORS 279C.560(8).

00195.50(c)(3) Bonds, Securities, and Other Instruments - Replace this subsection, except for the subsection number and title, with the following:

Contractor may deposit bonds, securities or other instruments with the Agency or in a bank or other financial institution, to be held by Agency instead of cash retainage for the benefit of the Agency, which the Agency will accept unless the Agency first finds in writing good cause for rejection based on unique project circumstances, in accordance with ORS 279C.560(1)(c).

If the Contractor deposits bonds, securities or other instruments, and Agency does not reject the bonds, securities or other instruments as permitted by ORS 279C.560(1)(c), the Agency will reduce the cash retainage by an amount equal to the value of the bonds, securities and other instruments. Interest or earnings on the bonds, securities and other instruments accrue to the Contractor.

Bonds, securities and other instruments deposited instead of cash retainage shall be of a character approved by the Director of the Oregon Department of Administrative Services, including, but not limited to:

- Bills, certificates, notes or bonds of the United States;
- Other obligations of the United States or agencies of the United States;
- Obligations of a corporation wholly owned by the federal government;
- Indebtedness of the Federal National Mortgage Association;
- General obligation bonds of the State of Oregon or a political subdivision of the State of Oregon;
- Irrevocable letters of credit issued by an insured institution, as defined in ORS 706.008.

00195.50(f) Prompt Payment Policy - Replace this subsection, except for the subsection number and title, with the following:

Payments shall be made promptly according to ORS 279C.560, ORS 279C.570, ORS 279C.580 and other applicable legal requirements.

END OF SECTION

SECTION 00196 – PAYMENT FOR EXTRA WORK

Comply with Section 00196 of the Standard Specifications supplemented and/or modified as follows:

00196.91 Extra Work Allowance – Add the following new section:

The Bid schedule of prices contains a bid item for a pre-determined amount of Engineer ordered extra work. All Bidders shall reflect this same amount in their total Bid. No Bidder shall presume in the preparation of the bid or in the course of contract work that there will be a certain payment under that item or a certain order for extra work.

END OF SECTION

SECTION 00197 – PAYMENT FOR FORCE ACCOUNT WORK

Comply with Section 00197 of the Standard Specifications.

END OF SECTION

SECTION 00199 – DISAGREEMENTS, PROTESTS AND CLAIMS

Comply with Section 00199 of the Standard Specifications supplemented and/or modified as follows:

00199.40 Claim Decision; Review; Exhaustion of Administrative Remedies - Delete the entire section and replace with the following:

The Contractor must properly submit a claim as detailed in 00199.30.

(a) Engineer Claim Review - The Engineer or Project Manager will, as soon as practicable, consider and investigate a Contractor's properly submitted claim for additional compensation, Contract Time, or for a combination of additional compensation and Contract Time. Once the Engineer or Project Manager determines the Agency is in receipt of a properly submitted claim, the Engineer or Project Manager will arrange a meeting, within 28 Calendar Days, or as otherwise agreed by the parties, with the Contractor in order to present the claim for formal review and discussion. A person authorized by the Contractor to execute Change Orders on behalf of the Contractor must be present and attend all claim meetings.

If the Engineer or Project Manager determines that the Contractor must furnish additional information, records, or documentation to allow proper evaluation of the claim, the Engineer will schedule a second meeting, to be held within 14 calendar days, or as otherwise agreed by the parties, at which the Contractor shall present the requested information, records and documentation.

The Engineer or Project Manager will advise the Contractor of the decision to accept or reject the claim. If the Engineer or Project Manager finds the claim has merit, an equitable adjustment will be offered. If the Engineer or Project Manager finds the claim has no merit, no offer of adjustment will be made and the claim will be denied. The County intends to resolve claims at the lowest possible level.

If, at any step in the claim decision or review process, the Contractor fails to promptly submit requested information or documentation that the Agency deems necessary to analyze the claim, the Contractor is deemed to have waived its right to further review, and the claim will not be considered properly filed and preserved.

If the Engineer or Project Manager has denied a claim, in full or in part, for Contract Time only according to 00180.80, or has denied a claim, in full or in part, for correction of final compensation according to 00195.95, those disputed claims may then be resolved, in full or in part, at either of the two progressive steps of claim review procedure as specified in this Subsection. For all claims, all of the actions and review under each step of the review process shall occur before the review can be advanced to the next higher step.

(b) Director Claim Review - Upon request by the Contractor, the Department Director will review the Engineer or Project Manager's decision on the claim and advise the Contractor of the decision in writing. If the Director finds the claim has merit, and equitable adjustment will be offered. If the Director finds the claim has no merit, no offer of adjustment will be made and the claim will be denied.

Once the Engineer determines the Agency is in receipt of a properly submitted claim, the Engineer will arrange a meeting, within 21 Calendar Days or as otherwise agreed by the parties, with the Contractor in order to present the claim for formal review and discussion.

If the Engineer determines that the Contractor must furnish additional information, records or documentation to allow proper evaluation of the claim, the Engineer will schedule a second meeting, to be held within 14 Calendar Days or as otherwise agreed by the parties, at which the Contractor shall present the requested information, records and documentation.

The Director shall evaluate the claim based on the information provided by the Contractor to the Engineer or Project Manager. However, if the Department Director (or designee) determines that the Contractor must furnish additional information, records or documentation to allow proper evaluation of the claim, the Department Director (or designee) will schedule a meeting, to be held within 14 Calendar Days, or as otherwise agreed by the parties, at which the Contractor shall present the requested information, records and documentation.

The claim is subject to records review, if not all of the records requested by the Department Director (or designee) were furnished. If applicable, advancement of the claim is subject to the provisions regarding waiver and dismissal of the claim or portions of the claim.

The decision of the Department Director shall be the final decision of the Agency.

(c) Commencement of Litigation - If the Contractor does not accept the Director's decision, then the Contractor shall commence any suit or action to collect or enforce any claim filed in accordance with 00199.30 within a period of one (1) year following the mailing of the decision or within one (1) year following the date of "Second Notification", whichever is later. If said suit or action is not commenced in said one (1) year period, the Contractor expressly waives any **and** all claims for additional compensation and any and all causes of suit or action for the enforcement thereof that he might have had.

The Contractor must follow each step in order, and exhaust all available administrative remedies before resorting to litigation. Litigation of a claim that cannot be resolved through the process described above shall be initiated by filing a complaint in the Clackamas County Circuit Court for the State of Oregon.

In any litigation, the entire text of any order or permit issued by the County or any other governmental or regulatory authority, as well as any documents referenced or incorporated therein by reference, shall be admissible for purposes of Contract interpretation.

The Contract shall not be construed against either party regardless of which party drafted it. Other than as modified by the Contract, the applicable rules of contract construction and evidence shall apply. This Contract shall be governed by and construed according to the laws of the State of Oregon without regard to principles of conflict of laws.

The Contractor shall comply with 00170.00.

00199.50 Mediation - Delete the entire section.

00199.60 Review of Determination Regarding Records - Delete the entire section.

END OF SECTION

SECTION 00210 - MOBILIZATION

Comply with Section 00210 of the Standard Specifications.

SECTION 00220 - ACCOMMODATIONS FOR PUBLIC TRAFFIC

Comply with Section 00220 of the Standard Specifications modified as follows:

00220.02(a) General Requirements - Add the following bullet to the end of the bullet list:

- When an abrupt edge is created by excavation, protect traffic according to the "Excavation Abrupt Edge" and the "Typical Abrupt Edge Delineation" configurations shown on the Standard Drawings.
- Protect pedestrians in pole base excavation areas by placing approved covers over all pole base excavations. Place a minimum of two B(II)LR barricades adjacent to and on either side of the excavated area, facing pedestrian traffic, or place covers and barricades as directed.

00220.40(e)(1) Closed Lanes - Replace this subsection, except for the subsection number and title, with the following:

Traffic Lanes may be closed on SE 152nd Avenue, SE Webster Road, SE River Road, and SE 172nd Avenue when allowed, shown, or directed during the following periods of time except as specified in 00220.40(e)(2):

Single Lane Closures – One Traffic Lane on the project roads may be closed during the following times:

- Daily, Monday through Friday, between 9:00 a.m. and 2:00 p.m.

SECTION 00221 - COMMON PROVISIONS FOR WORK ZONE TRAFFIC CONTROL

Comply with Section 00221 of the Standard Specifications modified as follows:

00221.06 Traffic Control Plan - Replace this subsection with the following subsection:

00221.06 Traffic Control Plan and Tourist-Oriented Directional and Business Logo Signs –

(a) Traffic Control Plan - Submit the following, 5 Calendar Days before the preconstruction conference:

(1) Traffic Control Plan - The Contractor shall use a TCP developed by the Contractor. Do not use a TCP, unless approved by the Engineer.

The TCP developed by the Contractor, at a minimum shall meet all requirements of the Contract documents and comply with the *2009 Manual on Traffic Control Devices* and *Oregon Supplement to the Manual on Uniform Traffic Control Devices*. Provide the following information:

- Stamped Working Drawings according to 00150.35 that include the proposed TCP showing all TCM and quantities of TCD.
- A TPAR plan that includes:
 - Details and features used to provide pedestrian accessibility.
 - Pedestrian staging Plans at a scale no smaller than 1 inch = 50 feet.
 - Temporary alternate facilities or detour routes for pedestrian traffic.
- Staging sequences and details for Work affecting vehicular, pedestrian, and bicycle traffic.
- Proposed order and duration of the TCM.
- A detailed temporary striping plan (if applicable).

Once a TCP has been accepted by the Engineer, any additional modifications must be submitted by the Contractor for Agency review following the procedure described above. The Engineer is not obligated to consider additional modifications to a previously approved TCP.

00221.90(b) Temporary Protection and Direction of Traffic – Replace the bullet that begins “Providing, Surfacing, maintain...” with the following bullet:

- Providing, surfacing, maintaining, removing, and restoring the TPAR.

SECTION 00222 – TEMPORARY TRAFFIC CONTROL SIGNS

Comply with Section 00222 of the Standard Specifications modified as follows:

- At least ten Calendar Days prior to the start of work, place a “SIDEWALK OPEN” (CW11-3) sign in advance of each end of the Work Area. Locate the sign so it is legible from the nearest alternate pedestrian pathway facing incoming pedestrian traffic. The sign may be mounted between the panels of a Type II barricade, or on a single-post TSS. Do not place the sign or support such that it narrows the pedestrian pathway to a width less than 4 feet.
- Before starting work, place pedestrian-specific TCM as shown in the TCP, or as directed. Maintain “SIDEWALK OPEN” (CW11-3) signs while work is affecting the pedestrian pathway.
- Place a “PEDESTRIANS ON ROADWAY” (CW11-2) sign at the beginning of each end of the Work Area, facing incoming traffic as shown, or as directed.
- Install "ROAD WORK AHEAD" (W20-1-48) signs with a 36 by 24-inch "FINES DOUBLE" (R2-6aP) rider on S Beavercreek Road and S Barlow Road Highway, according to the "TCD Spacing Table" shown on the Standard Drawings or as modified by the Plans except do not install the "FINES DOUBLE" rider on concrete barrier mounted signs.

- Install beyond each end of the Project, facing outgoing traffic, an "END ROAD WORK" (CG20-2A-24) sign a distance of $(A \div 2)$ according to the "TCD Spacing Table" shown on the Standard Drawings or as modified by the Plans.
- When construction requires bicycles to use the Traffic Lanes, install a "Bicycle ON ROADWAY" (CW11-1) symbol sign on 1/2 mile spacing through the affected area. Keep the signs in place until completion of the Shoulder or bikeway final surface.

SECTION 00223 - WORK ZONE TRAFFIC CONTROL LABOR AND VEHICLES

Comply with Section 00223 of the Standard Specifications.

SECTION 00224 - TEMPORARY TRAFFIC CHANNELIZING DEVICES

Comply with Section 00224 of the Standard Specifications.

SECTION 00228 - TEMPORARY PEDESTRIAN AND BICYCLIST ROUTING

Comply with Section 00228 of the Standard Specifications.

SECTION 00280 - EROSION AND SEDIMENT CONTROL

Comply with Section 00280 of the Standard Specifications modified as follows:

00280.00 Scope - Replace the paragraph that begins "This Work also consists of providing temporary ..." with the following paragraph:

This Work also consists of providing temporary erosion and sediment control (ESC) measures and furnishing, installing, moving, operating, maintaining, inspecting, and removing ESC throughout the Project area according to the Standard Drawings, the erosion and sediment control plan (ESCP), the Specifications, or as directed, until the site is permanently stabilized. Included also is the monitoring of weather, of stormwater and receiving waters, the reporting of monitoring observations, the reporting of corrective actions (when necessary) and the updates and revisions of the ESCP, including ESCP cover sheet, necessary to keep it representative of current site conditions and compliant with the 1200-CA permit if applicable.

Delete the paragraph that begins "When contaminants, pollutants or hazardous materials..."

Add the following paragraph to the end of this subsection:

The Agency's NPDES 1200-CA permit is applicable to the Project.

00280.02 Definitions - Delete the definition **Wet Season Work**

00280.04 Erosion and Sediment Control Plan on Agency Controlled Lands - Replace the bullet that begins “Information required under 1200-CA...” with the following bullet:

- Information required under 1200-CA permit, if applicable.

00280.06 Erosion and Sediment Control Manager - Delete this subsection.

00280.16(k) Active Treatment System – Add the following sentence to the end of this subsection:

Obtain approval of the active treatment system from DEQ prior to use.

00280.41(c) Wet Season Work and Temporary Work Suspension - Replace this subsection with the following subsection:

00280.41(c) Temporary Work Interruption - Update the ESCP and schedule for Work proposed between October 1 and May 31 to ensure that all appropriate controls, including ESC during Work interruption, are implemented and maintained. Submit the updated ESCP and schedule to the Agency and receive approval before beginning any Work between October 1 and May 31.

Between October 1 and May 31, limit excavation and bare ground activities to only those required for immediate operations. Stabilize stockpiles at the end of each workday by diverting flows, placing covers, or installing Sediment barriers.

00280.41(f) Hauling Material – Replace this subsection, except for the subsection number and title, with the following:

Cover loads carrying soil or sediment which may generate dust. Haul saturated loads in water tight beds or drain saturated loads prior to leaving the Project Site.

00280.41(g) Underground Injection Controls (UIC) – Replace this subsection, except for the subsection number and title, with the following:

Do not allow storm water from work area to enter Underground Injection Control (UIC) inlets, UIC catch basins or UIC wells.

00280.62 Inspecting and Monitoring – Delete the paragraph that begins “Inspect the Project Site...”.

00280.62(a) Inspection - Replace the paragraph that begins "Perform site inspection, complete..." with the following paragraph:

Inspect the Project Site and all ESC devices for Effective Function and potential erosion or sediment movement and complete all applicable parts of the ODOT Erosion Control Monitoring Form, and submit the form to the Agency as follows:

00280.64(a) Corrective Action Timelines – Delete the bullet that begins “If completion of corrective action is not feasible...”

Delete the bullet that begins “Provide a schedule for clean-up and corrective actions...”

Delete the bullet that begins “Provide all corrective action documentation and photographs...”

00280.91 Payment – Replace the paragraph that begins “Emergency Materials that are incorporated...” with the following paragraph:

Materials listed in 00280.48 that are incorporated into the Project will be paid for under the appropriate items listed in the Contract Schedule of Items.

SECTION 00290 - ENVIRONMENTAL PROTECTION

Comply with Section 00290 of the Standard Specifications modified as follows:

00290.32 Noise Control - Add the following paragraph(s) to the end of this subsection:

Review Clackamas County Code Chapter 6.05 Noise Control which describes noise control regulations: <https://www.clackamas.us/codeenforcement/noise-variance>. Obtain and be responsible for necessary permits described in Clackamas County Code 6.05.070 Variances. Comply with the applicable noise control requirements for Project Work.

SECTION 00305 - CONSTRUCTION SURVEY WORK

Comply with Section 00305 of the Standard Specifications.

SECTION 00320 - CLEARING AND GRUBBING

Comply with Section 00320 of the Standard Specifications modified as follows:

00320.40(c) Tree and Vegetation Trimming - Replace the bullet that begins “Trim branches obstructing sight...” with the following bullet:

- Trim and remove branches, vegetation, or other materials obstructing sight distance at intersections or impairing visibility of signs, signals, illumination, and other TCD.

00320.42 Disposal of Matter - Replace this subsection with the following subsection:

00320.42 Ownership and Disposal of Matter - Vegetation and natural material designated for preservation and salvage are the property of the Agency. All other matter and debris accumulated from clearing and grubbing operations become the Contractor’s property at the place of origin. Dispose of all matter and debris according to 00290.20.

SECTION 00905 - REMOVAL AND REINSTALLATION OF EXISTING SIGNS

Comply with Section 00905 of the Standard Specifications.

SECTION 00940 - SIGNS

Comply with Section 00940 of the Standard Specifications modified as follows:

00940.47 Sign Erecting - Add the following paragraph to the end of this subsection:

Trim and remove branches, vegetation, or other materials obstructing the visibility of signs by Public Traffic, as directed.

00940.90 Payment - Add the following paragraph(s) to the end of this subsection:

All signs and mounting brackets that are shown on Flashing Beacon Plans will be paid for as part of the lump sum Flashing Beacon Installation according to 00990.90. No separate or additional payment will be made for signs.

Trimming and removal of branches, vegetation, or other materials will be paid for according to 00320.90.

SECTION 00950 - REMOVAL OF ELECTRICAL SYSTEMS

Comply with Section 00950 of the Standard Specifications.

SECTION 00960 - COMMON PROVISIONS FOR ELECTRICAL SYSTEMS

Comply with Section 00960 of the Standard Specifications modified as follows:

00960.02 Equipment List and Drawing Submittals – Replace this subsection with the following subsection:

00960.02 Equipment List and Drawing Submittals – Within 30 Calendar Days after execution of the Contract, submit electronic PDF copies of the Blue Sheets (see 00160.00 and 001607.07) and the Green Sheets (see 00160.00 and 00160.07) according to 00150.37 for all materials the Contractor proposes to install. Refer to 00990 for exemptions to the Blue Sheets and Green Sheets on Clackamas County operated traffic signals.

Within 14 Calendar Days after receipt of submittals, the Engineer will review the submittals and designate them in writing as “review” or “reviewed with comments”. Then within the follow 7 Calendar Days after the Engineer review, Clackamas County Traffic Staff will review the submittals and designate them in writing “approved”, “approved as noted”, or “revise and resubmit”. Do not proceed with the Work before receiving written approval of the submittals from the Engineer or Clackamas County.

00960.10 Materials – Add the following to the end of this subsection:

Use only Schedule 80 PVC conduits and fittings for all underground conduits.

00960.30 Licensed Electricians – Replace this subsection, except for the subsection number and title, with the following:

According to the Oregon Administrative Rule 918-282-0120(1), no person or Entity shall allow any individual to perform electrical work for which the individual is not properly registered or licensed. Every person who installs electrical systems on the Project shall submit a copy of their electrical license or apprentice registration to the Engineer prior to performing any Work. They must be licensed as an S or a J under Oregon Administrative Rule 918-282-0140 or 918-282-0170.

00960.46 Service Cabinet and Electrical Energy -

Add the following to the end of the subsection:

Table 00960-1 contains Utility contact information to arrange for the Utility to make electrical hookups:

Table 00960-1

Location	Utility	Utility Contact Person's Name, Email and Phone Number	Utility Job Number
SE 152 nd Ave. (Oregon Trail Elementary)	PGE	Penni Bean, penni.bean@pgn.com , (503) 347-9203	M4530934
SE Webster Rd. (Alder Creek Middle)	PGE	Penni Bean, penni.bean@pgn.com , (503) 347-9203	M4530934
River Rd. (Riverside Elementary)	PGE	Penni Bean, penni.bean@pgn.com , (503) 347-9203	M4530934
River Rd. (Jennings Lodge Elementary)	PGE	Penni Bean, penni.bean@pgn.com , (503) 347-9203	M4530934
SE 172 nd Ave. (Scouters Mountain Elementary)	PGE	Tom Herd, tom.herd@pgn.com , (503) 849-7147	M5737174

Furnish and install a meter base approved by the serving Utility (with cover by the Utility), where shown.

SECTION 00962 - METAL ILLUMINATION AND TRAFFIC SIGNAL SUPPORTS

Comply with Section 00962 of the Standard Specifications modified as follows:

00962.46(j)(3) Bolt Inspection – Delete this subsection.

SECTION 00990 - TRAFFIC SIGNALS

This Section title is replaced with the following:

SECTION 00990 - TRAFFIC SIGNALS, RAMP METERS, FLASHING BEACONS, INTERCONNECT SYSTEMS & AUTOMATIC TRAFFIC RECORDERS

Comply with Section 00990 of the Standard Specifications modified as follows:

00990.00 Scope - Replace this subsection, except for the subsection number and title, with the following:

In addition to requirements of Section 00960 and Section 00962, install traffic signals, ramp meters, flashing beacons, interconnect systems, and automatic traffic recorders according to the following Specifications.

00990.50 Signal Covers - Add the following paragraph to the end of this subsection:

Signal covers may be omitted for flashing beacon bid items.

Add the following subsection:

00990.71 Field Testing - Field testing of electrical installations will be performed by Agency electrical crews. Notify the Engineer one week in advance of the anticipated electrical installation completion date.

Field testing will be performed within one week following the date of completion. The Engineer will notify the Contractor of the test results.

Information on Agency field testing procedures is available from the Engineer.

Add the following subsection:

00990.72 Turn-on - This Work includes turning on completed electrical installations.

(a) General - The Engineer will establish the date and time the electrical installation is to be turned on. The Agency will turn on the electrical installation within one week after completion of corrections identified during field testing.

Be present at the Project Site the date of the turn-on, for the duration of the turn-on process.

After electrical installations are turned on and operating as designed, the agency responsible for maintenance will assume operation and maintenance of the electrical installation. Turn-on does not constitute final approval. The Contractor is still obligated to finish any incomplete portion of the electrical installation and correct problems with workmanship or replace material that does not meet Specifications. After turn-on, damage to the electrical installation caused by conditions beyond the Contractor's control will be the responsibility of the maintaining agency.

(b) For Traffic Signals, Ramp Meters, and Automatic Traffic Recorders - The Agency will be responsible for providing operating software and timing parameters for traffic signals, ramp meters and automatic traffic recorders. Do not turn on electrical installations without the Agency provided timing parameters.

(c) For Flashing Beacons and Other Electrical Installations - The Agency will be responsible for providing the timing and setting parameters for the following flashing beacons and other electric installations as listed in the Green Sheets:

- 24/7 flashing beacon assembly, yellow + speed feedback
- Actuated flashing beacon assembly (all subcategories)
- Rectangular rapid flashing beacon (RRFB) assembly
- Unintegrated speed feedback assembly

Do not turn on electrical installations without the Agency provided parameters.

00990.90 Payment - Add the following after the sentence that reads “Item (e) includes furnishing and installing all items of the flashing beacon system.”

This item also includes furnishing and installing all items of the school zone flasher system including but not limited to conduit, trenching, junction boxes, directional drilling, wiring, school speed signs, power, control cabinets, foundations, stainless steel clamps for sign attachment, flashing beacons (LED), housing, lens, modems, vehicle signal pedestals and other necessary items to facilitate a complete system. Contractor will be responsible for all wiring necessary for each school flasher assembly installation including the modem for school flasher activation.

For each school zone flasher assembly, provide flasher timer switch with cellular modem from Applied Information (AI) Part# AI-500-070. Includes Glance (Cloud Based) Perpetual License & Configuration and 5 years Cellular Data (10MB/month) with access to Clackamas County. Refer to project plan sheets for school zone flashers, signs, poles, and foundation details.

SECTION 02560 - FASTENERS

Comply with Section 02560 of the Standard Specifications modified as follows:

02560.60(a)(1) Method 1 – Replace the paragraph that begins “Continue to tighten the nut until...” with the following:

Continue to tighten the nut until the nut has turned twice the rotation shown in Table 00560-3 of Section 00560 from its snug-tight position mark for bolt lengths up to 8D (for greater than 8D up to 12D bolt lengths tighten to 1 1/6 turn from snug-tight).

SECTION 02910 - SIGN MATERIALS

Comply with Section 02910 of the Standard Specifications modified as follows:

Add the following subsection:

02910.23 Digital Printing -

(a) Digitally Printed Ink Systems – Provide digitally printed ink systems that:

- Produce traffic signs using components, and processes that comply with the retroreflective sheeting manufacturer's recommendations.
- Meet and comply with daytime and nighttime chromaticity (color standards) as recognized in ASTM D4956 *Standard Specification for Retroreflective Sheeting for Traffic Control*.
- Meet 70% for type XI standards of the initial retroreflectivity specifications of each respective reflective film color as found in ASTM D4956.

(b) Retroreflective Sheeting – Furnish retroreflective sheeting that:

- Consists of white or colored sheeting having a smooth outer surface and that has the property of a retroreflector over its entire surface.
- Conform to all requirements of the current version of ASTM D4956. Designate the retroreflective sheeting as type XI ASTM D4956 classification.
- Has a Class 1 pressure-sensitive adhesive, as defined by ASTM D4956, protected by an easily removable liner. Fabricate finished traffic signs and traffic sign faces using retroreflective sheeting of Type XI ASTM D4956 classification.

(c) Protective Overlay Film – Fabricate permanent traffic signs printed with digital ink systems with a full sign protective overlay film designed to provide a smooth surface needed for retroreflectivity, and to protect the sign from fading and UV degradation. Comply with the retroreflective sheeting manufacturer's recommendations for the overlamine to ensure proper adhesion and transparency. Meet the reflective film durability as identified in the warranty requirements.

02910.33 Permanent Legends – Replace this subsection, except for the subsection number and title, with the following:

(a) General – Permanent legends consist of white retroreflective screened, red retroreflective screened, black screened or cut-out white retroreflective sheeting. Meet the design of the FHWA Standard Rounded Capital Letter Alphabets for the letters and numerals of all permanent legends.

(b) Retroreflective White Screened Legend – Use transparent paste materials for the reverse screening of retroreflective white legends and for the screening of retroreflective red legends conforming to the recommendations of the manufacturer of the reflective sheeting.

(c) Retroreflective Cut-out Legend – Use Material for retroreflective cut-out legend conforming to the requirements of 02910.20.

(d) Nonreflective Black Screened Legend – Furnish Material for nonreflective black screened legends that is compatible with the sign sheeting, as recommended by the sign sheeting manufacturer.

(e) Nonreflective Black Cut-out Legend – Use Material for nonreflective cut-out legend conforming to 02910.21.

(f) Digitally Printed Sign – Use processes and Materials for digitally printed signs conforming to the requirements of 02910.23.

CLACKAMAS COUNTY
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
CLACKAMAS COUNTY SCHOOL BEACON UPGRADES
SIGNING AND SIGNALS
CLACKAMAS COUNTY, OR
SUMMER 2025

SHEET INDEX

Legend and Details

Number	Name
TS-1	Legend
TS-2	Map View, Oregon Trail Elementary
TS-2A	Flashing Beacon Plan, Oregon Trail Elementary
TS-2B	Flashing Beacon Plan, Oregon Trail Elementary
TS-3	Map View, Alder Creek Middle
TS-3A	Flashing Beacon Plan, Alder Creek Middle
TS-3B	Flashing Beacon Plan, Alder Creek Middle
TS-4	Map View, Riverside Elementary
TS-4A	Flashing Beacon Plan, Riverside Elementary
TS-4B	Flashing Beacon Plan, Riverside Elementary
TS-5	Map View, Jennings Lodge Elementary
TS-5A	Flashing Beacon Plan, Jennings Lodge Elementary
TS-6	Map View, Scouters Mountain Elementary
TS-6A	Flashing Beacon Plan, Scouters Mountain Elementary
TS-7	School Zone Flasher Detail with Underground Power Service
TS-8	School Zone Flasher Detail with Overhead Power Service

PROJECT CONTACTS

OWNER	ENGINEER
CLACKAMAS COUNTY	KITTELSON & ASSOCIATES, INC.
CONTACT: Bob Knorr, F.E.	CONTACT: Wade Scarbrough, P.E.
ADDRESS: 150 Beaver Creek Rd	ADDRESS: 851 SW 6th Avenue, Suite 600
Oregon City, OR, 97045	Portland, OR 97204
PHONE: 503.349.4171	PHONE: 503.535.7442
EMAIL: rknorr@clackamas.us	EMAIL: wscarbrough@kittelson.com

UTILITY NOTIFICATION:

ATTENTION: Oregon Law Requires You To Follow Rules Adopted By The Oregon Utility Notification Center. Those Rules Are Set Forth In OAR 952-001-0010 Through 952-001-0090. You May Obtain Copies Of The Rules By Calling The Center. (Note: The Telephone Number For The Oregon Utility Notification Center Is (503) 232-1987.)



ALDER CREEK MIDDLE SCHOOL

School Address
13801 SE Webster Road,
Milwaukie, OR 97222

Replace 2 flashing Beacons on Webster Road

RIVERSIDE ELEMENTARY

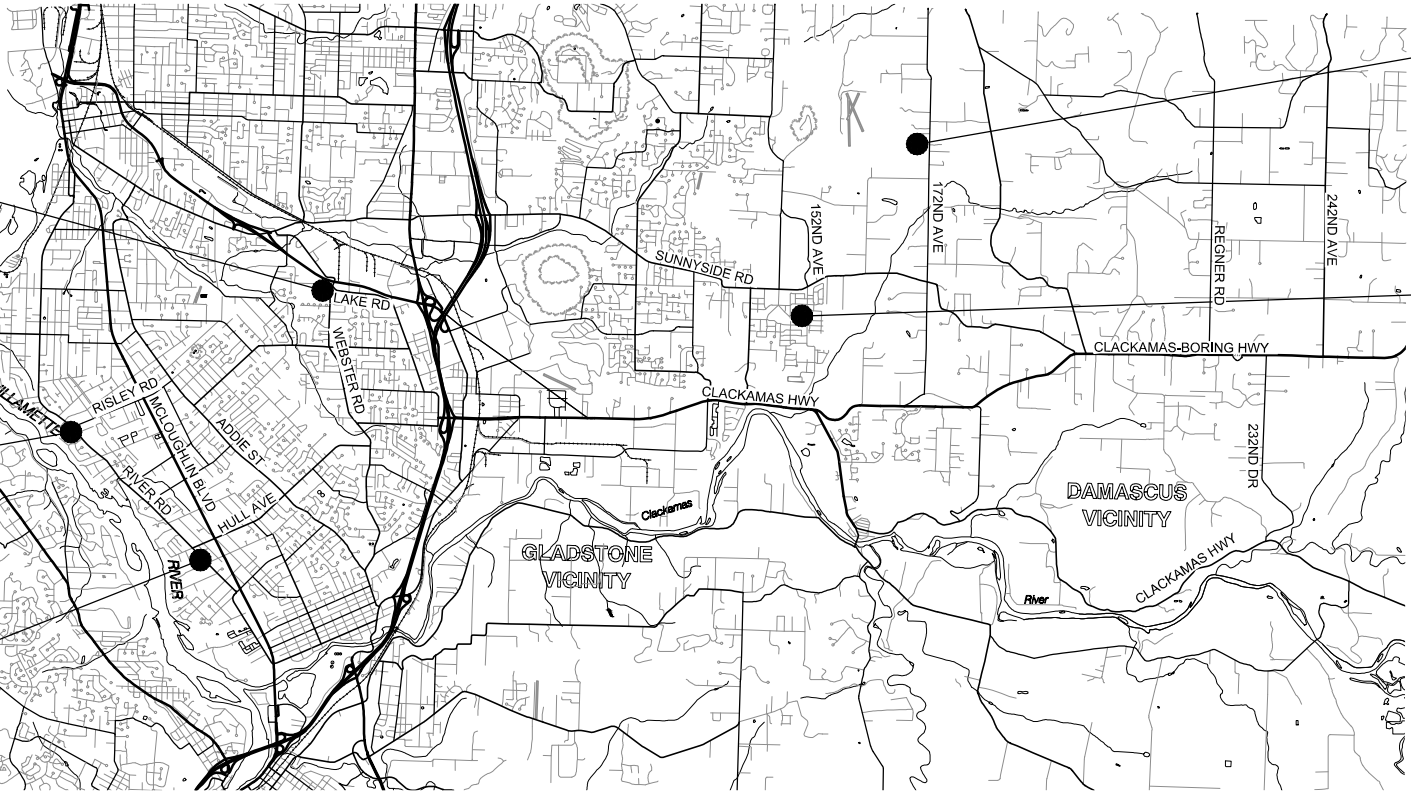
School Address
16303 SE River Road,
Milwaukie, OR 97267

Replace 2 flashing Beacons on River Road

JENNINGS LODGE ELEMENTARY

School Address
18521 SE River Road,
Milwaukie, OR 97267

Replace 2 flashing Beacons on River Road



PROJECT VICINITY MAP
NO SCALE

SCOUTERS MOUNTAIN ELEMENTARY

School Address
10811 SE 172nd Avenue,
Happy Valley, OR 97086

1 New Flasher Beacon on 172nd Avenue

OREGON TRAIL ELEMENTARY

School Address
13895 SE 152nd Avenue,
Clackamas, OR 97015

Replace 2 flashing Beacons on 152nd Avenue



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COVER SHEET

CLACKAMAS COUNTY



DESIGNED BY:
S. PARKS

REVISIONS

Sheet No.
CS

01 of 17

CLACKAMAS COUNTY SCHOOL
BEACON UPGRADES

DIRECTOR

DAN JOHNSON

DATE: JUNE 2025 PROJECT NO.: 300323320

Plot Stamp: 6/19/2025 3:36:01 PM - John Henriksen
File: H:\28\28824 - School Zone Solar AC Conversion Project\design\CD_CD-TS-28824.dwg

CABINETS

- BMC

Install base mounted service cabinet, 120/240 volt, metered for school flasher system. (See Oregon Std. Dwgs. TM482 and TM485 and wiring diagram on this sheet.)
- PSC

Install pole mounted service cabinet, 120/240 volt, metered for school flasher system (Model #U214 MTBL for approved equal). See detail on Sheet TS-8.

POLES

- SZF
UG

Install underground AC powered school zone flasher beacon assembly on steel pole with transformer base. See detail on sheet TS-7.
- SZF
OH

Install overhead AC powered school zone flasher beacon assembly on steel pole (20' height) with transformer base. See detail on sheet TS-8.
- EX
UP

Preserve and protect utility pole.
- RX
SZF

Remove existing school zone flashing beacon pole and assembly.

JUNCTION BOXES

- JB
1

Install 17"x10"x12" (min. dimension) precast concrete junction box.
- JB
1A

Install 17"x10"x12" (min. dimension) precast concrete junction box with concrete apron.
- JB
2A

Install 22"x12"x12" (min. dimension) precast concrete junction box with concrete apron.

CONDUITS

- S

Install (S=size) inch conduit.
- W

Install conduit and wiring per PGE requirements.

WIRES & CABLES

- HDD

Install conduit by horizontal directional drilling, open trench not allowed.
- PWR

PGE to connect power service.
- G | S

Install one (S) gauge copper ground wire (S=size).
- N | G

Install (N=number) no. (G-AWG wire size) XHHW wires.
- PL

Install Polyethylene Pull Line per ODOT Qualified Products List (QPL).
- LW

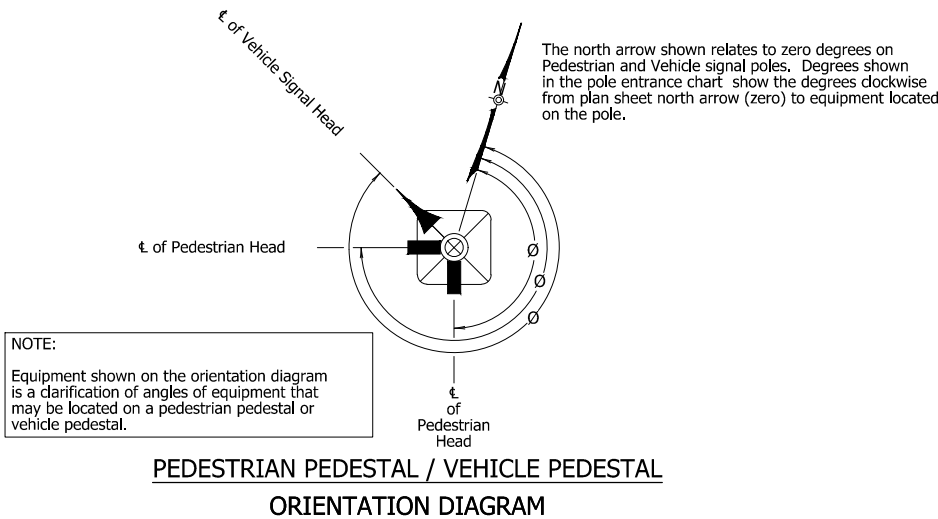
Install a No. 16 AWG TFFN stranded copper wire with orange base and blue tracer as a locate wire.

GENERAL NOTES

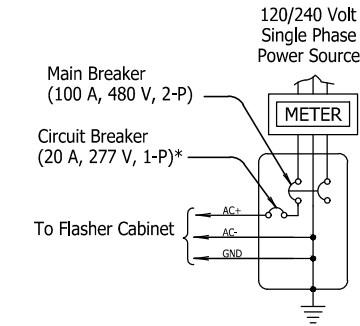
- All materials and workmanship shall conform to Clackamas County standards and Special Provisions, the 2024 Oregon Standard Specifications for Construction, and the Oregon standard drawings listed below.
- The contractor shall supply all equipment, materials, and labor required for the signal operations shown on this plan.
- The contractor shall verify the locations of existing utilities and coordinate this work with the utility companies/agencies to eliminate any conflicts.
- The engineer shall field verify the location of all signal equipment before installation.
- All junction boxes shall be placed in sidewalk or concrete apron.
- Install #12 stranded copper (orange) tracer wire in all conduits.
- Install poly pull tape (1200 lbf min. Strength, non-conductive) in all conduits.
- All underground conduits and fittings shall be schedule 80 PVC except as required by PGE.
- Salvage existing Glance units and ELTEC cabinets to Clackamas County.

POLE ENTRANCE CHART

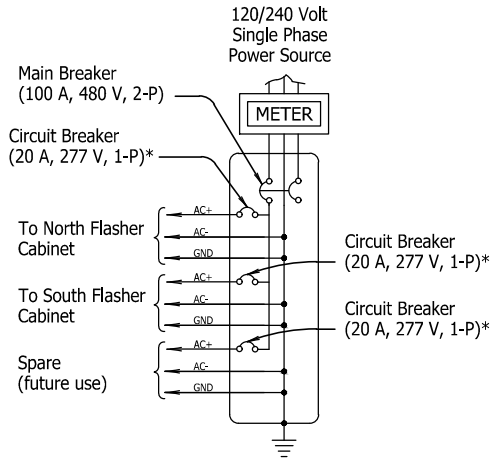
POLE NO.	SHEET NO.	POLE HEIGHT	SERVICE TYPE	EQUIPMENT ON POLE				FOUNDATION INFORMATION (See TM 457)	
				FLASHING BEACON DEG.	SIGN DEG.	FLASHER CABINET DEG.	SERVICE CABINET DEG.	PEDESTAL FOUNDATION NO.	REQUIRED FOUNDATION DEPTH
1	TS-2A	16'-0"	Underground	0, 180, 180	180	0	-	3	8'-0"
2	TS-2B	16'-0"	Undergound	0, 0, 180	0	180	-	3	8'-0"
3	TS-3A	25'-0"	Overhead	0, 180, 180	180	0	0	3	8'-0"
4	TS-3B	25'-0"	Overhead	25, 25, 205	25	205	205	3	8'-0"
5	TS-4A	16'-0"	Overhead	125, 305, 305	305	125	125	3	8'-0"
6	TS-4B	25'-0"	Overhead	135, 135, 315	135	315	315	3	8'-0"
7	TS-5A	16'-0"	Overhead	135, 315, 315	315	135	135	3	8'-0"
8	TS-5A	16'-0"	Overhead	135, 135, 315	135	315	315	3	8'-0"
9	TS-6A	16'-0"	Underground	0, 180, 180	180	0	0	3	8'-0"



LEGEND



POLE MOUNTED SERVICE CABINET WIRING:
(Signal System)



BASE MOUNTED SERVICE CABINET WIRING:
(Signal System)



RENEWS: 06/30/26

ACCOMPANIED BY DWGS.

RD1010, RD1015, TM457, TM460, TM462, TM470, TM482, TM485, TM700, TM701, TM702, TM800, TM820, TM821, TM822, TM841, TM844, TM850, TM853, TM854, TM855



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TRAFFIC SIGNAL LEGEND

CLACKAMAS COUNTY SCHOOL
BEACON UPGRADES

DATE: JUNE 2025 PROJECT NO.: 300323320

CLACKAMAS COUNTY

DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045



DAN JOHNSON

DIRECTOR

DESIGNED BY:
S. PARKS

DRAFTED BY:
D. AMURAO

CHECKED BY:
W. SCARBROUGH

REVISIONS

NO. DATE:

Sheet No.

TS-1

02 of 17

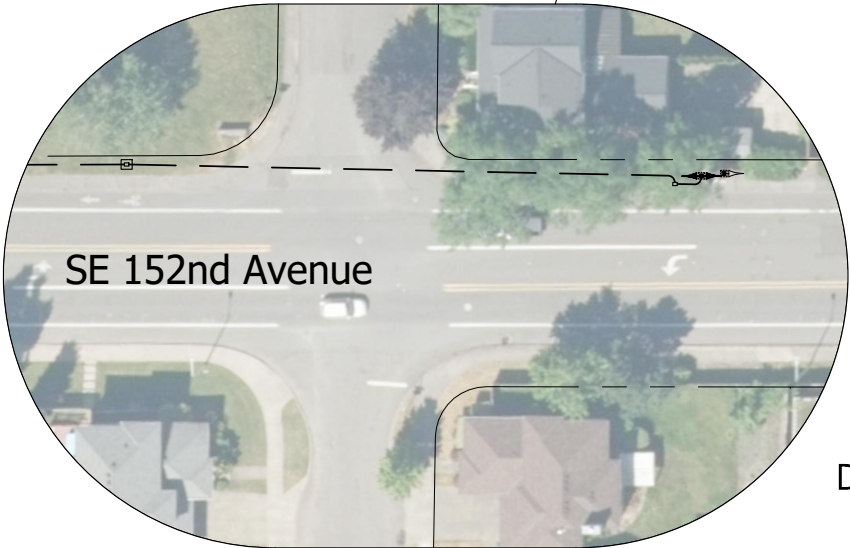
MAP VIEW
OREGON TRAIL ELEMENTARY



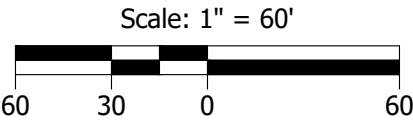
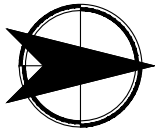
See Detail 'A'
Sheet TS-2A



See Detail 'B'
Sheet TS-2A



See Detail 'C'
Sheet TS-2B



RENEWS: 06/30/26



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REVISIONS		DESIGNED BY:	NO. DATE:
		S. PARKS	
		DRAFTED BY:	
		D. AMURAO	
		CHECKED BY:	
		W. SCARBROUGH	



CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DAN JOHNSON
DIRECTOR

FLASHER LOCATION

CLACKAMAS COUNTY SCHOOL
BEACON UPGRADES

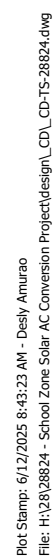
DATE: JUNE 2025 | PROJECT NO.: 300323320

Sheet No.

TS-2

03 of 17

DETAIL 'A'



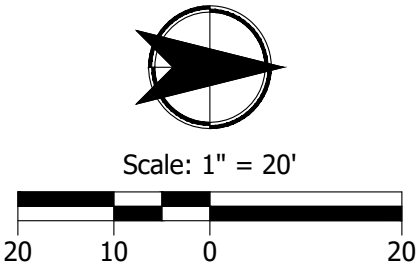
FLASHING BEACON PLAN
OREGON TRAIL ELEMENTARY

DETAIL 'C'



NOTE:
See Sheet TS-1 for Legend


- CONSTRUCTION NOTES:**
- 1 Salvage existing Glance unit and ELTEC cabinet to Clackamas County.
 - 2 Replace sidewalk panels, as needed for junction box and conduit installation.



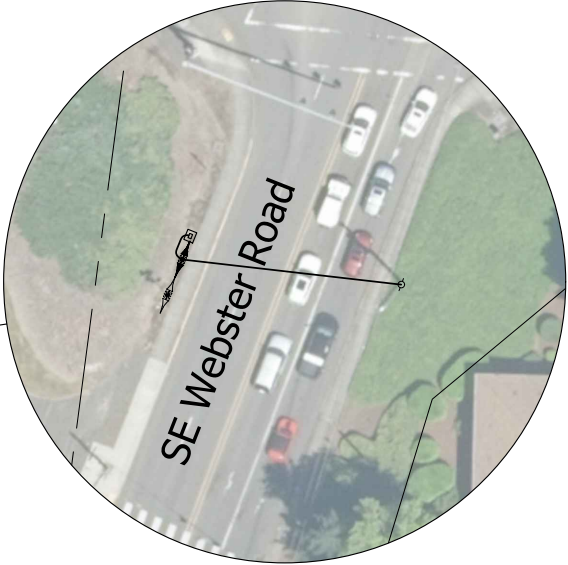
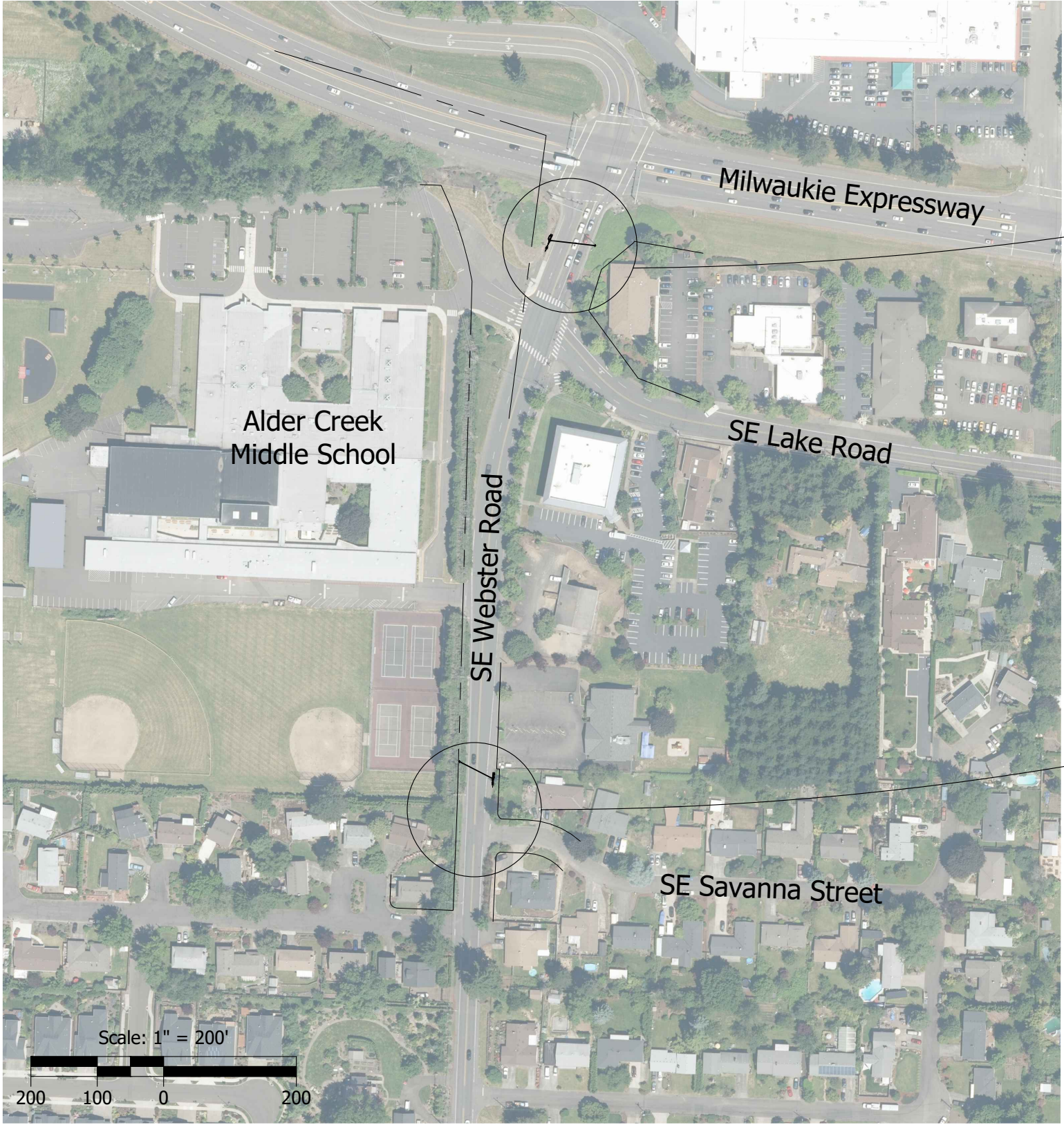
RENEWS: 06/30/26



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SCHOOL ZONE FLASHER PLAN - SE 152ND AVE		CLACKAMAS COUNTY SCHOOL BEACON UPGRADES		DATE: JUNE 2025 PROJECT NO.: 300323320	
CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045		 CLACKAMAS COUNTY		DIRECTOR DAN JOHNSON	
DESIGNED BY: S. PARKS		DRAFTED BY: D. AMURAO		CHECKED BY: W. SCARBROUGH	
NO.		DATE:			
Sheet No. TS-2B					
05		of		17	

MAP VIEW
ALDER CREEK MIDDLE SCHOOL



See Sheet TS-3B

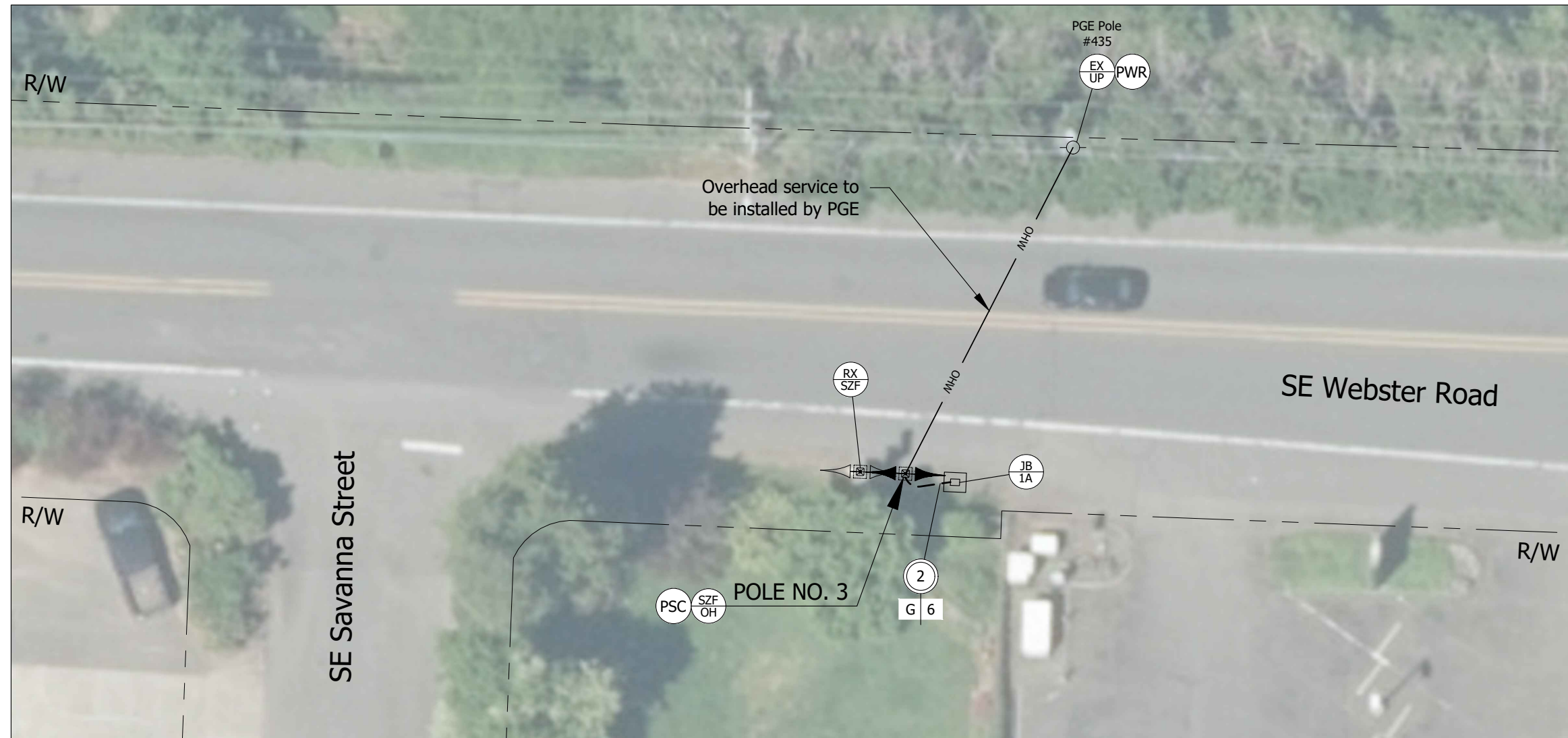


See Sheet TS-3A

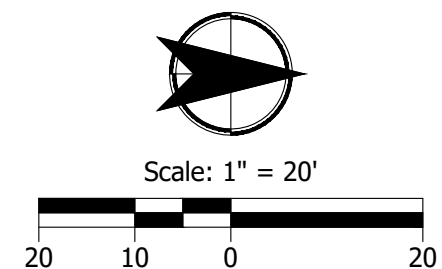


CLACKAMAS COUNTY		FLASHER LOCATION	
DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045		CLACKAMAS COUNTY SCHOOL BEACON UPGRADES	
DAN JOHNSON		DIRECTOR	
DESIGNED BY: S. PARKS		DATE: JUNE 2025 PROJECT NO.: 300323320	
DRAFTED BY: D. AMURAO			
CHECKED BY: W. SCARBROUGH			
REVISIONS			
NO. DATE:			
Sheet No.		TS-3	
06		of 17	

FLASHING BEACON PLAN ALDER CREEK MIDDLE SCHOOL



NOTE:
See Sheet TS-1 for Legend

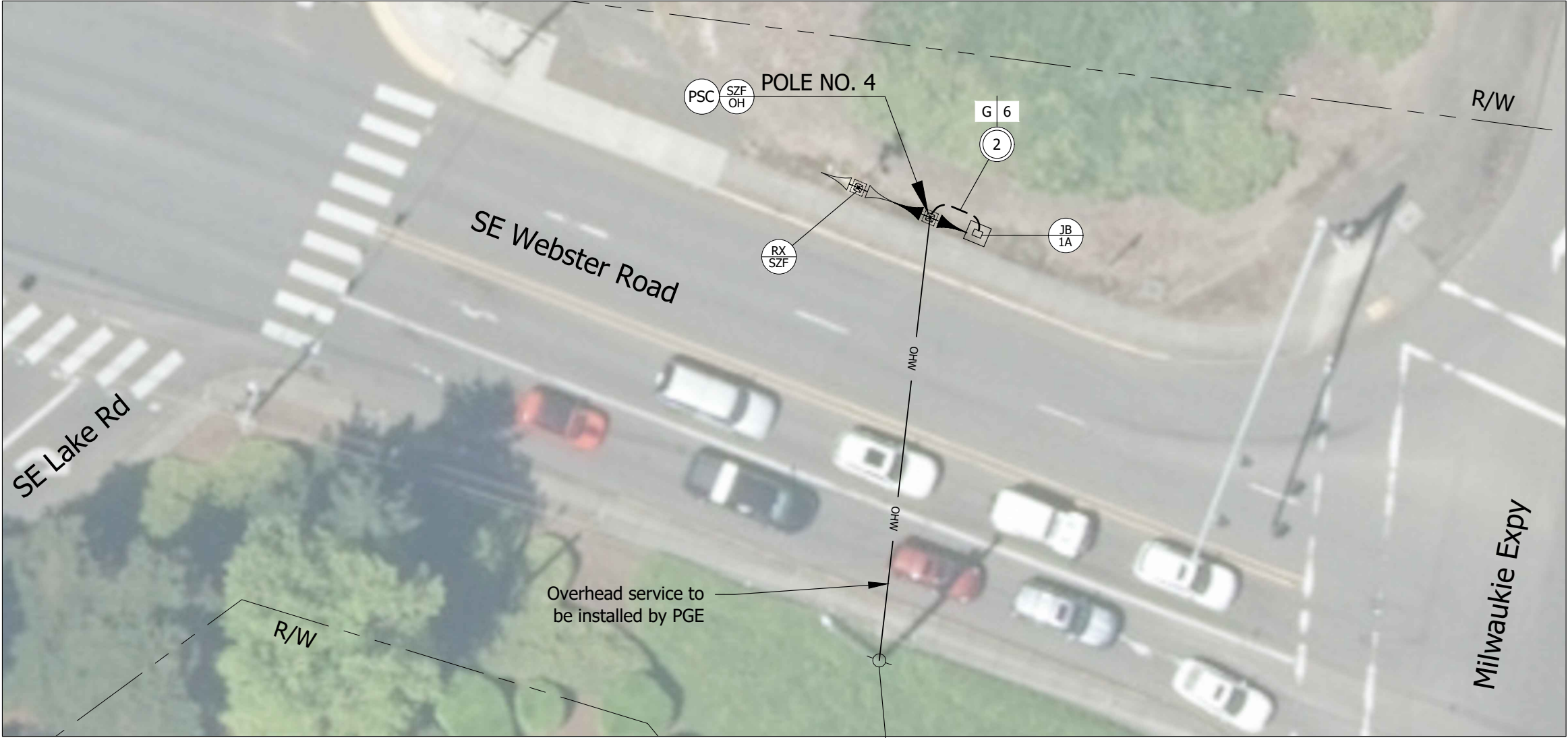


**KITTELSON
& ASSOCIATES**

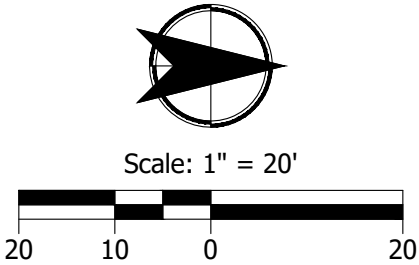
**851 SW 6TH AVENUE, SUITE 600
PORTLAND, OR 97204
P 503.228.5230 F 503.273.8169**

<div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <p style="margin: 0;">SCHOOL ZONE FLASHER PLAN - SE WEBSTER RD</p> </div> <div style="width: 60%; text-align: center;"> <p style="margin: 0; font-size: 1.2em;">CLACKAMAS COUNTY SCHOOL BEACON UPGRADES</p> </div> </div>	
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<p style="margin: 0; font-weight: bold;">DESIGNED BY:</p>	<p style="margin: 0;">S. PARKS</p>
<p style="margin: 0; font-weight: bold;">DRAFTED BY:</p>	<p style="margin: 0;">D. AMURAO</p>
<p style="margin: 0; font-weight: bold;">CHECKED BY:</p>	<p style="margin: 0;">W. SCARBROUGH</p>

FLASHING BEACON PLAN
ALDER CREEK MIDDLE SCHOOL



NOTE:
See Sheet TS-1 for Legend



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SCHOOL ZONE FLASHER PLAN - SE WEBSTER RD		CLACKAMAS COUNTY SCHOOL BEACON UPGRADES		DATE: JUNE 2025 PROJECT NO.: 300323320	
CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045		DIRECTOR DAN JOHNSON			
DESIGNED BY: S. PARKS	DRAFTED BY: D. AMURAO	CHECKED BY: W. SCARBROUGH	REVISIONS	Sheet No. TS-3B	
NO. DATE:				08	of 17

MAP VIEW
RIVERSIDE ELEMENTARY



See Sheet TS-4A

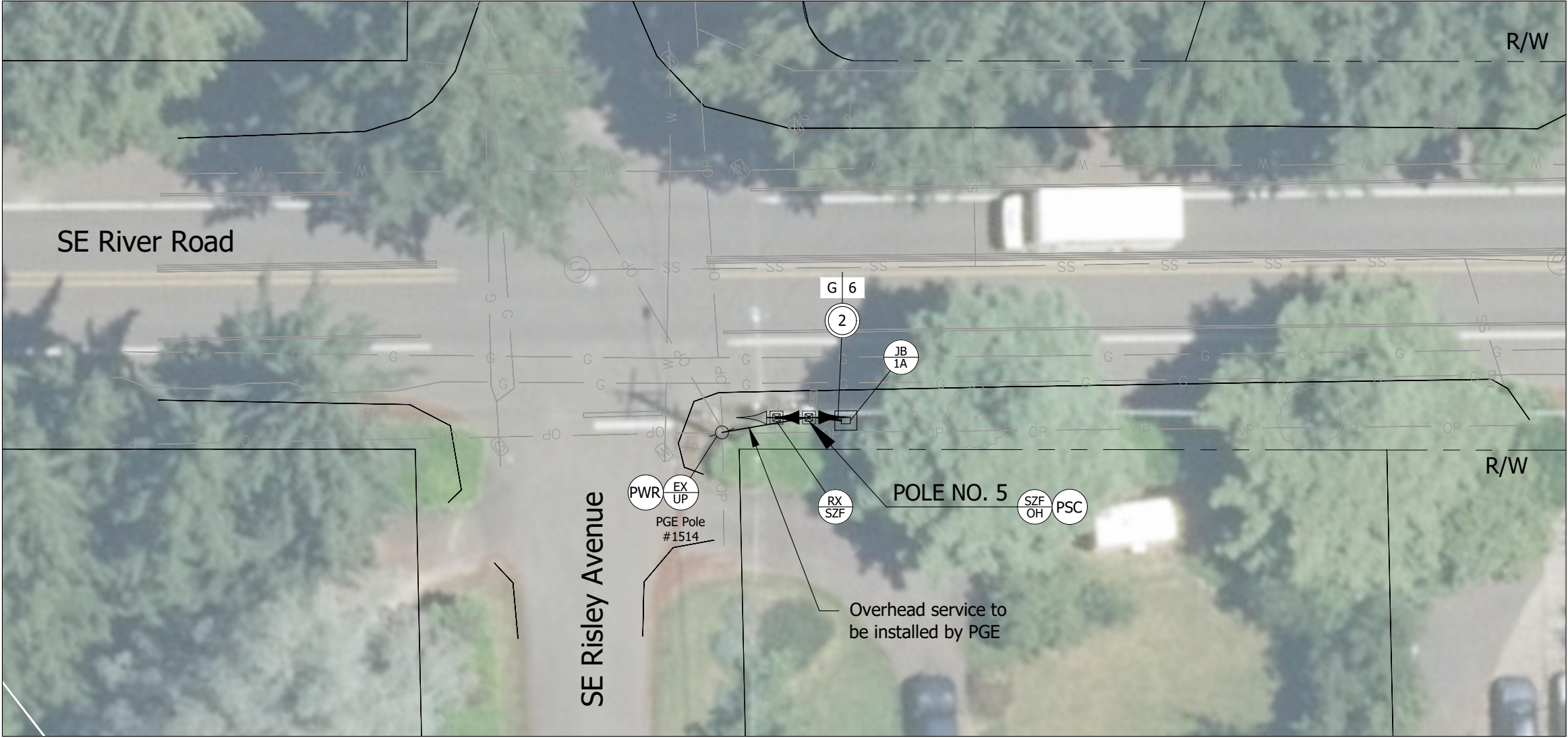


See Sheet TS-4B



CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045		CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045		CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045	
DESIGNED BY: S. PARKS		DRAFTED BY: D. AMURAO		CHECKED BY: W. SCARBROUGH	
NO. DATE:		NO. DATE:		NO. DATE:	
REVISIONS		REVISIONS		REVISIONS	
Sheet No.		Sheet No.		Sheet No.	
TS-4		TS-4		TS-4	
09 of 17		09 of 17		09 of 17	
FLASHER LOCATION		CLACKAMAS COUNTY SCHOOL BEACON UPGRADES		CLACKAMAS COUNTY SCHOOL BEACON UPGRADES	
DATE: JUNE 2025		PROJECT NO.: 300323320		PROJECT NO.: 300323320	
DIRECTOR		DAN JOHNSON		DAN JOHNSON	

FLASHING BEACON PLAN
RIVERSIDE ELEMENTARY SCHOOL



NOTE:
See Sheet TS-1 for Legend



Scale: 1" = 20'



RENEWS: 06/30/26



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SCHOOL ZONE FLASHER PLAN - SE RIVER RD
CLACKAMAS COUNTY SCHOOL
BEACON UPGRADES
DATE: JUNE 2025 PROJECT NO.: 300323320

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045
DAN JOHNSON DIRECTOR

DESIGNED BY:
S. PARKS
DRAFTED BY:
D. AMURAO
CHECKED BY:
W. SCARBROUGH

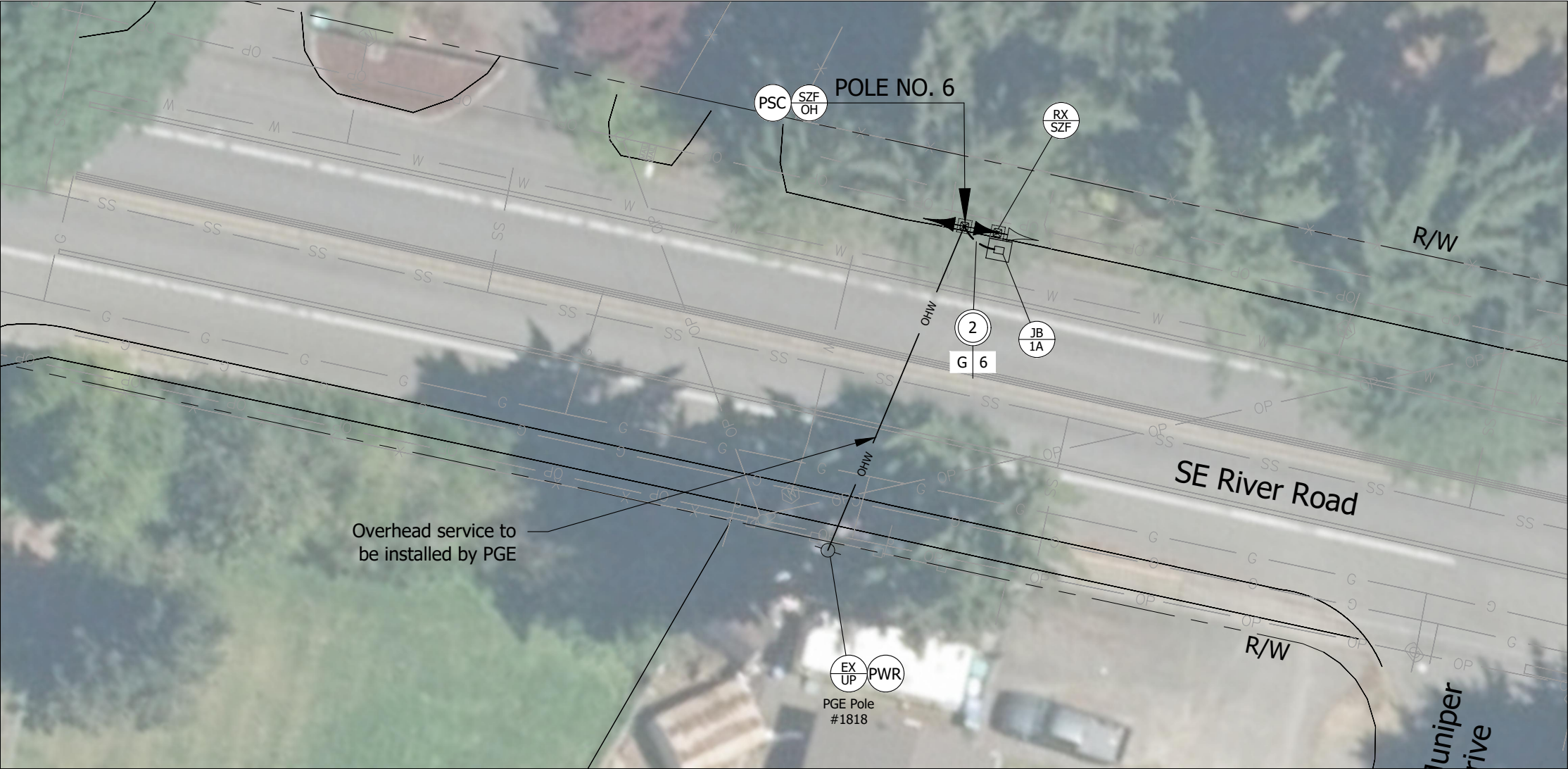
REVISIONS

NO.	DATE:

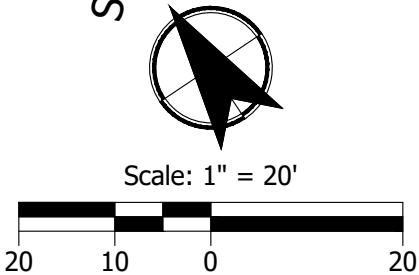
Sheet No.
TS-4A

10 of 17

FLASHING BEACON PLAN
RIVERSIDE ELEMENTARY SCHOOL



NOTE:
See Sheet TS-1 for Legend



RENEWS: 06/30/26



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SCHOOL ZONE FLASHER PLAN - SE RIVER RD
CLACKAMAS COUNTY SCHOOL
BEACON UPGRADES
DATE: JUNE 2025 PROJECT NO.: 300323320

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045
DAN JOHNSON DIRECTOR

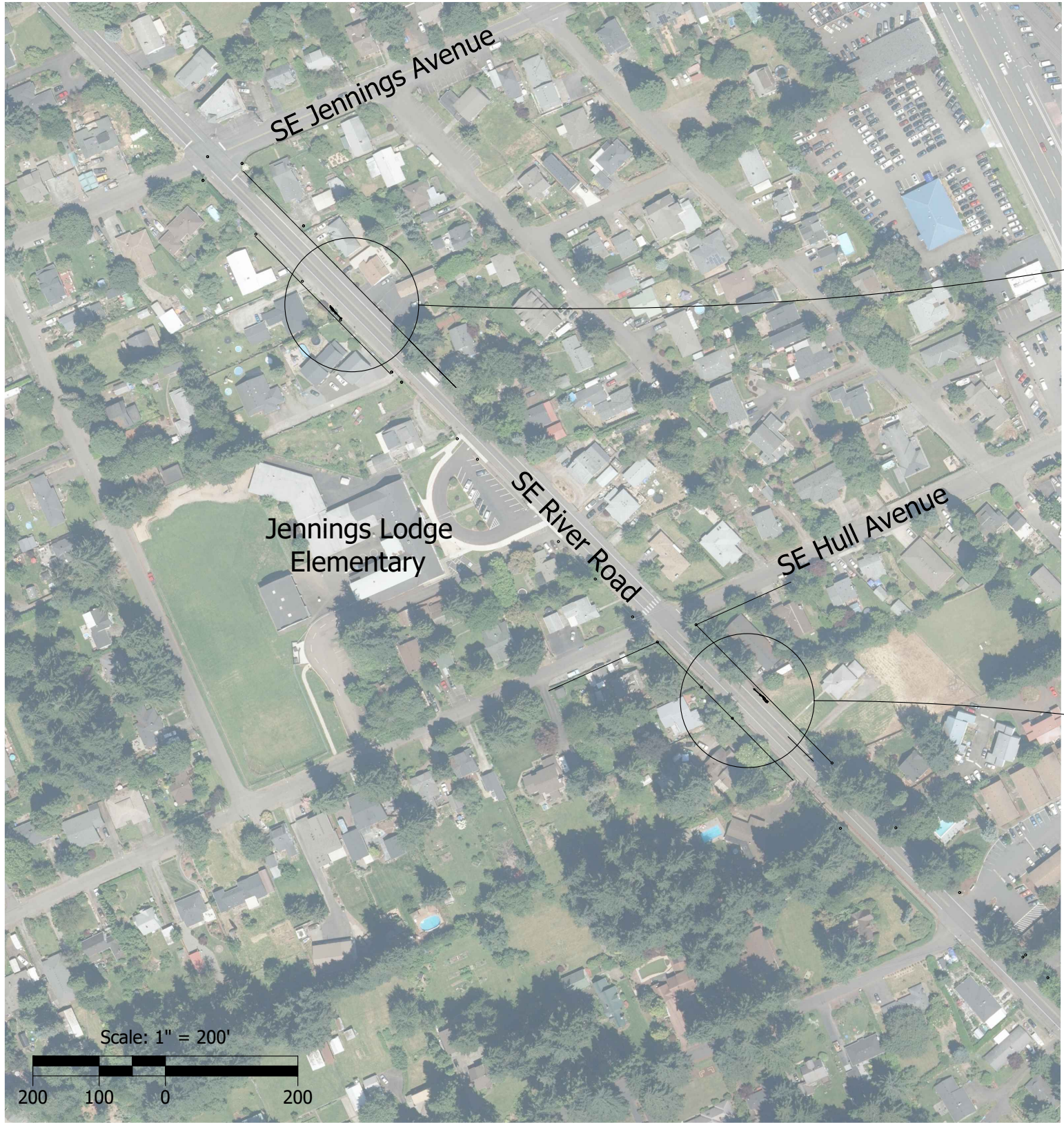
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DRAFTED BY: D. AMURAO
CHECKED BY: W. SCARBROUGH

REVISIONS

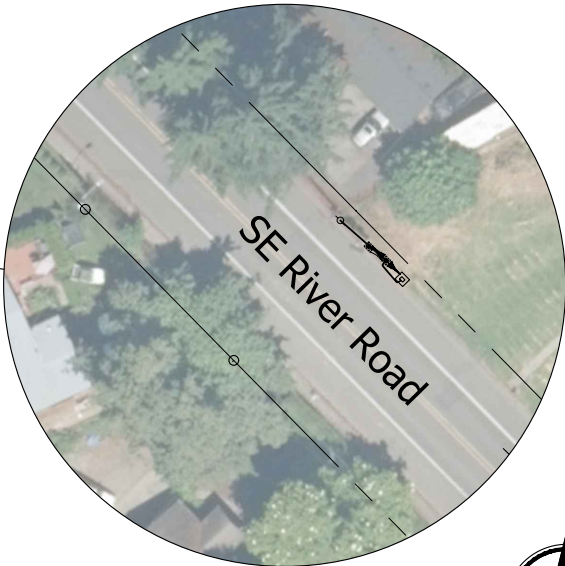
NO.	DATE:

Sheet No. TS-4B

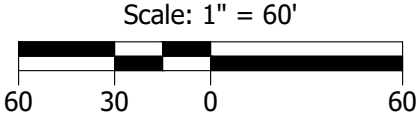
MAP VIEW
JENNINGS LODGE ELEMENTARY



See Detail 'A'
Sheet TS-5A



See Detail 'B'
Sheet TS-5A



RENEWS: 06/30/26

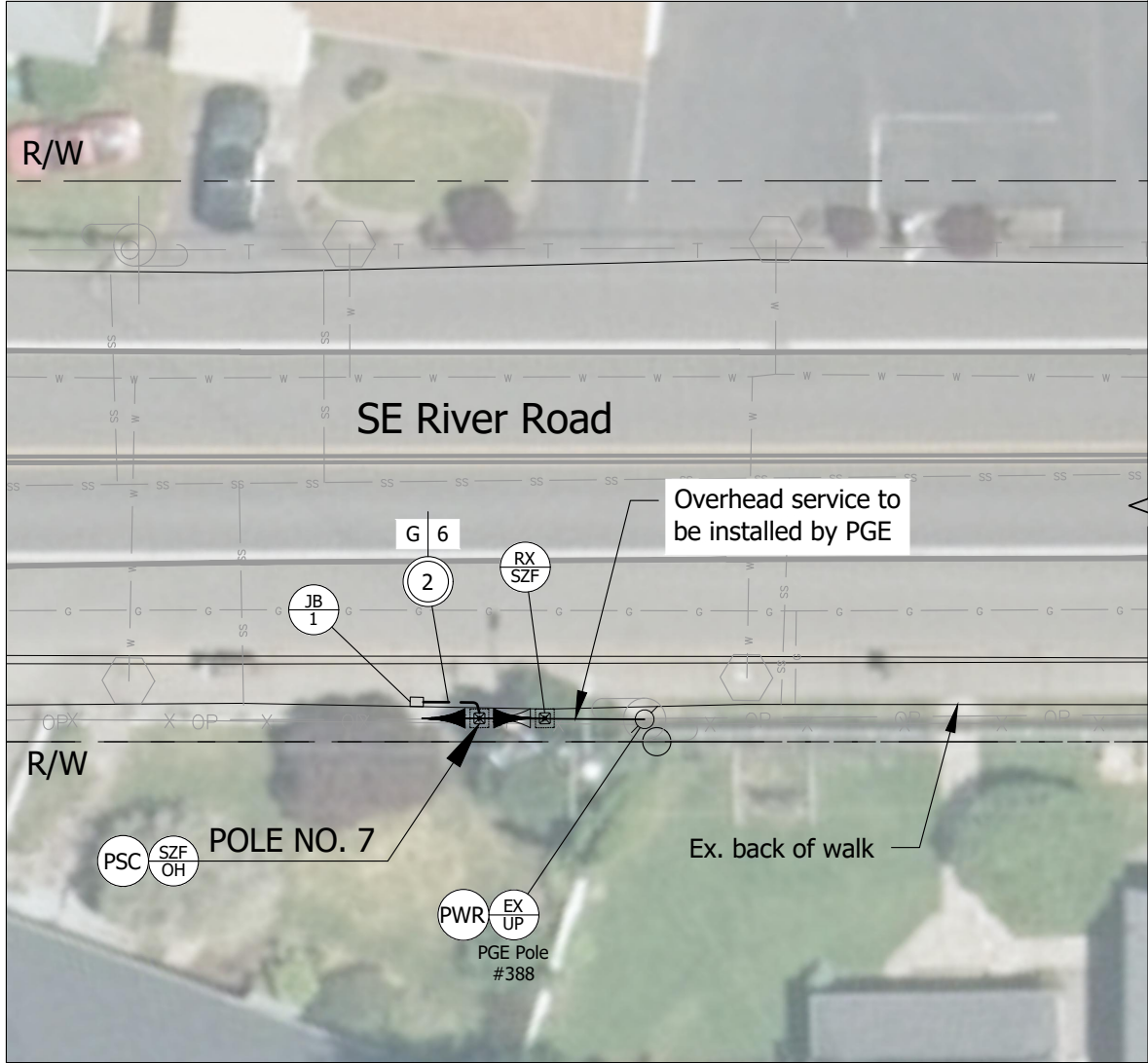


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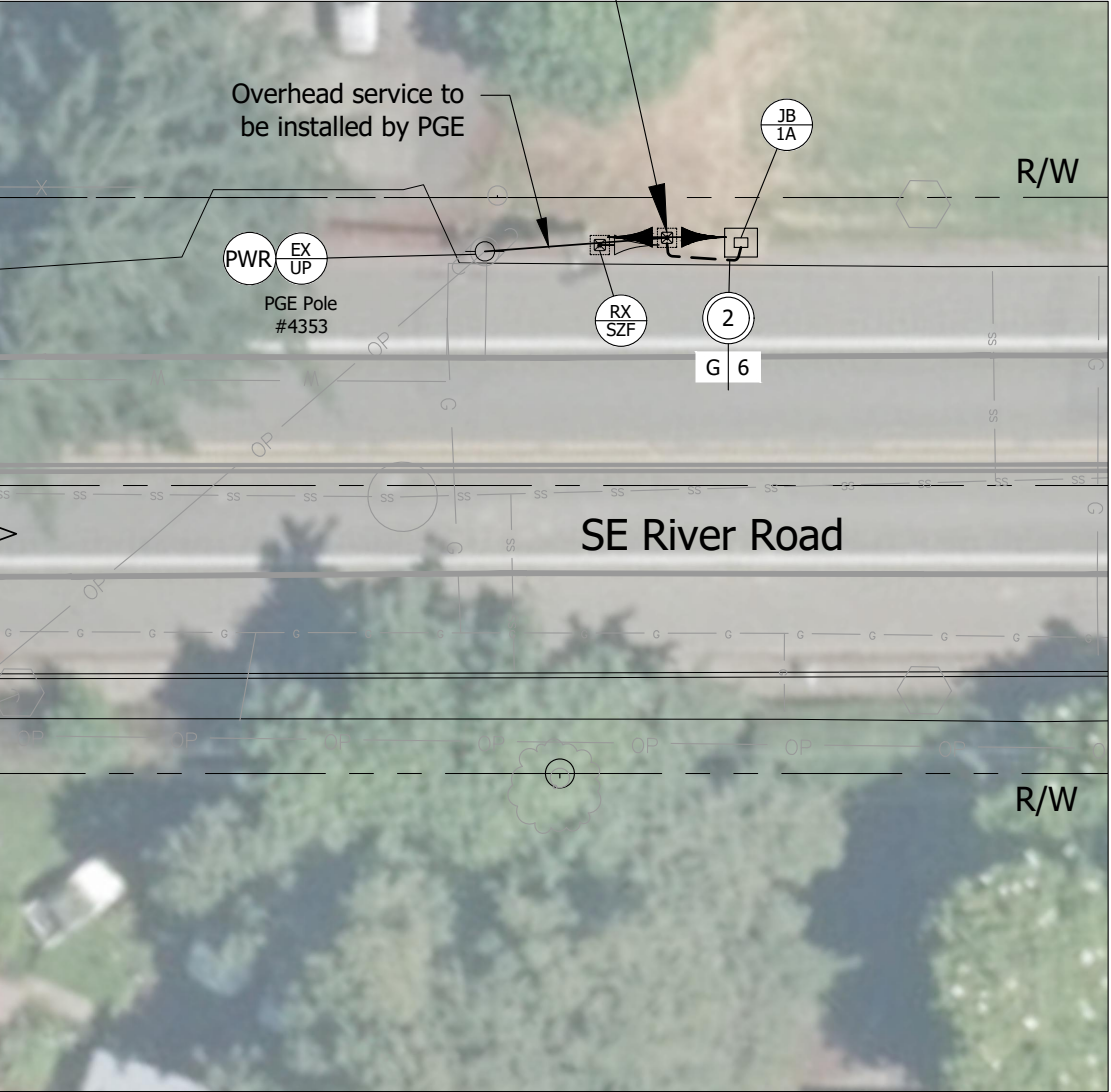
CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045		CLACKAMAS COUNTY SCHOOL BEACON UPGRADES		DATE: JUNE 2025 PROJECT NO.: 300323320	
CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045		DIRECTOR DAN JOHNSON			
DESIGNED BY: S. PARKS	DRAFTED BY: D. AMURAO	CHECKED BY: W. SCARBROUGH	NO. DATE:	Sheet No. TS-5	
				12	of 17

FLASHING BEACON PLAN
JENNINGS LODGE ELEMENTARY SCHOOL

DETAIL 'A'



DETAIL 'B'



NOTE:
See Sheet TS-1 for Legend



Scale: 1" = 20'



RENEWS: 06/30/26



SCHOOL ZONE FLASHER PLAN - SE RIVER RD
CLACKAMAS COUNTY SCHOOL
BEACON UPGRADES

CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045
DAN JOHNSON
DIRECTOR

DESIGNED BY:
S. PARKS
DRAFTED BY:
D. AMURAO
CHECKED BY:
W. SCARBROUGH

REVISIONS

NO. DATE:

Sheet No.
TS-5A

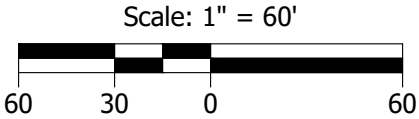
13 of 17

DATE: JUNE 2025 PROJECT NO.: 300323320

MAP VIEW
SCOUTERS MOUNTAIN ELEMENTARY



See Sheet TS-6A



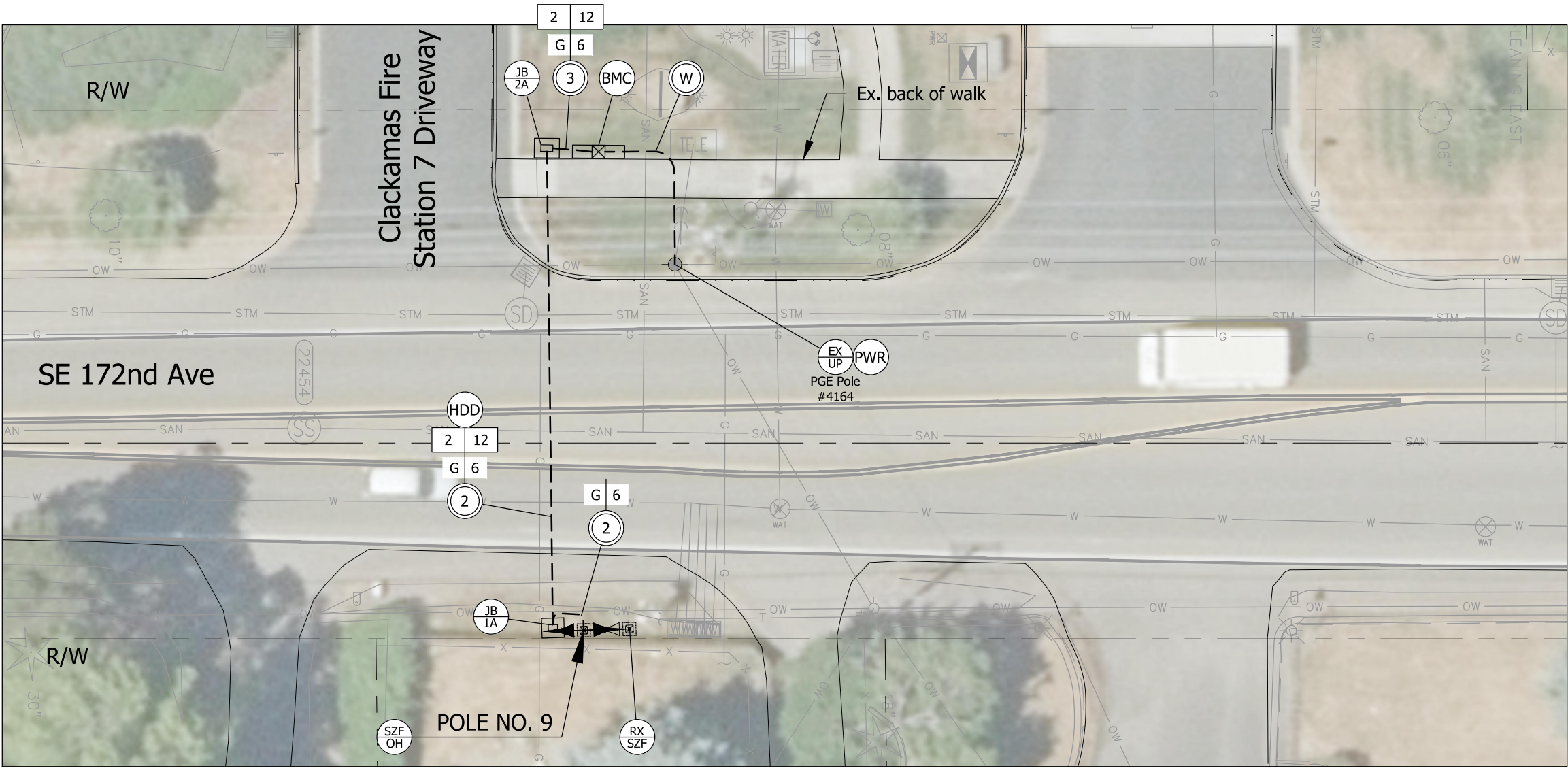
RENEWS: 06/30/26



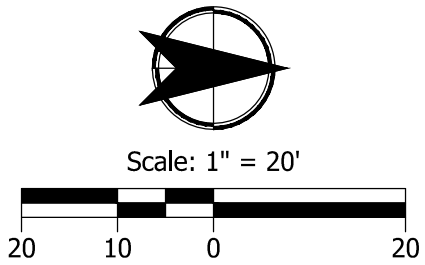
851 SW 6TH AVENUE, SUITE 600
PORTLAND, OR 97204
P 503.228.5230 F 503.273.8169

CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045		CLACKAMAS COUNTY SCHOOL BEACON UPGRADES		DATE: JUNE 2025 PROJECT NO.: 300323320	
DESIGNED BY: S. PARKS		DIRECTOR DAN JOHNSON			
DRAFTED BY: D. AMURAO					
CHECKED BY: W. SCARBROUGH					
REVISIONS		NO. DATE:		Sheet No.	
				TS-6	
				14 of 17	

FLASHING BEACON PLAN
SCOUTERS MOUNTAIN ELEMENTARY SCHOOL



NOTE:
See Sheet TS-1 for Legend



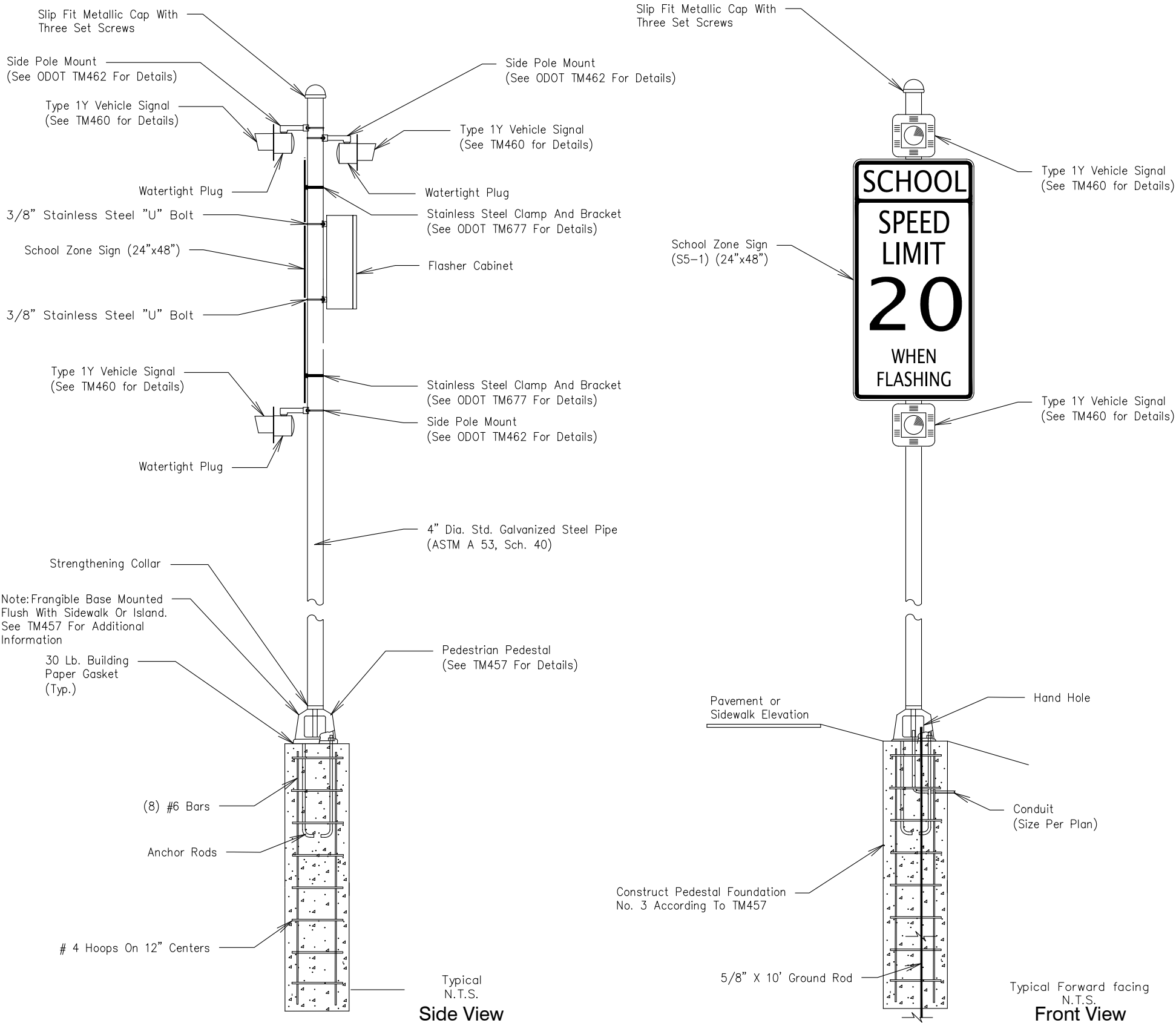
RENEWS: 06/30/26



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SCHOOL ZONE FLASHER PLAN - SE 172ND AVE		CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045		CLACKAMAS COUNTY SCHOOL BEACON UPGRADES		DATE: JUNE 2025 PROJECT NO.: 300323320	
DESIGNED BY: S. PARKS		DRAFTED BY: D. AMURAO		CHECKED BY: W. SCARBROUGH		DIRECTOR DAN JOHNSON	
REVISIONS		NO. DATE:		Sheet No.		TS-6A	
				15		of 17	

TYPICAL DETAIL
SCHOOL ZONE FLASHER WITH UNDERGROUND SERVICE



GENERAL NOTES

1. ALL SCHOOL ZONE FLASHERS SHALL BE ACTIVATED ON THE SAME DAY.
2. EXISTING SCHOOL ZONE SIGNS SHALL NOT BE REMOVED UNTIL NEW FLASHER UNITS ARE OPERATIONAL.
3. INSTALLATIONS THAT HAVE NOT BEEN ACTIVATED SHALL BE COVERED.
4. COORDINATE INSPECTION AND TURN ON OF FLASHER UNITS WITH CLACKAMAS COUNTY. PROVIDE ONE WEEK NOTICE PRIOR TO TURN ON.
5. AIM FLASHER HEADS SO THEY ARE VISIBLE TO ONCOMING VEHICLE TRAFFIC.
6. ALL BOLTS, NUTS AND WASHERS SHALL CONFORM TO 02560.20 AND BE GALVANIZED STEEL ACCORDING TO 02560.40 UNLESS NOTED OTHERWISE.
7. ALL ANCHOR RODS SHALL BE GALVANIZED STEEL CONFORMING TO 02560.30.
8. ALL POLE ENTRANCES CONTAINING WIRING SHALL BE SMOOTH.
9. INSTALL 1/4" THICK PREFORMED EXPANSION JOINT FILLER AROUND FOOTING IN SIDEWALK AREA AS PER TM653.
10. TOP OF FOUNDATIONS SHALL HAVE 0" - 1/4 " EXPOSURE ABOVE FINISH GRADE.
11. FLAT SIDE OF FOUNDATION SHOULD LINE UP WITH BACK OF SIDEWALK (WHERE SIDEWALK IS PRESENT).
12. SEE ODOT STANDARD DRAWING TM471 FOR ADDITIONAL CONDUIT INSTALLATION DETAILS.

COMMUNICATION REQUIREMENTS

1. EACH SCHOOL ZONE FLASHER ASSEMBLY SHALL INCLUDE AN AI-500-070 SCHOOL BEACON TIMER SWITCH, AND CELLULAR MODEM INSTALLED IN THE FLASHER CONTROL CABINET. EACH MODEM SHALL COME WITH A 5 YEAR DATA/ SERVICE PLAN. START DATE FOR DATA/SERVICE ACTIVATION SHALL BE COORDINATED WITH CLACKAMAS COUNTY.



RENEWS: 06/30/26



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SCHOOL ZONE FLASHER DETAILS

CLACKAMAS COUNTY



DESIGNED BY:
S. PARKS

REVISIONS

NO. DATE:

Sheet No.

TS-7

16 of 17

CLACKAMAS COUNTY SCHOOL
BEACON UPGRADES

DEPT. OF TRANSPORTATION
AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DAN JOHNSON
DIRECTOR

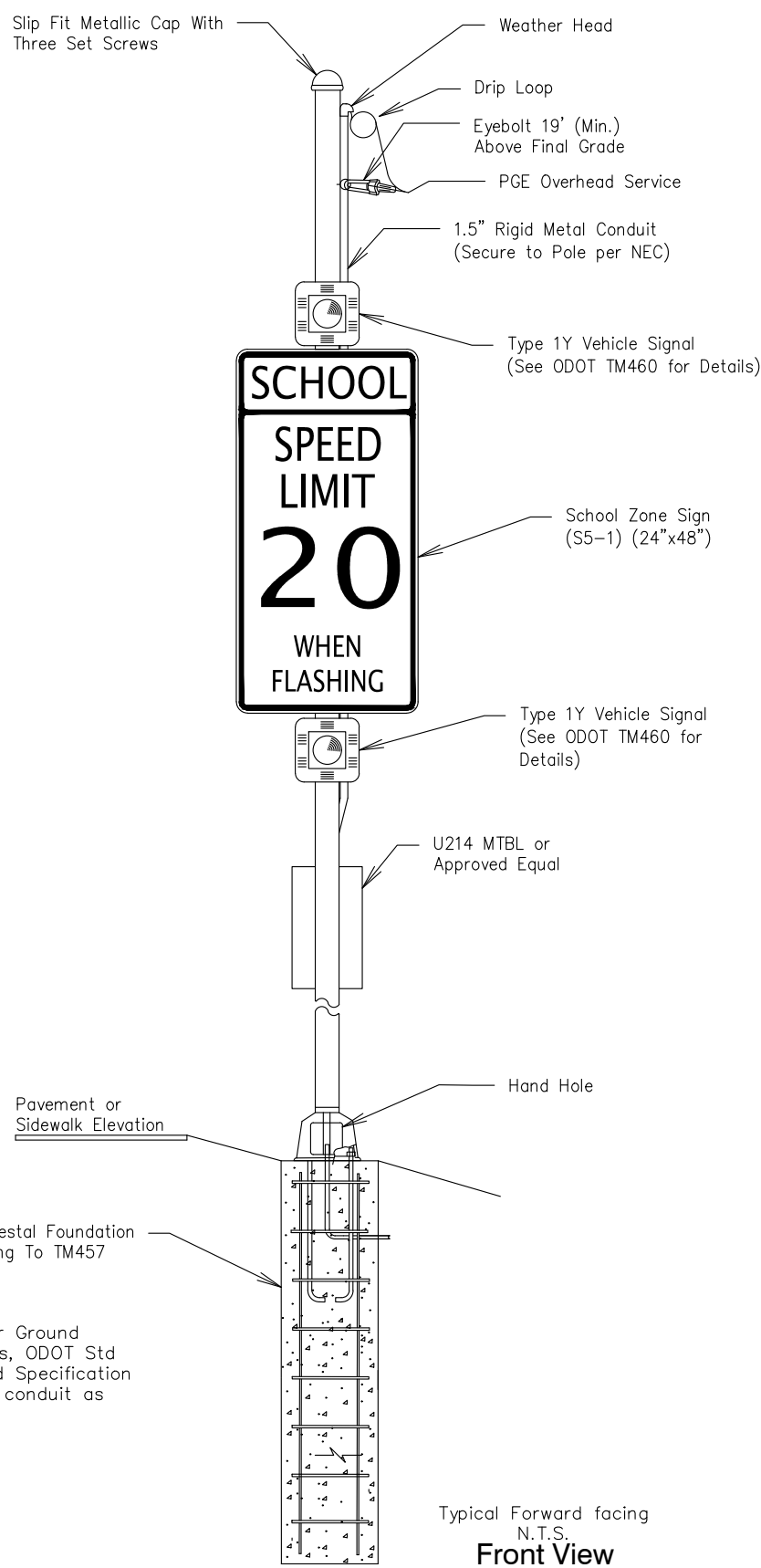
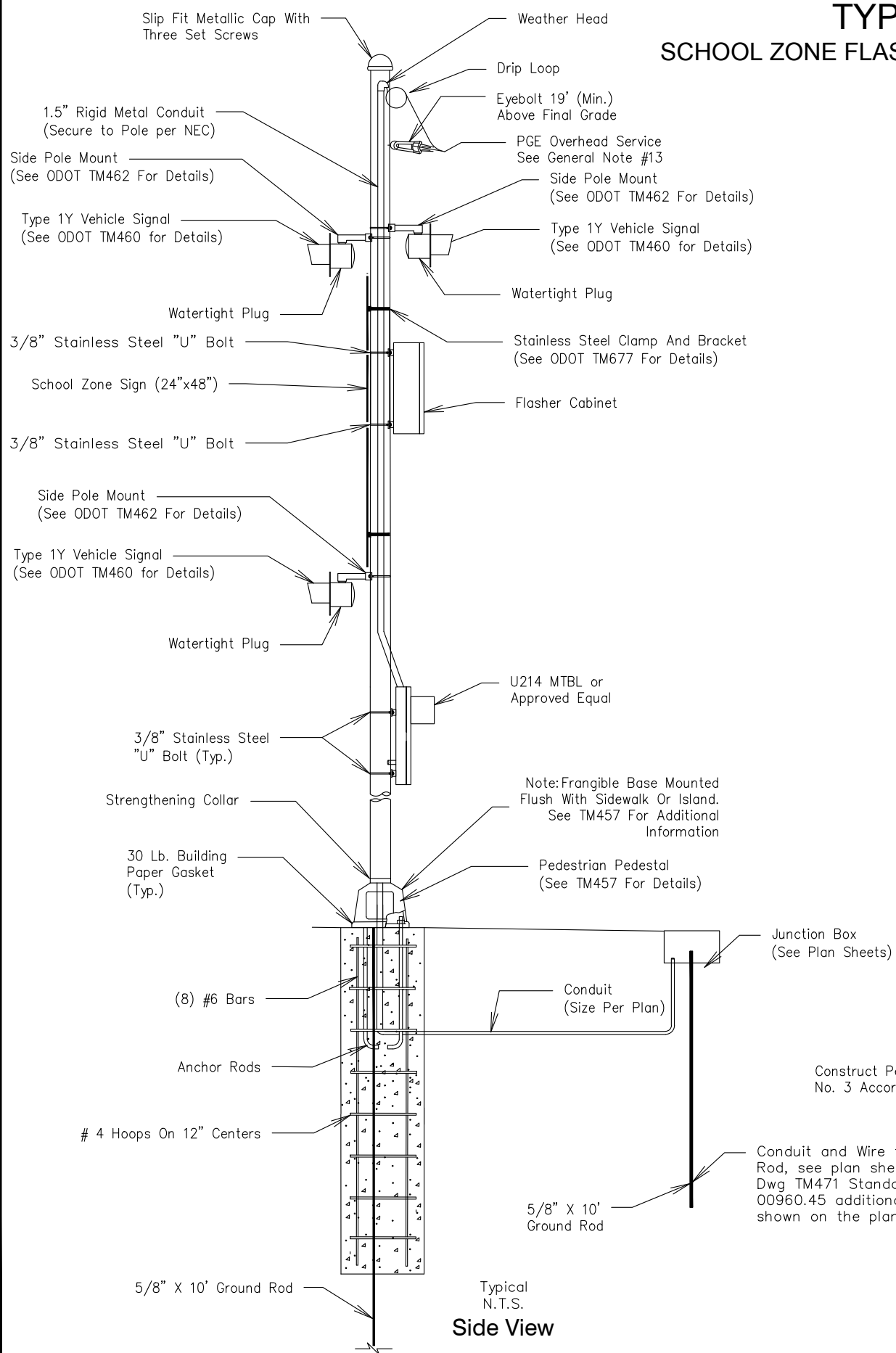
DRAFTED BY:
D. AMURAO

CHECKED BY:
W. SCARBROUGH

DATE: JUNE 2025 PROJECT NO.: 300323320

Plot Stamp: 6/12/2025 8:45:41 AM - Desly Amurao
File: H:\28\28824 - School Zone Solar AC Conversion Project\design\CD\CD-TS-28824.dwg

TYPICAL DETAIL
SCHOOL ZONE FLASHER WITH OVERHEAD SERVICE




- GENERAL NOTES
1. ALL SCHOOL ZONE FLASHERS SHALL BE ACTIVATED ON THE SAME DAY.
 2. EXISTING SCHOOL ZONE SIGNS SHALL NOT BE REMOVED UNTIL NEW FLASHER UNITS ARE OPERATIONAL.
 3. INSTALLATIONS THAT HAVE NOT BEEN ACTIVATED SHALL BE COVERED.
 4. COORDINATE INSPECTION AND TURN ON OF FLASHER UNITS WITH CLACKAMAS COUNTY. PROVIDE ONE WEEK NOTICE PRIOR TO TURN ON.
 5. AIM FLASHER HEADS SO THEY ARE VISIBLE TO ONCOMING VEHICLE TRAFFIC.
 6. ALL BOLTS, NUTS AND WASHERS SHALL CONFORM TO 02560.20 AND BE GALVANIZED STEEL ACCORDING TO 02560.40 UNLESS NOTED OTHERWISE.
 7. ALL ANCHOR RODS SHALL BE GALVANIZED STEEL CONFORMING TO 02560.30.
 8. ALL POLE ENTRANCES CONTAINING WIRING SHALL BE SMOOTH.
 9. INSTALL 1/4" THICK PREFORMED EXPANSION JOINT FILLER AROUND FOOTING IN SIDEWALK AREA AS PER TM653.
 10. TOP OF FOUNDATIONS SHALL HAVE 0" - 1/4 " EXPOSURE ABOVE FINISH GRADE.
 11. FLAT SIDE OF FOUNDATION SHOULD LINE UP WITH BACK OF SIDEWALK (WHERE SIDEWALK IS PRESENT).
 12. SEE ODOT STANDARD DRAWING TM471 FOR ADDITIONAL CONDUIT INSTALLATION DETAILS.
 13. MAXIMUM SPAN LEGNTHS BASED ON POLE HEIGHT AS FOLLOWS:
20' POLE = 125' MAX. SPAN LENGTH
25' POLE = 75' MAX. SPAN LENGTH

- COMMUNICATION REQUIREMENTS
1. For each school zone flasher assembly, provide flasher timer switch with cellular modem from Applied Information (AI) Part# AI-500-070. Includes Glance (Cloud Based) Perpetual License & Configuration and 5 years Cellular Data (10MB/month) with access to Clackamas County.

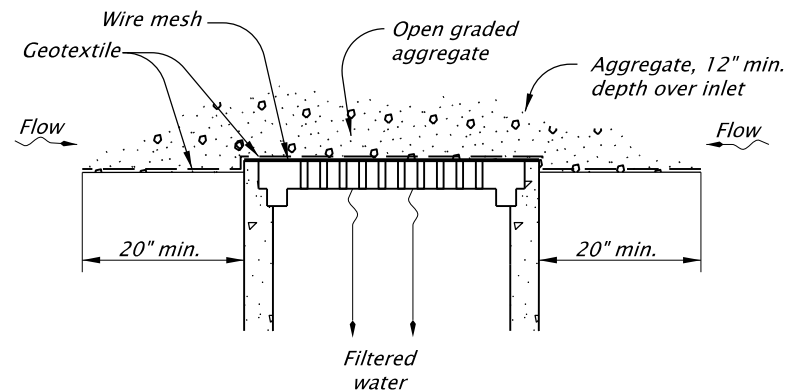
REGISTERED PROFESSIONAL
ENGINEER
65552PE
Digitally Signed 2025.05.25
OREGON
MADE JULY 9, 2001
E. SCARBROUGH

RENEWS: 06/30/26

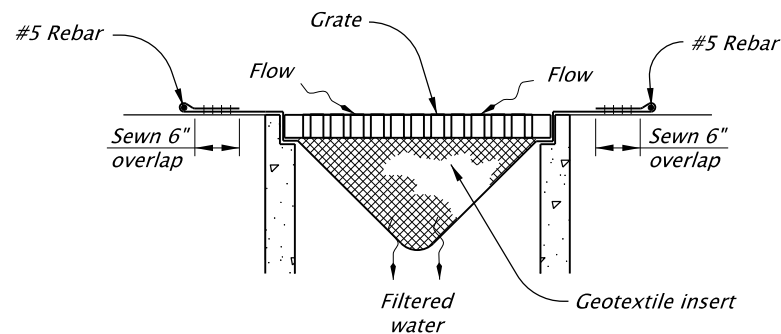
KITTELSON & ASSOCIATES
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PORTLAND, OR 97204
P 503.228.5230 F 503.273.8169

17		of		17	
Sheet No. TS-8					
REVISIONS		DESIGNED BY: S. PARKS		CLACKAMAS COUNTY DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045	
NO. DATE:		DRAFTED BY: D. AMURAO		 CLACKAMAS COUNTY DAN JOHNSON DIRECTOR	
		CHECKED BY:			
		W. SCARBROUGH			
				DATE: JUNE 2025 PROJECT NO.: 300323320	
				CLACKAMAS COUNTY SCHOOL BEACON UPGRADES	

20-JAN-2021
RD1010.dgn

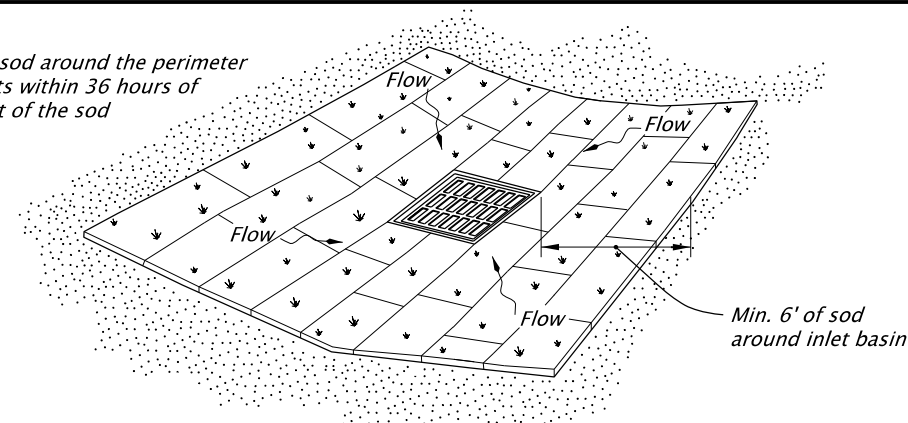


GEOTEXTILE/WIRE MESH/AGGREGATE - TYPE 2
NOT TO SCALE

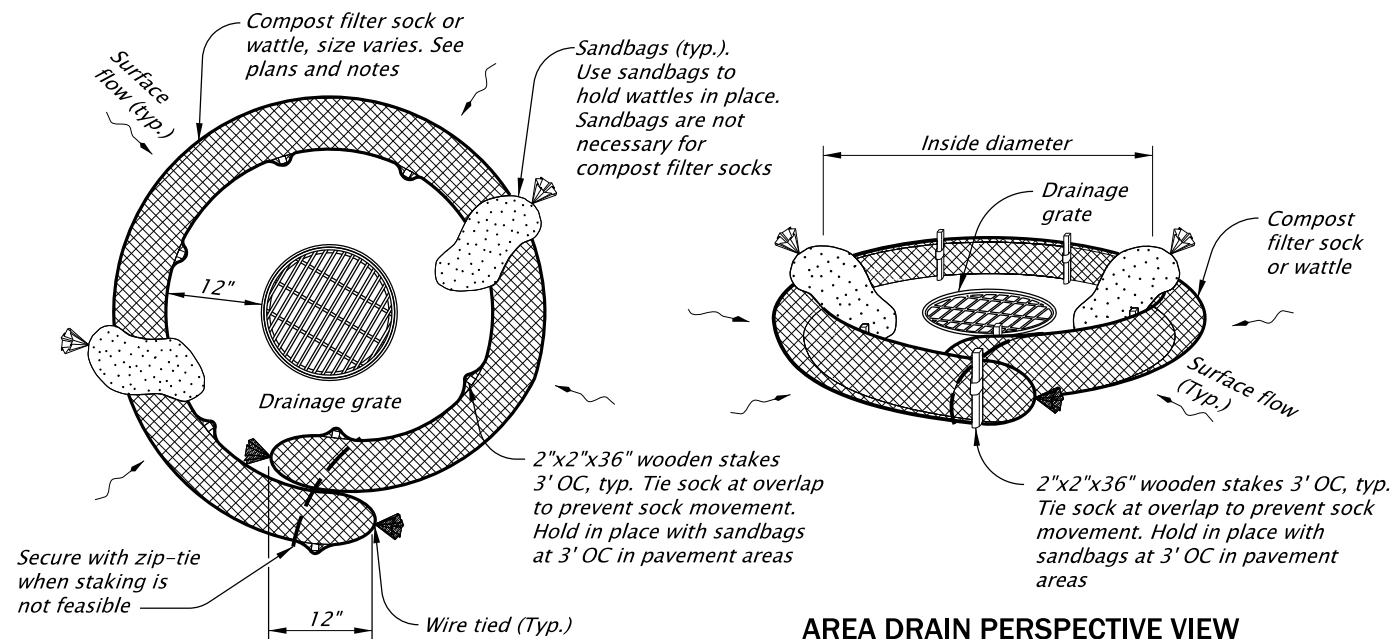


PREFABRICATED FILTER INSERT - TYPE 3
NOT TO SCALE

NOTE:
Install sod around the perimeter
of inlets within 36 hours of
harvest of the sod

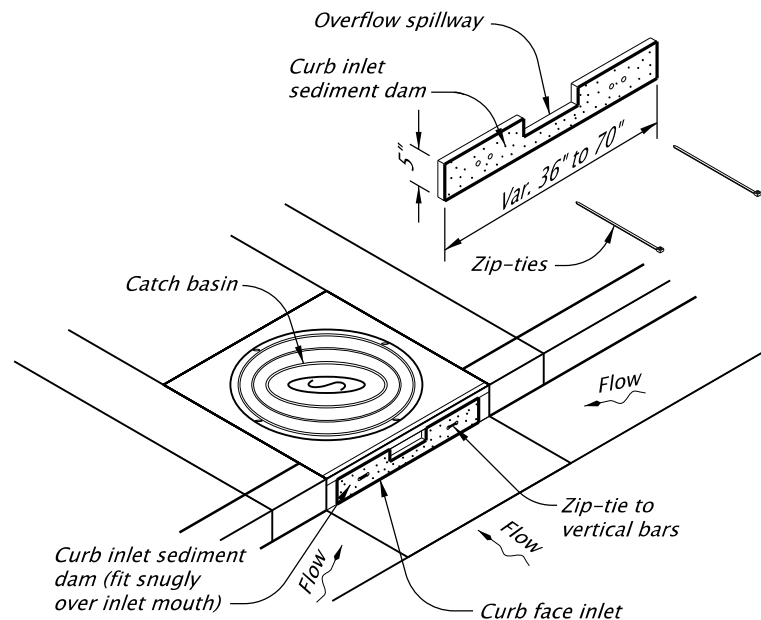


SOD PROTECTION - TYPE 6
NOT TO SCALE

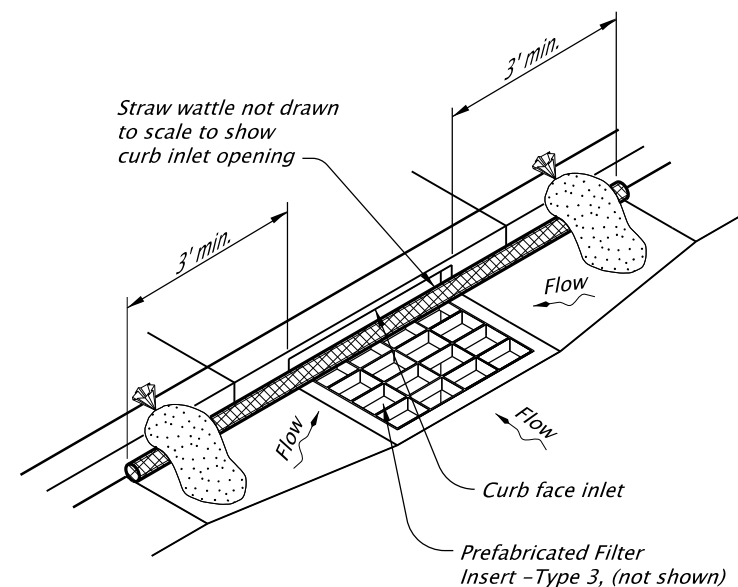


AREA DRAIN PLAN

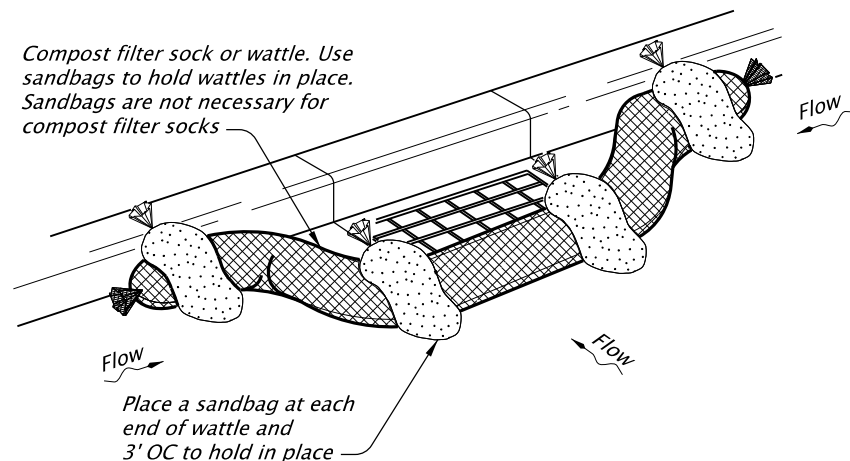
AREA DRAIN PERSPECTIVE VIEW



CURB INLET SEDIMENT DAM - TYPE 10
NOT TO SCALE



WATTLE BARRIER WITH FILTER INSERT - TYPE 11
NOT TO SCALE



CURB INLET PERSPECTIVE VIEW

COMPOST FILTER SOCK OR WATTLE - TYPE 7
NOT TO SCALE

NOTES:
Type 2 - Geotextile/wire mesh/aggregate
Place the wire mesh over the grate.
Place sediment fence geotextile over the
wire mesh and perimeter area around
structure.
Install aggregate over the geotextile fabric.

Type 3 - Prefabricated filter inserts
Install prefabricated filter inserts according
to the plans, special provisions, and
manufacturer recommendations.
Prefabricated inserts with provisions for
overflow are allowed only when
accompanied by additional BMP's to
prevent the potential of sediments
entering project storm systems.
Field fabricated inserts are not allowed.

Type 7 - Compost filter sock
Drive 2"x2" wood stakes a minimum of
6" into ground and flush with the top
of the sock.
Overlap ends of sock per manufacturers
recommendations (12" min., 36" max.).
Use 8" to 12" dia sock on curbside in traffic
areas.

(Type 7 cont.)
Use 12" to 18" dia sock in non-traffic areas
or areas where the larger socks can be
used safely.
use synthetic mesh socks for temporary
installations.

Type 10 - Curb inlet sediment dam
Fit curb inlet sediment dam snugly into inlet
mouth. Curb inlet sediment dam is
required for use with inlet filter insert
where at-grade inlet grate and curb inlet
are combined at a catch basin.

Type 11 - Wattle barrier with filter insert
Install prefabricated filter insert per Type 3
detail.
Install wattles over opening and 36" to each
side of opening tight against curb. Adjust
wattle to force storm water to flow through
filter insert or wattle prior to leaving the
site.
Adjust, replace or modify the inlet protection
as needed to prevent sediment laden water
from entering the catch basin.

The selection and use of this
Standard Drawing, while
designed in accordance with
generally accepted engineering
principles and practices, is the
sole responsibility of the user
and should not be used without
first consulting a Registered
Professional Engineer.

All materials shall be in accordance with
the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

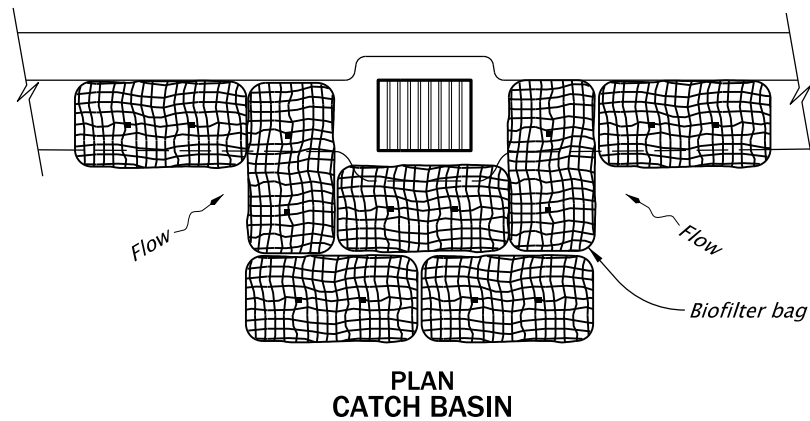
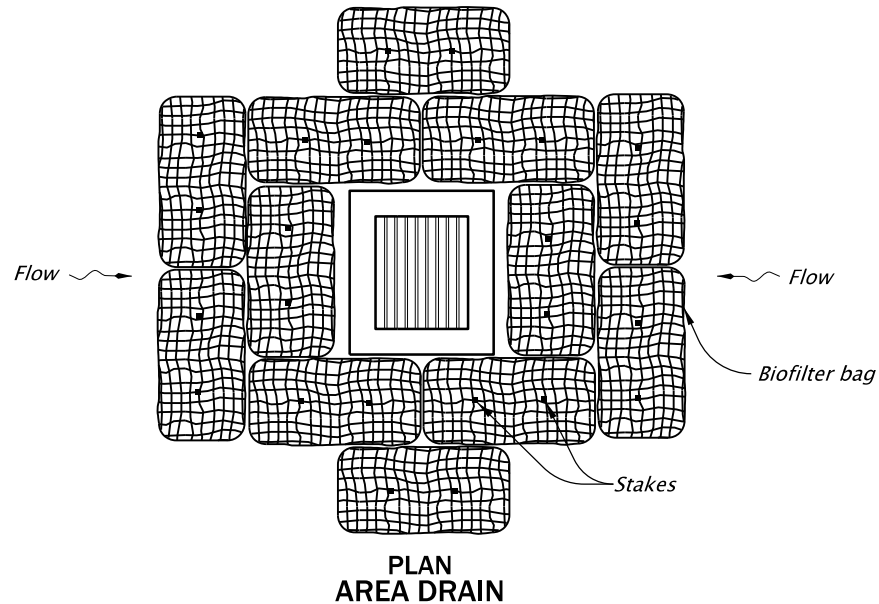
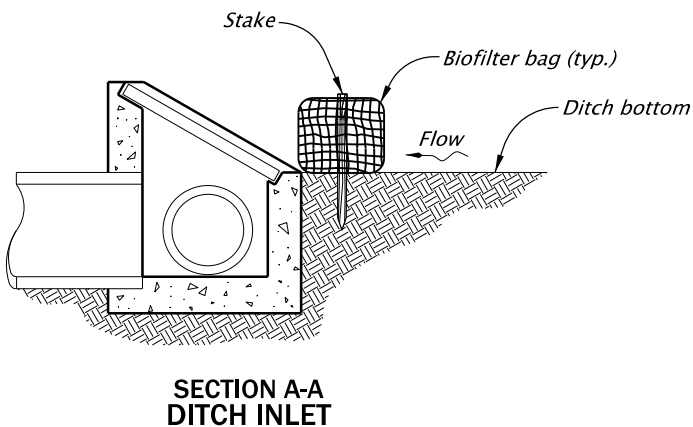
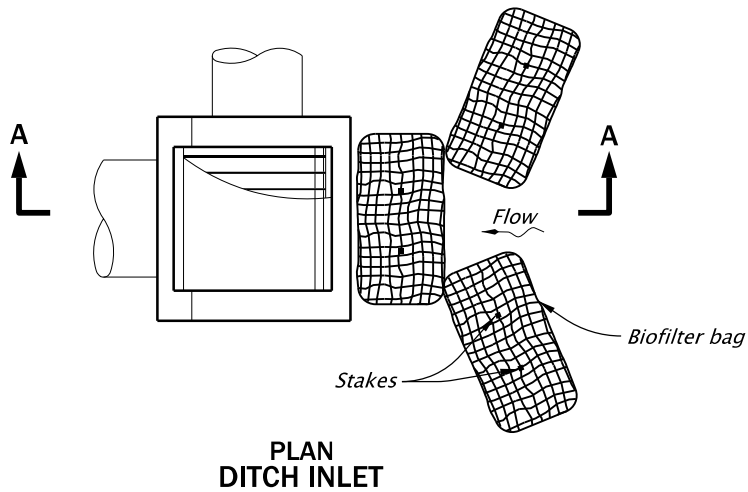
**INLET PROTECTION
TYPE 2, 3, 6, 7, 10 AND 11**

2024

DATE	REVISION	DESCRIPTION
01-2021	REMOVED CALC BOOK NUMBERS	
01-2021	MOVED NOTES UP FROM OVERLAPPING THE SHEET BORDER	
CALC. BOOK NO.	N/A	SDR DATE- 20-JAN-2021

RD1010

Effective Date: June 1, 2025 – November 30, 2025



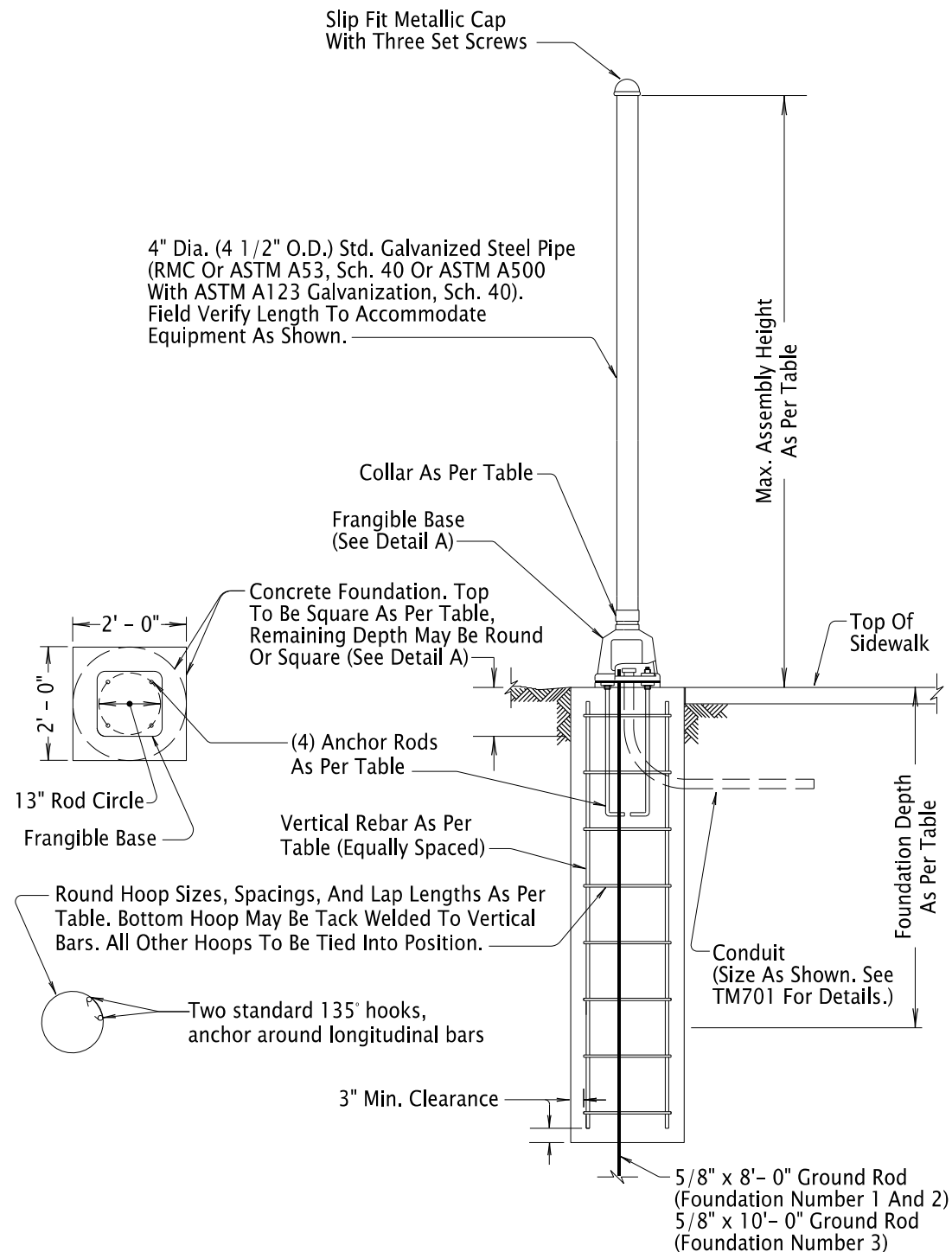
BIOFILTER BAGS - TYPE 4
NOT TO SCALE

- NOTES:
- 1. Stake biofilter bags with 2"x2"x36" wood stakes, and use a minimum 2 stakes per bag. Drive stakes a minimum of 6" into the ground and flush with the top of the bags.
 - 2. Omit stakes when bags are placed on pavement surface.
 - 3. Overlap all bag joints 6".

- 4. Biofilter bags used on active roadways are easily displaced and made ineffective if struck by vehicles. If struck by a cyclist, falls with injury could result. On active roadways alternative inlet protection should be considered.

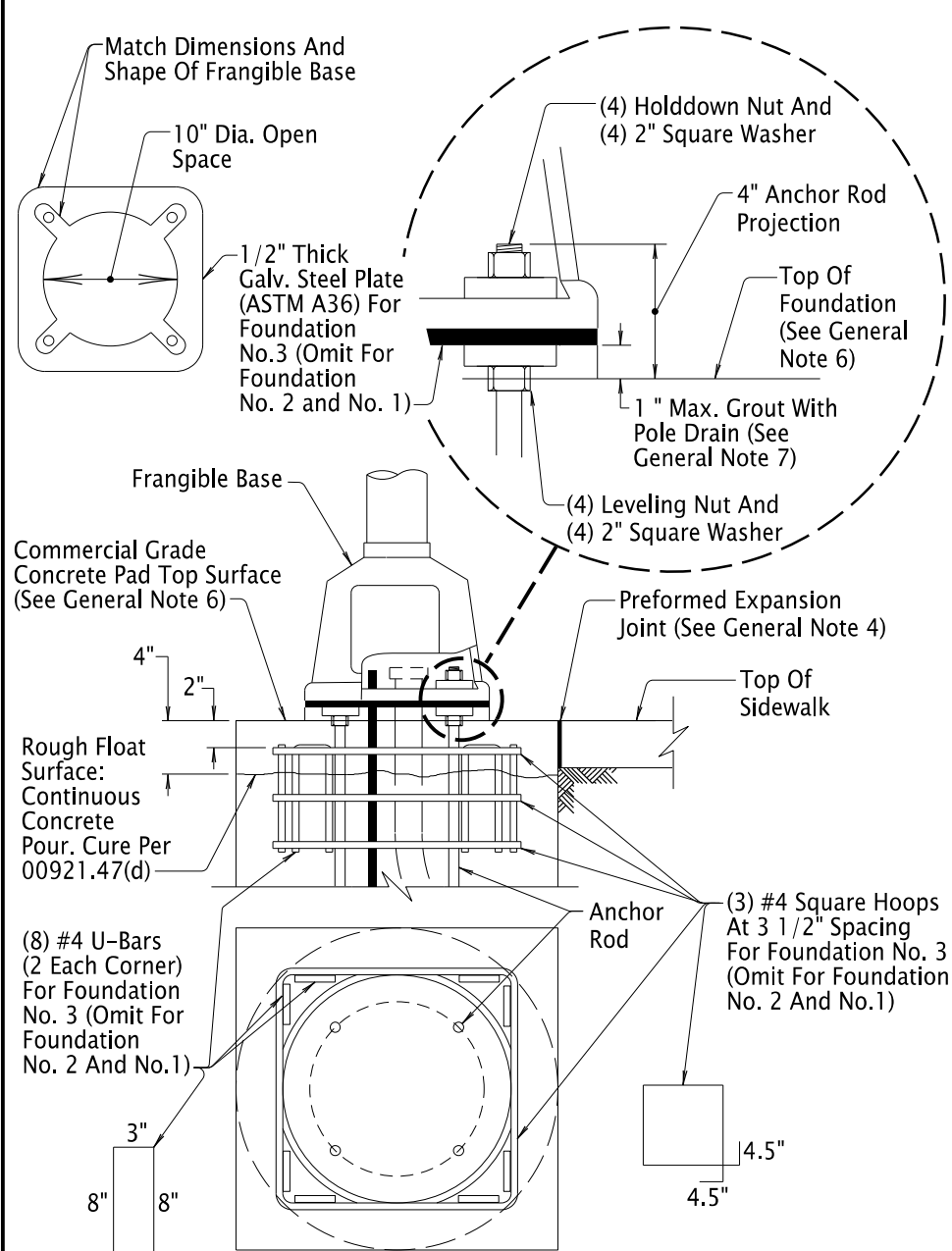
The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.			
OREGON STANDARD DRAWINGS			
INLET PROTECTION TYPE 4			
2024			
DATE	REVISION DESCRIPTION		
01-2021	REMOVED CALC BOOK NUMBERS		
CALC. BOOK NO.	N/A	SDR DATE	20-JAN-2021
RD1015			



Pedestal Foundation Number	Max. Assembly Height	Foundation Depth	Depth of Square Foundation	Anchor Rods (ASTM F 1554 Grade 36)	Reinforcing Steel			Collar
					Vertical Rebar	Hoop Size & Spacing	Hoop Lap Length	
1	6' - 0"	2' - 0"	4"	3/4" x 18" x 4" (6" Thread)	N/A	N/A	N/A	N/A
2	10' - 0"	3' - 0"	4"					
3	20' - 6"	8' - 0"	12"	1" x 36" x 4" (6" Thread)	8-#6	#4-12"	6" with 2 hooks	Req'd

PEDESTAL FOUNDATIONS

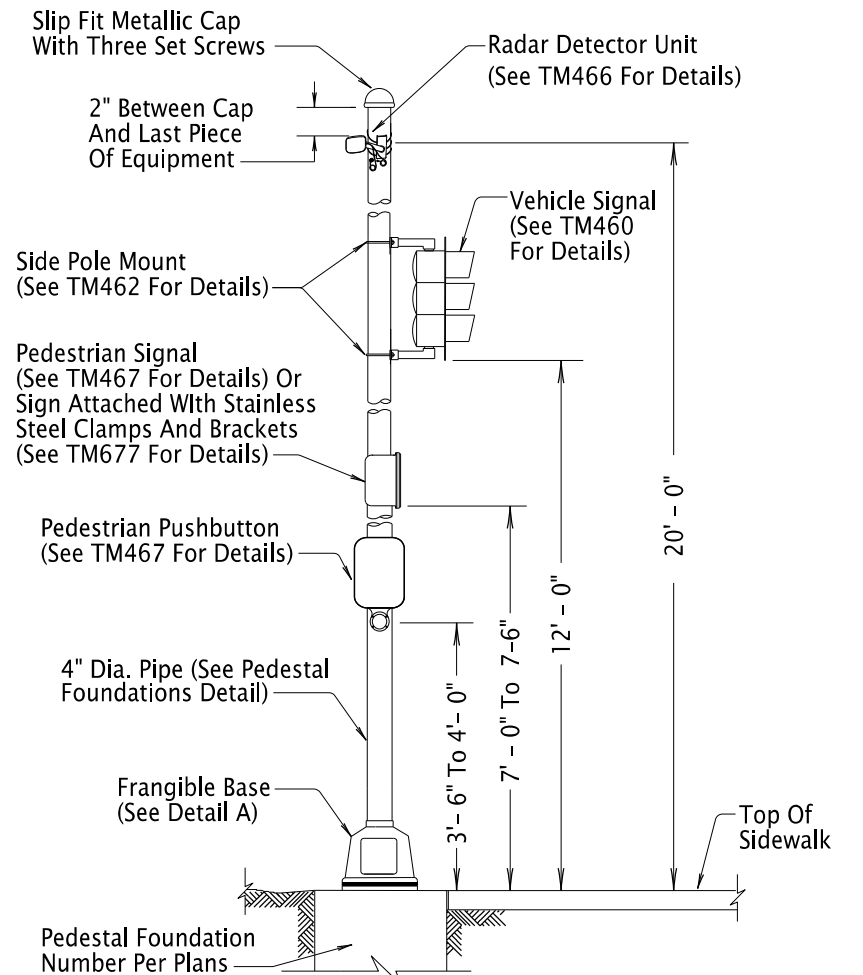


DETAIL A - FRANGIBLE BASE

General Notes:

- All Bolts, Nuts And Washers To Conform To 02560.20 And Be Galvanized Steel According To 02560.40 Unless Noted Otherwise.
- All Anchor Rods To Be Galvanized Steel Conforming To 02560.30.
- All Pole Entrances Containing Wiring To Be Smooth.
- Install 1/4" Thick Preformed Expansion Joint Filler Around Footing In Sidewalk Areas.
- The Entire Foundation To Be Located On A Single Plane With Less Than 2% Slope. The Flat Edge(s) Of The Foundation May Be Adjacent To The Turn Space, Back Of Walk, Or A Curb Ramp Grade Break Line.
- Install Commercial Grade Concrete Pad Above Rough Float Surface With Top Surface Matching Sidewalk Grade And Less Than 1/4" Vertical Exposure From Adjacent Grade. Clean Rough Float Surface Prior To Placing Fresh Concrete By Removing All Scum, Laitance, Loose Gravel, And Sediment. Pour During Sidewalk Installation After Installing Pipe And Appurtenances.
- Non-Shrink High Early Strength Grout (Non-Ferrous) with 3/4" Diameter Pole Drain And A Minimum Strength of 5000 psi. Do Not Use Footing Concrete.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.



Notes:

- Equipment Shown In The Assembly Detail Is An Example Of The Equipment That May Be Mounted. Install Equipment As Shown.
- See TM492 For Ramp Meter Pedestal Mounting Details.
- See TM493 For RRFB Pedestal Mounting Details.

TRAFFIC SIGNAL PEDESTAL ASSEMBLY

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

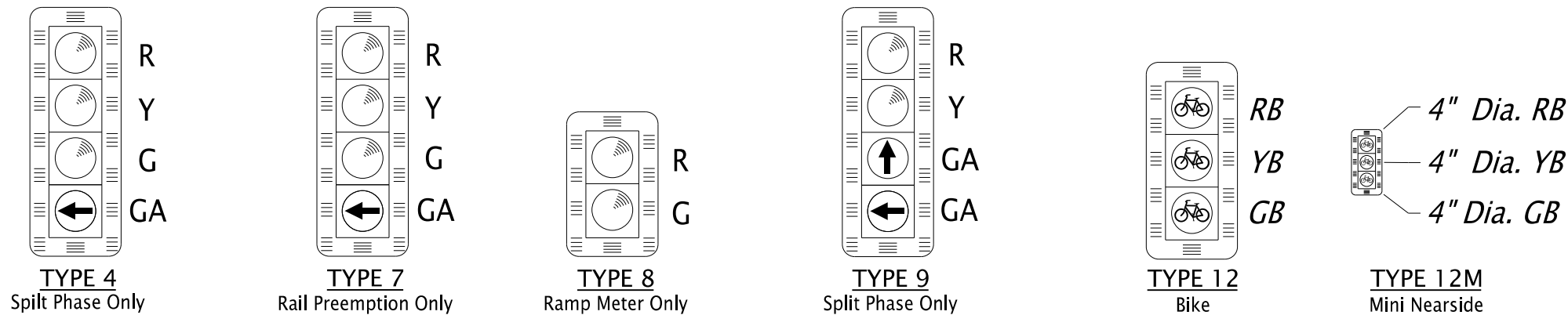
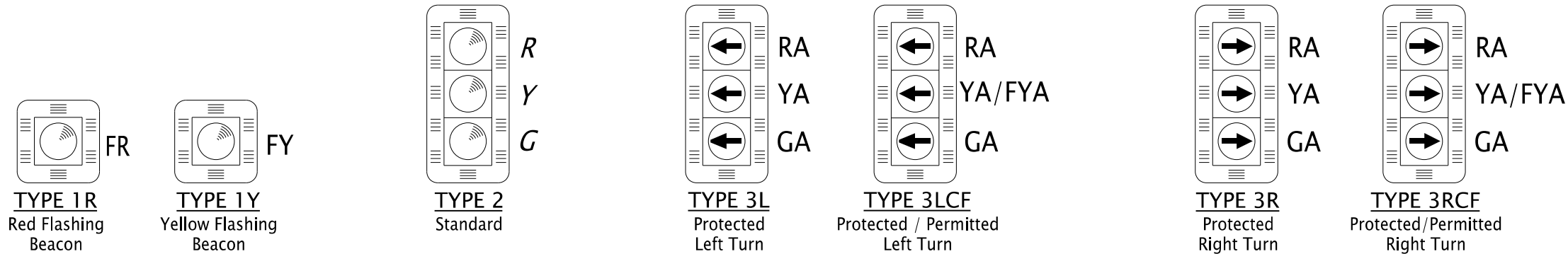
PEDESTAL FOUNDATION AND TRAFFIC SIGNAL ASSEMBLY

2024

DATE	REVISION	DESCRIPTION
01-2021	1	UPDATED ALL ANCHOR ROD DETAILS. CORRECTED STD. DWG. REFERENCE
07-2022	2	COMPLETE REDESIGN OF FOUNDATION AND INSTALLATION PROCEDURE
07-2023	3	NOTE 5 - CHANGED TO 2% SLOPE. ADDED RMC AS PIPE OPTION. MINOR TEXT CHANGES FOR CLARITY.
01-2025	4	TYPO CORRECTION. UPDATED STANDARD DRAWING REFERENCES
CALC. BOOK NO.	N/A	SDR DATE: 10-JAN-2025

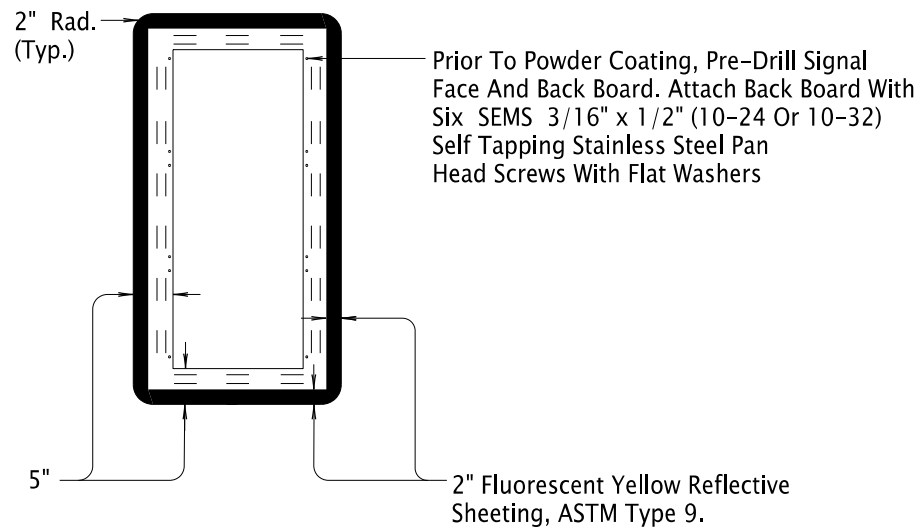
TM457

Effective Date: June 1, 2025 – November 30, 2025



Color Indications All Indications Are 12" Diameter Unless Otherwise Shown	
R	Red Circular Ball
Y	Yellow Circular Ball
G	Green Circular Ball
RA	Red Arrow
YA	Yellow Arrow
GA	Green Arrow
FYA	Flashing Yellow Arrow
FR	Flashing Red Circular Ball
FY	Flashing Yellow Circular Ball
RB	Red Bike Symbol
YB	Yellow Bike Symbol
GB	Green Bike Symbol

VEHICLE SIGNAL HEAD DESIGNATIONS AND LENS ARRANGEMENT



BACKBOARD

(3) - Carriage Bolts
1/4 " x Length As Req'd. For
Three Fully Exposed Threads

Washers 1/8" Thick

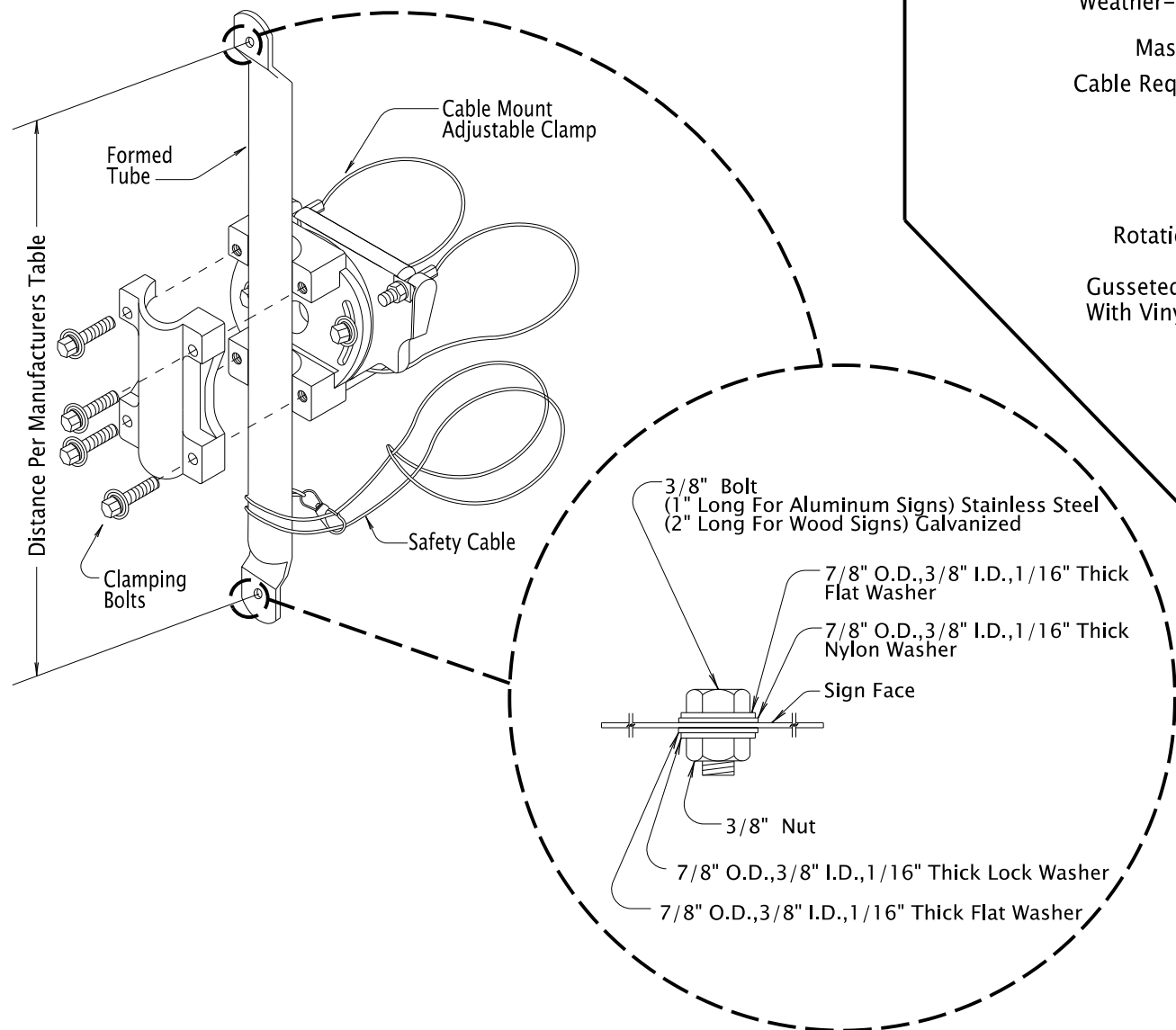
Nylon Insert
Lock Nuts 5/16" Tall

VEHICLE HEAD ASSEMBLY

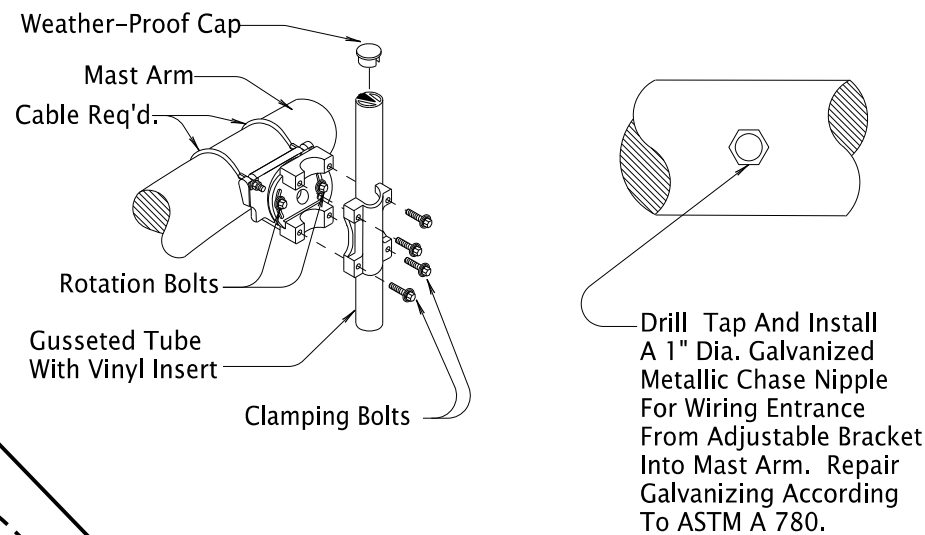
- General Notes:
1. All Screws, Bolts, Nuts And Washers Shall Be Type 304 Or 316 Stainless Steel Unless Noted Otherwise.
 2. Bolts And Screws Shall Have Square Or Hex Heads Unless Otherwise Noted. Allen Head Fasteners Not Allowed.
 3. Assemble The Heavy Duty Polycarbonate Vehicle Signal, Visor, And Backboard With Bolted Connections, Stainless Steel Reinforcing Strips And Stainless Steel Plates.
 4. Apply Anti-Seize Compound On All Hardware.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

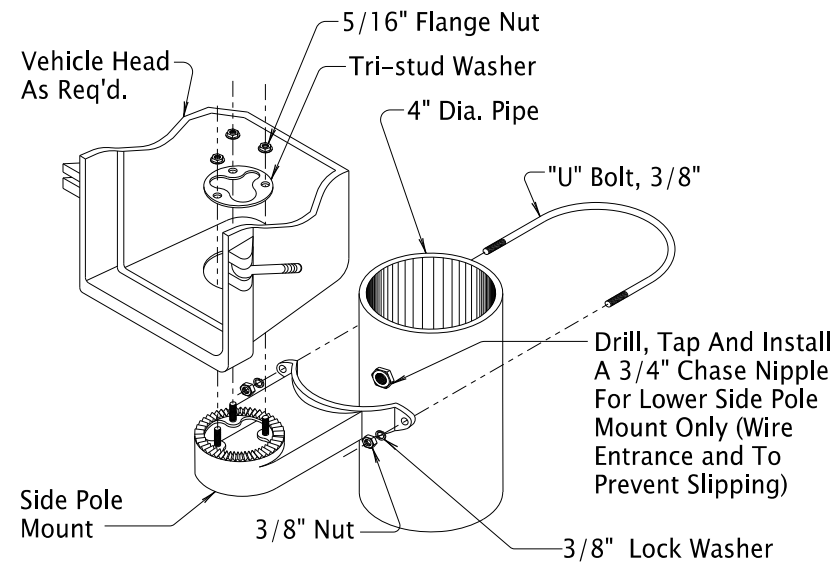
All materials shall be in accordance with the current Oregon Standard Specifications.			
OREGON STANDARD DRAWINGS			
VEHICLE SIGNAL DETAILS			
2024			
DATE	REVISION	DESCRIPTION	
01-2024	ADDED TYPE 12 AND 12M.	REMOVED TYPE 3LBF, 5, 6L, AND 10.	
07-2024	ADDED GENERAL NOTE 4		
CALC. BOOK NO.	N/A	SDR DATE	12-JUL-2024
			TM460



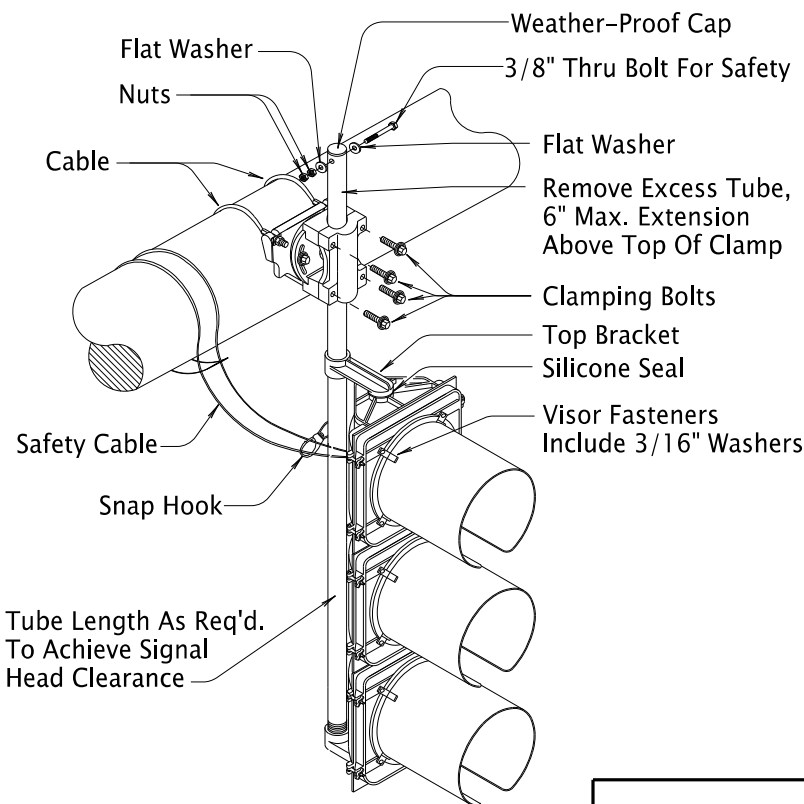
SIGN BRACKET (TYPE "B",MAST ARM/POLE INSTALLATION)



VEHICLE SIGNAL
MAST ARM INSTALLATION



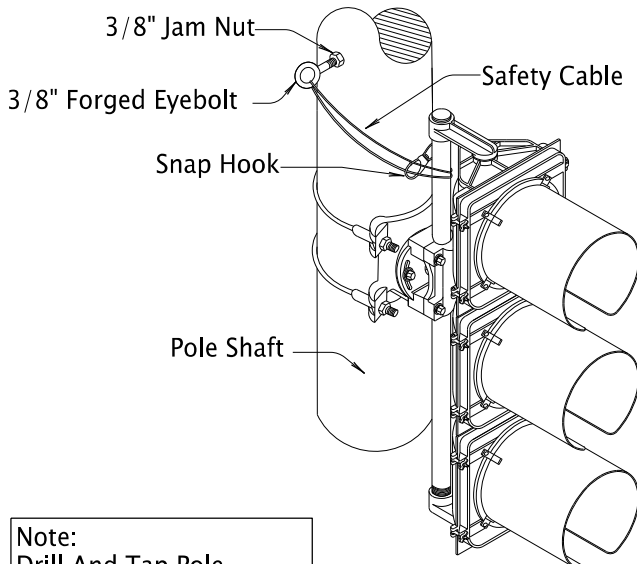
4" SIDE POLE MOUNT INSTALLATION
(For Mounting Signal Heads to Pedestal Pipe)



Tube Length As Req'd.
To Achieve Signal
Head Clearance

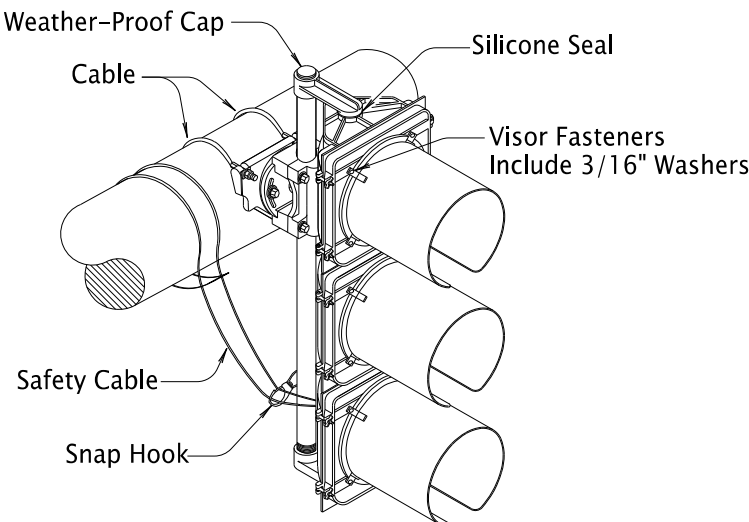
NOTE:
This Detail Can Be Applied To Any Signal
Head Configuration. If The Extension
Between The Center Line Of The Mast Arm
And The Top Bracket Exceeds 18" Consult
Engineer For Guidance.

MOUNTING VEHICLE SIGNAL ABOVE BRACKET ARMS



Note:
Drill And Tap Pole
For 3/8" Forged Eye Bolt

POLE SHAFT INSTALLATION

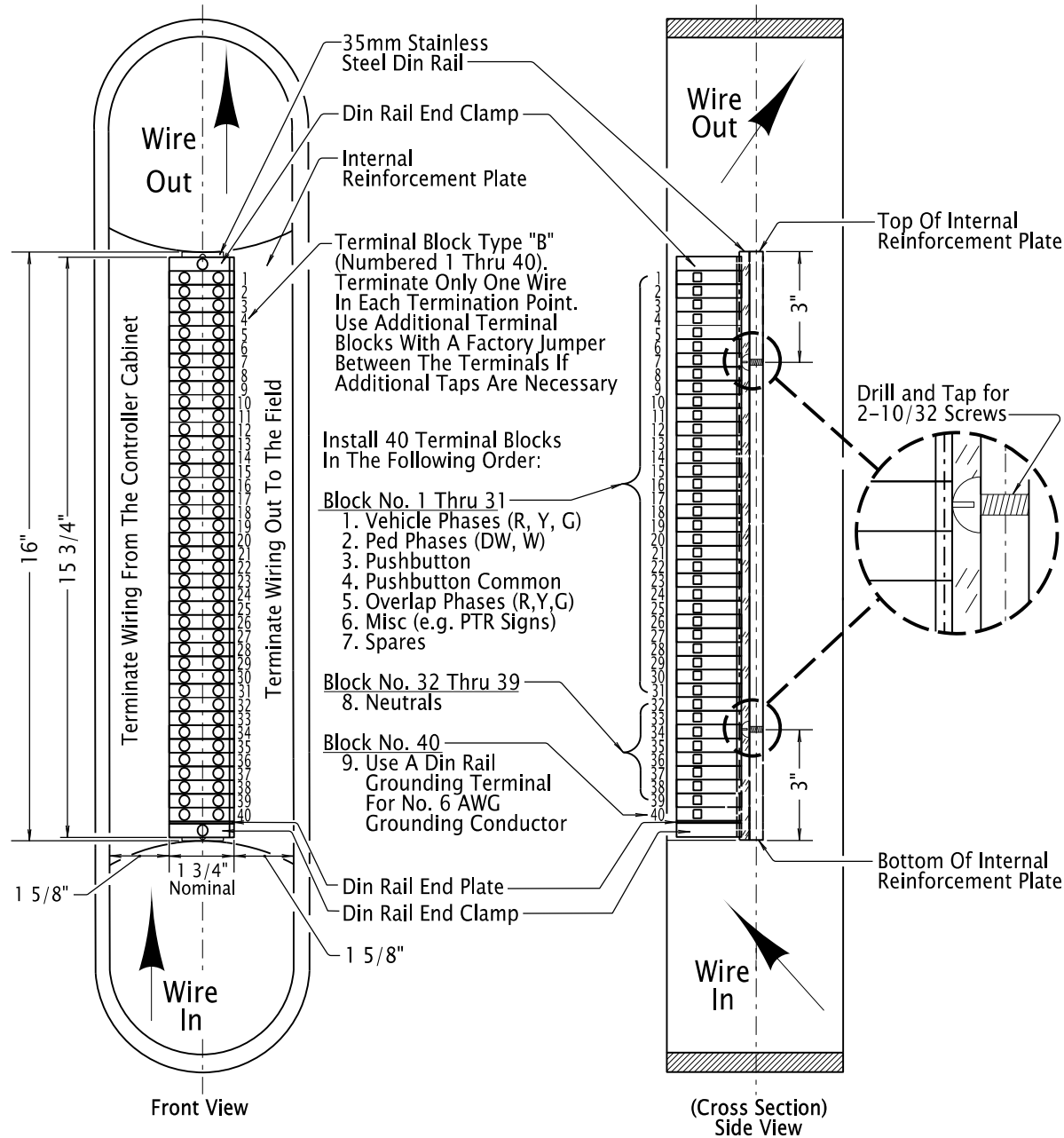


MOUNTING VEHICLE SIGNAL
BETWEEN BRACKET ARMS

- General Notes:
1. All Screws, Bolts, Nuts And Washers Shall Be Type 304 Or 316 Stainless Steel Unless Noted Otherwise.
 2. Bolts And Screws Shall Have Square Or Hex Heads. Allen Head Fasteners Not Allowed.
 3. Follow Manufacturers Recommendations For Installation.

The selection and use of this
Standard Drawing, while
designed in accordance with
generally accepted engineering
principles and practices, is the
sole responsibility of the user
and should not be used without
first consulting a Registered
Professional Engineer.

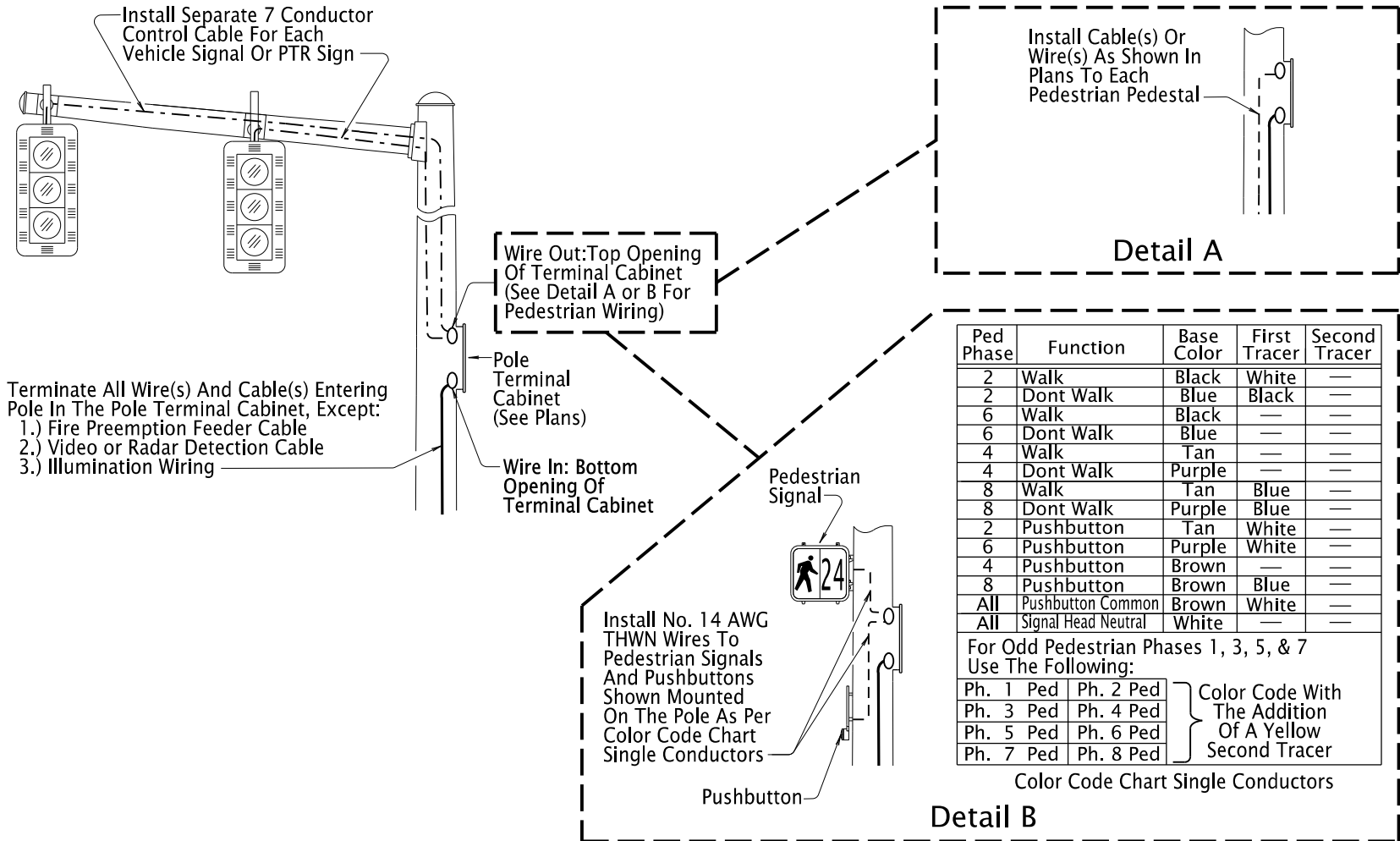
All materials shall be in accordance with the current Oregon Standard Specifications.			
OREGON STANDARD DRAWINGS			
VEHICLE SIGNAL BRACKET & SIGN BRACKET (TYPE B) DETAILS			
2024			
DATE	REVISION DESCRIPTION		
01-2024	MINOR TEXT REVISION FOR CONSISTENCY		
CALC. BOOK NO.	N/A	SDR DATE	19-JAN-2024
			TM462



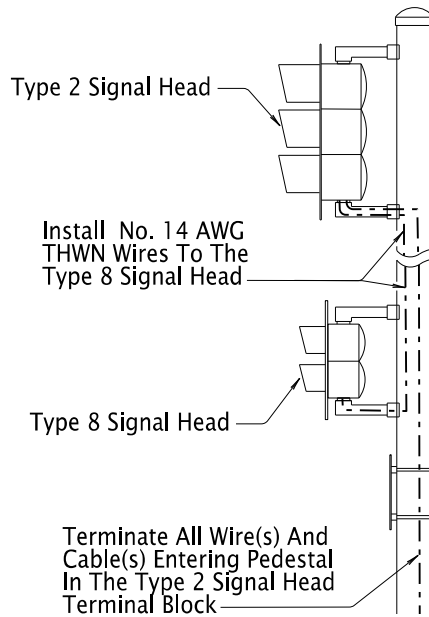
DIN RAIL, TERMINAL BLOCKS, & WIRING IN POLE RECESSED TERMINAL CABINET

7 Conductor Control Cable			Pedestrian Phases	Vehicle Phases	Signal Head Types			
Conductor Number	Base Color	First Tracer	1 Pedestrian Phase	1 Vehicle Phase	6L or 3LBF	4L, 5, or 7	1R, 1Y, 2, 3L, 3LCF, 3U, 3R, 4, 9, 12, or 12M	10
1	White	—	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
2	Black	—	Walk	Yellow	Yellow	Yellow	Yellow	Yellow
3	Red	—	Dont Walk	Red	Red	Red	Red	Red 1
4	Orange	—	P.B. Common	Spare	Flashing Yellow	Turn Yellow	Spare	Red 2
5	Green	—	Pushbutton	Green	Green	Green	Green	Spare
6	Blue	—	Spare	Spare	Spare	Turn Green	Spare	Spare
7	White	Black	Spare	Spare	Spare	Spare	Spare	Spare

COLOR CODE CHART CONTROL CABLE



WIRE & CABLE IN POLES



WIRE & CABLE IN RAMP METER PEDESTALS

General Notes:

- See TM701 For Additional Wire/Cable Installation Requirements That Apply To All Electrical Systems.
- Install All Wire And Cable Between Terminal Blocks Without Splicing.
- Mark Phase Number Or Identification On All Cable In Junction Boxes, Terminal Cabinets, Service Cabinets, & Controller Cabinets With Permanent Tags. Overlaps Shall Be Labeled (OLA, OLB, OLC, OLD).
- Mark Phase Number & Function Or Identification On All Wires Terminated In Controller Cabinet And Terminal Cabinet With Permanent Tags. Overlaps Shall Be Labeled (OLA, OLB, OLC, OLD).
- Leave Slack In Each Wire And Cable As Follows:
A.) 6 Feet In The First Junction Box Nearest The Controller Cabinet
B.) 6 Feet In Controller Cabinet And Service Cabinet
- At Existing Installations Re-wire And Re-label New And Existing Control Cables And Wires, In All Junction Boxes, Terminal Cabinets, Service Cabinets, And Controller Cabinets.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

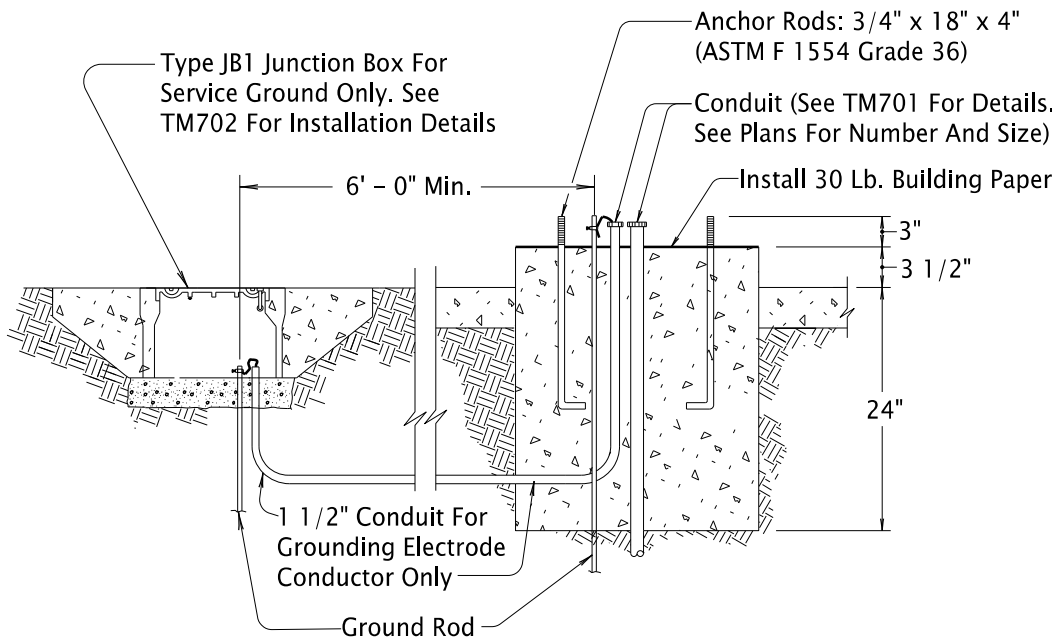
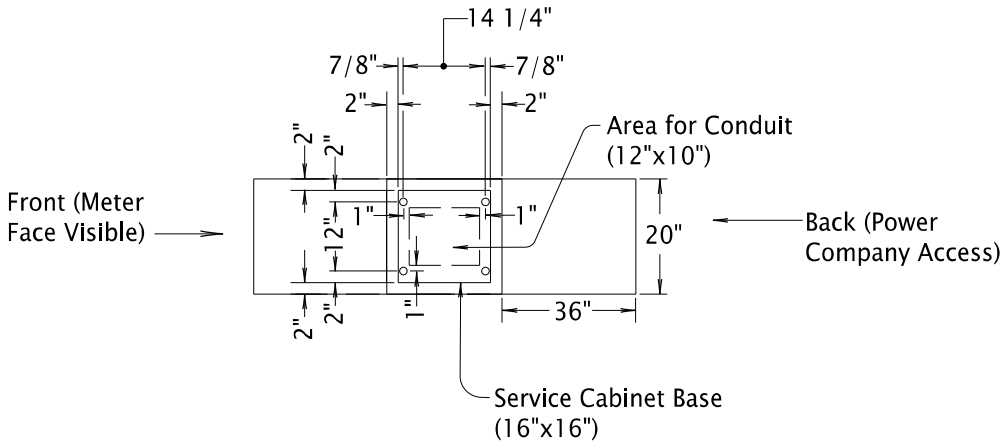
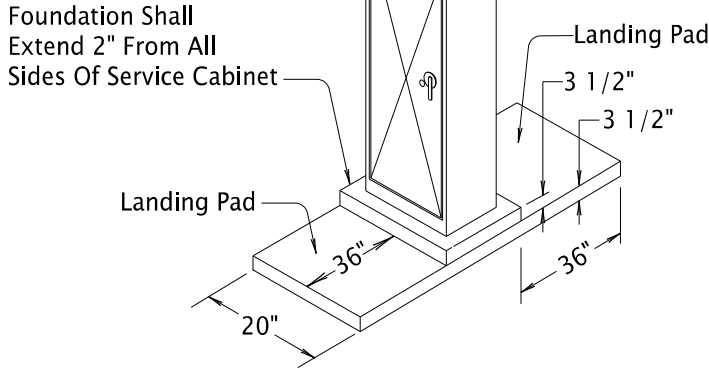
OREGON STANDARD DRAWINGS

WIRE/CABLE INSTALLATION

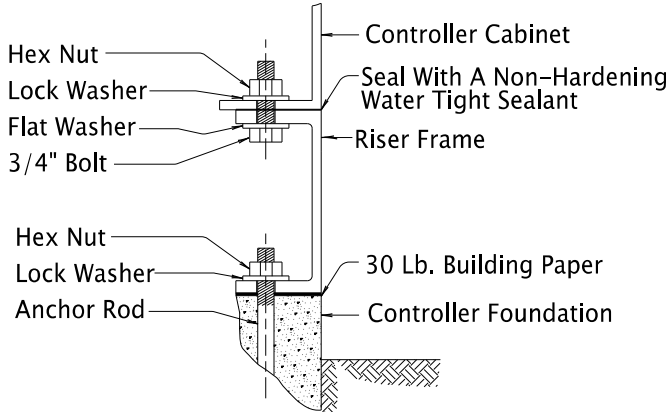
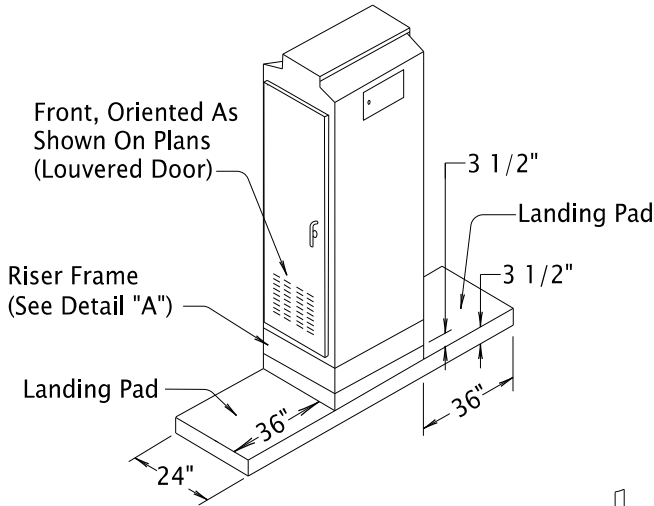
2024

DATE	REVISION	DESCRIPTION
01-2024	REVISED SIGNAL HEAD TYPES IN COLOR CODE CHART CONTROL CABLE DETAIL	
07-2024	ADDED GEN. NOTE 3, ADDED PED COLOR CODE, ADDED FACTORY JUMPERS	
01-2025	MOVED GENERAL ELECTRICAL CONTENT TO TM701, REFORMATTED CONTENT	

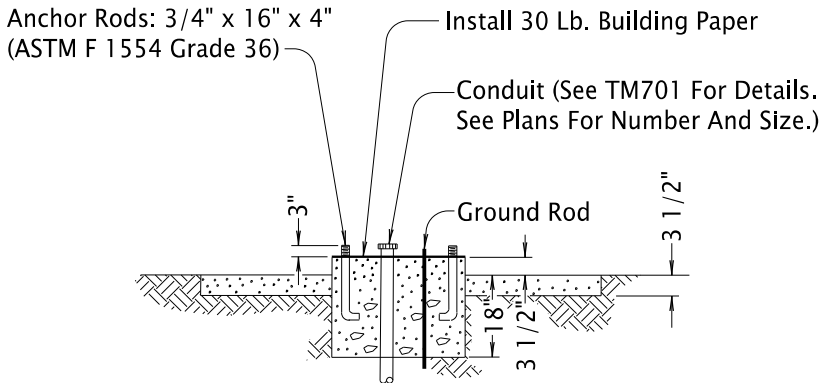
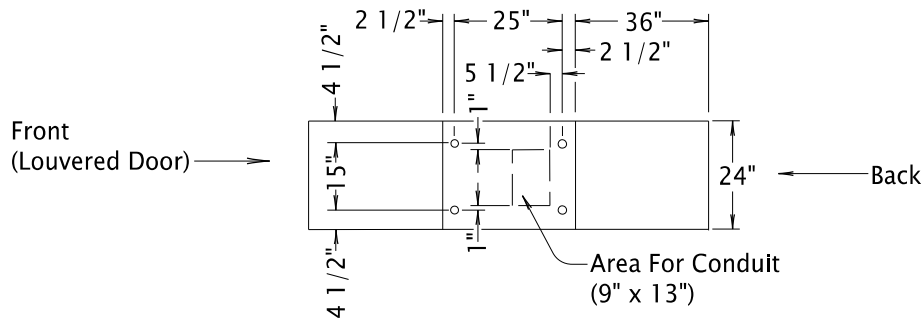
CALC. BOOK NO.	N/A	SDR DATE	10-JAN-2025	TM470
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BASE MOUNTED SERVICE CABINET FOUNDATION

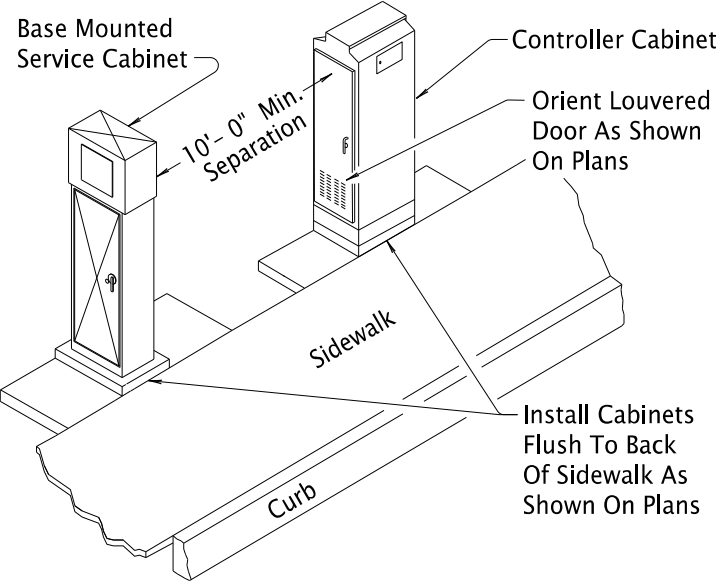


**DETAIL "A"
RISER FRAME CONNECTION**

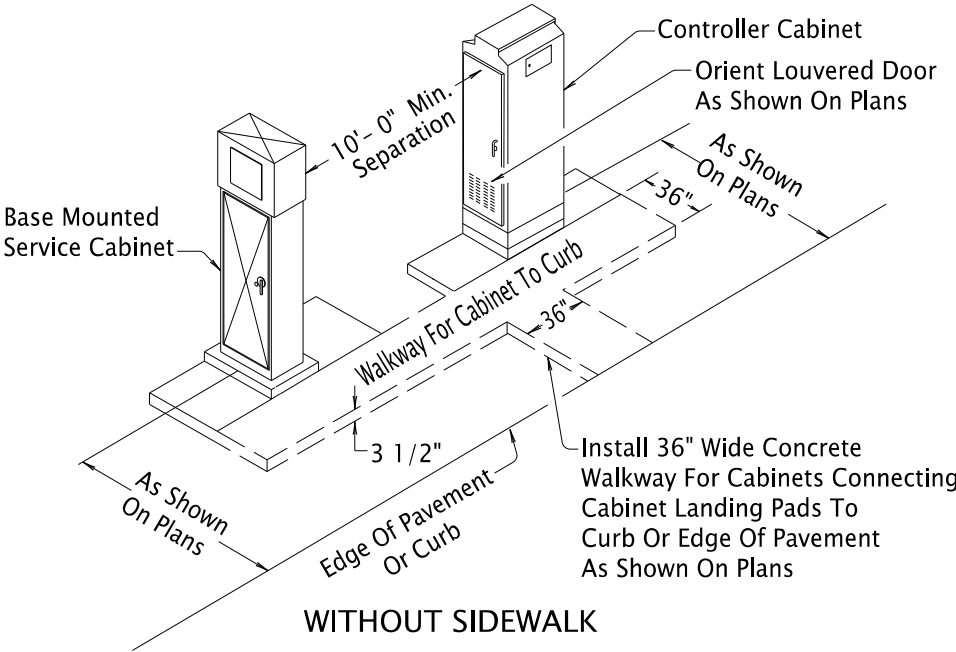


CONTROLLER CABINET FOUNDATION DETAILS
(Model 332S, 332, 334, And 340 Cabinets)

- General Notes:
1. All Screws, Bolts, Nuts And Washers Shall Be Galvanized Steel Unless Noted Otherwise.
 2. Bolts And Screws Shall Have Square Or Hex Heads. Allen Fasteners Not Allowed.
 3. Type 304 Or 316 Stainless Steel Or Galvanized Steel May Be Used For Mounting Cabinet To Riser Frame.
 4. Provide A 3/4" Chamfer On All Exposed Concrete Edges.



WITH SIDEWALK

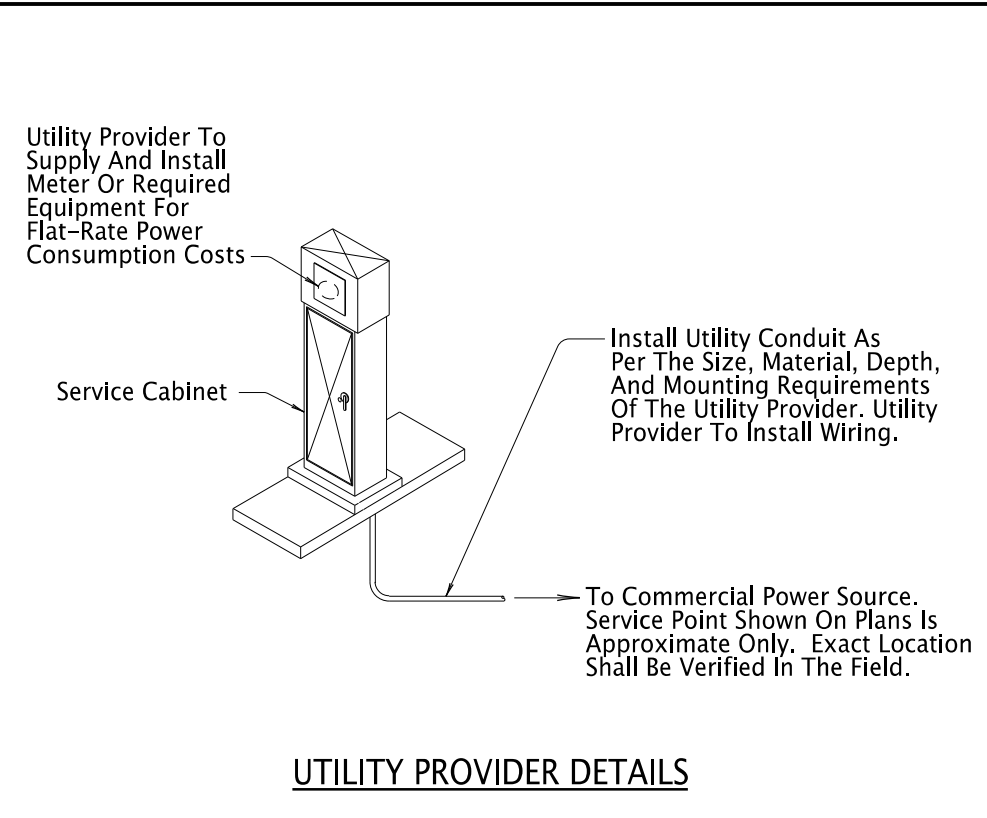
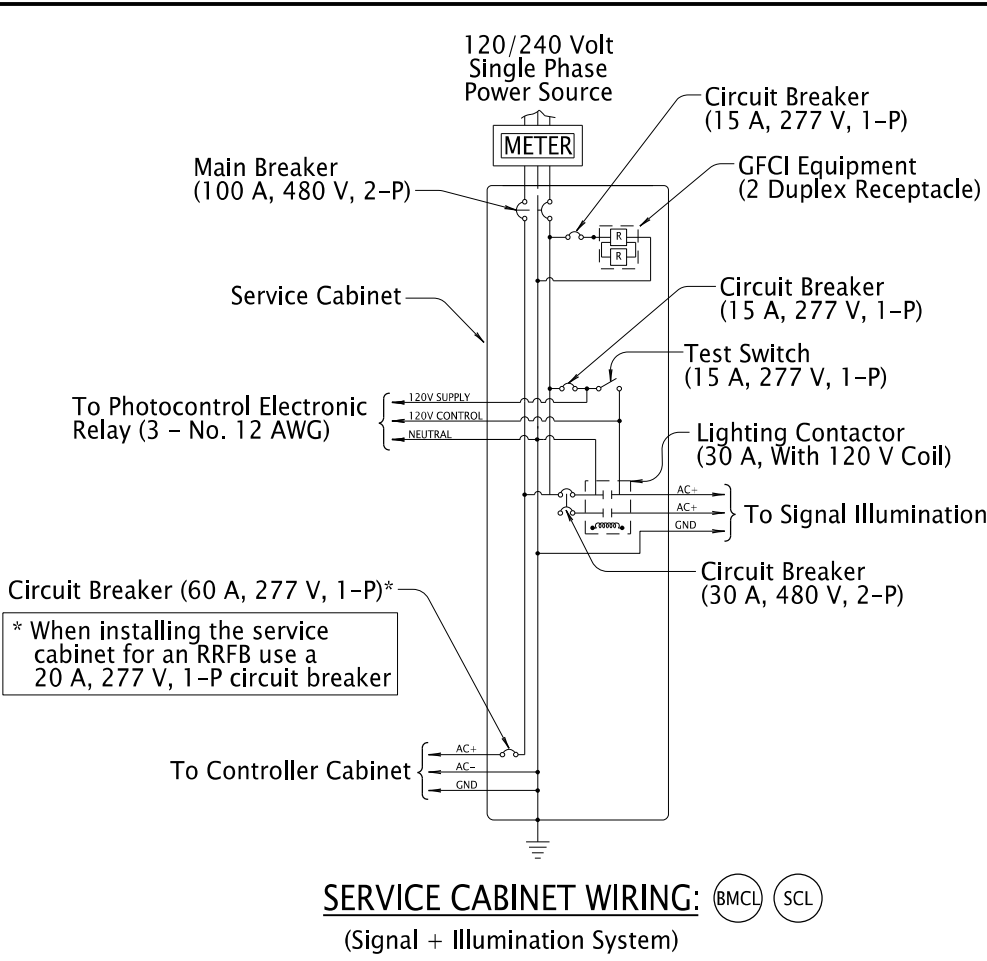
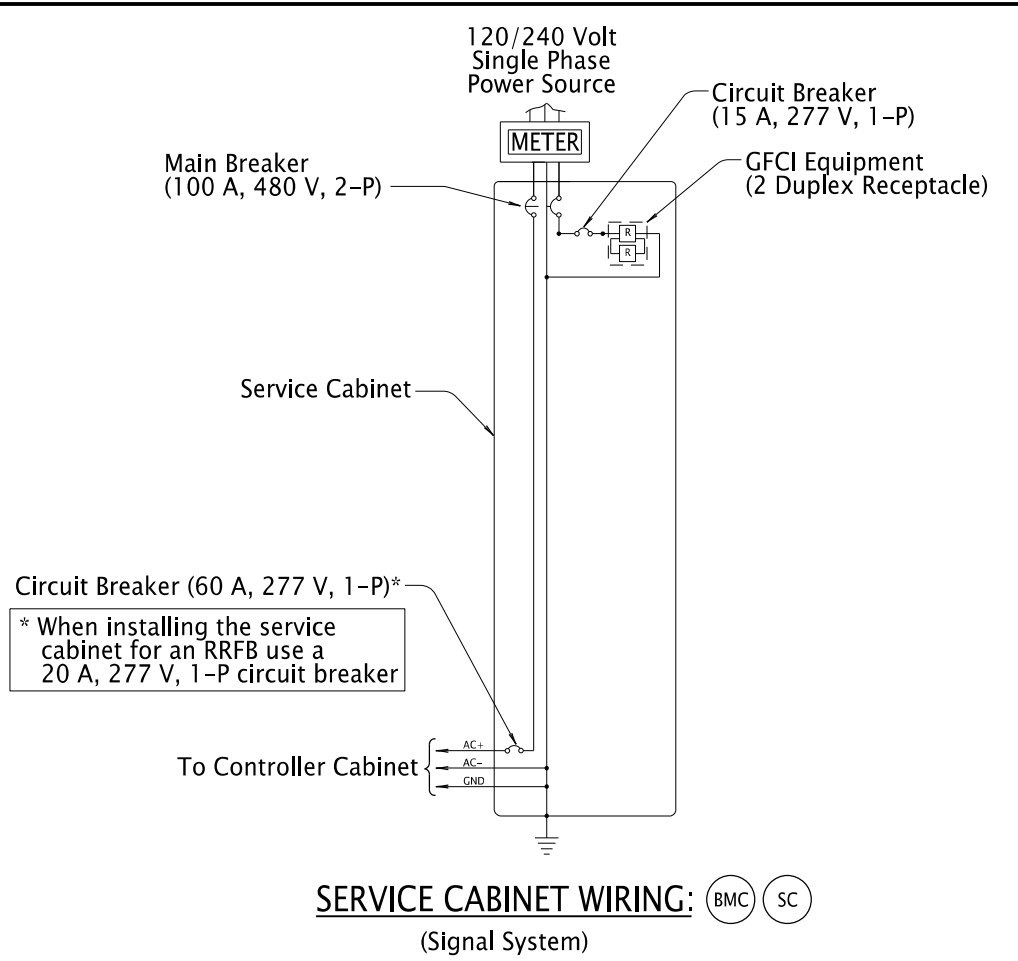


CABINET FOUNDATION LOCATIONS

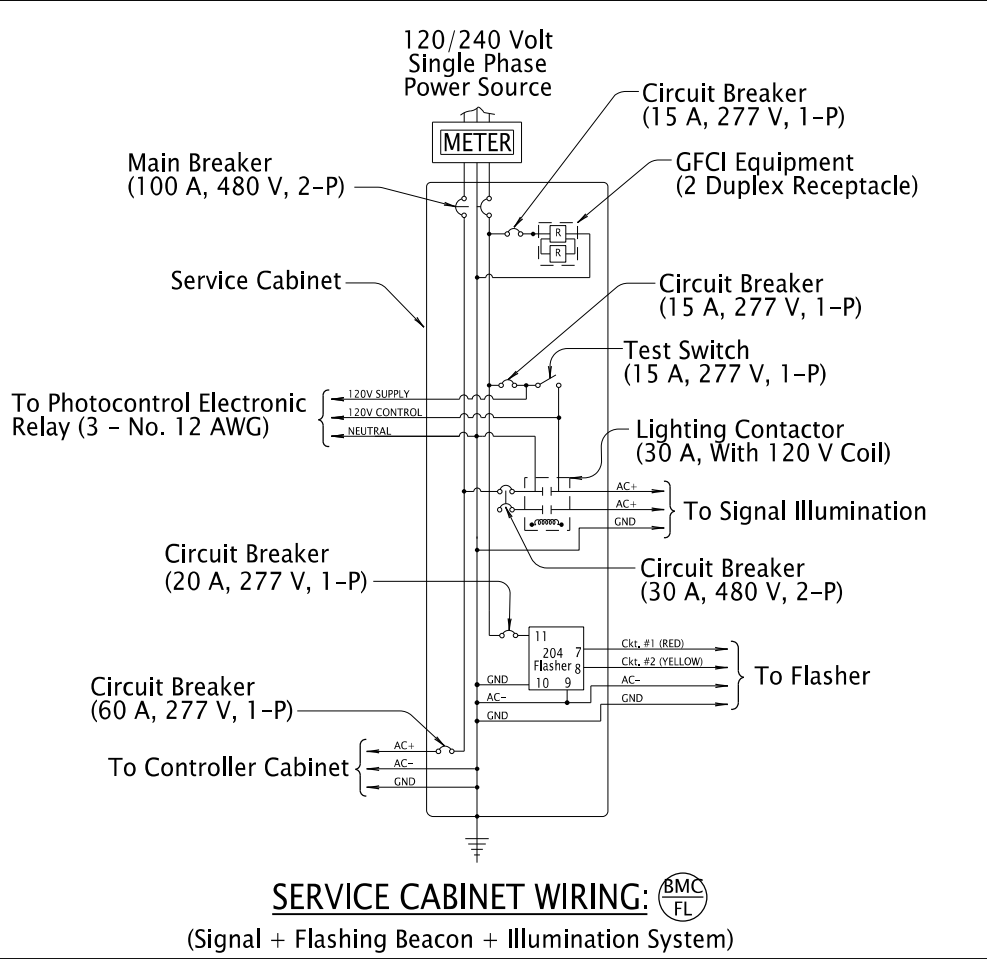
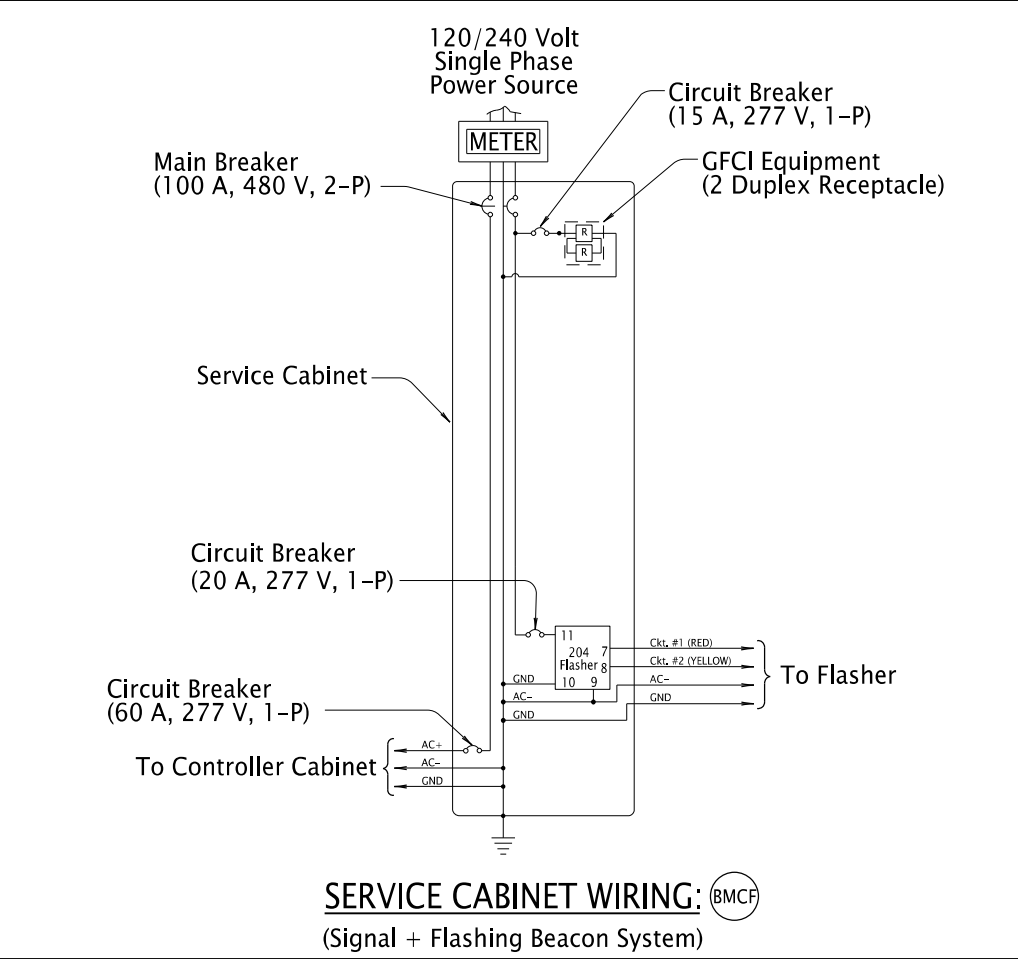
Note: Verify Base Mounted Service Cabinet Location And Meter Placement Is Acceptable To Local Power Company

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.			
OREGON STANDARD DRAWINGS			
CONTROLLER CABINET & SERVICE CABINET FOUNDATION DETAILS			
2024			
DATE	REVISION DESCRIPTION		
01-2021	UPDATED ALL ANCHOR ROD DETAILS		
01-2025	UPDATED STANDARD DRAWING REFERENCES		
CALC. BOOK NO.	N/A	SDR DATE	10-JAN-2025
			TM482



- General Notes:
1. Notify Utility Before Making Any Connections To Utility Poles.
 2. Service Cabinet Shall Have A Solid Copper Neutral Bus And The Number And Size Of Switches Or Circuit Breakers As Shown. Service Cabinet Can Accommodate A Maximum Of 10 Circuit Breakers.
 3. Wiring Connections To The Terminal Screws On The Circuit Breakers And Contactors Shall Make Full Contact Under The Screw Head.
 4. Circuit Breakers Shall Be UL489 Listed, Unenclosed, Molded Case Bolt-On Type With End Conductor Terminals Suitable For Surface Mounting In The Cabinet On A False Back Or Bracket.
 5. Label Circuit Breakers And Equipment With An Engraved Permanent Label On The Dead Front Panel To Indicate The Circuit Controlled.
 6. Fill Out Manufacturer Provided Arc Flash Stickers Using A Permanent Handheld Labeler (Brady IDXPRT with XC-1500-580-WT-BK Tags Or Approved Equal).



All materials shall be in accordance with the current Oregon Standard Specifications.			
OREGON STANDARD DRAWINGS			
2024			
DATE	REVISION DESCRIPTION		
07-2023	REVISED SERVICE CABINET WIRING TITLES. ADDED NOTE 6.		
01-2024	ADDED NOTE FOR RRFB 20 AMP BREAKER IN BMC & BMCL DETAILS		
07-2024	MINOR TEXT REVISIONS FOR UNIFORMITY		
01-2025	ADDED GFCI EQUIPMENT TO SERVICE CABINET. REFORMATTED FOR CLARITY		
CALC. BOOK NO.	N/A	SDR DATE	10-JAN-2025
			TM485

10-JAN-2025

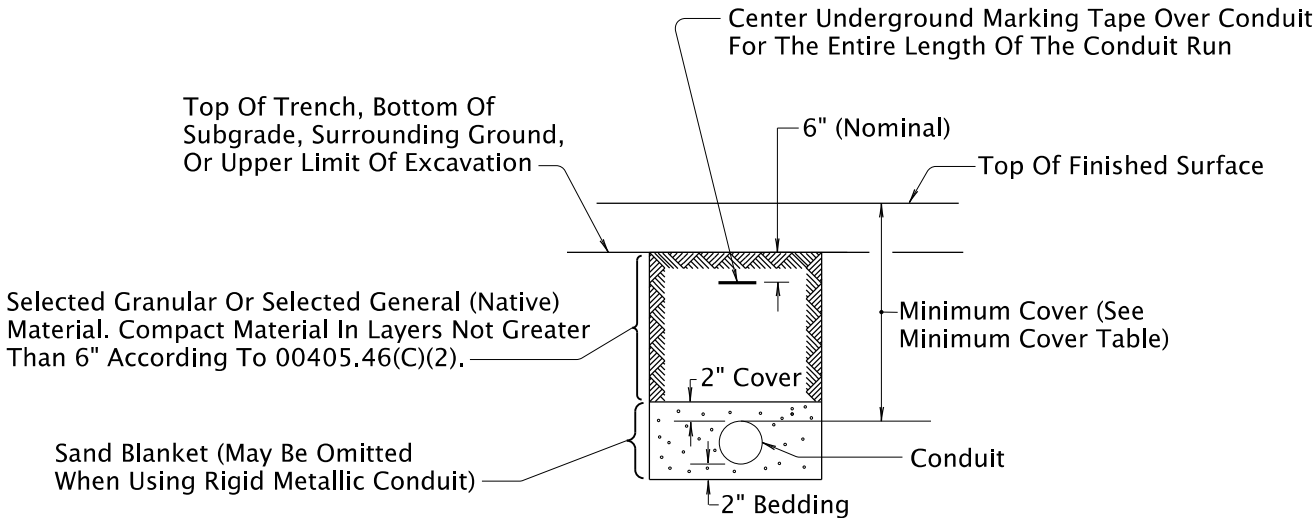
TM700.dgn

Type Of Conduit	Minimum Cover From Top of Finished Surface (Use Permit Depth If Greater Than These)	
	Roadway & Shoulders	Other Areas
Metallic	24"	18"
Non-Metallic	30"(See Note 2)	18"

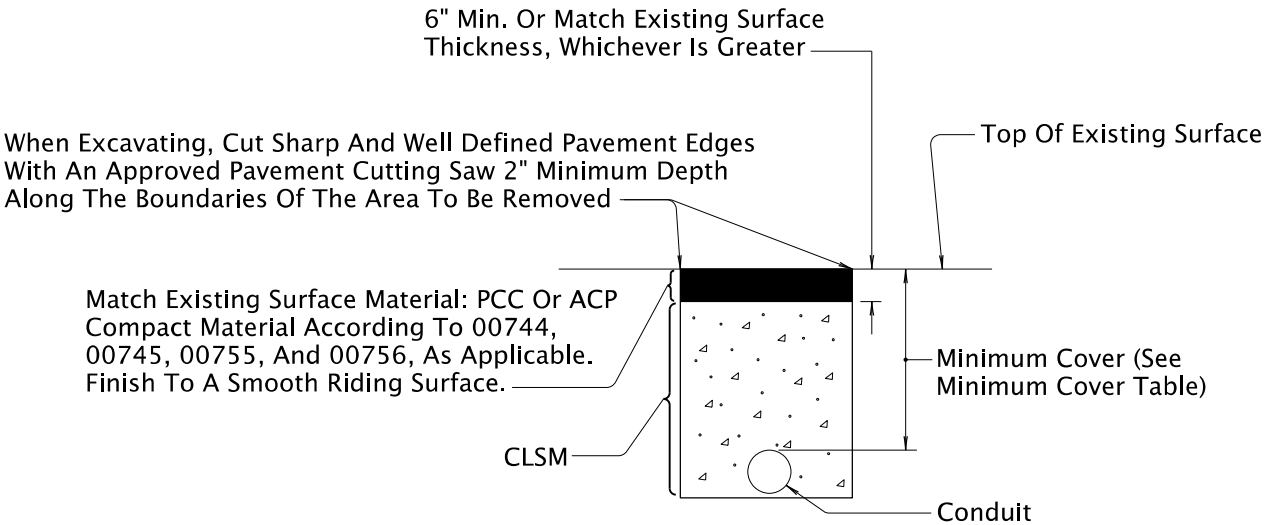
- Notes:
- Additional Cover Depth May Be Necessary Near Foundations And Junction Boxes To Accommodate The Minimum Radius ("R") Of The Conduit Elbow. See TM701 For More Information.
 - For Non-Metallic Conduit Under Roadway & Shoulders Installed Horizontally Into Fiber Optic Hand Hole As Per TM702, The Minimum Cover Depth Is 24 Inches.

MINIMUM COVER FROM FINISHED SURFACE

- General Notes:
- Install Conduit By Open Trench Method, Horizontal Directional Drilling, Or As Shown
 - Conduit Runs Shown On Plans Are For Bidding Purposes Only. Locations May Be Changed To Avoid Obstructions.
 - Excavate According To 00960.40. In Areas To Be Paved Or Landscaped, Place All Conduit Before Paving Or Landscaping.
 - Hold Trench Width To A Practical Minimum
 - Do Not Backfill Trenches Until Inspected By The Engineer
 - Furnish Backfill Materials According To 00960.10



CONDUIT OPEN TRENCH EXCAVATION & BACKFILL
UNSURFACED AREAS (new roadway prior to paving, shoulders,
under sidewalk, landscaped areas, etc.)



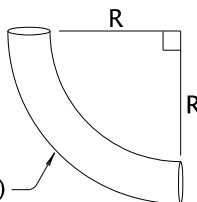
CONDUIT OPEN TRENCH EXCAVATION & BACKFILL
EXISTING PAVED AREAS

All materials shall be in accordance with the current Oregon Standard Specifications.			
OREGON STANDARD DRAWINGS			
GENERAL CONDUIT TRENCHING			
2024			
DATE	REVISION	DESCRIPTION	
01-2025	NEW DRAWING	(CONTENT FROM RETIRED TM471)	
CALC. BOOK NO.	N/A	SDR DATE	10-JAN-2025
			TM700

Effective Date: June 1, 2025 – November 30, 2025

10-JAN-2025
TM701.dgn

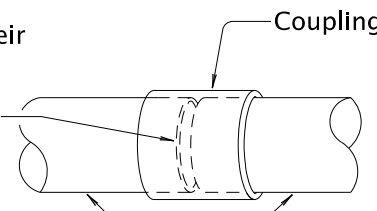
Standard Factory Fiberglass Bend
(No Crimping, Flattening, Field Manipulation, Or Cutting In The Field)



Conduit Diameter	R (min.)
1 1/2"	10"
2"	12"
2 1/2"	15"
3"	18"

CONDUIT ELBOWS

Make Cuts Square And True So Conduit Ends Fit Together For Their Full Circumference. Use Solvent Weld To Connect Conduit As Per Manufacturer's Recommendation.



Notes:
1. Slip Joints, Running Threads Or Reducing Couplings Not Allowed. Use The Same Size Conduit For The Entire Length, Outlet To Outlet.

CONDUIT COUPLINGS

Cables/Wires
(Or Pull Line In Conduit For Future Use Only)

Install Push-On PVC End Bell Conduit Bushings Before Installing Wire

Install Foam Conduit Plug After Wiring (Or Pull Line) Is Installed

1/2" To 1" Above Conduit Bushing

PVC Riser (In Junction Boxes) Or Fiberglass Riser (In Foundations)

Foam Conduit Plug

1/2" Larger Than Riser Diameter

3" Min.

Notes:
1. Ream Conduit Ends To Remove Rough Edges And Burrs
2. Temporarily Plug Or Cap Conduit Ends At All Times To Keep Debris Out

CONDUIT ENDS AND BUSHINGS

2" Min. To 3" Max.

Fiberglass Riser (Install Plumb)

Top Of Foundation

Concrete Foundation

Fiberglass Elbow

Coupling

Conduit (Size As Shown On Plans)

Extend Fiberglass Conduit 10" To 12" Beyond Foundation

CONDUIT INSTALLATIONS IN FOUNDATIONS
(Applicable for Pole, Pedestal, Service Cabinet and Controller Cabinet Foundations)

Junction Box Type	Max. Sum Of Conduit Diameters
JB1	12"
JB2	18"
JB3	34"

Junction Box

2" To 3" Typ. From End Wall

2" Min. To 3" Max.

PVC Riser (Install Plumb)

Conduit (Size As Shown On Plans). Enter Through The Bottom Of The Box Near The End Wall From The Direction Of The Conduit Run

(Direction Of Conduit Run)

Fiberglass Conduit Elbow

Coupling

CONDUIT INSTALLATION IN JUNCTION BOXES

Pull All Wires And Cables By Hand Only

Pull In A Straight Line With The Conduit Opening*

Temporarily Bundling Cables Or Wire (Tapes, Straps, Ties, Or Other Binding Material) Allowed Only At The Terminating End Points For Pulling Only

LUBRICANT

Use Electrical Lubricants When Inserting Wires And Cables In Conduit

* Use A Pulley Device To Achieve A Straight Line If Pulls Are Made With Poles Or Controller Cabinets In Place

WIRE & CABLE INSTALLATION IN CONDUITS

Wire & Cable Installation General Notes:

1. See TM470 For Additional Wire/Cable Installation Requirements That Apply To Specification Section 00990 Bid Items.

2. Label Wires And Cables With Permanent Tags As Shown Or Directed. Use Handheld Labeler (Brady M210 Label Maker With Vinyl B-595 Tape) Unless Otherwise Shown.

3. Install No. 16 AWG TFFN Orange Base With Blue Tracertone Wire In All Conduits As A Locate Wire. Leave Slack As Shown Or Directed And Install A Wire Nut. Do Not Join Multiple Locate Wires Under A Common Wire Nut Unless Otherwise Shown.

4. Tape The Ends Of Unused Conductors With Insulated Vinyl Plastic Tape.

5. Leave A Minimum Of 2 Feet Slack In Each Wire And Cable In Junction Boxes, Poles, Cabinets Unless Otherwise Shown.

6. Install Polyethylene Pull Line In All Conduits Noted On The Plans For Future Use (No Wires/Cables In Conduit). Leave 6 Feet Of Slack Pull Line.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

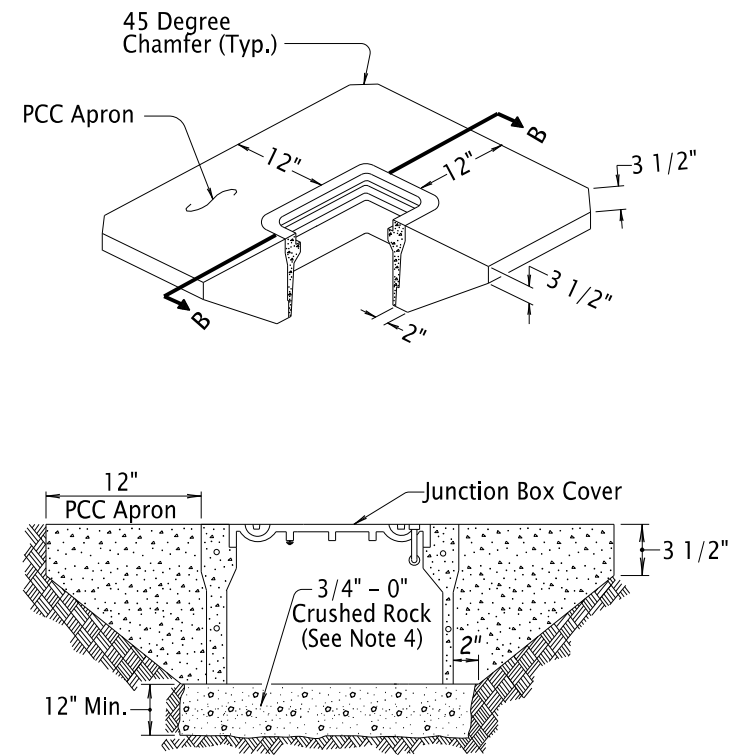
OREGON STANDARD DRAWINGS

GENERAL CONDUIT & WIRE/CABLE INSTALLATION

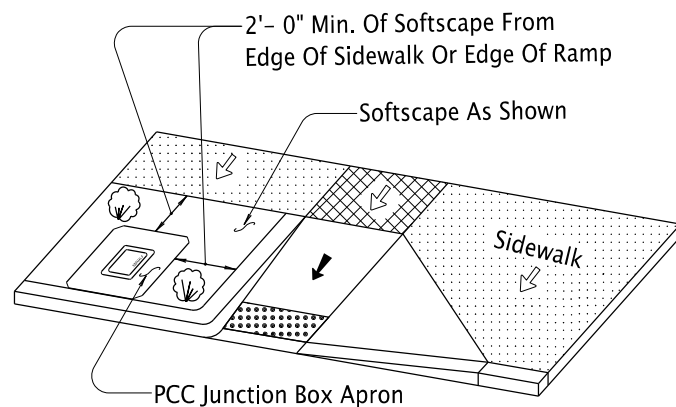
2024

DATE	REVISION	DESCRIPTION
01-2025	NEW DRAWING (CONTENT FROM RETIRED TM470 & TM471)	

CALC. BOOK NO.	N/A	SDR DATE	10-JAN-2025	TM701
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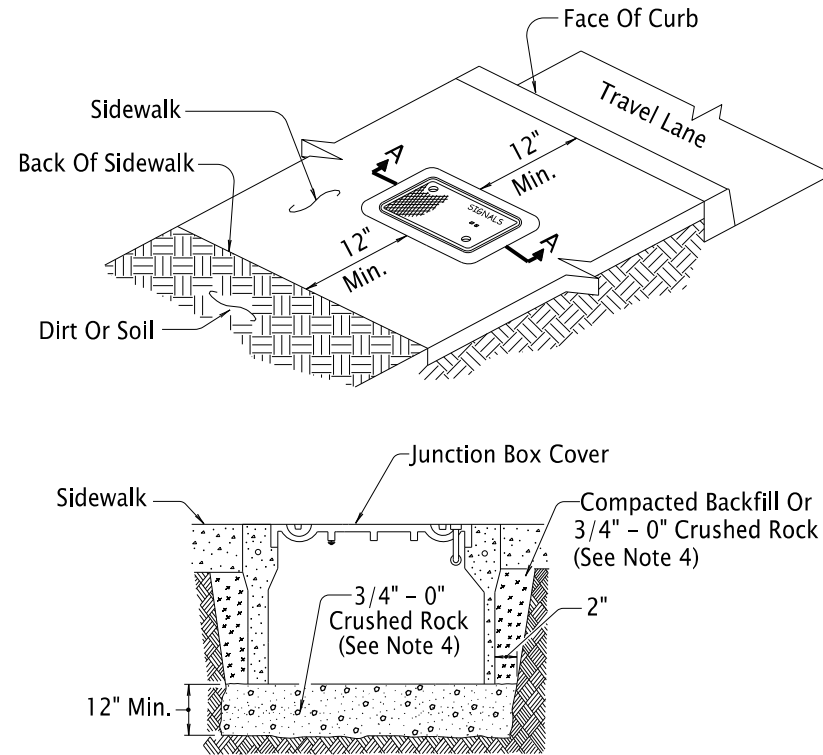


SECTION B-B



JUNCTION BOX INSTALLATION IN UNSURFACED AREA

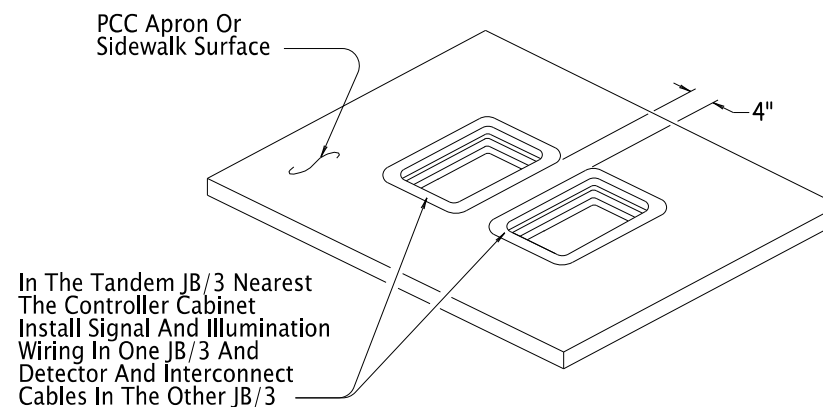
(This Detail Only Applicable for Junction Boxes Located In Incidental Travel Areas; Gravel Shoulders, Behind Guardrail, Etc. Do Not Install In Travel Lanes, Paved Shoulders, Or Other Areas Exposed To Traffic.)



SECTION A-A

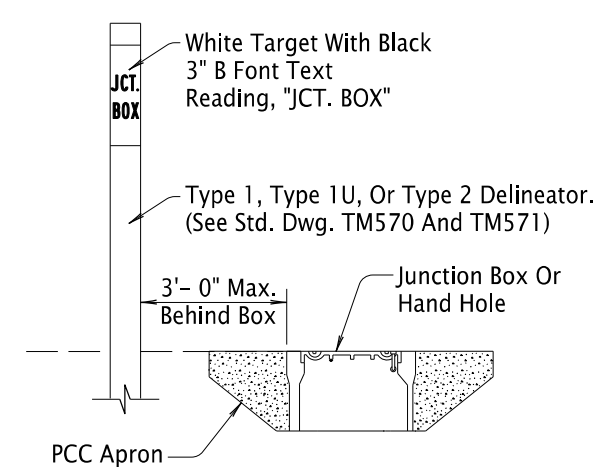
JUNCTION BOX INSTALLATION IN PCC SIDEWALK

(This Detail Only Applicable for Junction Boxes Located In Flat Areas Of Sidewalks. Do Not Install In Slopes Of Ramps Or Driveways)

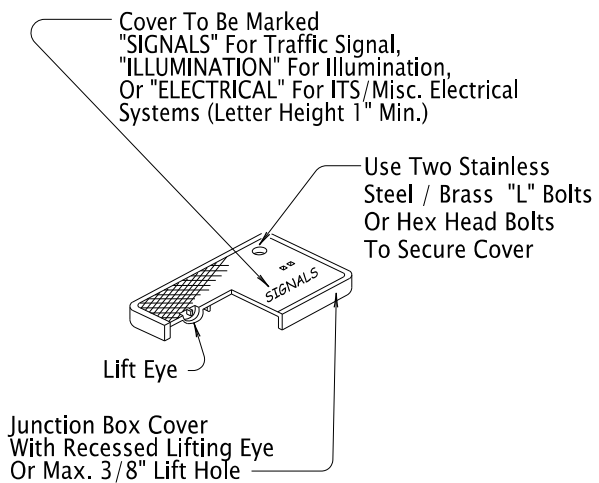


In The Tandem JB/3 Nearest The Controller Cabinet Install Signal And Illumination Wiring In One JB/3 And Detector And Interconnect Cables In The Other JB/3

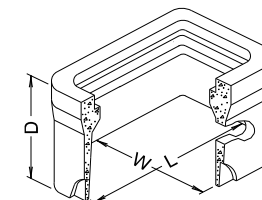
TANDEM JB/3A JUNCTION BOX DETAILS



DELINEATION OF JUNCTION BOX & HAND HOLE IN UNSURFACED AREA



JUNCTION BOX COVER DETAILS

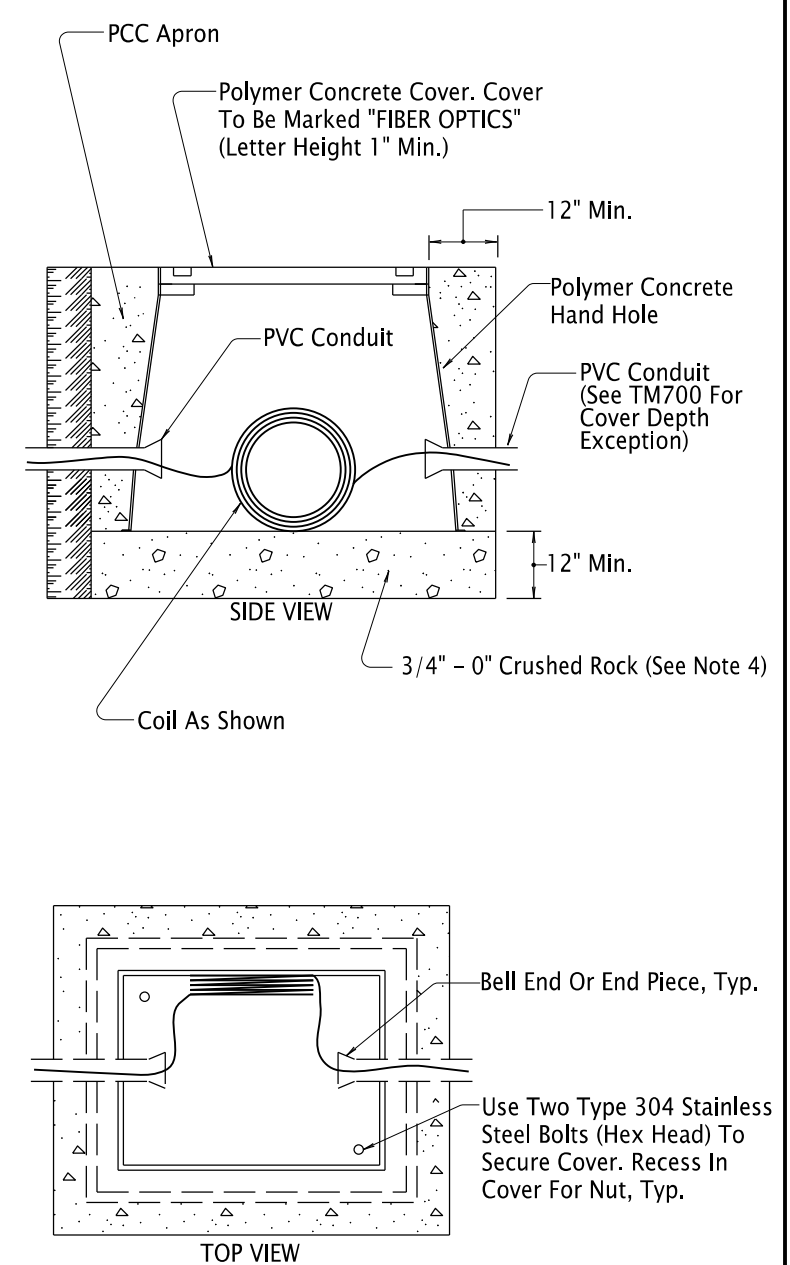


Type*	L	W	D
JB1	17"	10"	12"
JB2	22"	12"	12"
JB3	30"	17"	12"
HH-1	24"	30"	24"
HH-2	30"	48"	24"
HH-3	30"	48"	36"

*Junction Box Or Handhole Type As Shown On Plans

DIMENSION TABLE

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.



FIBER OPTIC CABLE HAND HOLE INSTALLATION

GENERAL NOTES:

1. Install Top of Junction Box And Hand Hole Flush With The Sidewalk, Surrounding Grade, Or Top Of Curb. For Hand Holes Installed In The Roadway Or Shoulder, Leave The Top Of The Hand Hole 1/2" Below The Pavement Surface.
2. Install Junction Boxes And Hand Holes At The Approximate Locations Shown, Or If Not Shown, No More Than 300 Feet Apart For Junction Boxes And No More Than 1000 Feet Apart For Hand Holes.
3. More Junction Boxes And Hand Holes Than Specified May Be Installed To Facilitate The Work At The Option And Cost Of The Contractor
4. Use Materials According To 00640.10 and 00640.16. Use Compaction Equipment Suitable For Area And Compact Each Six Inch Layer With Sufficient Coverage To Produce A Firm Unyielding Surface. Do Not Install Conductors Until Surface Has Been Constructed.

All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS

GENERAL JUNCTION BOX/HAND HOLE INSTALLATION

2024

DATE	REVISION	DESCRIPTION
01-2025	NEW DRAWING (CONTENT FROM RETIRED TM472)	
CALC. BOOK NO.	N/A	SDR DATE: 10-JAN-2025

TM702

Effective Date: June 1, 2025 – November 30, 2025

TAPER TYPES & FORMULAS	
TAPER	FORMULA
Merging (Lane Closure)	"L"
Shifting	"L"/2 or ½"L"
Shoulder Closure	"L"/3 or ⅓"L"
Flagging (See Drg. TM850)	50' – 100'
Downstream (Termination)	Varies (See Drawings)

★ Use Pre-Construction Posted Speed to select the Speed from the Tables below:

TEMPORARY BARRIER FLARE RATE TABLE	
★ SPEED (mph)	MINIMUM FLARE RATE
≤ 30	8:1
35	9:1
40	10:1
45	12:1
50	14:1
55	16:1
60	18:1
65	19:1
70	20:1

MINIMUM LENGTHS TABLE					
"L" VALUE FOR TAPERS (ft)					BUFFER "B" (ft)
★ SPEED (mph)	W = Lane or Shoulder Width being closed or shifted				
	W ≤ 10	W = 12	W = 14	W = 16	
25	105	125	145	165	75
30	150	180	210	240	100
35	205	245	285	325	125
40	265	320	375	430	150
45	450	540	630	720	180
50	500	600	700	800	210
55	550	660	770	880	250
60	600	720	840	960	285
65	650	780	910	1000	325
70	700	840	980	1000	365
FREEWAYS					
55	1000	1000	1000	1000	250
60	1000	1000	1000	1000	285
65	1000	1000	1000	1000	325
70	1000	1000	1000	1000	365

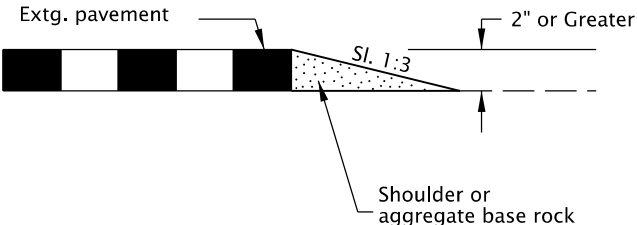
- NOTES:
- For Lane closures where W < 10', use "L" value for W = 10'.
 - For Shoulder closures where W < 10', use "L" value for W = 10' or calculate "L" using formula, for Speeds ≥ 45: L = WS, Speeds < 45: L = S²W/60, S = Speed, W=Width

TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE				
★ SPEED (mph)	Sign Spacing (ft)			Max. Channelizing Device Spacing (ft)
	A	B	C	
20 – 30	100	100	100	20
35 – 40	350	350	350	20
45 – 55	500	500	500	40
60 – 70	700	700	700	40
Freeway	1000	1500	2640	40

- NOTES:
- Place traffic control devices on 10 ft. spacing for intersection and access radii.
 - When necessary, sign spacing may be adjusted to fit site conditions. Limit spacing adjustments to 30% of the "A" dimension for all speeds.

NOTES:

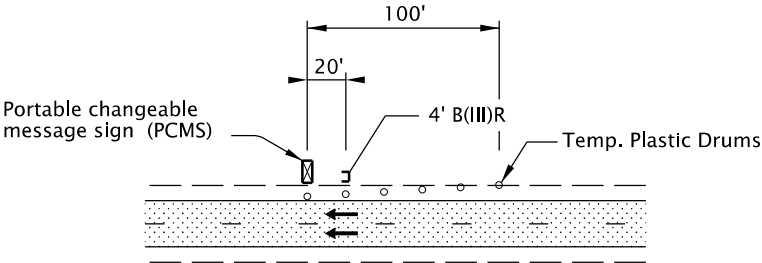
- When paved shoulders adjacent to excavations are less than four feet wide protect longitudinal abrupt edge as shown.
- Use aggregate wedge when abrupt edge is 2 inches or greater.



EXCAVATION ABRUPT EDGE

NOTES:

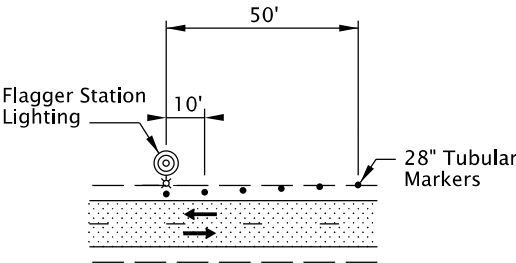
- Install PCMS beyond the outside shoulder, when possible.
- Use the appropriate type of barricade panels for PCMS location. Right shoulder, use Type B(III)R Left shoulder, use Type B(III)L
- Use six drums in shoulder taper on 20' spacing. The drums and barricade may be omitted when PCMS is placed behind a roadside barrier.
- Detail as shown is used for trailered and non-crashworthy components of:
 - Portable Traffic Signals
 - Smart Work Zone Systems



PORTABLE CHANGEABLE MESSAGE SIGN (PCMS) INSTALLATION

NOTES:

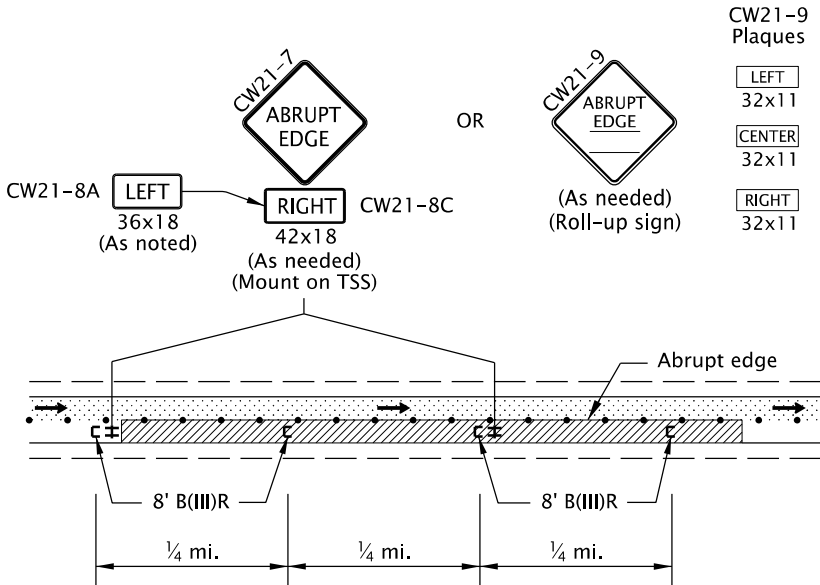
- Install Flagger Station Lighting beyond the outside shoulder, where practical.
- Use six tubular markers in shoulder taper on 10' spacing.
- Place cart / generator / power supply off of the shoulder, as far as practical.



FLAGGER STATION LIGHTING DELINEATION

NOTES:

- Abrupt edges may be created by paving, operations, excavations or other roadway work. Use abrupt edge signing for longitudinal abrupt edges of 1 inch or greater.
- If the excavation is located on left side of traffic, replace the 8' B(III)R barricades with 8' B(III)L barricades and replace the "RIGHT" (CW21-8C) riders with "LEFT" (CW21-8A) riders.
- Continue signing and other traffic control devices throughout excavation area at spacings shown.
- If roll-up signs are used, attach the correct (CW21-9) plaques to the sign face using hook and loop fasteners. Place roll-up signs in advance of barricades.



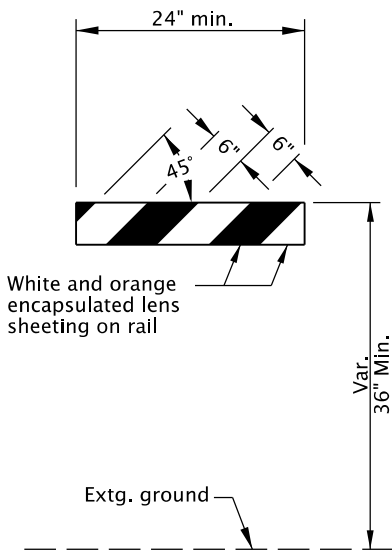
TYPICAL ABRUPT EDGE DELINEATION

GENERAL NOTES FOR ALL TCP DRAWINGS:

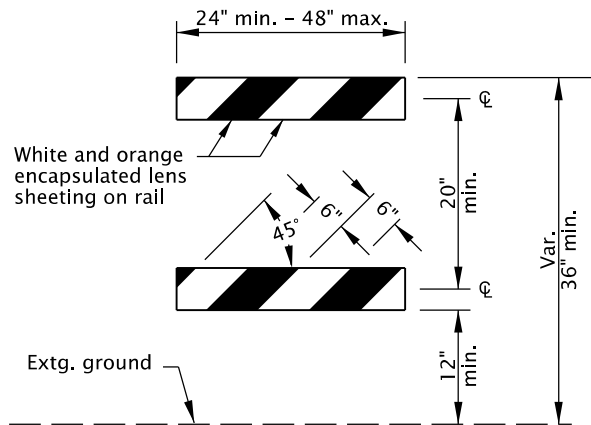
- Signs and other Traffic Control Devices (TCD) shown are the minimum required.
- Place a barricade approx. 20' ahead of all sequential arrow boards.
- Arrows shown in roadway are directional arrows to indicate traffic movements.
- All signs are 48" x 48" unless otherwise shown. Use fluorescent orange sheeting for the background of all temporary warning signs.
- All diamond shaped warning signs mounted on barrier sign supports shall be 36" by 36". All other signs mounted on barrier sign supports shall not exceed 12 sq. ft. in total sign area.
- Low speed highways have a pre-construction posted speed of 40 mph or less. High speed highways have a pre-construction posted speed of 45 mph or higher.
- Do not locate sign supports in locations designated for bicycle or pedestrian traffic.
- Combine drawing details to complete temporary traffic control for each work activity.
- Coordinate and control pedestrian movements through a Temporary Accessible Route using Flaggers, Traffic Control Measures, or as directed.
- Provide a truck mounted attenuator (TMA) to protect the active work area on high speed divided highways or freeways when positive protection is not available, or as directed.
- To be accompanied by Dwg. Nos. TM820 & TM821.

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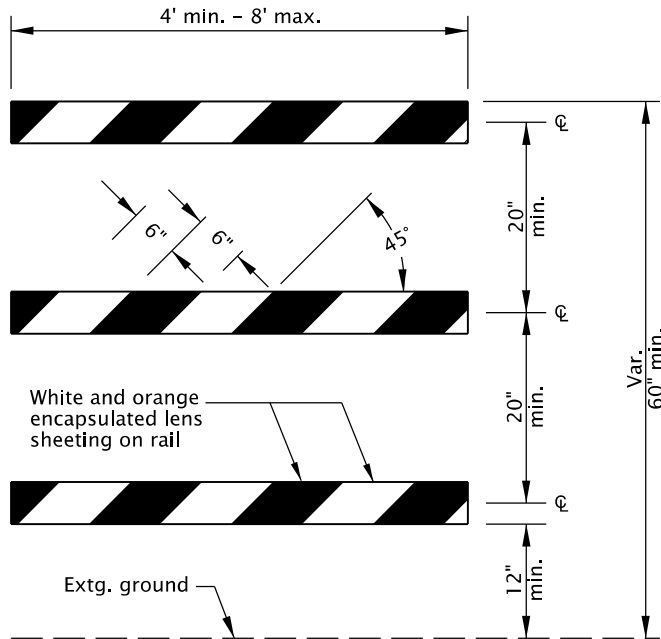
All materials shall be in accordance with the current Oregon Standard Specifications.			
OREGON STANDARD DRAWINGS			
TABLES, ABRUPT EDGE AND PCMS DETAILS			
2024			
DATE	REVISION DESCRIPTION		
07-2022	Added a note for TPAs		
07-2024	Added a note for TMAs		
CALC. BOOK NO.	N/A	SDR DATE	12-JUL-2024
			TM800



TYPE I



TYPE II



TYPE III

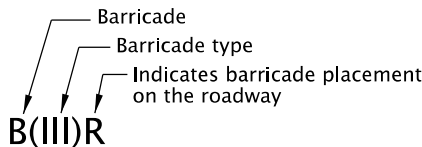
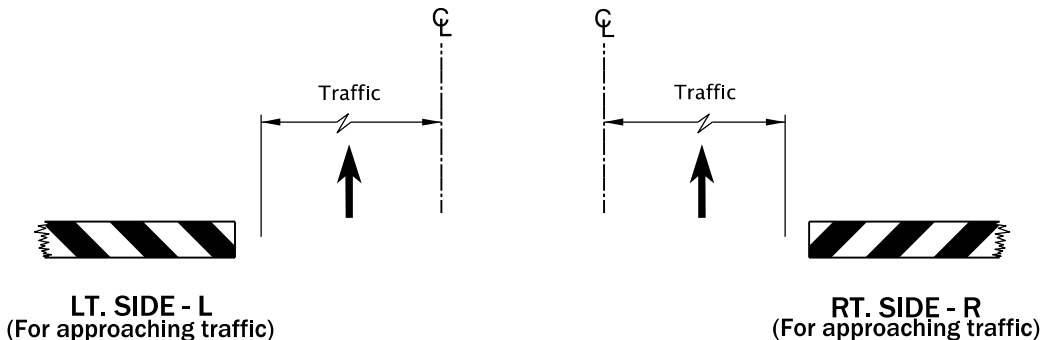
BARRICADE RAIL LAYOUT

GENERAL NOTES FOR ALL DETAILS:

- Sandbags (approximately 25 lb sack filled with sand) may be placed on lower frame to provide additional ballast.
- Ballast shall not extend above bottom rail or be suspended from barricade.
- For rails less than 36" long, 4" wide stripes shall be used.
- Rails must be 8" min. to 12" max. in height.
- Use barricades from ODOT Qualified Products List (QPL).
- Use 4' Type III barricades where horizontal space is limited.
- Do not block bike lanes or shoulders unless the facility is properly closed and signed.
- Do not place barricades in sidewalks unless sidewalk is closed and a temporary pedestrian accessible route (TPAR) is signed according to the TCP. See Dwg. No. TM844.

NOTES:

- Markings for barricade rails shall slope downward at an angle of 45° in the direction traffic is to pass.
- Where a barricade extends entirely across a roadway, it is desirable that the stripes slope downward in the direction toward which traffic must turn in detouring.
- Where both right and left turns are provided for, slope the chevron striping downward in both directions from the center of the barricade.
- For full roadway closures, the C or LR barricade may be used. Extend barricades completely across roadway unless access is required for local road users.



BARRICADE NOTATION

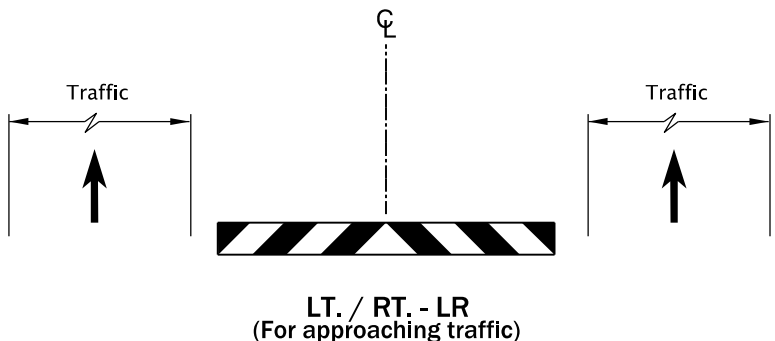
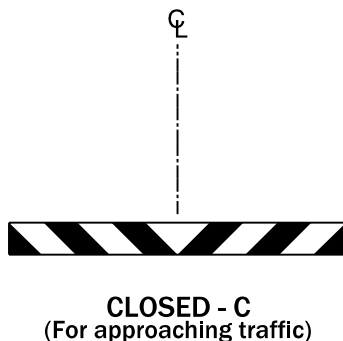


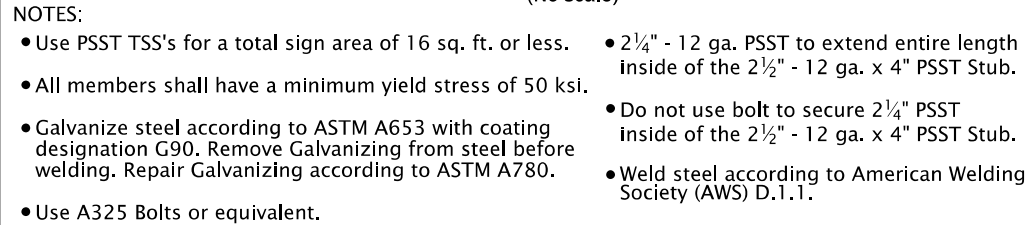
DIAGRAM FOR BARRICADE PLACEMENT AND SLOPE MARKING

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

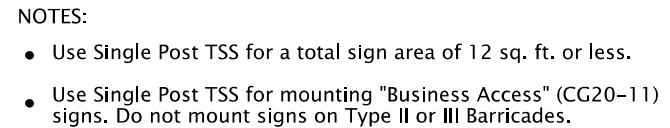
All materials shall be in accordance with the current Oregon Standard Specifications.			
OREGON STANDARD DRAWINGS			
TEMPORARY BARRICADES			
2024			
DATE	REVISION DESCRIPTION		
CALC. BOOK NO.	N/A	SDR DATE	01-JUL-2020
			TM820



DOUBLE POST DETAIL



PERFORATED STEEL SQUARE TUBE (PSST) DETAIL



SINGLE POST DETAIL



— Retroreflective Sheeting (Left and Right sides)

TEMPORARY SIGN SUPPORT GENERAL NOTES:

- Do not tip over TSS at any time.
- Do not locate TSS's in locations that block pedestrian or bicycle traffic.
- For wooden TSS's, use either Douglas Fir or Hem Fir, which is surfaced four sides (S4S) and free of heart center (FOHC).
- See "Temporary Sign Placement" detail on TM822 for sign installation heights.
- Do not place or stack ballast more than 24" above the ground.
- When not in use, locate TSS as far from Public Traffic as practicable and turn away from traffic, or cover the sign. Do not cover reflective sheeting on the TSS posts.
- Place a minimum of 50 lbs of sandbags on each of the four TSS supports legs. (25 lb. max per bag) (min. 100 lbs per side of each TSS).
- See Dwg. No. TM204 for flag board mounting detail.

NOTES:

- Apply fluorescent orange, ANSI Type VIII or IX retroreflective sheeting to TSS posts, as shown, for all temporary signs, except "STOP" and "DO NOT ENTER". For "STOP" and "DO NOT ENTER" signs, used red ANSI Type III or IV retroreflective sheeting on the TSS posts.
- Apply sign post retroreflectivity to each TSS post facing front; and to the left and right sides of the TSS, as shown. Use 3" wide sheeting for wood post TSS's. Use 2" wide sheeting for PSST TSS's.
- Sheeting may be applied directly to post material; or applied to a rigid, lightweight substrate, then securely attached to the posts.

SIGN POST REFLECTIVE SHEETING PLACEMENT

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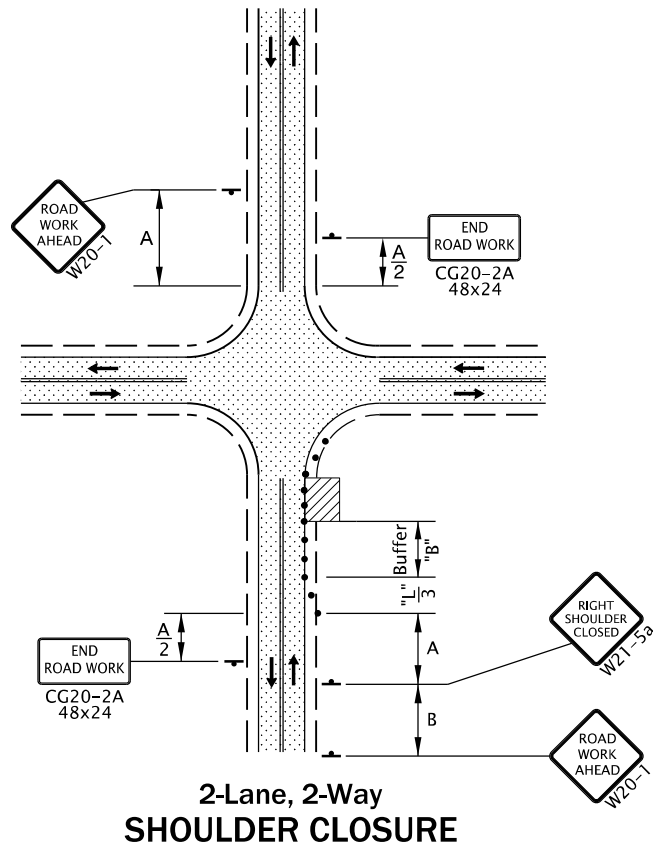
OREGON STANDARD DRAWINGS

TEMPORARY SIGN SUPPORTS

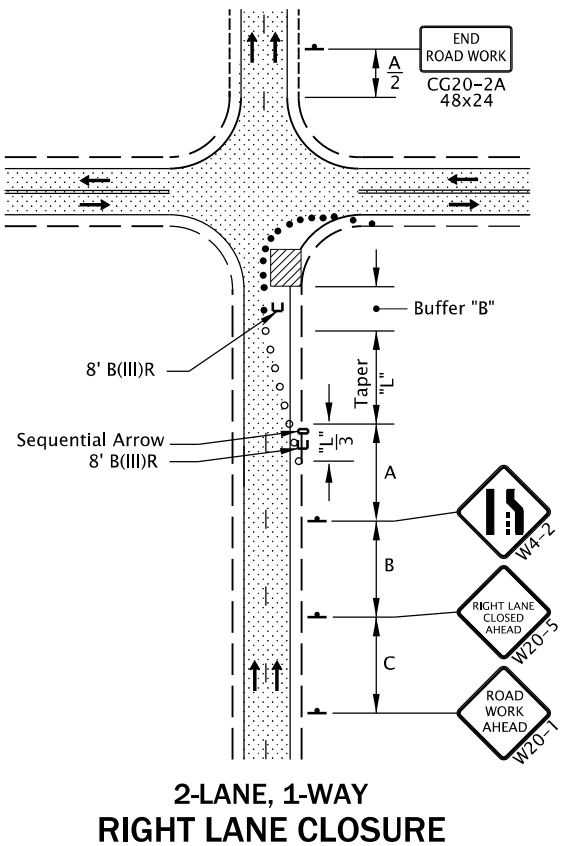
2024

DATE		REVISION DESCRIPTION	
CALC. BOOK NO.	- - - N/A - - -	SDR DATE	- 14-JUL-2023 -
			TM821

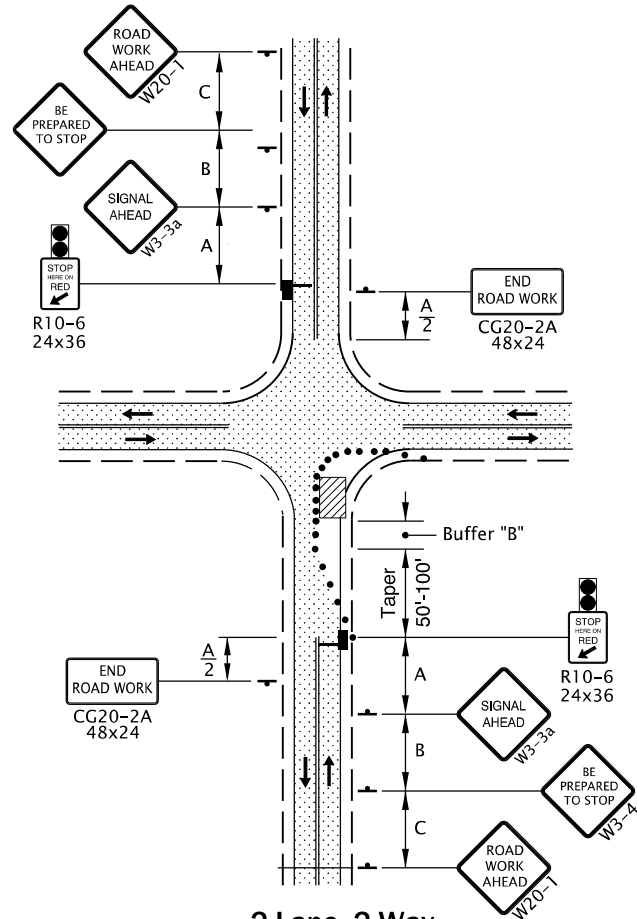
Effective Date: June 1, 2025 – November 30, 2025



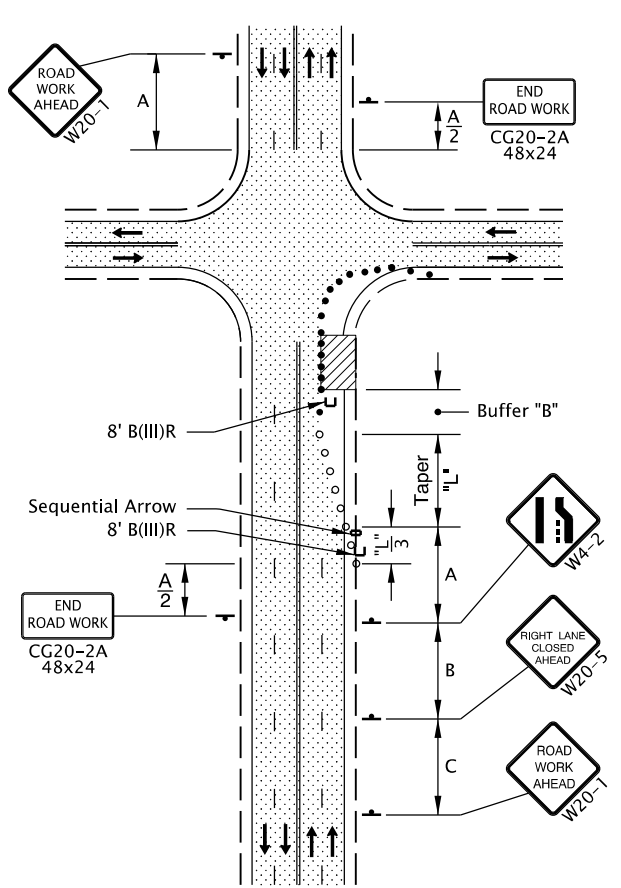
2-Lane, 2-Way
SHOULDER CLOSURE



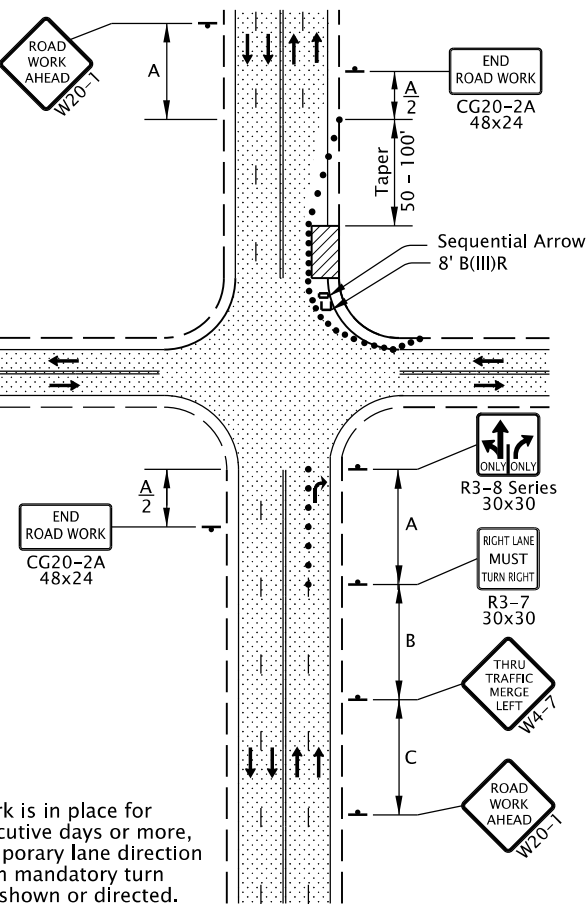
2-LANE, 1-WAY
RIGHT LANE CLOSURE



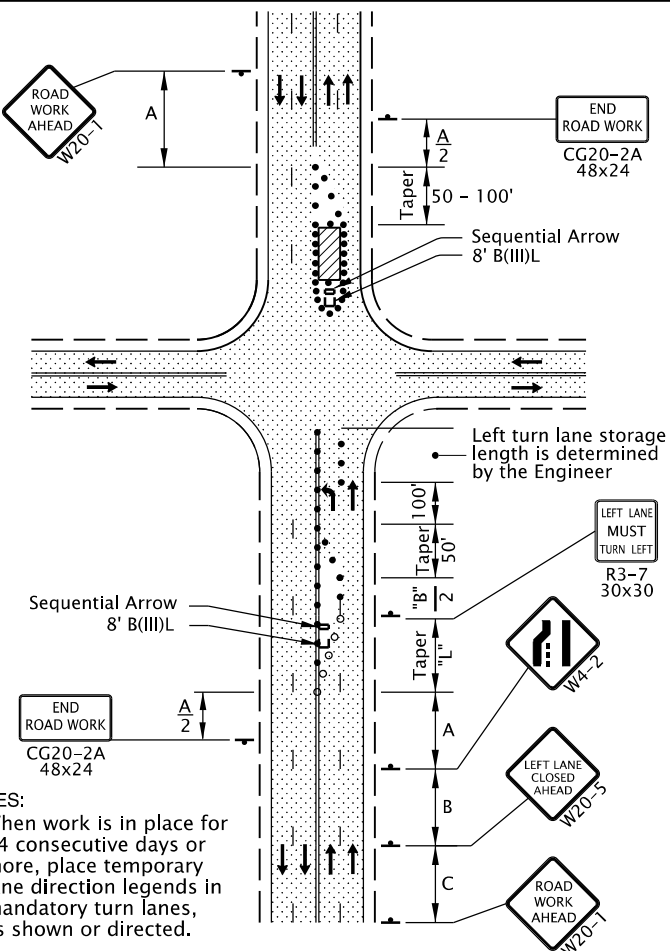
2-Lane, 2-Way
ONE LANE CLOSURE



4-Lane, 2-Way
RIGHT LANE CLOSURE, NEAR SIDE



4-Lane, 2-Way
RIGHT LANE CLOSURE, FAR SIDE



4-Lane, 2-Way
LEFT LANE CLOSURE, FAR SIDE

NOTES:

- When work is in place for 14 consecutive days or more, place temporary lane direction legends in mandatory turn lanes, as shown or directed.

NOTES:

- When work is in place for 14 consecutive days or more, place temporary lane direction legends in mandatory turn lanes, as shown or directed.

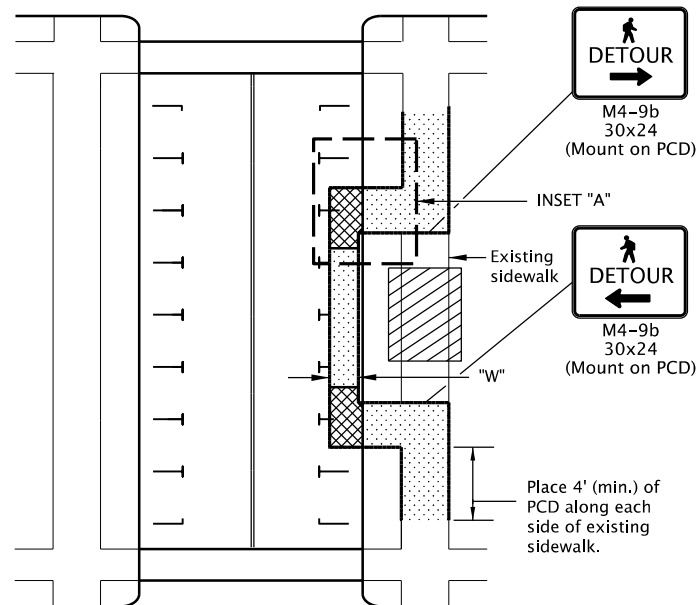
GENERAL NOTES FOR ALL DETAILS:

- Additional Traffic Control Measures (TCM) may be required for all legs of the intersection.
- The "SIGNAL AHEAD" (W3-3a) sign may be substituted with the signal ahead symbol (W3-3) sign.
- To determine Taper Length ("L") and Buffer Length ("B"), use the "MINIMUM LENGTHS TABLE" on Dwg. TM800.
- For left lane or shoulder work, place TCD to close left lane or shoulder. Use "LEFT LANE CLOSED AHEAD" (W20-5) sign, "LEFT LANE ENDS" (W4-2L) symbol sign, or "LEFT SHOULDER CLOSED" (W21-5a) sign, where applicable.
- To determine sign spacing A, B, and C, use "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Dwg. TM800.
- When a through road intersects within the work zone, place a "ROAD WORK AHEAD" (W20-1) sign in advance of the intersection at sign spacing A.
- Tubular markers may be used in lane closure tapers where posted speed is 40 mph or less.
- Where shoulder width is limited, Sequential Arrow may be placed within the lane closure taper.
- Place channelizing devices around intersection radii, business accesses and driveways at 10' spacing.
- Install a "BICYCLES ON ROADWAY" (CW11-1) sign in advance of the closure when a bike lane is closed, or when the shoulder is closed and bikes are expected.
- To be accompanied by Dwg. Nos. TM820, TM821, TM840 & TM854.

- Automated Flagging Assistance Device (AFAD)
- 28" Tubular Markers See TCD Spacing Table on TM800 for max. spacing.
- Temp. Plastic Drums See TCD Spacing Table on TM800 for max. spacing.
- UNDER TRAFFIC
- UNDER CONSTRUCTION

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All materials shall be in accordance with the current Oregon Standard Specifications.			
OREGON STANDARD DRAWINGS			
INTERSECTION WORK ZONE DETAILS			
2024			
DATE	REVISION DESCRIPTION		
01-2022	Added AFADs to drawing.		
07-2024	Fixed a typo.		
CALC. BOOK NO. _ _ _ _ N/A _ _ _ _		SDR DATE - 12-JUL-2024 _ _	TM841



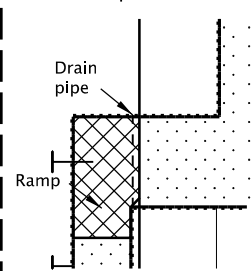
Within Roadway SIDEWALK DIVERSION

NOTES:

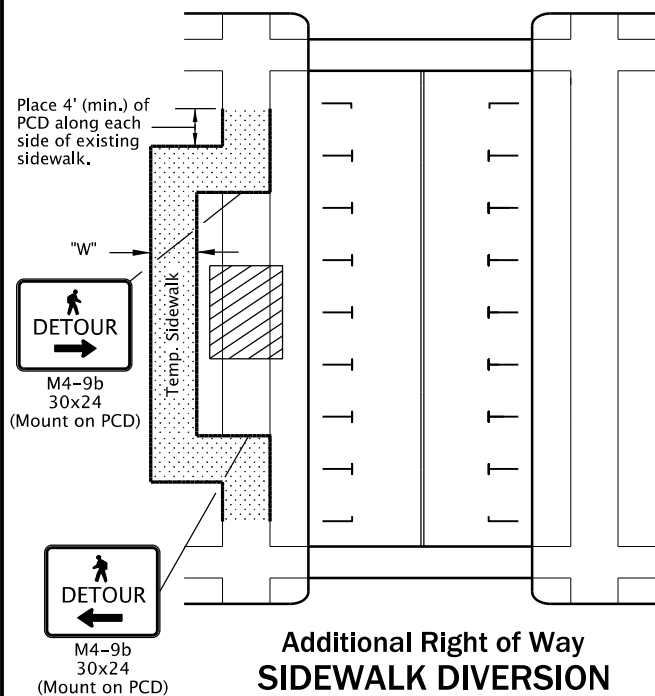
- Place or construct temp. sidewalk ramp, as needed.
- For roadways with a pre-construction posted speed of 40 mph or less.
- See inset "A" for Temp. Sidewalk Ramp details.
- "W" = 60", or, where 60" width cannot be maintained through the entire route, provide 48" min. width with 60" x 60" passing spaces every 200 ft.
- Use temporary ADA compliant surfaces to cross planter strips or other non-traversable surfaces.

NOTES:

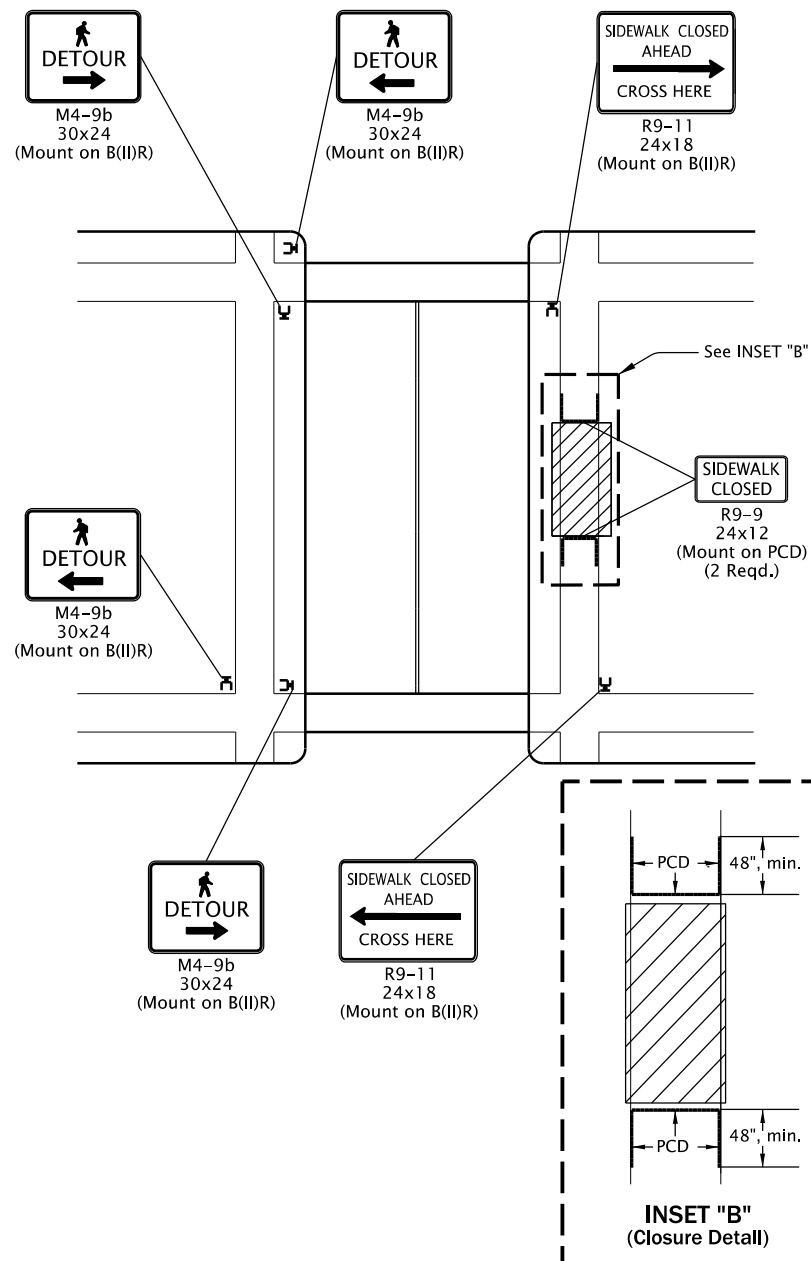
- Ramp size will vary. Ramp must meet ADA requirements incl. max. finished surf. slope of 8.3% and max. finished cross slope of 2.0%.



INSET "A"
(Temp. Sidewalk Ramp)



Additional Right of Way SIDEWALK DIVERSION

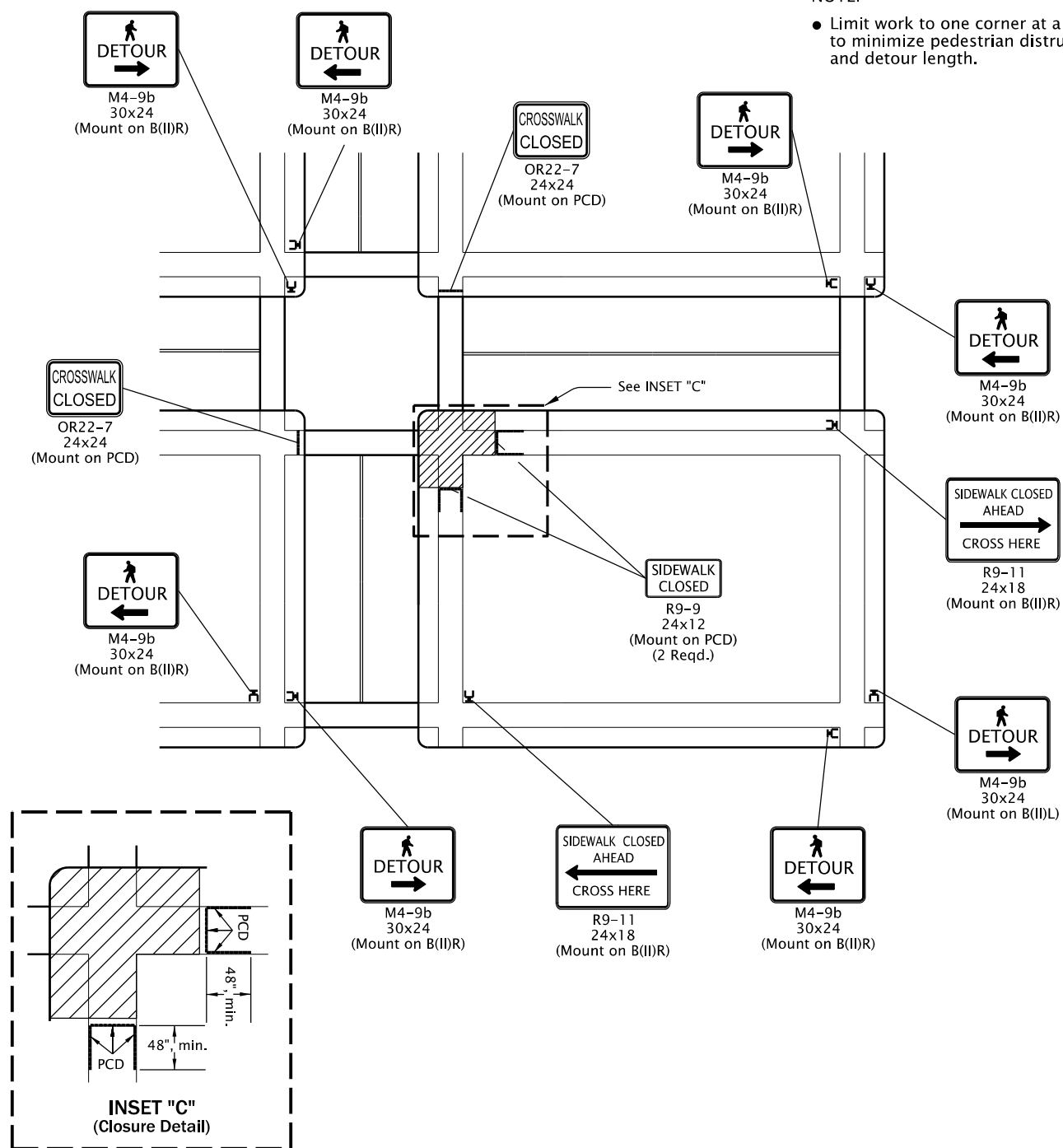


SIDEWALK CLOSURE, MIDBLOCK

GENERAL NOTES FOR ALL DETAILS:

- When closing or relocating crosswalks or other pedestrian facilities provide ADA compliant facilities. Include accessibility features consistent with existing pedestrian facilities by providing adequate slope transitions and surfacing.
- Provide non-slip, 60 inch minimum wide surface through entire pedestrian route. If not possible, provide 48" min. width with 60" x 60" passing spaces every 200 feet along the route.
- Only TCD for pedestrians are shown. Other devices may be necessary to control vehicular traffic.
- Stage work, as necessary, to provide a temporary pedestrian access route at all times. For roadways with no available detours, maintain one open sidewalk at all times.
- Minimize pedestrian out-of-direction travel.
- To be accompanied by Dwg. Nos. TM820 & TM821.

- UNDER PEDESTRIAN TRAFFIC
- UNDER CONSTRUCTION
- PEDESTRIAN CHANNELIZING DEVICE (PCD)



SIDEWALK CLOSURE, CORNER

NOTE:

- Limit work to one corner at a time to minimize pedestrian disruption and detour length.

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All materials shall be in accordance with the current Oregon Standard Specifications.

OREGON STANDARD DRAWINGS TEMPORARY PEDESTRIAN ACCESSIBLE ROUTES

2024

DATE	REVISION	DESCRIPTION
01-2022	REVISION DESCRIPTION	
07-2023	Revised notes for temporary sidewalk ramp.	
	OR22-8 signs were replaced with OR22-7 signs.	
CALC.	BOOK NO.	SDR
	N/A	DATE
		14-JUL-2023
		TM844

Effective Date: June 1, 2025 – November 30, 2025

TM850.dgn

- Continue "LOOSE GRAVEL" (CW8-7a) and "DO NOT PASS" (R4-1) signing throughout the area at spacing shown.
- Use advisory speed "XX", 15 mph less than the pre-construction posted speed, or as directed. "XX MPH" placard shall not exceed a posted speed of 35 mph.



- Continue "ABRUPT EDGE" (CW21-(7,9)) and "DO NOT PASS" (R4-1) signing throughout the area at spacing shown.






- Place Advance Flagger and additional signing when traffic queues extend beyond initial warning signing OR when sight distance is restricted.
- Relocate initial "ROAD WORK AHEAD" (W20-1) sign in advance of additional "BE PREPARED TO STOP" (W3-4) and Flagger Ahead (CW23-2) signs, as shown.

ADVANCE FLAGGER FOR EXTENDED TRAFFIC QUEUES

2-Lane, 2-Way Roadway ONE LANE CLOSURE

- The "SIGNAL AHEAD" (W3-3a) sign may be substituted with the Signal Ahead (W3-3) symbol sign.
- Cover existing passing zone signing, as directed.
- Install temporary striping as required.
- To determine Taper Length ("L") and Buffer Length ("B"), use the "MINIMUM LENGTHS TABLE" shown on Dwg. No. TM800.
- To determine sign spacing A, B, and C, use "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Dwg. No. TM800.
- Install a "BICYCLES ON ROADWAY" (CW11-1) sign in advance of the closure when a bike lane is closed, or when the shoulder is closed and bikes are expected.
- At night, flagger stations shall be illuminated according to the FLAGGER STATION LIGHTING DELINEATION detail on Dwg No. TM

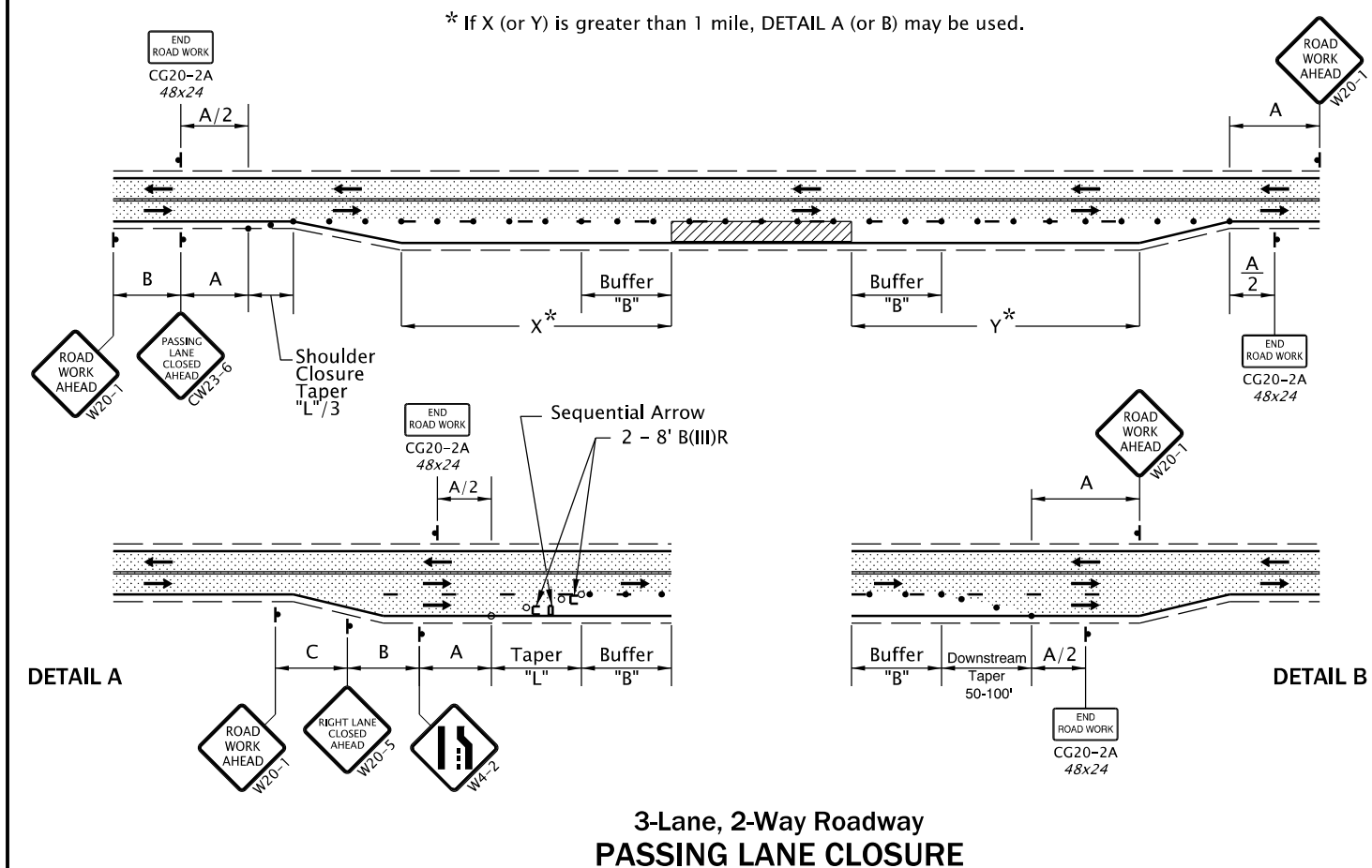
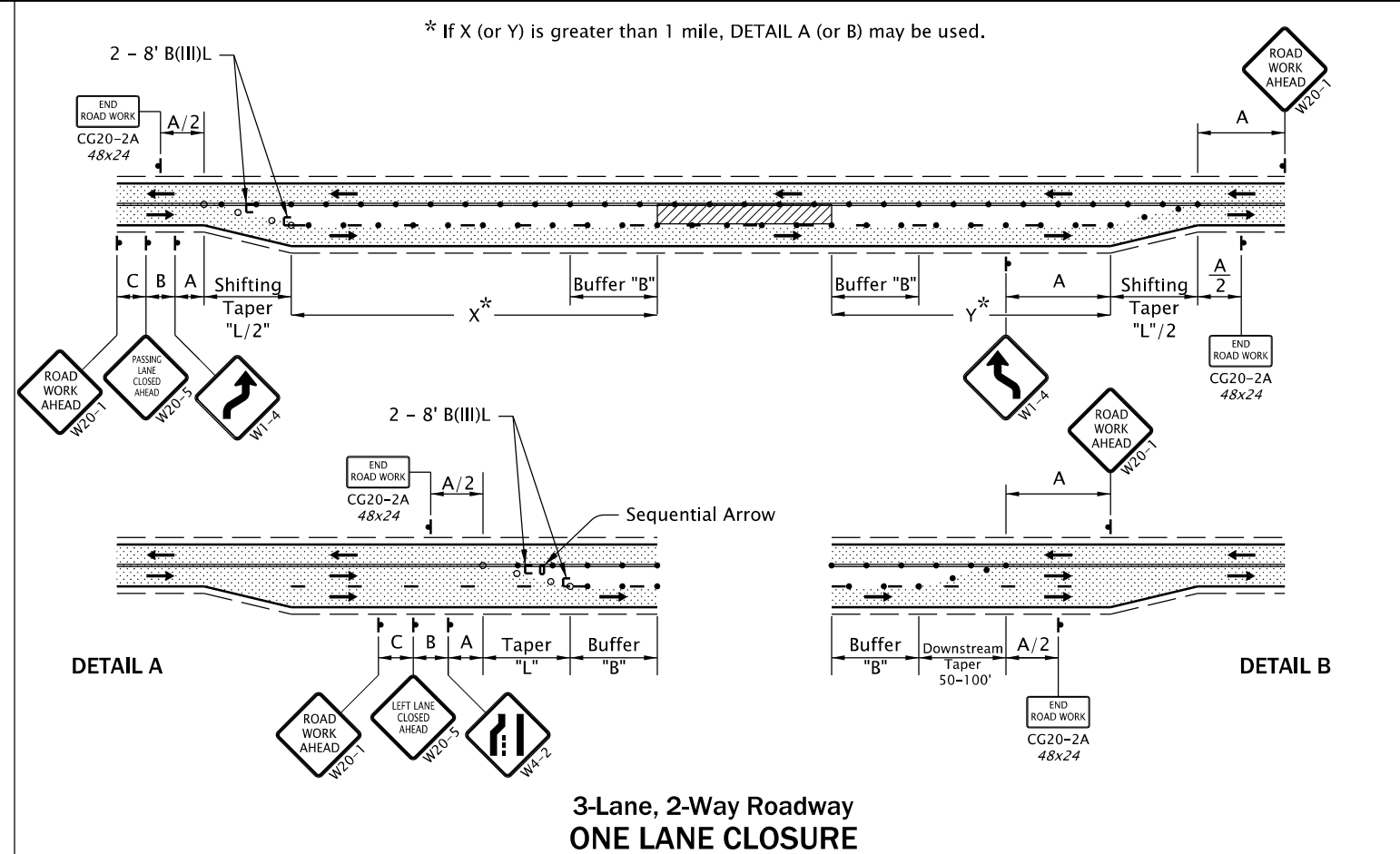
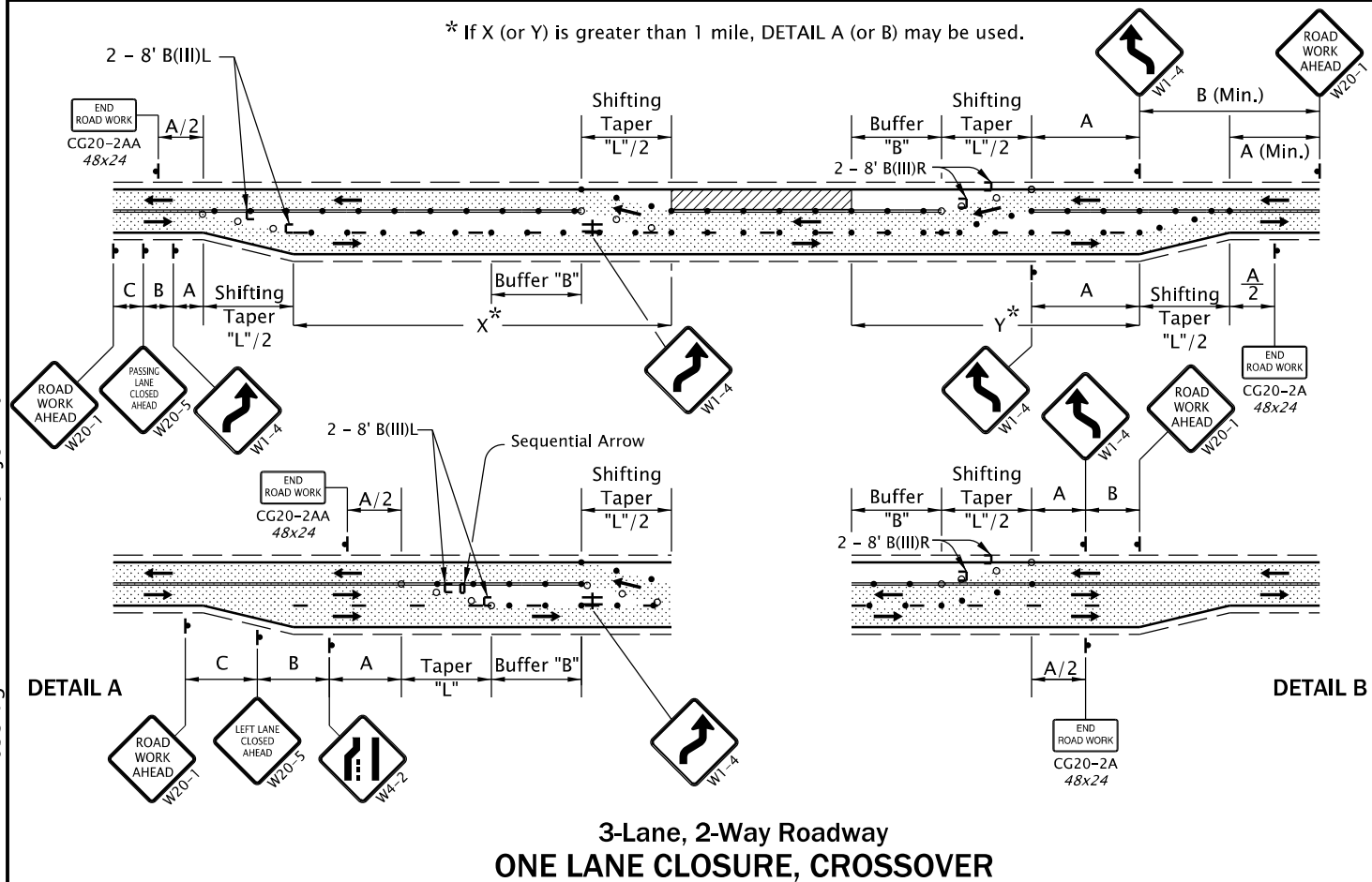
 UNDER TRAFFIC
 UNDER CONSTRUCTION
 CONSTRUCTION UNDER TRAFFIC

FLAGGER STATION DELINEATION

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CALC. BOOK NO. _ _ _ _	N/A _ _ _ _	SDR DATE _ 01-JUL-2022 _	TM850
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Effective Date: June 1, 2025 – November 30, 2025



GENERAL NOTES FOR ALL DETAILS:

- Install temporary striping as directed.
- Signing and other TCD shown to be installed in conjunction with the work areas, shall move with the work areas.
- To determine Taper Length ("L") and Buffer Length ("B"), use the "MINIMUM LENGTHS TABLE" on Dwg. No. TM800.
- Cover all applicable existing passing lane signing prior to installing TCD.
- Install Type III barricades in closed lanes at 1/4 mile intervals.
- When passing is allowed in opposing lanes, restrict passing with double yellow centerline and appropriate signing as directed.
- Channelization devices may be placed on 10' around the Work Area for emphasis or if the area is to be exposed to traffic on both sides simultaneously.
- Install a "BICYCLES ON ROADWAY" (CW11-1) sign in advance of the closure when a bike lane is closed, or when the shoulder is closed and bikes are expected.

- To determine sign spacing A, B, and C, use "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Dwg. No. TM800.
- When the length of the area under construction is less than 600 ft. use a DOUBLE REVERSE CURVE (W24-1) sign in place of the first REVERSE CURVE (W1-4) sign in each direction.
- 28" TUBULAR MARKERS
See TCD Spacing Table on TM800 for max. spacing.
- TEMP. PLASTIC DRUMS
See TCD Spacing Table on TM800 for max. spacing.

UNDER TRAFFIC
UNDER CONSTRUCTION

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.

**OREGON STANDARD DRAWINGS
NON-FREEWAY MULTI-LANE
SECTIONS**

2024

DATE	REVISION	DESCRIPTION
07-2022	1	Replaced temporary traffic control sign in detail.
CALC. BOOK NO.	N/A	SDR DATE
		01-JUL-2022

TM853

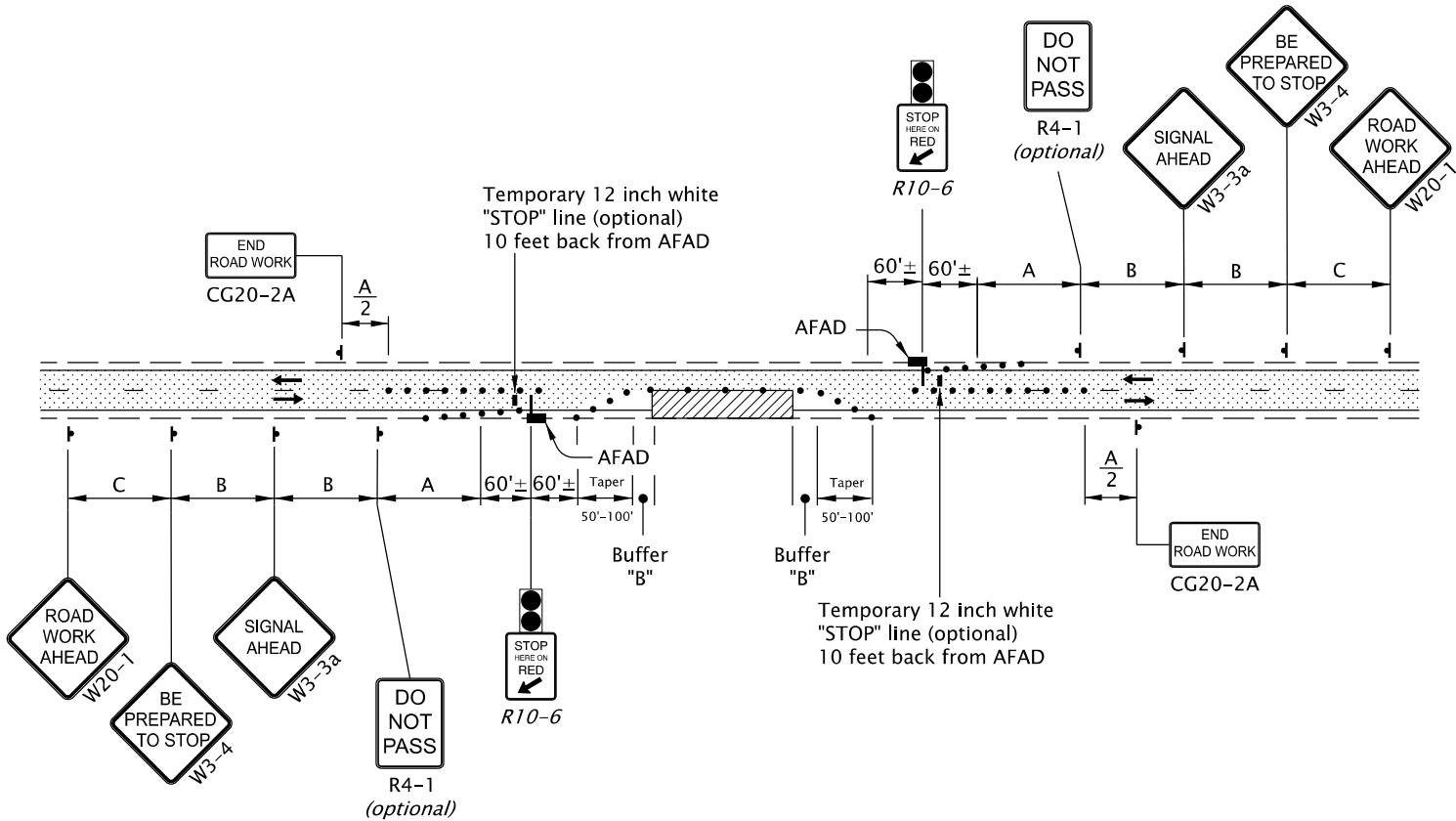
Effective Date: June 1, 2025 – November 30, 2025

14-JUL-2023

TM854.dgn

NOTES:

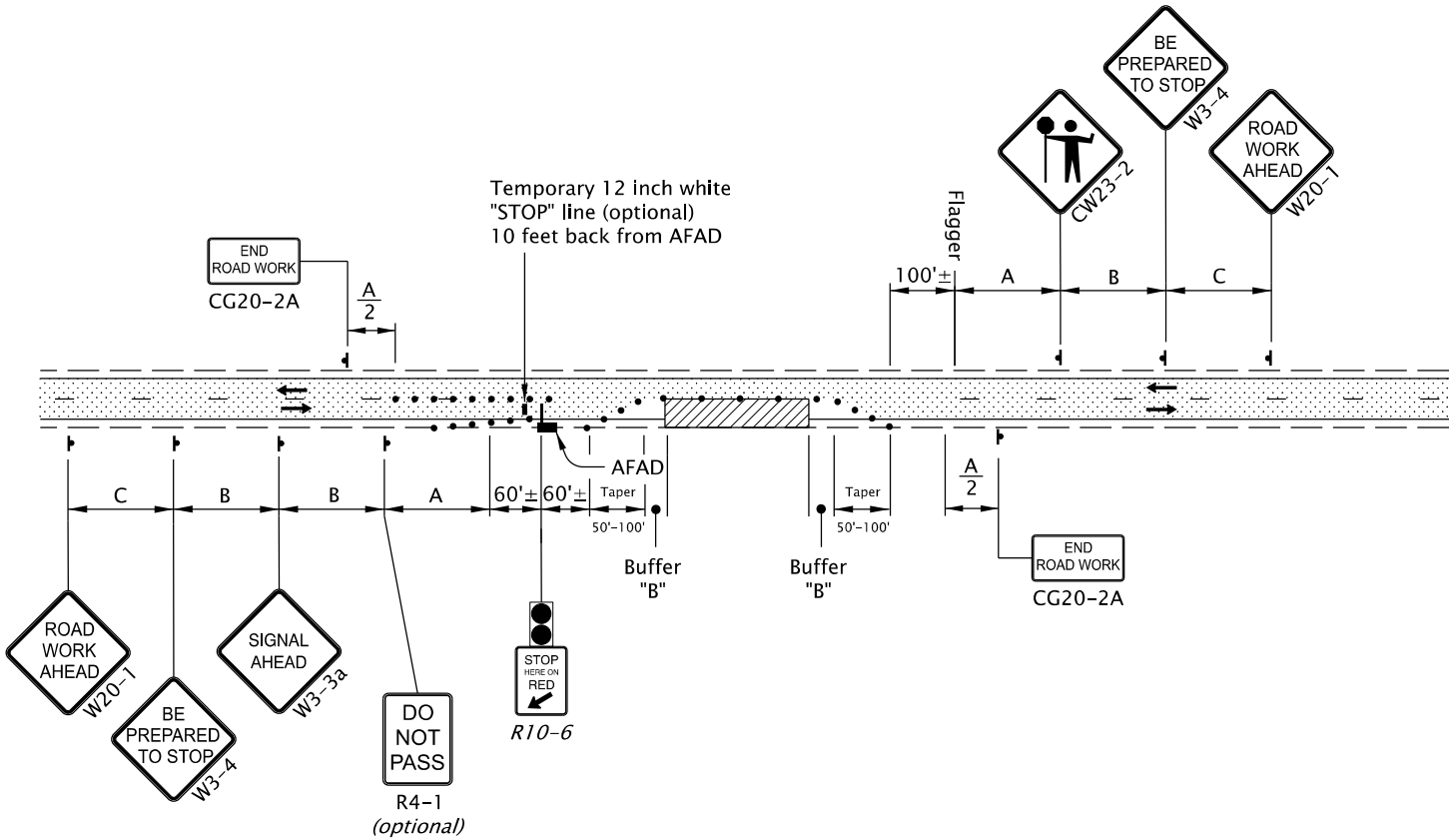
- An AFAD operator shall be provided for each AFAD. A single operator may not simultaneously operate two AFADs.



2-Lane, 2-Way Roadway
ONE LANE CLOSURE, TWO AFADs

NOTES:

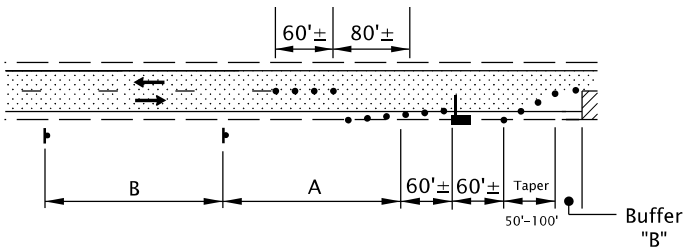
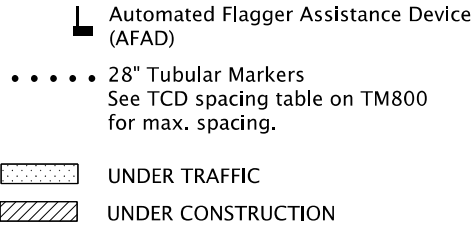
- The AFAD operator shall not flag traffic and operate an AFAD at the same time.



2-Lane, 2-Way Roadway
ONE LANE CLOSURE, ONE AFAD & ONE FLAGGER

GENERAL NOTES FOR ALL DETAILS:

- Flagger station shall be delineated according to "FLAGGER STATION" detail shown on Standard Drawing TM800
- Bottom of lens housing shall be a minimum of 7 ft. above surface when mounted on shoulder and at least 17 ft. above any portion of the travel lane.
- The gate arm shall cover at least one half of the approaching vehicle travel lane.
- Signing and other TCD installed in conjunction with the work area, shall move with the work area.
- Use 1/3 "L" taper for shoulder closure, where necessary.
- For Taper Length ("L") and Buffer Length ("B") shown on this sheet, use the "MINIMUM LENGTHS TABLE" shown on Drg. No. TM800.
- The AFAD operator shall be a certified flagger who has been trained in the operation of the AFAD in use.
- Operator shall operate AFAD from a designated area. Designated area should maintain visual presence of the AFAD and should be at least 50' away from the AFAD and have an escape route available for the operator.
- Remove existing striping and install temporary striping as required.
- See "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Drg. TM800 for sign spacing A, B, and C.
- Cover existing passing lane signing (as directed)
- When extended traffic queues develop during AFAD operations, protect traffic by providing advance flaggers(s) and signing according to the "Extended Traffic Queues Detail" shown on Standard Drawing TM850.
- When AFAD is not in use for less than one work shift, turn off AFAD, or switch YELLOW lens to flashing mode, and cover or remove all accompanying signing.
- When AFAD is not in use for longer than one work shift, remove AFAD and all accompanying signing from the roadway.
- Do not use the AFAD to control more than one lane of approaching traffic.
- Use temporary pavement markings or a white portable rumble strip for temporary stop line. Remove temporary stop line when AFAD is no longer in use.
- Tubular markers along centerline placed in advance of AFAD to first sign are optional, unless the DO NOT PASS sign is used.



OVER-DIMENSIONAL VEHICLE ACCOMMODATION DETAIL

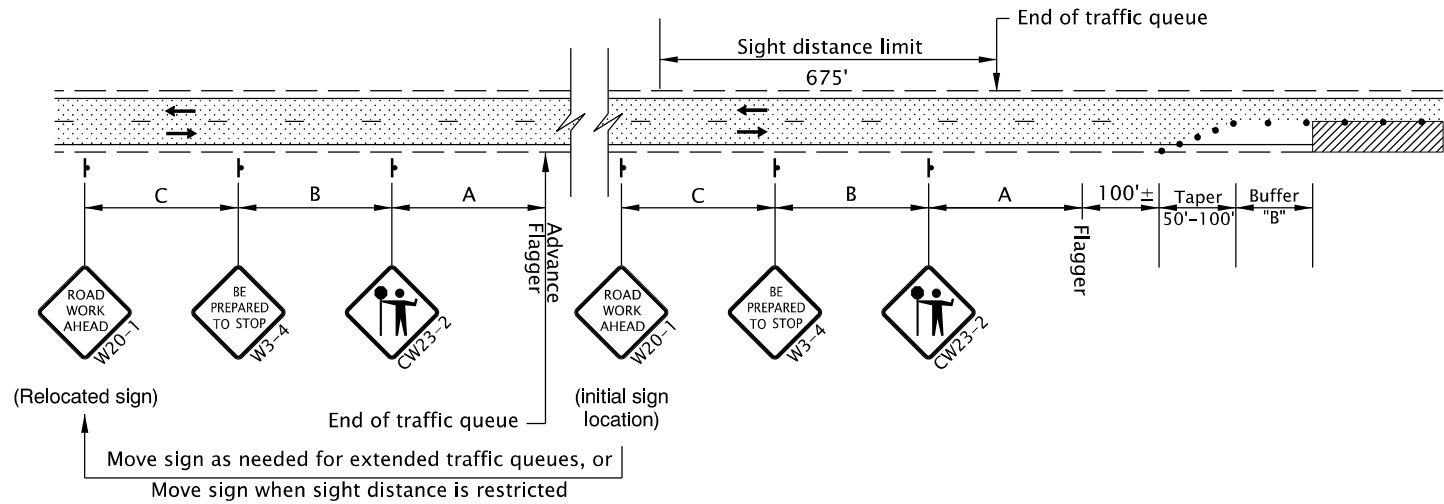
The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.			
OREGON STANDARD DRAWINGS			
2-LANE, 2-WAY ROADWAYS			
2024			
DATE	REVISION DESCRIPTION		
CALC. BOOK NO.	N/A	SDR DATE	14-JUL-2023
TM854			

Effective Date: June 1, 2025 – November 30, 2025

NOTES:

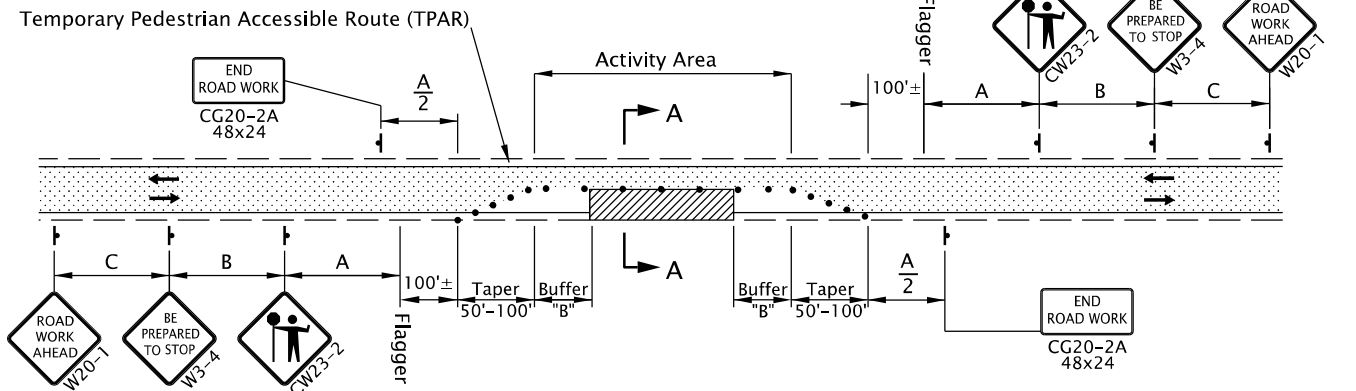
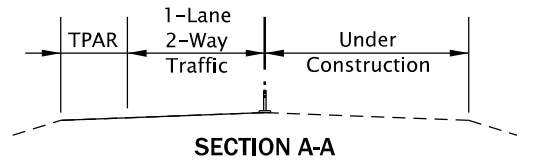
- Place Advance Flagger and additional signing when traffic queues extend beyond initial warning signing OR when sight distance is restricted.
- Relocate initial "ROAD WORK AHEAD" (W20-1) sign in advance of additional "BE PREPARED TO STOP" (W3-4) and Flagger Ahead (CW23-2) signs, as shown.
- Place additional Tubular Markers for Flagger and Advance Flagger Stations according to FLAGGER STATION DELINEATION detail.



ADVANCE FLAGGER FOR EXTENDED TRAFFIC QUEUES

NOTE:

- When using pilot cars with flaggers to control traffic during paving operations, the Tubular Marker spacing along centerline may be increased to 200' within the Activity Area, as shown or as directed.
- Include "WAIT FOR FLAGGER" (CR4-23) signs mounted on Type II Barricade located approx. 50' before each Flagger.
- Coordinate and control pedestrians movements through the TPAR using Flaggers, other TCM, or as directed. When the existing shoulder is greater than or equal to 4' wide, provide a minimum of 4' of width for the TPAR.



2-Lane, 2-Way Roadway
ONE LANE CLOSURE

GENERAL NOTES FOR ALL DETAILS:

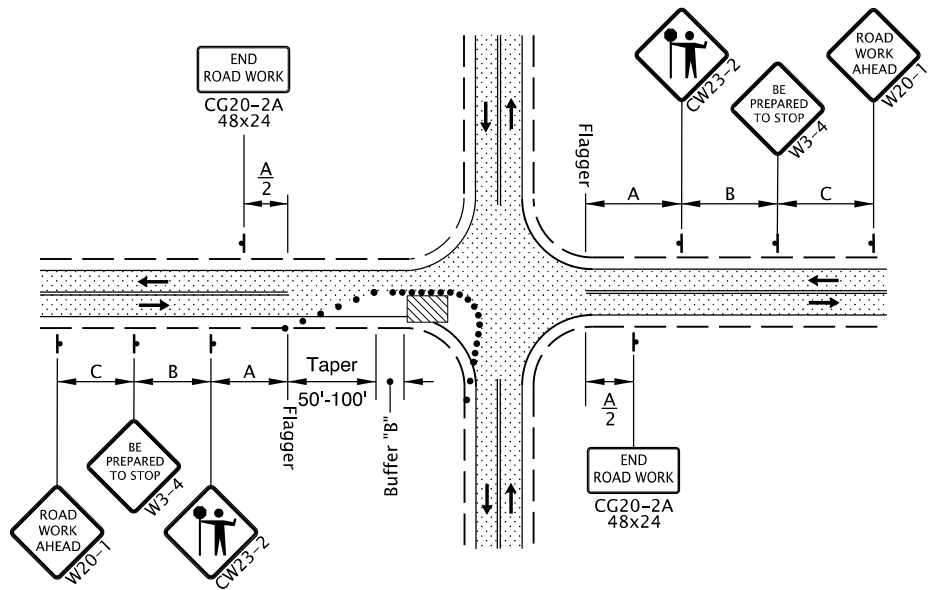
- This drawing is only intended to be used where an Automated Flagger Assistance Device (AFAD) cannot be utilized.
- The "FLAGGER" (CW23-2) symbol sign shall be used only in conjunction with the "BE PREPARED TO STOP" (W3-4) sign.
- Cover existing passing zone signing, as directed.
- Install temporary striping as required.
- To determine Taper Length ("L") and Buffer Length ("B"), use the "MINIMUM LENGTHS TABLE" shown on Dwg. No. TM800.
- To determine sign spacing A, B, and C, use "TRAFFIC CONTROL DEVICES (TCD) SPACING TABLE" on Dwg. No. TM800.
- Install a "BICYCLES ON ROADWAY" (CW11-1) sign in advance of the closure when a bike lane is closed, or when the shoulder is closed and bikes are expected.
- At night, flagger stations shall be illuminated according to the FLAGGER STATION LIGHTING DELINEATION detail on Dwg No. TM800.
- To be accompanied by Dwg. Nos. TM820 & TM821.

- 28" Tubular Markers on 10' max. spacing around intersection radii.
- 28" Tubular Markers on 20' max. spacing for flagger tapers and stations
- 28" Tubular Markers See TCD Spacing Table on TM800 for max. spacing.

..... UNDER TRAFFIC
..... UNDER CONSTRUCTION

NOTE:

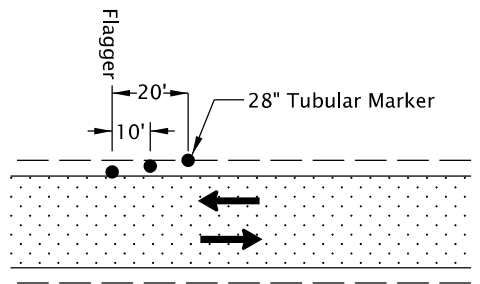
- Additional Traffic Control Measures (TCM) may be required for all legs of the intersection



2-Lane, 2-Way Roadway
ONE LANE CLOSURE, INTERSECTION

NOTE:

- Use a minimum of 3 tubular markers in shoulder taper on 10' spacing for flagger station delineation.



FLAGGER STATION DELINEATION

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OREGON STANDARD DRAWINGS

2-LANE, 2-WAY ROADWAYS

2024

DATE	REVISION	DESCRIPTION
CALC. BOOK NO.	N/A	SDR DATE: 13-JAN-2023
		TM855