CLACKAMAS COUNTY

DAN JOHNSON
DIRECTOR

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

April 18, 2024 BCC Agenda Date/Item:_____

Board of County Commissioners

Approval of a Public Improvement Contract with Colton Construction for the Rugg Road Landslide, MP 0.70 Project. Total contract value is $879,182.66 over 21 months. Funding is through Damascus Road Funds. No County General Funds are involved.

Previous Board Action/Review	4/16/24: Request for consent.		
Performance Clackamas	The project will build a strong infrastructure.		
Counsel Review	Yes – Andrew Naylor	**Procurement Review**	Yes
Contact Person	Stan Monte	**Contact Phone**	503-742-4678

EXECUTIVE SUMMARY: In January of 2021, heavy rains and strong winds caused a slide on the eastern, downhill slope of Rugg Rd in the northern portion of Damascus. The slope was protected with temporary road barriers and temporary erosion control measures were placed until a permanent repair could be designed. Due to the height and steepness of the slope and the proximity to Sunshine Creek, a tributary of Johnson Creek, a soldier-pile retaining wall was found to be of the least impact to the creek and its banks and the best option for repair of the slope.

The County completed the design of the retaining wall and repair of the slope. The cost of construction will be covered by revenue that was in the City of Damascus Road Fund shifted to the County after Damascus disincorporation. Construction is expected to take 4 to 5 months and be substantially complete by October of 2024. Two road closures are expected with the first road closure lasting five weeks and the second road closure lasting three weeks. There will be a minimum of three weeks between the road closures for concrete curing and monitoring the road for any settlement.

PROCUREMENT PROCESS: This project was advertised in accordance with ORS and LCRB Rules on January 11, 2024 through Invitation to Bid 2024-02. Bid Proposals were publicly

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opened on February 15, 2024 and the County received six (6) bids in response. After review of the Bid Proposals, contracting with Colton Homes Inc. dba Colton Construction was determined to be in the best interest of the county based upon the evaluation of the bids.

RECOMMENDATION: Staff respectfully recommends the Board approve and sign this contract with Colton Homes Inc. dba Colton Construction for the Rugg Road Landslide, MP 0.70 Project.

Respectfully submitted,

Dan Johnson

Dan Johnson
Director of Transportation & Development

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT
Contract #9256

This Public Improvement Contract (the "Contract"), is made by and between the Clackamas County, a political subdivision of the State of Oregon, hereinafter called "Owner," and **Colton Homes Inc., dba Colton Construction**, hereinafter called the "Contractor" (collectively the "Parties"), shall become effective on the date this Contract has been signed by all the Parties and all County approvals have been obtained, whichever is later.

Project Name: # 2024-02 Rugg Road Landslide, MP 0.70 Project

1. Contract Price, Contract Documents and Work.
The Contractor, in consideration of the sum of **Eight Hundred Seventy-Nine Thousand One Hundred Eighty-Two Dollars and Sixty-Six Cents ($879,182.66)** (the "Contract Price"), to be paid to the Contractor by Owner in the manner and at the time hereinafter provided, and subject to the terms and conditions provided for in the Instructions to Bidders and other Contract Documents (as defined in the project specifications) referenced within the Instructions to Bidders), all of which are incorporated herein by reference, hereby agrees to perform all Work described and reasonably inferred from 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:

- 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
- Addenda 1, 2

The Plans, Specifications and Drawings expressly incorporated by reference into this Contract includes, but is not limited to, the Special Provisions for Highway Construction Department of Transportation and Development Clackamas County, Oregon- Rugg Road Slide Repair- Retaining Wall (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 Jared Colton 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 Stan Monte 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: Jared Colton shall be the Contractor's project executive, and will provide oversight and guidance throughout the project term.

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

4. Contract Dates.

COMMENCEMENT DATE: Upon Issuance of Notice to Proceed ("NTP")
SUBSTANTIAL COMPLETION DATE: October 31, 2024
FINAL COMPLETION DATE: December 31, 2025

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 County 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.

Contractor must, throughout the duration of this Contract and any extensions, comply with all tax laws of this state and all applicable tax laws of any political subdivision of this state. Any violation of this section shall constitute a material breach of this Contract. Further, any violation of Contractor's warranty in this Contract that Contractor has complied with the tax laws of this state and the applicable tax laws of any political subdivision of this state also shall constitute a material breach of this Contract. Any violation shall entitle County 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, at law, or in equity, including but not limited to: (A) Termination of this Contract, in whole or in part; (B) Exercise of the right of setoff, and withholding of amounts otherwise due and owing to Contractor, in an amount equal to County's setoff right, without penalty; and (C) Initiation of an action or proceeding for damages, specific performance, declaratory or injunctive relief. County shall be entitled to recover any and all damages

suffered as the result of Contractor's breach of this Contract, including but not limited to direct, indirect, incidental and consequential damages, costs of cure, and costs incurred in securing replacement performance. These remedies are cumulative to the extent the remedies are not inconsistent, and County may pursue any remedy or remedies singly, collectively, successively, or in any order whatsoever.

The Contractor represents and warrants that, for a period of no fewer than six calendar years preceding the effective date of this Contract, has faithfully complied with: (A) All tax laws of this state, including but not limited to ORS 305.620 and ORS chapters 316, 317, and 318; (B) Any tax provisions imposed by a political subdivision of this state that applied to Contractor, to Contractor's property, operations, receipts, or income, or to Contractor's performance of or compensation for any work performed by Contractor; (C) Any tax provisions imposed by a political subdivision of this state that applied to Contractor, or to goods, services, or property, whether tangible or intangible, provided by Contractor; and (D) Any rules, regulations, charter provisions, or ordinances that implemented or enforced any of the foregoing tax laws or provisions.

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 General or Special Conditions 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. Liquidated damages are set forth in the Contract Documents and may include the following:

11.1 $ 700 per Calendar day past the Substantial Completion date, as set forth in section 00180.85 (b).

11.2 $500 per 15 minutes, or for a portion of 15 minutes, per lane, for any lane closures beyond the limits listed in 00220.40(e), 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. 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, Clackamas County executes this Contract and the Contractor does execute the same as of the day and year first above written.

Contractor DATA:
Colton Homes Inc. dba Colton Construction
P.O. Box 1168
Oregon City, Oregon 97045

Contractor CCB # 184522 Expiration Date: 11/7/2024
Oregon Business Registry # 141080-96 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.

Colton Homes Inc., dba Colton Construction	Clackamas County
3/11/2024	
Authorized Signature Date	Chair Date
Gina Colton/ secretary	
Name / Title Printed	Recording Secretary

APPROVED AS TO FORM

04/01/2024

County Counsel Date

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT OPPORTUNITY

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CLACKAMAS COUNTY
NOTICE OF PUBLIC IMPROVEMENT CONTRACT OPPORTUNITY

INVITATION TO BID #2024-02
Rugg Road Landslide, MP 0.70 Project
January 17, 2024

Clackamas County ("County") through its Board of County Commissioners is accepting sealed bids for the **Rugg Road Landslide, MP 0.70 Project** until **February 15 2024, 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/bso/view/login/login.xhtml, Document No.S-C01010-00009201.
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/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 .

Engineers Estimate: $845,000.00

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 Bridges and Structures (REIN)**

State 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, January 5, 2024, 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, 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: # 2024-02 Rugg Road Landslide, MP 0.70 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. 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 Bridges and Structures (REIN).**

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.**

   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/84853388435

   Meeting ID: 848 5338 8435

   One tap mobile
   +14086380968,,84853388435# US (San Jose) 16694449171,,84853388435# US

   Dial by your location
   • +1 408 638 0968 US (San Jose)
   • +1 669 444 9171 US
   • +1 669 900 6833 US (San Jose)
   • +1 719 359 4580 US
   • +1 253 205 0468 US
   • +1 253 215 8782 US (Tacoma)
   • +1 346 248 7799 US (Houston)

• +1 646 931 3860 US
• +1 689 278 1000 US
• +1 301 715 8592 US (Washington DC)
• +1 305 224 1968 US
• +1 309 205 3325 US
• +1 312 626 6799 US (Chicago)
• +1 360 209 5623 US
• +1 386 347 5053 US
• +1 507 473 4847 US
• +1 564 217 2000 US
• +1 646 876 9923 US (New York)

Meeting ID: 848 5338 8435

Find your local number: https://clackamascounty.zoom.us/u/kySNJPu4E

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

2. **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:

Total Contract Amount:

Project Name: # 2024-02 Rugg Road Landslide, MP 0.70 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)*	
All phases except Soldier Pile wall	

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 PLI Systems **Address** 3045 SE 61st Ct Hillsboro **City/St/Zip** **Phone#** 503-649-8111 **OCCB#** 158751	Soldier Pile Wall	280,000	☑	☐	☐
Name **Address** **City/St/Zip** **Phone#** **OCCB#**			☐	☐	☐
Name **Address** **City/St/Zip** **Phone#** **OCCB#**			☐	☐	☐
Name **Address** **City/St/Zip** **Phone#** **OCCB#**			☐	☐	☐

GFE SUBCONTRACTOR AND SELF-PERFORMED WORK LIST (FORM 1) cont'd

Prime Contractor Name: **Total Contract Amount:**

Project Name: # 2024-02 Rugg Road Landslide, MP 0.70 Project

<u>LIST ALL</u> SUBCONTRACTORS BELOW Use <u>correct legal name</u> 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 **Address** **City/St/Zip** **Phone#** **OCCB#**			☐	☐	☐
Name **Address** **City/St/Zip** **Phone#** **OCCB#**			☐	☐	☐
Name **Address** **City/St/Zip** **Phone#** **OCCB#**			☐	☐	☐
Name **Address** **City/St/Zip** **Phone#** **OCCB#**			☐	☐	☐
Name **Address** **City/St/Zip** **Phone#** **OCCB#**			☐	☐	☐
Name **Address** **City/St/Zip** **Phone#** **OCCB#**			☐	☐	☐
Name **Address** **City/St/Zip** **Phone#** **OCCB#**			☐	☐	☐

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

Prime Contractor:
Project: # 2024-02 Rugg Road Landslide, MP 0.70 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
			Date of Call	Person Receiving Call	Will Bid	Bid Received	Bid Used	Bid Amount	Reason Not Used (Price, Scope or Other. If Other, explain in Notes>>)	
PLI Systems	Soldier Wall			Manoel Castanegg	☐ Yes ☐ No	☑ Yes ☐ No	☑ Yes ☐ No	280K		
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			
					☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No			

CLACKAMAS COUNTY
GOOD FAITH EFFORT
PROJECT COMPLETION REPORT
(FORM 3)

Prime Contractor Name: **Total Contract Amount:**

Project Name: # 2024-02 Rugg Road Landslide, MP 0.70 Project

Complete this form and submit with your request for final payment upon the project completion. Please list all subcontractors used for the project. Use additional sheets as necessary.

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	FINAL DOLLAR AMOUNT OF SUBCONTRACT	If Certified or self-reported MBE/WBE/ESB Subcontractor Check box ✓		
			MBE	WBE	ESB
Name Address City/St/Zip Phone# OCCB#			☐	☐	☐
Name Address City/St/Zip Phone# OCCB#			☐	☐	☐
Name Address City/St/Zip Phone# OCCB#			☐	☐	☐
Name Address City/St/Zip Phone# OCCB#			☐	☐	☐
Name Address City/St/Zip Phone# OCCB#			☐	☐	☐
Name Address City/St/Zip Phone# OCCB#			☐	☐	☐

BY SIGNING BELOW, I HEREBY CERTIFY THAT THE ABOVE LISTED FIRMS HAVE BEEN UTILIZED BY OUR COMPANY IN THE AMOUNTS REPRESENTED ABOVE AND THAT THE INFORMATION CONTAINED HEREIN IS COMPLETE AND ACCURATE. .

[signature] 2/15/24

Authorized Signature of Contractor Representative Date

CLACKAMAS COUNTY

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

BID BOND

Project Name: # 2024-02 Rugg Road Landslide, MP 0.70 Project

We, Colton Homes Inc. dba Colton Construction, as "Principal,"
(Name of Principal)

and The Ohio Casualty Insurance Company, an New Hampshire 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% of Bid Amount)

Ten Percent (10%) of Bid Amount 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. 2024-02) 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 15th day of February, 2024.

Principal: Colton Homes Inc. dba Colton Construction

By: _____
Signature

president
Official Capacity

Attest: _____
Corporation Secretary

Surety: The Ohio Casualty Insurance Company

By: Attorney-In-Fact , Amber Lynn Reese

_____
Name

1001 4th Ave Suite 3700
Address

Seattle, WA 98154
City State Zip

(206) 473-3788
Phone

(425) 376-8840
Fax

THE OHIO CASUALTY INSURANCE COMPANY INCORPORATED 1919 NEW HAMPSHIRE

Seal No. 8073

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Liberty Mutual. SURETY

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: 8210464 - 023049

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Alicon A. Keltner, Alyssa J. Lopez, Amber Lynn Reese, Amelia G. Burrill, Andrew James Carretto, Annelies M. Richie, Audrey M. Turner, Brandon K. Bush, Brent E. Heilesen, Carley Espiritu, Christopher Amos Hayes, Christopher Kinyon, Cynthia L. Jay, Dana Marie Brinkley, Diane M. Harding, Donald Shanklin, Jr., Edward Sims, Eric A. Zimmerman, Holli Albers, Jacob T. Haddock, James B. Binder, Jamie L. Marques, Julie R. Truitt, Justin Dean Price, Kari Michelle Motley, Katharine J. Snider, Lindsey Elaine Jorgensen, Lois F. Weathers, Michael Mansfield, Misti M. Webb, Sara Sophie Sellin, Sarah Whitaker, Tamara A. Ringeisen

all of the city of Tacoma state of WA each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 20th day of July, 2023.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: _____
David M. Carey, Assistant Secretary

State of PENNSYLVANIA
County of MONTGOMERY ss

On this 20th day of July, 2023 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.

Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2025
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: _____
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS: Section 12. Power of Attorney.
Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts: Section 5. Surety Bonds and Undertakings.
Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 15th day of February, 2024.

By: _____
Renee C. Llewellyn, Assistant Secretary

Seal No. 8073

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.

CLACKAMAS COUNTY

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

BID FORM

PROJECT: # 2024-02 Rugg Road Landslide, MP 0.70 Project
BID CLOSING: February 15, 2024, 2:00 PM, Pacific Time
BID OPENING: February 15, 2024, 2:05 PM, Pacific Time

FROM: Colton Homes Inc
Bidder's Name (must be full legal name, not ABN/DBA)

TO: https://bidlocker.us/a/clackamascounty/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

__X__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:

~~879,160.00~~ **$879,182.70**
~~XXXXXXXXXXXXXX~~ Dollars ($_____)

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

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

- ADDENDA numbered __1__ through __2__, 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 the project specifications: **Provide the attached Bid Schedule with Bid.**

4. The work shall be completed within the time stipulated and specified in 00180.50(h) of the Special Provisions for **Highway Constructions Department of Transportation and Development, Rugg Road**

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 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:

The Ohio Casualty Insurance Company.
(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 184522. 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 Saif, Policy No. 741254, and that Contractor shall submit Certificates of Insurance as required.

14. Contractor's Key Individuals for this project (supply information as applicable):

Project Executive:	Jared Colton	Cell Phone:	503-939-4765
Project Manager:	Zach Winters	Cell Phone:	503-348-0433
Job Superintendent:		Cell Phone:	
Project Engineer:		Cell Phone:	

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: Colton Homes Inc.

ADDRESS: PO Box 1168
Oregon City, OR 97045

TELEPHONE NO: 503-939-4765

EMAIL: office@coltonhomes.net

SIGNATURE 1) _____
Sole Individual

or 2) _____
Partner

or 3) _____
Authorized Officer or Employee of Corporation

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

Rugg Road Landslide Repair
BID SCHEDULE

ADDENDUM #2 - 2/5/2024

ITEM #	SECTION	ITEM DESCRIPTION	UNIT	AMOUNT	UNIT COST	TOTAL
PART 00200 - TEMPORARY FEATURES AND APPURTENANCES						
1	00180	WORK PLACE HARASSMENT PREVENTION PLAN	LS	1		1000
2	00196	EXTRA WORK	FA	1	$50,000.00	$50,000.00
3	00210	MOBILIZATION	LS	1		60000
4	00221	TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC	LS	1		3000
5	00222	PORTABLE CHANGEABLE MESSAGE SIGNS	EACH	2	2000	4000
6	00223	FLAGGERS	HOUR	100	80	8000
7	00224	TEMPORARY BARRICADES, TYPE II	EACH	4	300	1200
8	00224	TEMPORARY BARRICADES, TYPE III	EACH	6	800	4800
9	00224	TEMPORARY PLASTIC DRUMS	EACH	10	150	1500
10	00280	EROSION CONTROL	LS	1	2000	2000
11	00280	PLASTIC SHEETING	SQYD	660	4	2640
12	00280	CONSTRUCTION ENTRANCE, TYPE 1	EACH	1	1500	1500
13	00280	CONCRETE WASHOUT FACILITY	EACH	1	1500	1500
14	00280	SEDIMENT BARRIER, TYPE 3 (WATTLES)	LF	200	20	4000
15	00280	SEDIMENT FENCE	LF	200	10	2000
16	00280	CHECK DAM, TYPE 1	EACH	4	100	400
17	00280	COMPOST EROSION BLANKET	SQYD	350	20	7000
18	00280	STRAW BALE	EACH	10	20	200
19	00290	POLLUTION CONTROL PLAN	LS	1	1000	1000
PART 00300 - ROADWORK						
20	00305	CONSTRUCTION SURVEY WORK	LS	1	4000	4000
21	00310	REMOVAL OF SURFACINGS	SQYD	160	40	6400
22	00310	ASPHALT PAVEMENT SAW CUTTING	FOOT	120	10	1200
23	00320	CLEARING AND GRUBBING	LS	1	20000	20000
24	00330	GENERAL EXCAVATION	LS	1	45000	45000
25	00331	24 INCH SUBGRADE STABILIZATION	SQYD	25	150	3750
26	00350	SUBGRADE GEOTEXTILE	SQYD	70	20	1400
27	00390	LOOSE RIPRAP, CLASS 50	CY	20	100	2000
PART 00400 - DRAINAGE AND SEWERS						
28	00480	DRAINAGE CURBS	FOOT	170	100	17000
PART 00500 - BRIDGES						
29	0586A	32 INCH TYPE "F" TRAFFIC BARRIER COPING WITH MOMENT SLAB	FOOT	106	540	57240
30	00596D	SOLDIER PILE RETAINING WALL	SF	1,051	439.70	460,000.
PART 00600 - BASES						
31	00620	COLD PLANE PAVEMENT REMOVAL, 2 1/2 INCHES DEEP	SQYD	640	17	10880
32	00640	AGGREGATE BASE	TON	60	50	3000
PART 00700 - WEARING SURFACES						
33	00744	LEVEL 3, 1/2 INCH DENSE ACP MIXTURE	TON	200	170	34000
PART 00800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES						
34	00810	GUARDRAIL, TYPE 2A	FOOT	100	80	8000
35	00810	GUARDRAIL, TYPE 3	FOOT	25	150	3750.
36	00810	GUARDRAIL TRANSITION	EACH	2	7000	14000.
37	00810	GUARDRAIL TERMINALS, NON-FLARED, TEST LEVEL 3	EACH	2	7000	14000.
38	00810	EXTRA FOR 8 FOOT POSTS	EACH	60	60	3600.
39	00840	DELINEATORS, TYPE 2	EACH	15	100	1500.
40	00840	DELINEATORS, TYPE 4	EACH	4	50	200.
PART 01000 - RIGHT OF WAY DEVELOPMENT AND CONTROL						
41	01030	SEEDING MOBILIZATION	EACH	1	1000	1000.
42	01030	PERMANENT SEEDING, MIX NO. 2	ACRE	0.14	10714.	1500
43	01040	LIVE PLANT CUTTINGS - SALIX SITCHENSIS (WILLOW)	EACH	100	40	4000.
44	01050	REMOVE AND REBUILD FENCING, TYPE 1-5W	FT	200	30	6000

$460,022.70

PROPOSED COST BID SCHEDULE 879,182.00 $879,182.70
(Numerically)

PROPOSED COST BID SCHEDULE eight hundred seventy nine thousand one hundred Sixty dollars
Written in Words

COMPANY NAME Colton Construction

AUTHORIZED SIGNATURE

FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM
PROJECT: #2024-02

BID OPENING: February 15, 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.

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.	PLI	$280,000.00	Soldier pile wall
2.	All other work self performed		
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: Colton Homes Inc.

Bidder Signature: _____ Phone # 503-939-4765

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

PERFORMANCE BOND

Bond No.: 023229537
Solicitation: #2024-02
Project Name: Rugg Road Landslide, MP 0.70 Project

The Ohio Casualty Insurance Company	(Surety #1)	Bond Amount No. 1:	$ 879,182.66
N/A	(Surety #2)*	Bond Amount No. 2:*	$ N/A
** If using multiple sureties*		Total Penal Sum of Bond:	$ 879,182.66

We, Colton Homes Inc. dba Colton Construction 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) Eight Hundred Seventy-Nine Thousand, One Hundred Eighty-Two and 66/100 (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 14th day of March, 2024.

PRINCIPAL: Colton Homes Inc. dba Colton Construction

By: _____
Signature

president
Official Capacity

Attest: _____
Corporation Secretary

SURETY: The Ohio Casualty Insurance Company
[Add signatures for each if using multiple bonds]

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

Amber Lynn Reese
Name

_____
Signature

175 Berkeley Street
Address

Boston, MA 02116
City State Zip

(206) 473-3788 (425) 376-8840
Phone Fax

CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

PAYMENT BOND

Bond No.: 023229537
Solicitation: #2024-02
Project Name: Rugg Road Landslide, MP 0.70 Project

The Ohio Casualty Insurance Company	(Surety #1)	Bond Amount No. 1:	$ 879,182.66
N/A	(Surety #2)*	Bond Amount No. 2:*	$ N/A
* *If using multiple sureties*		Total Penal Sum of Bond:	$ 879,182.66

We, Colton Homes Inc. dba Colton Construction, 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) Eight Hundred Seventy-Nine Thousand, One Hundred Eighty-Two and 66/100 (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 14th day of March, 2024.

PRINCIPAL: Colton Homes Inc. dba Colton Construction

By: _____
Signature

president
Official Capacity

Attest: _____
Corporation Secretary

SURETY: The Ohio Casualty Insurance Company
[Add signatures for each if using multiple bonds]

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

Amber Lynn Reese
Name

Signature

175 Berkeley Street
Address

Boston, MA 02116
City State Zip

(206) 473-3788 (425) 376-8840
Phone Fax

This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

Certificate No: **8210464 - 023049**

POWER OF ATTORNEY

KNOWN ALL PERSONS BY THESE PRESENTS: That The Ohio Casualty Insurance Company is a corporation duly organized under the laws of the State of New Hampshire, that Liberty Mutual Insurance Company is a corporation duly organized under the laws of the State of Massachusetts, and West American Insurance Company is a corporation duly organized under the laws of the State of Indiana (herein collectively called the "Companies"), pursuant to and by authority herein set forth, does hereby name, constitute and appoint, Aliceon A. Keltner, Alyssa J. Lopez, Amber Lynn Reese, Amelia G. Burrill, Andrew James Carretto, Annelies M. Richie, Audrey M. Turner, Brandon K. Bush, Brent E. Heilesen, Carley Espiritu, Christopher Amos Hayes, Christopher Kinyon, Cynthia L. Jay, Dana Marie Brinkley, Diane M. Harding, Donald Shanklin, Jr., Edward Sims, Eric A. Zimmerman, Holli Albers, Jacob T. Haddock, James B. Binder, Jamie L. Marques, Julie R. Truitt, Justin Dean Price, Kari Michelle Motley, Katharine J. Snider, Lindsey Elaine Jorgensen, Lois F. Weathers, Michael Mansfield, Misti M. Webb, Sara Sophie Sellin, Sarah Whitaker, Tamara A. Ringeisen

all of the city of Tacoma state of WA each individually if there be more than one named, its true and lawful attorney-in-fact to make, execute, seal, acknowledge and deliver, for and on its behalf as surety and as its act and deed, any and all undertakings, bonds, recognizances and other surety obligations, in pursuance of these presents and shall be as binding upon the Companies as if they have been duly signed by the president and attested by the secretary of the Companies in their own proper persons.

IN WITNESS WHEREOF, this Power of Attorney has been subscribed by an authorized officer or official of the Companies and the corporate seals of the Companies have been affixed thereto this 20th day of July, 2023.

Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company

By: _____
David M. Carey, Assistant Secretary

State of PENNSYLVANIA
County of MONTGOMERY ss

On this 20th day of July, 2023 before me personally appeared David M. Carey, who acknowledged himself to be the Assistant Secretary of Liberty Mutual Insurance Company, The Ohio Casualty Company, and West American Insurance Company, and that he, as such, being authorized so to do, execute the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

IN WITNESS WHEREOF, I have hereunto subscribed my name and affixed my notarial seal at Plymouth Meeting, Pennsylvania, on the day and year first above written.

Commonwealth of Pennsylvania - Notary Seal
Teresa Pastella, Notary Public
Montgomery County
My commission expires March 28, 2025
Commission number 1126044
Member, Pennsylvania Association of Notaries

By: _____
Teresa Pastella, Notary Public

This Power of Attorney is made and executed pursuant to and by authority of the following By-laws and Authorizations of The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company which resolutions are now in full force and effect reading as follows:

ARTICLE IV – OFFICERS: Section 12. Power of Attorney.
Any officer or other official of the Corporation authorized for that purpose in writing by the Chairman or the President, and subject to such limitation as the Chairman or the President may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Corporation to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact, subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Corporation by their signature and execution of any such instruments and to attach thereto the seal of the Corporation. When so executed, such instruments shall be as binding as if signed by the President and attested to by the Secretary. Any power or authority granted to any representative or attorney-in-fact under the provisions of this article may be revoked at any time by the Board, the Chairman, the President or by the officer or officers granting such power or authority.

ARTICLE XIII – Execution of Contracts: Section 5. Surety Bonds and Undertakings.
Any officer of the Company authorized for that purpose in writing by the chairman or the president, and subject to such limitations as the chairman or the president may prescribe, shall appoint such attorneys-in-fact, as may be necessary to act in behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations. Such attorneys-in-fact subject to the limitations set forth in their respective powers of attorney, shall have full power to bind the Company by their signature and execution of any such instruments and to attach thereto the seal of the Company. When so executed such instruments shall be as binding as if signed by the president and attested by the secretary.

Certificate of Designation – The President of the Company, acting pursuant to the Bylaws of the Company, authorizes David M. Carey, Assistant Secretary to appoint such attorneys-in-fact as may be necessary to act on behalf of the Company to make, execute, seal, acknowledge and deliver as surety any and all undertakings, bonds, recognizances and other surety obligations.

Authorization – By unanimous consent of the Company's Board of Directors, the Company consents that facsimile or mechanically reproduced signature of any assistant secretary of the Company, wherever appearing upon a certified copy of any power of attorney issued by the Company in connection with surety bonds, shall be valid and binding upon the Company with the same force and effect as though manually affixed.

I, Renee C. Llewellyn, the undersigned, Assistant Secretary, The Ohio Casualty Insurance Company, Liberty Mutual Insurance Company, and West American Insurance Company do hereby certify that the original power of attorney of which the foregoing is a full, true and correct copy of the Power of Attorney executed by said Companies, is in full force and effect and has not been revoked.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seals of said Companies this 14th day of March, 2024.

By: _____
Renee C. Llewellyn, Assistant Secretary

Not valid for mortgage, note, loan, letter of credit, currency rate, interest rate or residual value guarantees.

For bond and/or Power of Attorney (POA) verification inquiries, please call 610-832-8240 or email HOSUR@libertymutual.com.

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

PROJECT: #2024-02 Rugg Road Landslide, MP 0.70 Project

Project Background:
In January 2021, heavy rains and strong winds caused a slide on the downhill slope of Rugg Rd in the northern portion of Damascus. The remaining slope has been protected by erosion measures for the last three years until a permanent repair could be designed. Due to the height of the slope and the close proximity to Sunshine Creek, a tributary of Johnson Creek, a solider-pile retaining wall was found to be of least impact to the creek and its banks and a more cost effective option of repair.

Construction of the retaining wall will require two temporary road closures: a four week closure followed a month later by a three week closure for a total of seven weeks during the summer and fall of 2024.

Road improvements will also include mobilization, temporary traffic control, construction survey, grading, drainage work, retaining wall structures, permanent traffic control, base work, shoulder construction, permanent seeding, guardrail installation, asphalt wearing surfaces and incidental work as called for by the specifications and plans.

Engineers Estimate: $845,000.00

Key Dates:
All Basic Bid Work may begin as soon as the Notice to Proceed ("NTP") is issued and high water levels are not expected, May/June.
Substantial Completion (See Special Provision Section 00180.50(h)): October 30, 2024
Final Completion (For seeding and plant establishment): December 31, 2025

Time is of the essence for this Project. Note the Liquidated Damages requirements as described in the project Specifications.

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

SPECIAL PROVISIONS FOR HIGHWAY CONSTRUCTION- CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT, Rugg Road Slide Repair-Retaining Wall, dated December 2023 (53 pages)

Rugg Road Slide Repair Construction Project Drawing Set, Sheets No. 01; 01A, GR01, WA01, WA02, WA03, WA04, DE01, DE02, DE03, EC (11 pages)

Report of Geotechnical Engineering Services for Rugg Road Landslide, dated March 15, 2021
Includes Drill Log Reports. (45 Pages)

SPECIAL PROVISIONS
FOR HIGHWAY CONSTRUCTION

DEPARTMENT OF TRANSPORTATION
AND DEVELOPMENT
CLACKAMAS COUNTY, OREGON

Rugg Road Slide Repair - Retaining Wall

AGGREGATE BASES, ASPHALT CONCRETE PAVING AND OILING, BRIDGES AND STRUCTURES, MISCELLANEOUS HIGHWAY APPURTENANCES, AND EARTHWORK AND DRAINAGE,

December 2023

TABLE OF CONTENTS FOR SPECIAL PROVISIONS

Specifications for Proposed
Rugg Road Slide Repair

PROFESSIONAL OF RECORD CERTIFICATION(s):

 Exp: 6/30/23 Date Signed: 3/09/2023	I certify that the Special Provision Sections listed below were prepared by me or under my supervision. Sections: All Sections.

SPECIAL PROVISIONS

WORK TO BE DONE

The Work to be done on the Rugg Rd Slide Repair –Solider Pile Wall near the city of Boring in Clackamas County under this Contract consists of the following;

1. Install a 100’ long solider pile retaining wall consisting of;
   - 18 = 2.5’dia x 30’- 40’ in length Solder Piles.
   - Installation of 1000sf of wood pressure treated lagging between piles.
   - 1000sf of 12” thick reinforced concrete wall fascia.
   - 96’ of moment slab topped with F-Rail.

2. Repair/reconstruct 325’ of roadway including aggregate base and asphalt concrete wearing surfaces.

3. Perform additional and incidental Work, as called for in the Specifications and on the Plans.

APPLICABLE SPECIFICATIONS

The Specification that is applicable to the Work on this Project is the 2021 edition of the "Oregon Standard Specifications for Construction".

All number references in these Special Provisions shall be understood to refer to the Sections and subsections of the Standard Specifications and Supplemental Specifications bearing like numbers and to Sections and subsections contained in these Special Provisions in their entirety.

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 at; (http://www.clackamas.us/code/documents/appendixc.pdf).

00110.10 Abbreviations

Add the following:

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, 2021 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.

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 2021 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

00120.15 Examination of Work Site and Solicitation Documents; Consideration of Conditions to be Encountered – Delete the third paragraph.

00120.17 Use of Agency-Owned Land for Staging or Storage Areas – Add the following:

00120.25 Subsurface Investigations - Replace the first two sentences of the first paragraph with the following:

The Agency or its consultant has conducted subsurface or geologic investigations of the Project Site, and the results of these investigations are included in the Bid Documents and available at the Engineer's office.

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.

00120.68 Mistakes in 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**.**

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", 2021 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.

00130.50(a) By the Bidder – Delete and replace with the

following: See Instructions to Bidders.

00130.50(b) By the Agency – Delete and replace with the following:

Within 10 Working Days after the Agency has received and verified the properly executed documents specified in the Instructions to Bidders, and received legal sufficiency approval from the Agency's attorney, the Agency will request Clackamas County Board of Commissioners or County Administrator's Approval of the Contract. Approval will occur within 21 Calendar Days after the Agency has received and verified the properly executed documents. The Agency will then send a fully executed Public Improvement Contract (Contract Form) to the successful Bidder, who then officially becomes the Contractor.

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

Security deposited by unsuccessful bidders will be returned as soon as practicable after the bid opening.

00130.80 Project Site Restriction- Replace the paragraph that begins "Until the Agency sends...", with the following paragraph:

Until the Agency sends the Contractor written Notice to Proceed with the Work, and the Contractor has filed the public works bonds required in 00170.20, the Contractor shall not go onto the Project Site on which the Work is to be done, nor move Materials, Equipment or workers onto the Project Site.

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(b) Agency Responsibilities - Replace this subsection, except for the subsection number and title, with the following:

The Engineer will perform the Agency responsibilities described in the ODOT Construction Surveying Manual for Contractors, Chapter 1.5 (see Section 00305).

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

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

- Perform earthwork slope staking including intersections and match lines and set stakes defining limits for clearing which approximate right-of-way and easements.
- Perform retaining wall and roadway staking.
- Inform the Engineer of staking requirements at least 5 Calendar Days before the staking needs to begin;
- Coordinate construction to provide sufficient area for the Engineer to perform surveying work efficiently and safely;
- Accurately measure detailed dimensions, elevations, and Slopes from the Engineer's stakes and marks;
- Perform the Work in such a manner as to preserve stakes and marks;
- Set any reference lines for automatic control from the control stakes provided by the Engineer.

- 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.

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.

(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 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.

(f) Utility Information: Add the following subsection:

here are no anticipated conflicts with the Utilities listed below. However energized power lines overhang portions of the Work with a minimum vertical clearance of approximately 15 feet. Contractor shall maintain at least 10 feet of safety clearance. Exceptions require written approval from Portland General Electric and may require an On-Site safety watcher, at no cost to the Contractor. Provide the Engineer a copy of the written approval of exception before beginning work.

Notify, in writing, Portland General Electric at least 30 Calendar Days (4 weeks) before beginning Work on the Project.

	Utility	**Contact Person's Name and Phone Number**
1.	Portland General Electric	Ryan Williams Ryan.Williams@pgn.com 503-669-5259
4.	Comcast	Brent Christiansen Brent_Christiansen@comcast.com 503-813-0483

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:

00160.05 Qualified Products List (QPL) - Replace this subsection, except for the subsection number and title, with the following:

The QPL is a listing of manufactured products available on the market (shelf items) that ODOT has evaluated and found suitable for a specified use in highway construction. The QPL is available from ODOT's Construction Section website at:

http://www.oregon.gov/ODOT/Construction/Pages/Qualified-Products.aspx

The most current published PDF version of the QPL on ODOT's Construction Section website at the time of Advertisement is the version in effect for the Project. The Engineer may approve for use a conditionally qualified product, or a product qualified for inclusion in a later edition of the QPL, if the Engineer finds the product acceptable for use on the Project.

Use of listed products shall be restricted to the category of use for which they are listed. The Contractor shall install all products as recommended by the manufacturer. The Contractor shall replace qualified products not conforming to Specifications or not properly handled or installed at no additional cost to the Agency.

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:

00170.00 General - Replace the first sentence of the first paragraph in this section with the following:

The Contractor shall comply with all laws, ordinances, codes, regulations, executive orders, and administrative rules (collectively referred to as "Laws" in this Section) that relate to the Work or to those engaged in the Work.

00170.01(a) Federal Agencies - Add the following to the list of Federal Agencies:

National Oceanic and Atmospheric Administration

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.

00170.03 Furnishing Right-of-Way and Permits – Add the following:
Add the following bullet items:

- The Contactor must comply with all special requirements of the written agreements between the County and the Property Owners for work on Private property within the limits of the Temporary Construction Easements or as established by the right-of-entries signed by the property owners to connect driveways to the new roadway. Copies of these agreements are available at Clackamas County upon request.
- The Contractor may not store materials or equipment within project TCE's unless specifically approved by the Project Manager.

00170.61(a) Workers' Compensation - In the paragraph, replace "00170.70(d)" with "the Agreement".

00170.65(a) General - Add the following paragraph to the end of this subsection:

As required by ORS 279C.520, compliance by the Contractor with the prohibitions in ORS 652.220 is a material element of the Contract and failure to comply is a material breach that entitles the Agency to exercise any remedies available under the Contract, including but not limited to termination for default. The Contractor shall not prohibit any of the Contractor's employees from, or retaliate against an employee for, discussing the employee's rate of wage, salary, benefits or other compensation with another employee or another person.

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 with Pollution Coverage	$1,000,000.00	(aggregate limit not required)

Add the following:

The Contractor shall require that all subcontractors of any tier provide insurance coverage (including additional insured provisions) and limits identical to the insurance required of the Contractor under this contract, unless this requirement is expressly modified or waived by the Agency in writing.

00170.70(d) Additional Insured - Add the following paragraph at the beginning of the section and add the bullets to the end of this subsection:

The liability insurance coverages of 00170.70(a) shall include the Agency, the Agency's governing body, board, or Commission and its members, and their respective officers, agents, and employees as Additional Insureds, but only with respect to the Contractor's activities to be performed under the Contract.

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

00170.70(h) Agency Acceptance – Delete the paragraph in this section and replace with the following:

- All insurance and insurance providers are subject to Agency acceptance. In addition, all of the following are subject to Agency acceptance and, if requested by Agency, the Contractor shall provide complete copies of the following to Agency's representatives responsible for verification of the insurance coverages required by the Contract: insurance policies, endorsements, self-insurance documents and related insurance documents.

00170.70(k) Builder's Risk Installation Floater – Delete the paragraph in this section and replace with the following:

- If specified by Special Provision, the Contractor shall obtain, at its expense, and keep in effect during the term of the Contract, Builder's Risk Installation Floater Insurance covering the Contractor's 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 Contractor´s Equipment, Materials, or fixtures to be installed, in-transit, or stored off-site during the performance of the Contract. This insurance shall include as loss payees the Agency, State of Oregon, the building or structure owner, the Contractor and Subcontractors as their interests may appear.

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.

00180.22 Payments to Subcontractors and Agents of the Contractor - Replace the paragraph that begins "To the extent practicable..." with the following paragraph:

To the extent practicable, the Contractor shall pay in the same units and on the same basis of measurement as listed in the Schedule of Items for subcontracted Work or other Work not done by the Contractor's own organization. The Agency will not be responsible for any overpayment or losses resulting from overpayment by the Contractor to subcontractors and to its other agents, work providers, service providers, and trucking services providers.

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
On-Site Work	00180.40(b)
Critical Time Periods	00180.44
Contract Completion Time	00180.50(h)
Maintenance Under Traffic	00620.43

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.

00180.42 Preconstruction Conference - Add the following:

Before beginning On-Site Work and before meeting with the Engineer for the preconstruction conference, hold a group utilities scheduling meeting with representatives from the utility companies involved with this project. Incorporate the utilities time needs into the Contractor's schedule submitted prior to the preconstruction conference.

Submit the following during the preconstruction conference unless otherwise directed:

- The names, addresses, and telephone numbers of two or more persons employed by the Contractor who can be reached day or night to handle emergency matters.
- Subcontractor's list including contact list for each subcontractor with phone numbers and addresses and work to be performed.
- List of personnel authorized to sign change orders and receive progress payment warrants.
- Video recording of private properties affected by construction per 00150.70.

A representative of each subcontractor shall be required to attend the pre-construction conference.

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.

00180.44 Critical Time Periods - Note the following critical time periods where only certain types of work can be performed throughout the project, and completion times for work items:

a. Road closures - Two road closures will be allowed for this contract:

- <u>One continuous 40 day closure of Rugg Rd will be allowed to complete the pile, lagging and concrete fascia installation.</u>
- <u>At the end of the 3 week “settlement period” the road may be closed for an additional 21 Calendar Days to install the motion slab, F-rail and the pavement restoration.</u>

b. Settlement Period - One settlement period is required for this construction.

- At the end of the initial 40 day closure the roadway shall be opened to traffic presenting a gravel surface, contractor is responsible to maintain this surface for the 3 week (21 Calendar Days) "settlement period".

00180.50(h) Contract Time - Complete all Work to be done under the Contract, except for seeding and planting establishment, not later than October 31, 2024.

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.

00180.85(b) Liquidated Damages - Add the following paragraph:

The liquidated damages for failure to complete the Work on time required by 00180.50(h) will be $700 per Calendar Day *.

* Calendar Day amounts are applicable when the Contract time is expressed on the Calendar Day or fixed date basis.

Add the following subsection:

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

(1) Lane Closures - 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 per 15 minutes, or for a portion of 15 minutes, per lane, for any lane closure beyond the limits listed in 00220.40(e). In addition to the liquidated damages, all added cost for traffic control measures, including flagging, required to maintain the lane closures beyond the allowed time limits, will be at no additional cost to the Agency. The required traffic control measures will be as determined by the Engineer.

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). Add the following subsection:

00180.88 Workplace Harassment Prevention Plan – Submit a workplace harassment prevention plan for review 10 days before the preconstruction conference:

- A Contractor-developed workplace harassment prevention plan to ensure all workers, regardless of their identity or status, are guaranteed a safe and respectful work environment. The plan applies, but is not limited to, a worker's race, ethnicity, color, national origin, gender identity, gender expression, sex, sexual orientation, religion, marital or familial status, age, mental or physical disability (as defined by the Americans with Disabilities Act and state law), former incarceration, immigrant status, or veteran status.
- A description of how the plan will be implemented and monitored during the project duration.
- A list of the in-person training that will be conducted for workers of all ranks working on the project.
- 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.

Post on the jobsite and make available that rights of workers on the site for:

a) participation in positive jobsite trainings and
b) copies of policies about hate, intimidation, or harassment including how to report and how to receive support. Materials will be provided in languages 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(a) Contractor to Provide Vehicle Weigh Scales: Delete and replace the last paragraph in this section with the following:

Unless otherwise provided in the Contract, Pay Items to be measured by weight shall include all Contractor costs for providing, maintaining, inspecting, and testing scales; for furnishing appropriate weigh tickets; for self-printing scales; for electronic weigh memo system(s); and for transporting Materials to the scales or to check weighing.

00190.20(f)(1) Scale with Automatic Printer: Delete and replace the first sentence in this section with the following:

If the scales have an automatic weigh memo printer or an approved electronic weigh memo system that does not require manual entry of gross weight information, the Agency may periodically have a representative at the scales to observe the weighing procedures.

00190.20(f)(1) Scale with Automatic Printer: Delete and replace the last bullet in this section with the following:

- Furnish a legible, serially numbered weigh memo for each load of Materials to the Agency's Materials receiver at the point of delivery, or as directed by the Engineer. The memo shall identify the Project, the Materials, the date, net weight (gross and tare as appropriate), and identification of the vehicle and weigh technician. If approved by the Engineer an electronic weigh memo system may be used. Requests to use an electronic weigh memo system shall be submitted to the Engineer according to 00150.37, providing sufficient detail for the Engineer to perform an evaluation. If approved, the Contractor shall provide training, technical support, reports, and weigh memo information to the Engineer at no additional cost to the Agency. The electronic weigh memo system shall be:
- Capable of recording and securely retaining the same required “weigh memo” information identified above. For retention see 00170.07(c).
- Fully integrated with the provided weigh scale system.
- Designed in such a way that the data electronically read from scales cannot be altered by the Contractor, Subcontractor, Supplier, Engineer, or other system users.
- Designed to allow the Engineer remote access to all the weigh memo data in real-time and allow the Engineer to add comments to the individual weigh memo regarding waste, temperature, stations, yield or other information. The system shall identify the system user or individual that adds comments to the electronic weigh memo or otherwise access the system. The Contractor shall provide the Engineer a means to access the data if the Engineer cannot use an Agency provided hand held device for access.
- Capable of providing all the weigh memo information, including any added comments, in an electronic data file the Engineer can easily access without proprietary software.

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.

00190.30 Plant Scales: Add the following sentence after the bulleted list:

If approved by the Engineer an electronic weigh memo system may be used in place of a printer system. See 00190.20(f)(3).

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 - Replace the paragraph that begins "Any such adjustments..." with the following paragraph:

Any adjustments may be less than, but will not be more than the amount justified by the Engineer on the basis of the established procedures set out in Section 00197 for determining rates. This does not limit the application of Section 00199.

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 Progress Payments and Retained Amounts - Modify as follows:

00195.50(a) Progress Payments - Delete and replace the last sentence in the second paragraph as follows:

All estimated quantities are subject to correction in the final estimate. If the Contractor uses these estimates as a basis for making payments to Subcontractors and Suppliers, the Contractor assumes all risk and bears any losses that result.

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) Forms of Retainage – Delete first paragraph and replace with:

Forms of acceptable retainage are set forth below in Subsections (1) through (3). “Cash, Alternate A” or “Cash, Alternate B” (Retainage Surety Bond) are the Agency-preferred forms of retainage. Unless the Contractor notifies the County otherwise in writing, the County will automatically hold retainage per paragraph (2) “Cash, Alternate B (No Interest Earned). If the Agency incurs additional costs as a result of the Contractor’s election to use “Bonds and Securities”, the Agency may recover such costs from the Contractor by a reduction of the final payment.

Delete and replace paragraph (2) with the following:

> **(2) Cash, Alternate B (No Interest Earned)** – Retainage will be deducted from progress payments and held by the Agency until final payment is made in accordance with 00195.90, unless otherwise specified in the Contract.

00195.50(d) Release of Retainage – Delete this section and replace with the following:

(d) Release of Retainage - As the Work progresses, release of the amounts to be retained under (b) of this Subsection will only be considered for Pay Items that have been satisfactorily completed. For purposes of this Subsection, a Pay Item will be considered satisfactorily completed only if all of the Work for the Pay Item is complete and all contractual requirements pertaining to the Pay Item and Work have been satisfied. Work not included in a Pay Item, or which constitutes part of an uncompleted Pay Item, will not be regarded as satisfactorily completed Work for the purposes of this Subsection.

When the Work is 50% completed and upon written application of the Contractor and written approval of the Surety, the Engineer or Project Manager may reduce or eliminate retainage on remaining progress payments if the Work is progressing satisfactorily.

A determination of satisfactory completion of Pay Items or Work or release of retainage shall not be construed as acceptance or approval of the Work and shall not relieve the Contractor of responsibility for defective Materials or workmanship or for latent defects and warranty obligations.

END OF SECTION

SECTION 00196 – PAYMENT FOR EXTRA WORK

Comply with Section 00196 of the Standard Specifications.

Add the following subsection:

00196.90 Extra Work Allowance - The bid schedule of prices contains the bid item "Extra Work as Authorized". This bid item serves as a contingency 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.

The contractor must receive written approval from the Engineer or County Project Manager prior to start of any work to be paid as Extra Work. Any work completed prior to receipt of written approval may not be eligible for compensation.

END OF SECTION

SECTION 00197 – PAYMENT FOR FORCE ACCOUNT WORK

Comply with Section 00197 of the Standard Specifications modified as follows:

00197.20(a) General - Replace the paragraph that begins "Except as modified by these..." with the following paragraph:

Except as modified by these provisions, Equipment use approved by the Engineer will be paid at the rental rates given in the most current edition of the EquipmentWatch Cost Recovery (Blue Book) published by EquipmentWatch, a division of Penton Business Media, Inc., and available from EquipmentWatch (phone 1-800-669-3282) (http://equipmentwatch.com).

00197.20(c-3) Rate Adjustment Factor - Replace this subsection, except for the subsection number and title, with the following:

The rate adjustment factor used above will be determined by applying only the Model Year Adjustment to the Blue Book Rates. The Regional and User Defined Ownership/Operating Adjustments shall not apply.

00197.20(c-5) Limitations - Delete the paragraph that begins "The Blue Book..."

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 bullets to the end of the bullet list:

- When performing trench excavation or other excavation across or adjacent to a Traffic Lane on a roadway having a pre-construction posted speed greater than 35 mph, backfill the excavation, install surfacing, and open the roadway to traffic by the end of each work shift. Install a "BUMP" (W8-1-48) sign approximately 100 feet before the backfilled area and a "ROUGH ROAD" (W8-8-48) sign approximately 500 feet ahead of the "BUMP" sign. If this requirement is not met, maintain all necessary lane or shoulder closures and provide additional TCM, including flagging, at no additional cost to the Agency. Do not use temporary steel plating to reopen the roadway.
- Before activating a modified traffic signal, revising lane usage, implementing new roadway geometry, or removing a "STOP" sign, protect traffic by installing "NEW TRAFFIC PATTERN AHEAD" (W23-2) signing according to 00225.02. Keep the signs in place for 30 Calendar Days after completing the modifications.

00220.40(b) Detour and Stage Construction – Add the following to the end of the section:

The Agency will allow two separate road closures to the Worksite, one up to 40 Calendar Days and one up to 21 Calendar Days of continuous duration. The project plans include a Detour Plan for the Worksite closures. There shall be a 21 Calendar Day curing and settling period between the two closures, at this time the road will be compacted, graded gravel surface, opened to traffic. Contractor shall supply, install and maintain the signage, traffic control devices and flagging needed to maintain a safe work zone and protect the traveling public. Contractor may submit an alternate Detour Plan for this closure or an alternate Open Gravel Roadway Plan for Agency review and approval. The road closure will not be allowed until the area and the detour route are signed according to the TCP and the requirements of Section 00221.

The road closure will cause the Agency to sustain damages; increase risk to, inconvenience, and interfere with the traveling public and commerce; and increase costs to taxpayers. The Agency finds it is difficult to determine the exact dollar value of such damages. However, the County estimates these damages at $1,000 per day. If the Contractor exceeds the scheduled 61 days of closure the Contractor shall pay to the Agency, not as a penalty but as liquidated damages, $1,200 per day. The liquidated damages shall constitute payment in full only of damages incurred by the Agency due to the Contractor's failure to complete the Work on time.

00220.60(a)(1) Contractor Responsibility - In the paragraph that begins "Do the following at no additional...", add the following bullet to the end of the bullet list:

- During open gravel roadway period the graved surface shall be maintained and kept free of rutting, potholes and excessive loose gravel, maintaining a safe travel surface for pedestrians, bicycles, and vehicles.

END OF SECTION

SECTION 00221 - WORK ZONE TRAFFIC CONTROL

Comply with Section 00225 of the Standard Specifications. modified as follows:

00221.03 Traffic Safety and Operations - Replace the bullet that begins “When paving operations create...” with the following bullet:

- When paving operations create an abrupt or sloped edge drop off greater than 1 inch, protect traffic by installing signing according to the "2 Lane, 2 Way Roadway Overlay Area" detail shown on the Standard Drawings. Protect longitudinal and transverse Pavement joints by placing and maintaining an asphalt concrete wedge according to 00221.07(c)(1).

00221.07(c)(1) Paving - Replace this subsection, except subsection number and title, with the following:

When the longitudinal joint is greater than 1 inch in height, install additional TCD according to 00221.03. Complete the placing of ACP and construction of paving joints according to 00735.48, 00735.49, 00743.45, 00744.44, 00744.45, 00745.47, and 00745.48, as applicable.

00221.90(b) Temporary Protection and Direction of Traffic - Delete the bullet that begins “Moving temporary barrier to and from Contractor’s stockpile areas”.

Replace the bullet that begins "When the Schedule of Items does not include ..." with the following bullet:

- Preparing and signing the daily “Traffic Control Inspection Report”, when a TCS is not included in the Schedule of Items or when a TCS is not onsite for a work shift.

00221.98 Payment, Method ”B” – Add the following to this section:
“This method is relevant to items in Sections 00222 and 00223.”

SECTION 00222 – TEMPORARY TRAFFIC CONTROL SIGNS

Comply with Section 00222 of the Standard Specifications.

00222.01(a) Size and Shape - Add the following to the end of the first paragraph:

- Install two sign flag boards, as shown on the Standard Drawings, above the following detour and road closed advance warning signs, where applicable:
  - "DETOUR AHEAD", "DETOUR XXX FT", "DETOUR X/X MILE" (W20-2) Signs.

- "ROAD CLOSED AHEAD", "ROAD CLOSED XXXX FT", "ROAD CLOSED X/X MILE" (W20-3) signs.

END OF SECTION

00222.45(b) Portable Changeable Message Signs - Add the following bullets to the end of this subsection:

- At least seven Calendar Days before each road closure, place two PCMS displaying the following message as shown, or as directed (coordinate with the Engineer for final message language):

Panel 1	**Panel 2**
(Rugg Road)	CLOSURE
(Location)	(Time Frame)
CLOSURE	(Time Frame)

SECTION 00223 – WORK ZONE TRAFFIC CONTROL LABOR AND VEHICALS

Comply with Section 00223 of the Standard Specifications modified as follows:

00223.31(b) Traffic Control Inspection Without TCS - Add the following bullet(s) to the end of the bullet list:

- Shall report to the Project Site within 1 hour after being notified in the event of a work zone incident during non-work periods.

END OF SECTION

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 paragraphs:

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) with an environmental management plan (EMP), when required for the Project, 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.

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

Subsection 00280.04 Erosion and Sediment Control Plan on Agency Controlled Lands - Replace the bullets with the following bullets:

- When using the Agency’s ESCP with only modifications required to keep the ESCP current during construction, submit a written notification indicating the Agency’s ESCP is used without modifications prior to construction.
    - Prior to beginning construction, edit the ESCP to provide a list of all contractors working on the site.
    - Prior to beginning construction, edit the ESCP cover sheet to list all personnel by name and position who are responsible for the installation and maintenance of stormwater control measures including their individual responsibilities and certifications. Keep list current for the duration of the project.
- When using a Contractor modified version of the Agency’s ESCP, include the following:
    - Proposed ESCP showing all ESC Work, and quantities of Work.
    - An EMP that addresses pollution prevention and control of potentially contaminated sites or Materials.
    - Implementation schedules for the ESCP
    - Plans for each phase of Contractor’s Work
    - Names and positions of all personnel engaged in construction activities.
    - Names and positions of all personnel responsible for the installation and maintenance of stormwater control measures.
    - Information required under 1200-CA permit.
- When using a Contractor developed ESCP, develop and stamp the ESCP by a professional with one of the following credentials. Include their name and credentials in the ESCP. The ESCP preparer shall be one of the following:

  - Oregon Registered Professional Engineer,
  - Oregon Registered Landscape Architect; or
  - Oregon Certified Engineering Geologist
- When using a Contractor developed ESCP where engineered facilities such as sedimentation basins or diversion structures for erosion and sediment control are required, prepare and stamp the ESCP by one of the following:
  - Oregon Registered Professional Engineer; or
  - Oregon Registered Landscape Architect.
  - When using a Contractor developed ESCP, provide plans for each phase of Contractor's work implementation schedule and information required under the 1200-CA permit and as directed in ODOT's Erosion Control Manual.

00280.15(f)(1) Filter Sock Material - Add the following sentence to the end of this subsection:

Furnish filter sock material with a diameter of 8 inches.

Subsection 00280.16(i) Concrete Washout – Replace this subsection, except subsection number and title, with the following:

Furnish impermeable, spill resistant, leak proof concrete washout basin of sufficient size and quantity to retain all concrete wash water and concrete waste developed during construction, meeting the following requirements:

(1) Field fabricated washout basin as shown and consisting of the following:

Straw Bales - Standard rectangular straw bales, with straw Material according to 01030.15, except no certification is required.

Plastic Sheeting - Minimum 10-mil thick polyethylene plastic sheeting.

Staples - 1/8-inch diameter steel wire staples. 2-inch "U" width with a length of 6 inches minimum

(2) Manufactured basins sufficiently durable to be removed intact, or cleaned of content without releasing concrete material or concrete washout water.

Subsection 00280.30 Erosion and Sediment Control Manager - Replace this subsection, except for the subsection number and title, with the following:

If the Agency's NPDES 1200-CA Permit is applicable to the Project, designate and provide an ESCM who possesses a valid ODOT ESCM certificate or who has successfully completed an erosion control training that is acceptable to the Engineer.

The ESCM duties include:

- Manage and ensure proper implementation of the ESCP.
- Accompany the Engineer during field review of the ESCP prior to construction activities.
- Monitor rainfall, snow melt and runoff on and in the vicinity of the Project Site.
- Monitor water quality in receiving streams in the vicinity of the Project Site.

- Monitor water in sediment traps receiving runoff from soils amended with cementitious material for acidity or alkalinity.
- Monitor locations identified in Section 00294 for compliance.
- Inspect ESC and monitor receiving waters on active construction site on initial date and every 14 Days for effective functioning.
- Inspect ESC on inactive sites every 14 Days for effective functioning.
- Inspect ESC for effective functioning and monitor receiving waters, on all active and inactive sites at least within 24 hours of rainfall events sufficient to result in runoff from the Project Site.
- Ensure that ESC are regularly cleaned and maintained.
- Mobilize crews to make immediate repairs to ESC or install additional ESC during working and non-working hours when ESC is not effectively functioning.
- Record actions taken to clean up discharged sediment.
- Report potential permit violations to the Agency immediately upon discovery.
- Repair conditions that caused permit violations and prepare submittals for corrective actions that document repairs for Agency review and submittal to regulatory agencies.
- Update the ESCP monthly and within 7 Days after changes or major ESC modifications are implemented in the field.
- Submit ESCP revisions in electronic format, to Engineer within 30 Days after making revisions.
- Prepare a contingency plan in preparation for emergencies and for the periods between October 1 and May 31.
- Accompany the Engineer on inspections and, if required, on inspections by representatives of regulating agencies. If any of the following occur, revise the ESCP to reflect the change(s) within 7 Days.
    - Changes to the construction plans that impact erosion and sediment control measures;
    - Changes to the stormwater control BMPs, their location, maintenance required, and any other revisions necessary to prevent erosion and control sediment runoff;
    - An increase in the area impacted by construction activities;
    - Other activities at the site that are no longer accurately reflected in the ESCP. This includes changes made in response to corrective actions triggered;
    - To reflect areas on the site map where operational control has been transferred (and the date of transfer) since initiating permit coverage;
    - If inspections by DEQ determine that ESCP revisions are necessary for compliance with the 1200-CA permit;
- Where DEQ determines it is necessary to install or implement additional controls at the site in order to meet the requirements of the 1200-CA permit. Include the following in the ESCP:
    - A copy of any correspondence describing such measures and requirements; and
    - A description of the controls to be used to meet such requirements.
- Change of Subcontractors that engage in construction activities on site, and the areas of the site where the Subcontractor(s) engage in construction activities;
- Change of any personnel (by name and position) that are responsible for the design, installation and maintenance of stormwater control measures;

- Change of the certified erosion and sediment control inspector, or of their contact information and any applicable certification and training experience;
- To reflect any revisions to applicable federal, state, tribal, or local requirements that affect the stormwater controls implemented at the site; and
- If a change in chemical treatment systems or chemically enhanced stormwater control is made, including use of a different treatment chemical, different dosage rate, or different area of application as applicable. Furnish temporary sediment trap as shown on drawings, stamped and signed by licensed engineer.

Submit revised ESCP to Engineer for signature by licensed professional (see 00280.04) and submission to DEQ when changes are made for the following reasons:

- Part of a corrective action requirement;
- An increase or decrease in project size;
- An increase or decrease in size or location of disturbed areas;
- Changes to BMPs, such as type, design or location;
- Change of the ESCM.

Subsection 00280.46(a) Construction Entrances - Add the following to the end of this subsection:

Construct the construction entrances as shown or directed.

00280.48 Emergency Materials - Add the following paragraphs after the paragraph that begins "Provide, stockpile, and protect...":

Provide and stockpile the following emergency materials on the Project site:

Item	Quantity
Straw Wattles	50 LF
Biofilter Bags	20 EA

00280.62 Inspection and Monitoring - Replace this subsection, except for the subsection number and title, with the following:

Inspect the Project Site and all ESC devices for potential erosion or sediment movement on a weekly basis and when 1/2 inch or more of rainfall occurs within a 24-hour period, including weekends and holidays.

If a significant noncompliance or serious water quality issue occurs that could endanger health or the environment, verbally report it to the Engineer with 24 hours.

END OF SECTION

SECTION 00290 – ENVIRONMENTAL PROTECTION

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

00290.36(a) Migratory Birds - Add the following paragraphs to the end of this subsection:

(1) Bird Management - Bird management activities to comply with the Migratory Bird Treaty Act (16 U.S.C. 703 712) will be performed by the Agency. Ensure that the Agency and its permitted agents have access to the project area, as needed to prevent migratory bird nesting. Nesting prevention may include daily bird harassment and the installation and maintenance of devices that exclude birds.

Do not disturb migratory bird nesting habitats (shrubs, trees, and structures), or clear vegetation from March 1 to September 1 of each calendar year without prior written approval from the Engineer. Notify the Engineer, in writing, a minimum of 10 Calendar Days prior to starting activities that could harm nesting birds.

00290.41 – Protection of Waters of the U.S.or State - Add the following:

There is no in-water work allowed on this project. All work, materials, protection, etc. shall remain above ordinary high water and within the existing right-of-way.

END OF SECTION

SECTION 00305 - CONSTRUCTION SURVEY WORK

Section 00305, which is not a Standard Specification, is included for this Project by Special Provision.

00305.00 Scope - Provide construction survey work according to the current edition on the date of Advertisement, of the ODOT "Construction Surveying Manual for Contractors". This manual is available on the web at:

http://www.oregon.gov/ODOT/ETA/Pages/Manuals.aspx

00305.05 3D Engineered Models - If the Contractor elects to use the 3D Engineered Models to control the work, provide unstamped 3D Construction Models according to 00150.35 which include the following:

- A detailed outline and list of the pay items and Work that will be controlled by the 3D Construction Models.
- A narrative outlining any differences between the Agency-prepared 3D Engineered Models and the 3D Construction Models.
- A copy of the 3D Construction Models that will be used by the Contractor's equipment for machine guidance or verification, that include and represent the Agency-prepared 3D Engineered Models with changes identified in the narrative. Provide files in LandXML format or as directed.

00305.80 Measurement - No measurement of quantities will be made for construction survey work.

00305.90 Payment - The accepted quantities of construction survey work will be paid for at the Contract lump sum amount for the item "Construction Survey Work".

Payment will be payment in full for furnishing all material, equipment, labor, and incidentals necessary to complete the work as specified.

No separate or additional payment will be made for any temporary protection and direction of traffic measures including flaggers and signing necessary for the performance of the construction survey work.

No separate or additional payment will be made for preparing surveying documents including but not limited to office time, preparing and checking survey notes, and all other related preparation work.

Costs incurred caused by survey errors will be at no additional cost to the Agency. Repair any damage to the Work caused by Contractor's survey errors at no additional cost to the Agency. The Engineer may make an equitable adjustment, which may decrease the Contract Amount, if the required survey work is not performed.

END OF SECTION

SECTION 00310 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS

Comply with Section 00310 of the Standard Specifications modified as follows:

END OF SECTION

SECTION 00320 - CLEARING AND GRUBBING

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

00320.40(b)(3) Trees To Be Saved - Replace this subsection with the following subsection:

00320.40(b)(3) Vegetation and Materials to be Saved - The Engineer will designate no work zones and identify and mark trees, existing landscaping, vegetation, or other natural materials to be removed, as shown.

Do not work within the no work zones or critical root zone of marked trees unless written approval is obtained from the Engineer. Be responsible for all damage to and removal of trees, landscaping, vegetation or other natural materials designated to be saved. Damage will be determined by a specialist selected by the Engineer.

END OF SECTION

SECTION 00330 - EARTHWORK

Comply with Section 00330 of the Standard Specifications modified as follows:

00330.03 Basis of Performance - Add the following paragraph to the end of this subsection:

Perform all earthwork under this Section on the excavation basis.

00330.41(a)(9) Excavation Below Grade - Delete subsection 00330.41(a)(9)(c).

00330.91(d) General Excavation - Delete the bullet that begins "Includes Unsuitable Material...".

00330.92 Kinds of Incidental Earthwork - Add the following bullets to the end of the bullet list:

- Excess material used to widen embankments or flatten slopes according to 00330.41(a)(4).
- Excavation of existing roadway section is covered under Section 00310 Work.

00330.93 Excavation Basis Payment – Replace bullet point (d) with the following:

Pay Item	Unit of Measurement
(d) General Excavation	Lump Sum

The estimated quantity, as reflected in the construction profile sheets, for earthwork performed under this section is as follows:

General Excavation…..75 CY (165 CY is included as incidental to the retaining wall construction)

END OF SECTION

SECTION 00390 - RIPRAP PROTECTION

Comply with Section 00390 of the Standard Specifications.

SECTION 00440 - COMMERCIAL GRADE CONCRETE

Comply with Section 00440 of the Standard Specifications modified as follows:

Add the following subsection:

00440.02 Abbreviations and Definitions:

ASTV – Actual Strength Test Value – See 02001.02 for definition.

00440.12 Proportions of Commercial Grade Concrete - Replace the bullet that begins "Compressive strength..." with the following bullet:

- **Compressive Strength** - ASTV minimum of 3,000 psi at 28 days

00440.14(d) Hardened CGC - Add the following to the end of this subsection:

The ASTV at 28 Days is the average compressive strength of the three cylinders tested. Discard all specimens that show definite evidence, other than low strength, of improper sampling, molding, handling, curing, or testing. The average strength of the remaining cylinders shall then be considered the test result.

END OF SECTION

SECTION 00480 - DRAINAGE CURBS

Comply with Section 00480 of the Standard Specifications.

END OF SECTION

SECTION 00587 - BRIDGE RAILS

Comply with Section 00587 of the Standard Specifications modified as follows:

00587.80 Measurement - Add the following to the end of this subsection: The estimated quantity of bridge rail is:

Structure	Rail Type	Quantity (Foot)
Wall No. 1	32 INCH TYPE "F" TRAFFIC BARRIER COPING WITH MOMENT SLAB	110

END OF SECTION

SECTION 00596D – SOLDIER PILE RETAINING WALLS

Section 00596D, which is not in the Standard Specifications, is included in this Project by Special Provision.

Description

00596D.00 Scope

This work consists of complete installation of permanent soldier pile retaining walls at the location shown on the plans. The work includes furnishing all labor, equipment, soldier piles, timber lagging, cast-in-place concrete fascia, wall drainage system and all other items required for installation in accordance with the plans, Standard Specifications, and these special provisions.

00596D.02 Subsurface Information – The boring logs and final geotechnical report for the project are available for review through the Project Manager's office. The data shown for each boring applies only to that particular boring. Subsurface conditions may vary between borings and may not be evident until construction.

The Contractor is strongly encouraged to review the final geotechnical report and boring logs during the bid preparation to further evaluate the impact of site conditions on selected excavation methods, drilling equipment, grouting methods, and other aspects of the work.

00596D.03 Submittals:

(a) Contractor Qualifications - Prior to the preconstruction conference, submit the following to the Engineer for approval:

- Documentation showing that the Contractor performing the work of this Section has successfully completed at least five permanent solider pile and/or solider pile with tie tieback wall projects installed in the last 5 years.
- The name of the Contractor's designated Supervising Engineer. The Supervising Engineer shall be registered as a civil engineer in Oregon, and shall have at least 3 years' experience in the design and construction of permanent soldier pile walls.
- Documentation showing the experience and qualifications of drilling operators and foremen The drilling operator and foreman shall have experience installing soldier pile walls on at least 3 projects over the past 3 years.

- Descriptions of five projects involving retaining walls completed within the last five years. For each project, include:
  - Name of client contact, address and telephone number;
  - Location of project;
  - Contract value;
  - Scheduled and actual completion dates;
  - Type(s) of terrain.
- Prepare and submit proposed welding procedures to the Engineer for approval at least seven calendar days prior to any welding.

Do not use consultants or manufacturer’s representatives in order to meet the requirements of this Section. The Engineer will approve or reject the Contractor’s qualifications and personnel within 15 working days after receipt of the submission. Do not begin work on any anchored wall system, or order materials, until the Contractor's qualification submittals have been approved by the Engineer. The Engineer may suspend the work if unqualified personnel are substituted for approved personnel during construction. If work is suspended due to the substitution of unqualified personnel, the Contractor will be fully liable for additional costs resulting from suspension of work and no adjustment in contract time resulting from the suspension of work will be allowed.

(c) Certificates of Compliance - Submit Certificates of Compliance for the following materials, if used. The certificate is to state that the material or assemblies to be provided fully comply with the requirements of the Contract.

- Prestressing steel
- Portland cement
- Corrosion protection materials

(d) Mill Test Certifications - Submit to the Engineer for approval certified mill test results for all steel. Include typical stress-strain curves, specified minimum tensile strength, yield strength, elongation and composition. The Engineer may require the Contractor to provide samples of any material intended for use on the Project. The

Engineer will approve or reject any materials within 10 working days after receipt of the test reports. Do not incorporate material in the work without the Engineer's approval.

(a) Shop Drawings - Prior to fabrication and construction of each wall, submit stamped drawings and calculations according to 00150.35.

Include all shop assembly and erection details, including profile views with all soldier pile locations shown and numbered. Include details of all members and connections for any portion of the system not shown on Agency Plans. Indicate all welds by standard welding symbols of the AWS A2.4. Indicate methods for providing temporary ground support.

Clearly indicate, by flagging and clouding, any changes, additions or alterations to working drawings that are deviations from the Contract documents or changes to previously approved portions of working drawings. Provide a written explanation of each change accompanying each submittal.

The Engineer shall approve or reject the Contractors shop drawings and design submission within 21 Calendar Days after receipt of the submission. Approval of the design submittal does not relieve the Contractor of the responsibility for successful completion of the work.

(e) Soldier Pile Installation Plan - Prepare and submit to the Engineer for approval at least 21 working days prior to beginning the work, a detailed description of the soldier pile installation.

- Proposed soldier pile drilling equipment
- Proposed concrete placement equipment
- Detailed description of soldier pile construction including drilling, spoils disposal, insertion of piles and placement concrete.
- Proposed welding procedures

Do not begin work until the submittal of this subsection (e) has been approved in writing by the Engineer.

Materials

00596D.10 Soldier Pile Wall:

(a) General - Provide materials meeting the requirements in the following sections. The Contractor shall not deliver materials to the site until the Engineer has approved the submittals outlined in 00596D.02. The designated storage location or locations shall be protected by the Contractor from theft, vandalism, passage of vehicles, and other sources of damage to materials delivered to the site. The Contractor shall protect the materials from the elements by appropriate means. All steel components shall be protected from the elements at all times.

(b)Steel Soldier Beams and Plate -The steel soldier beams shall conform to ASTM A 572, Grade 50. Steel used to fabricate steel studs and other devices shall conform to AASHTO M 169.

(c)Structural Concrete – Structural concrete for soldier piles shall be Class 3300, structural concrete for cast-in-place fascia wall shall be Class 3300 conforming to Section 00540 of the Standard Specifications.

(d)Controlled Low Strength Material (CLSM) – Provide CLSM in pre-bored holes. The CLSM shall conform to Section 00442 of the Standard Specifications.

(e)Timber Lagging – Timber lagging shall be construction grade, pressure treated, rough cut Douglas Fir and shall be a minimum of 4 in thick. Furnish a certificate of compliance for the preservative used.

(f) Reinforcing Steel – Reinforcing steel shall conform to Section 00530 of the Standard Specifications.

(g)Prefabricated Drainage Composite – Furnish prefabricated drainage composite fabric Mirafi G200N, Amerdrain 500 or similar as approved by the Engineer.

00596D.12 Timber Lagging – Timber wall lagging shall be rough sawn Douglas fir No 1 or better, pressure treated according to Section 02190 to a retention conforming to Western Wood Preservers Institute Use Category 4A.

00596D.13 Miscellaneous Materials – Furnish materials meeting the requirements of the specifications indicated below:

Borrow Material	Section 00330
Structural Concrete	Section 02001
PVC Drain Pipe	Section 02410
Reinforcing Steel	Section 02510

Construction

00596D.40 General – The following describes the requirements for construction of the soldier pile wall.

00596D.41 Drilled Soldier Pile Holes - Drill holes for soldier piles as nearly as practicable to the dimensions, depth and location shown. The Contractor may propose to increase the diameter of the hole at no cost to the Agency. Position the center of the drilled hole at the top and bottom within 3 inches of that shown. During excavation for the drilled holes, frequently check for plumbness, alignment, and dimensions of the shafts. Immediately correct any deviations exceeding the allowable tolerances. Remove all loose material existing at the bottom of the hole after the specified depth is reached. Dispose of materials removed from the shaft excavations according to 00330.41(a-5). Measure hole depth after final cleanout.

Where caving conditions are encountered or where excessive water enters the excavation, install an approved, temporary, protective casing to prevent caving of the soil and to control groundwater. Seal the casing into a stratum of soil that will not cave or

admit groundwater flow. Withdraw the temporary casing during grout placement according to 00596D.44.

Complete the drilling excavation in a continuous operation. Place steel pile and concrete immediately after completion of excavation. In no case allow a drilled hole to remain open overnight without the approval of the Engineer.

Remove any natural or manmade object encountered that was not revealed by the Agency's site investigation, and that would cause a significant decrease in the rate of advancement if removed using the techniques and equipment used successfully to excavate the shaft. The Engineer will be the sole judge of the significance of any reduced rate of shaft advancement and the classification of any unexpected obstructions. Removal of unexpected obstructions from the shaft excavation will be paid as Extra Work.

On completion of the drilled pile excavation, clean the bottom of the excavation so that no more than 4 inches of loose material is present. Use appropriate means, such as a cleanout bucket, pump or air lift, to clean the bottom of the drilled shaft excavations.

The Engineer will inspect all excavations before placement of soldier piles and concrete. Immediately upon completion of each soldier pile excavation, notify the Engineer that the excavation is ready for inspection. Following inspection and with the approval of the Engineer, proceed with installation of the soldier pile.

Have available at all times a suitable light for inspection of the excavation throughout its entire length. Also have available at all times a plumb weight and tape to check the vertical alignment and depth of each excavated hole. Correct or replace any excavation not within the specified tolerance at no cost to the Agency. Extend the drilled hole if the Engineer determines that the subsurface materials encountered are not capable of providing the required bearing resistance or differ from those anticipated in the design of the soldier piles.

00596D.42 Soldier Pile Installation –The Contractor shall ensure that the soldier piles have been fabricated as shown in the plans. The Contractor shall ensure that each soldier pile is plumb and in correct horizontal and vertical alignment before pouring concrete. The prefabricated soldier piles shall be placed in the holes and aligned without contact to soil along the sides of the boring prior to general placement of concrete. The contractor may place up to 2 ft of concrete in the bottom of the hole to assist in aligning the soldier pile. The soldier piles shall be blocked or clamped in place at the ground surface prior to placement of concrete.

Soldier piles shall be placed at the locations shown on the plans and shall not deviate by more than 3 in. along the horizontal alignment of the wall. The wall shall not deviate from the vertical alignment shown on the plans by more than 3 in. in each plane. The soldier pile tip shall be installed to within 6 in. of the specified elevation shown in the plans. The Contractor shall provide corrective measures for any wall element that does not meet the tolerance requirements described in this specification. Any proposed corrective measure must be approved by the Engineer in writing.

Splicing of soldier piles shall not be permitted, unless approved by the Engineer. All structural welding of steel and steel reinforcement shall be performed by certified

welders qualified to perform the type of welding shown in the plans. All soldier piles shall be cut off to a true plane at the elevation shown in the plans. All cutoff lengths shall remain the property of the Contractor and be properly disposed of.

00596D.43 Soldier Pile CLSM Placement - The Contractor shall be responsible for ensuring that CLSM or concrete fills the area between the webs of soldier beams. Structural concrete may extend above the bottom elevation of the wall lagging with no additional compensation for removal during subsequent construction. Place CLSM from the top of structural concrete to the top of the pile or to the ground surface.

In dry holes where piles are constructed without casing or drilling muds, CLSM and concrete may be placed by free falling from the ground surface down the shaft and around the soldier beam. If casing is used, placement of CLSM or concrete shall begin prior to casing removal. Remove casing, if used in drilling operations, as CLSM or concrete is placed and is still workable.

For piles constructed with slurry or with a water depth greater than 6 in., concrete shall be placed using the tremie method from the bottom of the shaft. Tremie pipes shall be withdrawn slowly as the level of the concrete rises in the hole and the level of the tremie pipe outlet shall never exceed the level of concrete already placed in the boring. Maintain the bottom of the casing at least 5 ft below the top of the concrete during placement operations, unless otherwise permitted by the Engineer.

00596D.44 Lagging – The construction of timber lagging is from the top of solider pile downwards. Construct and install timber lagging as shown. Maintain a 1/2 inch gap between adjacent lagging units for drainage.

00596D.45 Special Excavation Requirements - Complete all excavation to the lines and grades shown or as directed.

(a) Perform top down structure excavations in lifts not exceeding 5 ft in height unless otherwise approved by the Engineer. The Contractor is responsible for maintaining a stable excavation and safe working conditions.

(b) Do not, under any circumstances, excavate lower than the intended grades or bottom of excavation as shown on the drawings unless approved in writing by the Engineer. The stability of the retaining wall is dependent upon the embedment as shown and it shall not be reduced.

(c) Provide positive drainage of any ground or surface water away from the wall and work area.

(d) Do not place large spoils piles above or below the wall or on adjacent steep slopes, which may cause slope instability. Placement of temporary spoils on slopes is subject to approval of the Engineer.

00596D.47 Wall Drainage System – Handle the prefabricated drainage composite according to the manufacturer's recommendations and in such a manner as to ensure the composite is not damaged in any way. Take care during placement of the composite

not to trap dirt or excessive dust in the composite that could cause clogging of the drainage system.

Install drainage composite between each pair of soldier piles as shown. Secure the drainage composite tightly against the lagging with the fabric facing the concrete facing. Do not allow concrete of the cast-in-place facing to clog the composite drainage strips.

Make seams and overlaps of adjacent drainage composite strips according to the manufacturer's recommendations and these specifications. Make splices in the composite with a 6-inch minimum overlap, such that the flow of water is not impeded. Perform repairs according to the manufacturer's recommendations.

Install PVC or other approved drain pipes at the bottom of the wall as shown.

Measurement

00596D.80 Units of Measurement – The soldier pile retaining wall will be measured on the area basis and will be the fascia area shown, in a vertical plane, for the wall constructed and accepted. Field measurement of the wall area will not be required. The quantity will be the theoretical area shown in the Schedule of Items for the retaining wall unless changes are ordered in writing by the Agency or Engineer. If changes are ordered, an adjustment shall be made only for the quantity difference involved in the ordered plan changes.

No separate measurement will be made for drilling, soldier piles, lagging, excavation, borrow, concrete, reinforcement, shoring, or specified backfill.

Excavations and backfill below elevations shown on the plans which have been approved Engineer will be measured according to 00510.80.

No separate measurement for wall drainage materials will be made including geocomposite drainage strips, connector pipes, drain grates, granular drain backfill material and filter fabric, fittings and accessories.

Pile tip elevation is shown in the plans.

The estimated quantities of materials are as follows. These quantities are for estimating purposes only and are not to be used as final bid quantities. The contractor is responsible for determining the actual quantity of each item.

Wall No. 1

Material	Estimated Quantity	Unit
Soldier Piles	630	ft
Temporary Casing	270	ft
CLSM	110	yd^3
Structural Concrete	36	yd^3
Steel Reinforcement	4267	lb
Structural Excavation	162	yd^3
Borrow Material	67	yd^3

Timber Lagging	1068	ft^2

Payment

00596D.90 General – Payment for the soldier pile retaining walls will be made at the contract unit price per square foot for the following pay item:

Pay Item	Unit of Measurement
Soldier Pile Retaining Wall	SF

Payment will be payment in full for furnishing and placing all materials, and for furnishing all equipment, labor, technical representatives, and incidentals necessary to complete the work as specified.

No separate payment will be made for excavation, shoring, or specified backfill.

Excavations and backfill below elevations shown on the plans which have been approved by the Engineer will be paid according to 00510.94.

Wall drainage and/or filter systems, including perforated pipe, drain material, geotextile, and drain pipe; reinforcing steel and concrete; and other appurtenances that are not covered by other pay items under the Contract, will be incidental and included in payment made for the retaining wall.

END OF SECTION

SECTION 00620 - COLD PLANE PAVEMENT REMOVAL

Comply with Section 00620 of the Standard Specifications modified as follows:

00620.43 Maintenance Under Traffic - Replace this subsection, except for the subsection number and title, with the following:

Traffic will be allowed on the cold planed surface up to 3 Calendar Days after removing the existing surface. Sweep and clean the cold planed surface before opening to traffic.

Before beginning paving operations, make repairs to the existing cold planed surface as directed. Payment for the repairs will be made according to 00195.20.

END OF SECTION

SECTION 00640 - AGGREGATE BASE AND SHOULDERS

Comply with Section 00640 of the Standard Specifications.

SECTION 00730 - EMULSIFIED ASPHALT TACK COAT

Comply with Section 00730 of the Standard Specifications modified as follows:

00730.90 Payment - Replace this subsection, except for the subsection number and title, with the following:

No separate or additional payment will be made for Emulsified Asphalt tack coat.

END OF SECTION

SECTION 00744 - ASPHALT CONCRETE PAVEMENT

00744.11(a) Asphalt Cement - Add the following to the end of this subsection:

Provide PG 64-22 grade asphalt cement for this Project.

00744.16 Sampling and Testing - Replace this subsection, except for the subsection number and title, with the following:

For each 1,000 tons of placement, have a CAT I perform a minimum of one of each of the following test methods as modified in the MFTP:

- Asphalt Content - AASHTO T 308 with ODOT TM 323 determined Calibration Factor
- Gradation - AASHTO T 30
- Mix Moisture - AASHTO T 329
- Maximum Specific Gravity - AASHTO T 209
- Field Compacted Gyratory Specimens - ODOT TM 326

When less than 1,000 tons of mix is placed in a day, perform a minimum of one series of tests per day. Provide test results to the Engineer by the middle of the following work shift. The Engineer may waive the requirement for any of AASHTO T 308, AASHTO T 30, AASHTO T 329, and ODOT TM 326 on a daily basis. The Engineer may waive the requirement for AASHTO T 209 when less than 500 Tons of ACP is placed in a single work shift.

Provide samples or split samples to the Engineer when requested.

Add the following subsection from the Standard Specifications as modified:

Construction

00744.40 Season and Temperature Limitations - Place ACP when the temperature of the surface that is to be paved is not less than the temperature specified:

Nominal Compacted Thickness of Individual Lifts and Courses as shown on the Typical Section of the Plans	**All Levels**	**Level 1 and Level 2**		**Level 3**	
		All Courses	**Travel Lane Wearing Course**		**All Other Courses**
	Surface Temperature*	**From To Inclusive**	**From To Inclusive**		**FromTo Inclusive**
Less than 2 inches	60 °F	All Year**	**3/15 10/31**		All Year**
2 inches - 2 1/2 inches	50 °F	All Year**	**3/15 10/31**		All Year**
Greater than 2 1/2 inches	40 °F	All Year**	**3/15 10/31**		All Year**
Temporary	40 °F	All Year**	All Year**		All Year**

* Do not use field burners or other devices to heat the Pavement surface to the specified minimum temperature.

** If placing ACP between March 15 and **October 31**, temperature requirement may be lowered 5 °F.

Add the following subsection:

00744.51 Opening Sections to Traffic - Schedule work so that, during the same shift, the surfaces being paved are paved full width and length through the top Base Course before opening to traffic. Traffic will be allowed on the top Base Course up to 3 Calendar Days.

Before beginning wearing Course paving operations, make repairs to the existing surface as directed. Payment for the repairs will be made according to 00195.20.

END OF SECTION

SECTION 00840 - DELINEATORS AND MILEPOST MARKER POSTS

Comply with Section 00840 of the Standard Specifications.

END OF SECTION

SECTION 01030 - SEEDING

Comply with Section 01030 of the Standard Specifications modified as follows:

01030.13(f) Types of Seed Mixes - Add the following to the end of this subsection:
Provide the following seed mix formulas:

- **Permanent Seeding, Mix No. 1**

Botanical Name (Common Name)	PLS Specified Rate (lb/acre)
Elymus glaucus (blue wildrye)	26.1
Hordeum brachyantherum (meadow barley)	13.0
Bromus carinatus (California brome)	4.3
Lupinus rivularis (riverbank lupine)	1.0

* Oregon Certified Seed

01030.15 Mulch - Add the following paragraphs and bullets to the end of this subsection:

Furnish straw mulch for all temporary roadside erosion control seeding, except hydromulch may be used under the following conditions:

- Spring planting west of the Cascades between March 1 and May 15.
- Slopes are steeper than 1V to 1.5H and longer than 16 feet.
- Residential or commercial sites with low erosion potential such as sidewalk, median, or parking lot planter strips.

Projects that have variable slopes may include straw mulch and hydromulch when approved.

01030.60 General - Add the following sentences after the last bullet

The minimum living plant coverage for native plant seeding is 80 percent of ground surface.

Landscape Planting shall conform to the standards established under Water Environment Services (WES).

All plant material delivered to the site shall meet the American Standard for Nursery Stock Standards.

Contractor shall obtain written approval for all plant material substitutions from the Landscape Architect prior to installation. Plant substitutions without prior written approval that do not comply with the drawings and specifications may be rejected by the Landscape Architect at no cost to the Owner. These items may be required to be replaced with plant materials that are in compliance with the drawings.

END OF SECTION

SECTION 01040 - PLANTING

Comply with Section 01040 of the Standard Specifications modified as follows:

01040.80(b) Topsoil and Wetland Topsoil - Replace the paragraph that begins "Topsoil and wetland Topsoil will be measured..." with the following paragraph:

Topsoil and wetland Topsoil will be measured on the volume basis at the time of placement. Trucking invoices may be used to determine volumes if the quantities are verifiable to the satisfaction of the Engineer.

01040.80(f) Mulch - Replace this subsection, except for the subsection number and title, with the following:

Mulch will be measured on the volume basis at the time of placement, or on the weight basis. Trucking invoices may be used to determine volumes if the quantities are verifiable to the satisfaction of the Engineer.

01040.90(d) Plant Materials - Replace the paragraph that begins “Partial payments for plant Materials will...” and the partial payment table with the following paragraph and table:

Partial payments for plant Materials will be made as follows:

At the time of the original planting	60%
After the first plant establishment inspection	10%
After the second plant establishment inspection	10%
After the third plant establishment inspection	10%
At completion of the establishment period	10%

END OF SECTION

SECTION 01050 - FENCES

Comply with Section 01050 of the Standard Specifications.

END OF SECTION

SECTION 02001 - CONCRETE

Comply with Section 02001 of the Standard Specifications modified as follows:

02001.20 Concrete Properties, Tolerances, and Limits - Replace the paragraph that begins “Provide concrete that is a workable...” with the following paragraph:

Provide concrete that is workable, placeable, uniform in composition and consistency, and having the following properties:

02001.20(a) Strength - Replace this subsection, except for the subsection number and title, with the following:

Provide concrete meeting the required Classes shown in the Contract Documents. The class of concrete designates the minimum required compressive strength, f'_c at 28 days.

Table 02001-1

Concrete Strength and Water/Cementitious Material (w/cm) Ratio		
Type of Concrete	**Strength f'_c (psi)**	**Maximum w/cm Ratio**
Structural	3300	0.50
	3300 (Seal)	0.45
	4000	0.48
	4000 (Drilled Shaft	
	HPC4500	0.40
	HPC(IC)4500	
	5000 +	

END OF SECTION

SECTION 02040 – CHEMICAL ADMIXTURES

Comply with Section 02040 of the Standard Specifications modified as follows:

02040.10 Materials - Replace this subsection, except for the subsection number and title, with the following:

Furnish admixtures from the QPL.

END OF SECTION

SECTION 02050 – CURING MATERIALS

Comply with Section 02050 of the Standard Specifications modified as follows:

02050.10 Liquid Compounds - Delete the paragraph that begins “Furnish liquid membrane-forming curing...“ with the following paragraph:

Furnish liquid membrane-forming curing compounds from the QPL and meeting the requirements of ASTM C309.

Delete the paragraph that begins “Before using liquid compounds, submit...”.

02050.20 Polyethylene Films - Delete the paragraph that begins “Furnish clear or white...“ with the following paragraph:

Furnish clear or white polyethylene films for curing concrete meeting the requirements of ASTM C171.

END OF SECTION

CLACKAMAS COUNTY
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

RUGG RD SLIDE REPAIR
CONSTRUCTION

EARTHWORK, WALLS, GUARDRAIL, STORM WATER, SIGNS & STRIPING

CLACKAMAS COUNTY OREGON

JULY 2021

INDEX OF SHEETS	
01	TITLE SHEET
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WA02	WALL PLAN AND ELEVATION
WA03	WALL DETAILS
GR01	PAVING AND GUARDRAIL DETAILS
DE01	DETOUR PLAN
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DE03 & DE04	DETOUR INTERSECTION DETAILS

ODOT STANDARD DRAWING NUMBERS

BR203	TRANSITION CONCRETE BRIDGE RAIL TO GUARDRAIL
BR207	2-TUBE CURB MOUNT RAIL TRANSITION
BR760	MOMENT SLAB WITH 32-INCH TYPE "F" BRIDGE RAIL (BARRIER COPING) ON MSE WALL
RD400	GUARDRAIL AND METAL MEDIAN BARRIER (29" RAIL HEIGHT)
RD405	GUARDRAIL AND METAL MEDIAN BARRIER PARTS (29" RAIL HEIGHT)
RD415	GUARDRAIL AND METAL MEDIAN BARRIER PARTS (29" RAIL HEIGHT)
RD420	MIDWEST GUARDRAIL SYSTEM NON-FLARED ENERGY-ABSORBING TERMINAL
RD701	DRAINAGE CURBS
TM800	TABLES, ABRUPT EDGE AND PCMS DETAILS
TM810	TEMPORARY PAVEMENT MARKINGS
TM820	TEMPORARY BARRICADES
TM840	CLOSURE DETAILS

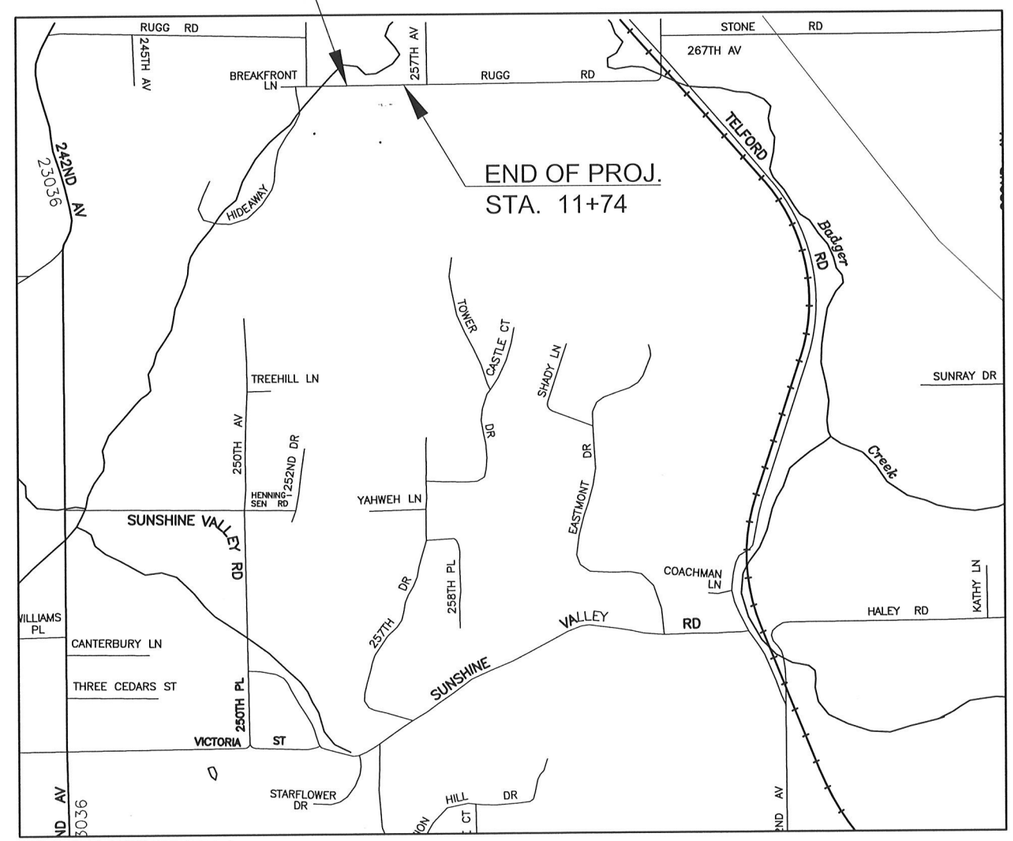
VERTICAL DATUM
ELEVATION DATUM: NAVD 88 PER GPS

HORIZONTAL DATUM
LOCAL DATUM PLANE GROUND COORDINATES BASED ON THE OREGON COORDINATE REFERENCE SYSTEM - PORTLAND ZONE - REFERENCE FRAME NAD83(2011)(EPOCH: 2010.00) INTERNATIONAL FEET.

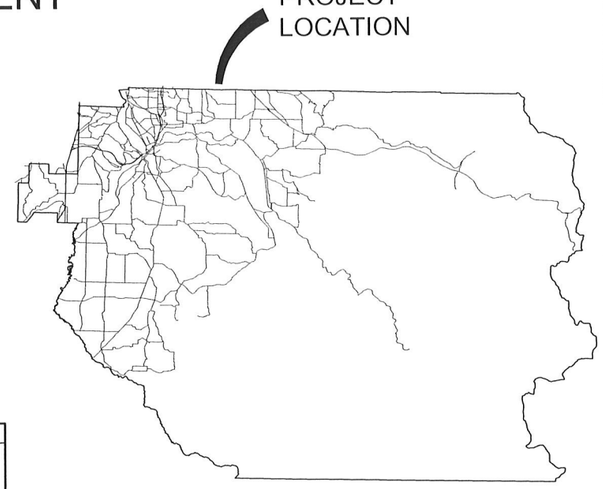
NOTES
PROPERTY LINES SHOWN ARE BASED ON FOUND MONUMENTS AND RECORD SURVEY DATA. THE PROPERTY BOUNDARY LINES SHOWN ARE FOR REFERENCE ONLY AND SHOULD BE CONSIDERED APPROXIMATE.

BEGINNING OF PROJ.
STA. 8+99

END OF PROJ.
STA. 11+74



VICINITY MAP
NOT TO SCALE



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 OAR 952-001-0090. You May Obtain Copies Of The Rules From The Center.

LET'S ALL WORK TOGETHER TO MAKE THIS JOB SAFE

N

T. 1S, R. 3E SEC. 26

REGISTERED PROFESSIONAL ENGINEER
19376PE
Joel R Howie
OREGON
JULY 22, 1997
JOEL RICHARD HOWIE
Exp: 6/30/23

TITLE SHEET

RUGG ROAD SLIDE REPAIR

DATE: AUGUST 2021 | PROJECT NO.: CI-22346

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

DIRECTOR
DAN JOHNSON

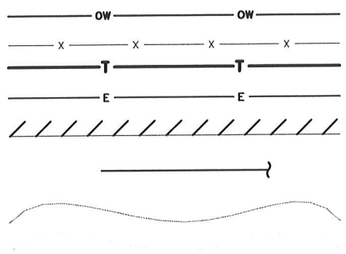
DESIGNED BY:	DRAFTED BY:	CHECKED BY:
RK	RK	DTD

REVISIONS

NO.	DATE:

Sheet No. 01

EXISTING FEATURES LEGEND:



OVERHEAD WIRE

FENCE LINE, TYPE AS NOTED

TELEPHONE LINE

ELECTRIC LINE

BUILDING LINE

UTILITY LINE IS BELIEVED TO CONTINUE, CONNECTION NOT LOCATED OR UNKNOWN

MAJOR CONTOUR - 5' INTERVALS

MINOR CONTOUR - 1' INTERVALS

UTILITY POLE

UTILITY POLE
W/ UNDERGROUND UTILITIES

GATE POST

BOLLARD
BO

GUY WIRE

SINGLE POST SIGN

CONIFEROUS TREE
(APPROXIMATE DIAMETER BREAST HIGH AS NOTED)

DECIDUOUS TREE
(APPROXIMATE DIAMETER BREAST HIGH AS NOTED)

FOUND MONUMENT PROTECT.

EXISTING CONCRETE SURFACE

EXISTING ASPHALT SURFACE

EXISTING GRAVEL SURFACE

NOTE: SYMBOLS SHOWN HEREON ARE FOR GRAPHICAL REPRESENTATION PURPOSES AND DO NOT NECESSARILY SHOW SHAPE, SIZE, ROTATION, CONDITION, TYPE, ETC. OF THE ACTUAL PHYSICAL IMPROVEMENTS THAT THEY REPRESENT. CONDITION, TYPE, ROTATION, ETC. MAY VARY AMONGST ITEMS SHOWN BY THE SAME SYMBOL.

ABBREVIATIONS

APPROX	APPROXIMATE	EMB	EMBANKMENT	MIN	MINIMUM	Sq Ft	SQUARE FEET
CB	CATCH BASIN (INLET)	EQUA	EQUATION	NE	NORTHEAST	STD	STANDARD
CL	CENTERLINE	EXC	EXCAVATION	NW	NORTHWEST	STA	STATION
CTR	CENTER	EXTG	EXISTING	No.	NUMBER	STL	STEEL
COMP	COMPACTED	FH	FIRE HYDRANT	OFF	OFFSET	ST	STREET
CONC	CONCRETE	FL	FLOW LINE	OH/P/T/C	OVERHEAD///UTILITIES	STRM	STORM
CONST	CONSTRUCT	FND	FOUND	P	POWER	STR, STRUCT	STRUCTURE
CONT	CONTINUOUS	FDTN	FOUNDATION	PP	POWER (UTILITY) POLE	SURF	SURFACING
COR	CORNER	FT	FEET	PPL	POWER POLE W/ LIGHT	T(1-3)	TOWNSHIP
Cu.Yd.	CUBIC YARD	GA	GAGE	PER	PERPENDICULAR	T, TEL	TELEPHONE
CULV	CULVERT	GALV	GALVANIZED	PL	PLATE	TEMP	TEMPORARY
DIA	DIAMETER	G V	GAS VALVE	R(1-7)	RANGE	THKN	THICKNESS
DIST	DISTANCE	GAR	GARAGE	REM	REMOVE	TYP SECT	TYPICAL SECTION
DLC	DONATION LAND CLAIM	GEN	GENERAL	RT	RIGHT	VAR	VARIABLE
DWG	DRAWING	HT	HEIGHT	R/W, ROW	RIGHT OF WAY	VERT	VERTICAL
DR	DRIVE	HWY	HIGHWAY	SAN	SANITARY	W M	WILLAMETTE MERIDIAN
DWY	DRIVEWAY	HORIZ	HORIZONTAL	SECT	SECTION	WAT	WATER
EA	EACH	IE	INVERT ELEV	SEW	SEWER	WAT M	WATER METER
E	EAST	IN PL	IN PLACE	SL	SLOPE	WV	WATER VALVE
EASE	EASEMENT (ALL PURPOSES)	INST	INSTALL	S	SOUTH	W	WEST
EL, ELEV	ELEVATION	LT	LEFT	SE	SOUTHEAST		
		MAX	MAXIMUM	SW	SOUTHWEST		

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LEGEND

RUGG ROAD SLIDE REPAIR

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

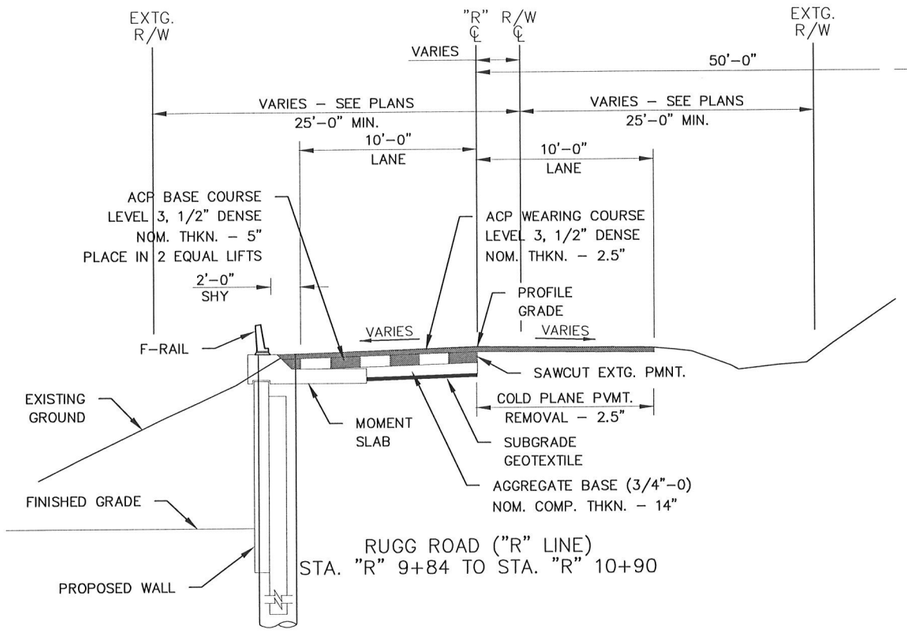
DIRECTOR
DAN JOHNSON

DESIGNED BY: RK | DRAFTED BY: RK | CHECKED BY: DTD

REVISIONS

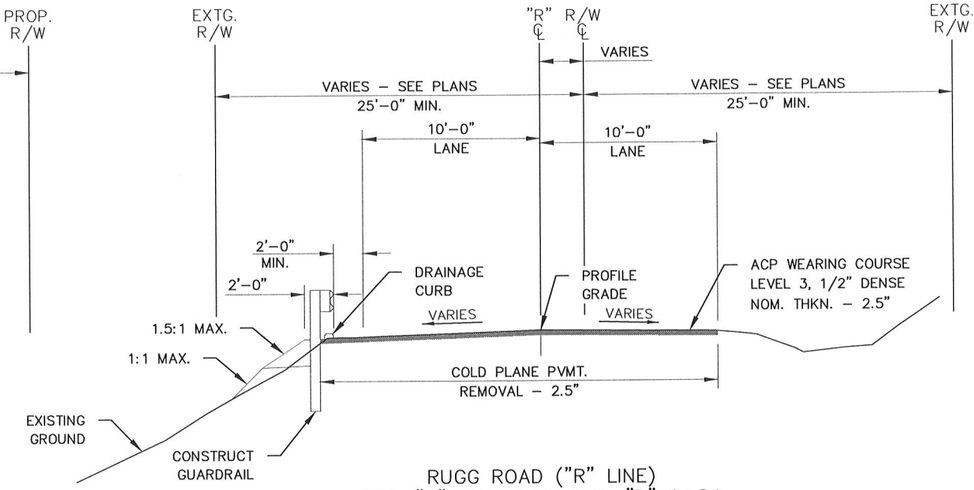
NO	DATE:

Sheet No. 01A

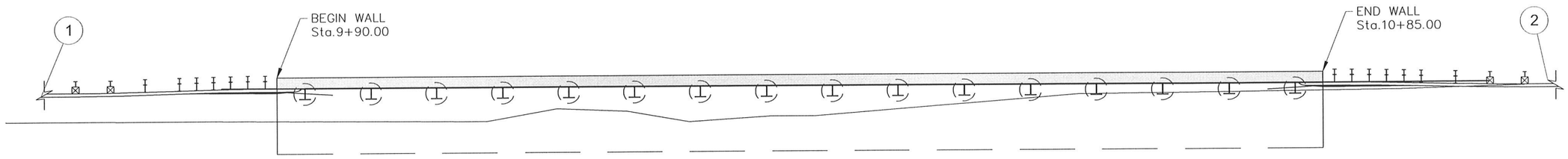


RUGG ROAD ("R" LINE)
STA. "R" 9+84 TO STA. "R" 10+90

PROP. R/W



RUGG ROAD ("R" LINE)
STA. "R" 8+74 TO STA. "R" 9+84
STA. "R" 10+90 TO STA. "R" 12+00



GENERAL CONSTRUCTION NOTES

1. UPON COMPLETION OF WALL CONSTRUCTION INCLUDING FASCIA AND BACKFILL, THE ROADWAY AGGREGATE BASE SHALL BE GRADED, COMPACTED AND OPEN TO TRAFFIC FOR THREE WEEKS.
2. AFTER THE THREE WEEK SETTLEMENT PERIOD, INSTALL MOTION SLAB, F-RAIL AND PAVEMENT SECTION.
3. GRIND THE REMAINING ASPHALT SURFACE TO A 2.5-INCH DEPTH BETWEEN STA 8+74 TO STA 12+00. SEE ROADWAY DETAILS FOR PAVING SEQUENCE AND DEPTHS
4. RE-ESTABLISH DITCH AND SHOULDERS ON SOUTH SIDE OF ROADWAY FOR APPROXIMATELY 400 LF.

GUARDRAIL CONSTRUCTION NOTES

(1) STA. "R" 8+99.75 TO STA. 9+84, RT.
CONST. GUARDRAIL (TYPE 2A) - 50'
CONST. GUARDRAIL (TYPE 3) - 12.5'
CONST. NON-FLARED GUARDRAIL TERMINAL W = 1', E = 2'
CONST. GUARDRAIL TRANSITION TO F-RAIL CURB MOUNT RAIL
USE 8-FOOT POSTS
CONST. DRAINAGE CURB - 81'
(FOR DETAILS, SEE STD. DWG. BR207, BR760, RD400, RD405, RD415, RD420, & RD701)

(2) STA. "R" 10+90 TO STA. 11+74, RT.
CONST. GUARDRAIL (TYPE 2A) - 50'
CONST. GUARDRAIL (TYPE 3) - 12.5'
CONST. NON-FLARED GUARDRAIL TERMINAL W = 1', E = 2'
CONST. GUARDRAIL TRANSITION TO F-RAIL CURB MOUNT RAIL
USE 8-FOOT POSTS
CONST. DRAINAGE CURB - 81'
(FOR DETAILS, SEE STD. DWG. BR207, BR760, RD400, RD405, RD415, RD420, & RD701)

REGISTERED PROFESSIONAL ENGINEER
19376PE
Joel R Howie
OREGON
JULY 22, 1997
JOEL RICHARD HOWIE
Exp: 6/30/23

PAVING & GUARDRAIL DETAILS

RUGG ROAD SLIDE REPAIR

DATE: AUGUST 2021 PROJECT NO.: CI-22346

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

DIRECTOR
DAN JOHNSON

DESIGNED BY: RK
DRAFTED BY: RK
CHECKED BY: DTD

REVISIONS
NO. DATE:

Sheet No. GR01

SOLDIER PILE WALL GENERAL NOTES:

DESIGN SPECIFICATIONS - AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, EIGHTH EDITION 2017.

PROVIDE ALL MATERIALS AND PERFORM ALL WORK ACCORDING TO 2021 OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION.

THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF EXISTING UTILITIES IN THE FIELD PRIOR TO COMMENCEMENT OF WORK.

PROVIDE A MINIMUM SERVICE LIFE OF 75 YEARS FOR WALL COMPONENTS.

THESE DIMENSIONS SHALL DETERMINE THE MINIMUM DIMENSIONS FOR CONSTRUCTION OF WALLS.

THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES TO MAINTAIN ALL DRILLED HOLES OR SHAFTS FREE FROM SLOUGHING OR CAVING OF SURROUNDING SOIL. CONTRACTOR SHALL PROVIDE CASING, USING AUGER CAST METHODS, OR OTHER APPROVED METHODS AS NEEDED TO MEET THIS REQUIREMENT (SEE SPECIAL PROVISIONS).

PROVIDE CLASS 3300 - 1½", 1", OR ¾" STRUCTURAL CONCRETE FOR MOMENT SLAB AND WALL FASCIA.

CONTROLLED LOW STRENGTH MATERIAL (CLSM) FOR PREBORED HOLES SHALL ATTAIN A 28 DAY COMPRESSIVE STRENGTH OF 100-200 PSI.

PROVIDE STRUCTURAL STEEL ACCORDING TO ASTM SPECIFICATIONS A 572 GRADE 50 FOR SOLDIER PILE.

PROVIDE ALL REINFORCING STEEL ACCORDING TO ASTM A706 OR AASHTO M31 (ASTM A 615) GRADE 60. USE THE FOLLOWING SPLICE LENGTHS UNLESS SHOWN OTHERWISE.

SOLDIER PILE WALL CONSTRUCTION NOTES:

1. PERFORM GENERAL EXCAVATION AND STRUCTURAL EXCAVATION AS SHOWN ON PLANS TO THE APPROXIMATE LEVEL OF TOP OF SOLDIER PILE WALL.
2. DRILL THE PREBORED HOLE, INSTALL FABRICATED SOLDIER PILE AND POUR CLSM TO 1 FT MIN BELOW TOP OF WALL. REMOVE TEMPORARY METAL CASING BEFORE CONCRETE SETS, IF USED.
3. NO PREBORING SHALL OCCUR WITHIN 2 SOLDIER PILE SPACES OF A PREVIOUSLY PREBORED HOLE UNLESS THE CONCRETE IN THE PREVIOUS HOLE HAS SET FOR A MINIMUM OF 24 HRS.
4. CONTINUE WITH STEP 1 AND 2 UNTIL ALL SOLDIER PILES HAVE BEEN INSTALLED.
5. THE CONSTRUCTION OF TIMBER LAGGING IS FROM THE TOP OF SOLDIER PILE DOWNWARDS.
6. PERFORM TOP DOWN STRUCTURE EXCAVATION IN LIFTS NOT EXCEEDING 5.0 FT IN HEIGHT.
7. CONSTRUCT CAST-IN-PLACE FACING AFTER THE TIMBER LAGGING IN FRONT OF SOLDIER PILE WALL IS COMPLETE.

REINFORCING SPLICE LENGTHS (CLASS B) GRADE 60 F'C = 3.3 KSI, λrc =0.4, 2 IN MIN. CONCRETE CLEAR COVER											
BAR SIZE	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18
UNCOATED	1'-4"	1'-9"	2'-2"	2'-7"	3'-0"	3'-5"	3'-10"	4'-4"	4'-10"	NOT PERMITTED	

SPLICE REINFORCING STEEL AT ALTERNATE BARS, STAGGERED AT LEAST ONE SPLICE LENGTH OR AS FAR AS POSSIBLE, UNLESS SHOWN OTHERWISE.

ALL REINFORCING SPACING SHALL HAVE 2" OF CONCRETE COVER UNLESS SHOWN OTHERWISE.

PROVIDE A 3/4" CHAMFER ON ALL EXPOSED CONCRETE EDGES UNLESS NOTED OTHERWISE.

SOLDIER PILE SCHEDULE

WALL INFORMATION												
WALL NO.	PILE NO.	WALL STATION	SOLDIER PILE SIZE	SHAFT DIAMETER (FT.)	TOP OF WALL EL.	TOP OF PILE EL.	FINISH GRADE EL.	BOT. OF WALL EL.	FASCIA HEIGHT, H (FT.)	PILE TIP EL.	PILE LENGTH (FT.)	FINISH GROUND EL.* (FT.)
W1	1	09+86.00	W18x55	2.5	437.98	436.98	439.81	435.88	2.10	407.08	29.90	439.81
	2	09+92.00	W18x55	2.5	438.12	437.12	439.95	434.00	4.12	407.22	29.90	437.88
	3	09+98.00	W18x55	2.5	438.26	437.26	440.09	432.13	6.13	407.36	29.90	436.00
	4	10+04.00	W18x55	2.5	438.40	437.40	440.24	430.57	7.83	407.50	29.90	434.13
	5	10+10.00	W18x106	2.5	438.54	437.54	440.38	428.63	9.92	399.44	38.10	432.59
	6	10+16.00	W18x119	2.5	438.69	437.69	440.52	426.77	11.92	398.00	39.69	431.03
	7	10+22.00	W18x119	2.5	438.83	437.83	440.66	426.16	12.67	398.14	39.69	429.50
	8	10+28.00	W18x119	2.5	438.97	437.97	440.80	426.14	12.83	398.28	39.69	429.56
	9	10+34.00	W18x119	2.5	439.11	438.11	440.95	426.11	13.00	398.42	39.69	429.66
	10	10+40.00	W18x119	2.5	439.25	438.25	441.09	426.09	13.17	398.56	39.69	429.72
	11	10+46.00	W18x119	2.5	439.40	438.40	441.23	426.65	12.75	398.71	39.69	430.34
	12	10+52.00	W18x106	2.5	439.54	438.54	441.37	427.04	12.50	400.44	38.10	430.97
	13	10+58.00	W18x106	2.5	439.68	438.68	441.51	427.76	11.92	400.58	38.10	431.56
	14	10+64.00	W18x106	2.5	439.82	438.82	441.66	428.24	11.58	400.72	38.10	432.19
	15	10+70.00	W18x55	2.5	439.96	438.96	441.80	429.38	10.58	409.06	29.90	434.69
	16	10+76.00	W18x55	2.5	440.11	439.11	441.94	432.69	7.42	409.21	29.90	437.19
	17	10+82.00	W18x55	2.5	440.25	439.25	442.08	435.19	5.06	409.35	29.90	439.72
	18	10+88.00	W18x55	2.5	440.39	439.39	442.23	437.72	2.67	409.49	29.90	442.23

* FINISH GROUND ELEVATION IS AT THE FRONT FACE OF WALL.

REGISTERED PROFESSIONAL ENGINEER
72845PE
OREGON
JULY 15, 2003
JOEL BRANDON TUBBS
RENEWS: 6/30/2024

GENERAL NOTES AND PILE SCHEDULE

RUGG ROAD SLIDE REPAIR

PROJECT NO.: 22346

DATE: JUNE 2021

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

DIRECTOR
DAN JOHNSON

DESIGNED BY: JJDZ
DRAFTED BY: SXGO
CHECKED BY: JBT

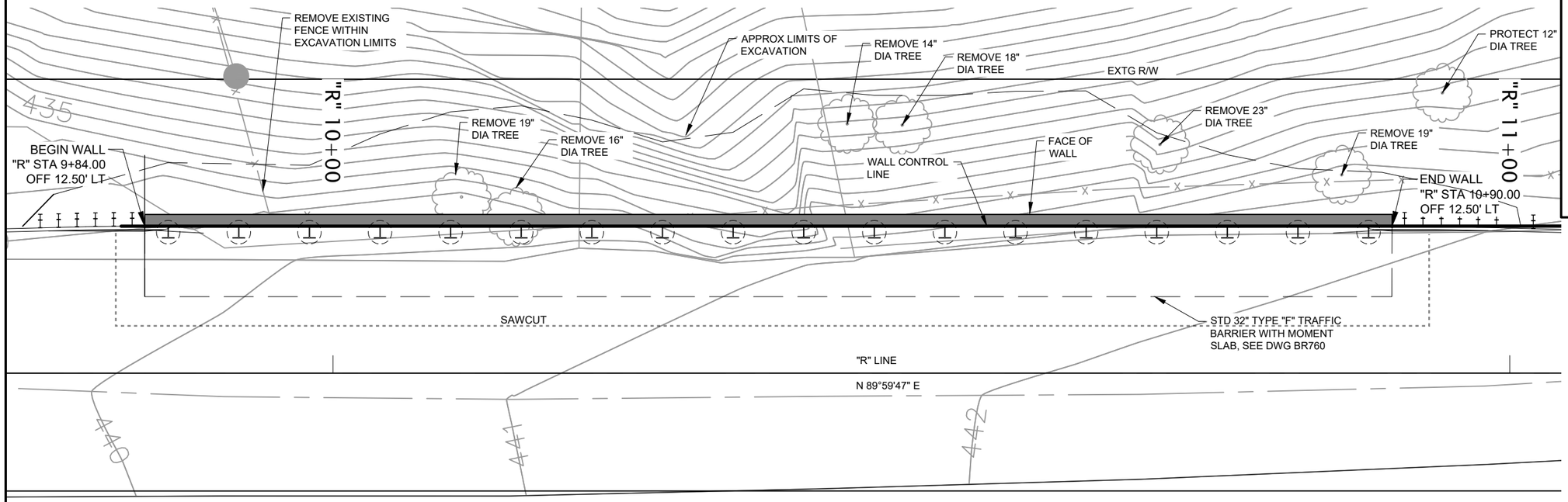
REVISIONS

NO.	DATE:

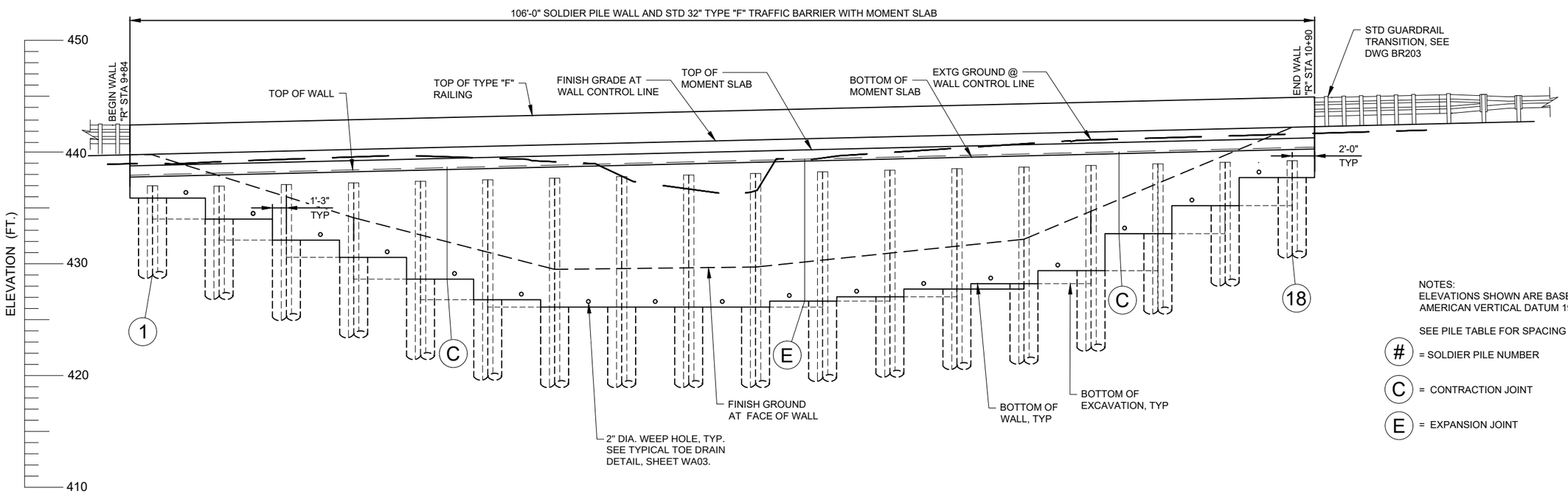
DAVID EVANS AND ASSOCIATES INC.
2100 SW River Parkway
Portland Oregon 97201
Phone: 503.223.6663

Sheet No.
WA01

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST



PLAN
SCALE: 1" = 10'–0"



REFLECTIVE DEVELOPED ELEVATION
SCALE: 1" = 10'–0"

NOTES:
ELEVATIONS SHOWN ARE BASED ON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).

SEE PILE TABLE FOR SPACING

(#) = SOLDIER PILE NUMBER

(C) = CONTRACTION JOINT

(E) = EXPANSION JOINT

REGISTERED PROFESSIONAL ENGINEER
72845PE
OREGON
JULY 15, 2003
JOEL BRANDON TUBBS
RENEWS: 6/30/2024

WALL PLAN AND ELEVATION

RUGG ROAD SLIDE REPAIR

PROJECT NO.: 22346

DATE: JUNE 2021

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

DIRECTOR
DAN JOHNSON

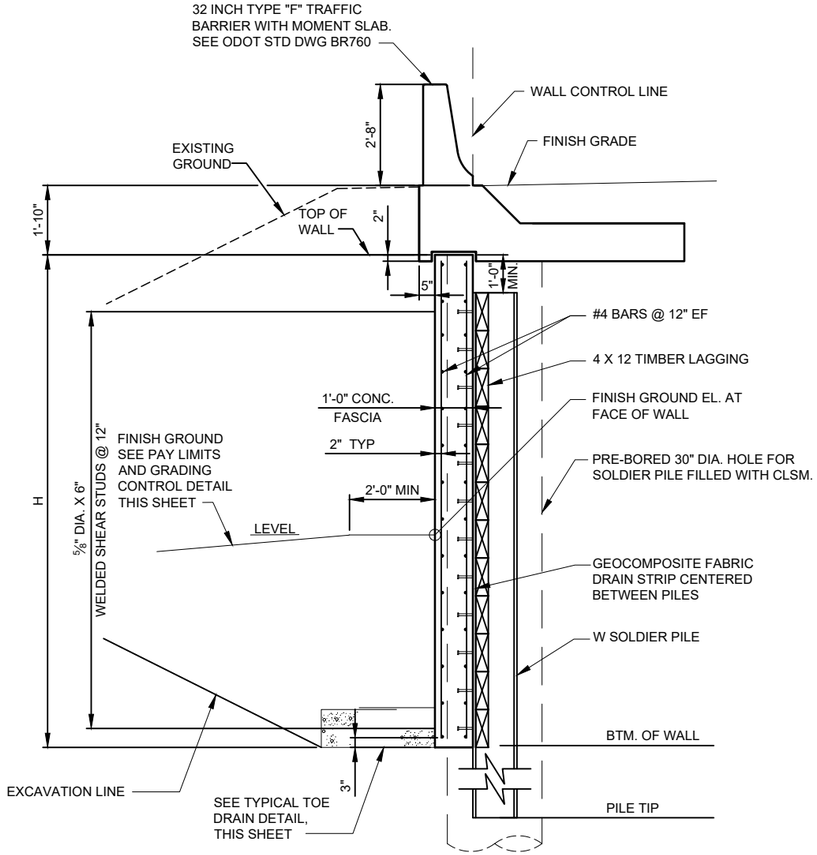
DESIGNED BY: JUDZ
DRAFTED BY: SXGO
CHECKED BY: JBT

REVISIONS
NO. DATE:

DAVID EVANS AND ASSOCIATES INC.
2100 SW River Parkway
Portland Oregon 97201
Phone: 503.223.6663

Sheet No.
WA02

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST



TYPICAL SECTION SOLDIER PILE WALL
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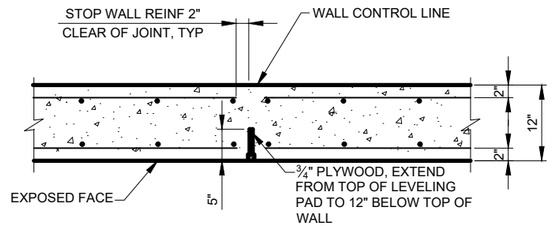

CONTRACTION JOINT DETAIL
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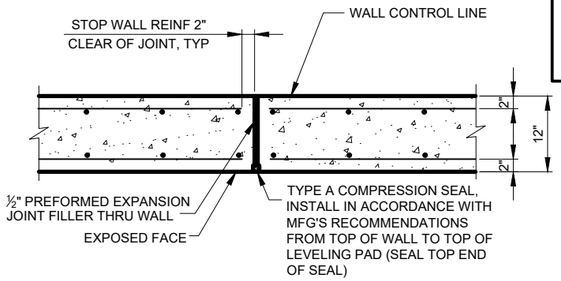

EXPANSION JOINT DETAIL
NO SCALE

TYPICAL TOE DRAIN DETAIL
NO SCALE

NOTES:
1. FINISH GROUND IN FRONT OF WALL SHALL BE FLAT OR SLOPE DOWN TO DAYLIGHT POINT.
2. REFERENCE SOLDIER PILE SCHEDULE ON SHEET WA01 FOR VALUES OF H.

PAY LIMITS AND GRADING CONTROL
NO SCALE

REGISTERED PROFESSIONAL ENGINEER
72845PE
OREGON
JULY 15, 2003
JOEL BRANDON TUBBS
RENEWS: 6/30/2024

WALL DETAILS

RUGG ROAD SLIDE REPAIR

DATE: JUNE 2021 PROJECT NO.: 22346

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

DIRECTOR
DAN JOHNSON

DESIGNED BY: JJDZ
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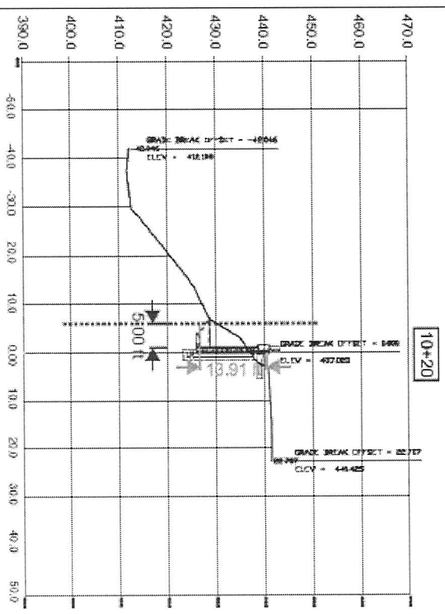
CHECKED BY: JBT

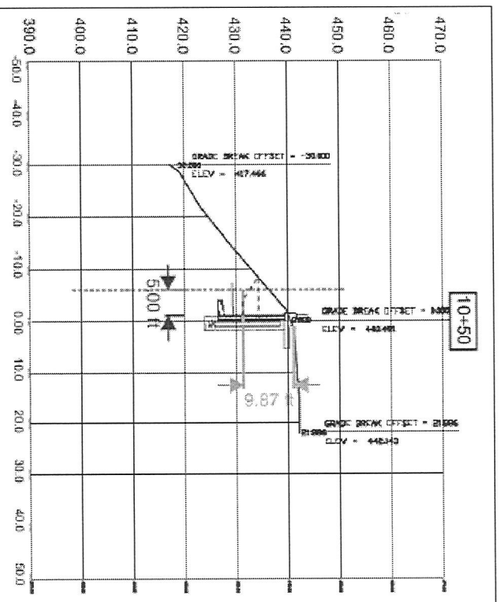
REVISIONS

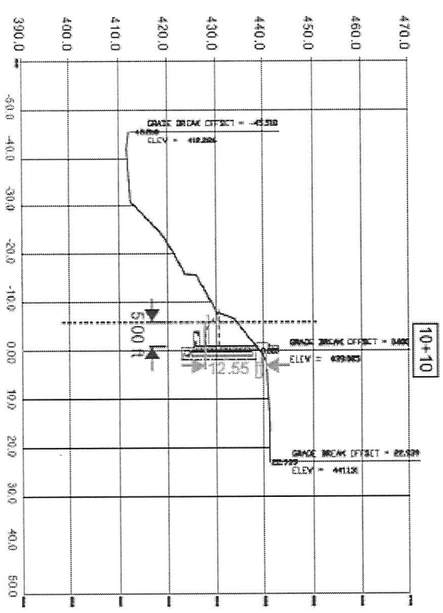
NO.	DATE:

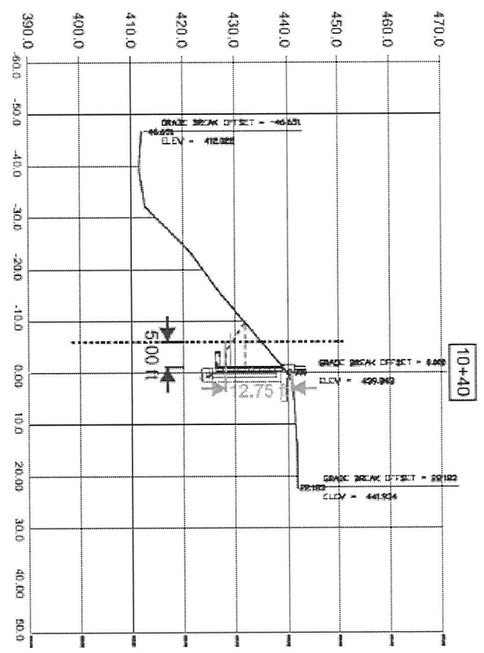
DAVID EVANS AND ASSOCIATES INC.
2100 SW River Parkway
Portland Oregon 97201
Phone: 503.223.6663

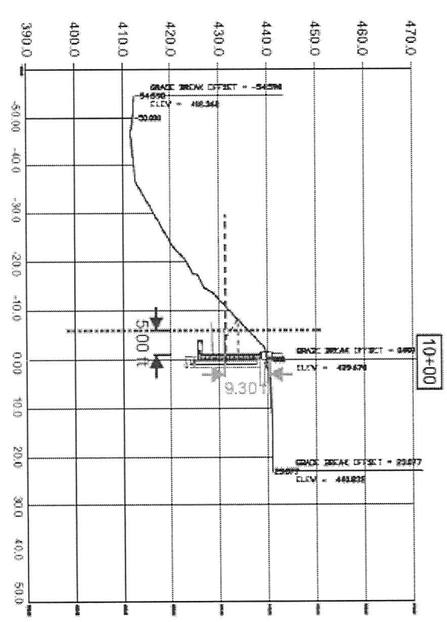
Sheet No.
WA03

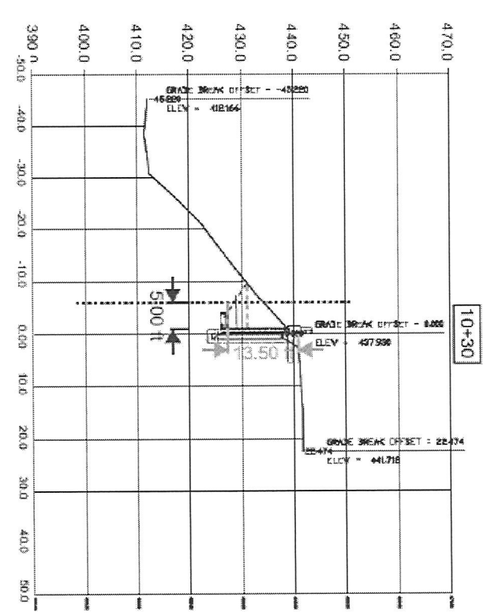






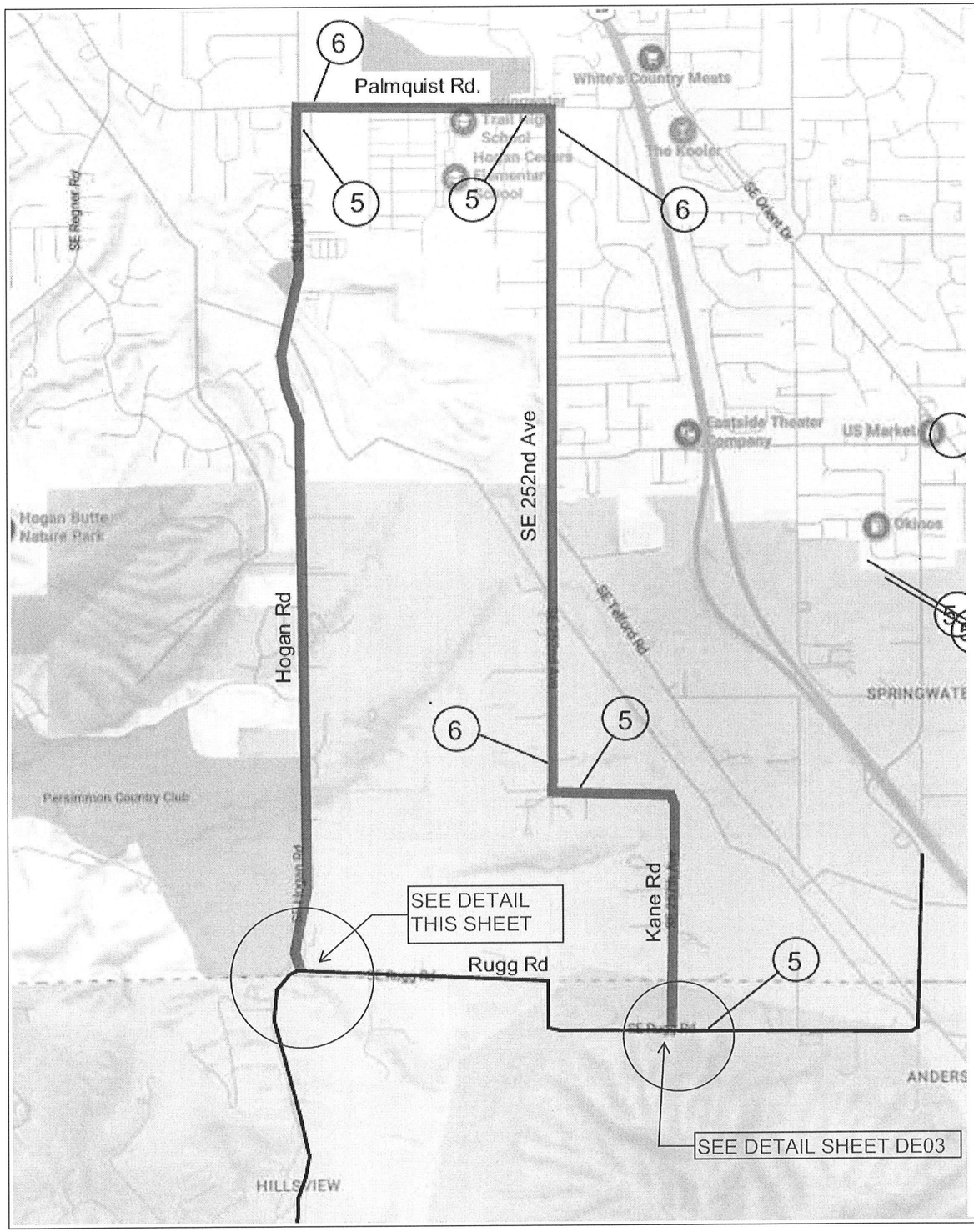




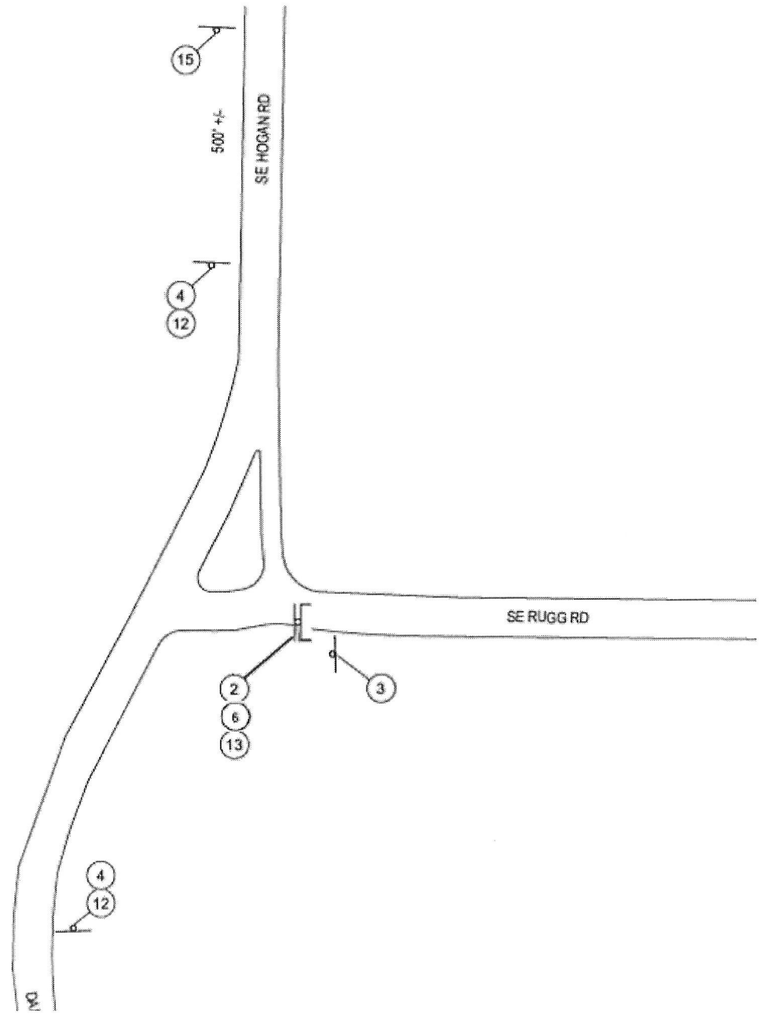


REGISTERED PROFESSIONAL ENGINEER
JOEL RICHARD HOWIE
OREGON
JULY 22, 1997
19376PE
Joel R Howie
Exp 6/30/23

Sheet No.	REVISIONS		DESIGNED BY:	CLACKAMAS COUNTY	CROSS SECTIONS
WA04	NO.	DATE:	RK	DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045	RUGG ROAD SLIDE REPAIR
			DRAFTED BY: RK		
			CHECKED BY: DTD	DAN JOHNSON DIRECTOR	DATE: AUGUST 2021 / PROJECT NO.: CI-22346



SE RUGG RD @ SE HOGAN RD / DAMASCUS BORING RD INTERSECTION DETAIL



DETOUR PLAN

RUGG ROAD SLIDE REPAIR

DATE: AUGUST 2021 | PROJECT NO.: CI-22346

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

DAN JOHNSON
DIRECTOR

DESIGNED BY: RK | DRAFTED BY: RK | CHECKED BY: DTD

REVISIONS

NO	DATE:

REGISTERED PROFESSIONAL ENGINEER
19376PE
OREGON
JULY 22, 1997
JOEL RICHARD HOWIE
Exp: 6/30/23

Sheet No. DE01

DETOUR
RUGG ROAD
(XX-Day Maximum)

60x30

(1)

1 Week Prior To Closure

60x30
R11-4

(2)

Mount on
Type III Barricade

60x30

(3)

1 Week Prior To Closure

48x48
W20-3

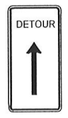
(4)

M4-9R

(5)

M4-9L

(6)



CG20-6

(7)

W20-3

(8)

48x48
W20-3

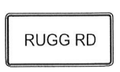
(9)

W20-2

(10)

R11-2

(11)



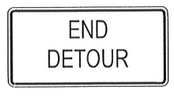
W16-8P

(12)

(13)

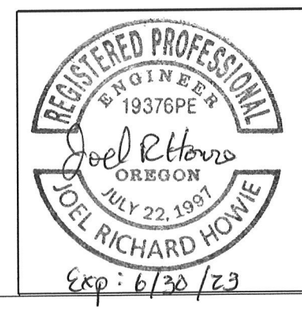
W20-3

(14)



(15)

Note:
Signs 1 And 3 Shall Be Orange, Type 1 Sheeting
With Black Lettering (Former Spec. 2910 Type "O").



TRAFFIC DETAILS

RUGG ROAD SLIDE REPAIR

DATE: AUGUST 2021 | PROJECT NO.: CI-22346

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

DIRECTOR
DAN JOHNSON

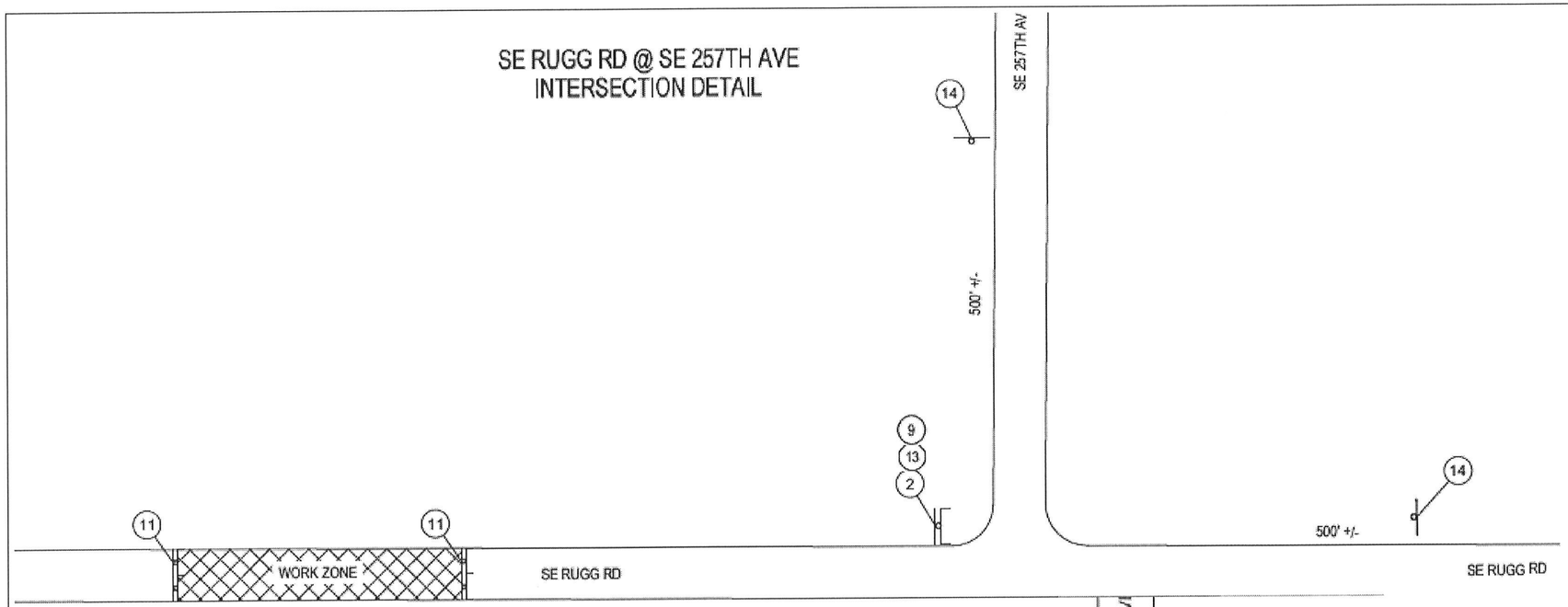
DESIGNED BY: RK
DRAFTED BY: RK
CHECKED BY: DTD

REVISIONS

NO	DATE:

Sheet No. DE02

SE RUGG RD @ SE 257TH AVE
INTERSECTION DETAIL

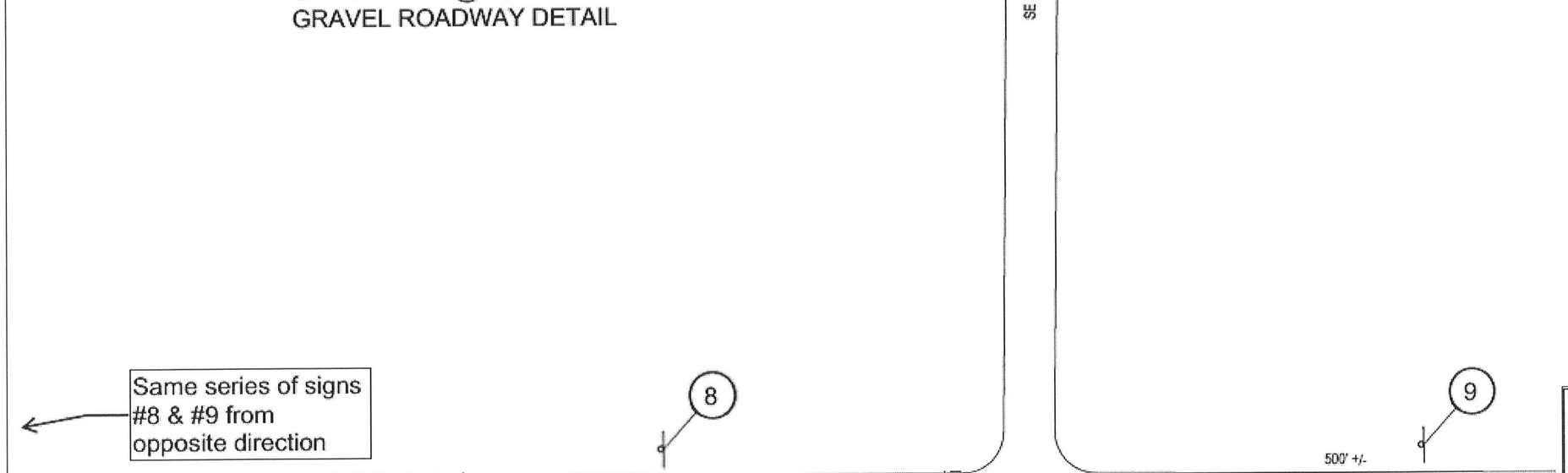


* POINT OF CLOSURE
(LOCAL TRAFFIC ONLY)

TEMPORARY SIGN ON POST

TEMPORARY SIGN ON
TYPE III BARRICADE

SE RUGG RD @ 257TH AVE
GRAVEL ROADWAY DETAIL



DETOUR INTERSECTION DETAIL

RUGG ROAD SLIDE REPAIR

DATE: AUGUST 2021 | PROJECT NO.: CI-22346

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

DIRECTOR

DAN JOHNSON

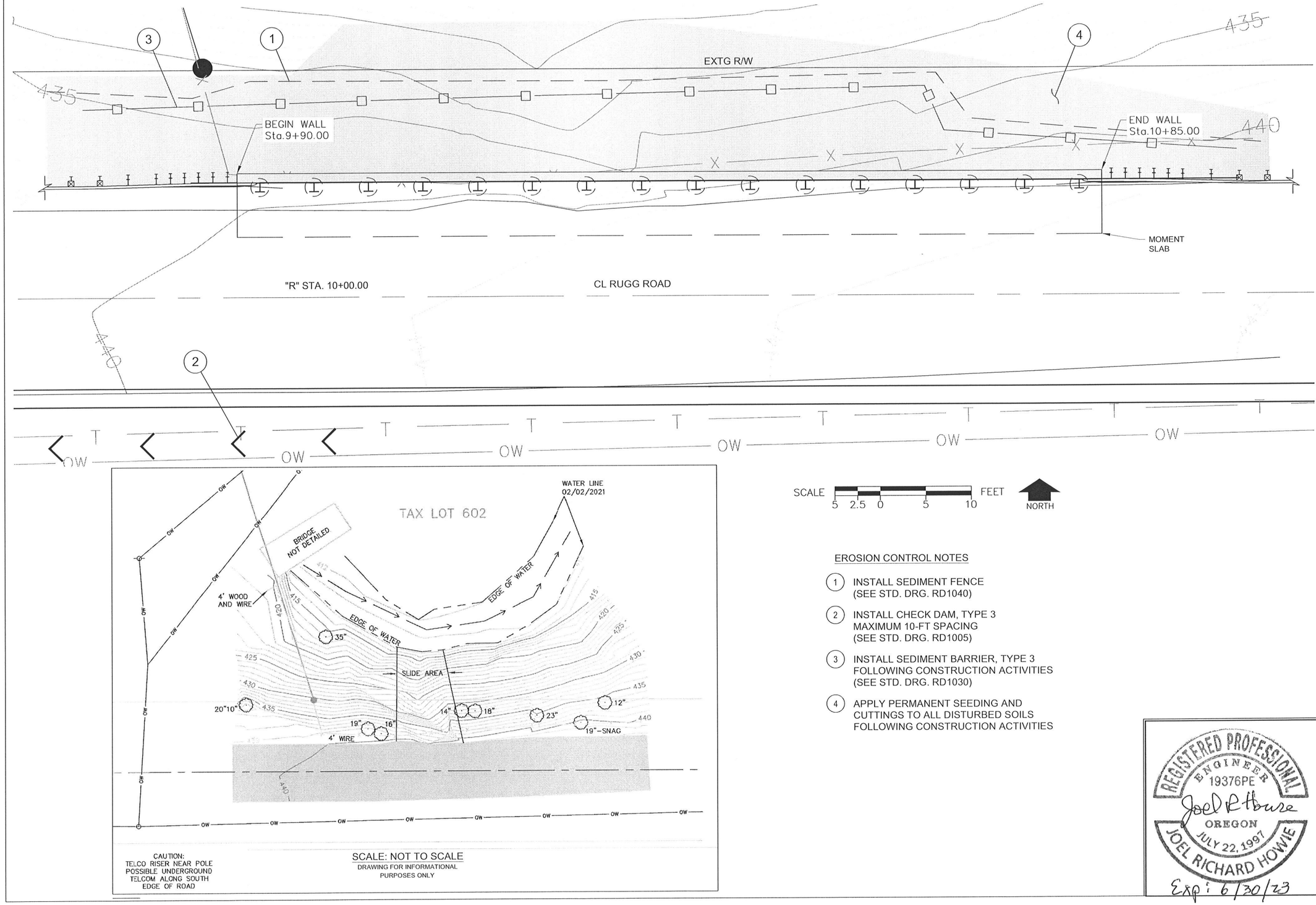
DESIGNED BY: RK | DRAFTED BY: RK | CHECKED BY: DTD

REGISTERED PROFESSIONAL ENGINEER
19376PE
OREGON
JULY 22, 1997
JOEL RICHARD HOWIE
Joel R Howie
Expr 6/30/23

REVISIONS

NO	DATE:

Sheet No. DE03



SCALE: NOT TO SCALE
DRAWING FOR INFORMATIONAL PURPOSES ONLY

SCALE 5 2.5 0 5 10 FEET

NORTH

EROSION CONTROL NOTES

1. INSTALL SEDIMENT FENCE (SEE STD. DRG. RD1040)
2. INSTALL CHECK DAM, TYPE 3 MAXIMUM 10-FT SPACING (SEE STD. DRG. RD1005)
3. INSTALL SEDIMENT BARRIER, TYPE 3 FOLLOWING CONSTRUCTION ACTIVITIES (SEE STD. DRG. RD1030)
4. APPLY PERMANENT SEEDING AND CUTTINGS TO ALL DISTURBED SOILS FOLLOWING CONSTRUCTION ACTIVITIES

REGISTERED PROFESSIONAL ENGINEER
19376PE
Joel R Howie
OREGON
JULY 22, 1997
JOEL RICHARD HOWIE
Exp: 6/30/23

EROSION CONTROL

RUGG ROAD SLIDE REPAIR

DATE: MARCH 2023 | PROJECT NO.: CI-300321301

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

DIRECTOR
DAN JOHNSON

DESIGNED BY: JH | DRAFTED BY: JH | CHECKED BY: DTD

REVISIONS

NO.	DATE:

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GeoDesign Inc
An NV5 Company

REPORT OF GEOTECHNICAL ENGINEERING SERVICES

Rugg Road Landslide
Damascus, Oregon

For
Clackamas County
March 15, 2021

Project: ClackCo-119-01

GeoDesign Inc
AN NV5 COMPANY

March 15, 2021

Clackamas County
150 Beavercreek Road
Oregon City, OR 97045

Attention: Joel Howie

Report of Geotechnical Engineering Services
Rugg Road Landslide
Damascus, Oregon
Project: ClackCo-119-01

GeoDesign, Inc. DBA NV5 (GeoDesign) is pleased to submit our geotechnical report for the stabilization of a small landslide on SE Rugg Road in Damascus, Oregon. This report presents a description of our services and site conditions, a summary of our field exploration and laboratory testing, and our recommendations for design and construction of a soldier pile wall.

We appreciate the opportunity to be of continued service to you. Please call if you have questions concerning this report or if we can provide additional services.

Sincerely,

GeoDesign, Inc., DBA NV5

George Saunders, P.E., G.E.
Principal Engineer

cc: Joel Tubbs, David Evans and Associates, Inc. (via email only)

NAK:GPS:kt
Attachments
One copy submitted (via email only)
Document ID: ClackCo-119-01-031521-geor-RuggRd.docx

EXECUTIVE SUMMARY

Based on the results of our exploration, laboratory testing, and analyses, it is our opinion that the project is feasible from a geotechnical perspective. The primary geotechnical considerations for the project are summarized as follows:

- Grading plans were not available at the time of this report. GeoDesign should be contacted to review the final grading plans to verify our recommendations.
- The surficial soil is fine grained and easily disturbed by construction traffic. If not carefully executed, site preparation, grading, and roadway excavation in this soil can create extensive soft areas and significant subgrade repair costs can result.
- Where feasible, existing pavement and aggregate base should be left in place to protect the ground surface from erosion and construction traffic.
- The moisture content of the on-site fine-grained soil varied between 31 and 47 percent at the time of our exploration. As discussed in the "Structural Fill" section, moisture conditioning will be required to use the material as structural fill.
- Groundwater will likely be present in soldier pile foundation excavations and possibly as perched water in shallower excavations. Dewatering and use of temporary casing, drilling slurries, or both will likely be required for excavations associated with the proposed soldier pile wall. The use of open-hole drilling methods will likely not be feasible for soldier pile foundation excavations.
- Dense gravel with cobbles and likely boulders was encountered at a depth of approximately 35 feet BGS in our boring. Moreover, cobbles and potentially boulders might be present at shallow depths in the clay, silt, and sand soils. Construction considerations associated with the presence of dense gravel, cobbles, and boulders include the following:
  - Excavations can become difficult, if not impossible, with conventional equipment.
  - Soldier pile drilling should expect and selection of the drilling equipment should be based on the possibility of encountering cobbles and boulders.
  - Excavation volumes for utility trenches may be greater than anticipated due to caving, sloughing, and the need to remove oversized material.

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ACRONYMS AND ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials
AC	asphalt concrete
ACP	asphalt concrete pavement
ASTM	American Society for Testing and Materials
BGS	below ground surface
CSZE	Cascadia subduction zone earthquake
g	gravitational acceleration (32.2 feet/second^2)
H:V	horizontal to vertical
ksf	kips per square foot
MSL	mean sea level
NA	not applicable
ODOT	Oregon Department of Transportation
OSHA	Occupational Safety and Health Administration
OSSC	Oregon Standard Specifications for Construction (2021)
pcf	pounds per cubic foot
pci	pounds per cubic inch
PG	performance grade
PGA	peak ground acceleration
psf	pounds per square foot
SPT	standard penetration test

1.0 INTRODUCTION

This report presents our geotechnical evaluation for the stabilization of a small landslide on SE Rugg Road in Damascus, Oregon. The site location with respect to the surrounding physical features is shown on Figure 1. Figure 2 shows the existing site layout and the approximate location of our exploration. The exploration log and laboratory test results are presented in Appendix A. Acronyms and abbreviations used herein are defined above, immediately following the Table of Contents.

2.0 BACKGROUND INFORMATION

The small landslide is located on the north side of SE Rugg Road, approximately 700 feet east of the intersection with SE 252nd Avenue. We met with Clackamas County (County) personnel at the site on January 14, 2021. The landslide appears primarily related to poor drainage along the road that collects at the slide location and cascades down to a stream below the road. This process has resulted in one tree (and roots) collapsing and ground loss retrograding up to the road. Tension cracks are present at the north shoulder of the road east of the slide location (likely due to ongoing "creep" of the slopes). The County crew placed delineator posts to warn traffic and placed sandbags on the north edge of the road to divert surface water runoff away from the slide area.

3.0 PROJECT UNDERSTANDING

Based on our correspondence with the project team, we understand the preferred slide stabilization option includes soldier pile with timber lagging or shotcrete with or without tieback anchors. Grading plans were not available at the time of this report. However, preliminary information indicates the wall will have an exposed height of up to approximately 12 feet. The ground surface of the existing roadway is relatively flat near the slide, therefore aside from wall backfill, we anticipate minimal grading will be required to achieve finished grades. GeoDesign should be contacted to review the final grading plans to verify our recommendations.

We understand scour protection measures will be implemented at the toe of the slide on the south side of the creek bed. Also, surface water runoff will be contained and collected water will be diverted away from the wall.

Site survey plan prepared by Harper Houf Peterson Righellis, Inc. is provided in Appendix B.

4.0 PURPOSE AND SCOPE

The scope of our geotechnical services was to explore the subsurface conditions near the proposed alignment of the retaining wall and develop geotechnical engineering recommendations for design and construction of the proposed retaining wall. Our specific scope of services included the following:

- Reviewed readily available geologic maps and water well logs that cover the site vicinity.
- Reviewed our in-house files for geotechnical information from nearby projects.

- Conducted a reconnaissance of the site and marked exploration location.
- Coordinated and managed the field investigation, including scheduling drilling contractors, utility locaters, and GeoDesign staff.
- Prepared traffic control plans and obtained right-of-way permits from the appropriate jurisdictions.
- Drilled one boring to a depth of 48.3 feet BGS. The boring was drilled near the proposed alignment of the retaining wall, approximately 5 feet south of the north edge of the pavement at the slide on SE Rugg Road, using mud rotary drilling methods.
- Maintained a continuous log of the exploration and collected samples at representative intervals.
- Conducted the following laboratory tests on soil samples collected from the exploration:
  - Seven moisture content determinations in general conformance with ASTM D2216
  - One particle-size analysis in general conformance with ASTM D1140
  - One sieve with hydrometer test in general conformance with ASTM C136, ASTM C117, and ASTM D7928
- Attended one virtual project meeting to discuss the proposed retaining wall.
- Prepared this report summarizing our findings, conclusions, and recommendations, including information related to the following:
  - Site preparation, grading and drainage, stripping depths, fill type for imported material, compaction criteria, trench excavation and backfill, dewatering, use of on-site soil, and wet/dry weather earthwork
  - Design criteria for soldier pile retaining walls, including lateral earth pressures, lateral load parameters, backfill, compaction, and drainage
  - Seismic design parameters
  - Recommendations for construction of AC pavement

5.0 SITE CONDITIONS

5.1 GEOLOGIC HAZARDS

Based on our review of the *Statewide Landslide Information Database for Oregon (SLIDO-3.0)*, debris flows are mapped in the site vicinity, including the SE Rugg Road alignment east of the intersection with SE Kane Road. During our site reconnaissance, we observed tension cracks present at the north shoulder of the road, east of the slide location (likely due to ongoing "creep" of the slopes).

5.2 SURFACE CONDITIONS

The small landslide is located on the north side of SE Rugg Road, approximately 700 feet east of the intersection with SE 252nd Avenue. The landslide appears related to poor drainage along the road that collects at the slide location and cascades down to a stream below the road. This process has resulted in one tree (and roots) collapsing ("root-throw") and ground loss retrograding up to the road. The project area is located on a broad slope that descends northward. The road elevation at the slide area is approximately 441 feet above MSL. A steep slope drops to the north toward the creek north of SE Rugg Road. The elevation at the toe of the slide area is approximately 413 feet above MSL. The project area is vegetated with grass, ivy, blackberry bushes, and mature trees.

5.3 SUBSURFACE CONDITIONS

5.3.1 General

The subsurface conditions were explored near the existing slide by drilling one boring (B-1) to a depth of 48.3 feet BGS. The boring was drilled approximately 5 feet south of the north edge of the pavement. The approximate location of the exploration is shown on Figure 2. Descriptions of our field exploration and laboratory testing programs, the exploration log, and results of laboratory testing are presented in Appendix A. The exploration at the site generally encountered a pavement section underlain by clay underlain by layers of sandy silt with trace to minor gravel and silty sand with varying proportions of gravel. The sand is underlain by gravel with sand, silt, and cobbles to the depth explored.

5.3.2 Pavement Section

Boring B-1 encountered 3 inches of AC underlain by 7 inches of aggregate base rock.

5.3.3 Clay

The pavement section is underlain by medium stiff clay with trace silt to a depth of approximately 5 feet BGS. Based on our visual observations of the collapsed soil at the failed Hideaway Court culvert (GeoDesign, 2020), located west of the site, and review of water well logs in the site vicinity, we anticipate gravel, cobbles, and potentially boulders are present in the clay soil. Laboratory testing of one clay sample indicates the clay had moisture content of 31 percent at the time of our exploration.

5.3.4 Silt and Sand

Stiff, sandy silt with trace to minor gravel was encountered below the clay to a depth of approximately 10 feet BGS. The silt is underlain by medium dense to very dense, silty sand with varying proportions of gravel and clay to a depth of approximately 35 feet BGS. The sand is dense to very dense with higher proportions of gravel below a depth of 20 feet BGS. Based on high SPT blow counts and our review of water well logs in the site vicinity, we anticipate cobbles and potentially boulders are present in the silt and sand soils. Laboratory testing indicates the sandy silt had moisture contents ranging between 40 and 47 percent and the silty sand had moisture contents ranging between 12 and 24 percent at the time of our exploration. Fines content analysis of one silt sample indicated a fines content of 55 percent and fines content analysis of one sand sample indicated a fines content of 22 percent.

5.3.5 Gravel

The silty sand is underlain by very dense gravel with sand, silt, and cobbles to the depth explored of 48.3 feet BGS. Based on high SPT blow counts and minimal sampler penetration into the gravel material in the drilled boring, the drilling chatter between sampling depths, and our review of water well logs in the site vicinity, we anticipate cobbles and likely boulders are present in the gravel soil. Laboratory testing indicates the gravel had moisture contents ranging between 9 and 12 percent at the time of our exploration.

5.3.6 Groundwater

The boring was advanced using mud rotary drilling methods and the presence of drilling fluid did not allow direct measurement of groundwater levels. Logs of wells drilled at nearby properties state that groundwater is at a depth between 20 and 40 feet BGS. The depth to

groundwater will fluctuate in response to seasonal weather and changes in surface topography, and sites within close proximity to the creek will likely experience groundwater levels consistent with the creek's water levels.

6.0 LABORATORY TESTING

In addition to the moisture content testing, one particle-size analysis and one sieve with hydrometer test were completed on samples collected from the exploration. Descriptions of the laboratory procedures and test results are presented in Appendix A.

7.0 CONCLUSIONS

Based on the results of our exploration, laboratory testing, and analyses, it is our opinion the proposed wall can be constructed at the site. The primary geotechnical considerations for the project are summarized in the "Executive Summary" section. Our specific recommendations are provided in the following sections.

8.0 DESIGN

8.1 SLOPES

Permanent fill slopes on the site should not exceed a gradient of 2H:1V, unless specifically evaluated for stability. Slopes should be planted with appropriate vegetation or armored to provide protection against erosion as soon as possible after grading. Surface water runoff should be collected and directed away from slopes to prevent water from running down the face of the slope.

Temporary cut slopes should be completed as described in the "Excavation" section.

Scour protection measures should be implemented at the toe of the slope near the creek in front (downslope) of the wall or the scour depth should be included in the wall height. A sieve analysis was completed on a sample from 30 feet BGS to assist in the scour analysis.

We understand some trees might be removed from the slope near the slide area and the stumps will remain in place. We recommend careful planning and execution of tree removal to eliminate disturbance to tree stumps and roots, existing vegetation, and topsoil zone. Such a disturbance may adversely impact the stability of the surficial slope soil.

8.2 SEISMIC CONSIDERATIONS

8.2.1 Liquefaction and Lateral Spreading

Liquefaction is a phenomenon caused by a rapid increase in pore water pressure that reduces the effective stress between soil particles to near zero. The excessive buildup of pore water pressure results in the sudden loss of shear strength in a soil. Granular soil, which relies on interparticle friction for strength, is susceptible to liquefaction until the excess pore pressures can dissipate. Sand boils and flows observed at the ground surface after an earthquake are the result of excess pore pressures dissipating upwards, carrying soil particles with the draining water. In general, loose, saturated sand soil with low silt and clay content is the most susceptible to liquefaction.

Low plasticity, silty sand and silt may be moderately susceptible to liquefaction under relatively higher levels of ground shaking. Liquefaction can cause seismically induced densification of subsurface soil, which can result in settlement at the ground surface. Based on the findings of our subsurface exploration, it is our opinion that liquefaction and associated lateral spreading are not considered site hazards.

8.2.2 Seismic Design Parameters

We understand that seismic parameters may be necessary for computing seismic loads for the proposed wall. Earthquake ground motions at the site were evaluated using seismic data from the 2016 ODOT Seismic Design maps. Peak bedrock accelerations for return periods of 500 years and 1,000 years for the "Life Safety" criteria are provided in Table 1. Based on our exploration and water well logs, the recommended seismic design Site Class is D. The "Life Safety" seismic design parameters for Site Class D soil are provided in Table 2.

Table 1. ODOT Seismic Design Parameters for Bedrock "Life Safety" Criteria

Parameter	Value	
Site Class (Bedrock)	B	
	Return Period	
	500 Years	1,000 Years
PGA	0.163 g	0.250 g
S_s	0.355 g	0.540 g
S_1	0.120 g	0.190 g

Table 2. ODOT Seismic Design Parameters for Soil "Life Safety" Criteria

Parameter	Value	
Site Class (Soil)	D	
	Return Period	
	500 Years	1,000 Years
F_{PGA}	1.474	1.350
F_a	1.516	1.368
F_v	2.360	2.220
S_{DS}	0.538 g	0.739 g
S_{D1}	0.283 g	0.422 g

Peak bedrock accelerations for the "Operational" criteria are provided in Table 3. Based on our exploration and water well logs, the recommended seismic design Site Class is D. The "Operational" seismic design parameters for Site Class "D" soil are provided in Table 4.

Table 3. ODOT Seismic Design Parameters for Bedrock "Operational" Criteria

Parameter	Value
Site Class (Bedrock)	B
	Return Period
	CSZE
PGA	0.108 g
S_s	0.205 g
S_1	0.120 g

Table 4. ODOT Seismic Design Parameters for Soil "Operational" Criteria

Parameter	Value
Site Class (Soil)	D
	Return Period
	CSZE
F_{PGA}	1.377
F_a	1.600
F_v	2.360
S_{DS}	0.328 g
S_{D1}	0.283 g

8.3 SOLIDER PILE DESIGN RECOMMENDATIONS

8.3.1 General

An approximately 12-foot-tall fill wall will be required for the slide stabilization on SE Rugg Road. Support for the slide stabilization and fill can be provided by installing soldier piles with lagging system. Depending on the amount of permitted lateral movement, the wall can be constructed with or without tieback anchors.

The structural engineer should evaluate the wall system using the parameters and guidelines outlined below. These values assume (1) the slopes above the wall are level, (2) the retained soil is drained, and (3) the wall is up to approximately 12 feet in exposed height (including scour considerations).

8.3.2 Cantilever Wall

Cantilever soldier pile walls can be designed using the values presented on Figure 3. These values do not include surcharged-induced earth pressures. Figure 4 should be used to compute surcharge-induced lateral earth pressures. Structural design of the soldier piles should consider the lateral earth pressures presented on Figure 3.

8.3.3 Anchored Wall

Anchored soldier pile walls can be designed using the values presented on Figure 3. These values do not include surcharged-induced earth pressures. Figure 4 should be used to compute surcharge-induced lateral earth pressures. Structural design of the soldier piles should consider the lateral earth pressures presented on Figure 3. In addition to lateral earth pressures, the soldier piles will be subject to compressive forces as a result of the downward component of the tieback anchor loads. We recommend the tips of soldier piles be embedded at least 10 feet below the base of the scour depth. The structural engineer should determine if greater embedment depths are required for structural needs (e.g., toe kick-out, overturning, etc.). An allowable bearing pressure of 4,000 psf may be used for the base of the soldier piles resting on the dense sand and gravel. Skin friction along the sides of the solider piles will also be able to resist downward forces. An allowable skin friction of 3 ksf may be used for the sand and gravel and 1 ksf for the silt and clay.

The bonded zone for tieback anchors should be maintained outside of the "no load zone" shown on Figure 3. We anticipate the tieback anchors can achieve an ultimate adhesion of between 0.25 and 0.75 ksf in the clayey and silty soils and between 4 and 8 ksf in the dense sand and gravel, depending on the method of construction. A variety of methods are available for construction of tieback anchors. Therefore, we recommend the contractor be responsible for selecting the appropriate bonded length and installation methods to achieve the required anchor capacity. Tieback anchors should be locked off at 100 percent of the design load.

Prior to installing production anchors, we recommend that performance testing be conducted on a minimum of one anchor. The purpose of this testing is to verify the installation procedure selected by the contractor before the remainder of the anchors are installed. We recommend that proof testing be conducted on all production anchors. Performance and proof testing should be performed in accordance with the guidelines provided in *Recommendations for Prestressed Rock and Soil Anchors* (Post Tensioning Institute, 2014).

8.3.4 Wall Surcharges

We recommend a vertical live load of 250 psf be applied at the surface of the retained soil where the wall retains roadways.

If the surface at the top of the wall is sloped, the recommended lateral earth pressures presented on Figure 3 should be increased as indicated in Table 5.

Table 5. Lateral Earth Pressure Increase Factors for Sloping Soil

Slope of Retained Soil (degrees)	Lateral Earth Pressure Increase Factor
0	1.00
5	1.06
10	1.12
20	1.33
25	1.52
30	2.27

Seismic forces should be modeled based on the pseudo-static approach developed by the Mononobe-Okabe method. We recommend using a seismic coefficient of one-half of the PGA when analyzing internal stability. The PGA values associated with 500-year, 1,000-year, and CSZE events are provided in Tables 1 and 3. The PGA should be modified to account for potential soil amplification using a seismic site coefficients provided in Tables 2 and 4.

8.3.5 Lateral Load Parameters

We provided lateral analysis parameters for analyzing the soldier piles with the computer software program LPILE 6.0. The recommended lateral analysis parameters for static and seismic conditions are provided in Table 6.

Table 6. Recommended LPILE Input Parameters

Soil Conditions	Soil Model (LPILE 6.0)	Depth at Top (from existing ground surface, feet)	Depth at Bottom (from existing ground surface, feet)	γ' (pcf)	c' (psf)	e_{50}	Friction Angle, ϕ' (degrees)	k (pci)
Medium Stiff Clay	Medium Clay	0	5	110	600	0.01	NA	NA
Stiff Silt	Stiff Clay	5	10	115	1,300	0.007	NA	NA
Medium Dense, Silty Sand	Sand (Reese)	10	20	115	NA	NA	32	90
Dense, Silty Sand (below groundwater)	Sand (Reese)	20	35	58	NA	NA	34	125
Dense Gravel	Sand (Reese)	35	48	63	NA	NA	36	125

Table 6. Recommended LPILE Input Parameters (continued)

Soil Conditions	Soil Model (LPILE 6.0)	Depth at Top (from existing ground surface, feet)	Depth at Bottom (from existing ground surface, feet)	γ' (pcf)	c' (psf)	e_{50}	Friction Angle, ϕ' (degrees)	k (pci)
Fill above existing ground surface – compacted granular fill (above groundwater	Sand (Reese)	NA	NA	130	NA	NA	35	175

Groundwater assumed at top of the dense sand with gravel layer at 20 feet BGS (elevation 421 feet).
Backfill between wall and existing ground surface to consist of compacted imported gravel.

8.3.6 Wall Drainage

A back-of-wall drain should be installed behind the retaining wall and extend to the base of the lagging. The drain may consist of a conventional drain rock and filter fabric system or prefabricated drainage panels; collector pipes and/or weep holes may be used to discharge the water. We recommend that a collector pipe be installed at the lowest point of the wall and extend to an appropriate outfall. If a conventional drain rock and filter fabric system is used, we note that there is a potential that in the future the rock may slough out below the base of the embedded lagging if the soil in front (downslope) of the wall shifts away from the wall. We recommend a filter fabric be installed between the native soil and the granular backfill behind the wall.

8.3.7 Wall Design Considerations

We recommend a design groundwater depth of 20 feet BGS (elevation 421 feet) be used. The full passive resistance presented on Figure 3 can be used below the depth where a minimum 5-foot horizontal clearance is present between the face of the soldier pile and the face of a sloping toe. Permanent fill slopes installed in front of the wall toe should not exceed a gradient of 2H:1V in order to be accounted for the full passive resistance value. In order to rely on passive resistance, scour protection measures should be implemented at the toe of the slope near the creek in front (downslope) of the wall.

8.3.8 Wall Installation Considerations

Soldier pile and lagging walls will likely consist of pressure-treated lumber or shotcrete. We recommend prompt and careful installation of lagging, particularly if perched seepage or raveling soil is observed. We recommend the contractor protect the soil from raveling from behind the wall before the lagging is placed. All voids behind the lagging should be completely backfilled with grout slurry.

Perched groundwater may be present in soldier pile foundation excavations. Sloughing, caving, and the potential for "running conditions" will likely occur if the excavations encounter seepage or if the excavations are dry but left open for extended periods of time (more than a few hours). Depending on the foundation installation methods, dewatering and use of temporary casing, drilling slurries, or both will likely be required for soldier pile excavations. The use of open-hole drilling methods will likely not be feasible for soldier pile foundation excavations.

We recommend that adjacent features (structures, utilities, and trees) be surveyed and existing cracks and conditions documented prior to, during, and after construction of the proposed wall. We also recommend that the condition of adjacent features be photographed or videotaped prior to excavation. If settlement or damage is observed, GeoDesign should be contacted to provide additional recommendations.

8.4 PAVEMENT RECOMMENDATIONS

8.4.1 Pavement Section

Based on our correspondence with the County, we understand SE Rugg Road is classified as a "collector road" resulting in a standard pavement section of 6 inches of AC over 14 inches of aggregate base. We note that this section is considerably more than encountered at the boring location. We recommend a geotextile fabric should be considered to assist as a barrier between the subgrade and imported granular material. The actual thickness of the aggregate base will depend on the depth to firm subgrade. If deeper excavations are required due to unstable subgrade, stabilization material can be used as backfill below the design aggregate base section. The AC, aggregate base, stabilization material, and subgrade geotextile should conform to the specifications presented in the "Materials" section.

8.5 SITE DRAINAGE

We recommend surface drains and other subsurface drains be connected to a tightline leading to a suitable discharge away from the wall. The roadway should be sloped such that surface water runoff is collected and routed to suitable discharge points away from the wall.

9.0 CONSTRUCTION

9.1 SITE PREPARATION

9.1.1 General

Earthwork operations should be planned and executed to minimize subgrade disturbance. Managing construction traffic and protection of exposed soil subgrades is the responsibility of the contractor. We can assist the contractor and project team regarding wet weather construction guidelines, if necessary.

9.1.2 Demolition

The limits of the required demolition should be determined by the project engineer, although they should include all improvements that will impede construction of the improvements. Demolished material should be transported off site for disposal, except as noted in the "Structural Fill" section.

Within structural areas (new pavement, foundations, or fills), excavations resulting from removing existing foundations, tanks, and other subsurface elements should be backfilled with compacted engineered fill that meets the criteria outlined in the "Structural Fill" section and as described in OSSC 00310 – Removal of Structures and Obstructions. In addition, the bottom of the excavations should expose firm subgrade before filling. The sides of the excavations should be cut into firm material and sloped as recommended in the "Excavation" section. Utility lines abandoned under new structural components should be completely removed or (with written approval) grouted full if left in place. Soft or loose soil encountered in existing utility line excavations should be removed and replaced with structural fill.

9.1.3 Stripping and Clearing

Stripping and clearing shall be completed in conformance with the specifications provided in OSSC 00320 – Clearing and Grubbing. The existing near-surface root zone should be stripped and removed from the site in all proposed wall, fill, and pavement areas and for a 3-foot margin around such areas. Outside of existing pavement areas, we anticipate an average stripping depth of 3 to 6 inches. However, greater stripping depths (up to 2 feet) may be required to remove localized zones of loose or organic soil, particularly within the areas of heavy vegetation. The actual stripping depth should be based on field observations at the time of construction. Stripped material should be transported off site for disposal or stockpiled for use in landscaped areas, as directed by the project engineer.

Trees and shrubs should be removed from all pavement areas. In addition, root balls should be grubbed out to the depth of the roots greater than ½ inch in diameter, which could exceed 3 feet BGS for some of the larger trees adjacent to the proposed alignment of the wall. Depending on the methods used to remove the root balls, considerable disturbance and loosening of the subgrade could occur during site grubbing. We recommend that soil disturbed during grubbing operations be removed to expose firm, undisturbed subgrade. The resulting excavations should be backfilled with structural fill.

We understand some trees might be removed from the slope near the slide area and the stumps will remain in place. We recommend careful planning and execution of tree removal to eliminate disturbance to tree stumps and roots, existing vegetation, and topsoil zone. Such a disturbance may adversely impact the stability of the surficial slope soil.

9.1.4 Subgrade Preparation and Evaluation

In areas to receive pavement, the subgrade should be firm and unyielding during proof rolling. If the subgrade does not meet these standards, the top 12 inches of native clay soil subgrade should be compacted to at least 95 percent of the maximum dry density, as determined by AASHTO T 99, or until proof rolling indicates an unyielding, non-pumping subgrade is present. Because of the moist, fine-grained nature of the site soil, scarification and compaction of the pavement subgrade will be difficult to accomplish, except during the driest time of the year. Because the subgrade is susceptible to disturbance, scarification and compaction could damage the underlying subgrade in the process of reworking the pavement subgrade. We recommend that if the subgrade is found to be firm and unyielding during the initial proof roll evaluation, scarification not be implemented. However, if soft or yielding subgrade areas are identified during the proof roll, and time, space, or weather conditions prevent drying of the soil, we

recommend the subgrade be excavated and replaced with compacted imported granular fill in conformance with the "Structural Fill" section and the specifications provided in OSSC 00331 – Subgrade Stabilization. Scarification and compaction of soft subgrade should not be attempted unless the material can be aerated and dried during extended periods of dry weather.

Upon completion of stripping and prior to the placement of any foundations, new fill, or new pavement, the exposed subgrade should be evaluated to identify soft, loose, or unsuitable areas. Where accessible, the subgrade should be proof rolled with a fully loaded dump truck or similar heavy, rubber tire construction equipment. Elsewhere or during periods of wet weather, the subgrade should be evaluated by probing with a steel rod. Qualified geotechnical personnel should observe the proof rolling or conduct the probing.

9.1.5 Fill on Slopes

Stabilization of the existing road will require placing fill on the existing steep slopes. Fill on slopes should be placed on level benches constructed in accordance with OSSC 00330.42(a)(7) – Foundation Benching.

9.1.6 Wet Weather Considerations

The soil at the site can be easily disturbed during the wet season and when it is moist. If not carefully executed, site preparation and wall construction can create extensive soft areas and significant subgrade repair costs can result. To avoid elevated construction costs associated with wet weather construction, we strongly recommend earthwork be scheduled for the summer and early fall when extended periods of dry weather are expected. If construction is planned when the surficial soil is wet (or may become wet), the construction methods and schedule should be carefully considered with respect to protecting the subgrade to reduce the need to over-excavate disturbed or softened soil. Construction traffic will significantly disturb these areas when wet. The project budget should reflect the recommendations below if construction is planned during wet weather or when the surficial soil is wet.

If construction occurs when wet soil is present, site preparation activities may need to be accomplished using track-mounted excavating equipment that loads removed material into trucks supported on granular haul roads. The thickness of the granular material for haul roads and staging areas will depend on the amount and type of construction traffic. Generally, an 18- to 24-inch-thick mat of granular material is sufficient. The actual thickness of haul roads and staging areas should be based on the contractor's approach to site development and the amount and type of construction traffic. We recommend existing asphalt and rock surfaces remain in place as long as possible to carry construction traffic. In areas requiring subgrade protection, we recommend using Tensar BX 1200 biaxial geogrid (or similar) overlain by quarry-run rock, crushed rock, or crushed gravel and sand meeting the requirements in OSSC 00330.14 – Selected Granular Backfill and OSSC 00330.15 – Selected Stone Backfill, with a maximum particle size of 6 inches and less than 5 percent by dry weight passing the U.S. Standard No. 4 sieve.

9.2 EROSION CONTROL

Erosion control plans are required on construction projects located within the applicable Clackamas County jurisdiction. The on-site soil is susceptible to erosion, and erosion control measures should be carefully planned and in place before construction begins. Consequently,

we recommend that slopes be covered with an appropriate erosion control product if construction occurs during periods of wet weather. We recommend that all slope surfaces be planted as soon as practical to minimize erosion. Surface water runoff should be collected and directed away from slopes to prevent water from running down the slope face. Where feasible, existing pavement and aggregate base should be left in place to protect the ground surface. Erosion control measures such as straw bales, sediment fences, and temporary detention and settling basins should be used in accordance with local and state ordinances.

9.3 EXCAVATION

9.3.1 General

The contractor should be aware of, and become familiar with, applicable local, state, and federal safety regulations, including current OSHA excavation and trench safety standards. Excavations shall be completed in conformance with the relevant sections of the OSSC, including, but not limited to, OSSC 00330 – Earthwork, OSSC 00400 – Drainage and Sewers, and OSSC 00500 – Bridges. The information provided below is general in nature and should not be relied upon by the contractor during construction without their own evaluation of excavation stability.

Dense sand with gravel was encountered at a depth of 20 feet BGS in our boring. The sand with gravel formation likely contains cobbles and boulders. Moreover, cobbles and potentially boulders might be present at shallow depths in the clay and silt soils. Construction considerations associated with the presence of dense sand and gravel, cobbles, and boulders include the following:

- Excavations can become difficult, if not impossible, with conventional equipment.
- Excavation volumes for utility trenches may be greater than anticipated due to caving, sloughing, and the need to remove oversized material.

The earthwork contractor should be prepared for these conditions during excavation of trenches or other deep cuts.

9.3.2 Trench Cuts and Temporary Shoring

Temporary excavation sidewalls should stand vertical to a depth of approximately 4 feet, provided groundwater seepage, cobbles, or boulders are not observed in the sidewalls. Open excavation techniques may be used to excavate trenches, or as required for wall construction, with depths between 4 and 8 feet, provided the walls of the excavation are cut at a slope of 1H:1V or flatter and groundwater seepage is not present. Excavations should be flattened to 1½H:1V or flatter if excessive sloughing occurs. In lieu of large open cuts, approved temporary shoring may be used for excavation support. Use of approved temporary shoring is recommended where the slopes cannot be cut back, within the influence area of structural elements, and for cuts below the water table. The influence area can be defined as a 1H:1V slope extending down from a 5-foot setback from the edge of a structural element. A wide variety of shoring and dewatering systems are available. Consequently, we recommend the contractor be responsible for selecting the appropriate shoring and dewatering systems.

If box shoring is used for utility trenching, it should be understood that box shoring is a safety feature used to protect workers and does not prevent caving. If the excavations are left open for

extended periods of time, caving of the sidewalls may occur. The presence of caved material will limit the ability to properly backfill and compact the trenches. The contractor should be prepared to fill voids between the box shoring and the sidewalls of the trenches with sand or gravel before caving occurs.

If shoring is used, we recommend that the type and design of the shoring system be the responsibility of the contractor, who is in the best position to choose a system that fits the overall plan of operation. All excavations should be made in accordance with applicable OSHA and state regulations.

9.3.3 Dewatering

As previously indicated, logs of wells drilled at nearby properties state that groundwater is at a depth between 20 and 40 feet BGS. Groundwater will likely be encountered, particularly in trench or soldier pile foundation excavations. If groundwater is encountered, localized dewatering of excavations may be required. Sidewalls of the trenches will need to be shored or flattened if seepage is encountered. Sloughing and "running" conditions may occur where the excavation extends below groundwater seepage levels because of the instability of saturated low plasticity silt and sand. If these conditions become severe, the use of shoring or an active dewatering system will likely be required for trenches and temporary casing, drilling slurries, or both will likely be required for soldier pile foundation excavation. The use of open-hole drilling methods will likely not be feasible for soldier pile foundation excavations.

If groundwater is encountered at the base of excavations, we recommend over-excavating the subgrade by 12 to 18 inches and placing stabilization rock in the base.

9.4 MATERIALS

9.4.1 Structural Fill

9.4.1.1 General

A variety of material may be used as structural fill at the site. Fill should only be placed over subgrade that has been prepared in conformance with the "Site Preparation" section. Structural fill should meet the specifications provided in the OSSC 00330 – Earthwork, OSSC 00400 – Drainage and Sewers, and OSSC 02600 – Aggregates, depending on the application. A brief characterization of some of the acceptable materials and our recommendations for their use as structural fill are provided below.

9.4.1.2 On-Site Soil

The material at the site should be suitable for use as general fill, provided it is properly moisture conditioned, free of organic material and particles over 6 inches in diameter, and meets the specifications provided in OSSC 00330.12 – Borrow Material. Laboratory testing indicates the moisture content of the on-site fine-grained soil is significantly higher than the optimum moisture required for compaction as structural fill. Therefore, extensive moisture conditioning (i.e., drying) of the on-site soil will be required in order to achieve proper compaction; therefore, the use of on-site soil for structural fill will be restricted to periods of prolonged dry weather.

When used as structural fill, native soil should be placed in lifts with a maximum uncompacted thickness of 6 to 8 inches and compacted at least 95 percent of the maximum dry density, as determined by AASHTO T 99.

9.4.1.3 Imported Granular Material

Imported granular material used as structural fill should be pit- or quarry-run rock, crushed rock, or crushed gravel and sand and should meet the specifications provided in OSSC 00330.14 – Selected Granular Backfill or OSSC 00330.15 – Selected Stone Backfill. The imported granular material should also be angular, should be fairly well graded between coarse and fine material, should have less than 5 percent by dry weight passing the U.S. Standard No. 200 sieve, and should have at least two mechanically fractured faces.

Imported granular material should be placed in lifts with a maximum uncompacted thickness of 8 inches and compacted at least 95 percent of the maximum dry density, as determined by AASHTO T 99. During the wet season or when wet subgrade conditions exist, the initial lift should be approximately 12 to 18 inches in uncompacted thickness and should be compacted by rolling with a smooth-drum roller without using vibratory action.

Where the imported granular material is placed atop a fine-grained subgrade, a subgrade geotextile should be placed as a barrier between the native soil subgrade and the imported granular material. Placement of the imported granular fill should be done in conformance with the specifications provided in OSSC 00331 – Subgrade Stabilization. The subgrade geotextile should meet the specifications provided below for subgrade geotextiles.

9.4.1.4 Stabilization Material

Stabilization material should consist of pit- or quarry-run rock, crushed rock, or crushed gravel and should meet the specifications provided in OSSC 00330.16 – Stone Embankment Material. In addition, the material should have a maximum particle size of 6 inches, should have less than 5 percent by dry weight passing the U.S. Standard No. 4 sieve, and should have at least two mechanically fractured faces. The material should be free of organic matter and other deleterious material. Stabilization material should be placed in lifts between 12 and 18 inches thick and compacted to a firm condition.

Where the stabilization material is used to stabilize soft subgrade beneath pavement or construction haul roads, a subgrade geotextile should be placed as a barrier between the soil subgrade and the imported granular material. Placement of the imported granular fill should be done in conformance with the specifications provided in OSSC 00331 – Subgrade Stabilization. The subgrade geotextile should meet the specifications provided below for subgrade geotextiles.

9.4.1.5 Granular Wall Backfill

Granular wall backfill placed behind the retaining wall should consist of select granular material that meets the specifications provided in OSSC 02630.10 – Dense-Graded Aggregate ¾-inch to 1½-inch-minus material. The material should be placed and compacted to at least 95 percent of its maximum dry density, as determined by AASHTO T 99.

We recommend the granular wall backfill be separated from general fill, native soil, and/or topsoil using drainage geotextile meeting the specifications provided below for drainage geotextiles.

9.4.1.6 Drain Rock Material

Drain rock should consist of angular, granular material that meets the specifications provided in OSSC 00430.11 – Granular Drain Backfill Material. The drain rock should be wrapped in a drainage geotextile that meets the specifications provided below for drainage geotextiles.

9.4.1.7 Trench Backfill

Trench backfill placed beneath, adjacent to, and for at least 12 inches above utility lines (i.e., the pipe zone) should consist of well-graded granular material with a maximum particle size of 1 inch and less than 10 percent by dry weight passing the U.S. Standard No. 200 sieve and meet the specifications provided in OSSC 00405.13 – Pipe Zone Material. The pipe zone backfill should be compacted to at least 90 percent of the maximum dry density, as determined by AASHTO T 99, or as required by the pipe manufacturer or local agency.

Within roadway alignments, the remainder of the trench backfill up to the subgrade elevation should consist of well-graded granular material with a maximum particle size of 2½ inches and less than 7 percent by dry weight passing the U.S. Standard No. 200 sieve and should meet OSSC 00405.14 – Trench Backfill, Class B, C, or D. This material should be compacted to at least 90 percent of the maximum dry density, as determined by AASHTO T 99, or as required by the pipe manufacturer or local agency. The upper 3 feet of the trench backfill should be compacted to at least 95 percent of the maximum dry density, as determined by AASHTO T 99.

9.4.1.8 Pavement Aggregate Base

Imported granular material used as aggregate base for pavement should be clean, crushed rock or crushed gravel and sand that are dense graded. The aggregate base should meet the gradation defined in OSSC 00641 – Aggregate Subbase, Base, and Shoulders, with the exception that the aggregate has less than 5 percent by dry weight passing the U.S. Standard No. 200 sieve, a maximum particle size of 1½ inches, and at least two mechanically fractured faces. The aggregate base should be compacted to at least 95 percent of the maximum dry density, as determined by AASHTO T-99.

9.4.1.9 Existing AC Pavement and Aggregate Base

AC pavement and aggregate base from the existing roadway can be used in general structural fills, provided particles greater than 6 inches are not present and it is thoroughly mixed with soil so that there are no voids between the fragments. This material should only be used at depths greater than 3 feet below the finished subgrade in general fill areas and at least 3 feet above the pipe zone in trenches. The recycled materials should meet the specifications provided in OSSC 00330.12 – Borrow Material and other appropriate specifications.

9.4.2 Geotextile Fabric

9.4.2.1 Subgrade Geotextile

Subgrade geotextile should conform to OSSC Table 02320-4 and OSSC 00350 – Geosynthetic Installation. A minimum initial aggregate base lift of 6 inches is required over geotextiles. All drainage aggregate and stabilization material should be underlain by a subgrade geotextile.

9.4.2.2 Drainage Geotextile

Drainage geotextile should conform to Type 2 material of OSSC Table 02320-1 and OSSC 00350 – Geosynthetic Installation. A minimum initial aggregate base lift of 6 inches is required over geotextiles.

9.4.3 AC

The AC should be Level 2, ½-inch, dense ACP according to OSSC 00744 – Asphalt Concrete Pavement. Minimum and maximum lift thicknesses are 2 and 3.5 inches for ½-inch ACP, respectively. An adjustment to lift thicknesses outside this range should be reviewed by both GeoDesign and the County. Asphalt binder should be performance graded. For typical Level 2 and 3 ACP in areas without heavy traffic and without stop lights, we recommend PG 64-22 binder; however, the binder grade should be adjusted depending on the aggregate gradation and amount of reclaimed asphalt pavement and/or recycled asphalt shingles in the contractor's mix design submittal.

9.4.3.1 Cold Weather Paving Considerations

In general, AC paving is not recommended during cold weather (temperatures less than 40 degrees Fahrenheit). Compacting under these conditions can result in low compaction and premature pavement distress.

Each AC mix design has a recommended compaction temperature range that is specific for the particular AC binder used. In colder temperatures, it is more difficult to maintain the temperature of the AC mix as it can lose heat while stored in the delivery truck, as it is placed, and in the time between placement and compaction. In Oregon, the AC surface temperature during paving should be at least 40 degrees Fahrenheit for lift thickness greater than 2.5 inches and at least 50 degrees Fahrenheit for lift thickness between 2 and 2.5 inches.

If paving activities must take place during cold weather construction as defined above, the project team should be consulted and a site meeting should be held to discuss ways to lessen low compaction risks.

10.0 OBSERVATION OF CONSTRUCTION

Satisfactory earthwork, wall, and pavement performance depends to a large degree on the quality of construction. Sufficient observation of the contractor's activities is a key part of determining that the work is completed in accordance with the construction drawings and specifications. Subsurface conditions observed during construction should be compared with those encountered during the subsurface explorations. Recognition of changed conditions often requires experience; therefore, qualified personnel should visit the site with sufficient frequency to determine if subsurface conditions change significantly from those anticipated.

We recommend that GeoDesign be retained to observe earthwork activities, including stripping, proof rolling of the subgrade and repair of soft areas, retaining wall installation, final proof rolling of the pavement subgrade and aggregate base, and AC placement and compaction, and performing laboratory compaction and field moisture-density tests.

11.0 LIMITATIONS

We have prepared this report for use by Clackamas County and the members of their design and construction team for the proposed project. The data and report can be used for bidding or estimating purposes, but our report, conclusions, and interpretations should not be construed as warranty of the subsurface conditions and are not applicable to other sites.

Exploration observations indicate soil conditions only at specific locations and only to the depths penetrated. They do not necessarily reflect soil strata, pavement, or water level variations that may exist between exploration locations. If subsurface conditions differing from those described are noted during the course of excavation and construction, re-evaluation will be necessary.

The improvement plans and design details were preliminary at the time this report was prepared. When the design has been finalized and if there are changes in the site grades, location, or configuration, the conclusions and recommendations presented may not be applicable. When design is finalized, we request that we be retained to review our conclusions and recommendations and to provide a written modification or verification if necessary.

The scope of our services does not include services related to construction safety precautions, and our recommendations are not intended to direct the contractor's methods, techniques, sequences, or procedures, except as specifically described in our report for consideration in design.

Within the limitations of scope, schedule, and budget, our services have been executed in accordance with generally accepted practices in this area at the time the report was prepared. No warranty, express or implied, should be understood.

♦ ♦ ♦

We appreciate the opportunity to be of service to you. Please call if you have questions concerning this report or if we can provide additional services.

Sincerely,

GeoDesign, Inc., DBA NV5

Najib A. Kalas, P.E.
Associate Engineer

George Saunders, P.E., G.E.
Principal Engineer

REFERENCES

GeoDesign, 2020. *Report of Geotechnical Engineering Services; Hideaway Court Culvert; Damascus, Oregon,* dated March 4, 2020. Project: ClackCo-119-01

ODOT, 2016. *2016 ODOT Seismic Design Maps, 500 Year Peak Ground Acceleration*.

ODOT, 2016. *2016 ODOT Seismic Design Maps, 500 Year 0.2 SEC. Spectral Acceleration*.

ODOT, 2016. *2016 ODOT Seismic Design Maps, 500 Year 1.0 SEC. Spectral Acceleration*.

ODOT, 2016. *2016 ODOT Seismic Design Maps, 1,000 Year Peak Ground Acceleration*.

ODOT, 2016. *2016 ODOT Seismic Design Maps, ,1000 Year 0.2 SEC. Spectral Acceleration*.

ODOT, 2016. *2016 ODOT Seismic Design Maps, 1,000 Year 1.0 SEC. Spectral Acceleration*.

ODOT, 2016. *2016 ODOT Seismic Design Maps, CSZE Peak Ground Acceleration*.

ODOT, 2016. *2016 ODOT Seismic Design Maps, CSZE 0.2 SEC. Spectral Acceleration*.

ODOT, 2016. *2016 ODOT Seismic Design Maps, CSZE 1.0 SEC. Spectral Acceleration*.

ODOT, 2018. *Geotechnical Design Manual.* June 2018 Edition.

ODOT, 2021. *Oregon Standard Specifications for Construction,* Oregon Department of Transportation, 2021 Edition.

FIGURES

VICINITY MAP BASED ON AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH PRO®

GeoDesign Inc AN NV5 COMPANY	CLACKCO-119-01	**VICINITY MAP**	
	MARCH 2021	RUGG ROAD LANDSLIDE DAMASCUS, OR	**FIGURE 1**

Printed By: mmiller | Print Date: 3/15/2021 8:12:27 AM
File Name: J:\A-D\ClackCo\ClackCo-119\ClackCo-119-01\Figures\CAD\Rugg Road Landslide\ClackCo-119-01-VM01.dwg | Layout: FIGURE 1

LEGEND:

B-1 BORING

N

0 60 120

(SCALE IN FEET)

SITE PLAN BASED ON AERIAL PHOTOGRAPH OBTAINED FROM GOOGLE EARTH PRO®, FEBRUARY 8, 2021

SITE PLAN

RUGG ROAD LANDSLIDE
DAMASCUS, OR

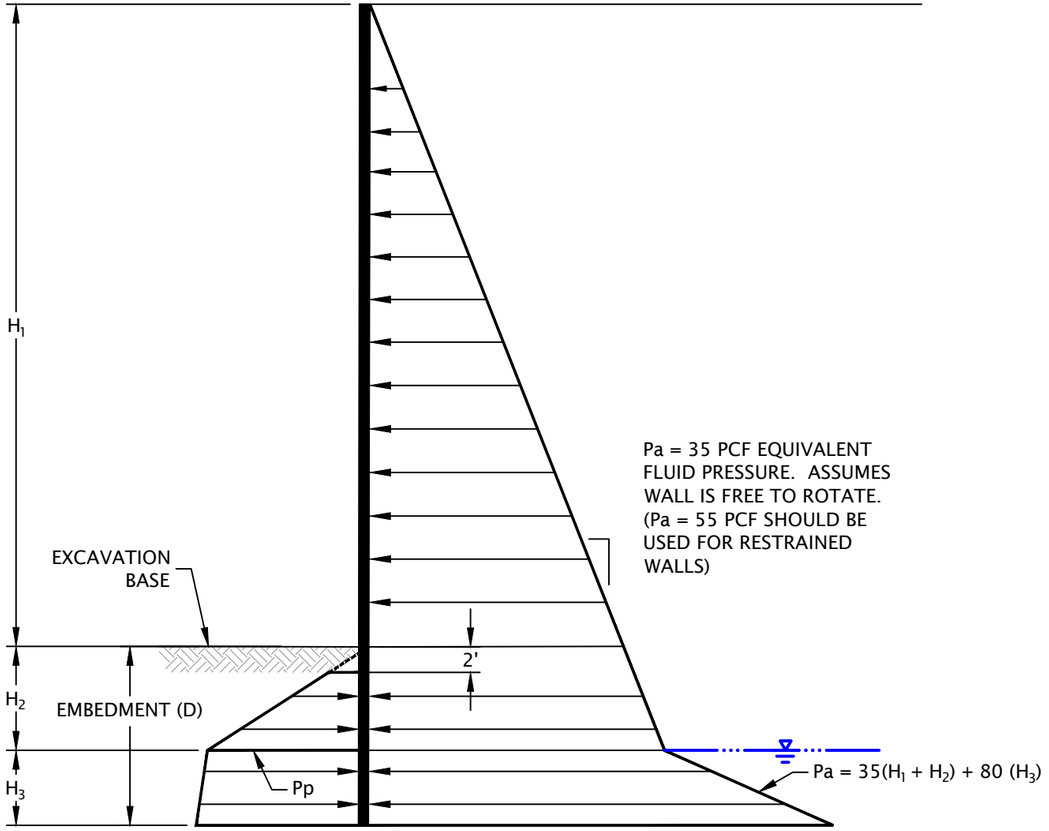
FIGURE 2

CLACKCO-119-01

MARCH 2021

GeoDesign NW AN NV5 COMPANY

RECOMMENDED DESIGN PARAMETERS FOR CANTILEVERED WALL



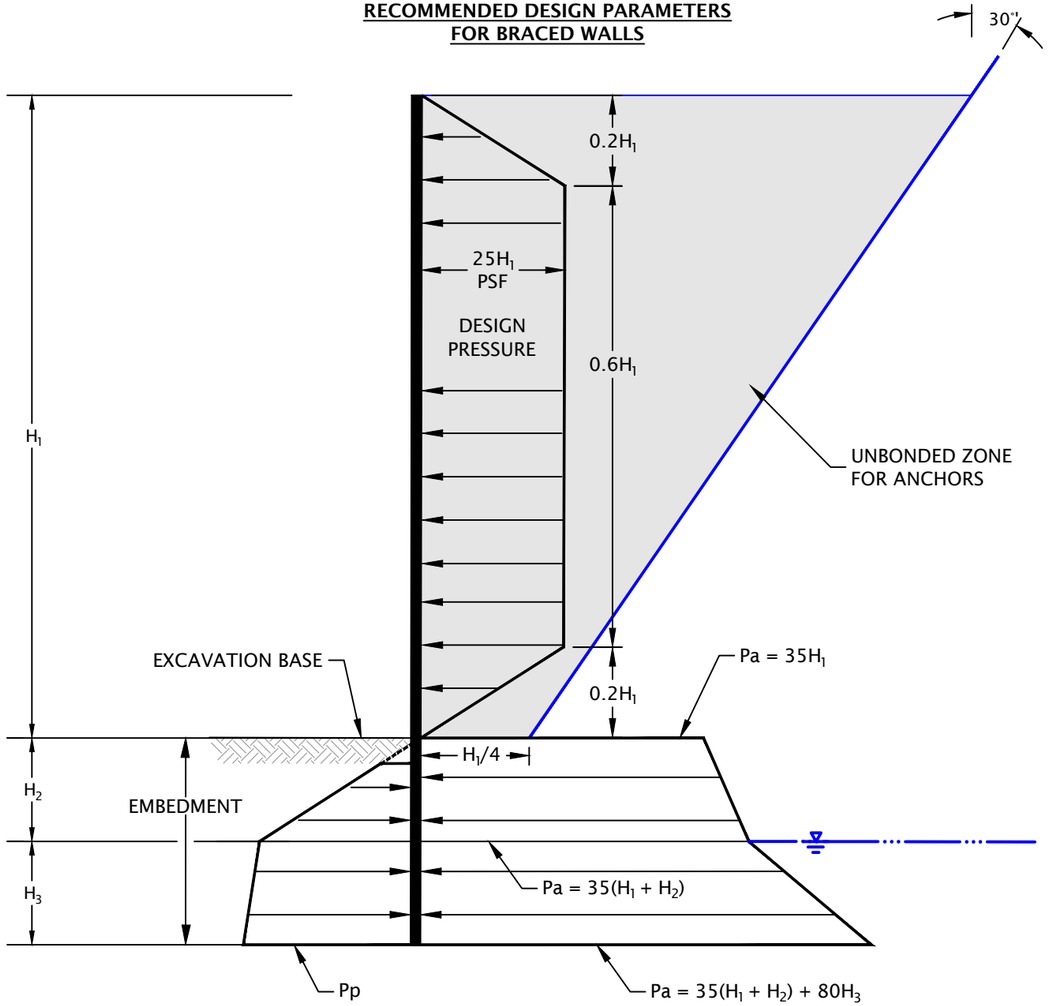
EXPLANATION:

PP = 250 H_2 PCF IN SILT AND CLAY ABOVE WATER TABLE
PP = 350 H_2 PCF IN SAND AND GRAVEL ABOVE WATER TABLE
Pp = 180 H_3 PCF IN SAND AND GRAVEL BELOW WATER TABLE
D = SOLDIER PILE EMBEDMENT DEPTH IN FEET
H_1 = SOLDIER PILE EXPOSED HEIGHT IN FEET
PASSIVE PRESSURE ACTS OVER 2X THE PILE WIDTH
ACTIVE PRESSURE ACTS OVER 1X THE PILE WIDTH BELOW EXCAVATION BASE

NOTES:

1. FIGURE DOES NOT INCLUDE LATERAL EARTH PRESSURES INDUCED BY SLOPED BACKFILL, SURROUNDING LOADS, OR SEISMIC LOADS.
2. LATERAL EARTH PRESSURES ASSUME WATER TABLE IS BELOW THE BASE OF THE EXCAVATION.
3. THE LATERAL EARTH PRESSURES ARE UNFACTORED.
4. PASSIVE PRESSURE RESISTANCE SHOULD BE NEGLECTED 2 FEET BELOW THE BOTTOM OF THE EXCAVATION. ALSO REFER TO THE GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS.
5. REFER TO THE GEOTECHNICAL REPORT FOR APPROPRIATE GROUNDWATER ELEVATION.

RECOMMENDED DESIGN PARAMETERS FOR BRACED WALLS



EXPLANATION:

PP = 250 H_2 PCF IN SILT AND CLAY ABOVE WATER TABLE
PP = 350 H_2 PCF IN SAND AND GRAVEL ABOVE WATER TABLE
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D = SOLDIER PILE EMBEDMENT DEPTH IN FEET
H_1 = SOLDIER PILE EXPOSED HEIGHT IN FEET
PASSIVE PRESSURE ACTS OVER 2X THE PILE WIDTH
ACTIVE PRESSURE ACTS OVER 1X THE PILE WIDTH BELOW THE EXCAVATION BASE

NOTES:

1. FIGURE DOES NOT INCLUDE LATERAL EARTH PRESSURES INDUCED BY SLOPED BACKFILL, SURROUNDING LOADS, OR SEISMIC LOADS.TIEBACKS SHOULD BE LOCKED OFF AT 100 PERCENT OF DESIGN LOAD.
2. THE LATERAL EARTH PRESSURES ARE UNFACTORED.
4. PASSIVE PRESSURE RESISTANCE SHOULD BE NEGLECTED 2 FEET BELOW THE BOTTOM OF THE EXCAVATION. ALSO REFER TO THE GEOTECHNICAL REPORT FOR ADDITIONAL REQUIREMENTS.
5. REFER TO THE GEOTECHNICAL REPORT FOR APPROPRIATE GROUNDWATER ELEVATION.

CANTILEVERED AND BRACED WALLS DESIGN CRITERIA

FIGURE 3

RUGG ROAD LANDSLIDE
DAMASCUS, OR

CLACKCO-119-01

MARCH 2021

GeoDesign
AN NV5 COMPANY

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File Name: J:\A-D\ClackCo\ClackCo-119\ClackCo-119-01\Figures\CAD\Rugg Road Landslide\ClackCo-119-01-DET01.dwg | Layout: FIGURE 3

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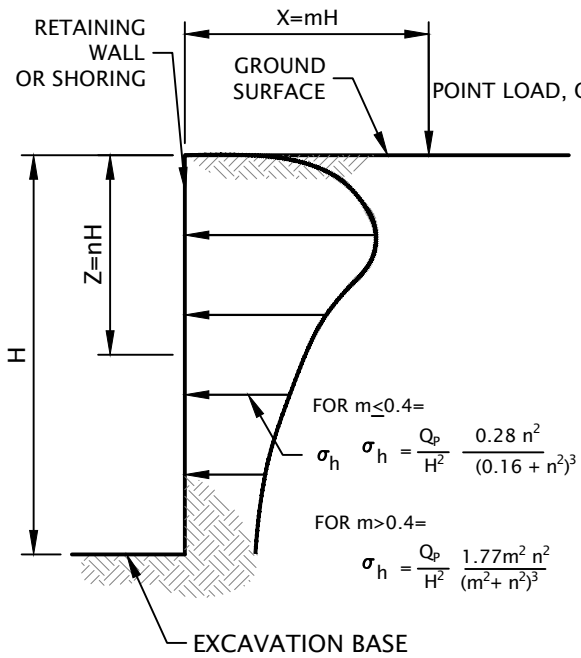
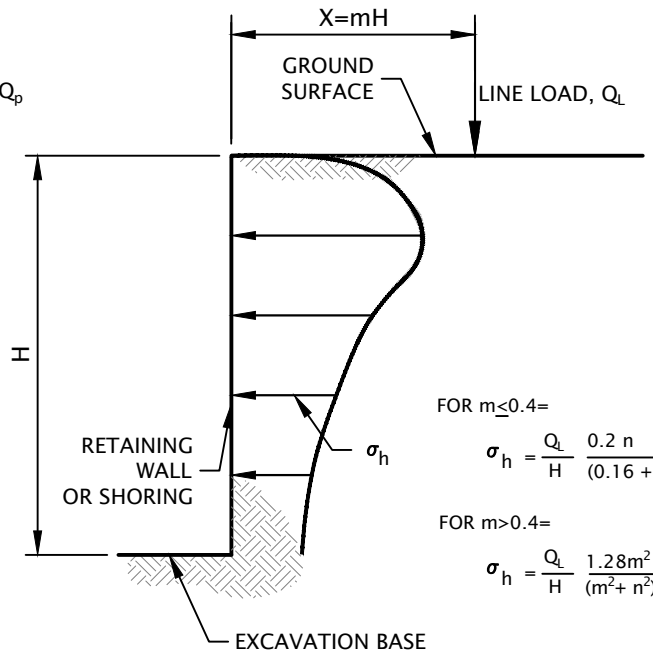
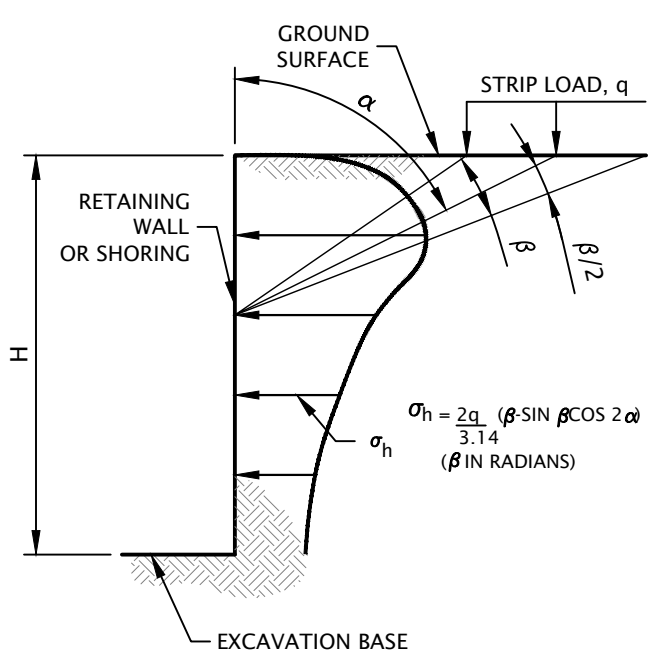
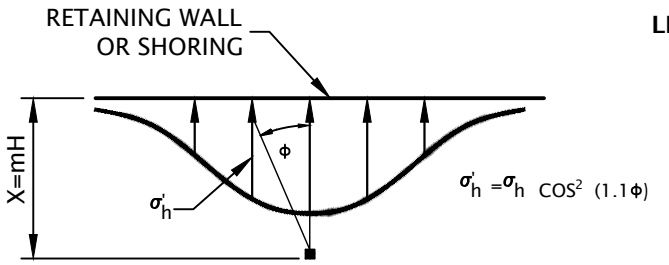
File Name: J:\A-D\ClackCo\ClackCo-119\ClackCo-119-01\Figures\CAD\Rugg Road Landslide\ClackCo-119-01-DET02.dwg | Layout: FIGURE 4









DISTRIBUTION OF HORIZONTAL PRESSURES

VERTICAL POINT LOAD

LINE LOAD PARALLEL TO WALL

STRIP LOAD PARALLEL TO WALL

NOT TO SCALE

NOTES:

1. FIGURE SHOULD BE USED IN CONJUNCTION WITH REPORT TEXT.
2. THESE GUIDELINES APPLY TO RIGID WALLS WITH POISSON'S RATIO ASSUMED TO BE 0.5 FOR BACKFILL MATERIALS.
3. LATERAL PRESSURES FROM ANY COMBINATION OF ABOVE LOADS MAY BE DETERMINED BY THE PRINCIPLE OF SUPERPOSITION.

GEODESIGN INC AN NV5 COMPANY	CLACKCO-119-01	**SURCHARGE-INDUCED LATERAL EARTH PRESSURES**	
	MARCH 2021	RUGG ROAD LANDSLIDE DAMASCUS, OR	**FIGURE 4**

APPENDIX A

APPENDIX A

FIELD EXPLORATIONS

GENERAL

Subsurface conditions at the site were explored by drilling one boring (B-1) to a depth of 48.3 feet BGS. The boring was drilled near the proposed alignment of the retaining wall, approximately 5 feet south of the north edge of the pavement at the slide on SE Rugg Road. The exploration location was determined by pacing from existing site features and should be considered accurate to the degree implied by the methods used. The boring was drilled using mud rotary drilling methods by Western States Soil Conservation, Inc. of Hubbard, Oregon, on February 5, 2021. The boring was drilled with a conventional rubber tire, truck-mounted drill rig under the supervision of GeoDesign personnel. The exploration logs is presented in this appendix.

SOIL SAMPLING

We collected representative samples of the various soils encountered during drilling for geotechnical laboratory testing. Samples were collected from the boring using 3-inch- or 1½-inch-inside diameter, split-spoon samplers in general accordance with ASTM D1586. The samplers were driven into the soil with a 140-pound automatic trip hammer free-falling 30 inches. The samplers were driven a total distance of 18 inches. The number of blows required to drive the samplers the final 12 inches is recorded on the exploration logs, unless otherwise noted. Samples were generally collected at 2.5- to 5-foot intervals throughout the depth of the boring. Sampling methods and intervals are shown on the exploration logs.

The calibration factor for the SPT hammer used by Western States Soil Conservation was 87.4 percent. The calibration testing results are presented at the end of this appendix.

SOIL CLASSIFICATION

The soil samples were classified in the field in accordance with the "Exploration Key" (Table A-1) and "Soil Classification System" (Table A-2), which are presented in this appendix. The exploration logs indicate the depths at which the soil characteristics change, although the change actually could be gradual. If the change occurred between sample locations, the depth was interpreted. Classifications are shown on the exploration logs.

LABORATORY TESTING

Laboratory tests were conducted on select soil samples to confirm field classifications and determine the index engineering properties and strength characteristics. Locations of the tested samples are shown on the exploration logs. Descriptions of the tests and results of the testing completed are presented below.

GRAIN-SIZE TESTING

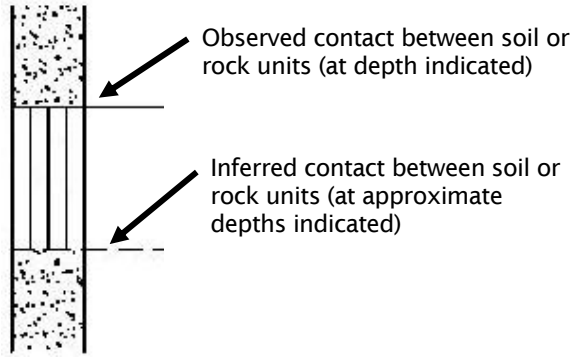
We completed grain-size testing on a select soil sample in order to determine the distribution of soil particle sizes. The testing included sieve analyses with hydrometer in general accordance with ASTM C117, ASTM C136, and ASTM D7928 and percent fines determinations (percent passing the U.S. Standard No. 200 sieve) in general accordance with ASTM D1140. The test results are presented in this appendix.

MOISTURE CONTENT

We tested the natural moisture content of select soil samples in general accordance with ASTM D2216. The test results are presented in this appendix.

SYMBOL	SAMPLING DESCRIPTION
	Location of sample collected in general accordance with ASTM D1586 using Standard Penetration Test with recovery
	Location of sample collected using thin-wall Shelby tube or Geoprobe® sampler in general accordance with ASTM D1587 with recovery
	Location of sample collected using Dames & Moore sampler and 300-pound hammer or pushed with recovery
	Location of sample collected using Dames & Moore sampler and 140-pound hammer or pushed with recovery
	Location of sample collected using 3-inch-O.D. California split-spoon sampler and 140-pound hammer with recovery
	Location of grab sample
	Rock coring interval
	Water level during drilling
	Water level taken on date shown

Graphic Log of Soil and Rock Types



GEOTECHNICAL TESTING EXPLANATIONS

ATT	Atterberg Limits	P	Pushed Sample
CBR	California Bearing Ratio	PP	Pocket Penetrometer
CON	Consolidation	P200	Percent Passing U.S. Standard No. 200 Sieve
DD	Dry Density		
DS	Direct Shear	RES	Resilient Modulus
HYD	Hydrometer Gradation	SIEV	Sieve Gradation
MC	Moisture Content	TOR	Torvane
MD	Moisture-Density Relationship	UC	Unconfined Compressive Strength
NP	Non-Plastic	VS	Vane Shear
OC	Organic Content	kPa	Kilopascal

ENVIRONMENTAL TESTING EXPLANATIONS

CA	Sample Submitted for Chemical Analysis	ND	Not Detected
P	Pushed Sample	NS	No Visible Sheen
PID	Photoionization Detector Headspace Analysis	SS	Slight Sheen
		MS	Moderate Sheen
ppm	Parts per Million	HS	Heavy Sheen

RELATIVE DENSITY - COARSE-GRAINED SOIL

Relative Density	Standard Penetration Resistance	Dames & Moore Sampler (140-pound hammer)	Dames & Moore Sampler (300-pound hammer)
Very Loose	0 – 4	0 – 11	0 – 4
Loose	4 – 10	11 – 26	4 – 10
Medium Dense	10 – 30	26 – 74	10 – 30
Dense	30 – 50	74 – 120	30 – 47
Very Dense	More than 50	More than 120	More than 47

CONSISTENCY - FINE-GRAINED SOIL

Consistency	Standard Penetration Resistance	Dames & Moore Sampler (140-pound hammer)	Dames & Moore Sampler (300-pound hammer)	Unconfined Compressive Strength (tsf)
Very Soft	Less than 2	Less than 3	Less than 2	Less than 0.25
Soft	2 – 4	3 – 6	2 – 5	0.25 – 0.50
Medium Stiff	4 – 8	6 – 12	5 – 9	0.50 – 1.0
Stiff	8 – 15	12 – 25	9 – 19	1.0 – 2.0
Very Stiff	15 – 30	25 – 65	19 – 31	2.0 – 4.0
Hard	More than 30	More than 65	More than 31	More than 4.0

PRIMARY SOIL DIVISIONS			GROUP SYMBOL	GROUP NAME
COARSE-GRAINED SOIL (more than 50% retained on No. 200 sieve)	GRAVEL (more than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVEL (< 5% fines)	GW or GP	GRAVEL
		GRAVEL WITH FINES (≥ 5% and ≤ 12% fines)	GW-GM or GP-GM	GRAVEL with silt
			GW-GC or GP-GC	GRAVEL with clay
		GRAVEL WITH FINES (> 12% fines)	GM	silty GRAVEL
			GC	clayey GRAVEL
			GC-GM	silty, clayey GRAVEL
	SAND (50% or more of coarse fraction passing No. 4 sieve)	CLEAN SAND (<5% fines)	SW or SP	SAND
		SAND WITH FINES (≥ 5% and ≤ 12% fines)	SW-SM or SP-SM	SAND with silt
			SW-SC or SP-SC	SAND with clay
		SAND WITH FINES (> 12% fines)	SM	silty SAND
			SC	clayey SAND
			SC-SM	silty, clayey SAND
FINE-GRAINED SOIL (50% or more passing No. 200 sieve)	SILT AND CLAY	Liquid limit less than 50	ML	SILT
			CL	CLAY
			CL-ML	silty CLAY
			OL	ORGANIC SILT or ORGANIC CLAY
		Liquid limit 50 or greater	MH	SILT
			CH	CLAY
			OH	ORGANIC SILT or ORGANIC CLAY
HIGHLY ORGANIC SOIL			PT	PEAT

MOISTURE CLASSIFICATION

Term	Field Test
dry	very low moisture, dry to touch
moist	damp, without visible moisture
wet	visible free water, usually saturated

ADDITIONAL CONSTITUENTS

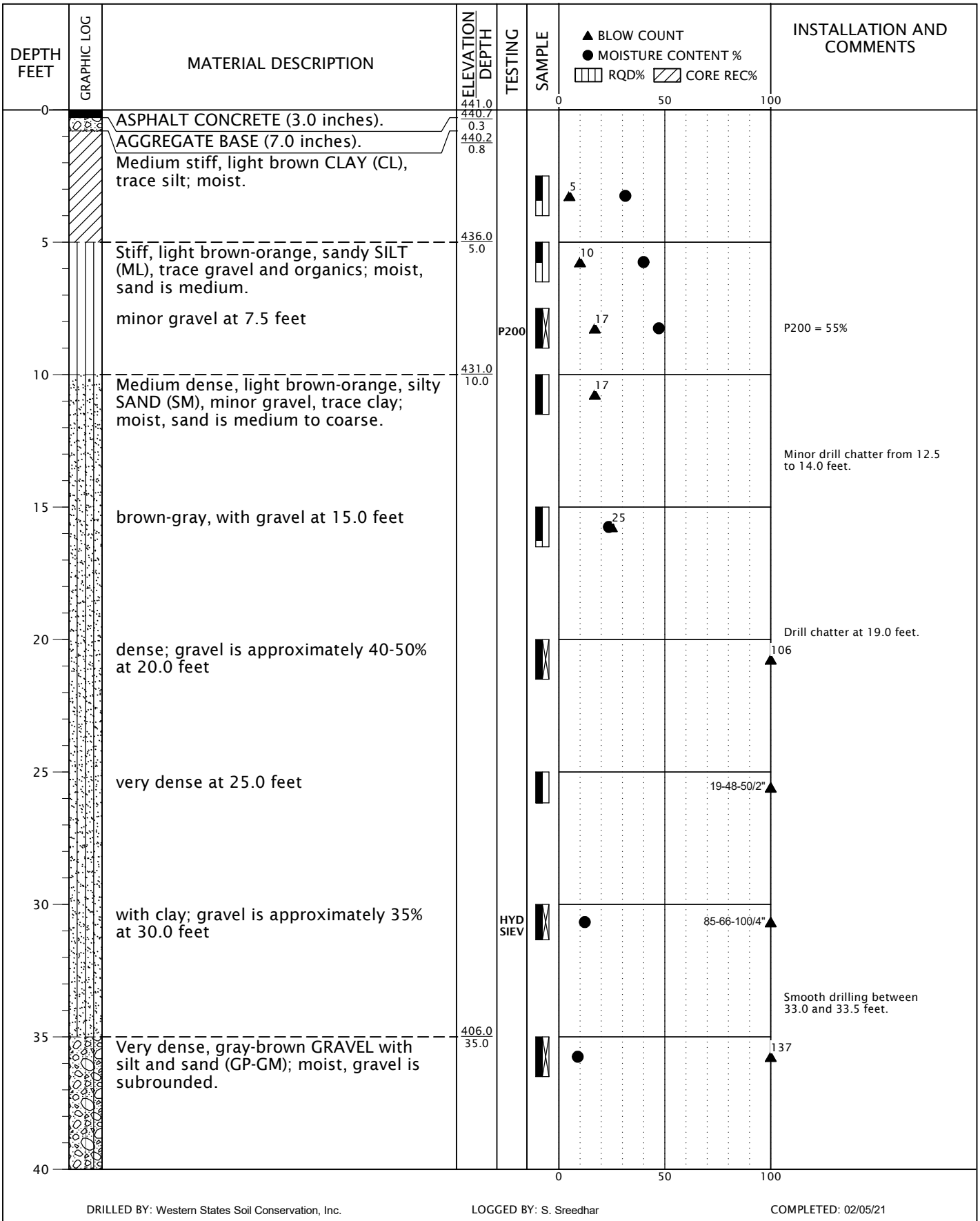
Secondary granular components or other materials such as organics, man-made debris, etc.

Percent	Silt and Clay In: Fine-Grained Soil	Silt and Clay In: Coarse-Grained Soil	Percent	Sand and Gravel In: Fine-Grained Soil	Sand and Gravel In: Coarse-Grained Soil
< 5	trace	trace	< 5	trace	trace
5 – 12	minor	with	5 – 15	minor	minor
> 12	some	silty/clayey	15 – 30	with	with
			> 30	sandy/gravelly	Indicate %

GEODESIGN INC AN NV5 COMPANY

SOIL CLASSIFICATION SYSTEM

TABLE A-2



DRILLED BY: Western States Soil Conservation, Inc. LOGGED BY: S. Sreedhar COMPLETED: 02/05/21

BORING METHOD: mud rotary (see document text) BORING BIT DIAMETER: 4 7/8 inches

GEODESIGN INC AN NV5 COMPANY

CLACKCO-119-01

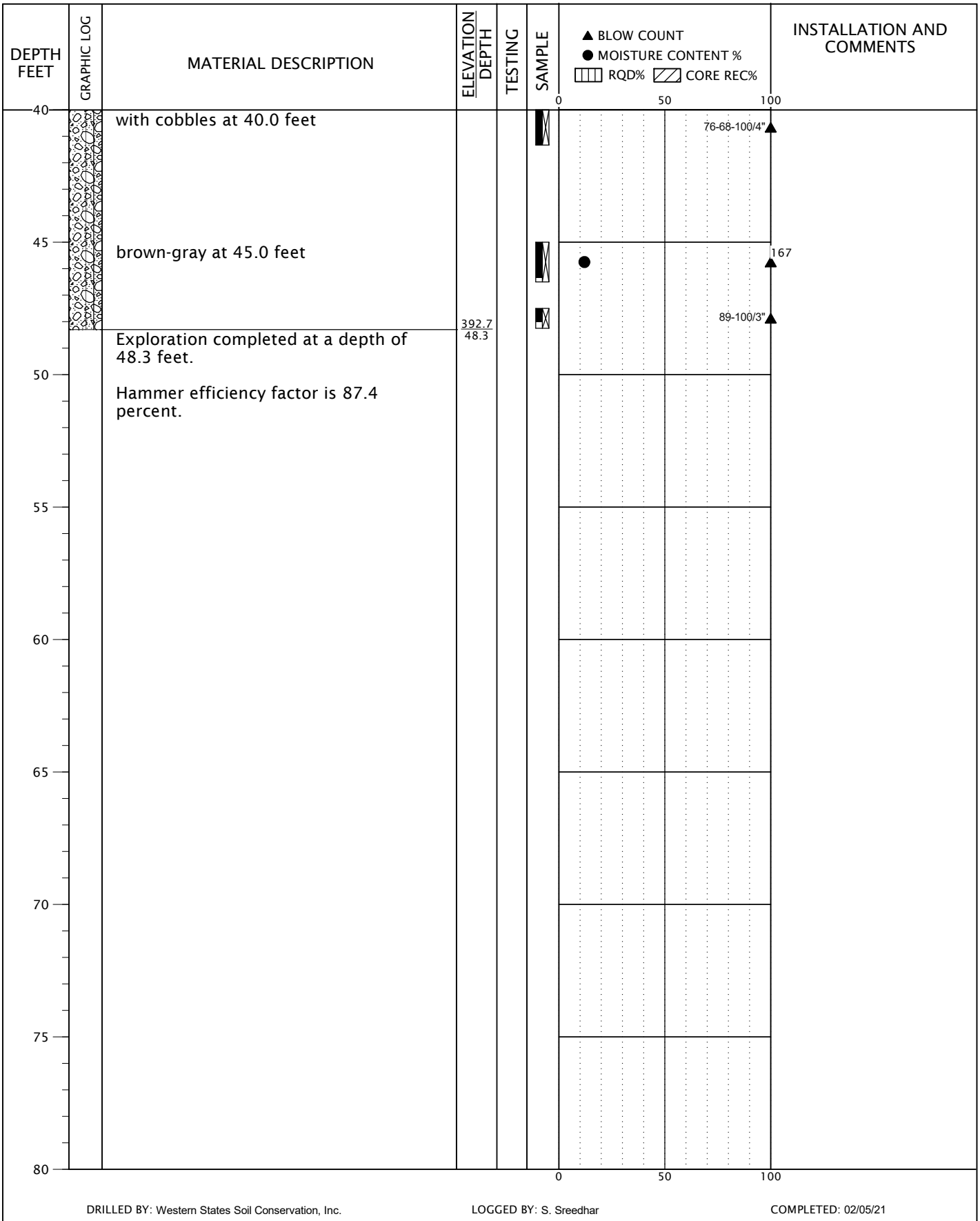
BORING B-1

MARCH 2021

RUGG ROAD LANDSLIDE
DAMASCUS, OR

FIGURE A-1

BORING LOG - GDI-NV5 - 1 PER PAGE CLACKCO-119-01-B1.GPJ GDI_NV5.GDT PRINT DATE: 2/27/21 MGL:KT



DRILLED BY: Western States Soil Conservation, Inc. LOGGED BY: S. Sreedhar COMPLETED: 02/05/21

BORING METHOD: mud rotary (see document text) BORING BIT DIAMETER: 4 7/8 inches

GEODESIGN INC AN NV5 COMPANY

CLACKCO-119-01

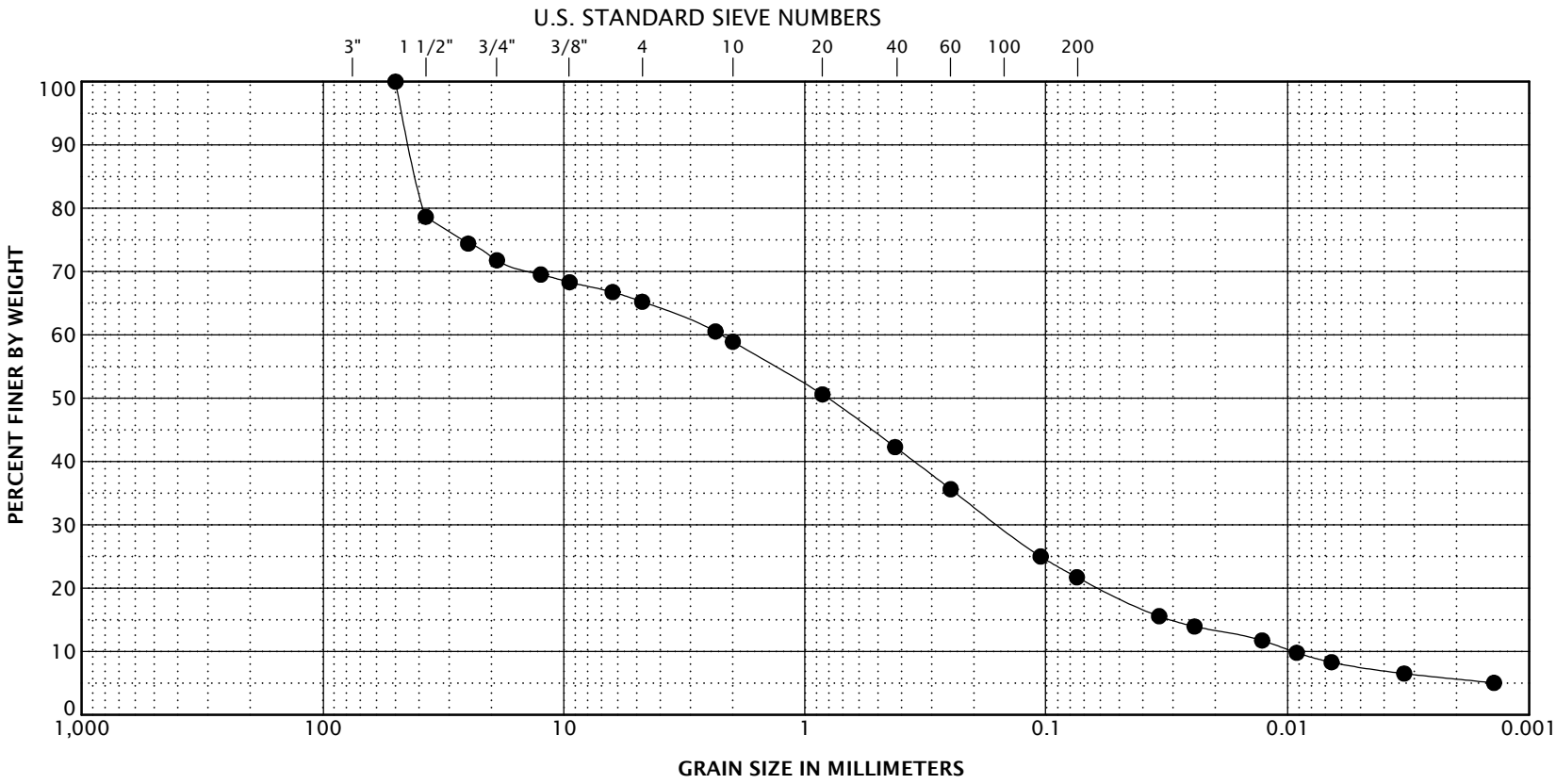
BORING B-1
(continued)

MARCH 2021

RUGG ROAD LANDSLIDE
DAMASCUS, OR

FIGURE A-1

BORING LOG - GDI-NV5 - 1 PER PAGE CLACKCO-119-01-B1.GPJ GDI_NV5.GDT PRINT DATE: 2/27/21 MGL:KT



BOULDERS	COBBLES	GRAVEL		SAND			FINES	
		COARSE	FINE	COARSE	MEDIUM	FINE	SILT	CLAY

KEY	EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	MOISTURE CONTENT (PERCENT)	D60	D50	D30	D10	D5	GRAVEL (PERCENT)	SAND (PERCENT)	SILT (PERCENT)	CLAY (PERCENT)
●	B-1	30.0	12	2.23	0.81	0.16	0.01		35	44	14	8

GEODESIGN INC
AN NV5 COMPANY

CLACKCO-119-01

MARCH 2021

GRAIN-SIZE TEST RESULTS

RUGG ROAD LANDSLIDE
DAMASCUS, OR

FIGURE A-2

SAMPLE INFORMATION			MOISTURE CONTENT (PERCENT)	DRY DENSITY (PCF)	SIEVE			ATTERBERG LIMITS		
EXPLORATION NUMBER	SAMPLE DEPTH (FEET)	ELEVATION (FEET)			GRAVEL (PERCENT)	SAND (PERCENT)	P200 (PERCENT)	LIQUID LIMIT	PLASTIC LIMIT	PLASTICITY INDEX
B-1	2.5	438.5	31							
B-1	5.0	436.0	40							
B-1	7.5	433.5	47				55			
B-1	15.0	426.0	24							
B-1	30.0	411.0	12		35	44	22			
B-1	35.0	406.0	9							
B-1	45.0	396.0	12							

Pile Dynamics, Inc.
SPT Analyzer Results

RIG #9
PDA-S Ver. 2018.30 - Printed: 4/15/2020

Summary of SPT Test Results

Project: WSSC-8-05, Test Date: 4/13/2020

EMX: Maximum Energy — ETR: Energy Transfer Ratio - Rated

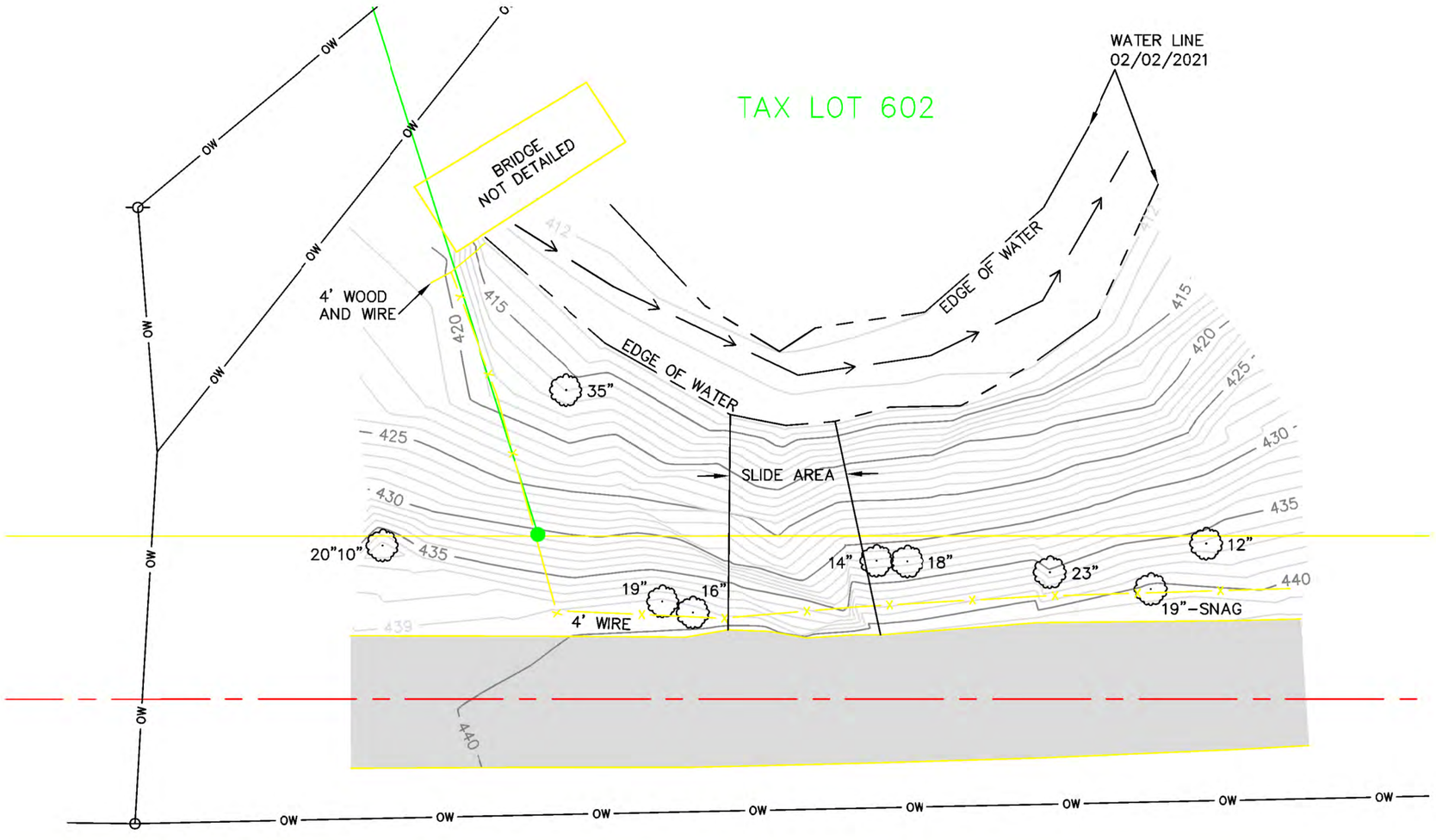
Start Depth ft	Final Depth ft	**N Value**	**N60 Value**	Average EMX ft-lb	Average ETR %
42.50	44.00	**18**	**26**	306.23	87.5
45.00	46.50	**17**	**24**	304.53	87.0
50.00	51.50	**12**	**17**	305.90	87.4
52.50	54.00	**26**	**37**	306.91	87.7
			Overall Average Values:	306.02	87.4
			Standard Deviation:	4.49	1.3
			Overall Maximum Value:	313.51	89.6
			Overall Minimum Value:	294.12	84.0

APPENDIX B

APPENDIX B

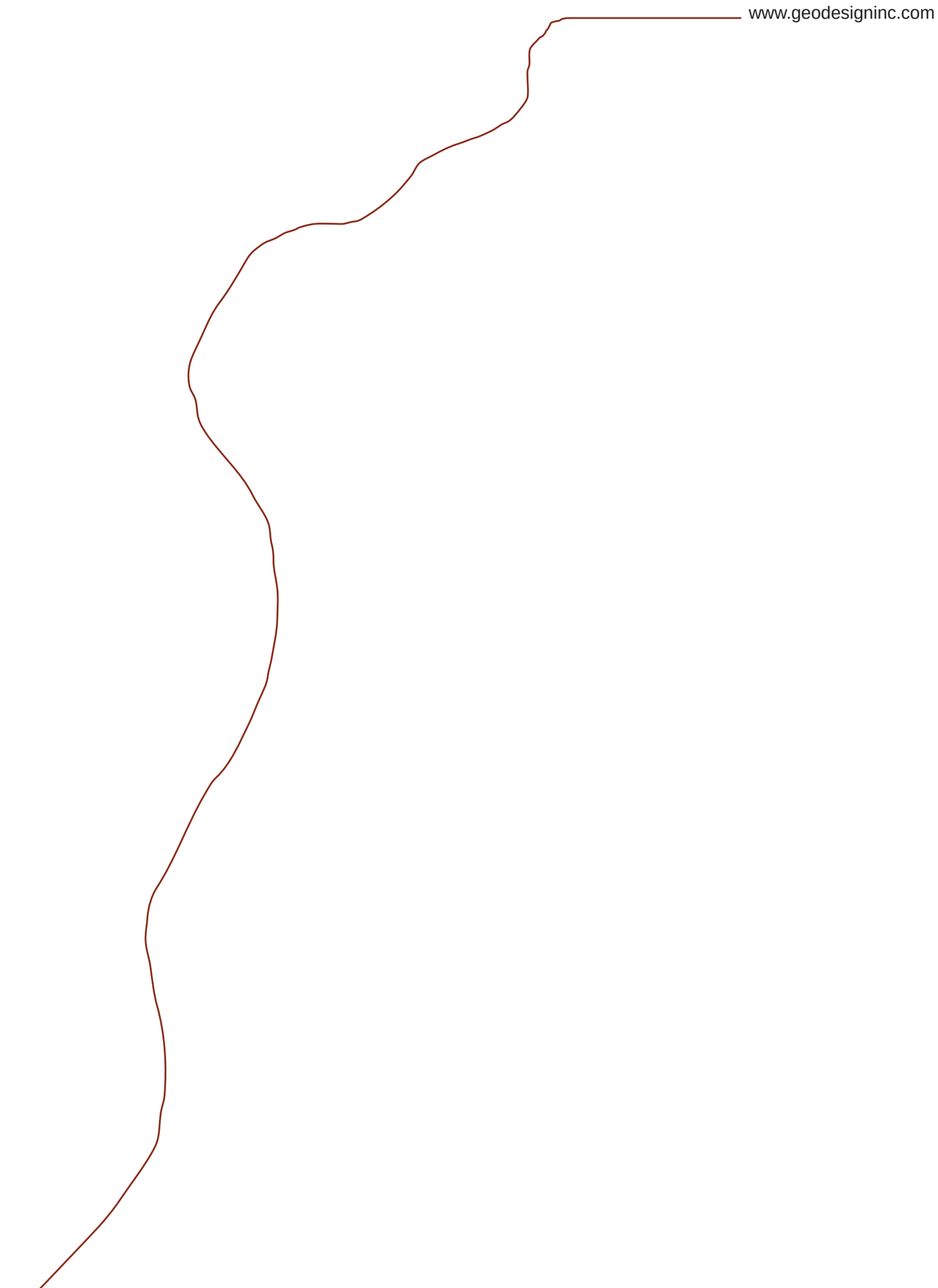
TOPOGRAPHIC SURVEY PLAN

A topographic survey plan prepared by Harper Houf Peterson Righellis, Inc. is presented in this appendix.



CAUTION:
TELCO RISER NEAR POLE
POSSIBLE UNDERGROUND
TELCOM ALONG SOUTH
EDGE OF ROAD

one inch = 20 feet


www.geodesigninc.com

INVITATION TO BID #2024-02
Rugg Road Landslide, MP 0.70 Project
ADDENDUM NUMBER 1
January 24, 2024

On January 11, 2024, Clackamas County ("County") published Invitation to Bid #2024-02 ("BID"). The County has found that it is in its interest to amend the BID through the issuance of this Addendum #1. Except as expressly amended below, all other terms and conditions of the original BID and subsequent Addenda shall remain unchanged.

1. **The following changes are hereby made to the Project Specifications and Drawings:** Remove and replace full drawing set Rugg Road Slide Repair Construction Project Drawing Set, Sheets No. 01; 01A, GR01, WA01, WA02, WA03, WA04, DE01, DE02, DE03, EC (11 pages)

Attachments:

- Rugg Road Slide Repair Construction Project Drawing Set

End of Addendum 1

CLACKAMAS COUNTY
DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

RUGG RD SLIDE REPAIR
CONSTRUCTION

EARTHWORK, WALLS, GUARDRAIL, STORM WATER, SIGNS & STRIPING

CLACKAMAS COUNTY OREGON

JULY 2021

INDEX OF SHEETS	
01	TITLE SHEET
01A	LEGEND
WA01	GENERAL NOTE AND PILE SCHEDULE
WA02	WALL PLAN AND ELEVATION
WA03	WALL DETAILS
GR01	PAVING AND GUARDRAIL DETAILS
DE01	DETOUR PLAN
DE02	TRAFFIC DETAILS
DE03 & DE04	DETOUR INTERSECTION DETAILS

ODOT STANDARD DRAWING NUMBERS

BR203	TRANSITION CONCRETE BRIDGE RAIL TO GUARDRAIL
BR207	2-TUBE CURB MOUNT RAIL TRANSITION
BR760	MOMENT SLAB WITH 32-INCH TYPE "F" BRIDGE RAIL (BARRIER COPING) ON MSE WALL
RD400	GUARDRAIL AND METAL MEDIAN BARRIER (29" RAIL HEIGHT)
RD405	GUARDRAIL AND METAL MEDIAN BARRIER PARTS (29" RAIL HEIGHT)
RD415	GUARDRAIL AND METAL MEDIAN BARRIER PARTS (29" RAIL HEIGHT)
RD420	MIDWEST GUARDRAIL SYSTEM NON-FLARED ENERGY-ABSORBING TERMINAL
RD701	DRAINAGE CURBS
TM800	TABLES, ABRUPT EDGE AND PCMS DETAILS
TM810	TEMPORARY PAVEMENT MARKINGS
TM820	TEMPORARY BARRICADES
TM840	CLOSURE DETAILS

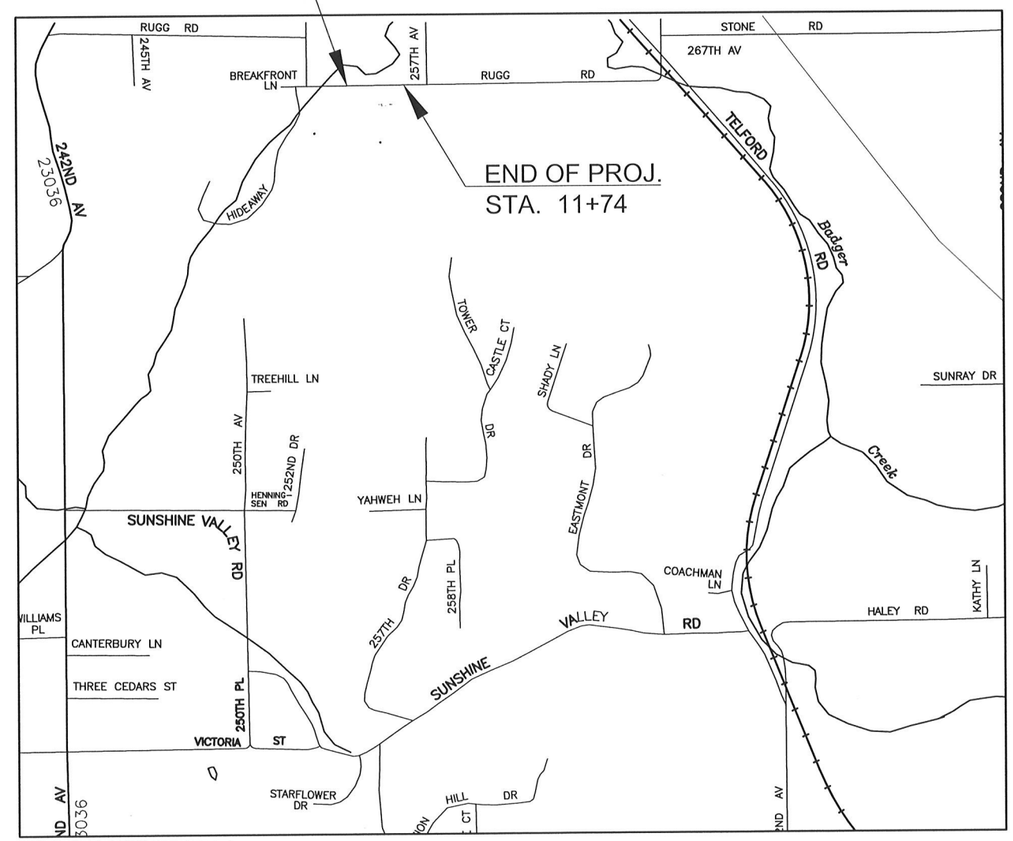
VERTICAL DATUM
ELEVATION DATUM: NAVD 88 PER GPS

HORIZONTAL DATUM
LOCAL DATUM PLANE GROUND COORDINATES BASED ON THE OREGON COORDINATE REFERENCE SYSTEM - PORTLAND ZONE - REFERENCE FRAME NAD83(2011)(EPOCH: 2010.00) INTERNATIONAL FEET.

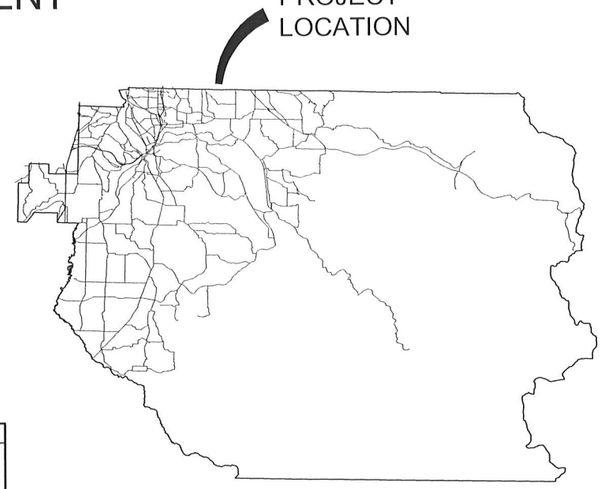
NOTES
PROPERTY LINES SHOWN ARE BASED ON FOUND MONUMENTS AND RECORD SURVEY DATA. THE PROPERTY BOUNDARY LINES SHOWN ARE FOR REFERENCE ONLY AND SHOULD BE CONSIDERED APPROXIMATE.

BEGINNING OF PROJ.
STA. 8+99

END OF PROJ.
STA. 11+74



VICINITY MAP
NOT TO SCALE



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 OAR 952-001-0090. You May Obtain Copies Of The Rules From The Center.

LET'S ALL WORK TOGETHER TO MAKE THIS JOB SAFE

N

T. 1S, R. 3E SEC. 26

REGISTERED PROFESSIONAL ENGINEER
19376PE
Joel R Howie
OREGON
JULY 22, 1997
JOEL RICHARD HOWIE
Exp: 6/30/23

TITLE SHEET

RUGG ROAD SLIDE REPAIR

DATE: AUGUST 2021 | PROJECT NO.: CI-22346

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

DIRECTOR
DAN JOHNSON

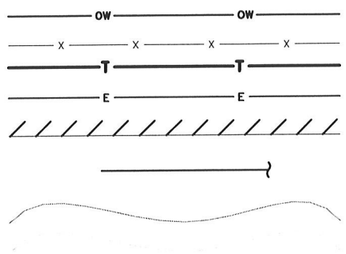
DESIGNED BY:	DRAFTED BY:	CHECKED BY:
RK	RK	DTD

REVISIONS

NO.	DATE:

Sheet No. 01

EXISTING FEATURES LEGEND:



OVERHEAD WIRE

FENCE LINE, TYPE AS NOTED

TELEPHONE LINE

ELECTRIC LINE

BUILDING LINE

UTILITY LINE IS BELIEVED TO CONTINUE, CONNECTION NOT LOCATED OR UNKNOWN

MAJOR CONTOUR - 5' INTERVALS

MINOR CONTOUR - 1' INTERVALS

UTILITY POLE

UTILITY POLE
W/ UNDERGROUND UTILITIES

GATE POST

BOLLARD
BO

GUY WIRE

SINGLE POST SIGN

CONIFEROUS TREE
(APPROXIMATE DIAMETER BREAST HIGH AS NOTED)

DECIDUOUS TREE
(APPROXIMATE DIAMETER BREAST HIGH AS NOTED)

FOUND MONUMENT PROTECT.

EXISTING CONCRETE SURFACE

EXISTING ASPHALT SURFACE

EXISTING GRAVEL SURFACE

NOTE: SYMBOLS SHOWN HEREON ARE FOR GRAPHICAL REPRESENTATION PURPOSES AND DO NOT NECESSARILY SHOW SHAPE, SIZE, ROTATION, CONDITION, TYPE, ETC. OF THE ACTUAL PHYSICAL IMPROVEMENTS THAT THEY REPRESENT. CONDITION, TYPE, ROTATION, ETC. MAY VARY AMONGST ITEMS SHOWN BY THE SAME SYMBOL.

ABBREVIATIONS

APPROX	APPROXIMATE	EMB	EMBANKMENT	MIN	MINIMUM	Sq Ft	SQUARE FEET
CB	CATCH BASIN (INLET)	EQUA	EQUATION	NE	NORTHEAST	STD	STANDARD
CL	CENTERLINE	EXC	EXCAVATION	NW	NORTHWEST	STA	STATION
CTR	CENTER	EXTG	EXISTING	No.	NUMBER	STL	STEEL
COMP	COMPACTED	FH	FIRE HYDRANT	OFF	OFFSET	ST	STREET
CONC	CONCRETE	FL	FLOW LINE	OH/P/T/C	OVERHEAD///UTILITIES	STRM	STORM
CONST	CONSTRUCT	FND	FOUND	P	POWER	STR, STRUCT	STRUCTURE
CONT	CONTINUOUS	FDTN	FOUNDATION	PP	POWER (UTILITY) POLE	SURF	SURFACING
COR	CORNER	FT	FEET	PPL	POWER POLE W/ LIGHT	T(1-3)	TOWNSHIP
Cu.Yd.	CUBIC YARD	GA	GAGE	PER	PERPENDICULAR	T, TEL	TELEPHONE
CULV	CULVERT	GALV	GALVANIZED	PL	PLATE	TEMP	TEMPORARY
DIA	DIAMETER	G V	GAS VALVE	R(1-7)	RANGE	THKN	THICKNESS
DIST	DISTANCE	GAR	GARAGE	REM	REMOVE	TYP SECT	TYPICAL SECTION
DLC	DONATION LAND CLAIM	GEN	GENERAL	RT	RIGHT	VAR	VARIABLE
DWG	DRAWING	HT	HEIGHT	R/W, ROW	RIGHT OF WAY	VERT	VERTICAL
DR	DRIVE	HWY	HIGHWAY	SAN	SANITARY	W M	WILLAMETTE MERIDIAN
DWY	DRIVEWAY	HORIZ	HORIZONTAL	SECT	SECTION	WAT	WATER
EA	EACH	IE	INVERT ELEV	SEW	SEWER	WAT M	WATER METER
E	EAST	IN PL	IN PLACE	SL	SLOPE	WV	WATER VALVE
EASE	EASEMENT (ALL PURPOSES)	INST	INSTALL	S	SOUTH	W	WEST
EL, ELEV	ELEVATION	LT	LEFT	SE	SOUTHEAST		
		MAX	MAXIMUM	SW	SOUTHWEST		

REGISTERED PROFESSIONAL ENGINEER
19376PE
Joel R Howie
OREGON
JULY 22, 1997
JOEL RICHARD HOWIE
Exp: 6/30/23

LEGEND

RUGG ROAD SLIDE REPAIR

DATE: AUGUST 2021 | PROJECT NO.: CI-22346

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

DIRECTOR
DAN JOHNSON

DESIGNED BY: RK | DRAFTED BY: RK | CHECKED BY: DTD

REVISIONS

NO	DATE:

Sheet No. 01A

SOLDIER PILE WALL GENERAL NOTES:

DESIGN SPECIFICATIONS - AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, EIGHTH EDITION 2017.

PROVIDE ALL MATERIALS AND PERFORM ALL WORK ACCORDING TO 2021 OREGON STANDARD SPECIFICATIONS FOR CONSTRUCTION.

THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF EXISTING UTILITIES IN THE FIELD PRIOR TO COMMENCEMENT OF WORK.

PROVIDE A MINIMUM SERVICE LIFE OF 75 YEARS FOR WALL COMPONENTS.

THESE DIMENSIONS SHALL DETERMINE THE MINIMUM DIMENSIONS FOR CONSTRUCTION OF WALLS.

THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES TO MAINTAIN ALL DRILLED HOLES OR SHAFTS FREE FROM SLOUGHING OR CAVING OF SURROUNDING SOIL. CONTRACTOR SHALL PROVIDE CASING, USING AUGER CAST METHODS, OR OTHER APPROVED METHODS AS NEEDED TO MEET THIS REQUIREMENT (SEE SPECIAL PROVISIONS).

PROVIDE CLASS 3300 - 1½", 1", OR ¾" STRUCTURAL CONCRETE FOR MOMENT SLAB AND WALL FASCIA.

CONTROLLED LOW STRENGTH MATERIAL (CLSM) FOR PREBORED HOLES SHALL ATTAIN A 28 DAY COMPRESSIVE STRENGTH OF 100-200 PSI.

PROVIDE STRUCTURAL STEEL ACCORDING TO ASTM SPECIFICATIONS A 572 GRADE 50 FOR SOLDIER PILE.

PROVIDE ALL REINFORCING STEEL ACCORDING TO ASTM A706 OR AASHTO M31 (ASTM A 615) GRADE 60. USE THE FOLLOWING SPLICE LENGTHS UNLESS SHOWN OTHERWISE.

SOLDIER PILE WALL CONSTRUCTION NOTES:

1. PERFORM GENERAL EXCAVATION AND STRUCTURAL EXCAVATION AS SHOWN ON PLANS TO THE APPROXIMATE LEVEL OF TOP OF SOLDIER PILE WALL.
2. DRILL THE PREBORED HOLE, INSTALL FABRICATED SOLDIER PILE AND POUR CLSM TO 1 FT MIN BELOW TOP OF WALL. REMOVE TEMPORARY METAL CASING BEFORE CONCRETE SETS, IF USED.
3. NO PREBORING SHALL OCCUR WITHIN 2 SOLDIER PILE SPACES OF A PREVIOUSLY PREBORED HOLE UNLESS THE CONCRETE IN THE PREVIOUS HOLE HAS SET FOR A MINIMUM OF 24 HRS.
4. CONTINUE WITH STEP 1 AND 2 UNTIL ALL SOLDIER PILES HAVE BEEN INSTALLED.
5. THE CONSTRUCTION OF TIMBER LAGGING IS FROM THE TOP OF SOLDIER PILE DOWNWARDS.
6. PERFORM TOP DOWN STRUCTURE EXCAVATION IN LIFTS NOT EXCEEDING 5.0 FT IN HEIGHT.
7. CONSTRUCT CAST-IN-PLACE FACING AFTER THE TIMBER LAGGING IN FRONT OF SOLDIER PILE WALL IS COMPLETE.

REINFORCING SPLICE LENGTHS (CLASS B) GRADE 60 F'C = 3.3 KSI, λrc =0.4, 2 IN MIN. CONCRETE CLEAR COVER											
BAR SIZE	#3	#4	#5	#6	#7	#8	#9	#10	#11	#14	#18
UNCOATED	1'-4"	1'-9"	2'-2"	2'-7"	3'-0"	3'-5"	3'-10"	4'-4"	4'-10"	NOT PERMITTED	

SPLICE REINFORCING STEEL AT ALTERNATE BARS, STAGGERED AT LEAST ONE SPLICE LENGTH OR AS FAR AS POSSIBLE, UNLESS SHOWN OTHERWISE.

ALL REINFORCING SPACING SHALL HAVE 2" OF CONCRETE COVER UNLESS SHOWN OTHERWISE.

PROVIDE A 3/4" CHAMFER ON ALL EXPOSED CONCRETE EDGES UNLESS NOTED OTHERWISE.

SOLDIER PILE SCHEDULE

WALL INFORMATION												
WALL NO.	PILE NO.	WALL STATION	SOLDIER PILE SIZE	SHAFT DIAMETER (FT.)	TOP OF WALL EL.	TOP OF PILE EL.	FINISH GRADE EL.	BOT. OF WALL EL.	FASCIA HEIGHT, H (FT.)	PILE TIP EL.	PILE LENGTH (FT.)	FINISH GROUND EL.* (FT.)
W1	1	09+86.00	W18x55	2.5	437.98	436.98	439.81	435.88	2.10	407.08	29.90	439.81
	2	09+92.00	W18x55	2.5	438.12	437.12	439.95	434.00	4.12	407.22	29.90	437.88
	3	09+98.00	W18x55	2.5	438.26	437.26	440.09	432.13	6.13	407.36	29.90	436.00
	4	10+04.00	W18x55	2.5	438.40	437.40	440.24	430.57	7.83	407.50	29.90	434.13
	5	10+10.00	W18x106	2.5	438.54	437.54	440.38	428.63	9.92	399.44	38.10	432.59
	6	10+16.00	W18x119	2.5	438.69	437.69	440.52	426.77	11.92	398.00	39.69	431.03
	7	10+22.00	W18x119	2.5	438.83	437.83	440.66	426.16	12.67	398.14	39.69	429.50
	8	10+28.00	W18x119	2.5	438.97	437.97	440.80	426.14	12.83	398.28	39.69	429.56
	9	10+34.00	W18x119	2.5	439.11	438.11	440.95	426.11	13.00	398.42	39.69	429.66
	10	10+40.00	W18x119	2.5	439.25	438.25	441.09	426.09	13.17	398.56	39.69	429.72
	11	10+46.00	W18x119	2.5	439.40	438.40	441.23	426.65	12.75	398.71	39.69	430.34
	12	10+52.00	W18x106	2.5	439.54	438.54	441.37	427.04	12.50	400.44	38.10	430.97
	13	10+58.00	W18x106	2.5	439.68	438.68	441.51	427.76	11.92	400.58	38.10	431.56
	14	10+64.00	W18x106	2.5	439.82	438.82	441.66	428.24	11.58	400.72	38.10	432.19
	15	10+70.00	W18x55	2.5	439.96	438.96	441.80	429.38	10.58	409.06	29.90	434.69
	16	10+76.00	W18x55	2.5	440.11	439.11	441.94	432.69	7.42	409.21	29.90	437.19
	17	10+82.00	W18x55	2.5	440.25	439.25	442.08	435.19	5.06	409.35	29.90	439.72
	18	10+88.00	W18x55	2.5	440.39	439.39	442.23	437.72	2.67	409.49	29.90	442.23

* FINISH GROUND ELEVATION IS AT THE FRONT FACE OF WALL.

REGISTERED PROFESSIONAL ENGINEER
72845PE
OREGON
JULY 15, 2003
JOEL BRANDON TUBBS
RENEWS: 6/30/2024

GENERAL NOTES AND PILE SCHEDULE

RUGG ROAD SLIDE REPAIR

PROJECT NO.: 22346

DATE: JUNE 2021

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

DIRECTOR
DAN JOHNSON

DESIGNED BY: JJDZ
DRAFTED BY: SXGO
CHECKED BY: JBT

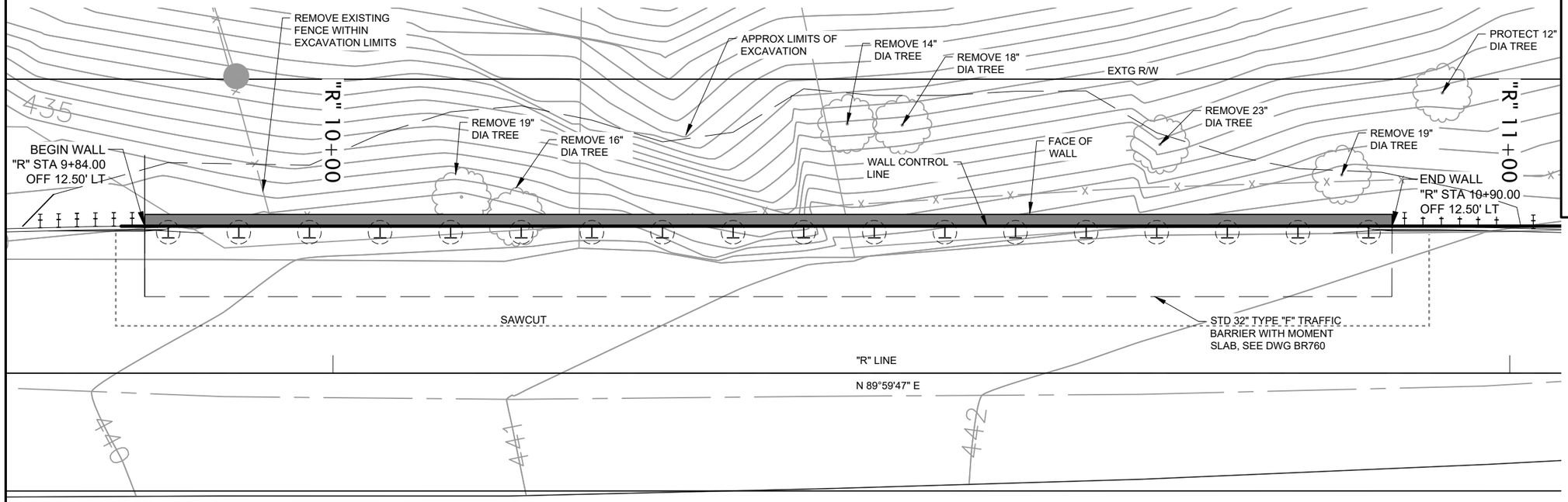
REVISIONS

NO.	DATE:

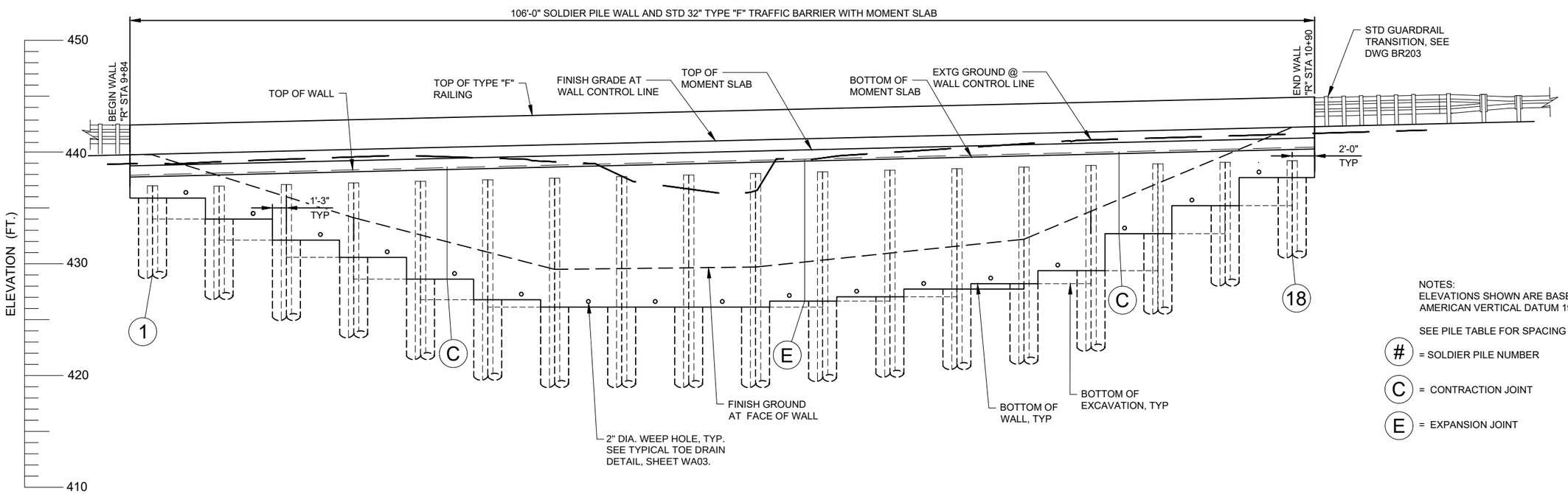
DAVID EVANS AND ASSOCIATES INC.
2100 SW River Parkway
Portland Oregon 97201
Phone: 503.223.6663

Sheet No.
WA01

FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST



PLAN
SCALE: 1" = 10'–0"



REFLECTIVE DEVELOPED ELEVATION
SCALE: 1" = 10'–0"

NOTES:
ELEVATIONS SHOWN ARE BASED ON NORTH AMERICAN VERTICAL DATUM 1988 (NAVD88).

SEE PILE TABLE FOR SPACING

(#) = SOLDIER PILE NUMBER

(C) = CONTRACTION JOINT

(E) = EXPANSION JOINT

REGISTERED PROFESSIONAL ENGINEER
72845PE
OREGON
JULY 15, 2003
JOEL BRANDON TUBBS
RENEWS: 6/30/2024

WALL PLAN AND ELEVATION

RUGG ROAD SLIDE REPAIR

PROJECT NO.: 22346

DATE: JUNE 2021

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

DIRECTOR
DAN JOHNSON

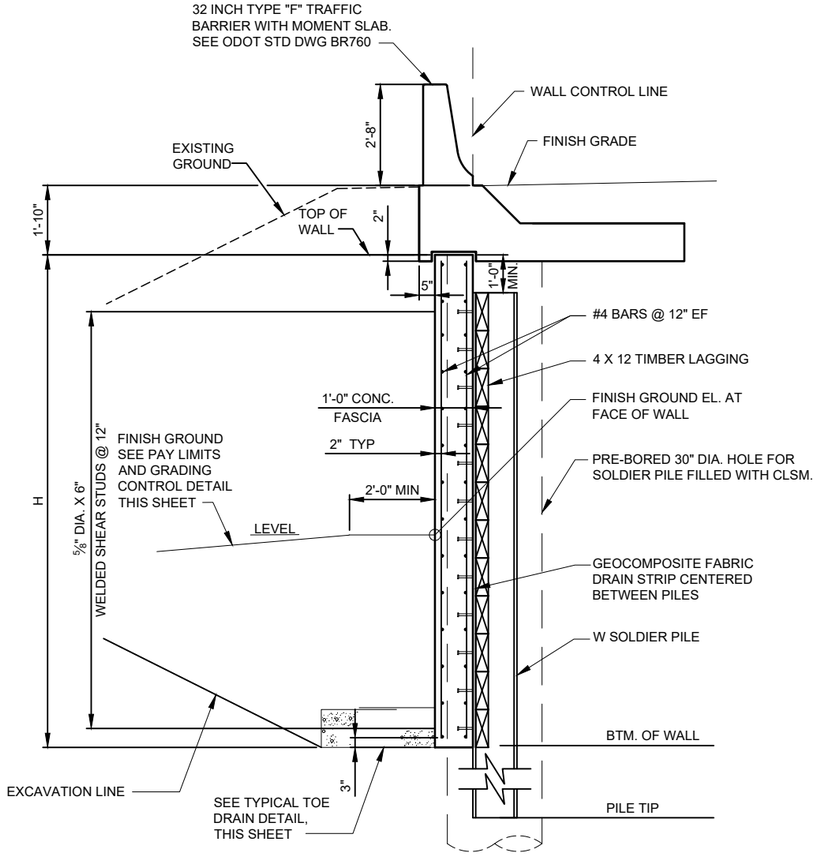
DESIGNED BY: JUDZ
DRAFTED BY: SXGO
CHECKED BY: JBT

REVISIONS
NO. DATE:

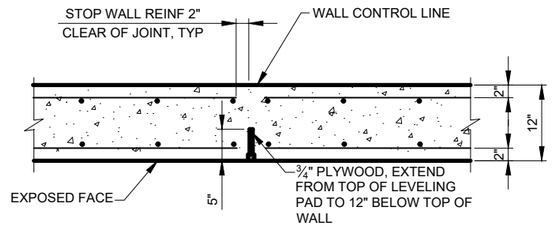
DAVID EVANS AND ASSOCIATES INC.
2100 SW River Parkway
Portland Oregon 97201
Phone: 503.223.6663

Sheet No.
WA02

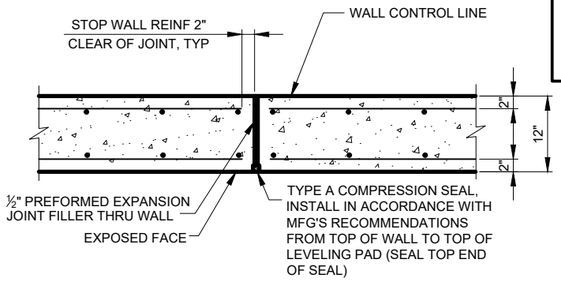
FINAL ELECTRONIC DOCUMENT
AVAILABLE UPON REQUEST



TYPICAL SECTION SOLDIER PILE WALL
NO SCALE



CONTRACTION JOINT DETAIL
NO SCALE



EXPANSION JOINT DETAIL
NO SCALE

TYPICAL TOE DRAIN DETAIL
NO SCALE

NOTES:
1. FINISH GROUND IN FRONT OF WALL SHALL BE FLAT OR SLOPE DOWN TO DAYLIGHT POINT.
2. REFERENCE SOLDIER PILE SCHEDULE ON SHEET WA01 FOR VALUES OF H.

PAY LIMITS AND GRADING CONTROL
NO SCALE

REGISTERED PROFESSIONAL ENGINEER
72845PE
OREGON
JULY 15, 2003
JOEL BRANDON TUBBS
RENEWS: 6/30/2024

WALL DETAILS

RUGG ROAD SLIDE REPAIR

DATE: JUNE 2021 PROJECT NO.: 22346

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

DIRECTOR
DAN JOHNSON

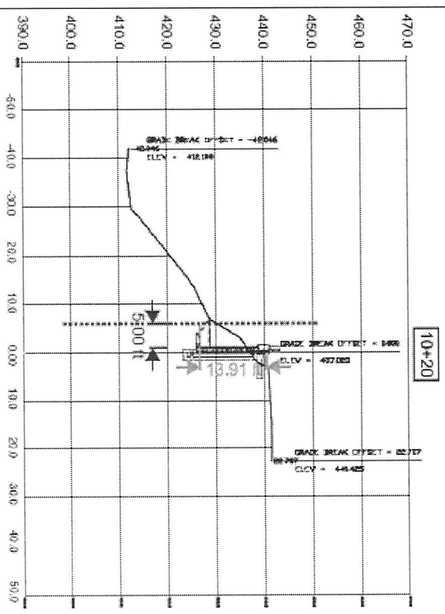
DESIGNED BY: JJDZ
DRAFTED BY: SXGO
CHECKED BY: JBT

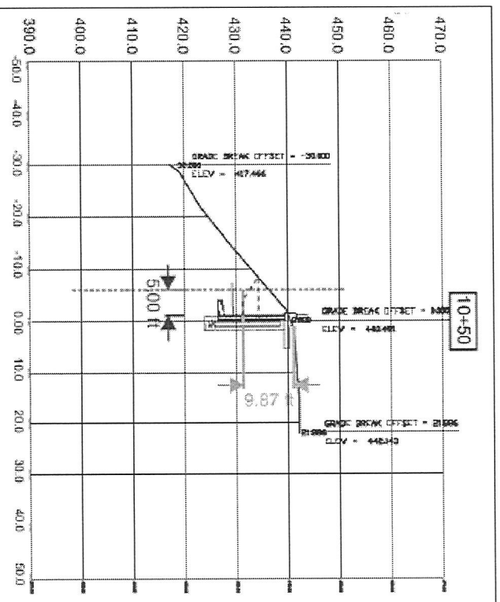
REVISIONS

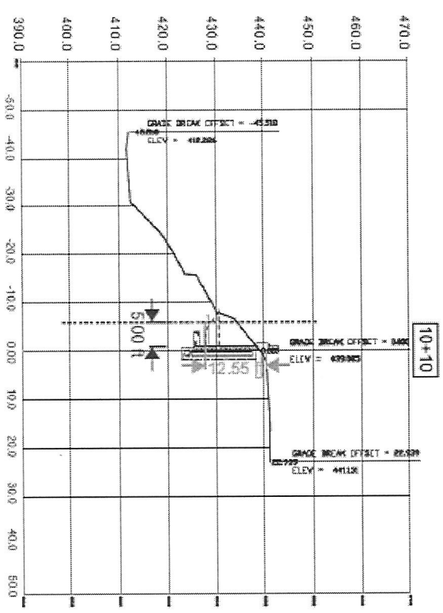
NO.	DATE:

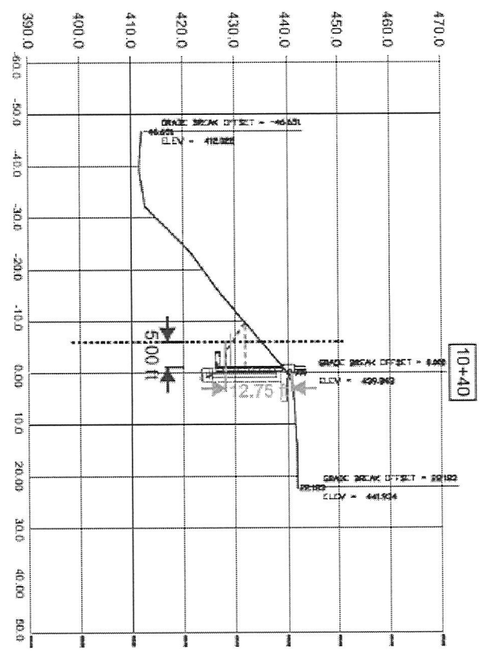
DAVID EVANS AND ASSOCIATES INC.
2100 SW River Parkway
Portland Oregon 97201
Phone: 503.223.6663

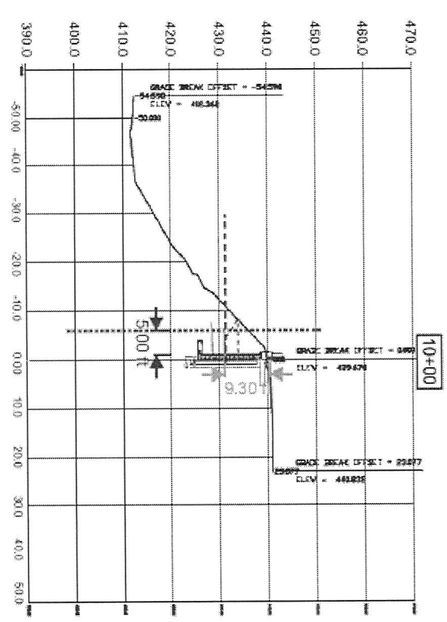
Sheet No.
WA03

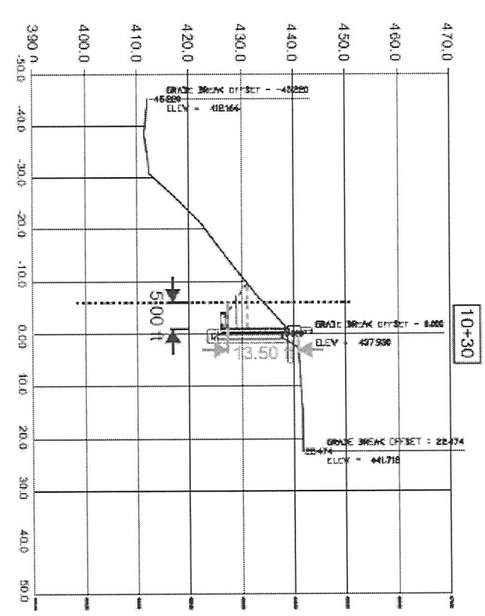






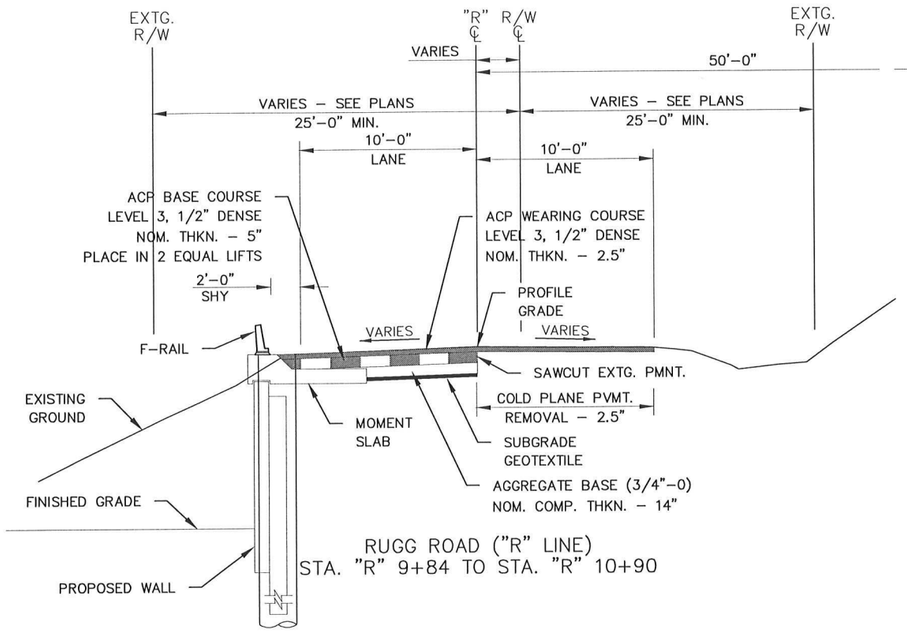






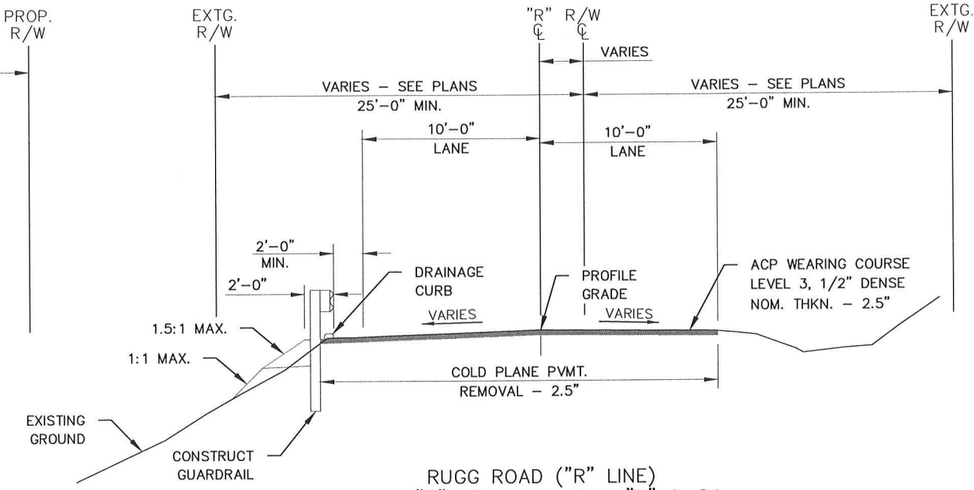
REGISTERED PROFESSIONAL ENGINEER
JOEL RICHARD HOWIE
OREGON
JULY 22, 1997
19376PE
Joel R Howie
Exp 6/30/23

Sheet No.	REVISIONS		DESIGNED BY:	CLACKAMAS COUNTY	CROSS SECTIONS
WA04	NO.	DATE:	RK	DEPT. OF TRANSPORTATION AND DEVELOPMENT 150 BEAVERCREEK ROAD OREGON CITY, OR 97045	RUGG ROAD SLIDE REPAIR
			DRAFTED BY: RK		
			CHECKED BY: DTD	DAN JOHNSON DIRECTOR	DATE: AUGUST 2021 / PROJECT NO.: CI-22346

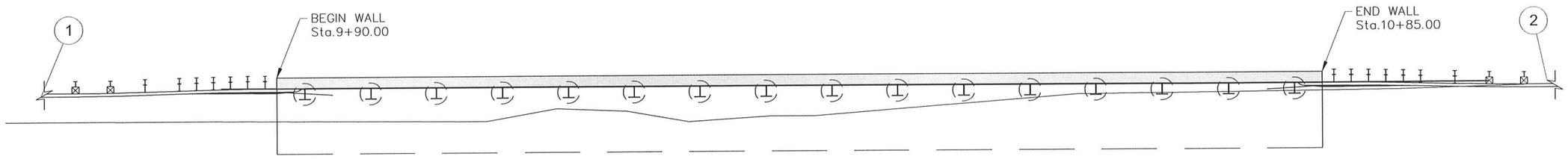


RUGG ROAD ("R" LINE)
STA. "R" 9+84 TO STA. "R" 10+90

PROP. R/W



RUGG ROAD ("R" LINE)
STA. "R" 8+74 TO STA. "R" 9+84
STA. "R" 10+90 TO STA. "R" 12+00



GENERAL CONSTRUCTION NOTES

1. UPON COMPLETION OF WALL CONSTRUCTION INCLUDING FASCIA AND BACKFILL, THE ROADWAY AGGREGATE BASE SHALL BE GRADED, COMPACTED AND OPEN TO TRAFFIC FOR THREE WEEKS.
2. AFTER THE THREE WEEK SETTLEMENT PERIOD, INSTALL MOTION SLAB, F-RAIL AND GUARDRAIL. REMOVE AGGREGATE SECTION TO 6.5-INCH DEPTH BETWEEN STA 9+84 TO STA 10+90 RT FOR ASPHALT PAVEMENT SECTION.
3. GRIND THE REMAINING ASPHALT SURFACE TO A 2.5-INCH DEPTH BETWEEN STA 8+74 TO STA 12+00. SEE ROADWAY DETAILS FOR PAVING SEQUENCE AND DEPTHS
4. RE-ESTABLISH DITCH AND SHOULDERS ON SOUTH SIDE OF ROADWAY FOR APPROXIMATELY 400-LF.

GUARDRAIL CONSTRUCTION NOTES

(1) STA. "R" 8+99.75 TO STA. 9+84, RT.
CONST. GUARDRAIL (TYPE 2A) - 50'
CONST. GUARDRAIL (TYPE 3) - 12.5'
CONST. NON-FLARED GUARDRAIL TERMINAL W = 1', E = 2'
CONST. GUARDRAIL TRANSITION TO F-RAIL CURB MOUNT RAIL
USE 8-FOOT POSTS
CONST. DRAINAGE CURB - 81'
(FOR DETAILS, SEE STD. DWG. BR207, BR760, RD400, RD405, RD415, RD420, & RD701)

(2) STA. "R" 10+90 TO STA. 11+74, RT.
CONST. GUARDRAIL (TYPE 2A) - 50'
CONST. GUARDRAIL (TYPE 3) - 12.5'
CONST. NON-FLARED GUARDRAIL TERMINAL W = 1', E = 2'
CONST. GUARDRAIL TRANSITION TO F-RAIL CURB MOUNT RAIL
USE 8-FOOT POSTS
CONST. DRAINAGE CURB - 81'
(FOR DETAILS, SEE STD. DWG. BR207, BR760, RD400, RD405, RD415, RD420, & RD701)

REGISTERED PROFESSIONAL ENGINEER
19376PE
Joel R Howie
OREGON
JULY 22, 1997
JOEL RICHARD HOWIE
Exp: 6/30/23

PAVING & GUARDRAIL DETAILS

RUGG ROAD SLIDE REPAIR

DATE: AUGUST 2021 | PROJECT NO.: CI-22346

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

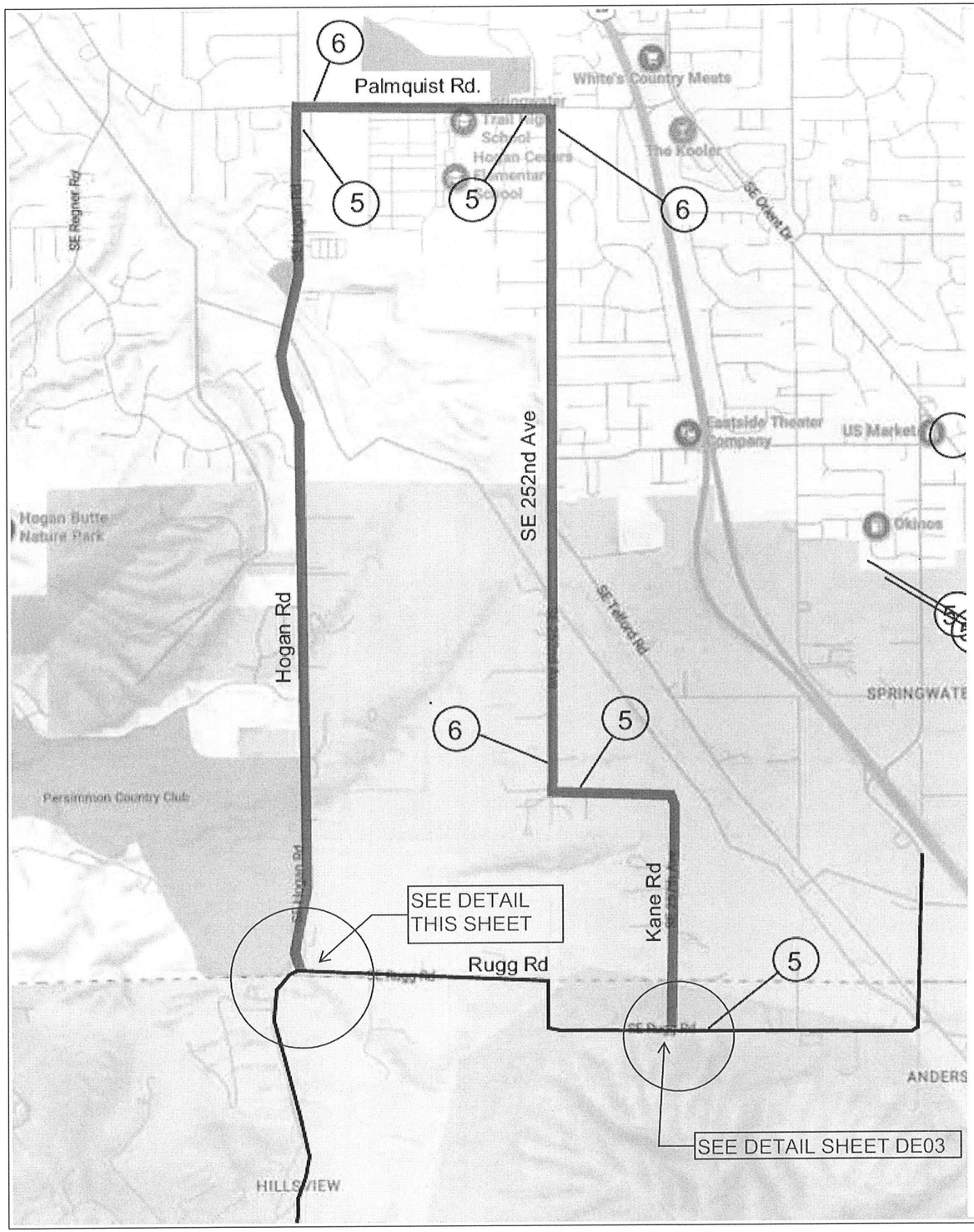
DIRECTOR
DAN JOHNSON

DESIGNED BY: RK
DRAFTED BY: RK
CHECKED BY: DTD

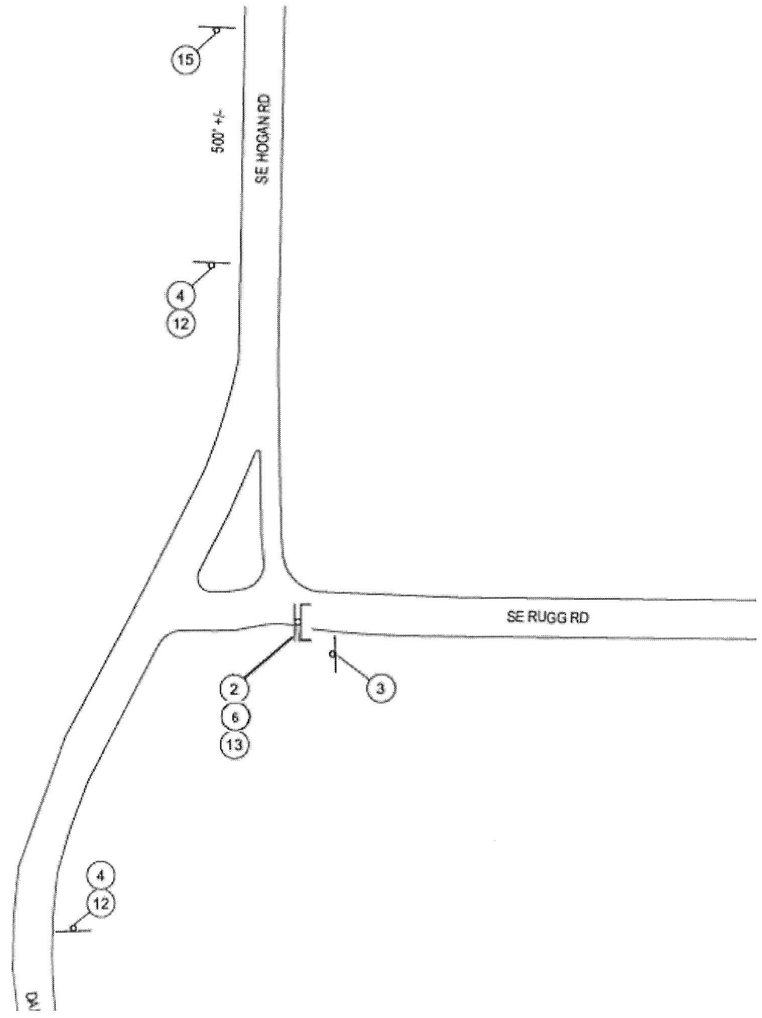
REVISIONS

NO	DATE:	
1	1/12/24	SM

Sheet No. GR01



SE RUGG RD @ SE HOGAN RD / DAMASCUS BORING RD INTERSECTION DETAIL



DETOUR PLAN

RUGG ROAD SLIDE REPAIR

DATE: AUGUST 2021 | PROJECT NO.: CI-22346

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

DAN JOHNSON
DIRECTOR

DESIGNED BY: RK | DRAFTED BY: RK | CHECKED BY: DTD

REVISIONS

NO	DATE:

REGISTERED PROFESSIONAL ENGINEER
19376PE
OREGON
JULY 22, 1997
JOEL RICHARD HOWIE
Exp: 6/30/23

Sheet No. DE01

DETOUR
RUGG ROAD
(XX-Day Maximum)

60x30

(1)

1 Week Prior To Closure

60x30
R11-4

(2)

Mount on
Type III Barricade

60x30

(3)

1 Week Prior To Closure

48x48
W20-3

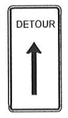
(4)

M4-9R

(5)

M4-9L

(6)



CG20-6

(7)

W20-3

(8)

48x48
W20-3

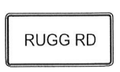
(9)

W20-2

(10)

R11-2

(11)



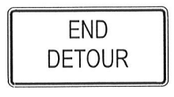
W16-8P

(12)

(13)

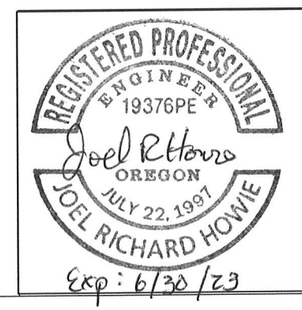
W20-3

(14)



(15)

Note:
Signs 1 And 3 Shall Be Orange, Type 1 Sheeting
With Black Lettering (Former Spec. 2910 Type "O").



TRAFFIC DETAILS

RUGG ROAD SLIDE REPAIR

DATE: AUGUST 2021 | PROJECT NO.: CI-22346

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

DIRECTOR
DAN JOHNSON

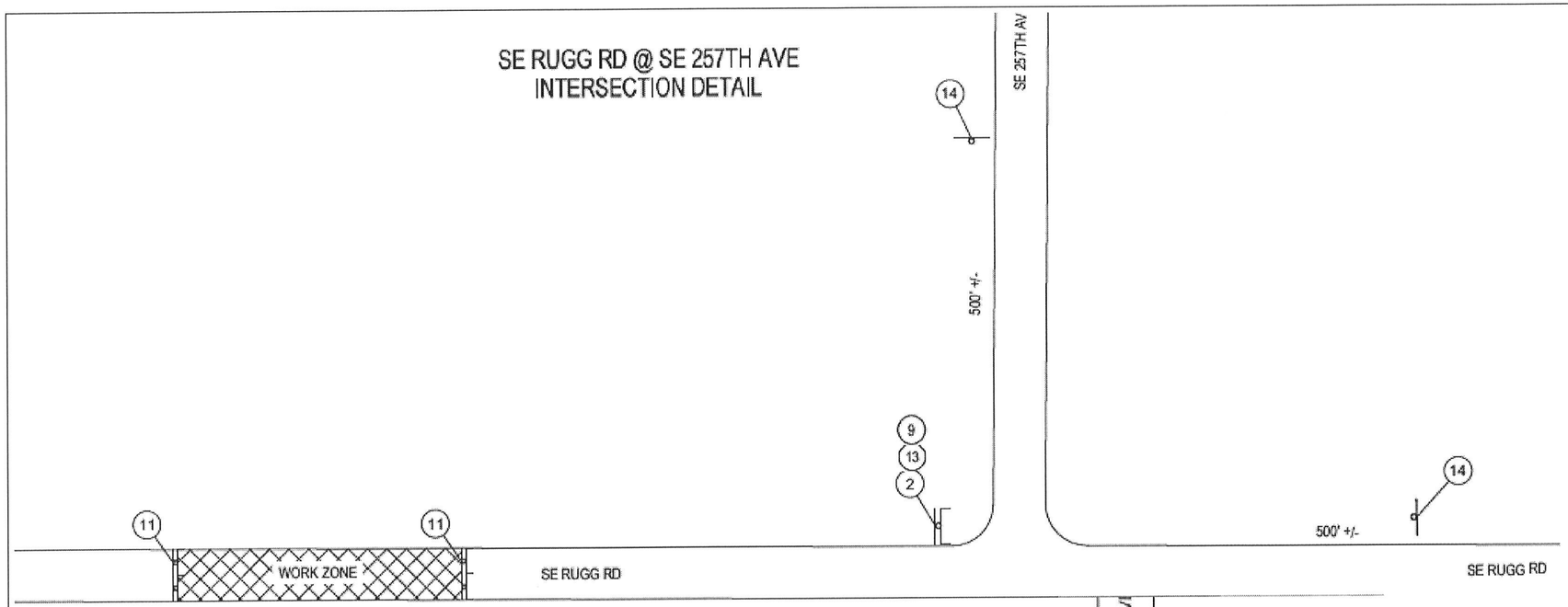
DESIGNED BY: RK
DRAFTED BY: RK
CHECKED BY: DTD

REVISIONS

NO	DATE:

Sheet No. DE02

SE RUGG RD @ SE 257TH AVE
INTERSECTION DETAIL

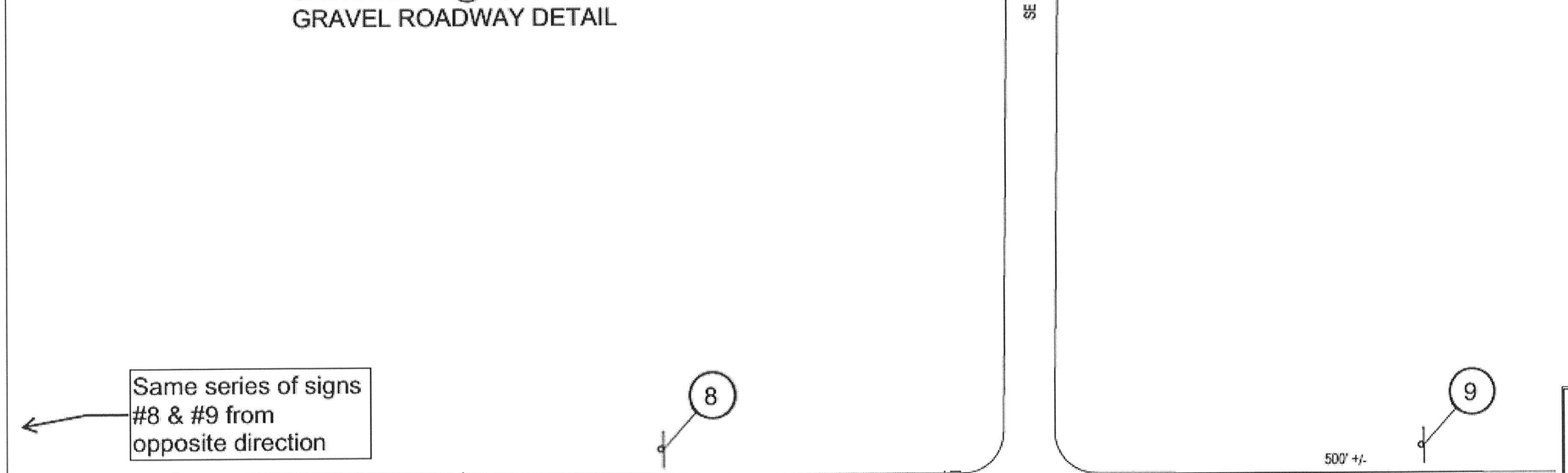


* POINT OF CLOSURE
(LOCAL TRAFFIC ONLY)

TEMPORARY SIGN ON POST

TEMPORARY SIGN ON
TYPE III BARRICADE

SE RUGG RD @ 257TH AVE
GRAVEL ROADWAY DETAIL



DETOUR INTERSECTION DETAIL

RUGG ROAD SLIDE REPAIR

DATE: AUGUST 2021 | PROJECT NO.: CI-22346

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

DIRECTOR

DAN JOHNSON

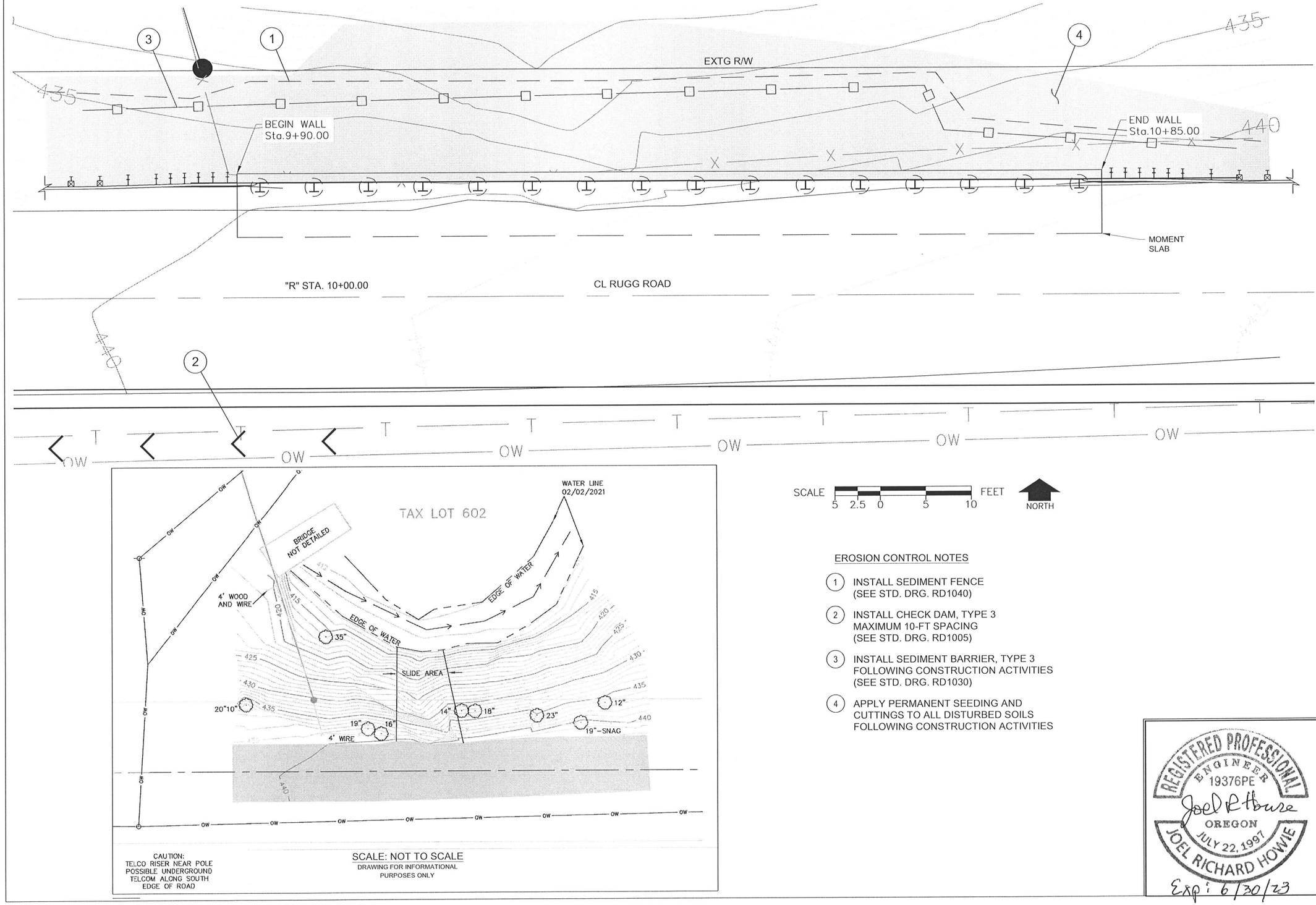
DESIGNED BY: RK | DRAFTED BY: RK | CHECKED BY: DTD

REGISTERED PROFESSIONAL ENGINEER
19376PE
OREGON
JULY 22, 1997
JOEL RICHARD HOWIE
Joel R Howie
Expr 6/30/23

REVISIONS

NO	DATE:

Sheet No. DE03



SCALE: NOT TO SCALE
DRAWING FOR INFORMATIONAL PURPOSES ONLY

SCALE 5 2.5 0 5 10 FEET

NORTH

EROSION CONTROL NOTES

1. INSTALL SEDIMENT FENCE (SEE STD. DRG. RD1040)
2. INSTALL CHECK DAM, TYPE 3 MAXIMUM 10-FT SPACING (SEE STD. DRG. RD1005)
3. INSTALL SEDIMENT BARRIER, TYPE 3 FOLLOWING CONSTRUCTION ACTIVITIES (SEE STD. DRG. RD1030)
4. APPLY PERMANENT SEEDING AND CUTTINGS TO ALL DISTURBED SOILS FOLLOWING CONSTRUCTION ACTIVITIES

REGISTERED PROFESSIONAL ENGINEER
19376PE
Joel R Howie
OREGON
JULY 22, 1997
JOEL RICHARD HOWIE
Exp: 6/30/23

EROSION CONTROL

RUGG ROAD SLIDE REPAIR

DATE: MARCH 2023 | PROJECT NO.: CI-300321301

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

DIRECTOR
DAN JOHNSON

DESIGNED BY: JH | DRAFTED BY: JH | CHECKED BY: DTD

REVISIONS

NO.	DATE:

Sheet No. EC

INVITATION TO BID #2024-02
Rugg Road Landslide, MP 0.70 Project
ADDENDUM NUMBER 2
February 6, 2024

On January 11, 2024, Clackamas County ("County") published Invitation to Bid #2024-02 ("BID"). The County has found that it is in its interest to amend the BID through the issuance of this Addendum #2. Except as expressly amended below, all other terms and conditions of the original BID and subsequent Addenda shall remain unchanged.

1. **The following change are hereby made to the Project Specifications and Drawings:** Remove and replace from drawing Rugg Road Slide Repair Construction Project Drawing Set, Sheets No. GR01 and replace with GR01, revision 2/5/24 date (1 page).

2. Remove and replace Rugg Road Slide Repair BID SCHEDULE with **BID SCHEDULE – ADDENDUM #2 -2/5/2024.**

RESPONSE TO CLARIFYING QUESTIONS

Note that these are questions submitted by interested firms to the above referenced solicitation. The below answers are for clarification purposes only and in no way alter or amend the BID as published.

- **Question #1**: Please provide copies of the right of entry agreements with the nearby property owners.
- **Response #1:** There are no Right of Entry Agreements or Temporary Construction Easements with adjoining property owners. All work is expected to be within the Road Right of Way.

- **Question #2**: Bid Item 23 Clearing and Grubbing has the units listed as ACRES and the quantity listed as LS. Please clarification on the unit and quantity to be used.
- **Response #2:** Units have been revised to LS on schedule of prices and quantity to 1.

- **Question #3**: The Wall Details sheet WA03 has a callout to refer to ODOT STD DWG BR760 for the 32 INCH Type "F" Traffic Barrier with Moment Slab. The standard drawing BR760 shows the width of the moment slab to be 7'-0" minimum. Is this moment

slab being constructed at that minimum width or at a wider width? Please provide dimensions for the width of the moment slab.

- **Response #3:** The moment slab is being constructed at the minimum 7’ width as shown in BR760.
- **Commentary #3:** As shown in the “CROSS-SECTION” detail, ‘ 2’-0” Design thickness ‘ is correct, i.e. The concrete slab is 12”(inches_ and the HMAC ’overburden’ is 12”(inches).

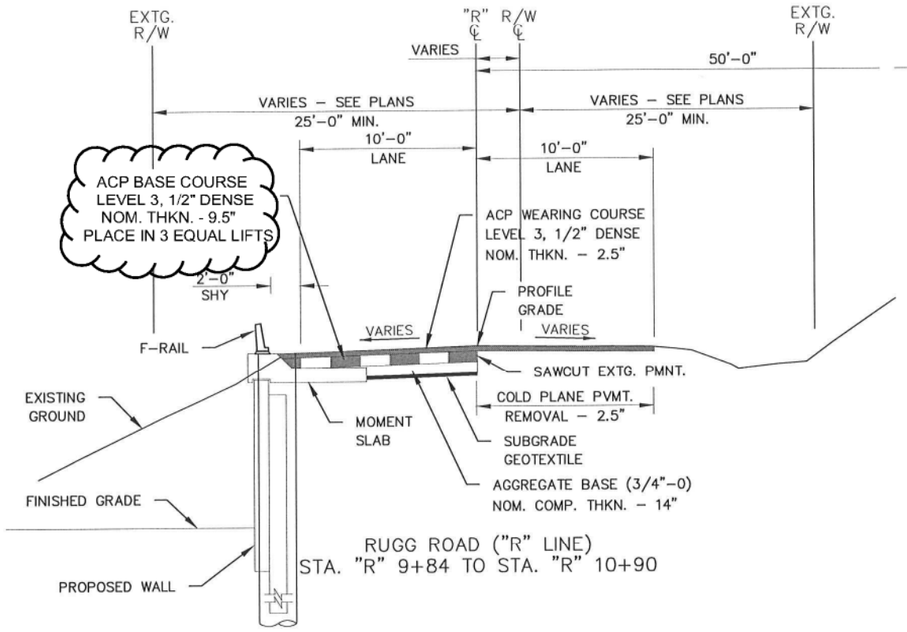
- **Question #4**: The ODOT Standard Drawing BR760 also dimensions 1’-0” of Required overburden using HMAC or CLSM. The HMAC section shown on plan sheet GR01 is only 7.5”. Please provide clarification on the material to be used for the remaining 4.5” of overburden on top of the moment slab and applicable pay item.
- **Response #4:** Plan Sheet GR01 has been replaced and updated to show correct ‘ 9.5” of ACP/HMAC Base Course ’ underlying a ‘ 2.5” of ACP Wearing Course ‘.

- **Question #5**: During the 3 week settlement period, after the wall construction and prior to moment slab with barrier construction. What are the requirements for traffic control along the retaining wall? Are temporary plastic drums what is expected?
- **Response #5:** During the three week settlement period, minimum traffic control would at a minimum include Roadwork Ahead and Gravel Roadway signs as shown on Sheet DE03, accompanied by traffic control devices needed to maintain a safe work zone, to warn and to protect the traveling public. Contingent on the construction methods and roadway conditions, temporary plastic drums appear to be a viable option. Please refer to section 00220 for further guidance.

Attachments:

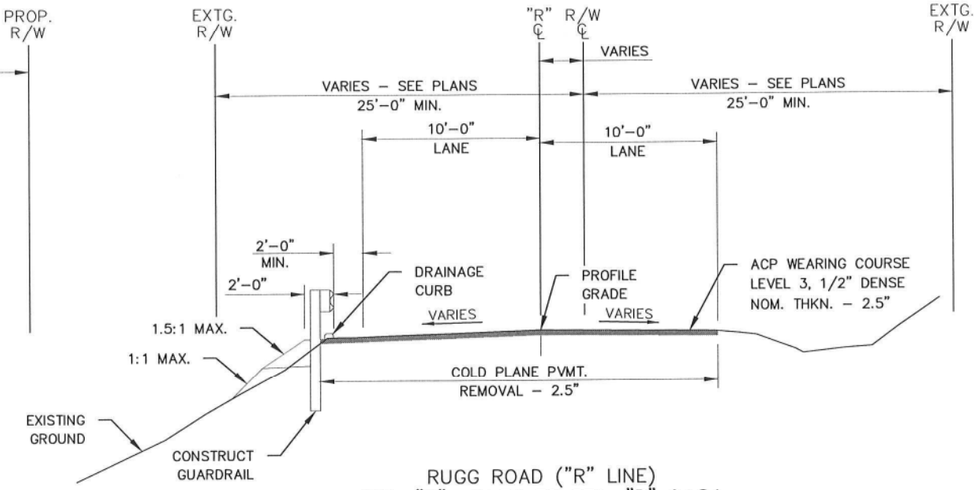
- Rugg Rd_Addendum 2_Sheet GR01_Feb-5-24.pdf
- Rugg Rd_Addendum 2_Bid Schedule_Feb-5-24.pdf

End of Addendum 2

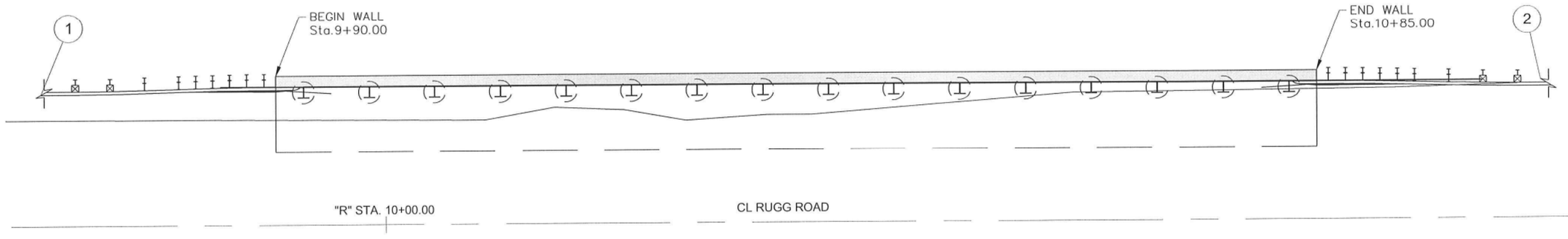


RUGG ROAD ("R" LINE)
STA. "R" 9+84 TO STA. "R" 10+90

PROP. R/W



RUGG ROAD ("R" LINE)
STA. "R" 8+74 TO STA. "R" 9+84
STA. "R" 10+90 TO STA. "R" 12+00



GENERAL CONSTRUCTION NOTES

1. UPON COMPLETION OF WALL CONSTRUCTION INCLUDING FASCIA AND BACKFILL, THE ROADWAY AGGREGATE BASE SHALL BE GRADED, COMPACTED AND OPEN TO TRAFFIC FOR THREE WEEKS.
2. AFTER THE THREE WEEK SETTLEMENT PERIOD, INSTALL MOTION SLAB. F-RAIL AND GUARDRAIL. REMOVE AGGREGATE SECTION TO 12-INCH DEPTH (TOP OF MOTION SLAB) BETWEEN STA 9+84 TO STA 10+90 RT FOR ASPHALT PAVEMENT SECTION
3. GRIND THE REMAINING ASPHALT SURFACE TO A 2.5-INCH DEPTH BETWEEN STA 8+74 TO STA 12+00. SEE ROADWAY DETAILS FOR PAVING SEQUENCE AND DEPTHS
4. RE-ESTABLISH DITCH AND SHOULDERS ON SOUTH SIDE OF ROADWAY FOR APPROXIMATELY 400-LF.

GUARDRAIL CONSTRUCTION NOTES

(1) STA. "R" 8+99.75 TO STA. 9+84, RT.
CONST. GUARDRAIL (TYPE 2A) - 50'
CONST. GUARDRAIL (TYPE 3) - 12.5'
CONST. NON-FLARED GUARDRAIL TERMINAL W = 1', E = 2'
CONST. GUARDRAIL TRANSITION TO F-RAIL CURB MOUNT RAIL
USE 8-FOOT POSTS
CONST. DRAINAGE CURB - 81'
(FOR DETAILS, SEE STD. DWG. BR 203, BR760, RD400, RD405, RD415, RD420, & RD701)

(2) STA. "R" 10+90 TO STA. 11+74, RT.
CONST. GUARDRAIL (TYPE 2A) - 50'
CONST. GUARDRAIL (TYPE 3) - 12.5'
CONST. NON-FLARED GUARDRAIL TERMINAL W = 1', E = 2'
CONST. GUARDRAIL TRANSITION TO F-RAIL CURB MOUNT RAIL
USE 8-FOOT POSTS
CONST. DRAINAGE CURB - 81'
(FOR DETAILS, SEE STD. DWG. BR 203, BR760, RD400, RD405, RD415, RD420, & RD701)

REGISTERED PROFESSIONAL ENGINEER
19376PE
Joel R Howie
OREGON
JULY 22, 1997
JOEL RICHARD HOWIE
Exp: 6/30/23

PAVING & GUARDRAIL DETAILS

RUGG ROAD SLIDE REPAIR

DATE: AUGUST 2021 | PROJECT NO.: CI-22346

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

DAN JOHNSON, DIRECTOR

DESIGNED BY: RK | DRAFTED BY: RK | CHECKED BY: DTD

REVISIONS

NO	DATE:	
1	1/12/24	SM
2	2/5/24	SM

Sheet No. GR01

Rugg Road Landslide Repair
BID SCHEDULE

ADDENDUM #2 - 2/5/2024

ITEM #	SECTION	ITEM DESCRIPTION	UNIT	AMOUNT	UNIT COST	TOTAL
PART 00200 - TEMPORARY FEATURES AND APPURTENANCES						
1	00180	WORK PLACE HARASSMENT PREVENTION PLAN	LS	1		
2	00196	EXTRA WORK	FA	1	$50,000.00	$50,000.00
3	00210	MOBILIZATION	LS	1		
4	00221	TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC	LS	1		
5	00222	PORTABLE CHANGEABLE MESSAGE SIGNS	EACH	2		
6	00223	FLAGGERS	HOUR	100		
7	00224	TEMPORARY BARRICADES, TYPE II	EACH	4		
8	00224	TEMPORARY BARRICADES, TYPE III	EACH	6		
9	00224	TEMPORARY PLASTIC DRUMS	EACH	10		
10	00280	EROSION CONTROL	LS	1		
11	00280	PLASTIC SHEETING	SQYD	660		
12	00280	CONSTRUCTION ENTRANCE, TYPE 1	EACH	1		
13	00280	CONCRETE WASHOUT FACILITY	EACH	1		
14	00280	SEDIMENT BARRIER, TYPE 3 (WATTLES)	LF	200		
15	00280	SEDIMENT FENCE	LF	200		
16	00280	CHECK DAM, TYPE 1	EACH	4		
17	00280	COMPOST EROSION BLANKET	SQYD	350		
18	00280	STRAW BALE	EACH	10		
19	00290	POLLUTION CONTROL PLAN	LS	1		
PART 00300 - ROADWORK						
20	00305	CONSTRUCTION SURVEY WORK	LS	1		
21	00310	REMOVAL OF SURFACINGS	SQYD	160		
22	00310	ASPHALT PAVEMENT SAW CUTTING	FOOT	120		
23	00320	CLEARING AND GRUBBING	LS	1		
24	00330	GENERAL EXCAVATION	LS	1		
25	00331	24 INCH SUBGRADE STABILIZATION	SQYD	25		
26	00350	SUBGRADE GEOTEXTILE	SQYD	70		
27	00390	LOOSE RIPRAP, CLASS 50	CY	20		
PART 00400 - DRAINAGE AND SEWERS						
28	00480	DRAINAGE CURBS	FOOT	170		
PART 00500 - BRIDGES						
29	0596A	32 INCH TYPE "F" TRAFFIC BARRIER COPING WITH MOMENT SLAB	FOOT	106		
30	00596D	SOLDIER PILE RETAINING WALL	SF	1,051		
PART 00600 - BASES						
31	00620	COLD PLANE PAVEMENT REMOVAL, 2 1/2 INCHES DEEP	SQYD	640		
32	00640	AGGREGATE BASE	TON	60		
PART 00700 - WEARING SURFACES						
33	00744	LEVEL 3, 1/2 INCH DENSE ACP MIXTURE	TON	200		
PART 00800 - PERMANENT TRAFFIC SAFETY AND GUIDANCE DEVICES						
34	00810	GUARDRAIL, TYPE 2A	FOOT	100		
35	00810	GUARDRAIL, TYPE 3	FOOT	25		
36	00810	GUARDRAIL TRANSITION	EACH	2		
37	00810	GUARDRAIL TERMINALS, NON-FLARED, TEST LEVEL 3	EACH	2		
38	00810	EXTRA FOR 8 FOOT POSTS	EACH	60		
39	00840	DELINEATORS, TYPE 2	EACH	15		
40	00840	DELINEATORS, TYPE 4	EACH	4		
PART 01000 - RIGHT OF WAY DEVELOPMENT AND CONTROL						
41	01030	SEEDING MOBILIZATION	EACH	1		
42	01030	PERMANENT SEEDING, MIX NO. 2	ACRE	0.14		
43	01040	LIVE PLANT CUTTINGS -SALIX SITCHENSIS (Willows)	EACH	100		
44	01050	REMOVE AND REBUILD FENCING, TYPE 1-5W	FT	200		

PROPOSED COST BID SCHEDULE_____
(Numericaly)

PROPOSED COST BID SCHEDULE_____
Written in Words

COMPANY NAME_____

AUTHORIZED SIGNATURE_____