



DAN JOHNSON
DIRECTOR

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

DEVELOPMENT SERVICES BUILDING

150 BEAVERCREEK ROAD OREGON CITY, OR 97045

Board of County Commissioners
Clackamas County

Members of the Board:

Approval of a Contract with Knife River Corporation-Northwest, for the Rural Systemic Curve Warning Signs Project. Total value is \$389,001.00. Funding through Road Fund and Community Road Fund. County General Funds are not involved.

Purpose/Outcome	The contract will allow Rural Systemic Curve Warning Project Improvements on County roads.
Dollar Amount and Fiscal Impact	\$389,001.00
Funding Source	Road Fund & Community Road Fund
Duration	Contract Execution through December 31, 2022.
Previous Board Action/Review	None
Strategic Plan Alignment	1. Project will reduce serious injury and fatal crashes, which is aligned with the Clackamas County Transportation Safety Action Plan to eliminate fatal crashes on Clackamas County roads by 2035. 2. The reduction of serious crashes will contribute to a safe, healthy and secure community. 3. The new safety signing will contribute to a strong infrastructure by ensuring that County roadways are meeting current Federal Highway Administration safety standards
Counsel Review	Counsel Date: April 5, 2022 Counsel Initials: AN
Procurement Review	Was this project processed through Procurement? Yes.
Contact Person	Christian Snuffin, Senior Civil Engineer 503-742-4716
Contract No.	5315

Background:

This project will install updated curve warning signs on approximately 40 miles on 17 rural arterial and collector corridors. These signing improvements will result in measurable reductions in fatal and serious injury crashes on County rural roadways, which is consistent with the goal of the Transportation Safety Action Plan to eliminate serious injury and fatal crashes by 2035. The improvements will also bring the roadways into compliance with Manual on Uniform Traffic Control Devices (MUTCD) standards.

Project corridors include: Macksburg Rd, Beaver Creek Rd, Borland Rd, Rosemont Rd, Knights Bridge Rd, 232nd Dr, Lone Elder Rd, Molalla Ave, Tooze Rd, Leland Rd, Wilsonville Rd, Ek Rd, Hayden Rd, Grahams Ferry Rd, Ladd Hill Rd, Feyrer Park Rd and Baker Rd.

Procurement Process:

This project was advertised in accordance with ORS and LCRB Rules on February 2, 2022. Bids were publicly opened on March 3, 2022. The County received three (3) bids: Coral Construction, \$874,770.00, KT Contracting, \$429,137.00, and Knife River Corporation, \$389,001.00. After review of the bids, Knife River Corporation- Northwest was determined to be the lowest responsive bidder.

Recommendation:

Staff respectfully recommends that the Board approve and sign this public improvements contract with Knife River Corporation- Northwest, for the Rural Systemic Curve Warning Signs Project.

Sincerely,

Christian Snuffin

Christian Snuffin
Senior Civil Engineer

Placed on the BCC Agenda _____ by Procurement



CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT
Contract #5315

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 **Knife River Corporation- Northwest**, 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: # 2022-06 Rural Systemic Curve Warning Signs Project

1. Contract Price, Contract Documents and Work.

The Contractor, in consideration of the sum of **Three Hundred Eighty Nine Thousand and One Dollars (\$389,001.00)** (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 adjusted for Alternates, as indicated in the accepted Bid.

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

The Plans, Specifications and Drawings expressly incorporated by reference into this Contract includes, but is not limited to, the Special Provisions for Rural Systemic Safety Countermeasures (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 Matt Wilson 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 Christian Snuffin 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: Matt Wilson shall be the Contractor's project executive, and will provide oversight and guidance throughout the project term.

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

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

4. Contract Dates.

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

SUBSTANTIAL COMPLETION DATE: December 15, 2022

FINAL COMPLETION DATE: December 31, 2022

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 Procurement@clackamas.us.

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.



**CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT OPPORTUNITY**

Table of Contents

Section B-1.....Notice of Public Improvement Contract Opportunity

Section B-2.....Instructions to Bidders

Section B-3.....Supplemental Instructions to Bidders

Section B-4.....Bid Bond

Section B-5.....Bid Form

Section B-6.....Public Improvement Contract

Section B-7.....Performance Bond

Section B-8..... Payment Bond

Section B-9..... Project Information, Plans, Specifications and Drawings



CLACKAMAS COUNTY
NOTICE OF PUBLIC IMPROVEMENT CONTRACT OPPORTUNITY

INVITATION TO BID #2022-06
Rural Systemic Curve Warning Signs Project
February 2, 2022

Clackamas County (“County”) through its Board of County Commissioners is accepting sealed bids for the **Rural Systemic Curve Warning Signs Project** until **March 3, 2022, 2:00 PM**, Pacific Time, (“Bid Closing”) at the following location:

DELIVER BIDS TO: Clackamas County Procurement Division via email to procurement@clackamas.us.

Bidding Documents can be downloaded from the state of Oregon procurement website (“OregonBuys”) at the following address: <https://oregonbuys.gov/bsv/view/login/login.xhtml>, Document No.S-C01010-00001953.

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.

Engineers Estimate: \$235,500.00

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.

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 1, 2022, 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 Procurement 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 Clackamas County Procurement 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 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 procurement@clackamas.us.



**CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT**

SUPPLEMENTAL INSTRUCTIONS TO BIDDERS

Project Name: # Rural Systemic Curve Warning Signs 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. Email of Bids** - The County is requiring all bids for this project be electronically submitted. Complete Bids (including all attachments) must be received by the closing time and date 2:00 p.m. Pacific Time, March 3, 2022. The Bid must be emailed to the following address: Procurement@clackamas.us. **The email subject line must read “Bid for #2022-06 Rural Systemic Curve Warning Signs Project.”** Upon receiving of the bid, the County will send bidders an email confirmation acknowledging receipt. Bids delayed or lost by email system filtering or failures may be considered at Clackamas County’s sole and absolute discretion.

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 LINK

Join Zoom Meeting

<https://clackamascounty.zoom.us/j/88498901998>

Meeting ID: 884 9890 1998

One tap mobile

+14086380968,,88498901998# US (San Jose) 16699006833,,88498901998# US
+(San Jose)

Dial by your location

- +1 408 638 0968 US (San Jose)
- +1 669 900 6833 US (San Jose)
- +1 253 215 8782 US (Tacoma)
- +1 346 248 7799 US (Houston)
- +1 646 876 9923 US (New York)
- +1 301 715 8592 US (Washington DC)
- +1 312 626 6799 US (Chicago)

Meeting ID: 884 9890 1998

Find your local number: <https://clackamascounty.zoom.us/u/ketkAvJ9fe>

****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 by hand delivery to the location the Bid was due or may email the completed Forms to Procurement@clackamas.us. “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
PUBLIC IMPROVEMENT CONTRACT

BID BOND

Project Name: # 2022-06 Rural Systemic Curve Warning Signs Project

We, Knife River Corporation - Northwest, as "Principal,"
(Name of Principal)

and Liberty Mutual Insurance Company, an MA 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%)

Ten Percent of Amount Bid dollars.

WHEREAS, the condition of the obligation of this bond is that Principal has submitted its proposal or bid to an agency of the Obligee in response to Obligee's procurement document (No. 2022-06) 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 3rd day of March, 2022

Principal: Knife River Corporation - Northwest

Surety: Liberty Mutual Insurance Company

By: Ethan Hasenstein
Signature

By: Heather R. Goedel
Attorney-in-Fact

Ethan Hasenstein
Assistant Secretary
Official Capacity

Heather R. Goedel
Name

Attest: Jeffrey R. Steyaert
Corporation Secretary
Jeffrey R. Steyaert
Assistant Secretary

8400 Normandale Lake Blvd., Suite 1700
Address

Bloomington, MN 55437
City State Zip

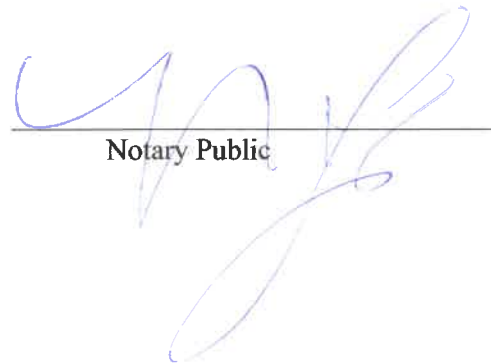
763-302-7159 Phone 763-302-7200 Fax



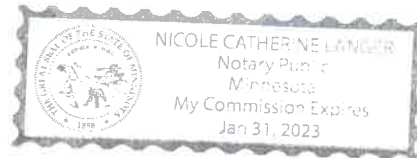
Surety Acknowledgment

State of Minnesota }
County of Hennepin } ss.

On this 3rd day of March 2022, before me personally came Heather R. Goedel, to me known, who being by me duly sworn, did depose and say that she is the Attorney-in-Fact of Liberty Mutual Insurance Company described in and which executed the above instrument; that she knows the seal of said corporation; that the seal affixed to said instruments is such corporate seal, that it was so affixed by order of the Board of Directors of said corporation, and that she signed her name to it by like order.



Notary Public





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: 8207281-190003

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, Blake S. Bohlig; Brian D. Carpenter, Craig Olmstead; Erik T. Gunkel; Heather R. Goedtel; Irene Nichols; Jessica Hoff; Kelly Nicole Enghausser; Laurie Pflug; Megan Scott; Michelle Halter; Nicole Langer

all of the city of Bloomington state of MN 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 4th day of February, 2022.



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 4th day of February, 2022 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 King of Prussia, 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 3rd day of March, 2022.



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

BID FORM

PROJECT: # 2022-06 Rural Systemic Curve Warning Signs Project
BID CLOSING: March 3, 2022, 2:00 PM, Pacific Time
BID OPENING: March 3, 2022, 2:05 PM, Pacific Time

FROM: Knife River Corporation - Northwest
Bidder's Name (must be full legal name, not ABN/DBA)

TO: Clackamas County
Procurement Division – procurement@clackamas.us

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

- a. An individual; or
- b. A partnership registered under the laws of the State of _____; or
- c. A corporation organized under the laws of the State of Oregon; or
- d. A limited liability corporation organized under the laws of the State of _____;

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

Three hundred eighty nine thousand and one dollars & zero cents Dollars (\$ 389,001.00)

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

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

• 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 Schedules with Bid.**

4. The work shall be completed within the time stipulated and specified in 00180.50(h) of the Special Provisions for **Rural Systemic Safety Countermeasures**.

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:

Liberty Mutual 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 2101. 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 Liberty Insurance Corporation Policy No. WA7-64D-, and that Contractor shall submit Certificates of Insurance as required.
085897-077

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

Project Executive:	<u>Matt Wilson</u>	Cell Phone:	<u>503-642-2531</u>
Project Manager:	<u>Alex Brock</u>	Cell Phone:	<u>503-214-0518</u>
Job Superintendent:	<u>Jacob Kemp</u>	Cell Phone:	<u>971-330-3111</u>
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	<u>Knife River Corporation - Northwest</u>
ADDRESS	<u>32260 Old Highway 34</u> <u>Tangent, OR 97389</u>
TELEPHONE NO	<u>541-918-5100</u>
EMAIL	<u>Alex.Brock@kniferiver.com</u>
SIGNATURE 1)	<u>N/A</u> Sole Individual
or 2)	<u>N/A</u> Partner
or 3)	<input checked="" type="checkbox"/> <u>Ethan H</u> Authorized Officer or Employee of Corporation Ethan Hasenstein Assistant Secretary

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

BID# 2022-06 - Rural Systemic Curve Warning Signs Project

Bid Item	Description	Bid Unit	Quantity	Cost Item	Total
GENERAL CONDITIONS (00100)					
1	EXTRA WORK AS AUTHORIZED	LS	1	\$20,000.00	\$20,000.00
MOBILIZATION AND TRAFFIC CONTROL (00200)					
2	MOBILIZATION (00210)	LS	1	\$34,400.00	\$34,400.00
3	TEMPORARY PROTECTION AND DIRECTION OF TRAFFIC (00221)	LS	1	\$2,430.00	\$2,430.00
4	FLAGGERS (00223)	HOUR	350	\$92.50	\$32,375.00
PERMANENT TRAFFIC CONTROL & ILLUMINATION SYSTEMS (00900)					
5	REMOVE EXISTING SIGNS (00905)	LS	1	\$3060.00	\$3060.00
6	REMOVE AND REINSTALL EXISTING SIGNS (00905)	LS	1	\$1,750.00	\$1,750.00
7	REMOVE EXISTING SUPPORT (00905)	LS	1	\$19,2000	\$19,2000
8	REMOVE AND REINSTALL EXISTING SUPPORT (00905)	LS	1	\$3,060.00	\$3,060.00
9	PERFORATED STEEL SQUARE TUBE ANCHOR SIGN SUPPORTS (2"x2" 12-ga) (00930)	EACH	324	\$698.00	\$226,152.00
10	SIGNS, STANDARD SHEETING, SHEET ALUMINUM (00940)	SQFT	3212	\$14.50	\$46,574.00

PROPOSED COST \$389,001.00
(Numerically)

PROPOSED COST Three hundred eighty nine thousand and one dollars & zero cents
(Written in Words)

COMPANY NAME Knife River Corporation - Northwest

AUTHORIZED SIGNATURE X 
Ethan Hasenstein
Assistant Secretary

**FIRST-TIER SUBCONTRACTOR DISCLOSURE FORM
PROJECT: #2022-06**

BID OPENING: March 3, 2022, 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.

The Form may be mailed, hand-delivered or emailed to: Procurement@clackamas.us. It is the responsibility of Bidders to submit this Form and any additional sheets with the Project name clearly marked on the envelope or the subject line of the email.

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.	A&D FLAGGING	\$21,000	FLAGGING
2.	_____	_____	_____
3.	_____	_____	_____
4.	_____	_____	_____
5.	_____	_____	_____
6.	_____	_____	_____

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

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

Firm Name: Knife River Corporation - Northwest

Bidder Signature:  Phone # 541-918-5100
 Ethan Hasenstein
 Assistant Secretary

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

Prime Contractor Name:

Total Contract Amount:

Project Name: #2022-06 Rural Systemic Curve Warning Signs 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)	
Signage	

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. Hand delivery to Procurement, 2051 Kaen Road, Oregon City, OR 97045 or email to procurement@clackamas.us within 2 hours of the BID/Quote Closing Date/Time

LIST ALL 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 <input checked="" type="checkbox"/>		
			MBE	WBE	ESB
Name A&D Flagging, LLC Address P.O Box 30443 City/St/Zip Portland, OR 97283 Phone# 503-875-1625 OCCB# 220179	Flagging	\$21,000	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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

Prime Contractor Name:

Total Contract Amount:

Project Name: # 2022-06 Rural Systemic Curve Warning
Signs Project

<p align="center">LIST ALL SUBCONTRACTORS BELOW Use correct legal name of Subcontractor (No Assumed Business Names)</p>	<p align="center">Division of Work (Painting, electrical, landscaping, etc.) List ALL DOW performed by Subcontractors</p>	<p align="center">DOLLAR AMOUNT OF SUBCONTRACT</p>	<p align="center">If Certified or self-reporting MBE/WBE/ESB Subcontractor</p>		
			<p align="center">Check box <input checked="" type="checkbox"/></p>		
			MBE	WBE	ESB
<p>Name Address City/St/Zip Phone# OCCB#</p>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Name Address City/St/Zip Phone# OCCB#</p>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Name Address City/St/Zip Phone# OCCB#</p>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Name Address City/St/Zip Phone# OCCB#</p>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Name Address City/St/Zip Phone# OCCB#</p>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<p>Name Address City/St/Zip Phone# OCCB#</p>			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--	--	--	--------------------------	--------------------------	--------------------------

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

Prime Contractor:
Project: # 2022-06 Rural Systemic Curve Warning Signs 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>>)	
CPS FLAGGING	FLAGGING	2/18/2022	3/1/2022	Karisa A. Mata	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	\$23,085.50	Price	
A&D FLAGGING	FLAGGING	2/18/2022	3/1/2022	Ashley	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	\$21,000		
COAT FLAGGING	FLAGGING	2/18/2022	3/1/2022	Jacob	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			"Not Bidding at this moment"
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			
					<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No			

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

Prime Contractor Name:

Total Contract Amount:

Project Name: # 2022-06 Rural Systemic Curve Warning Signs 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 <input checked="" type="checkbox"/>		
			MBE	WBE	ESB
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Name Address City/St/Zip Phone# OCCB#			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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. .

Authorized Signature of Contractor Representative

Date



CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

PERFORMANCE BOND

Bond No.: 190049951/107588844
Solicitation: #2022-06
Project Name: Rural Systemic Curve Warning Signs Project

Liberty Mutual Insurance Company	(Surety #1)	Bond Amount No. 1:	\$ 194,500.50
Travelers Casualty and Surety Company of America	(Surety #2)*	Bond Amount No. 2:*	\$ 194,500.50
* If using multiple sureties		Total Penal Sum of Bond:	\$ 389,001.00

We, Knife River Corporation - Northwest as Principal, and the above identified Surety(ies), authorized to transact surety business in Oregon, as Surety, hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto Clackamas County, the sum of (Total Penal Sum of Bond) Three Hundred Eighty Nine Thousand One and 00/100 Dollars (\$389,001.00) (Provided, that we the Sureties bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety); and

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

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

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

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

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

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

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

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

Dated this 30th day of March, 2022.

PRINCIPAL: Knife River Corporation - Northwest

By: Ea H
Signature
Ethan Hasenstein
Assistant Secretary

Attest: Jeffrey R. Steyaert
Official Capacity
Jeffrey R. Steyaert
Assistant Secretary Corporation Secretary

Liberty Mutual Insurance Company &
SURETY: Travelers Casualty and Surety Company of America
[Add signatures for each if using multiple bonds]

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

Heather R. Goedel, Attorney-in-Fact

Heather R. Goedel
Name
Signature

8400 Normandale Lake Blvd., Suite 1700
Address

Bloomington, MN 55437

City State Zip

763-302-7159 763-302-7200

Phone Fax



CLACKAMAS COUNTY
PUBLIC IMPROVEMENT CONTRACT

PAYMENT BOND

Bond No.: 190049951/107588844
Solicitation: #2022-06
Project Name: Rural Systemic Curve Warning Signs Project

Liberty Mutual Insurance Company (Surety #1)
Travelers Casualty and Surety
Company of America (Surety #2)*

Bond Amount No. 1: \$ 194,500.50
Bond Amount No. 2:* \$ 194,500.50
Total Penal Sum of Bond: \$ 389,001.00

* If using multiple sureties

We, Knife River Corporation - Northwest, as Principal, and the above identified Surety(ies), authorized to transact surety business in Oregon, as Surety, hereby jointly and severally bind ourselves, our respective heirs, executors, administrators, successors and assigns firmly by these presents to pay unto Clackamas County, the sum of (Total Penal Sum of Bond) Three Hundred Eighty Nine Thousand One and 00/100 Dollars (\$389,001.00) (Provided, that we the Sureties bind ourselves in such sum "jointly and severally" as well as "severally" only for the purpose of allowing a joint action or actions against any or all of us, and for all other purposes each Surety binds itself, jointly and severally with the Principal, for the payment of such sum only as is set forth opposite the name of such Surety); and

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

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

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

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

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

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

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

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

Dated this 30th day of March, 2022.

PRINCIPAL: Knife River Corporation - Northwest

By: Ethn H
Signature
Ethan Hasenstein
Assistant Secretary

Attest: Jeffrey R. Steyaert
Official Capacity
Corporation Secretary
Jeffrey R. Steyaert
Assistant Secretary

Liberty Mutual Insurance Company &
SURETY: Travelers Casualty and Surety Company of America
[Add signatures for each if using multiple bonds]

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

Heather R. Goedel, Attorney-in-Fact

Heather R. Goedel
Name
Signature

8400 Normandale Lake Blvd., Suite 1700
Address

Bloomington, MN 55437

City State Zip

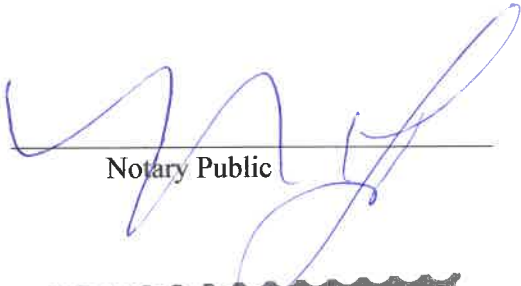
763-302-7159 763-302-7200

Phone Fax

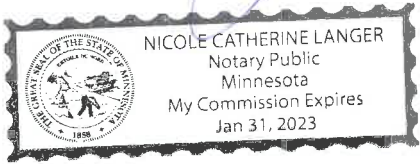
Surety Acknowledgment

State of Minnesota }
County of Hennepin } ss.

On this 30th day of March 2022, before me personally came Heather R. Goedtel, to me known, who being by me duly sworn, did depose and say that she is the Attorney-in-Fact of Liberty Mutual Insurance Company & Travelers Casualty and Surety Company of America described in and which executed the above instrument; that she knows the seal of said corporation; that the seal affixed to said instruments is such corporate seal, that it was so affixed by order of the Board of Directors of said corporation, and that she signed her name to it by like order.



Notary Public





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: 8207281-190003

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")...

all of the city of Bloomington state of MN 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 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 4th day of February, 2022.



Liberty Mutual Insurance Company
The Ohio Casualty Insurance Company
West American Insurance Company
By: David M. Carey, Assistant Secretary

State of PENNSYLVANIA ss
County of MONTGOMERY

On this 4th day of February, 2022 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 King of Prussia, 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.

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.

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 30th day of March, 2022.



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.



**Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company**

POWER OF ATTORNEY


KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **HEATHER R GOEDEL** of **BLOOMINGTON**, **Minnesota**, their true and lawful Attorney(s)-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **21st** day of **April**, 2021.



State of Connecticut

City of Hartford ss.

By: 
Robert L. Raney, Senior Vice President

On this the **21st** day of **April**, 2021, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of each of the Companies, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of said Companies by himself as a duly authorized officer.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June**, 2026




Anna P. Nowik, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of each of the Companies, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of each of the Companies, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this **30th** day of **March**, 2022.




Kevin E. Hughes, Assistant Secretary

**To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney(s)-in-Fact and the details of the bond to which this Power of Attorney is attached.**



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

PROJECT: #2022-06 Rural Systemic Curve Warning Signs Project

Project Background:

Clackamas County Department of Transportation and Development is seeking a qualified contractor to install signing for the Rural Systemic Curve Warning Project.

This project will install horizontal alignment warning signs to prevent road departure crashes on nearly 40 miles on 17 rural arterial and collector corridors to reduce crashes and to comply with MUTCD standards. Signs will include advance curve/turn warning signs, advisory speed plaques, chevron signs, and others.

Engineers Estimate: \$235,500.00

Key Dates:

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

Substantial Completion: December 15, 2022

Final Completion: December 31, 2022

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 RURAL SYSTEMIC SAFETY COUNTERMEASURES-
CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
Signing and Pavement Markings, dated 2021

Rural Curve Systemic Signing Drawing Set (54 pages)

SPECIAL PROVISIONS

FOR

RURAL SYSTEMIC SAFETY COUNTERMEASURES

**CLACKAMAS COUNTY DEPARTMENT OF
TRANSPORTATION AND DEVELOPMENT**

CLACKAMAS COUNTY, OREGON

SIGNING AND PAVEMENT MARKINGS

2021



Clackamas County Rural Systemic Safety Countermeasures


CLACKAMAS COUNTY DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

SPECIAL PROVISIONS

FOR

**RURAL SYSTEMIC SAFETY
COUNTERMEASURES**

PROFESSIONAL OF RECORD CERTIFICATION:

 <p>Digitally Signed 2022.01.24 15:16:41-08'00' OREGON</p> <p>EXPIRES: DEC. 31, 2022</p>	<p>I certify the Special Provision Section(s) listed below are applicable to the design for the subject project for the Rural Systemic Safety Countermeasures Project. Modified Special Provisions were prepared by me or under my supervision.</p> <p>Sections: 00210, 00220, 00221, 00222, 00223, 00224, 00280, 00290, 00905, 00930, 00940, 02560</p>
<p>Date Signed:</p>	

Clackamas County Rural Systemic Safety Countermeasures

SPECIAL PROVISIONS

WORK TO BE DONE

RURAL SYSTEMIC SAFETY COUNTERMEASURES PROJECT

CLACKAMAS COUNTY, OREGON

The Rural Systemic Safety Countermeasures Project is a signing and pavement markings project. The project has two components:

1. Systemic Horizontal Alignment Signs: Install horizontal alignment warning signs, based on the project plans, over approximately 40 miles on 17 rural arterial and collector corridors.

The safety countermeasures included in this project are expected to result in measurable reductions in fatal and serious injury crashes on County rural roadways, which is consistent with the goal of the Clackamas County Transportation Safety Action Plan to eliminate serious injury and fatal crashes by 2035.

Updating horizontal warning signs is a proven safety countermeasure that is associated with a 16% reduction in road-departure crashes. This project will also bring 40 miles of rural arterials and collectors into compliance with MUTCD standards for horizontal alignment signs.

The planned intersection safety countermeasures are proven to reduce the number of intersection crashes by 20%-30%.

APPLICABLE SPECIFICATIONS

The Specifications that are applicable to the Work on this Project is the 2021 edition of the "Oregon Standard Specifications for Construction", as modified by these Special Provisions. All Sections in Part 00100 apply, whether or not modified or referenced in the Special Provisions.

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

The construction drawings may include standard drawings or details within the plan set or they may be included by reference. If standard drawings or details are included, it is intended to indicate that this specific drawing be used. If standard drawings or details are referenced, it is intended to indicate that the latest available drawing should be used.

CLASS OF WORK

Signing

Clackamas County Rural Systemic Safety Countermeasures

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 (<http://www.clackamas.us/code/documents/appendixc.pdf>).

00110.10 Abbreviations

Add the following:

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

00110.20 Definitions

Add or modify definitions as follows:

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

Amendment – A contract modification for Additional Work, Changed Work, Extra Work, Field Directives, or other changes. An Amendment changes the contract value, scope, and/or time. Amendments require formal approval by the Board of County Commissioners, pursuant to LCRB Rule Division C-049-160, prior to approval of such work.

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

Award – Same as "Notice to Intent to Award".

BCC – The Clackamas County Board of County Commissioners

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

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

Clackamas County Rural Systemic Safety Countermeasures

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.

Clackamas County Rural Systemic Safety Countermeasures

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.

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.

Clackamas County Rural Systemic Safety Countermeasures

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:

If no County-owned adjacent property is available for the Contractor, no changes here are necessary. If there is County-owned adjacent property but it won't be available, a specific restriction should be mentioned in 00120.17 (b) and (c).

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:

Clackamas County Rural Systemic Safety Countermeasures

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.

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

See Instructions to Bidders.

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.

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.

Clackamas County Rural Systemic Safety Countermeasures

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.

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

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;

Clackamas County Rural Systemic Safety Countermeasures

- 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) and the following:

- 1) Lay out and construction stakes for sign pole installations;
- 2) Stake right-of way or easement lines;
- 3) All stakes will be one-time only; and
- 4) Deduct from payments due the Contractor all costs incurred to replace stakes and marks negligently or intentionally damaged, removed, or destroyed by the Contractor.

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

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

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

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

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

- Hold a utility scheduling meeting and monthly utility coordination meetings (see also 00180.42);
- Maintain and re-establish utility location marks according to OAR 952-001-0090(2)(a). Coordinate re-establishment of the location marks with the associated Utility;
- Determine the exact location before excavating within the reasonable accuracy zone according to OAR 952-001-0090(2)(c);

Clackamas County Rural Systemic Safety Countermeasures

- 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(5), notify the Engineer and the Utility as soon as the Contractor discovers any previously unknown Utility conflicts or issues. Contrary to the OAR, stop excavating until directed by the Engineer and allow the Utility a minimum of two weeks to relocate or resolve the previously unknown utility issues.

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

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

Energized power lines overhang portions of the Work with a minimum vertical clearance of 18 feet. Contractor shall maintain at least 10 feet of safety clearance. Exceptions require written approval from the 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.

00150.50 Cooperation with Utilities - Add the following subsection:

(f) Utility Information:

There are no anticipated conflicts with the Utilities. Contact those Utilities having buried facilities and request that they locate and mark them for their protection prior to construction.

Energized power lines overhang portions of the Work with a minimum vertical clearance of 10 feet. Contractor shall maintain at least 10 feet of safety clearance. Exceptions require written approval from the Portland General Electric Company 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.

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

Clackamas County Rural Systemic Safety Countermeasures

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.

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.

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.

00165.91 Fabrication Inspection Expense - In the paragraph that begins "Fabrication of certain items...", replace the sentence that begins "Therefore, each time that..." with the following sentence:

Clackamas County Rural Systemic Safety Countermeasures

Therefore, each time that inspection by or on behalf of the Agency is necessary, payment to the Contractor will be reduced by an amount computed at the following rates:

In the paragraph that begins "This Subsection applies to all...", replace the first sentence, but not the bullet list, with the following sentence:

This Subsection applies to all fabricated items or manufactured Materials that are inspected by or on behalf of the Agency, which include, but are not limited to:

SECTION 00170 – LEGAL RELATIONS AND RESPONSIBILITIES

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

00170.00 General - Add the following two paragraphs after the paragraph that begins "In any litigation, the entire...":

The characterization of provisions of the Contract as material provisions or the failure to comply with certain provisions as a material breach of the Contract shall in no way be construed to mean that any other provisions of the Contract are not material or that failure to comply with any other provisions is not a material breach of the Contract.

All rights and remedies available to the Agency under applicable Laws are incorporated herein by reference and are cumulative with all rights and remedies under the Contract.

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.

00170.61(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:

Clackamas County Rural Systemic Safety Countermeasures

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

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

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

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

00170.70(c) Additional Insured - Add the following paragraph and bullets to the end of this subsection:

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

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
- DKS Associates and its employees

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

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.

Clackamas County Rural Systemic Safety Countermeasures

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
Contract Completion Time	00180.50(h)
Right-of-Way and Access Delays	00180.65
Traffic Lane Restrictions	00220.40(e)
Special Events	00220.40(e)
In-water Work Restrictions	00290.34(a)
Noise Control	00290.32
Maintenance Under Traffic	00620.43
Opening Sections to Traffic	00744.51
Opening Sections to Traffic	00745.51

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

Clackamas County Rural Systemic Safety Countermeasures

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.

Add the following subsection:

00180.50(h) Contract Time - Complete all Work to be done under the Contract not later than December 31,2022.

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 \$600 per Calendar Day *.

Clackamas County Rural Systemic Safety Countermeasures

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

SECTION 00190 – MEASUREMENT OF PAY QUANTITIES

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

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

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

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 - Modify as follows:

Clackamas County Rural Systemic Safety Countermeasures

(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.

Clackamas County Rural Systemic Safety Countermeasures

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.

SECTION 00196 – PAYMENT FOR EXTRA WORK

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

00196.91 Extra Work Allowance – Add the following new section:

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

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..."

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.

Clackamas County Rural Systemic Safety Countermeasures

(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

Clackamas County Rural Systemic Safety Countermeasures

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.

Clackamas County Rural Systemic Safety Countermeasures

SECTION 00210 - MOBILIZATION

Comply with Section 00210 of the Standard Specifications.

00210.90 Payment - Add the following paragraph to the end of this subsection:

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

SECTION 00221 - COMMON PROVISIONS FOR WORK ZONE TRAFFIC CONTROL

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

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

SECTION 00222 – TEMPORARY TRAFFIC CONTROL SIGNS

Comply with Section 00222 of the Standard Specifications.

SECTION 00223 - WORK ZONE TRAFFIC CONTROL LABOR AND VEHICLES

Comply with Section 00223 of the Standard Specifications.

Clackamas County Rural Systemic Safety Countermeasures

SECTION 00224 - TEMPORARY TRAFFIC CHANNELIZING DEVICES

Comply with Section 00224 of the Standard Specifications.

SECTION 00280 - EROSION AND SEDIMENT CONTROL

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

00280.06 Erosion and Sediment Control Manager - Delete this subsection.

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 within 24 hours.

00280.90 Payment – In the paragraph that begins "Item (a) includes..." delete the bullet that specifies "providing the Erosion and Sediment Control Manager".

Replace the paragraph that begins "When only Item (a) is..." with the following paragraph:

Additional ESC devices required for permit compliance will be paid for as Extra Work according to Section 00196.

SECTION 00290 - ENVIRONMENTAL PROTECTION

Comply with Section 00290 of the Standard Specifications.

SECTION 00905 - REMOVAL AND REINSTALLATION OF EXISTING SIGNS

Comply with Section 00905 of the Standard Specifications modified as follows:

00905.90 Payment – Add the following items to the Pay Item list.

Pay Item	Unit of Measurement
(c) Remove Existing Support	Lump Sum
(d) Remove and Reinstall Existing Support.....	Lump Sum

Clackamas County Rural Systemic Safety Countermeasures

SECTION 00930 - METAL SIGN SUPPORTS

Comply with Section 00930 of the Standard Specifications modified as follows:

00930.10 Materials - Replace the paragraph that begins "Furnish structural steel materials..." with the following paragraph:

Furnish perforated steel square tube slip base sign supports and perforated steel square tube anchor sign supports from the QPL. Furnish other structural steel materials meeting the applicable portions of Section 02530, with weights and sizes as shown or specified.

00930.80 Measurement - Replace the following subsection with the following:

The quantities for metal sign supports will be measured on the unit basis.

00930.90 Payment - The accepted quantities of metal sign supports will be paid for at the Contract unit price, per unit of measurement, for the following items:

Pay Item	Unit of Measurement
(a) Perforated Square Tube Anchor Sign Supports (2"x2" 12-gauge).....	Each

SECTION 00940 - SIGNS

Comply with Section 00940 of the Standard Specifications.


SECTION 02560 - FASTENERS

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

02560.30(b) High Strength Tie Rods, Anchor Bolts and Anchor Rods - Add the following paragraph to the end of this subsection:

End stamp all ASTM F1554, Grade 105 according to ASTM F1554 Supplementary Requirements S2 and S3. If the end of the bolt is to be embedded in concrete, the projecting end from the concrete shall be the marked end.

LEGEND

-  CURVE NUMBER
- X-Y-Z** ALONG CORRIDOR (X) AT CURVE (Y) INSTALL NEW SIGN ASSEMBLY (Z). SEE SIGN TABLE ON SHEET FOLLOWING CORRIDOR PLAN.
- X-EX-Z** ON CORRIDOR (X) MAINTAIN AND PROTECT SIGN ASSEMBLY (Z). SEE SIGN TABLE ON SHEET FOLLOWING PLAN SHEETS.
- X-RX-Z** ON CORRIDOR (X) REMOVE AND SALVAGE SIGN ASSEMBLY (Z). SEE SIGN TABLE ON SHEET FOLLOWING PLAN SHEETS.
- X-RS-Z** ON CORRIDOR (X) REMOVE AND SAVE SIGN ASSEMBLY (Z). SEE SIGN TABLE ON SHEET FOLLOWING PLAN SHEETS.

SHEET INDEX

Legend and Details

Number	Name
D-01	Legend
D-02	Typical Single Curve Warning Signage
D-03	Typical Reverse Curve Warning Signage
D-04	Typical Windy Road Curve Signage
D-05	Sign Details

Systemic Corridors

Number	Name
C-01	232nd Drive
C-02	NOT USED
C-03	Baker Road
C-04	Beavercreek Road
C-05	Borland Road
C-06	Ek Road
C-07	Feyrer Park Road
C-08	Grahams Ferry Road
C-09	Hayden Road
C-10	Knights Bridge Road
C-11	Ladd Hill Road
C-12	Leland Road
C-13	Lone Elder Road
C-14	Macksburg Road
C-15	Molalla Avenue
C-16	Rosemount Road
C-17	Tooze Road
C-18	Wilsonville Road

GENERAL NOTES

1. THE TYPICAL CURVE WARNING DETAILS SHALL BE USED TO ASSIST IN THE PLACEMENT OF CURVE WARNING SIGNS FOR A SINGLE CURVE (D-02), A SET OF REVERSE CURVES (D-03), AND A SET WINDING WAY CURVES (D-04). THE NUMBER OF CHEVRONS, SIGN PLACEMENT DISTANCES, AND SIGN TYPES ARE PROVIDED IN THE SIGN INSTALLATION TABLE FOR EACH INTERSECTION.
2. INSTALL ADVANCE CURVE WARNING SIGNING AS SPECIFIED IN TABLE 1.
3. CHEVRONS ARE TO BE INSTALLED AT THE DISTANCES SPECIFIED IN TABLE 2 IF THE DIFFERENCE IN ADVISORY SPEED TO POSTED SPEED IS 10 MPH OR MORE UNLESS OTHERWISE NOTED ON THE PLANS.
4. IF A DRIVEWAY CONFLICTS WITH REQUIRED ADVANCE WARNING SIGN, INSTALL SIGN A MINIMUM OF 10 FEET BEYOND DRIVEWAY AWAY FROM THE CURVE. CONFIRM FINAL PLACEMENT WITH ENGINEER PRIOR TO INSTALLATION.
5. IF A DRIVEWAY CONFLICTS WITH THE PLACEMENT OF A CHEVRON SIGN, OMIT THE CHEVRON SIGN OR INSTALL SIGN A MINIMUM OF 5 FEET (10 FEET IF DESIRED) FROM DRIVEWAY. CONFIRM FINAL PLACEMENT WITH ENGINEER PRIOR TO INSTALLATION.
6. SINGLE CHEVRONS MAY BE USED ON EITHER END OF THE CURVE AS NEEDED. CONFIRM WITH ENGINEER PRIOR TO INSTALLATION.
7. INSTALL ALL SIGNS ON PERFORATED STEEL SQUARE TUBE SIGN SUPPORT (12-GAUGE) UNLESS OTHERWISE NOTED ON PLAN. SEE CLACKAMAS COUNTY STANDARD DRAWING T150 FOR SIGN MOUNTING AND ATTACHMENTS DETAILS AND T250 FOR SIGN INSTALLATION DETAILS. EMBED ALL SIGN POSTS IN CONCRETE FOUNDATION PER ODOT STANDARD DRAWING TM687.
8. INSTALL ALL DOUBLE CHEVRONS ON ADJUSTABLE CHEVRON MOUNT. SEE ODOT DET4677 FOR DETAILS.
9. WHEN SIGN AND SUPPORT HAVE DIFFERENT REQUIREMENT FOR REMOVAL OR SALVAGE, LEGEND INDICATED THE DIRECTION FOR THE SUPPORT. REVIEW SIGN TABLES FOR MORE DETAILS.

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\01.dwg 1/24/2022 3:27 PM Rachel Vogt

DKS
 117 Commercial St NE, Suite 310
 Salem, Oregon 97301
 www.dksassociates.com



EXPIRES: DEC. 31, 2022

Rural Curve Systemic Signing
 Legend and Sheet Index

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

DAN JOHNSON
 DIRECTOR

DESIGNED BY: RFV
 DRAFTED BY: DKS CAD
 CHECKED BY: SMM

REVISIONS

NO.	DATE:

Sheet No.
D-01

PROJECT NO.: #2019-18
 DATE: JUNE 2021

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\02.dwg 6/25/2021 4:40 PM Rachel Vogt

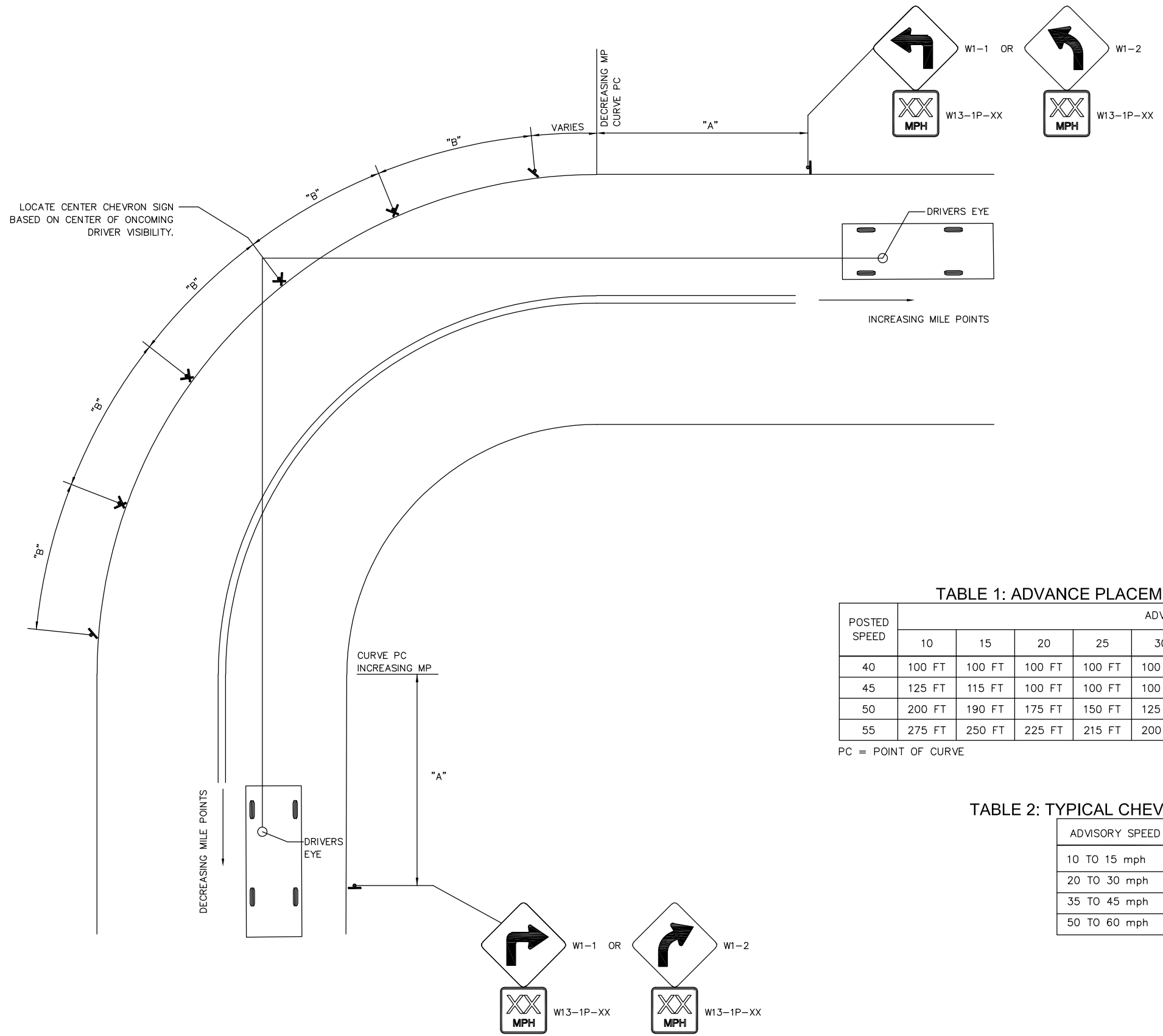


TABLE 1: ADVANCE PLACEMENT OF WARNING SIGNS (A)

POSTED SPEED	ADVISORY SPEED									
	10	15	20	25	30	35	40	45	50	55
40	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT
45	125 FT	115 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT
50	200 FT	190 FT	175 FT	150 FT	125 FT	115 FT	100 FT	100 FT	100 FT	100 FT
55	275 FT	250 FT	225 FT	215 FT	200 FT	165 FT	125 FT	100 FT	100 FT	100 FT

PC = POINT OF CURVE

TABLE 2: TYPICAL CHEVRON SIGN SPACING (B)

ADVISORY SPEED	SPACING
10 TO 15 mph	40 FT
20 TO 30 mph	80 FT
35 TO 45 mph	120 FT
50 TO 60 mph	160 FT



DKS
 117 Commercial St NE, Suite 310
 Salem, Oregon 97301
 www.dksassociates.com

Rural Curve Systemic Signing
Typical Single Curve Warning Signage Details
 DATE: JUNE 2021 PROJECT NO.: #2019-18

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

DESIGNED BY: REV
 DRAFTED BY: DKS CAD
 CHECKED BY: SMM

NO.	DATE	REVISIONS

Sheet No. **D-02**

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\03.dwg 6/25/2021 4:40 PM Rachel Vogt

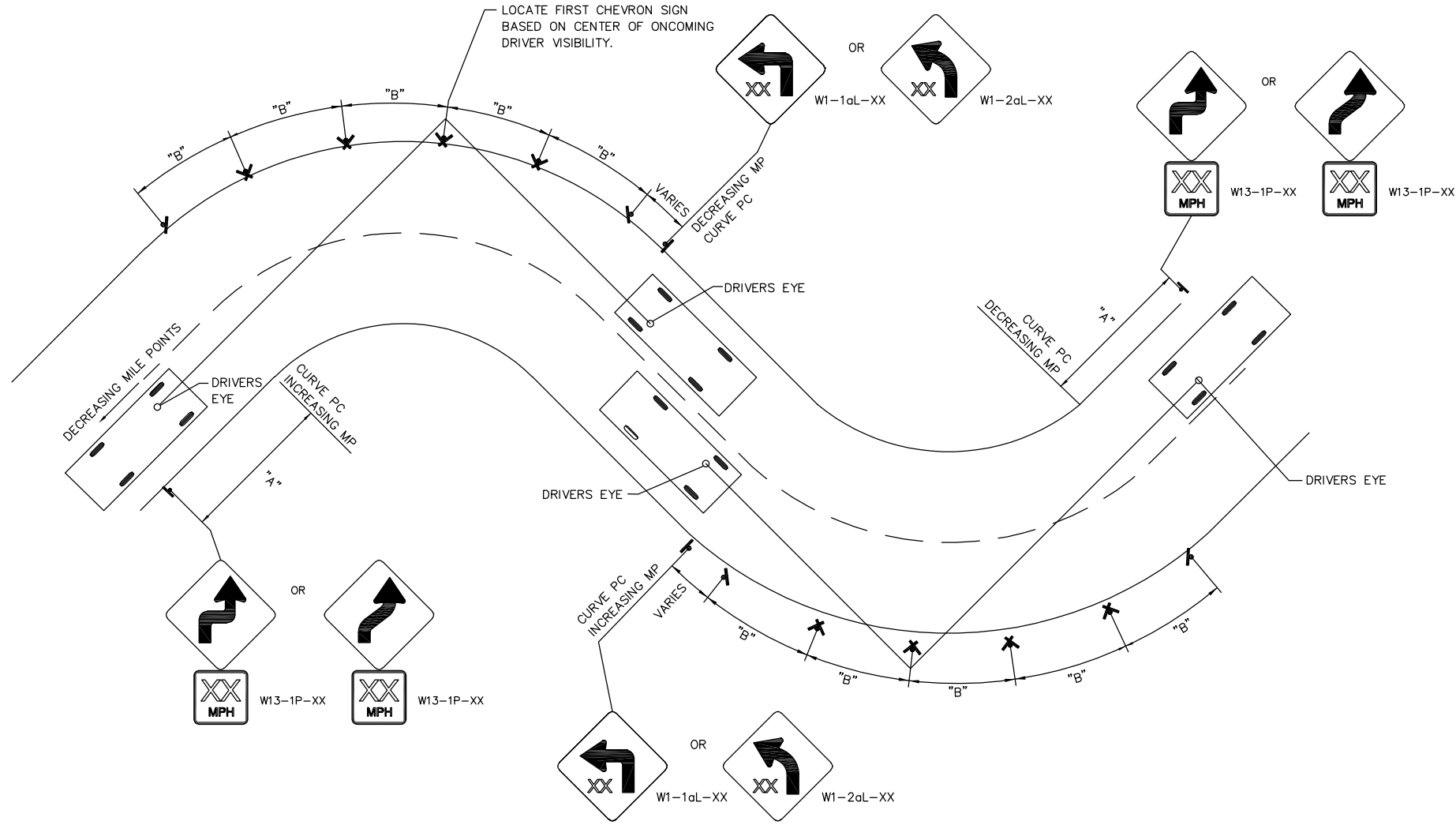


TABLE 1: ADVANCE PLACEMENT OF WARNING SIGNS (A)

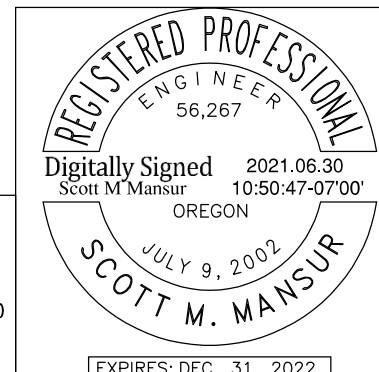
POSTED SPEED	ADVISORY SPEED									
	10	15	20	25	30	35	40	45	50	55
40	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT
45	125 FT	115 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT
50	200 FT	190 FT	175 FT	150 FT	125 FT	115 FT	100 FT	100 FT	100 FT	100 FT
55	275 FT	250 FT	225 FT	215 FT	200 FT	165 FT	125 FT	100 FT	100 FT	100 FT

PC = POINT OF CURVE

TABLE 2: TYPICAL CHEVRON SIGN SPACING (B)

ADVISORY SPEED	SPACING
10 TO 15 mph	40 FT
20 TO 30 mph	80 FT
35 TO 45 mph	120 FT
50 TO 60 mph	160 FT

DKS
 117 Commercial St NE, Suite 310
 Salem, Oregon 97301
 www.dksassociates.com



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

DAN JOHNSON
 DIRECTOR

Rural Curve Systemic Signing
 Typical Reverse Curve Warning Signage Details

DESIGNED BY: []
 REV: []
 DRAFTED BY: []
 DKS CAD
 CHECKED BY: []
 SMM

NO. DATE: [] []

Sheet No. **D-03**

PROJECT NO.: #2019-18
 DATE: JUNE 2021

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\04-04.dwg 6/25/2021 4:40 PM Rachel Vogt

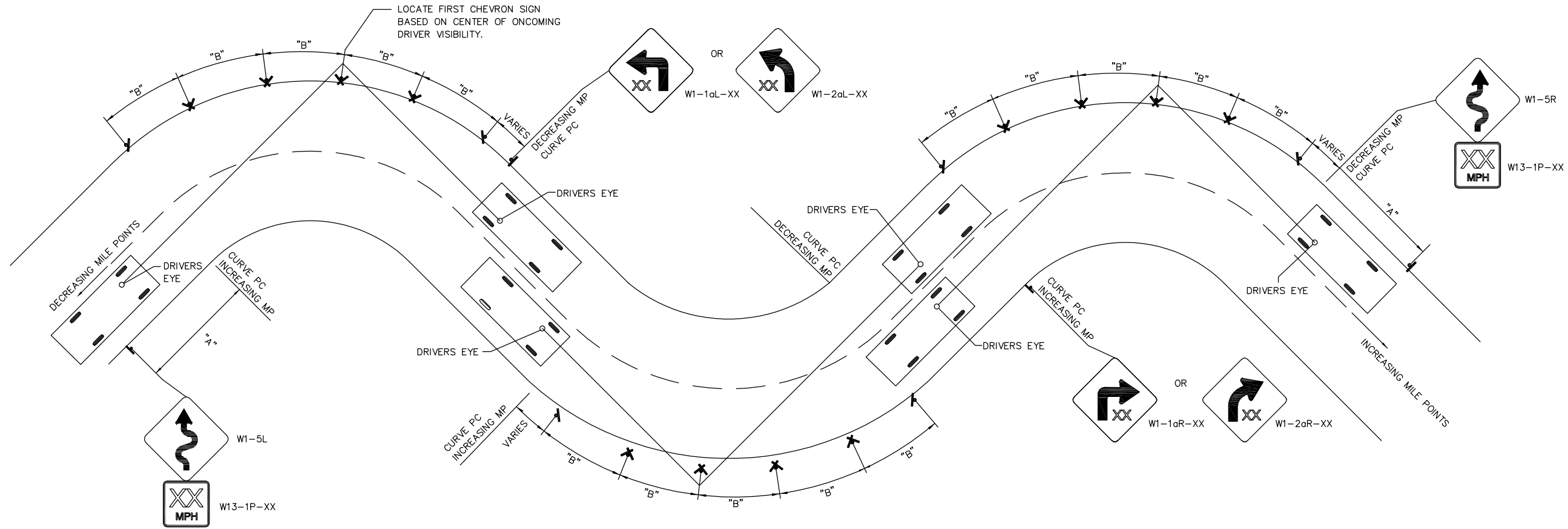


TABLE 1: ADVANCE PLACEMENT OF WARNING SIGNS (A)

POSTED SPEED	ADVISORY SPEED									
	10	15	20	25	30	35	40	45	50	55
40	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT
45	125 FT	115 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT	100 FT
50	200 FT	190 FT	175 FT	150 FT	125 FT	115 FT	100 FT	100 FT	100 FT	100 FT
55	275 FT	250 FT	225 FT	215 FT	200 FT	165 FT	125 FT	100 FT	100 FT	100 FT

PC = POINT OF CURVE

TABLE 2: TYPICAL CHEVRON SIGN SPACING (B)

ADVISORY SPEED	SPACING
10 TO 15 mph	40 FT
20 TO 30 mph	80 FT
35 TO 45 mph	120 FT
50 TO 60 mph	160 FT

Rural Curve Systemic Signing
Typical Winding Road Warning Signage Details

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

DAN JOHNSON
DIRECTOR

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SMM

REVISIONS

NO. DATE:

Sheet No.
D-04

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL
ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 10:52:50-07'00'
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

DATE: JUNE 2021 PROJECT NO.: #2019-18

WARNING SIGNS



W1-1L
36"X36"



W1-1R
36"X36"



W1-1aL-XX
36"X36"



W1-1aR-XX
36"X36"



W1-2L
36"X36"



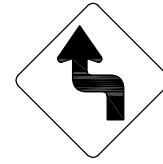
W1-2R
36"X36"



W1-2aL-XX
36"X36"



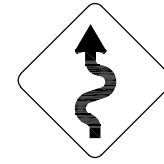
W1-2aR-XX
36"X36"



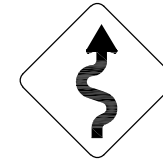
W1-3L
36"X36"



W1-3R
36"X36"



W1-5L
36"X36"



W1-5R
36"X36"



W1-8R
24"X30"



W1-8L
24"X30"



W13-1P-15
24"X24"



W13-1P-20
24"X24"



W13-1P-25
24"X24"



W13-1P-30
24"X24"



W13-1P-35
24"X24"



W13-1P-40
24"X24"



W13-1P-45
24"X24"



W13-1P-50
24"X24"

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\05.dwg 6/25/2021 4:40 PM Rachel Vogt

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 10:53:11-07'00'
OREGON
JULY 9, 2002
SCOTT M. MANSUR

EXPIRES: DEC. 31, 2022

REVISIONS

NO. DATE:

Sheet No.

D-05

DESIGNED BY: RFV
DRAFTED BY: DKS CAD
CHECKED BY: SMM

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



DAN JOHNSON
DIRECTOR

Rural Curve Systemic Signing
Legend and Sheet Index

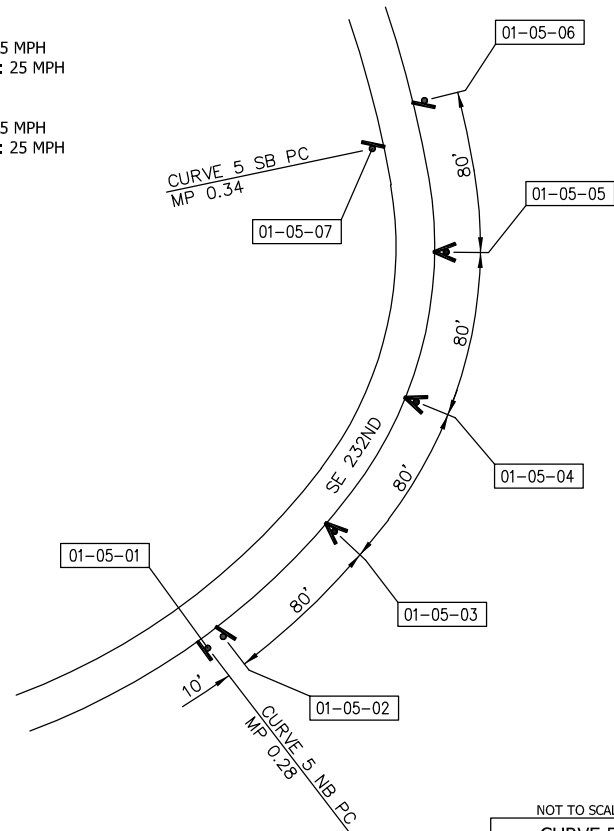
DATE: JUNE 2021 PROJECT NO.: #2019-18

X:\Projects\2020\202027-000 (Clackamas County Rural Curve Design)\CAD\C-01.dwg 6/25/2021 4:40 PM Rachel Vogt

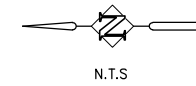
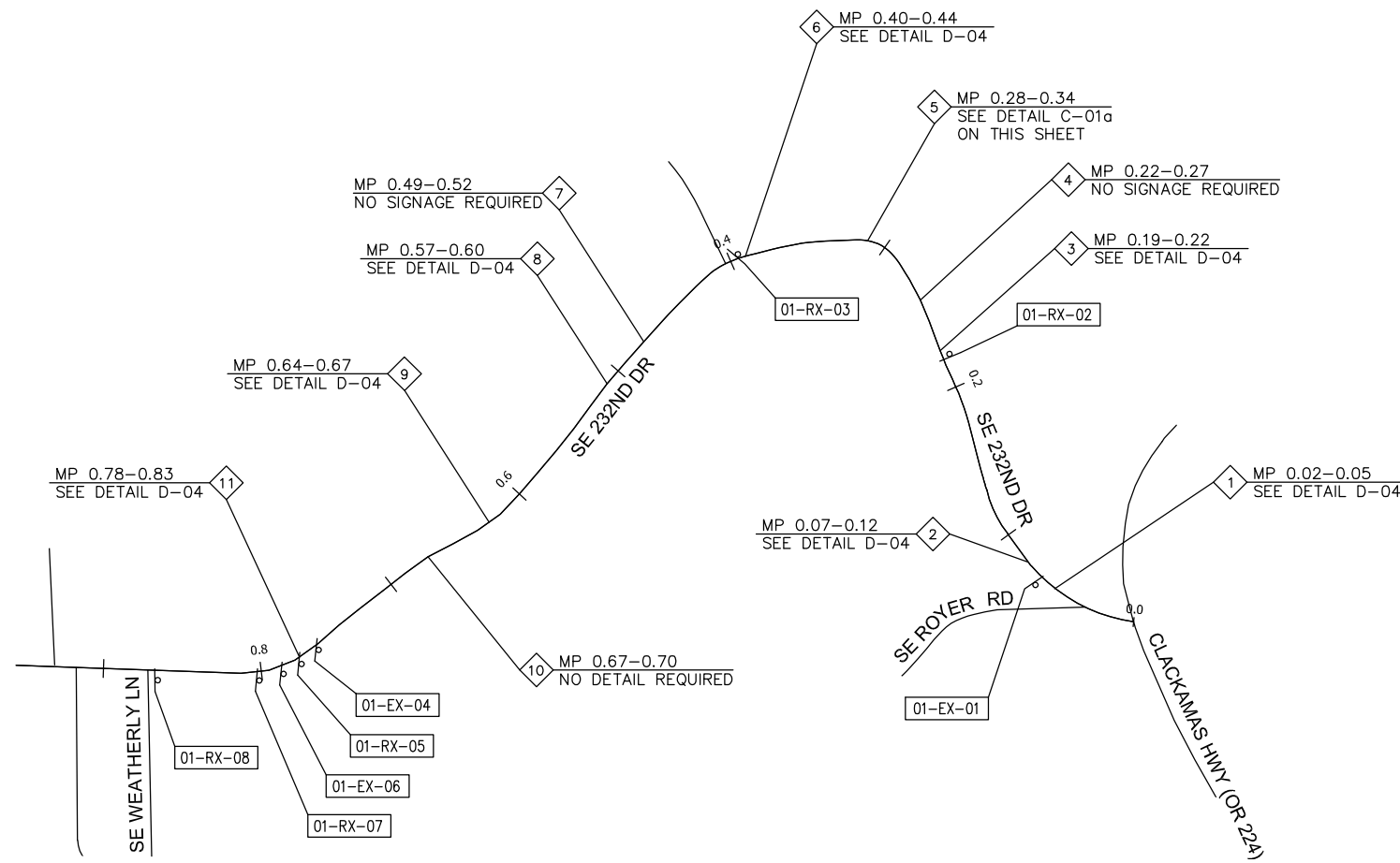
Detail C-01a

NB: INCREASING
POSTED SPEED: 45 MPH
ADVISORY SPEED: 25 MPH

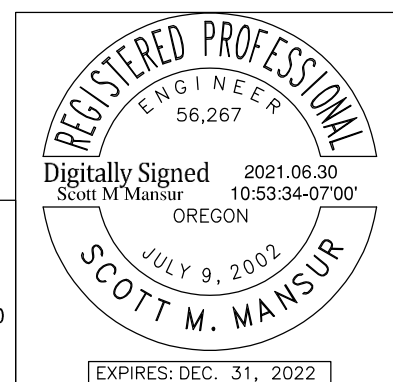
SB: DECREASING
POSTED SPEED: 45 MPH
ADVISORY SPEED: 25 MPH



NOT TO SCALE
CURVE 5
MP: 0.28 to 0.34



DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com



REVISIONS	
NO	DATE

Sheet No. C-01-1

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

DAN JOHNSON
DIRECTOR

Rural Curve Systemic Signing
SE 232nd Drive

DATE: JUNE 2021 PROJECT NO.: #2019-18

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Travel Direction from PC					X	Y	
Corridor 01 - 232nd Drive															
1	-	Northbound	-	45 mph	25 mph	Curve signage not required per County direction given proximity to Clackamas Highway.									
	1	Southbound	45.39501 -122.42311	45 mph	30 mph	-	80 ft	South	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.
	2					-	80 ft	South	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.
	3					-	80 ft	South	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.
4	0 ft					-	North	PSST	2" x 2"	W1-1aR-30	Supplemental Left Turn Advisory Speed 30	36	36	Install new sign assembly at field located Point of Curvature.	
2	1	Northbound	45.39521 -122.42277	45 mph	40 mph	100 ft	-	North	PSST	2" x 2"	W1-5R W13-1P-25	Winding Road Right Warning Advisory Speed 25	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	-	Southbound	-	45 mph	40 mph										
3	1	Northbound	45.39585 -122.42058	45 mph	35 mph	0 ft	-	South	PSST	2" x 2"	W1-2aL-35	Supplemental Left Curve Advisory Speed 35	36	36	Install new sign assembly at field located Point of Curvature.
	2					-	120 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.
	3					-	120 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.
	4	Southbound	45.39606 -122.42007	45 mph	35 mph	0 ft	-	North	PSST	2" x 2"	W1-2aR-35	Supplemental Right Curve Advisory Speed 35	36	36	Install new sign assembly at field located Point of Curvature.
4	-	Northbound	-	45 mph	40 mph	No signs required for Curve 4									
	-	Southbound	-	45 mph	45 mph										
5	1	Northbound	45.39643 -122.41887	45 mph	25 mph	0 ft	-	South	PSST	2" x 2"	W1-1aL-25	Supplemental Left Turn Advisory Speed 25	36	36	Install new sign assembly at field located Point of Curvature.
	2					-	See Detail C-01a	North	PSST	2" x 2"	W1-8R	Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-01a for placement details.
	3					-	See Detail C-01a	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-01a for placement details.
	4					-	See Detail C-01a	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-01a for placement details.
	5					-	See Detail C-01a	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-01a for placement details.
	6					-	See Detail C-01a	North	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-01a for placement details.
	7	Southbound	45.39707 -122.41838	45 mph	25 mph	0 ft	-	North	PSST	2" x 2"	W1-1aR-25	Supplemental Right Turn Advisory Speed 25	36	36	Install new sign assembly at field located Point of Curvature.
6	1	Northbound	43.39795 -122.41863	45 mph	35 mph	-	120 ft	South	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.
	2					-	120 ft	South	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.
	3	Southbound	45.39837 -122.41903	45 mph	35 mph	0 ft	-	North	PSST	2" x 2"	W1-2aR-35	Supplemental Right Curve Advisory Speed 35	36	36	Install new sign assembly at field located Point of Curvature.
7	-	Northbound	-	45 mph	50 mph	No signs required for Curve 7									
	-	Southbound	-	45 mph	55 mph										

X:\Projects\2020\Projects\20027-000 (Clackamas County Rural Curve Design)\CAD\C-01.dwg 6/25/2021 4:40 PM Rachel Vogt

Rural Curve Systemic Signing
SE 232nd Drive

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

CLACKAMAS COUNTY

DAN JOHNSON
DIRECTOR

DESIGNED BY: _____
REV: _____
DRAFTED BY: _____
DKS CAD: _____
CHECKED BY: _____
SMM: _____

NO.	DATE	REVISIONS

Sheet No. **C-01-2**

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267

Digitally Signed 2021.06.30
Scott M Mansur 11:01:17-07'00"
OREGON

JULY 9, 2002
SCOTT M. MANSUR

EXPIRES: DEC. 31, 2022

PROJECT NO.: #2019-18
DATE: JUNE 2021

Sign Installation Table

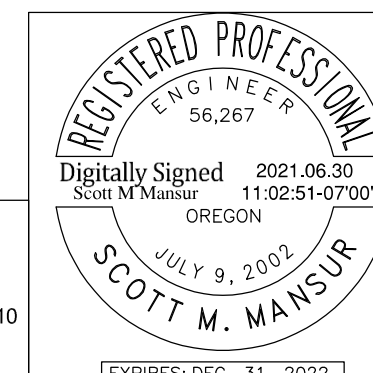
Curve No.	Sign Post No.	Travel Direction	Sign Location					Travel Direction from PC	Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks
			Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"						X	Y	
Corridor 01 - 232nd Drive															
8	-	Northbound	45.3956 1124195	45 mph	35 mph	0 ft	-	South	PSST	2" x 2"	W1-24R-35	Supplemental Right Curve Advisory Speed Sign	30	30	Install new sign assembly at field located Point of Curvature.
	1	Southbound	45.3856 1124214	45 mph	30 mph	0 ft	-	South	PSST	2" x 2"	W1-24L W1-24R	Chevron Alignment Left Chevron Alignment Right	24	30	Install new sign assembly 12" distance from next chevron assembly. See 2-01 for placement details.
	South							PSST	2" x 2"	W1-24L W1-24R	Chevron Alignment Left Chevron Alignment Right	24	30	Install new sign assembly 12" distance from next chevron assembly. See 2-04 for placement details.	
	4	Northbound	-	45 mph	35 mph	0 ft	-	South	PSST	2" x 2"	W1-24R-35	Supplemental Left Turn Advisory Speed Sign	30	30	Install new sign assembly 12" distance from field located Point of Curvature.
9	-	Northbound	-	45 mph	35 mph	-	-	South	PSST	2" x 2"	W1-24R	Chevron Alignment Right	24	30	Install new sign assembly 12" distance from next chevron assembly. See 2-01 for placement details.
	2	Southbound	45.3697 1124216	45 mph	40 mph	-	120 ft	South	PSST	2" x 2"	W1-24R	Chevron Alignment Right	24	30	Install new sign assembly 12" distance from next chevron assembly. See 2-01 for placement details.
10	-	Northbound	-	45 mph	40 mph	No signs required for Curve 10									
11	-	Northbound	-	45 mph	35 mph	-	-	-	-	-	-	-	-	-	-
	2	Southbound	45.4679 1124230	45 mph	35 mph	-	-	South	PSST	2" x 2"	W1-24L W1-24R	Chevron Alignment Left Chevron Alignment Right	24	30	Install new sign assembly 12" distance from next chevron assembly. See 2-01 for placement details.
	South							PSST	2" x 2"	W1-24L W1-24R	Chevron Alignment Left Chevron Alignment Right	24	30	Install new sign assembly 12" distance from next chevron assembly. See 2-01 for placement details.	
	4	Northbound	-	45 mph	35 mph	-	-	North	PSST	2" x 2"	W1-24L W1-24R	Wireless Left Warning Advisory Speed Sign	30	30	Install new sign assembly 12" distance from field located Point of Curvature.
1	Southbound	-	45 mph	35 mph	-	-	South	PSST	2" x 2"	W1-24L W1-24R	Wireless Left Warning Advisory Speed Sign	30	30	Install new sign assembly 12" distance from field located Point of Curvature.	

Existing Sign & Sign Removal

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location		Remarks
			X	Y		Milepost	Placement	
Corridor 01 - 232nd Drive								
1	W1-24	Wireless Road Left Warning Advisory Speed 30	30	30	Wood	0.06	4th	Maintain and protect existing sign and support.
2	W1-24 W1-24R-35	Wireless Road Left Warning Advisory Speed 30	30	30	Wood	0.10	3rd	Remove existing sign and support.
3	W1-24R	One Direction Right Arrow Sign	48	24	PSST	0.21	3rd	Remove existing sign and support.
4	W1-24L	Chevron Alignment Left	24	30	PSST	0.79	2nd	Remove and replace existing sign using chevron bracket system. Maintain and protect existing support. See Curve No. 11 on Sign Installation Table for installation details.
5	W1-24L	Chevron Alignment Left	24	30	PSST	0.80	2nd	Remove existing sign and support.
6	W1-24L	Chevron Alignment Left	24	30	PSST	0.81	2nd	Remove and replace existing sign using chevron bracket system. Maintain and protect existing support. See Curve No. 11 on Sign Installation Table for installation details.
7	W1-24L	Chevron Alignment Left	24	30	PSST	0.82	2nd	Remove existing sign and support.
8	W1-24 W1-24R-35	Wireless Road Left Warning Advisory Speed 30	30	30	PSST	0.87	4th	Remove existing sign and support.

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-01.dwg 6/25/2021 4:40 PM Rachel Vogt

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com



REVISIONS

NO. DATE:

Sheet No. C-01-3

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SWM

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

DAN JOHNSON
DIRECTOR

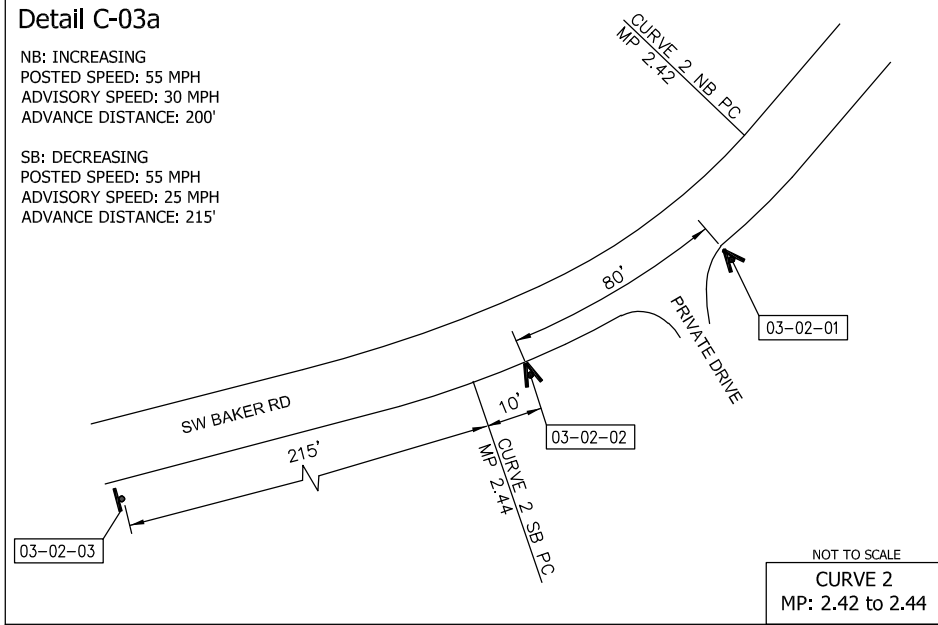
Rural Curve Systemic Signing
SE 232nd Drive

DATE: JUNE 2021 PROJECT NO.: #2019-18

Detail C-03a

NB: INCREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 30 MPH
 ADVANCE DISTANCE: 200'

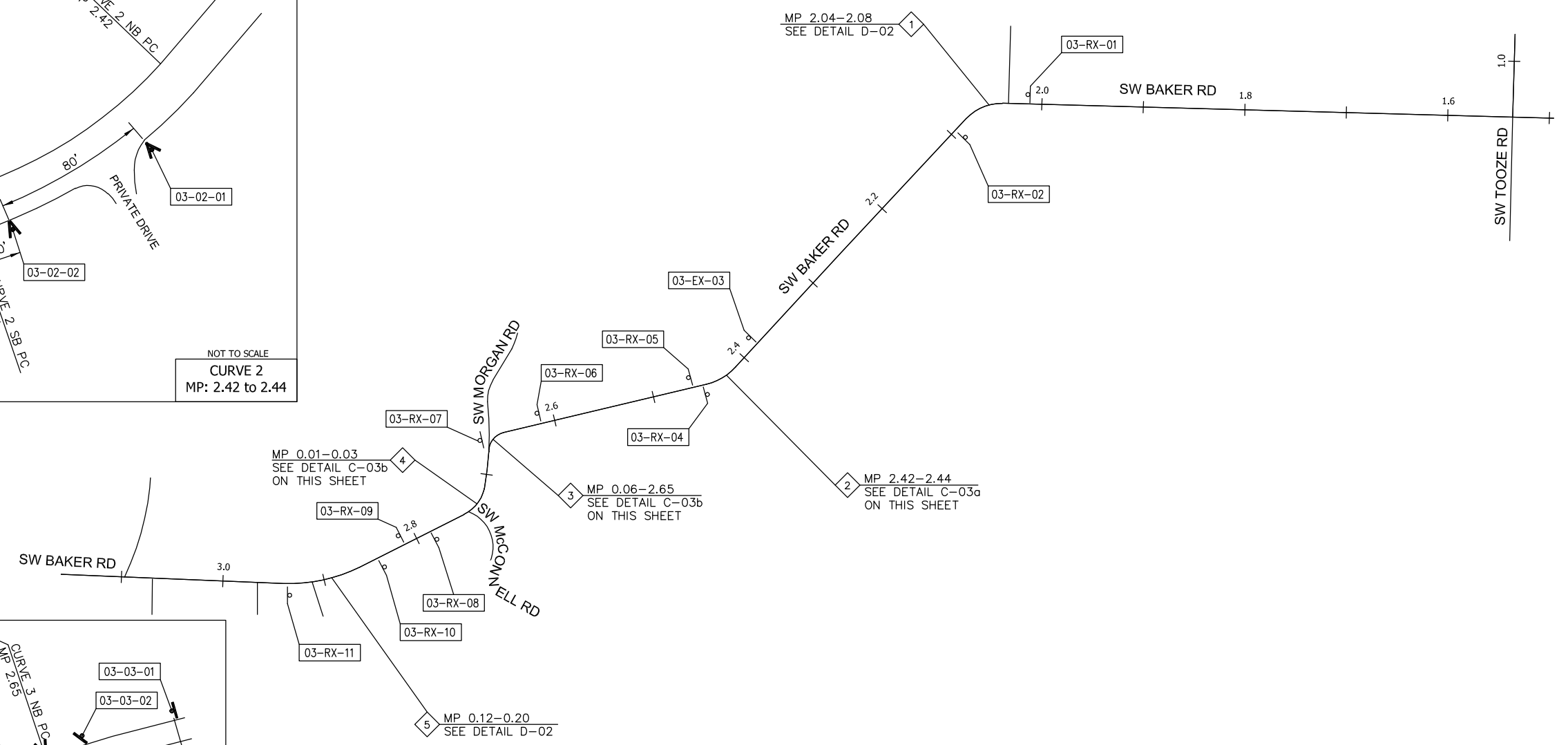
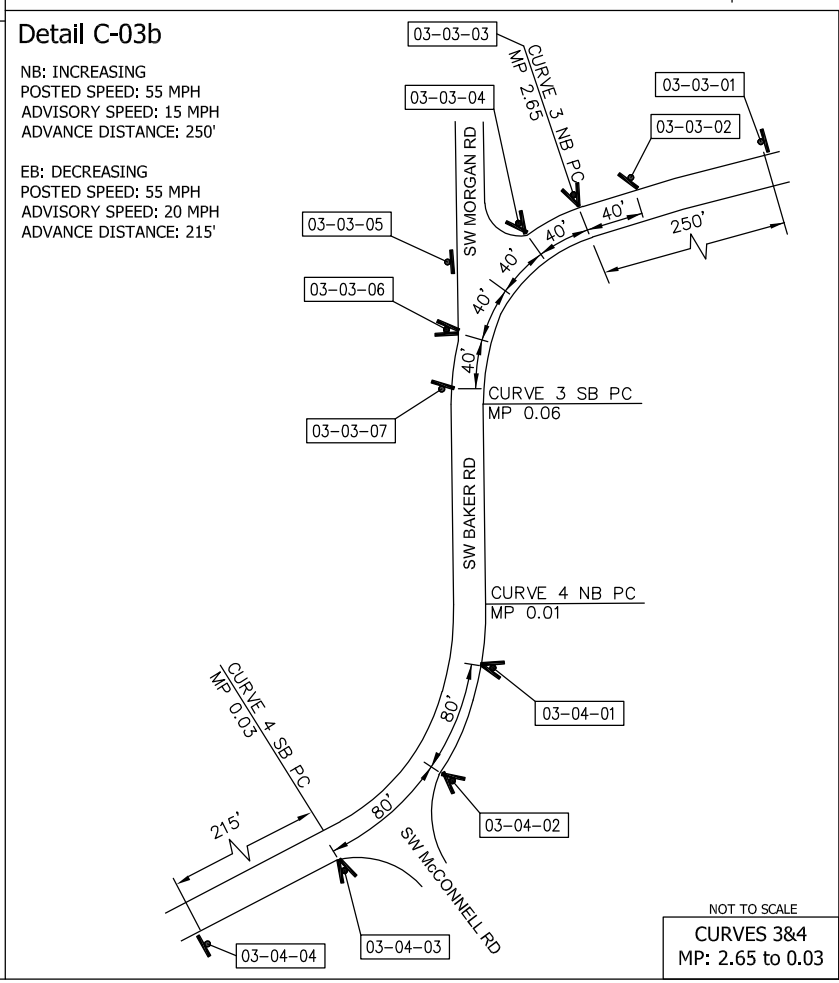
SB: DECREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 25 MPH
 ADVANCE DISTANCE: 215'



Detail C-03b

NB: INCREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 15 MPH
 ADVANCE DISTANCE: 250'

EB: DECREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 20 MPH
 ADVANCE DISTANCE: 215'



Rural Curve Systemic Signing
SW Baker Road

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



DAN JOHNSON
 DIRECTOR

PROJECT NO.: #2019-18

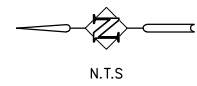
DATE: JUNE 2021

DESIGNED BY: RFV
 DRAFTED BY: DKS CAD
 CHECKED BY: SWM

REVISIONS

NO.	DATE:	DESCRIPTION:

Sheet No. **C-03-1**



DKS
 117 Commercial St NE, Suite 310
 Salem, Oregon 97301
 www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
 56,267
 Digitally Signed 2021.06.30
 Scott M Mansur 11:04:20-07'00"
 OREGON
 JULY 9, 2002
SCOTT M. MANSUR
 EXPIRES: DEC. 31, 2022

X:\Projects\2020\202027-000 (Clackamas County Rural Curve Design)\CAD\C-03.dwg 6/25/2021 4:40 PM Rachel Vogt

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Travel Direction from PC					X	Y	
Corridor 03 - Baker Road															
1	1	Northbound	45.33184 -122.8158	55 mph	30 mph	200 ft	-	South	PSST	2" x 2"	W1-1L W13-1P-30	Left Turn Warning Advisory Speed 30	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2					-	80 ft	North	PSST	2" x 2"	W1-8R	Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details
	3					-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details
	4					-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details
	5					-	80 ft	North	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details
	6	Southbound	45.33239 -122.81625	55 mph	35 mph	165 ft	-	North	PSST	2" x 2"	W1-2R W13-1P-35	Right Curve Warning Advisory Speed 35	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
2	-	Northbound	-	55 mph	30 mph	-	-	-	-	-	-	-	-	-	-
	1	Southbound	45.33584 -122.82171	55 mph	25 mph	-	See Detail C-03a	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details
	2					-	See Detail C-03a	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details
	3					215 ft	-	North	PSST	2" x 2"	W1-1L W13-1P-25	Left Turn Warning Advisory Speed 25	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
3	1	Northbound	45.33880 -122.82280	55 mph	15 mph	250 ft	-	South	PSST	2" x 2"	W1-3L W13-1P-15	Left Reverse Turn Warning Advisory Speed 15	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2					-	See Detail C-03b	South	PSST	2" x 2"	W1-8R	Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-03 for placement details
	3					-	See Detail C-03b	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-03 for placement details
	4					-	See Detail C-03b	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-03 for placement details
	5					-	See Detail C-03b	North	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-03 for placement details
	6					-	See Detail C-03b	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-03 for placement details
	7					-	See Detail C-03b	North	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-03 for placement details
	-	Southbound	-	55 mph	20 mph	-	-	-	-	-	-	-	-	-	-
4	-	Northbound	-	55 mph	20 mph	-	-	-	-	-	-	-	-	-	-
	1	Southbound	45.33924 -122.82451	55 mph	25 mph	-	See Detail C-03b	South	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-03 for placement details
	2					-	See Detail C-03b	South	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-03 for placement details
	3					-	See Detail C-03b	South	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-03 for placement details
	4					215 ft	-	North	PSST	2" x 2"	W1-3L W13-1P-20	Left Reverse Turn Warning Advisory Speed 20	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-03.dwg 6/25/2021 4:40 PM Rachel Vogt

Rural Curve Systemic Signing
SW Baker Road

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



DAN JOHNSON
DIRECTOR

DESIGNED BY: _____
REV: _____
DRAFTED BY: _____
DKS CAD
CHECKED BY: _____
SMM

NO.	DATE	REVISIONS

Sheet No. **C-03-2**

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:05:03-07'00'
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

PROJECT NO.: #2019-18
DATE: JUNE 2021

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Travel Direction from PC					X	Y	
Corridor 03 - Baker Road															
5	1	Northbound	45.33561 -122.82147	55 mph	45 mph	100 ft	-	South	PSST	2" x 2"	W1-2R W13-1P-45	Right Curve Warning Advisory Speed 45	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2					-	120 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	
	3					-	120 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details
	4					-	120 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	
	5	Southbound	45.33584 -122.82171	55 mph	40 mph	125 ft	-	North	PSST	2" x 2"	W1-2L W13-1P-40	Left Curve Warning Advisory Speed 40	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location		Remarks
			X	Y		Milepost	Placement	
Corridor 03 - Baker Road								
1	W1-11 W13-1P-25	Left Turn Warning Advisory Speed 25	36	36	PSST	0.00	Right	Remove existing sign and support. Remove existing sign.
2	W1-13 W13-1P-25	Right Turn Warning Advisory Speed 25	36	36	PSST	0.18	Left	Remove existing sign and support. Remove existing sign.
3	W1-13 W13-1P-28	Right Turn Warning Advisory Speed 28	36	36	PSST	0.50	Right	Maintain and protect existing sign and support. Maintain and protect existing sign.
4	W1-11 W13-1P-38	Left Turn Warning Advisory Speed 38	36	36	PSST	0.50	Left	Remove existing sign and support. Remove existing sign.
5	OW15-1 W1-3L	SLOW Warning Sign Left Reverse Turn Warning	30	30	PSST	0.81	Right	Remove existing sign and support.
6	W1-3L W13-1P-25	Left Reverse Turn Warning Advisory Speed 25	30	30	PSST	0.88	Left	Remove existing sign and support. Remove existing sign.
7	W1-6L W13-1P-25	One Direction Large Arrow Left Advisory Speed 25	48	24	PSST	0.00	Right	Remove existing sign and support. Remove existing sign.
8	W1-7L	Left Reverse Turn Warning	30	36	PSST	0.06	Left	Remove existing sign and support.
	W13-1P-28	Advisory Speed 28	24	24				Remove existing sign.
9	W1-24	Right Curve Warning	30	30	PSST	0.00	Right	Remove existing sign and support.
	W13-1P-18	Advisory Speed 30	30	18				Remove existing sign.
10	OW15-1	SLOW Warning Sign	30	30	PSST	0.13	Left	Remove existing sign and support.
11	W1-2L	Left Curve Warning	36	36	PSST	0.23	Left	Remove existing sign and support.
	W13-1P-48	Advisory Speed 40	36	18				Remove existing sign.

X:\Projects\2020\Projects\20027-000 (Clackamas County Rural Curve Design)\CAD\C-03.dwg 6/25/2021 4:41 PM Rachel Vogt

Rural Curve Systemic Signing
SW Baker Road

PROJECT NO.: #2019-18
DATE: JUNE 2021

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

DIRECTOR
DAN JOHNSON

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SWM

REVISIONS

NO. DATE:
Sheet No. C-03-3

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

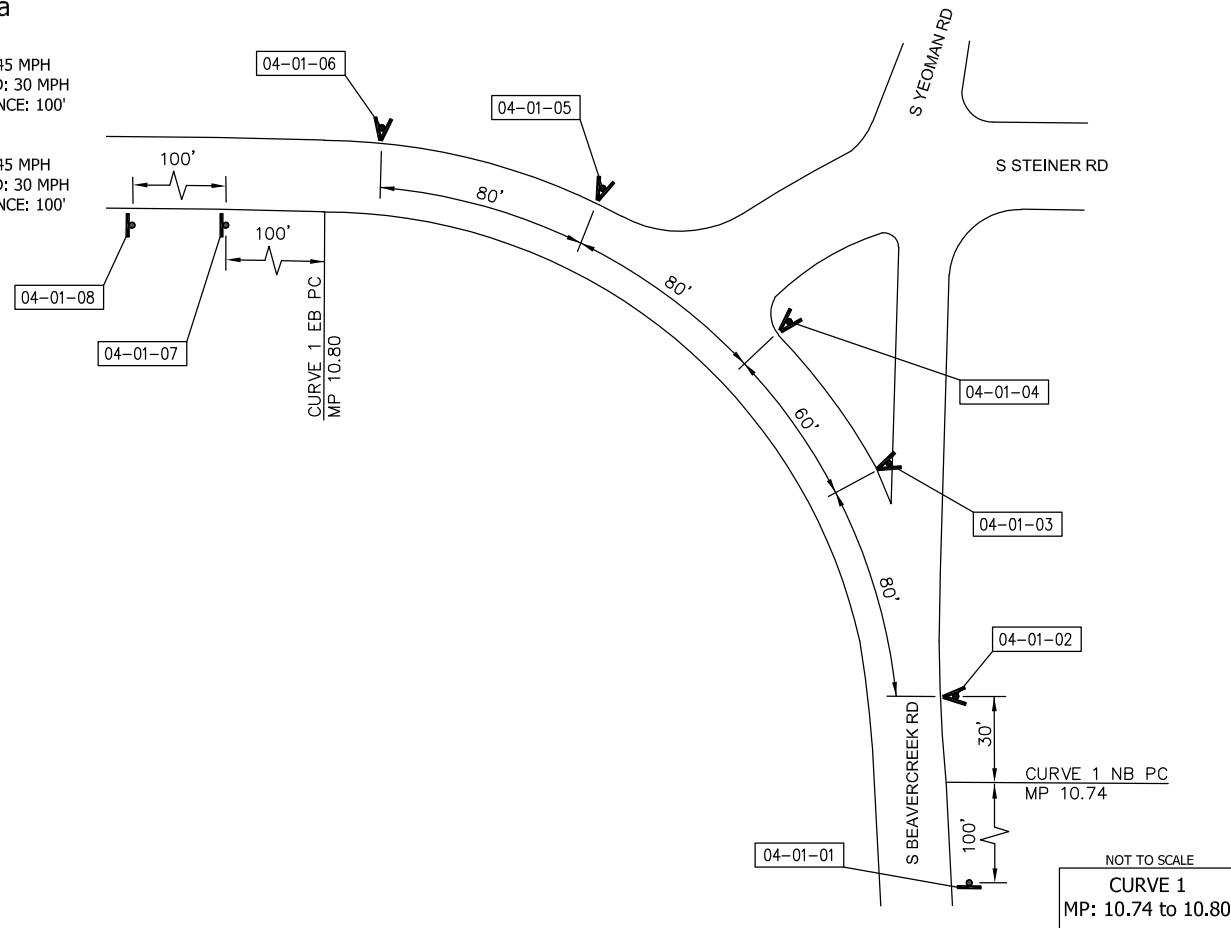
REGISTERED PROFESSIONAL
ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:06:26-07'00"
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-04.dwg 6/25/2021 4:41 PM Rachel Vogt

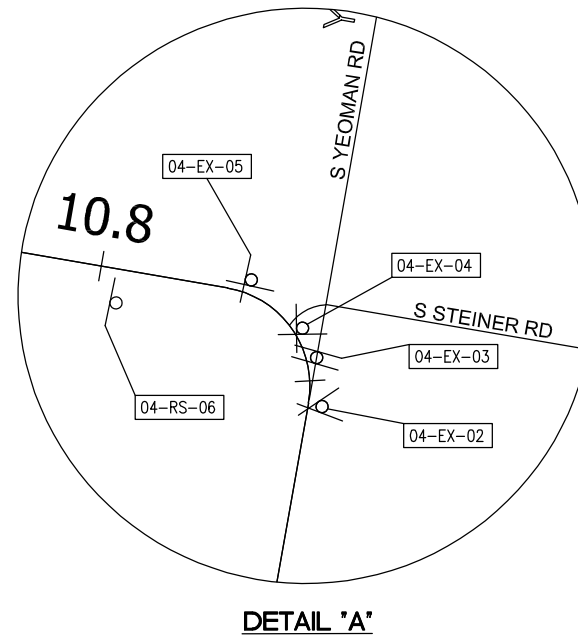
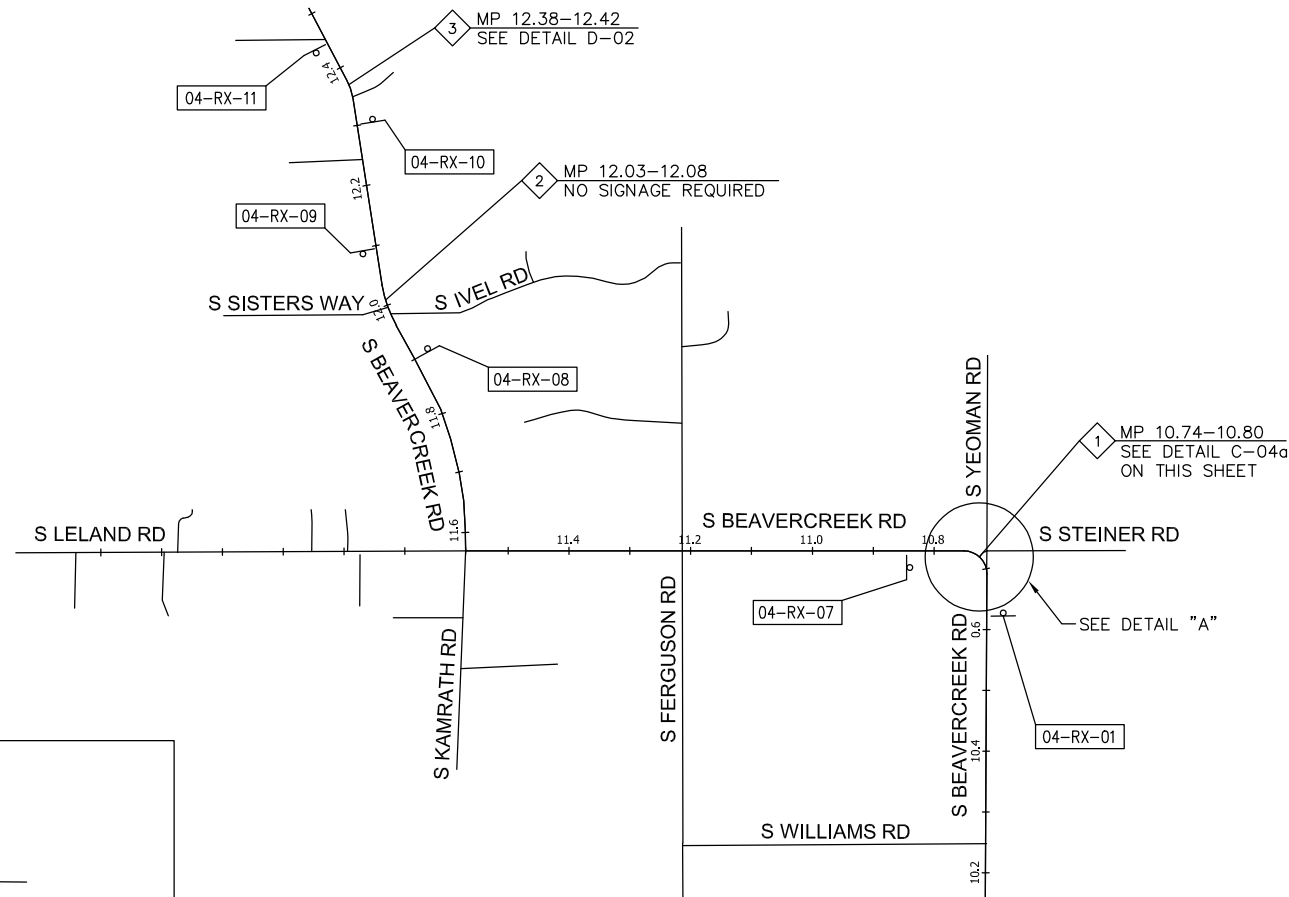
Detail C-04a

NB: INCREASING
 POSTED SPEED: 45 MPH
 ADVISORY SPEED: 30 MPH
 ADVANCE DISTANCE: 100'

EB: DECREASING
 POSTED SPEED: 45 MPH
 ADVISORY SPEED: 30 MPH
 ADVANCE DISTANCE: 100'



NOT TO SCALE
CURVE 1
 MP: 10.74 to 10.80



DKS
 117 Commercial St NE, Suite 310
 Salem, Oregon 97301
 www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
 56,267
 Digitally Signed 2021.06.30
 Scott M Mansur 11:06:52-07'00"
 OREGON
 JULY 9, 2002
SCOTT M. MANSUR
 EXPIRES: DEC. 31, 2022

Rural Curve Systemic Signing
S Beaver Creek Road

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

DAN JOHNSON
 DIRECTOR

DESIGNED BY: REV
 DRAFTED BY: DKS CAD
 CHECKED BY: SM

NO.	DATE	REVISIONS

Sheet No. **C-04-1**

DATE: JUNE 2021 PROJECT NO.: #2019-18

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks					
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Travel Direction from PC					X	Y						
Corridor 04 - Beaver Creek Road																				
1	1	Northbound	45.28726 -122.51775	45 mph	30 mph	100 ft	-	South	PSST	2" x 2"	W1-1L	Left Turn Warning	36	36	Install new sign assembly "A" distance from field located Point of Curvature.					
	W13-1P-30										Advisory Speed 30	24	24							
	2										EX	EX	Chevron Alignment Left	24	30	Reinstall existing sign on existing post located at Milepoint 10.74 using chevron bracket system. See Existing Sign 2 for details.				
	3											EX	Chevron Alignment Right	24	30					
	4										PSST	See Detail C-04a	North	PSST	2" x 2"	EX	Chevron Alignment Left	24	30	Reinstall existing sign and install new sign on new post using chevron bracket system "B" distance from next chevron assembly. See Detail C-04a and Existing Sign 3 for details.
	5															EX	Chevron Alignment Right	24	30	
	6	EX	See Detail C-04a	North	PSST	2" x 2"	EX	Chevron Alignment Left	24	30	Reinstall existing sign and install new sign on existing post located at Milepoint 10.78 using chevron bracket system. See Detail C-04a and Existing Sign 5 for details.									
	7						EX	Chevron Alignment Right	24	30										
8	Southbound	45.28785 -122.51852	45 mph	30 mph	100 ft	-	North	PSST	2" x 2"	W1-1R	Right Turn Warning	36	36	Install new sign assembly "A" distance from field located Point of Curvature.						
9					W13-1P-30					Advisory Speed 30	24	24								
						200 ft	-	North	EX	EX	School Warning Sign	36	36	Reinstall existing sign assembly and support "A" distance from field located Point of Curvature. See Existing Sign 6 for details.						
										EX	School Plaque	24	8							
2	-	Northbound	-	45 mph	50 mph	No signs required for Curve 2														
	-	Southbound	-	45 mph	45 mph															
3	1	Northbound	45.29866 -122.53899	45 mph	45 mph	100 ft	-	South	PSST	2" x 2"	W1-2L	Left Curve Warning	36	36	Install new sign assembly "A" distance from field located Point of Curvature.					
											W13-1P-45	Advisory Speed 45	24	24						
	2	Southbound	45.29905 -122.53921	45 mph	45 mph	100 ft	-	North	PSST	2" x 2"	W1-2R	Right Curve Warning	36	36	Install new sign assembly "A" distance from field located Point of Curvature.					
											W13-1P-45	Advisory Speed 45	24	24						

X:\Projects\2020\Projects\000 (Clackamas County Rural Curve Design)\CAD\C-04.dwg 6/25/2021 4:41 PM Rachel Vogt

Rural Curve Systemic Signing
S Beaver Creek Road

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



DAN JOHNSON
DIRECTOR

DESIGNED BY: _____
REV: _____
DRAFTED BY: _____
DKS CAD: _____
CHECKED BY: _____
SMM

NO.	DATE	REVISIONS

Sheet No. **C-04-2**

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:07:42-07'00"
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

PROJECT NO.: #2019-18
DATE: JUNE 2021

Existing Sign & Sign Removal

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location		Remarks
			X	Y		Milepost	Placement	
Corridor 04 - Beaver Creek Road								
1	W1-11	Left Turn Warning	36	36	SSST	10.60	Right	Remove existing sign and support. Remove existing sign.
	W13-17-25	Advisory Speed 25	24	24				
2	W1-81	Chevron Alignment Left	24	36	SSST	10.77	Right	Remove and replace existing sign using aluminum back system. Maintain and protect existing support. See Curve No. 10's Sign Installation table for installation details.
	W1-83	Chevron Alignment Right	24	36				
3	W1-81	Chevron Alignment Left	24	36	SSST	10.75	Right	Remove and replace existing sign using aluminum back system. Maintain and protect existing support. See Curve No. 10's Sign Installation table for installation details.
	RS-3	No Parking	8	24				
4	D3-1	Street Name Sign (Standard)	12	12	SSW	10.77	Right	Maintain and protect existing sign and support. Maintain and protect existing sign. Maintain and protect existing sign. Remove and replace existing sign using aluminum back system. See Curve No. 10's Sign Installation table for installation details.
	W1-12	No Direction	36	8				
	W1-12	No Outlet	36	8				
	W1-81	Chevron Alignment Left	24	36				
5	W1-81	Chevron Alignment Left	24	36	SSST	10.78	Right	Remove and replace existing sign using aluminum back system. Maintain and protect existing support. See Curve No. 10's Sign Installation table for installation details.
	W1-54	One-Direction Large Arrow Yield	48	24				
6	S1-1	School Warning Sign	36	36	SSST	10.93	Left	Remove and save existing sign and support. See Curve No. 10's Sign Installation table for installation details.
	S4-3F	School Plaque	24	8				
7	W1-13	Night Turn Warning	36	36	SSW	10.96	Left	Remove existing sign and support. Remove existing sign.
	W13-1F-25	Advisory Speed 25	24	24				
8	W1-23	Right Turn Warning	36	36	Wood	12.00	Right	Remove existing sign and support. Remove existing sign.
	W13-17-15	Advisory Speed 15	24	24				
9	W1-21	Left Curve Warning	36	36	SSST	12.11	Left	Remove existing sign and support. Remove existing sign.
	W13-17-18	Advisory Speed 18	24	24				
9	W1-21	Right Curve Warning	36	36	SSST	12.35	Right	Remove existing sign and support. Remove existing sign.
	W13-1F-45	Advisory Speed 45	24	24				
10	W1-23	Right Curve Warning	36	36	Wood	12.27	Left	Remove existing sign and support. Remove existing sign.
	W13-1F-48	Advisory Speed 48	24	24				

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-04.dwg 6/25/2021 4:41 PM Rachel Vogt

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30 11:08:04-07'00"
SCOTT M. MANSUR
OREGON
JULY 9, 2002
EXPIRES: DEC. 31, 2022

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

Rural Curve Systemic Signing
S Beaver Creek Road

DAN JOHNSON
DIRECTOR

DATE: JUNE 2021 PROJECT NO.: #2019-18

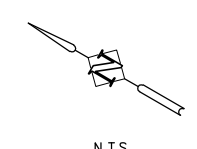
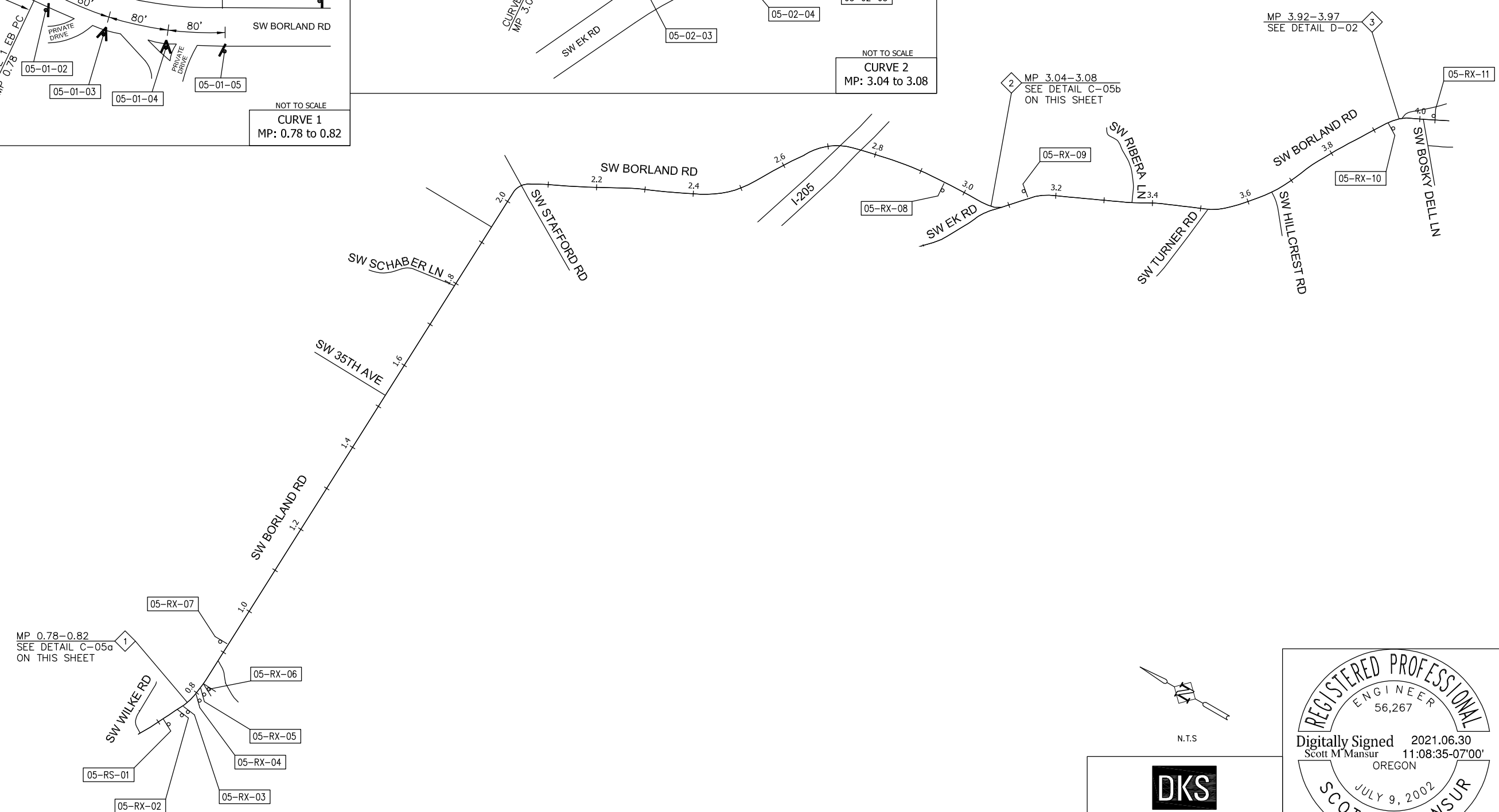
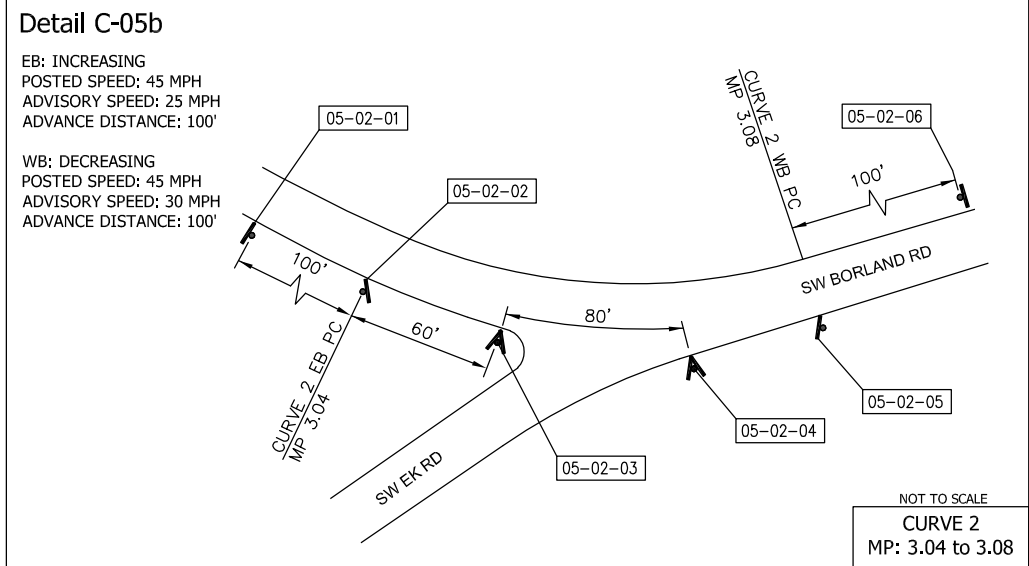
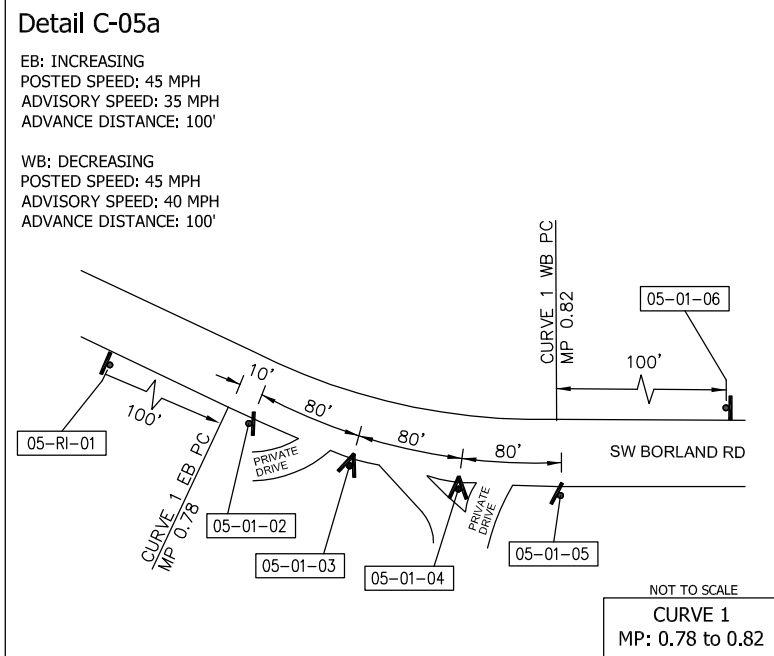
DESIGNED BY:	REV	DRAFTED BY:	DKS CAD	CHECKED BY:	SMM

REVISIONS

NO.	DATE:	DESCRIPTION:

Sheet No. **C-04-3**

X:\Projects\2020\202027-000 (Clackamas County Rural Curve Design)\CAD\C-05.dwg 6/25/2021 4:41 PM Rachel Vogt



DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:08:35-07'00'
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

Rural Curve Systemic Signing
SW Borland Road

DATE: JUNE 2021 PROJECT NO.: #2019-18

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

CLACKAMAS COUNTY
DAN JOHNSON
DIRECTOR

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SWM

NO.	DATE:	REVISIONS

Sheet No. **C-05-1**

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks					
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Travel Direction from PC					X	Y						
Corridor 05 - Borland Road																				
1	1	Eastbound	45.37548 -122.72826	45 mph	35 mph	100 ft	-	West	EX	EX	Left Curve Warning	36	36	Reinstall existing sign and support. See Existing Sign 1 for details.						
	EX									Advisory Speed 35	24	24								
	2									-	See Detail C-05a	East	PSST	2" x 2"	W1-8R	Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See detail C-05a for placement details	
	3									-	See Detail C-05a	East	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See detail C-05a for placement details	
	4									-	See Detail C-05a	East	PSST	2" x 2"	W1-8R	Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See detail C-05a for placement details	
	5	-	See Detail C-05a	East	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See detail C-05a for placement details									
6	Westbound	45.37538 -122.72736	45 mph	40 mph	100 ft	-	East	PSST	2" x 2"	W1-2R W13-1P-40	Right Curve Warning Advisory Speed 40	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.						
2	1	Eastbound	45.36288 -122.69262	45 mph	25 mph	100 ft	-	West	PSST	2" x 2"	W1-1L	Left Turn Warning	36	36	Install new sign assembly "A" distance from field located Point of Curvature.					
	W13-1P-25										Advisory Speed 25	24	24							
	2										-	See Detail C-05b	East	PSST	2" x 2"	W1-8R	Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See detail C-05b for placement details
	3										-	See Detail C-05b	East	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See detail C-05b for placement details
	4										-	See Detail C-05b	East	PSST	2" x 2"	W1-8R	Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See detail C-05b for placement details
	5	-	See Detail C-05b	East	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See detail C-05b for placement details									
6	Westbound	45.36246 -122.69227	45 mph	30 mph	100 ft	-	East	PSST	2" x 2"	W1-1R W13-1P-30	Right Turn Warning Advisory Speed 30	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.						
3	1	Eastbound	45.35400 -122.68072	45 mph	40 mph	100 ft	-	West	PSST	2" x 2"	W1-2R W13-1P-40	Right Curve Warning Advisory Speed 40	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.					
	2	Westbound	45.35345 -122.68003	45 mph	40 mph	100 ft	-	East	PSST	2" x 2"	W1-2L W13-1P-40	Left Curve Warning Advisory Speed 40	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.					

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location		Remarks
			X	Y		Milepost	Placement	
Corridor 05 - Borland Road								
1	W1-2L	Left Curve Warning	36	36	PSST	0.73	Rght	Remove and save existing sign and support. See Curve No. 1 for Sign Installation details.
2	W13-1P-35	Advisory Speed 35	24	24	PSST	0.77	Rght	Remove and save existing sign. See Curve No. 1 for Sign Installation details for removal details.
3	W1-8R	Chevron Alignment Right	24	30	PSST	0.79	Rght	Remove existing sign and support.
4	W1-8L	Chevron Alignment Left	24	30	PSST	0.79	Rght	Remove existing sign and support.
5	W1-8L	Chevron Alignment Left	24	30	PSST	0.80	Rght	Remove existing sign and support.
6	W1-8R	Chevron Alignment Right	24	30	PSST	0.81	Rght	Remove existing sign and support.
7	W1-2R	Right Curve Warning	36	36	PSST	0.80	Rght	Remove existing sign and support.
8	W13-1P-25	Advisory Speed 25	24	24	PSST	0.80	Rght	Remove existing sign.
9	W1-1R	Right Turn Warning	36	36	PSST	0.16	Rght	Remove existing sign and support.
10	W13-1P-25	Advisory Speed 25	24	24	PSST	0.16	Rght	Remove existing sign.
11	W1-2R	Right Curve Warning	36	36	PSST	0.24	Rght	Remove existing sign and support.
12	W13-1P-35	Advisory Speed 35	24	24	PSST	0.24	Rght	Remove existing sign.

X:\Projects\2020\Projects\20027-000 (Clackamas County Rural Curve Design)\CAD\CAD-05.dwg 6/25/2021 4:41 PM Rachel Vogt

Rural Curve Systemic Signing
SW Borland Road

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

DAN JOHNSON
DIRECTOR

PROJECT NO.: #2019-18
DATE: JUNE 2021

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SWM

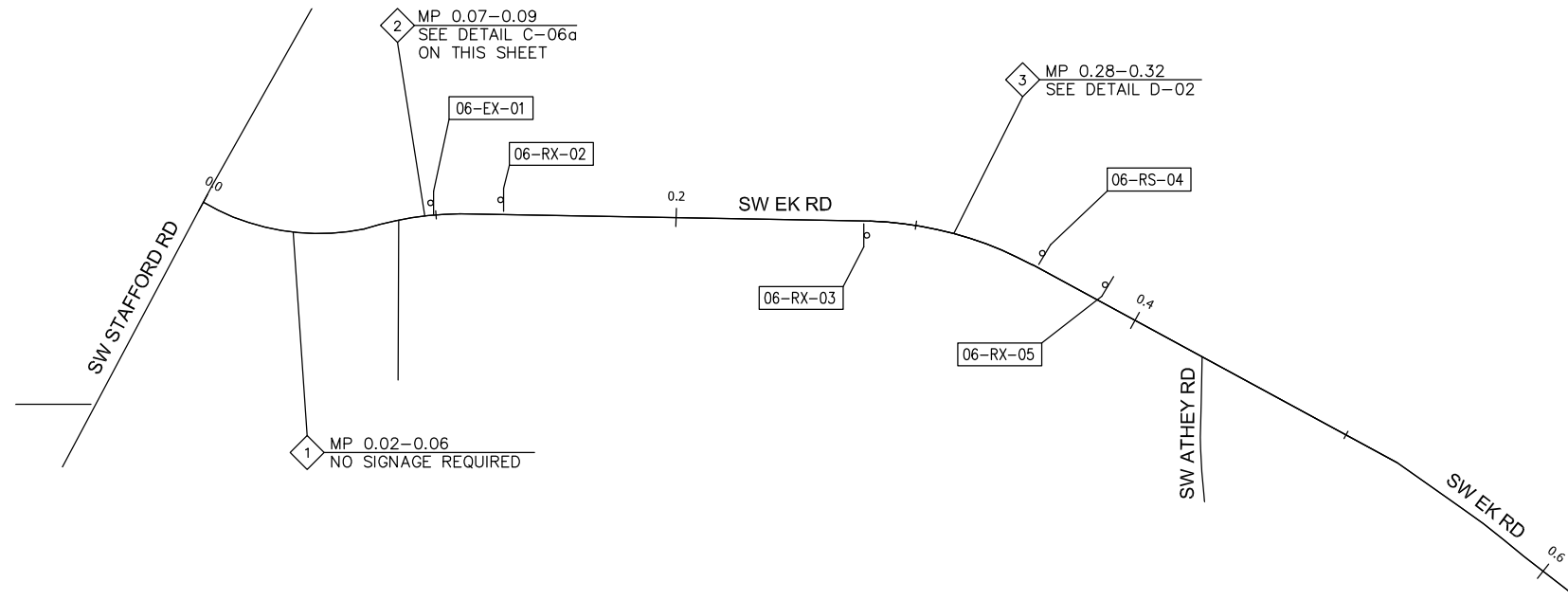
NO.	DATE	REVISIONS

Sheet No. C-05-2

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:08:55-07'00'
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

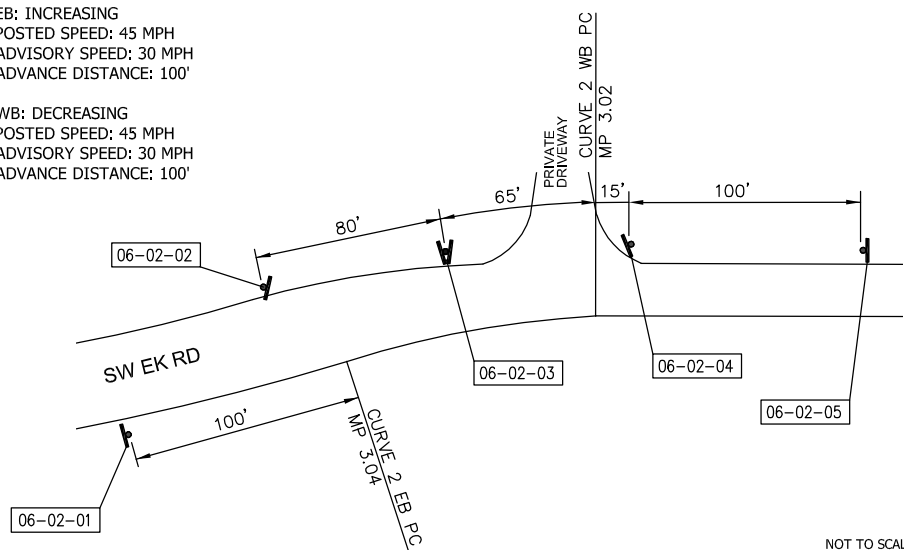
X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-06.dwg 6/25/2021 4:42 PM Rachel Vogt



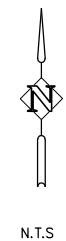
Detail C-06a

EB: INCREASING
 POSTED SPEED: 45 MPH
 ADVISORY SPEED: 30 MPH
 ADVANCE DISTANCE: 100'

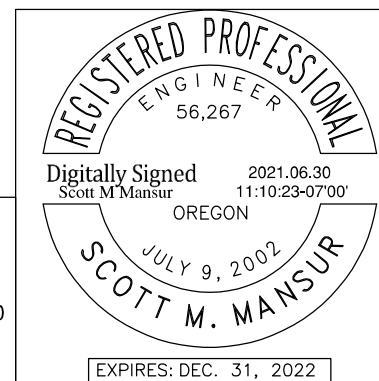
WB: DECREASING
 POSTED SPEED: 45 MPH
 ADVISORY SPEED: 30 MPH
 ADVANCE DISTANCE: 100'



NOT TO SCALE
 CURVE 2
 MP: 0.07 to 0.09



DKS
 117 Commercial St NE, Suite 310
 Salem, Oregon 97301
 www.dksassociates.com



DESIGNED BY: RFV
 DRAFTED BY: DKS CAD
 CHECKED BY: SMM

REVISIONS

NO.	DATE:	DESCRIPTION:

Sheet No. C-06-1

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



DAN JOHNSON
 DIRECTOR

Rural Curve Systemic Signing
 SW Ek Road

DATE: JUNE 2021 PROJECT NO.: #2019-18

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Travel Direction from PC					X	Y	
Corridor 06 - Ek Road															
1	-	Eastbound	-	45 mph	30 mph	No signs required for Curve 1 per direction from County.									
	-	Westbound	-	45 mph	30 mph										
2	1	Eastbound	45.36678 -122.70697	45 mph	30 mph	100 ft	-	West	PSST	2" x 2"	W1-1R W13-1P-30	Right Turn Warning Advisory Speed 30	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	-					See Detail C-06a	East	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See detail C-06a for placement details	
	-					See Detail C-06a	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See detail C-06a for placement details	
	-					See Detail C-06a	East	PSST	2" x 2"	W1-8R	Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See detail C-06a for placement details	
	5	Westbound	45.36682 -122.70657	45 mph	30 mph	100 ft	-	East	PSST	2" x 2"	W1-1L W13-1P-30	Left Turn Warning Advisory Speed 30	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
3	1	Eastbound	45.36682 -122.70657	45 mph	40 mph	100 ft	-	West	PSST	2" x 2"	W1-2R W13-1P-40	Right Curve Warning Advisory Speed 40	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	-					80 ft	East	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details	
	-					80 ft	East	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details	
	4	Westbound	45.36685 -122.70697	45 mph	35 mph	100 ft	-	East	PSST	2" x 2"	W1-2L W13-1P-35	Left Curve Warning Advisory Speed 35	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	5					200 ft	-	East	EX	EX	School Warning Sign School Plaque	30 24	30 8	Reinstall existing signs and support "A" distance from field located Point of Curvature. See Existing Sign 3 for details.	

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location		Remarks
			X	Y		Milepost	Placement	
Corridor 06 - Ek Road								
1	EX	Sign Ahead Warning	EX	EX	PSST	0.00	Left	Maintain and protect existing sign and support.
	EX	Priority Information Sign	EX	EX	PSST	0.00	Left	Maintain and protect existing sign.
	EX	Priority Information Sign	EX	EX	PSST	0.00	Left	Maintain and protect existing sign.
2	W1-8L W13-1P-30	Left Reverse Turn Warning Advisory Speed 30	36 24	36 24	Wood	0.13	Left	Remove existing sign and support. Remove existing sign.
	W1-2R W13-1P-40	Right Curve Warning Advisory Speed 40	36 24	36 24	PSST	0.00	Left	Remove existing sign and support. Remove existing sign.
4	S1-1	School Warning Sign	30	30	PSST	0.30	Left	Remove and reinstall existing sign and support. See Curve No. 3 on Sign Installation Table for removal dimensions.
	S1-37	School Plaque	24	8	PSST	0.30	Left	Remove and reinstall existing sign. See Curve No. 3 on Sign Installation Table for reinstallation details.
5	W1-2L	Left Curve Warning	36	36	PSST	0.30	Left	Remove existing sign and support.
	W13-1P-35	Advisory Speed 35	24	24	PSST	0.30	Left	Remove existing sign.

X:\Projects\2020\Projects\20027-000 (Clackamas County Rural Curve Design)\CAD\C-06.dwg 6/25/2021 4:42 PM Rachel Vogt

Rural Curve Systemic Signing
SW Ek Road

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



DIRECTOR
DAN JOHNSON

PROJECT NO.: #2019-18
DATE: JUNE 2021

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SWM

REVISIONS

NO. DATE: _____
Sheet No. C-06-2

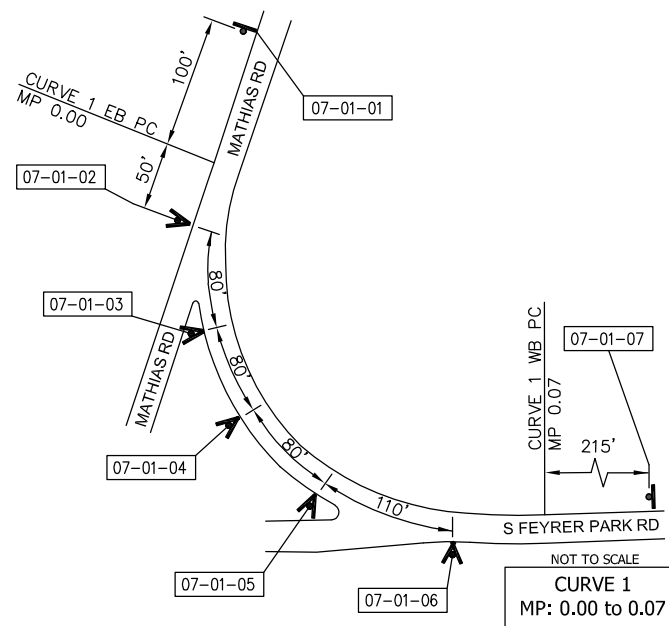
DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:10:47-07'00'
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

Detail C-07a

EB: INCREASING
 POSTED SPEED: 30 MPH*
 ADVISORY SPEED: 25 MPH
 ADVANCE DISTANCE: 100'
 *TRAVEL SPEED ESTIMATED AT 35 MPH

WB: DECREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 25 MPH
 ADVANCE DISTANCE: 215'

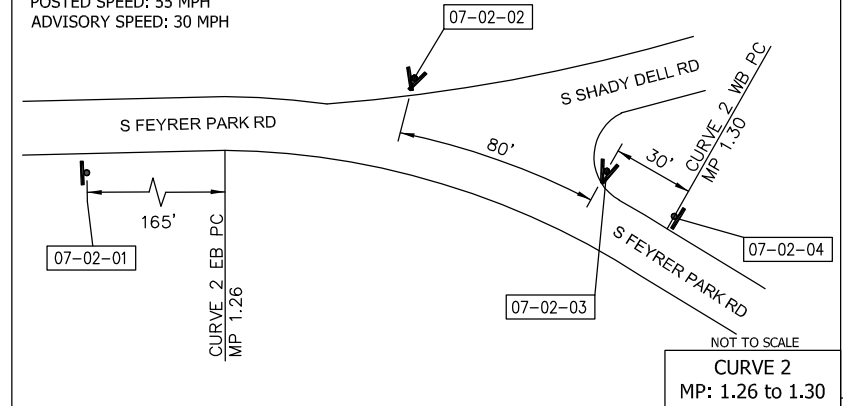


NOT TO SCALE
CURVE 1
 MP: 0.00 to 0.07

Detail C-07b

EB: INCREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 35 MPH
 ADVANCE DISTANCE: 165'

WB: DECREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 30 MPH

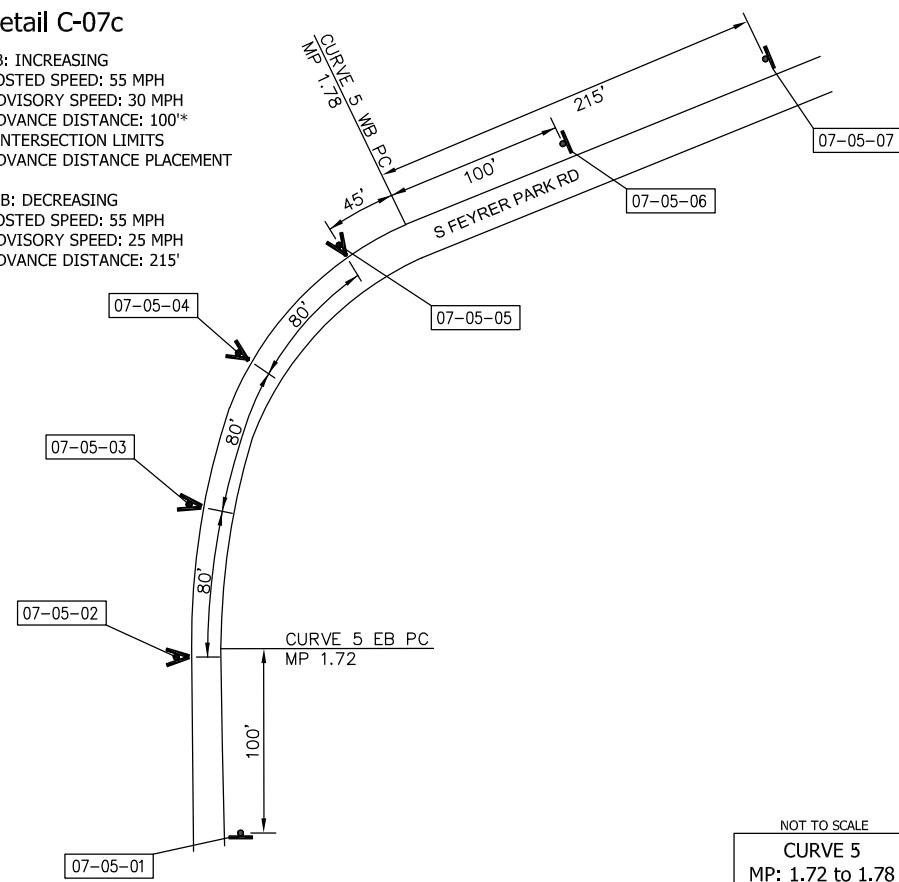


NOT TO SCALE
CURVE 2
 MP: 1.26 to 1.30

Detail C-07c

EB: INCREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 30 MPH
 ADVANCE DISTANCE: 100*
 *INTERSECTION LIMITS
 ADVANCE DISTANCE PLACEMENT

WB: DECREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 25 MPH
 ADVANCE DISTANCE: 215'

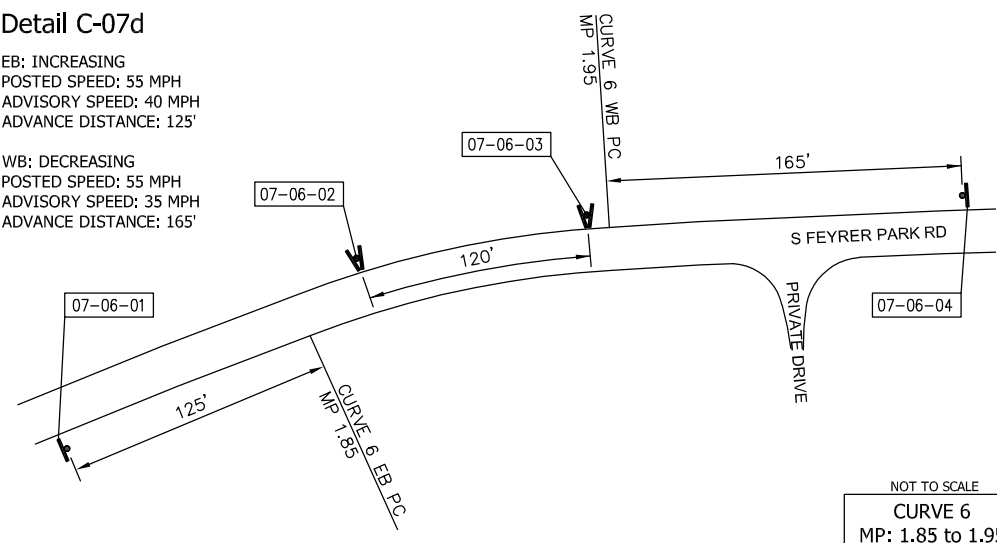


NOT TO SCALE
CURVE 5
 MP: 1.72 to 1.78

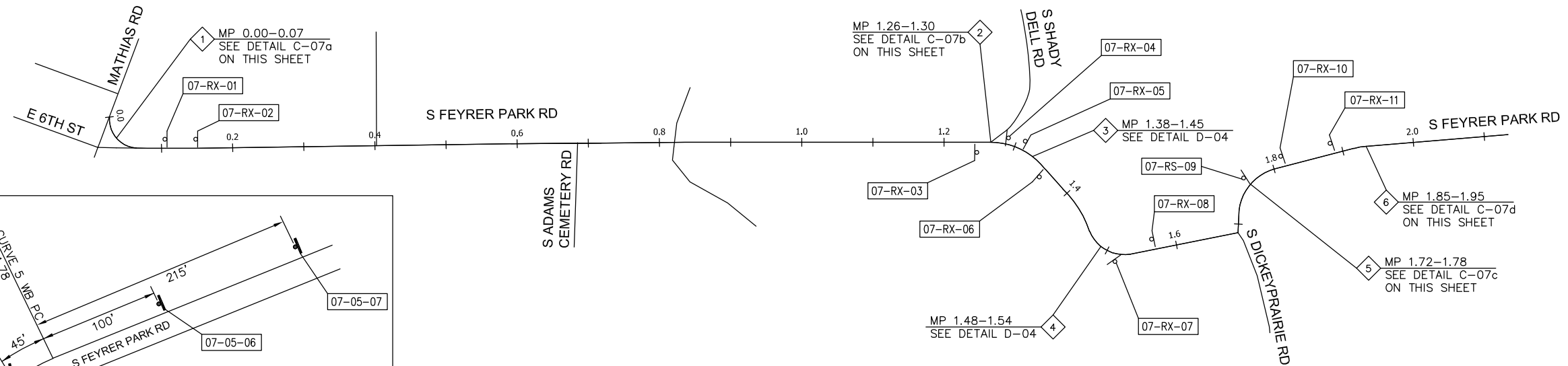
Detail C-07d

EB: INCREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 40 MPH
 ADVANCE DISTANCE: 125'

WB: DECREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 35 MPH
 ADVANCE DISTANCE: 165'



NOT TO SCALE
CURVE 6
 MP: 1.85 to 1.95



DKS
 117 Commercial St NE, Suite 310
 Salem, Oregon 97301
 www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
 56,267
 Digitally Signed 2021.06.30
 Scott M Mansur 11:11:09-07'00"
 OREGON
 JULY 9, 2002
SCOTT M. MANSUR
 EXPIRES: DEC. 31, 2022

Rural Curve Systemic Signing
S Feyrer Park Road

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

DESIGNED BY: [blank]
 REV: [blank]
 DRAFTED BY: [blank]
 DKS CAD
 CHECKED BY: [blank]
 SMM

REVISIONS

NO. DATE: [table]
 Sheet No.
C-07-1

DATE: JUNE 2021 PROJECT NO.: #2019-18

DIRECTOR
 DAN JOHNSON

X:\Projects\2020\2020-000 (Clackamas County Rural Curve Design)\CAD\C-07.dwg 6/25/2021 4:42 PM Rachel Vogt

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Travel Direction from PC					X	Y	
Corridor 07 - Feyrer Park Road															
1	1	Eastbound	45.14059 -122.56584	30 mph	25 mph	100 ft	-	West	PSST	2" x 2"	W1-1L W13-1P-25	Left Turn Warning Advisory Speed 25	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2					-	See Detail C-07a	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See detail C-07a for placement details
	3					-	See Detail C-07a	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See detail C-07a for placement details
	4					-	See Detail C-07a	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See detail C-07a for placement details
	5					-	See Detail C-07a	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See detail C-07a for placement details
	6					-	See Detail C-07a	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See detail C-07a for placement details
	7	Westbound	45.13982 -122.56487	55 mph	25 mph	215 ft	-	East	PSST	2" x 2"	W1-1R W13-1P-25	Right Turn Warning Advisory Speed 25	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
2	1	Eastbound	45.14034 -122.54055	55 mph	35 mph	165 ft	-	West	PSST	2" x 2"	W1-5R W13-1P-35	Winding Road Right Warning Advisory Speed 35	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2	Westbound	45.14026 -122.53990	55 mph	30 mph	-	See Detail C-07b	West	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See detail C-07b for placement details
	3					-	See Detail C-07b	West	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See detail C-07b for placement details
	4					0 ft	-	East	PSST	2" x 2"	W1-1aL-30	Supplemental Left Turn Advisory Speed 30	36	36	Install new sign assembly at field located Point of Curvature.
3	-	Eastbound	-	55 mph	50 mph										
	1	Westbound	45.13915 -122.53773	55 mph	45 mph	-	120 ft	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details
	2					-	120 ft	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details
4	1	Eastbound	45.13851 -122.53711	55 mph	35 mph	0 ft	-	West	PSST	2" x 2"	W1-2aL-35	Supplemental Left Turn Advisory Speed 35	36	36	Install new sign assembly at field located Point of Curvature.
	2					-	120 ft	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details
	3					-	120 ft	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details
	4					-	120 ft	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details
	5	Westbound	45.13828 -122.53595	55 mph	35 mph	165 ft	-	East	PSST	2" x 2"	W1-5R W13-1P-30	Winding Road Right Warning Advisory Speed 30	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-07.dwg 6/25/2021 4:42 PM Rachel Vogt

Rural Curve Systemic Signing
S Feyrer Park Road

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



DAN JOHNSON
DIRECTOR

DESIGNED BY: _____
REV: _____
DRAFTED BY: _____
DKS CAD: _____
CHECKED BY: _____
SMM

NO.	DATE	REVISIONS

Sheet No. **C-07-2**

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:11:37-07'00'
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

PROJECT NO.: #2019-18
DATE: JUNE 2021

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Travel Direction from PC					X	Y	
Corridor 07 - Feyrer Park Road															
5	1	Eastbound	45.13931 -122.53315	55 mph	30 mph	100 ft	-	West	PSST	2" x 2"	W1-1R W13-1P-30	Right Turn Warning Advisory Speed 30	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2	Westbound	45.13999 -122.53265	55 mph	25 mph	-	See Detail C-07c	West	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See detail C-07c for placement details
	3										W1-8R	Chevron Alignment Right	24	30	
	4										W1-8L	Chevron Alignment Left	24	30	
	5										W1-8R	Chevron Alignment Right	24	30	
	6										W1-8L	Chevron Alignment Left	24	30	
	7										W1-8R	Chevron Alignment Right	24	30	
6	100 ft	-	East	EX	EX	Stop Ahead Warning	30	30	Reinstall existing sign assembly "A" distance from field located Point of Curvature. See detail C-07c for placement details and Existing Sign 9 for assembly details.						
7	215 ft	-	East	PSST	2" x 2"	W1-1L W13-1P-25	Left Turn Warning Advisory Speed 25	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.					
6	1	Eastbound	45.14052 -122.53057	55 mph	40 mph	125 ft	-	West	PSST	2" x 2"	W1-2R W13-1P-40	Right Curve Warning Advisory Speed 40	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2	Westbound	45.14062 -122.53000	55 mph	35 mph	-	See Detail C-07d	West	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See detail C-07d for placement details
	3										W1-8R	Chevron Alignment Right	24	30	
	4										W1-8L	Chevron Alignment Left	24	30	
4	165 ft	-	East	PSST	2" x 2"	W1-2L W13-1P-35	Left Curve Warning Advisory Speed 35	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.					

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location		Remarks
			X	Y		Milepost	Placement	
Corridor 07 - Feyrer Park Road								
1	W1-1R	Right Turn Warning	36	36	PSST	0.10	Left	Remove existing sign and support.
2	W13-1P-28	Advisory Speed 28	24	24	PSST	0.18	Left	Remove existing sign.
3	W1-1L	Left Turn Warning	36	36	PSST	1.18	Right	Remove existing sign and support.
4	W13-1P-28	Advisory Speed 28	24	24	PSST	1.18	Right	Remove existing sign.
5	W1-0L	One Direction Large Arrow Left	48	24	PSST	1.28	Right	Remove existing sign and support.
6	W1-1L	Left Turn Warning	36	36	PSST	1.31	Right	Remove existing sign and support.
7	W13-1P-25	Advisory Speed 25	24	24	PSST	1.31	Right	Remove existing sign.
8	W1-0R	One Direction Large Arrow Right	48	24	PSST	1.31	Right	Remove existing sign and support.
9	W1-8R	Reversal Turn Right Warning	30	30	PSST	1.41	Right	Remove existing sign and support.
10	W13-1P-25	Advisory Speed 25	24	24	PSST	1.41	Right	Remove existing sign.
11	W1-1	Stop Ahead Warning	36	36	PSST	1.77	Right	Remove and replace with existing sign and support. See Curve No. 5 on Sign Installation Table for relocation details.
12	W1-1L	Left Turn Warning	36	36	PSST	1.82	Left	Remove existing sign and support.
13	W13-1P-15	Advisory Speed 15	24	24	PSST	1.82	Left	Remove existing sign.
14	W1-1L	Left Turn Warning	36	36	PSST	1.91	Left	Remove existing sign and support.

X:\Projects\2020\Projects\20027-000 (Clackamas County Rural Curve Design)\CAD\C-07.dwg 6/25/2021 4:42 PM Rachel Vogt

Rural Curve Systemic Signing
S Feyrer Park Road

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

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SWM

REVISIONS

NO. DATE:
Sheet No. C-07-3

PROJECT NO.: #2019-18
DATE: JUNE 2021
DIRECTOR: DAN JOHNSON

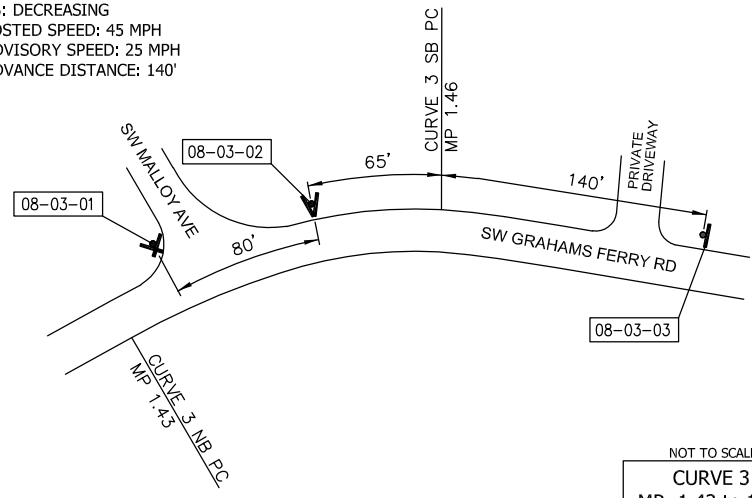
DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL
ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:12:56-07'00"
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

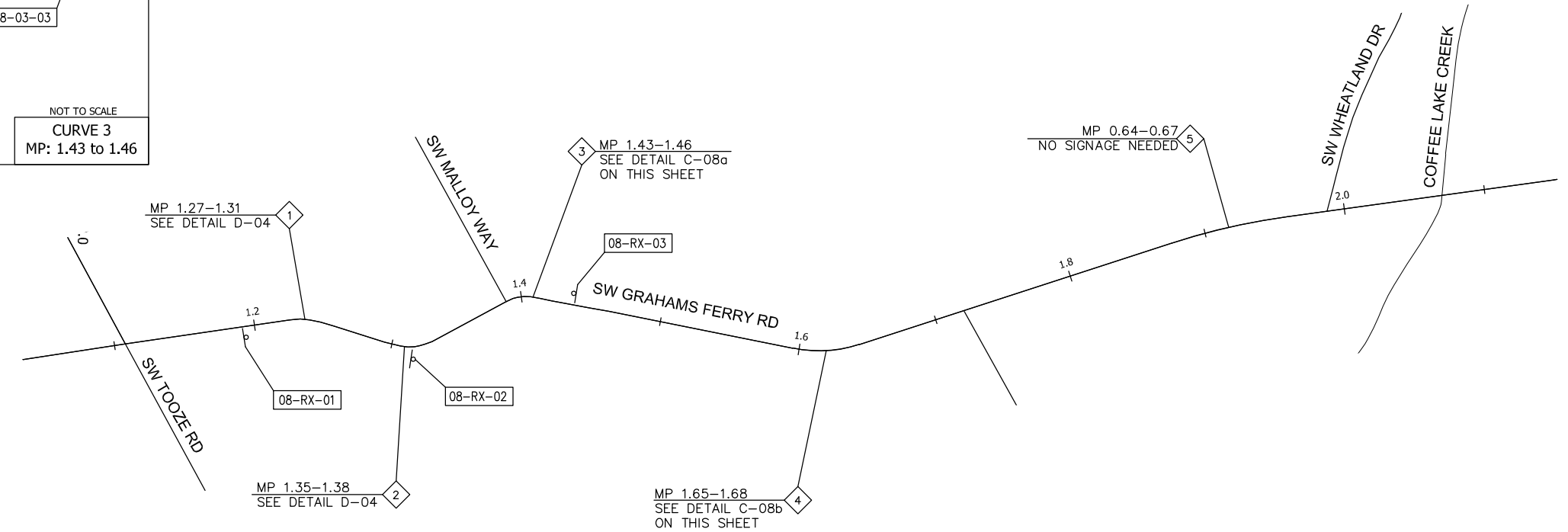
Detail C-08a

NB: INCREASING
 POSTED SPEED: 40 MPH
 ADVISORY SPEED: 30 MPH

SB: DECREASING
 POSTED SPEED: 45 MPH
 ADVISORY SPEED: 25 MPH
 ADVANCE DISTANCE: 140'



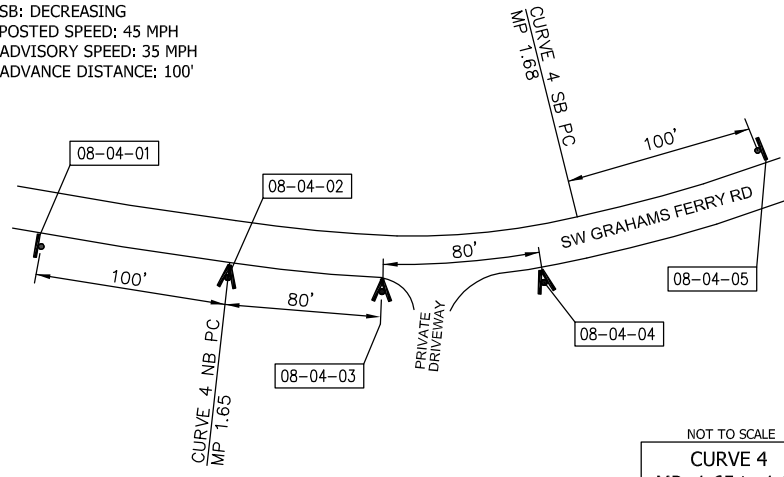
NOT TO SCALE
CURVE 3
 MP: 1.43 to 1.46



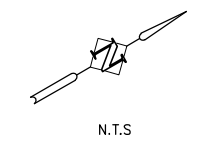
Detail C-08b

NB: INCREASING
 POSTED SPEED: 40 MPH
 ADVISORY SPEED: 30 MPH
 ADVANCE DISTANCE: 100'

SB: DECREASING
 POSTED SPEED: 45 MPH
 ADVISORY SPEED: 35 MPH
 ADVANCE DISTANCE: 100'



NOT TO SCALE
CURVE 4
 MP: 1.65 to 1.68



DKS
 117 Commercial St NE, Suite 310
 Salem, Oregon 97301
 www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
 56,267
 Digitally Signed 2021.06.30
 Scott M Mansur 11:13:44-07'00"
 OREGON
 JULY 9, 2002
SCOTT M. MANSUR
 EXPIRES: DEC. 31, 2022

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

DAN JOHNSON
 DIRECTOR

DESIGNED BY: RFV
 DRAFTED BY: DKS CAD
 CHECKED BY: SMM

NO.	DATE:	REVISIONS

Sheet No. **C-08-1**

Rural Curve Systemic Signing
SW Grahams Ferry Road

DATE: JUNE 2021 PROJECT NO.: #2019-18

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-08.dwg 6/25/2021 4:42 PM Rachel Vogt

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Travel Direction from PC					X	Y	
Corridor 08 - Grahams Ferry Road															
1	1	Northbound	45.31882 -122.79893	40 mph	35 mph	100 ft	-	South	PSST	2" x 2"	W1-5R W13-1P-25	Winding Road Right Warning Advisory Speed 25	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	-	Southbound	-	40 mph	35 mph										
2	1	Northbound	45.31964 -122.79795	40 mph	25 mph	0 ft	-	South	PSST	2" x 2"	W1-1aL-25	Supplemental Left Turn Advisory Speed 25	36	36	Install new sign assembly "A" distance from field located Point of Curvature.
	2					-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	
	3					-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.
	-	Southbound	-	40 mph	25 mph										
3	-	Northbound	-	40 mph	30 mph										
	1	Southbound	45.32127 -122.79750	40 mph	25 mph	-	See Detail C-08a	South	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-08a for placement details.
	2					-	See Detail C-08a	South	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	
	3					140 ft	-	North	PSST	2" x 2"	W1-5L W13-1P-25	Winding Road Left Warning Advisory Speed 25	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature. Locate north of existing driveway as shown in Detail C-08a.
	-	Southbound	-	40 mph	30 mph										
4	1	Northbound	45.32329 -122.79506	40 mph	30 mph	100 ft	-	South	PSST	2" x 2"	W1-1L W13-1P-30	Left Turn Warning Advisory Speed 30	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2					-	See Detail C-08b	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	
	3					-	See Detail C-08b	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-08b for placement details.
	4					-	See Detail C-08b	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	
	5	Southbound	45.32375 -122.79477	40 mph	35 mph	100 ft	-	North	PSST	2" x 2"	W1-2R W13-1P-35	Right Curve Warning Advisory Speed 35	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	5	-	Northbound	-	45 mph	45 mph	No signs required for Curve 5								
-		Southbound	-	45 mph	45 mph										

Existing Sign & Sign Removal

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location		Remarks
			X	Y		Milepost	Placement	
Corridor 08 - Grahams Ferry Road								
1	W1-5R W13-1P-25	Right Reverse Turn Warning Advisory Speed 25	36	36	PSST	1.20	Sign	Remove existing sign and support. Coordinate with Engineer two weeks prior to removal.
2	W1-8L W1-8R	Left Reverse Turn Warning Advisory Speed 25	36	36	PSST	1.15	Sign	Remove existing sign and support. Coordinate with Engineer two weeks prior to removal.
3	W1-8L W1-8R	Left Reverse Turn Warning Advisory Speed 25	36	36	PSST	1.17	Sign	Remove existing sign and support. Coordinate with Engineer two weeks prior to removal.

X:\Projects\2020\Projects\20027-000 (Clackamas County Rural Curve Design)\CAD\C-08.dwg 6/25/2021 4:42 PM Rachel Vogt

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com



EXPIRES: DEC. 31, 2022

Rural Curve Systemic Signing
SW Grahams Ferry Road

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

DAN JOHNSON
DIRECTOR

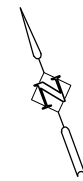
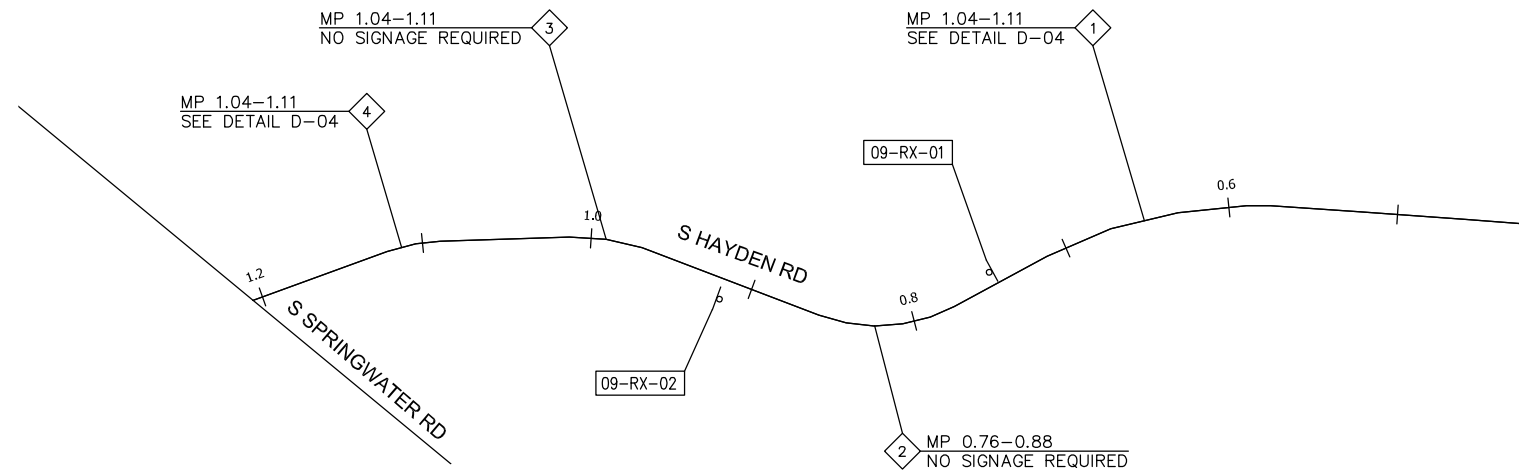
DESIGNED BY: [Blank]
REV: [Blank]
DRAFTED BY: [Blank]
DKS CAD: [Blank]
CHECKED BY: [Blank]
SMM

NO.	DATE	REVISIONS

Sheet No. **C-08-2**

PROJECT NO.: #2019-18
DATE: JUNE 2021

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-09.dwg 6/25/2021 4:42 PM Rachel Vogt



N.T.S

DKS
 117 Commercial St NE, Suite 310
 Salem, Oregon 97301
 www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
 56,267
 Digitally Signed 2021.06.30
 Scott M Mansur 11:14:31-07'00'
 OREGON
 JULY 9, 2002
 SCOTT M. MANSUR
 EXPIRES: DEC. 31, 2022

REVISIONS

NO.	DATE:

Sheet No. C-09-1

DESIGNED BY: RFV

DRAFTED BY: DKS CAD

CHECKED BY: SMM

CLACKAMAS COUNTY

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



DAN JOHNSON

DIRECTOR

Rural Curve Systemic Signing
S Hayden Road

DATE: JUNE 2021

PROJECT NO.: #2019-18

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Travel Direction from PC					X	Y	
Corridor 09 - Hayden Road															
1	1	Eastbound	45.28291 -122.36233	55 mph	65 mph	100 ft	-	West	PSST	2" x 2"	W1-5R	Winding Road Right Warning	36	36	Per County direction, install new sign assembly "A" distance from field located Point of Curvature.
	-	Westbound	-	55 mph	70 mph										
2	-	Eastbound	-	55 mph	75 mph										No signs required for Curve 2
	-	Westbound	-	55 mph	60 mph										
3	-	Eastbound	-	55 mph	55 mph										No signs required for Curve 3
	-	Westbound	-	55 mph	55 mph										
4	-	Eastbound	-	55 mph	65 mph										
	1	Westbound	45.28468 -122.36857	55 mph	55 mph	100 ft	-	East	PSST	2" x 2"	W1-5L	Winding Road Left Warning	36	36	

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location			Remarks
			X	Y		Milepost	Placement		
Corridor 09 - Hayden Road									
1	W1-5R	Right Curve Warning	36	36	PSST	0.70	Field		Remove existing sign and support.
	W13-17-05	Advisory Speed 75	18	18	PSST				Remove existing sign.
2	W1-5R	Right Curve Warning	36	36	PSST	0.93	Field		Remove existing sign and support.
	W13-17-05	Advisory Speed 75	18	18	PSST				Remove existing sign.

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-09.dwg 6/25/2021 4:43 PM Rachel Vogt

Rural Curve Systemic Signing
S Hayden Road

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



DAN JOHNSON
DIRECTOR

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SWM

NO.	DATE	REVISIONS

Sheet No. **C-09-2**

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:14:58-07'00'
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

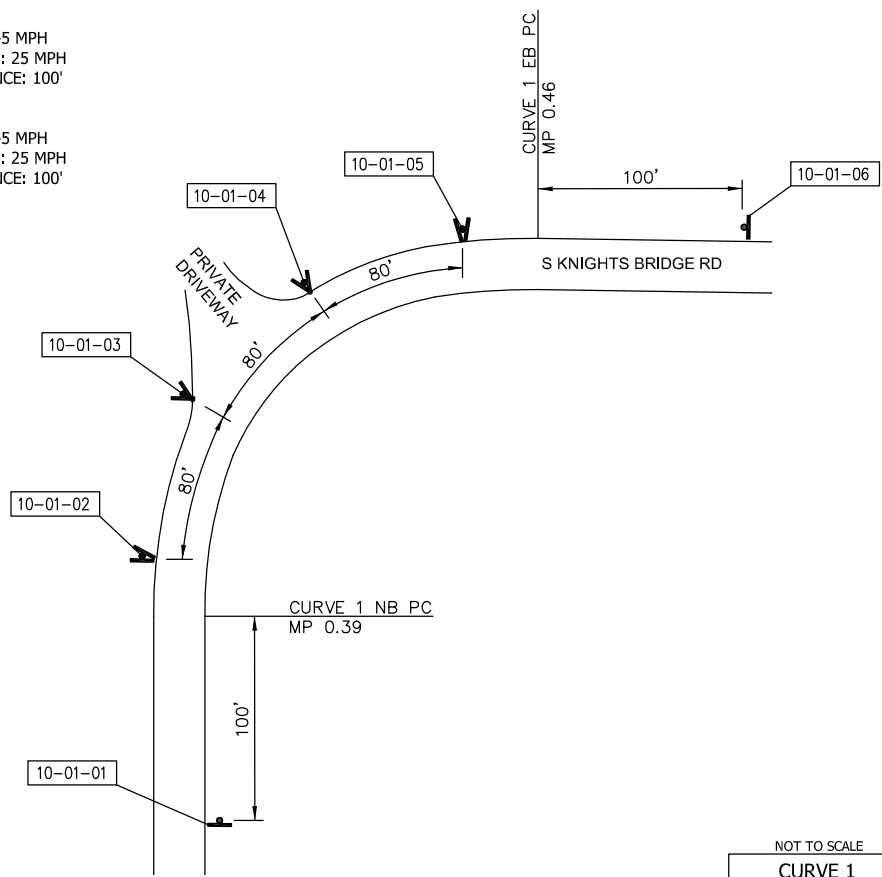
PROJECT NO.: #2019-18
DATE: JUNE 2021

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-10.dwg 6/25/2021 4:43 PM Rachel Vogt

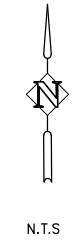
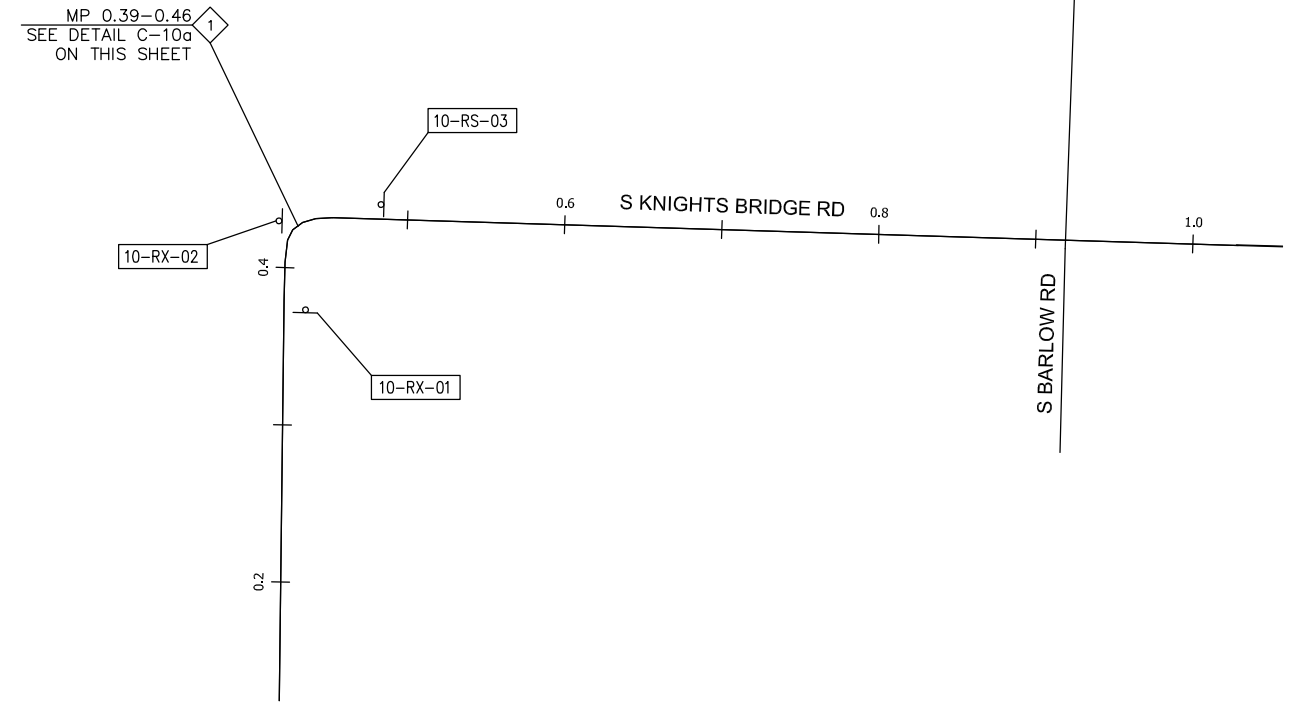
Detail C-10a

NB: INCREASING
POSTED SPEED: 45 MPH
ADVISORY SPEED: 25 MPH
ADVANCE DISTANCE: 100'

EB: DECREASING
POSTED SPEED: 45 MPH
ADVISORY SPEED: 25 MPH
ADVANCE DISTANCE: 100'



NOT TO SCALE
CURVE 1
MP: 0.39 to 0.46



DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com



DESIGNED BY: RFV
DRAFTED BY: DKS CAD
CHECKED BY: SMM

REVISIONS

NO.	DATE:	DESCRIPTION:

Sheet No. C-10-1

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

Rural Curve Systemic Signing
S Knights Bridge Road

DAN JOHNSON
DIRECTOR

DATE: JUNE 2021 PROJECT NO.: #2019-18

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Travel Direction from PC					X	Y	
Corridor 10 - Knights Bridge Road															
1	1	Northbound	45.26625 -122.73296	45 mph	25 mph	100 ft	-	South	PSST	2" x 2"	W1-1R W13-1P-25	Right Turn Warning Advisory Speed 25	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2	Eastbound	45.26677 -122.73212	45 mph	25 mph	-	See Detail C-10a	West	PSST	2" x 2"	W1-8R	Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-10a for placement details.
	3										W1-8L	Chevron Alignment Left	24	30	
	4										W1-8R	Chevron Alignment Right	24	30	
	5										W1-8L	Chevron Alignment Left	24	30	
	6										W1-8R	Chevron Alignment Right	24	30	
										W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-10a for placement details.	
						100 ft	-	East	EX		EX	Left Turn Warning	36	36	Reinstall existing signs and support. See Detail C-10a and Existing Sign 3 for details.
											EX	Advisory Speed 25	24	24	

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location		Remarks
			X	Y		Milepost	Placement	
Corridor 10 - Knights Bridge Road								
1	W1-1R W13-1P-25	Right Turn Warning Advisory Speed 25	36 24	36 24	PSST	0.20	Right	Remove existing sign and support. Remove existing sign.
2	W1-8L	One Direction Large Arrow Left	48	24	PSST	0.43	Left	Remove existing sign and support.
3	W1-1L	Left Turn Warning	36	36	PSST	0.51	Left	Remove and install existing sign and support. See Curve No. 1 for sign installation table for placement details.
	W13-1P-25	Advisory Speed 25	24	24				Remove and replace existing sign. See Curve No. 1 for sign installation table for placement details.

X:\Projects\2020\Projects\2020-000 (Clackamas County Rural Curve Design)\CAD\C-10.dwg 6/25/2021 4:43 PM Rachel Vogt

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com



EXPIRES: DEC. 31, 2022

Rural Curve Systemic Signing
S Knights Bridge Road

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



DAN JOHNSON
DIRECTOR

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SMM

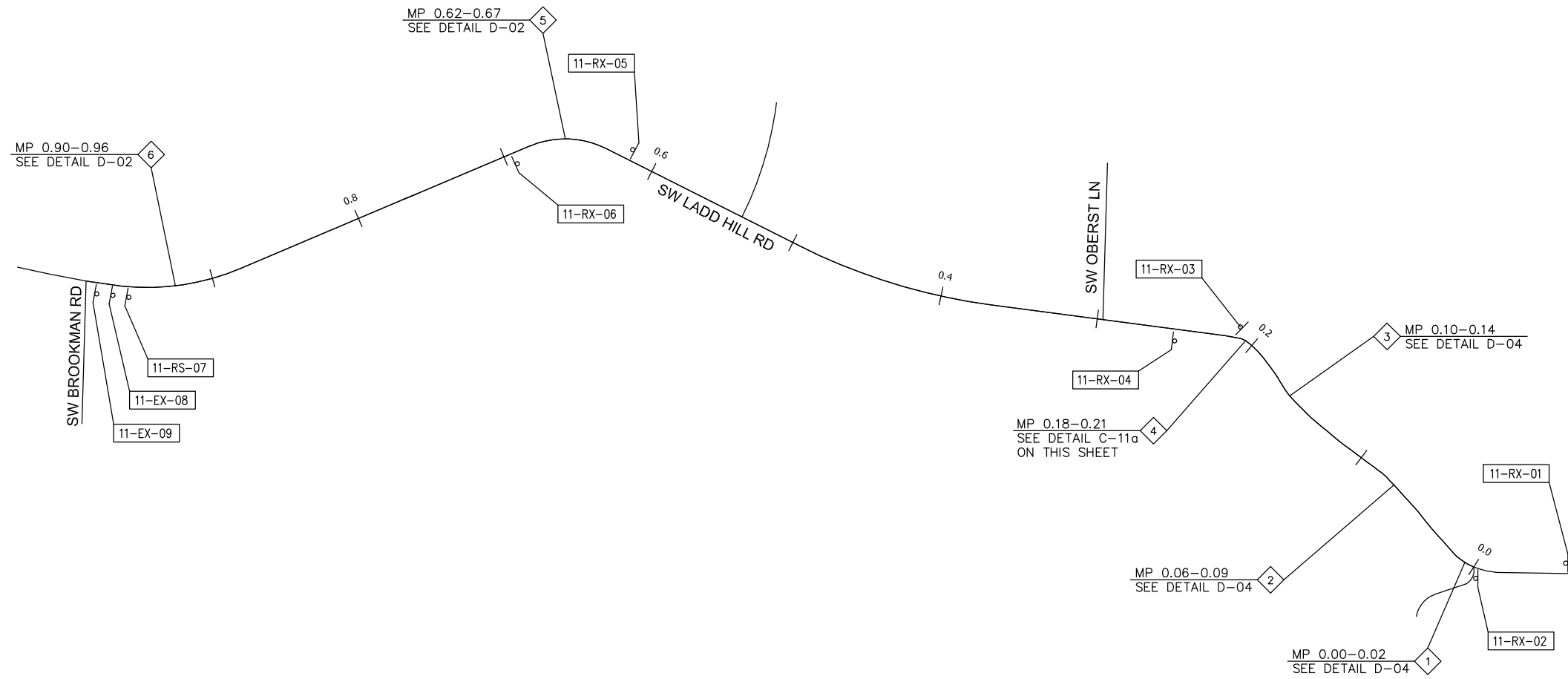
REVISIONS

NO.	DATE:

Sheet No. C-10-2

PROJECT NO.: #2019-18
DATE: JUNE 2021

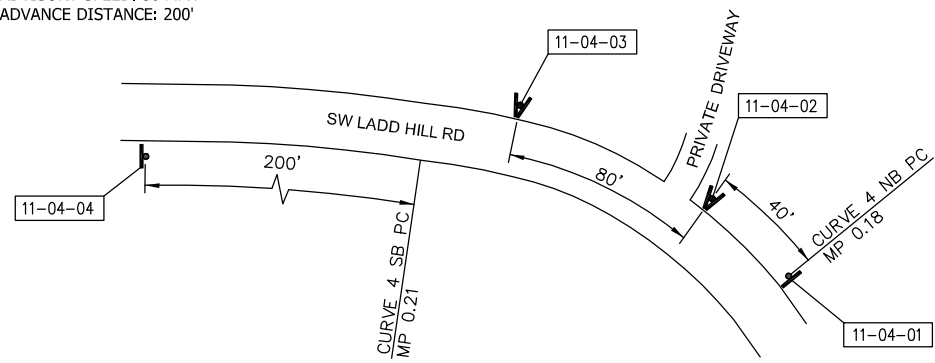
X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-11.dwg 6/25/2021 4:43 PM Rachel Vogt



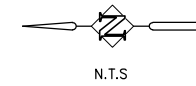
Detail C-11a

NB: INCREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 25 MPH

SB: DECREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 30 MPH
 ADVANCE DISTANCE: 200'



NOT TO SCALE
CURVE 4
 MP: 0.18 to 0.21



DKS
 117 Commercial St NE, Suite 310
 Salem, Oregon 97301
 www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
 56,267
 Digitally Signed 2021.06.30
 Scott M Mansur 11:16:42-07'00"
 OREGON
 JULY 9, 2002
SCOTT M. MANSUR
 EXPIRES: DEC. 31, 2022

DESIGNED BY: RFV
 DRAFTED BY: DKS CAD
 CHECKED BY: SWM

REVISIONS

NO.	DATE:

Sheet No. **C-11-1**

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



DAN JOHNSON

DIRECTOR

Rural Curve Systemic Signing
SW Ladd Hill Road

DATE: JUNE 2021 PROJECT NO.: #2019-18

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Travel Direction from PC					X	Y	
Corridor 11 - Ladd Hill Road															
1	1	Northbound	45.37548 -122.72826	55 mph	30 mph	200 ft	-	South	PSST	2" x 2"	W1-5R W13-1P-25	Winding Road Right Warning Advisory Speed 25	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2	Southbound	45.37538 -122.72736	55 mph	30 mph	-	80 ft	North	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details
	W1-8R										Chevron Alignment Right	24	30		
	3										W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details
	4										W1-8R	Chevron Alignment Right	24	30	
5	0 ft	-	North	PSST	2" x 2"	W1-1aR-30	Supplemental Left Turn Advisory Speed 30	36	36	Install new sign assembly at field located Point of Curvature.					
2	1	Northbound	45.33412 -122.84560	55 mph	45 mph	-	120 ft	North	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details
	W1-8R										Chevron Alignment Right	24	30		
	2	Southbound	-	55 mph	40 mph	-	120 ft	North	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details
3	-	Northbound	-	55 mph	40 mph	-	-	-	-	-	-	-	-	-	-
	1	Southbound	45.33503 -122.84457	55 mph	35 mph	-	120 ft	North	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details
	2										W1-8R	Chevron Alignment Right	24	30	
1	0 ft	-	South	PSST	2" x 2"	W1-1aR-25	Supplemental Left Turn Advisory Speed 25	36	36	Install new sign assembly at field located Point of Curvature.					
4	2	Northbound	45.33541 -122.84390	55 mph	25 mph	-	See Detail C-11a	North	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-11a for placement details
	3										W1-8R	Chevron Alignment Right	24	30	
	4	Southbound	45.33576 -122.84368	55 mph	30 mph	200 ft	-	North	PSST	2" x 2"	W1-5R W13-1P-30	Winding Road Right Warning Advisory Speed 30	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
5	1	Northbound	45.34151 -122.84146	55 mph	30 mph	200 ft	-	South	PSST	2" x 2"	W1-1L	Left Turn Warning	36	36	Install new sign assembly "A" distance from field located Point of Curvature.
	2										W13-1P-30	Advisory Speed 30	24	24	
	3										W1-8R	Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details
	4										W1-8L	Chevron Alignment Left	24	30	
	5										W1-8R	Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details
	6	W1-8L	Chevron Alignment Left	24	30										
6	Southbound	45.34216 -122.84152	55 mph	30 mph	200 ft	-	North	PSST	2" x 2"	W1-1R W13-1P-30	Right Turn Warning Advisory Speed 30	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.	

X:\Projects\2020\Projects\2020-000 (Clackamas County Rural Curve Design)\CAD\C-11.dwg 6/25/2021 4:43 PM Rachel Vogt

Rural Curve Systemic Signing
SW Ladd Hill Road

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



DIRECTOR
DAN JOHNSON

DESIGNED BY: _____
REV: _____
DRAFTED BY: _____
DKS CAD
CHECKED BY: _____
SMM

NO.	DATE	REVISIONS

Sheet No. **C-11-2**

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:17:11-07'00'
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

PROJECT NO.: #2019-18
DATE: JUNE 2021

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Travel Direction from PC					X	Y	
Corridor 11 - Ladd Hill Road															
6	1	Northbound	45.34514 -122.84329	55 mph	40 mph	125 ft	-	South	PSST	2" x 2"	W1-2R W13-1P-40	Right Curve Warning Advisory Speed 40	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2	Southbound	45.34609 -122.84340	55 mph	40 mph	-	120 ft	South	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details
	3					-	120 ft	South	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details
	4					80 ft	-	South	EX	EX	Entering Clackamas County	30	30	Reinstall existing sign and support "A" distance from field located Point of Curvature.	
	5					-	120 ft	South	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details
	6					125 ft	-	North	PSST	2" x 2"	W1-2L W13-1P-40	Left Curve Warning Advisory Speed 40	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location		Remarks
			X	Y		Milepost	Placement	
Corridor 11 - Ladd Hill Road								
1	W1-2R W13-1P-40	Warning Road Right Warning Advisory Speed 25	36 24	36 24	PSST		Sign	Remove existing sign and support. Coordinate with Engineer two weeks prior to removal. Remove existing sign and support. Coordinate with Engineer two weeks prior to removal.
2	W1-8L	One Direction Large Arrow Right	48	24	Wood		01	Remove existing sign and support. Coordinate with Engineer two weeks prior to removal.
3	W1-8R	One Direction Large Arrow Left	48	24	Wood	0.24	Sign	Remove existing sign and support.
4	W1-8R W13-1P-25	Warning Road Right Warning Advisory Speed 25	36 24	36 24	PSST	0.24	01	Remove existing sign and support. Remove existing sign.
5	W1-1L W13-1P-30	Left Turn Warning Advisory Speed 30	30 24	30 24	Wood	0.36	Sign	Remove existing sign and support. Remove existing sign.
6	W1-1R W13-1P-30	Right Turn Warning Advisory Speed 30	30 24	30 24	Wood	0.24	01	Remove existing sign and support. Remove existing sign.
7	01-100	Entering Clackamas County	30	30	PSST	0.98	01	Remove and save existing sign and support.
8	01-41-01	Adopt-a-Road	24	24	PSST	0.98	01	Remove and preserve existing sign and support.
9	01-2-01	End Speed Zone	30	30	PSST	0.98	01	Remove and preserve existing sign and support.

Rural Curve Systemic Signing
SW Ladd Hill Road

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

DAN JOHNSON
DIRECTOR

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SWM

NO.	DATE	REVISIONS

Sheet No. C-11-3

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL
ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:17:45-07'00'
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

X:\Projects\2020\Projects\20027-000 (Clackamas County Rural Curve Design)\CAD\C-11.dwg 6/25/2021 4:43 PM Rachel Vogt

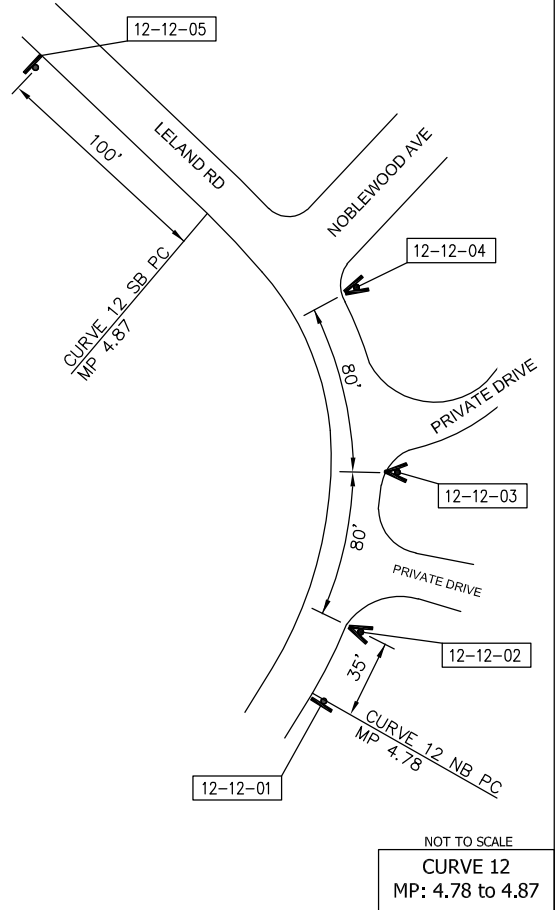
PROJECT NO.: #2019-18
DATE: JUNE 2021

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-12.dwg 6/25/2021 4:43 PM Rachel Vogt

Detail C-12c

NB: INCREASING
POSTED SPEED: 40 MPH
ADVISORY SPEED: 25 MPH
ADVANCE DISTANCE: 100'

SB: DECREASING
POSTED SPEED: 40 MPH
ADVISORY SPEED: 20 MPH

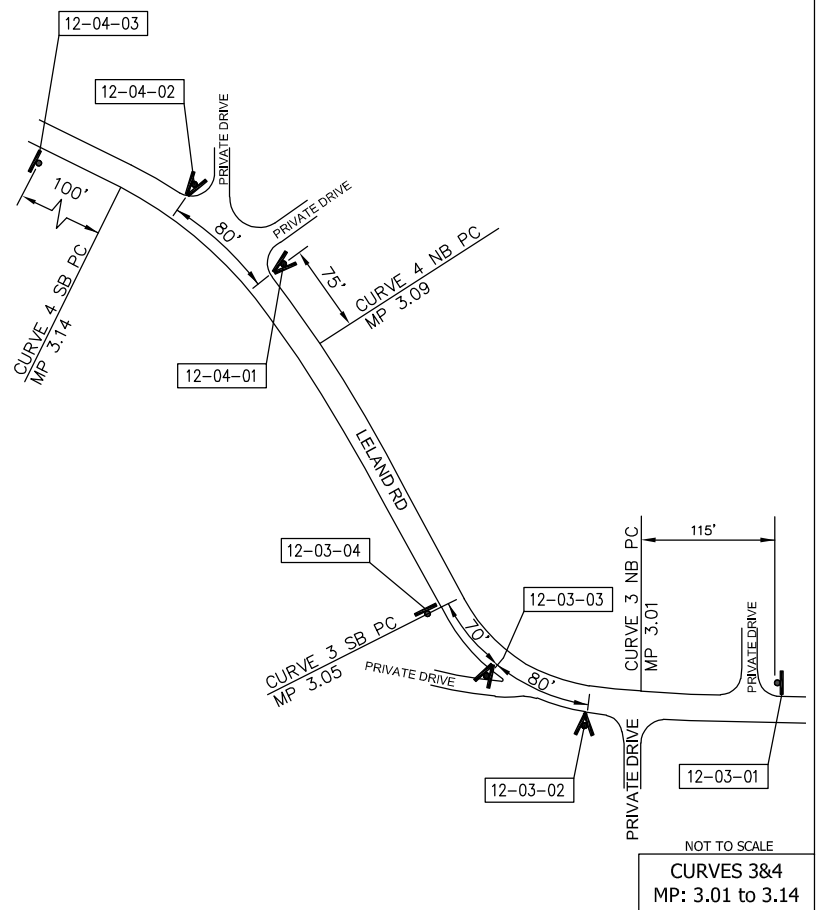


NOT TO SCALE
CURVE 12
MP: 4.78 to 4.87

Detail C-12b

NB: INCREASING
POSTED SPEED: 40 MPH
ADVISORY SPEED: 25 MPH
ADVANCE DISTANCE: 115'

SB: DECREASING
POSTED SPEED: 40 MPH
ADVISORY SPEED: 20 MPH
ADVANCE DISTANCE: 100'

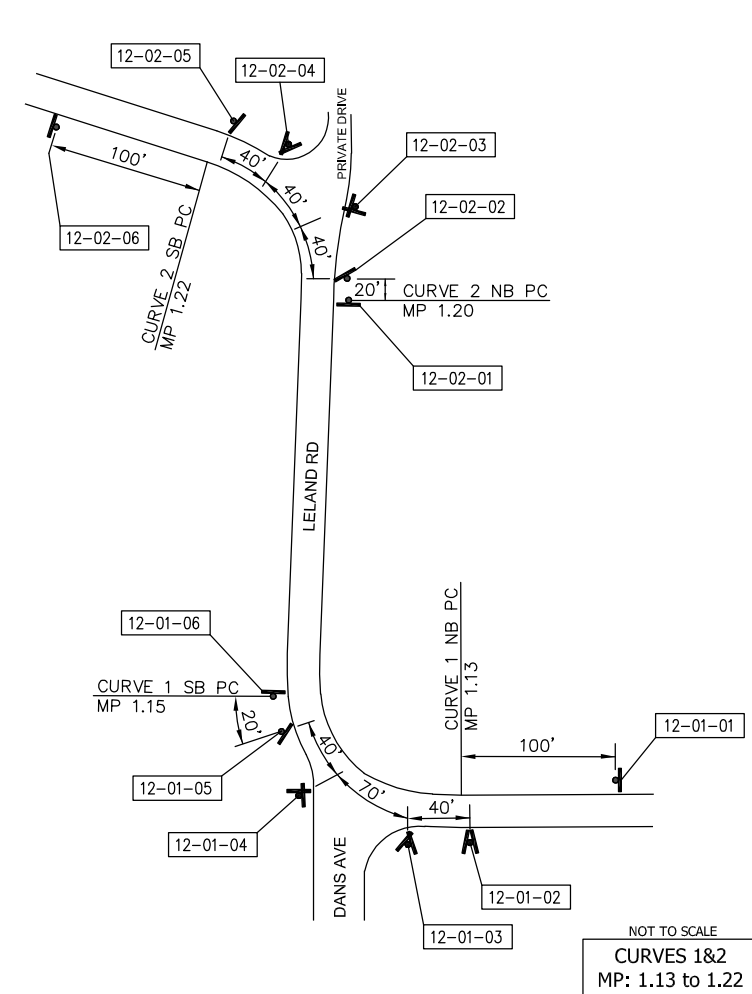


NOT TO SCALE
CURVES 3&4
MP: 3.01 to 3.14

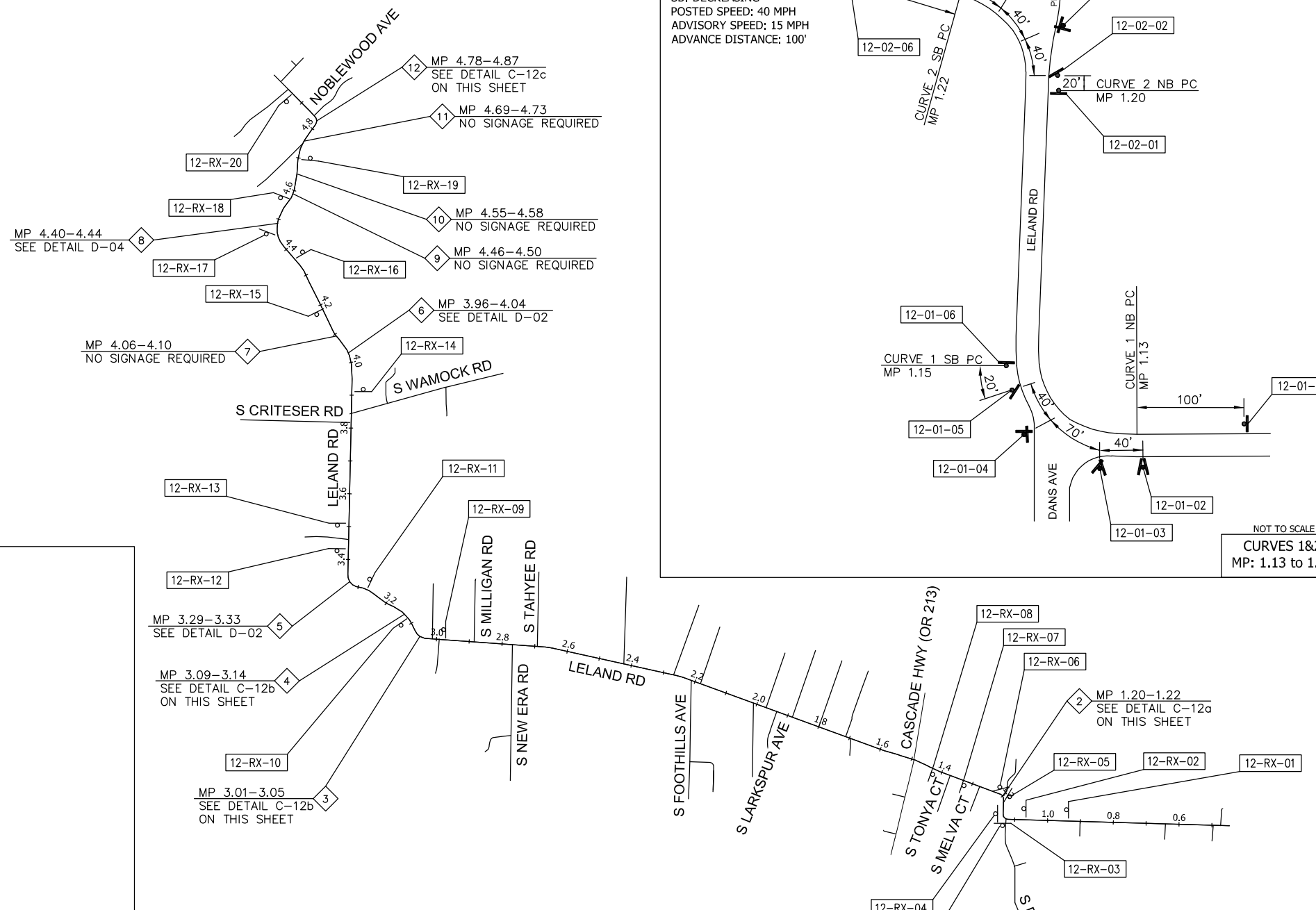
Detail C-12a

NB: INCREASING
POSTED SPEED: 40 MPH
ADVISORY SPEED: 15 MPH
ADVANCE DISTANCE: 100'

SB: DECREASING
POSTED SPEED: 40 MPH
ADVISORY SPEED: 15 MPH
ADVANCE DISTANCE: 100'



NOT TO SCALE
CURVES 1&2
MP: 1.13 to 1.22



DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:18:14-07'00"
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

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

Rural Curve Systemic Signing
Leland Road

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SWM

DATE: JUNE 2021 PROJECT NO.: #2019-18

DIRECTOR
DAN JOHNSON

REVISIONS

NO. DATE:	
-----------	--

Sheet No. **C-12-1**

Sign Installation Table

Curve No.	Sign Post No.	Travel Direction	Sign Location				Travel Direction from PC	Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks
			Point of Curvature	Posted Speed	Advisory Speed	Distance "A"						Distance "B"	X	
Corridor 12 - Leland Road														
1	-					100ft				Right Reverse Turn Warning Advisory Speed 15	30 24	36 24	install new sign assembly "A" distance from field located Point of Curvature.	
	1	Northbound	45.28793 -122.53275	45 mph	15 mph		See Detail C-12a	North	PSS1	2' x 2'	W-1R W-1R-5	24 30	30 30	install new sign assembly "A" distance from next chevron assembly; see Detail C-12a for placement details.
	2							North	PSS1	2' x 2'	W-1R W-1R-5	24 30	30 30	install new sign assembly "A" distance from next chevron assembly; see Detail C-12a for placement details.
	3							North	PSS1	2' x 2'	W-1R W-1R-5	24 30	30 30	install new sign assembly "A" distance from next chevron assembly; see Detail C-12a for placement details.
	4							North	PSS1	2' x 2'	W-1R W-1R-5	24 30	30 30	install new sign assembly "A" distance from next chevron assembly; see Detail C-12a for placement details.
	5	Southbound	45.28793 -122.53275	45 mph	15 mph	0ft		North	PSS1	2' x 2'	W-1R W-1R-5	30 24	36 24	install new sign assembly "A" distance from field located Point of Curvature.
2	1	Northbound	45.28801 -122.53261	45 mph	15 mph	0ft		North	PSS1	2' x 2'	W-1R W-1R-5	30 24	36 24	install new sign assembly "A" distance from field located Point of Curvature.
	2						See Detail C-12a	South	PSS1	2' x 2'	W-1R W-1R-5	24 30	30 30	install new sign assembly "A" distance from next chevron assembly; see Detail C-12a for placement details.
	3							South	PSS1	2' x 2'	W-1R W-1R-5	24 30	30 30	install new sign assembly "A" distance from next chevron assembly; see Detail C-12a for placement details.
	4	Southbound	45.28801 -122.53261	45 mph	15 mph		See Detail C-12a	South	PSS1	2' x 2'	W-1R W-1R-5	24 30	30 30	install new sign assembly "A" distance from next chevron assembly; see Detail C-12a for placement details.
	5							South	PSS1	2' x 2'	W-1R W-1R-5	24 30	30 30	install new sign assembly "A" distance from next chevron assembly; see Detail C-12a for placement details.
	6						100ft		North	PSS1	2' x 2'	W-1R W-1R-5	30 24	36 24
3	1	Northbound	45.28811 -122.53251	40 mph	25 mph			South	PSS1	2' x 2'	W-1R W-1R-5	24 30	30 30	install new sign assembly "A" distance from field located Point of Curvature. Place sign assembly south of existing driveway.
	2						See Detail C-12b	North	PSS1	2' x 2'	W-1R W-1R-5	24 30	30 30	install new sign assembly "A" distance from next chevron assembly; see Detail C-12b for placement details.
	3							North	PSS1	2' x 2'	W-1R W-1R-5	24 30	30 30	install new sign assembly "A" distance from next chevron assembly; see Detail C-12b for placement details.
	4	Southbound	45.28811 -122.53251	40 mph	25 mph	0ft		North	PSS1	2' x 2'	W-1R W-1R-5	30 24	36 24	install new sign assembly "A" distance from field located Point of Curvature.
4	1	Northbound		40 mph	25 mph			South	PSS1	2' x 2'	W-1R W-1R-5	24 30	30 30	install new sign assembly "A" distance from next chevron assembly; see Detail C-12b for placement details.
	2	Southbound	45.28801 -122.53261	40 mph	25 mph			South	PSS1	2' x 2'	W-1R W-1R-5	24 30	30 30	install new sign assembly "A" distance from next chevron assembly; see Detail C-12b for placement details.
	3							North	PSS1	2' x 2'	W-1R W-1R-5	30 24	36 24	install new sign assembly "A" distance from field located Point of Curvature.
5	-					100ft		South	PSS1	2' x 2'	W-1R W-1R-5	30 24	36 24	install new sign assembly "A" distance from field located Point of Curvature.
	1	Northbound	45.28793 -122.53275	40 mph	25 mph		80ft	North	PSS1	2' x 2'	W-1R W-1R-5	24 30	30 30	install new sign assembly "A" distance from next chevron assembly; see Detail C-12b for placement details.
	2						80ft	North	PSS1	2' x 2'	W-1R W-1R-5	24 30	30 30	install new sign assembly "A" distance from next chevron assembly; see Detail C-12b for placement details.
	3						80ft	North	PSS1	2' x 2'	W-1R W-1R-5	24 30	30 30	install new sign assembly "A" distance from next chevron assembly; see Detail C-12b for placement details.
	4						80ft	North	PSS1	2' x 2'	W-1R W-1R-5	24 30	30 30	install new sign assembly "A" distance from next chevron assembly; see Detail C-12b for placement details.
5	Southbound	45.28801 -122.53261	40 mph	25 mph	100ft		North	PSS1	2' x 2'	W-1R W-1R-5	30 24	36 24	install new sign assembly "A" distance from field located Point of Curvature.	

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-12.dwg 6/25/2021 4:43 PM Rachel Vogt

Rural Curve Systemic Signing
Leland Road

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

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SWM

REVISIONS

NO. DATE:
Sheet No. C-12-2

PROJECT NO.: #2019-18
DATE: JUNE 2021

DIRECTOR
DAN JOHNSON

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL
ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:18:39-07'00'
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Travel Direction from PC					X	Y	
Corridor 12 - Leland Road															
6	1	Northbound	45.28291 -122.36233	40 mph	35 mph	100 ft	-	South	PSST	2" x 2"	W1-2L Left Curve Warning	36	36	Install new sign assembly "A" distance from field located Point of Curvature.	
		Southbound	45.28468 -122.36857	40 mph	35 mph	100 ft	-	North	PSST	2" x 2"	W13-1P-35 Advisory Speed 35	24	24		
	2	Northbound	45.28468 -122.36857	40 mph	35 mph	100 ft	-	South	PSST	2" x 2"	W1-2R Right Curve Warning	36	36		Install new sign assembly "A" distance from field located Point of Curvature.
		Southbound	45.28468 -122.36857	40 mph	35 mph	100 ft	-	North	PSST	2" x 2"	W13-1P-35 Advisory Speed 35	24	24		
7	-	Northbound	-	40 mph	40 mph	No signs required for Curve 7									
	-	Southbound	-	40 mph	40 mph	No signs required for Curve 7									
8	1	Northbound	45.31249 -122.60455	40 mph	25 mph	100 ft	-	South	PSST	2" x 2"	W1-5R Winding Road Right Warning	36	36	Install new sign assembly "A" distance from field located Point of Curvature.	
						-	80 ft	North	PSST	2" x 2"	W13-1P-25 Advisory Speed 25	24	24		
						-	80 ft	North	PSST	2" x 2"	W1-8L Chevron Alignment Left	24	30		
	2	Southbound	45.31300 -122.60486	40 mph	25 mph	0 ft	-	North	PSST	2" x 2"	W1-8R Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.	
											W1-8L Chevron Alignment Left	24	30		
9	-	Northbound	-	40 mph	40 mph	No signs required for Curve 9									
	-	Southbound	-	40 mph	35 mph	No signs required for Curve 9									
10	-	Northbound	-	40 mph	40 mph	No signs required for Curve 10									
	-	Southbound	-	40 mph	45 mph	No signs required for Curve 10									
11	-	Northbound	-	40 mph	35 mph	No signs required for Curve 11									
	-	Southbound	-	40 mph	35 mph	No signs required for Curve 11									
12	1	Northbound	45.31770 -122.60270	40 mph	25 mph	0 ft	-	South	PSST	2" x 2"	W1-1aL-25 Supplemental Left Turn Advisory Speed 25	36	36	Install new sign assembly "A" distance from field located Point of Curvature.	
						-	See Detail C-12c	North	PSST	2" x 2"	W1-8L Chevron Alignment Left	24	30		
						-	See Detail C-12c	North	PSST	2" x 2"	W1-8R Chevron Alignment Right	24	30		
						-	See Detail C-12c	North	PSST	2" x 2"	W1-8L Chevron Alignment Left	24	30		
	2	Southbound	45.31828 -122.60287	40 mph	20 mph	100 ft	-	North	PSST	2" x 2"	W1-8R Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-12c for placement details.	
W1-5R Winding Road Right Warning											36	36			
												W13-1P-20 Advisory Speed 20	24	24	Install new sign assembly "A" distance from field located Point of Curvature.

X:\Projects\2020\Projects\2020-000 (Clackamas County Rural Curve Design)\CAD\C-12.dwg 6/25/2021 4:44 PM Rachel Vogt

Rural Curve Systemic Signing
Leland Road

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



DIRECTOR
DAN JOHNSON

PROJECT NO.: #2019-18
DATE: JUNE 2021

DESIGNED BY: RFV
DRAFTED BY: DKS CAD
CHECKED BY: SMM

NO.	DATE	REVISIONS

Sheet No. C-12-3

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com



EXPIRES: DEC. 31, 2022

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location		Remarks
			X	Y		Milepost	Placement	
Corridor 12 - Leland Road								
1	W15-1	SLOW Warning	30	30	PSST	1.94	Right	Remove existing sign and support.
2	W1-RR	Reverse Turn Right Warning	30	30	PSST	1.97	Right	Remove existing sign and support.
	W13-IP-15	Advisory Speed 15	18	18				Remove existing sign.
3	W1-LL	One Direction Large Arrow Left	18	24	PSST	1.13	Left	Remove existing sign and support.
4	W1-RR	One Direction Large Arrow Right	18	24	PSST	1.13	Right	Remove existing sign and support.
5	W1-RR	One Direction Large Arrow Right	48	24	PSST	1.26	Right	Remove existing sign and support.
6	W1-LL	One Direction Large Arrow Left	48	24	PSST	1.21	Left	Remove existing sign and support.
7	W1-RR	Reverse Turn Right Warning	30	30	PSST	1.5	Right	Remove existing sign and support.
	W13-IP-15	Advisory Speed 15	18	18				Remove existing sign.
8	W15-1	SLOW Warning	30	30	PSST	1.41	Left	Remove existing sign and support.
9	W1-RR	Right Turn Warning	30	30	PSST	2.09	Right	Remove existing sign and support.
	W13-IP-20	Advisory Speed 20	18	18				Remove existing sign.
10	W1-LL	Left Turn Warning	30	30	PSST	3.11	Left	Remove existing sign and support.
	W13-IP-20	Advisory Speed 20	18	18				Remove existing sign.
11	W1-RR	Right Turn Warning	30	30	PSST	4.23	Right	Remove existing sign and support.
	W13-IP-25	Advisory Speed 25	18	18				Remove existing sign.
12	W1-LL	Left Turn Warning	30	30	WOOD	3.13	Left	Remove existing sign and support.
	W13-IP-20	Advisory Speed 20	18	18				Remove existing sign.
13	W15-1	SLOW Warning	30	30	WOOD	3.47	Left	Remove existing sign and support.
14	W1-LL	Reverse Curve Left Warning	30	30	PSST	3.91	Left	Remove existing sign and support.
	W13-IP-30	Advisory Speed 30	18	18				Remove existing sign.
15	W1-RR	Reverse Curve Right Warning	30	30	PSST	1.15	Right	Remove existing sign and support.
	W13-IP-30	Advisory Speed 30	18	18				Remove existing sign.
16	W1-RR	Right Turn Warning	30	30	PSST	4.55	Right	Remove existing sign and support.
	W13-IP-25	Advisory Speed 25	18	18				Remove existing sign.
17	W1-RR	One Direction Large Arrow Right	18	24	PSST	1.15	Right	Remove existing sign and support.
18	W1-LL	Left Turn Warning	30	30	PSST	4.55	Left	Remove existing sign and support.
	W13-IP-30	Advisory Speed 30	18	18				Remove existing sign.
19	W1-RR	Reverse Turn Right Warning	30	30	PSST	4.60	Right	Remove existing sign and support.
	W13-IP-20	Advisory Speed 20	18	18				Remove existing sign.
20	W1-RR	Reverse Turn Right Warning	30	30	WOOD	4.91	Right	Remove existing sign and support.

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-12.dwg 6/25/2021 4:44 PM Rachel Vogt

Rural Curve Systemic Signing
Leland Road

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

DIRECTOR
DAN JOHNSON

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SMM

NO.	DATE	REVISIONS

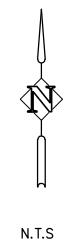
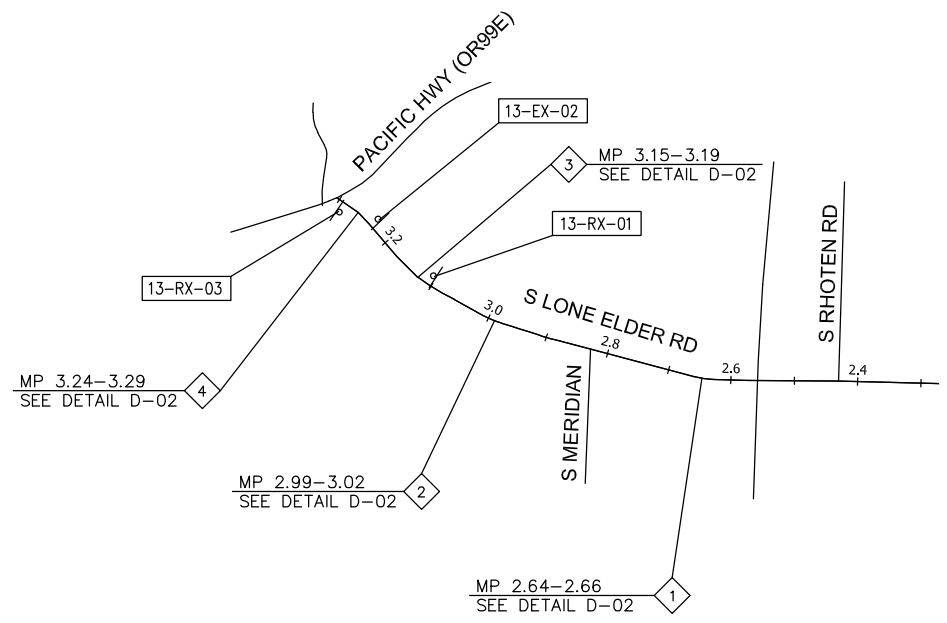
Sheet No. C-12-4

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30 11:19:29-07'00'
Scott M Mansur OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

PROJECT NO.: #2019-18
DATE: JUNE 2021

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-13.dwg 6/25/2021 4:44 PM Rachel Vogt



DKS
 117 Commercial St NE, Suite 310
 Salem, Oregon 97301
 www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
 56,267
 Digitally Signed 2021.06.30
 Scott M Mansur 11:20:12-07'00"
 OREGON
 JULY 9, 2002
SCOTT M. MANSUR
 EXPIRES: DEC. 31, 2022

DESIGNED BY: RFV
 DRAFTED BY: DKS CAD
 CHECKED BY: SMM

REVISIONS	
NO.	DATE:

Sheet No. **C-13-1**

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

DAN JOHNSON
 DIRECTOR

Rural Curve Systemic Signing
S Lone Elder Road

DATE: JUNE 2021 PROJECT NO.: #2019-18

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Travel Direction from PC					X	Y	
Corridor 13 - Lone Elder Road															
1	-	Westbound	-	55 mph	65 mph										
	1	Eastbound	45.23063 -122.73511	55 mph	50 mph	100 ft	-	West	PSST	2" x 2"	W1-2L W13-1P-50	Left Curve Warning Advisory Speed 50	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
2	-	Westbound	-	55 mph	55 mph										
	1	Eastbound	45.23196 -122.74207	55 mph	45 mph	-	120 ft	East	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details
	2					-	120 ft	East	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details
	3					-	120 ft	East	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details
	4					100 ft	-	West	PSST	2" x 2"	W1-2L W13-1P-45	Left Curve Warning Advisory Speed 45	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
3	-	Westbound	-	55 mph	55 mph										
3	1	Eastbound	45.23329 -122.74486	55 mph	50 mph	100 ft	-	West	PSST	2" x 2"	W1-2L W13-1P-50	Left Curve Warning Advisory Speed 50	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	1	Westbound	45.23378 -122.74551	55 mph	35 mph	165 ft	-	East	PSST	2" x 2"	W1-2R W13-1P-35	Left Curve Warning Advisory Speed 35	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
2	-					120 ft	West	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details	
3	-					120 ft	West	PSST	2" x 2"	W1-8R	Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details	
	-					120 ft	West	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details	
-	Eastbound	-	55 mph	40 mph	No advanced warning sign for eastbound vehicles due to proximity of Highway 99E (Pacific Highway) to curve and vertical curvature of the road.										

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location		Remarks
			X	Y		Milepost	Placement	
Corridor 13 - Lone Elder Road								
1	W1-43 W13-1P-55	Reverse Curve Right Warning Advisory Speed 35	36	36	PSST	5.19	Left	Remove existing sign and support. Remove existing sign.
2	W3-1	Stop Ahead Warning	36	36	Wood	3.230	Right	Maintain and protect existing ODOT maintained sign and support.
3	W1-43 W13-1P-35	Reverse Curve Right Warning Advisory Speed 35	36	36	PSST	5.19	Left	Remove existing sign and support. Remove existing sign.

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-13.dwg 6/25/2021 4:44 PM Rachel Vogt

Rural Curve Systemic Signing
S Lone Elder Road

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

DAN JOHNSON
DIRECTOR

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SWM

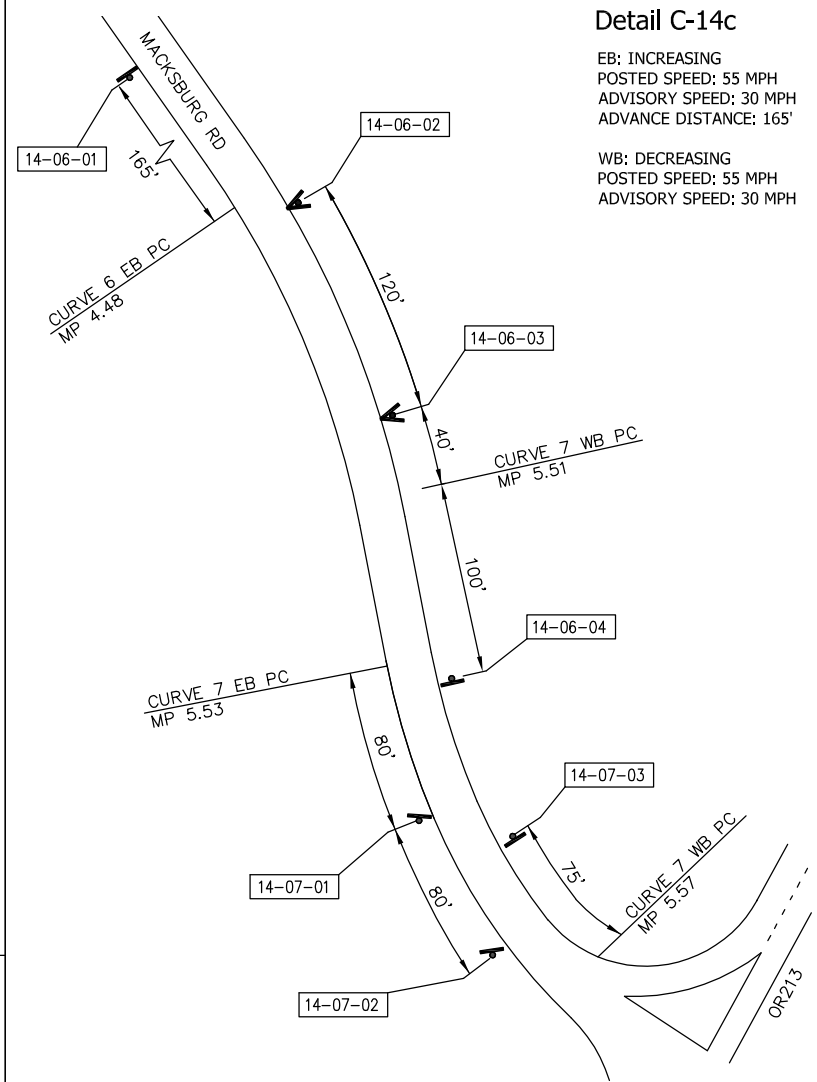
NO.	DATE	REVISIONS

Sheet No. C-13-2

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

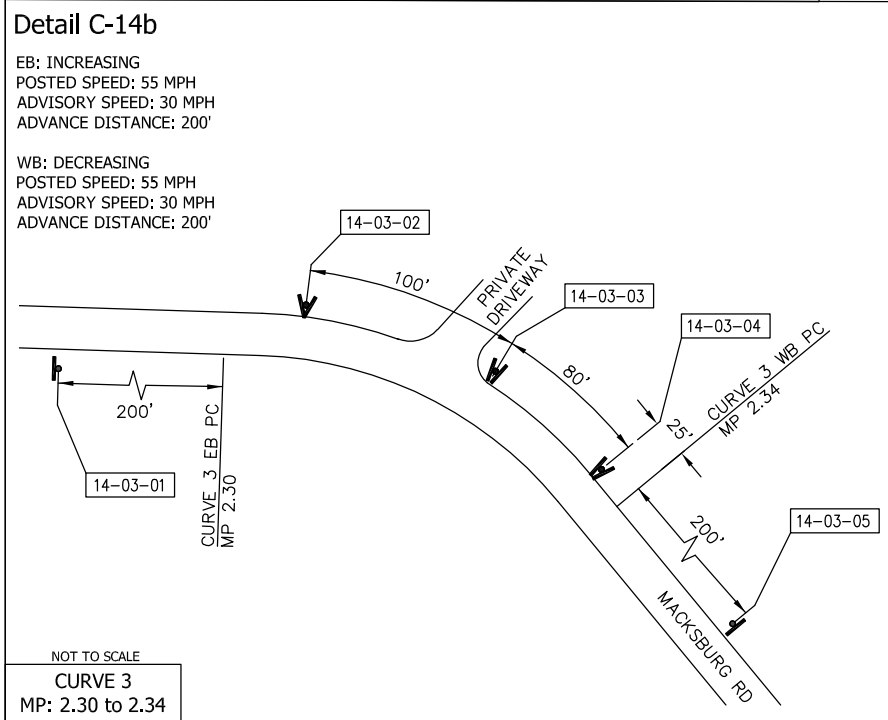
REGISTERED PROFESSIONAL
ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:21:11-07'00'
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

PROJECT NO.: #2019-18
DATE: JUNE 2021



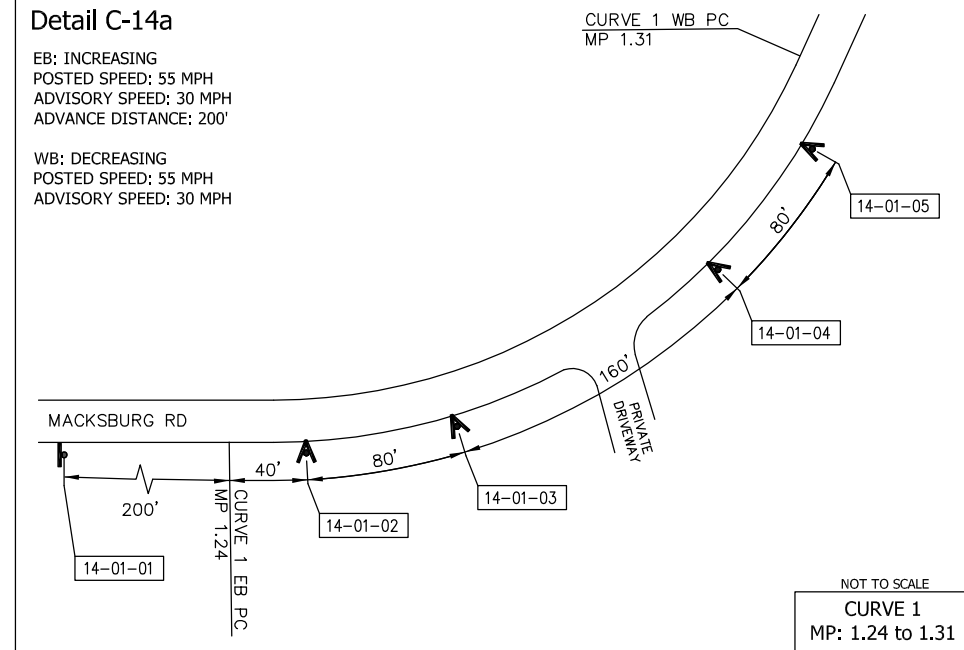
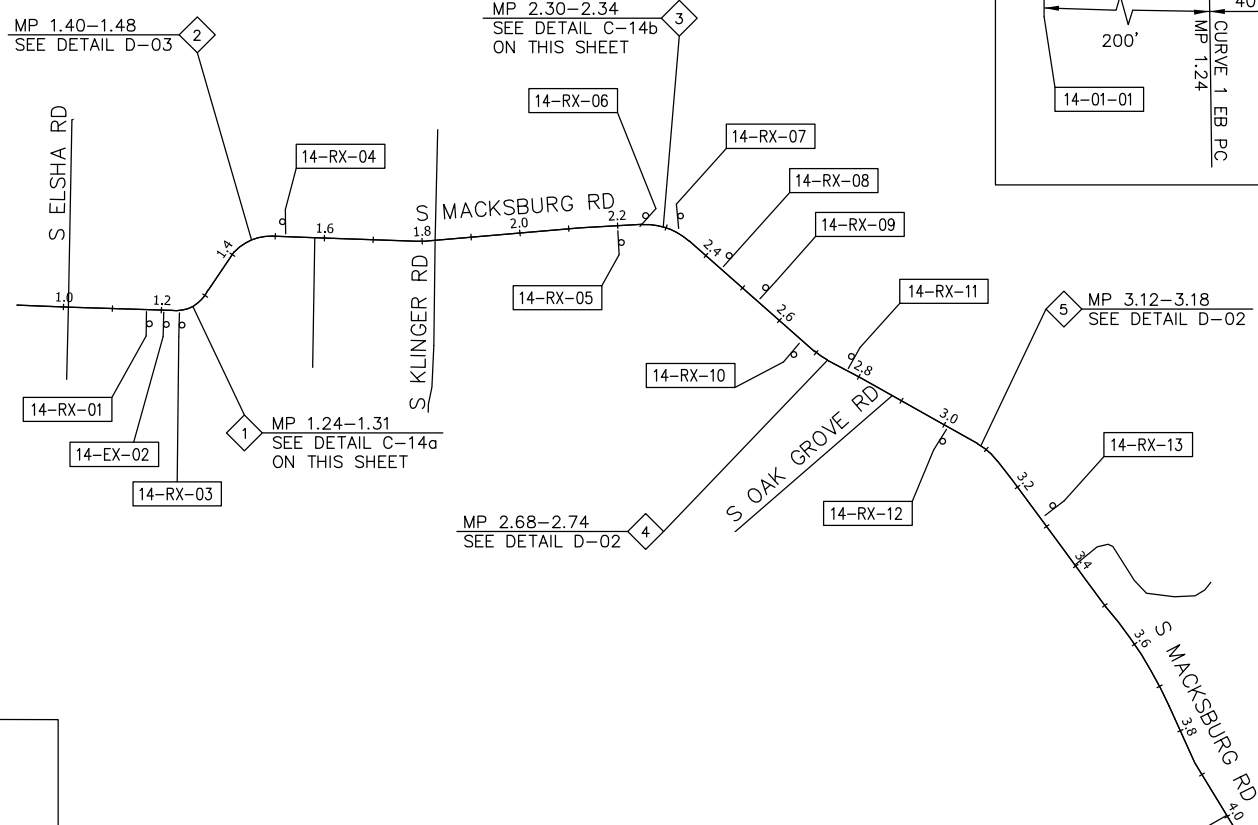
Detail C-14c
 EB: INCREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 30 MPH
 ADVANCE DISTANCE: 165'
 WB: DECREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 30 MPH

NOT TO SCALE
CURVE 6 & 7
 MP: 4.48 to 4.57
 * PER DIRECTION FROM COUNTY STAFF, NO ADVANCED WARNING SIGNS SHALL BE PLACED FOR THE WESTBOUND DIRECTION DUE TO PROXIMITY TO OR213.



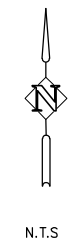
Detail C-14b
 EB: INCREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 30 MPH
 ADVANCE DISTANCE: 200'
 WB: DECREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 30 MPH
 ADVANCE DISTANCE: 200'

NOT TO SCALE
CURVE 3
 MP: 2.30 to 2.34



Detail C-14a
 EB: INCREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 30 MPH
 ADVANCE DISTANCE: 200'
 WB: DECREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 30 MPH

NOT TO SCALE
CURVE 1
 MP: 1.24 to 1.31



Rural Curve Systemic Signing
S Macksburg Road
 PROJECT NO.: #2019-18
 DATE: JUNE 2021

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

DESIGNED BY: RFV
 DRAFTED BY: DKS CAD
 CHECKED BY: SMM

NO.	DATE	REVISIONS

Sheet No. **C-14-1**

DKS
 117 Commercial St NE, Suite 310
 Salem, Oregon 97301
 www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
 56,267
 Digitally Signed 2021.06.30
 Scott M Mansur 11:21:34-07'00"
 OREGON
 JULY 9, 2002
SCOTT M. MANSUR
 EXPIRES: DEC. 31, 2022

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-14.dwg 6/25/2021 4:44 PM Rachel Vogt

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Travel Direction from PC					X	Y	
Corridor 14 - Macksburg Road															
1	1	Eastbound	45.21355 -122.63589	55 mph	30 mph	200 ft	-	West	PSST	2" x 2"	W1-3L W13-1P-30	Left Reverse Turn Warning Advisory Speed 30	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2					-	See Detail C-14a	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-14a for placement details.
	3					-	See Detail C-14a	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-14a for placement details.
	4					-	See Detail C-14a	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-14a for placement details.
	5					-	See Detail C-14a	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-14a for placement details.
	-	Westbound	-	55 mph	30 mph	-	-	-	-	-	-	-	-	-	-
-	Eastbound	-	55 mph	35 mph	-	-	-	-	-	-	-	-	-	-	
2	1	Westbound	45.28905 -122.55889	55 mph	35 mph	-	120 ft	East	PSST	2" x 2"	W1-8R W1-8L	Chevron Alignment Right Chevron Alignment Left	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-03 for placement details.
	2					-	120 ft	East	PSST	2" x 2"	W1-8R W1-8L	Chevron Alignment Right Chevron Alignment Left	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-03 for placement details.
	3					-	120 ft	East	PSST	2" x 2"	W1-8R W1-8L	Chevron Alignment Right Chevron Alignment Left	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-03 for placement details.
	4					-	120 ft	East	PSST	2" x 2"	W1-8R W1-8L	Chevron Alignment Right Chevron Alignment Left	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-03 for placement details.
	5					165 ft	-	East	PSST	2" x 2"	W1-3R W13-1P-30	Right Reverse Turn Warning Advisory Speed 30	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	-	Eastbound	-	55 mph	35 mph	-	-	-	-	-	-	-	-	-	
3	1	Eastbound	45.21659 -122.61584	55 mph	30 mph	200 ft	-	West	PSST	2" x 2"	W1-1R W13-1P-30	Right Turn Warning Advisory Speed 30	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2					-	See Detail C-14b	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-14b for placement details.
	3					-	See Detail C-14b	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-14b for placement details.
	4					-	See Detail C-14b	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-14b for placement details.
	5	Westbound	45.21645 -122.61504	55 mph	30 mph	200 ft	-	East	PSST	2" x 2"	W1-1L W13-1P-30	Left Turn Warning Advisory Speed 30	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
4	1	Eastbound	45.21313 -122.60991	55 mph	50 mph	100 ft	-	West	PSST	2" x 2"	W1-2L W13-1P-50	Left Curve Warning Advisory Speed 50	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2	Westbound	45.21270 -122.60892	55 mph	50 mph	100 ft	-	East	PSST	2" x 2"	W1-2R W13-1P-50	Right Curve Warning Advisory Speed 50	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
5	1	Eastbound	45.21018 -122.60209	55 mph	45 mph	150 ft	-	West	PSST	2" x 2"	W1-2R W13-1P-45	Right Curve Warning Advisory Speed 45	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature. Place sign assembly west of existing driveway.
	2					-	120 ft	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details.
	3					-	120 ft	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details.
	4					-	120 ft	East	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details.
	5	Westbound	45.20957 -122.60108	55 mph	45 mph	100 ft	-	East	PSST	2" x 2"	W1-2L W13-1P-45	Left Curve Warning Advisory Speed 45	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-14.dwg 6/25/2021 4:44 PM Rachel Vogt

Rural Curve Systemic Signing
S Macksburg Road

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



DAN JOHNSON
DIRECTOR

DESIGNED BY: _____
REV: _____
DRAFTED BY: _____
DKS CAD: _____
CHECKED BY: _____
SMM

NO.	DATE:	REVISIONS

Sheet No. **C-14-2**

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30 11:21:59-07'00'
SCOTT M. MANSUR
JULY 9, 2002
OREGON
EXPIRES: DEC. 31, 2022

PROJECT NO.: #2019-18
DATE: JUNE 2021

Sign Installation Table

Curve No.	Sign Post No.	Sign Location						Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks	
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"					X	Y		
Corridor 14 - Macksburg Road															
6	1	Eastbound	45.19389 -122.58637	55 mph	35 mph	165 ft	-	West	PSST	2" x 2"	W1-3R W13-1P-30	Right Reverse Turn Warning Advisory Speed 30	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2	Westbound	45.19348 -122.58606	55 mph	35 mph	-	-	West	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-14c for placement details.
	W1-8R										Chevron Alignment Right	24	30		
	3										W1-8L	Chevron Alignment Left	24	30	Reinstall existing sign and new sign on existing post located at Milepoint 4.50 using chevron bracket system. See Existing Sign 16 and Detail C-14c for details.
4	EX	Chevron Alignment Right	24	30											
7	1	Eastbound	45.19324 -122.58605	55 mph	30 mph	-	-	East	PSST	2" x 2"	W1-2L	Left Curve Warning	36	36	Install new sign assembly "A" distance from field located Point of Curvature. Place sign assembly west of existing driveway.
	W13-1P-35										Advisory Speed 35	24	24		
	2	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-14c for placement details.									
3	Westbound	-	55 mph	30 mph	100 ft	-	West	EX	EX	Adopt-a-Road	EX	EX	Reinstall existing sign and support. See Existing Sign 18 and Detail C-14c for details.		

Existing Sign & Sign Removal

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location		Remarks
			X	Y		Milepost	Placement	
Corridor 14 - Macksburg Road								
1	W1-4L	Reverse Curve Left Warning	36	36	PSST	1.20	Right	Remove existing sign and support.
	W13-1P-35	Advisory Speed 35	24	24				Remove existing sign.
2	S3-1	School Bus Stop Ahead	36	36	PSST	1.24	Right	Maintain and protect existing sign and support.
3	W1-6L	One-Direction Large Arrow Left	48	24	PSST	1.26	Right	Remove existing sign and support.
4	W1-4L	Reverse Curve Left Warning	36	36	PSST	1.55	Left	Remove existing sign and support.
	W13-1P-35	Advisory Speed 35	24	24				Remove existing sign.
5	W1-1R	Right Turn Warning	36	36	PSST	2.22	Right	Remove existing sign and support.
	W13-1P-25	Advisory Speed 25	24	24				Remove existing sign.
6	W1-6L	One-Direction Large Arrow Left	48	24	PSST	2.32	Left	Remove existing sign and support.
7	W1-6R	One-Direction Large Arrow Right	48	24	PSST	2.33	Left	Remove existing sign and support.
8	W1-1L	Left Turn Warning	30	30	PSST	2.41	Left	Remove existing sign and support.
	W13-1P-20	Advisory Speed 20	18	18				Remove existing sign.
9	OW15-1	SLOW Warning	36	36	PSST	2.52	Left	Remove existing sign and support.
10	W1-2L	Left Curve Warning	36	36	Wood	2.59	Right	Remove existing sign and support.
	W13-1P-45	Advisory Speed 45	24	24				Remove existing sign.
11	W1-2R	Right Curve Warning	36	36	Wood	2.81	Left	Remove existing sign and support.
	W13-1P-45	Advisory Speed 45	24	24				Remove existing sign.
12	W1-2R	Right Curve Warning	36	36	PSST	3.01	Right	Remove existing sign and support.
	W13-1P-45	Advisory Speed 45	24	24				Remove existing sign.
13	W1-2L	Left Curve Warning	36	36	PSST	3.28	Left	Remove existing sign and support.
	W13-1P-45	Advisory Speed 45	24	24				Remove existing sign.
14	W1-4R	Reverse Curve Right Warning	36	36	PSST	4.43	Right	Remove existing sign and support.
	W13-1P-35	Advisory Speed 35	24	24				Remove existing sign.
15	W1-8R	Chevron Alignment Right	24	30	PSST	4.49	Left	Remove existing sign and support
16	W1-8R	Chevron Alignment Right	24	30	PSST	4.50	Left	Remove and reinstall existing sign using chevron brack system. Maintain and protect existing support. See Curve No. 6 on Sign Installation table for reinstallation details.
17	W3-1	Stop Ahead Warning	36	36	Wood	4.51	Right	Maintain and protect existing sign and support.
18	OI-417C	Adopt-a-Road	24	24	PSST	4.52	Left	Remove and reinstall existing sign. See Curve No. 7 on Sign Installation table for reinstallation details.

X:\Projects\2020\Projects\20027-000 (Clackamas County Rural Curve Design)\CAD\C-14.dwg 6/25/2021 4:44 PM Rachel Vogt

Rural Curve Systemic Signing
S Macksburg Road

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



DAN JOHNSON
DIRECTOR

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SWM

NO.	DATE:	REVISIONS

Sheet No. **C-14-3**

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

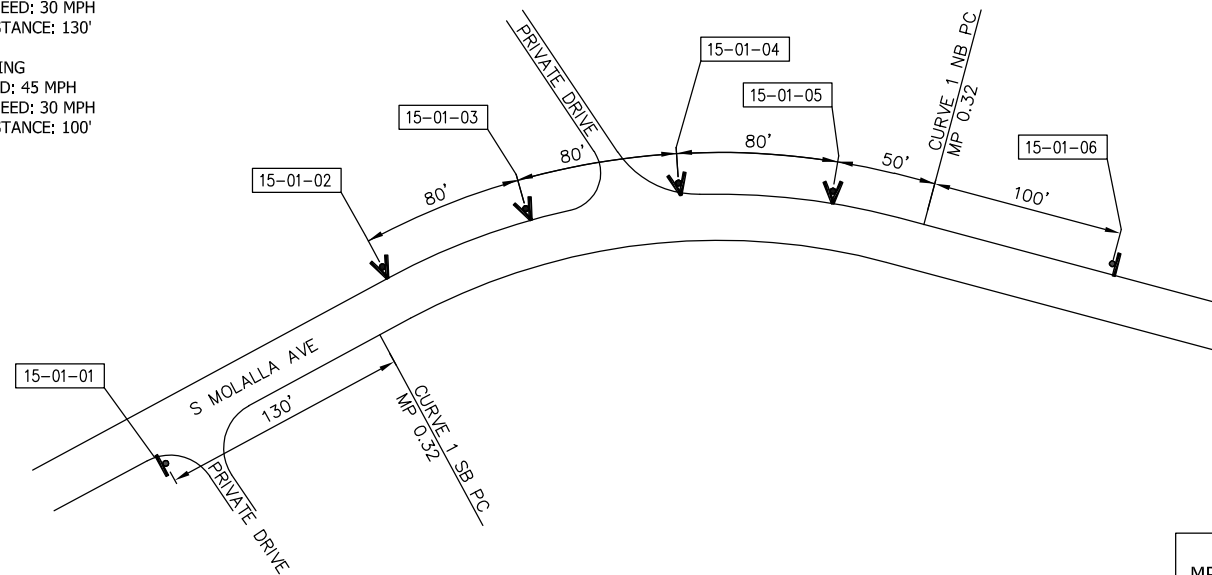
REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:22:27-07'00'
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

PROJECT NO.: #2019-18
DATE: JUNE 2021

Detail C-15a

SB: INCREASING
 POSTED SPEED: 45 MPH
 ADVISORY SPEED: 30 MPH
 ADVANCE DISTANCE: 130'

NB: DECREASING
 POSTED SPEED: 45 MPH
 ADVISORY SPEED: 30 MPH
 ADVANCE DISTANCE: 100'

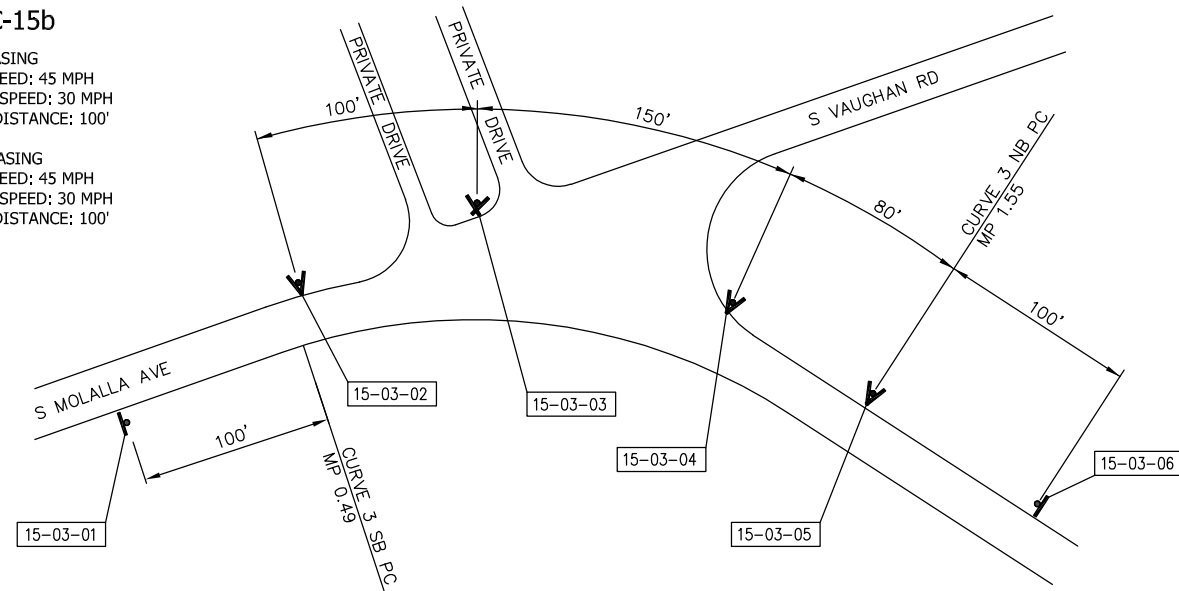


NOT TO SCALE
CURVE 1
 MP: 0.32 to 0.38

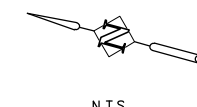
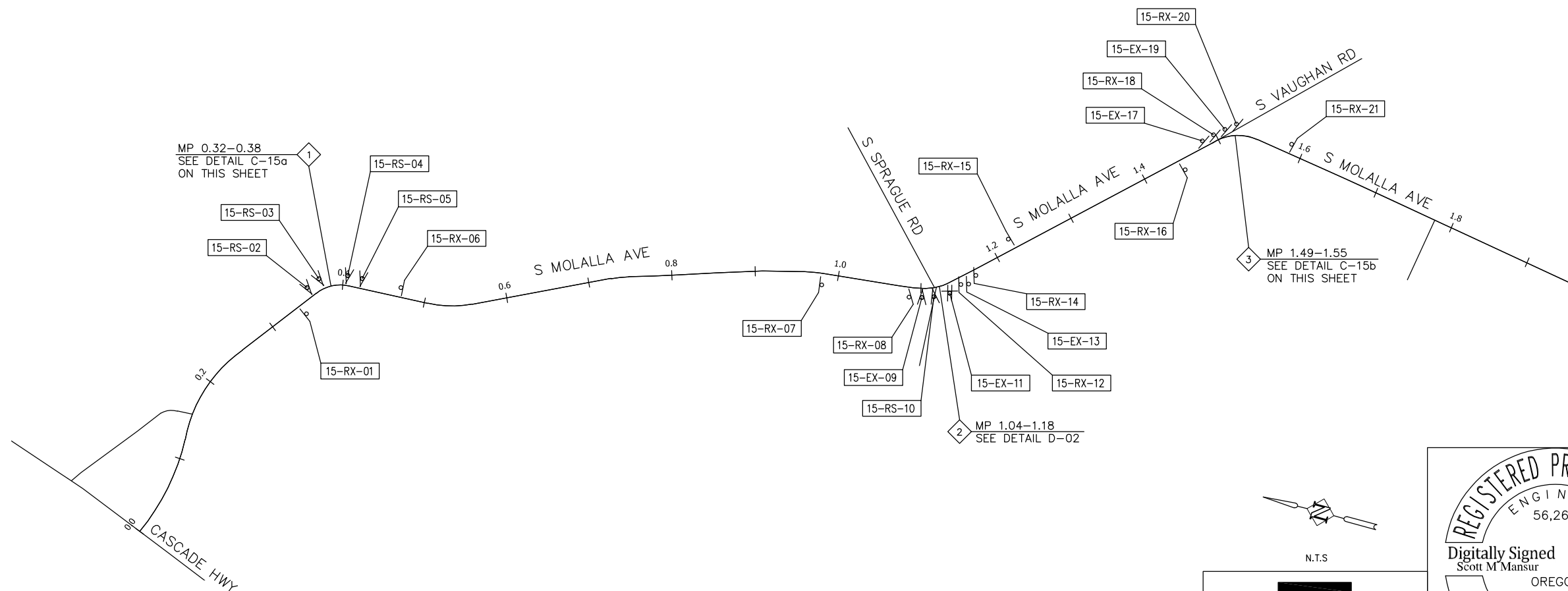
Detail C-15b

SB: INCREASING
 POSTED SPEED: 45 MPH
 ADVISORY SPEED: 30 MPH
 ADVANCE DISTANCE: 100'

NB: DECREASING
 POSTED SPEED: 45 MPH
 ADVISORY SPEED: 30 MPH
 ADVANCE DISTANCE: 100'



NOT TO SCALE
CURVE 3
 MP: 1.49 to 1.55



DKS
 117 Commercial St NE, Suite 310
 Salem, Oregon 97301
 www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
 56,267
 Digitally Signed 2021.06.30
 Scott M Mansur 11:22:49-07'00"
 OREGON
 JULY 9, 2002
SCOTT M. MANSUR
 EXPIRES: DEC. 31, 2022

Rural Curve Systemic Signing
S Molalla Avenue
 PROJECT NO.: #2019-18
 DATE: JUNE 2021

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

DESIGNED BY: REV
 DRAFTED BY: DKS CAD
 CHECKED BY: SWM

NO.	DATE	REVISIONS

Sheet No. **C-15-1**

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-15.dwg 6/25/2021 4:45 PM Rachel Vogt

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks	
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Travel Direction from PC					X	Y		
Corridor 15 - Molalla Avenue																
1	1	Southbound	45.18074 -122.58431	45 mph	30 mph	130 ft	-	North	PSST	2" x 2"	W1-1R W13-1P-30	Right Turn Warning Advisory Speed 30	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature. Place sign assembly north of existing driveway.	
	2	Northbound	45.18008 -122.58371	45 mph	30 mph	-	See Detail C-15a	North	PSST	2" x 2"	EX EX	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Reinstall existing sign assembly on new support "B" distance from next chevron assembly. See Detail C-15a for placement details. See Existing Sign 2 for details.	
	3							North	PSST	2" x 2"	EX EX	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Reinstall existing sign assembly on new support "B" distance from next chevron assembly. See Detail C-15a for placement details. See Existing Sign 3 for details.	
	4							North	PSST	2" x 2"	EX EX	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Reinstall existing sign assembly on new support "B" distance from next chevron assembly. See Detail C-15a for placement details. See Existing Sign 4 for details.	
	5							North	PSST	2" x 2"	EX EX	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Reinstall existing sign assembly on new support "B" distance from next chevron assembly. See Detail C-15a for placement details. See Existing Sign 5 for details.	
	6	South	PSST	2" x 2"	W1-1L W13-1P-30	Left Turn Warning Advisory Speed 30	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.							
2	1	Southbound	45.17030 -122.57914	45 mph	35 mph	100 ft	-	North	PSST	2" x 2"	W1-2R W13-1P-35	Right Curve Warning Advisory Speed 35	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.	
	2					South	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details			
	3					South	EX	EX EX	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Reinstall existing signs and support using chevron bracket system "B" distance from next chevron assembly. See Existing Sign 10 for details.				
	4	Northbound	45.21645 -122.61504	45 mph	35 mph	100 ft	-	South	PSST	2" x 2"	W1-2L W13-1P-35	Left Curve Warning Advisory Speed 35	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.	
3	1	Southbound	45.16606 -122.57360	45 mph	30 mph	100 ft	-	North	PSST	2" x 2"	W1-1R W13-1P-30	Right Turn Warning Advisory Speed 30	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.	
	2	Northbound	45.16534 -122.57328	45 mph	30 mph	-	-	-	EX	EX W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Reinstall existing sign and install new sign on existing post located at Milepoint 1.48 using chevron bracket system. See Detail C-15b and Existing Sign 17 for details.		
	3								EX	EX W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Reinstall existing sign and install new sign on existing post located at Milepoint 1.50 using chevron bracket system. See Detail C-15b and Existing Sign 19 for details.		
	4								North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-15b for placement details.
	5								North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-15b for placement details.
	6	South	PSST	2" x 2"	W1-1L W13-1P-30	Left Turn Warning Advisory Speed 30	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.							

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-15.dwg 6/25/2021 4:45 PM Rachel Vogt

Rural Curve Systemic Signing
S Molalla Avenue

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


DAN JOHNSON
DIRECTOR

DESIGNED BY: RFV
DRAFTED BY: DKS CAD
CHECKED BY: SMM

NO.	DATE	REVISIONS

Sheet No. **C-15-2**

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:23:12-07'00"
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

PROJECT NO.: #2019-18
DATE: JUNE 2021

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location		Remarks
			X	Y		Milepost	Placement	
Corridor 15 - Molalla Avenue								
1	W1-1R	Right Turn Warning	36	36	PSST	0.13	Right	Remove existing sign and support.
	W13-1P-25	Advisory Speed 25	27	27				Remove existing sign.
2	W1-2R	Chevron Alignment Sign	27	30	PSST	0.17	Left	Remove and reins all existing sign and support. See Curve No. 1 on Sign Installation Table for reinstallation details.
	W1-2L	Chevron Alignment Sign	27	30				Remove and reins all existing sign. See Curve No. 1 on Sign Installation Table for reinstallation details.
3	W1-2R	Chevron Alignment Sign	24	30	PSST	0.22	Left	Remove and reins all existing sign and support. See Curve No. 1 on Sign Installation Table for reinstallation details.
	W1-2L	Chevron Alignment Sign	24	30				Remove and reins all existing sign. See Curve No. 1 on Sign Installation Table for reinstallation details.
4	W1-2R	Chevron Alignment Sign	27	30	PSST	0.28	Left	Remove and reins all existing sign and support. See Curve No. 1 on Sign Installation Table for reinstallation details.
	W1-2L	Chevron Alignment Sign	27	30				Remove and reins all existing sign. See Curve No. 1 on Sign Installation Table for reinstallation details.
5	W1-2R	Chevron Alignment Sign	24	30	PSST	0.36	Left	Remove and reins all existing sign and support. See Curve No. 1 on Sign Installation Table for reinstallation details.
	W1-2L	Chevron Alignment Sign	24	30				Remove and reins all existing sign. See Curve No. 1 on Sign Installation Table for reinstallation details.
6	W1-1L	Left Turn Warning	36	36	PSST	0.36	Left	Remove existing sign and support.
	W13-1P-25	Advisory Speed 25	27	27				Remove existing sign.
7	W1-2L	Left Curve Warning	24	36	PSST	0.44	Right	Remove existing sign and support.
	W13-1P-25	Advisory Speed 25	24	24				Remove existing sign.
8	W1-2R	Chevron Alignment Sign	27	30	PSST	0.62	Right	Remove existing sign and support.
9	W1-2R	Chevron Alignment Sign	24	30	PSST	0.69	Right	Maintain and protect existing sign and support.
	W1-2L	Chevron Alignment Sign	24	30				Maintain and protect existing sign.
10	W1-2R	Chevron Alignment Sign	27	30	PSST	0.76	Right	Remove and reins all existing sign and support. See Curve No. 2 on Sign Installation Table for reinstallation details.
	W1-2L	Chevron Alignment Sign	24	30				Remove and reins all existing sign. See Curve No. 2 on Sign Installation Table for reinstallation details.
11	D8-1	Street Name Sign (35 Sprague Rd) (Sprague Rd - E)	60	12	PSST	0.11	Right	Maintain and protect existing sign and support.
	D8-1	Street Name Sign (S Molalla Ave)	42	12				Maintain and protect existing sign.
12	W1-2L	Chevron Alignment Sign	24	30	PSST	0.12	Right	Remove existing sign and support.
13	P1-17C	Advance Road	27	27	PSST	0.13	Right	Maintain and protect existing sign and support.
14	W1-2L	Chevron Alignment Sign	24	30	Wood	0.14	Right	Remove existing sign and support.
15	W1-2R	Right Curve Warning	36	36	Wood	0.23	Left	Remove existing sign and support.
	W13-1P-35	Advisory Speed 35	27	27				Remove existing sign.
16	W1-1R	Right Turn Warning	36	36	PSST	0.17	Right	Remove existing sign and support.
	W13-1P-30	Advisory Speed 30	27	27				Remove existing sign.
17	W1-2L	Chevron Alignment Sign	27	30	PSST	0.18	Left	Remove and reins all existing sign with chevron end system. Maintain and protect existing support. See Curve No. 2 on Sign Installation Table for reinstallation details.
18	W1-2L	Chevron Alignment Sign	27	30	PSST	0.40	Left	Remove existing sign and support.
19	W1-2L	Chevron Alignment Sign	27	30	PSST	0.50	Left	Remove and reins all existing sign with chevron end system. Maintain and protect existing support. See Curve No. 2 on Sign Installation Table for reinstallation details.
20	W1-2L	Chevron Alignment Sign	27	30	PSST	0.51	Left	Remove existing sign and support.
21	W1-1L	Left Turn Warning	36	36	PSST	0.57	Left	Remove existing sign and support.
	W13-1P-30	Advisory Speed 30	27	27				Remove existing sign.

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-15.dwg 6/25/2021 4:45 PM Rachel Vogt

Rural Curve Systemic Signing
S Molalla Avenue

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



DAN JOHNSON
DIRECTOR

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SWM

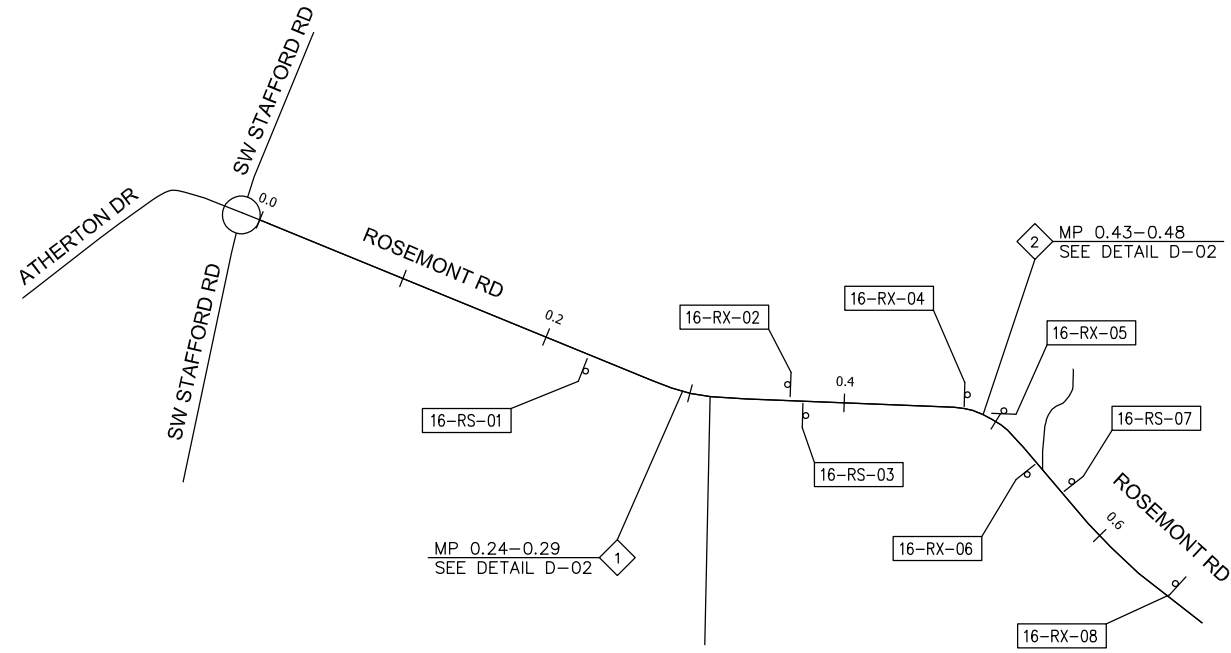
NO.	DATE	REVISIONS

Sheet No. C-15-3

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:23:35-07'00"
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

PROJECT NO.: #2019-18
DATE: JUNE 2021



N.T.S



117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com



EXPIRES: DEC. 31, 2022

REVISIONS

NO.	DATE:

Sheet No.

C-16-1

DESIGNED BY:	RFV
DRAFTED BY:	DKS CAD
CHECKED BY:	SMM



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

DAN JOHNSON

DIRECTOR

Rural Curve Systemic Signing
Rosemont Road

DATE: JUNE 2021

PROJECT NO.: #2019-18

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks				
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Travel Direction from PC					X	Y					
Corridor 16 - Rosemont Road																			
1	1	Eastbound	45.39150 -122.68453	40 mph	35 mph	100 ft	-	West	PSST	2" x 2"	EX	Left Curve Warning	36	36	Reinstall existing sign assembly on new post "A" distance from field located Point of Curvature. See Existing Sign No. 1 for details.				
	-	Westbound	-	40 mph	40 mph						EX	Advisory Speed 35	24	24					
2	1	Eastbound	45.39140 -122.68081	40 mph	35 mph	100 ft	-	West	PSST	2" x 2"	EX	Right Curve Warning	36	36	Reinstall existing sign assembly on new post "A" distance from field located Point of Curvature. See Existing Sign No. 3 for details.				
										EX	Advisory Speed 35	24	24						
	2	Westbound	45.39115 -122.67989	40 mph	35 mph	-	120 ft	West	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details				
	W1-8R										Chevron Alignment Right	24	30						
	W1-8L										Chevron Alignment Left	24	30						
	W1-8R										Chevron Alignment Right	24	30						
	3														W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details
	4														W1-8R	Chevron Alignment Right	24	30	
	5									120 ft	-	East	PSST	2" x 2"	EX	Left Curve Warning	36	36	Reinstall existing sign assembly on new post "A" distance from field located Point of Curvature. Place sign assembly east of existing driveway. See Existing Sign No. 7 for details.
															EX	Advisory Speed 35	24	24	

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location		Remarks
			X	Y		Milepost	Placement	
Corridor 16 - Rosemont Road								
1	W1-21	Left Curve Warning	36	36	PSST	0.23	Right	Remove and replace existing sign. Remove existing support. See Curve No. 1 on Sign Installation table for installation details.
	W13-17-35	Advisory Speed 35	24	24	PSST			Remove and replace existing sign. See Curve No. 1 on Sign Installation table for installation details.
2	W1-23	Right Curve Warning	36	36	PSST	0.24	Left	Remove existing sign and support. Remove existing sign.
	W13-17-35	Advisory Speed 35	24	24	PSST			Remove existing sign.
3	W1-23	Right Curve Warning	36	36	PSST	0.40	Right	Remove and replace existing sign. Remove existing support. See Curve No. 2 on Sign Installation table for installation details.
	W13-17-35	Advisory Speed 35	24	24	PSST			Remove and replace existing sign. See Curve No. 2 on Sign Installation table for installation details.
4	W1-8R	One Direction Large Area Right	48	24	PSST	0.40	Left	Remove existing sign and support.
5	W1-8L	One Direction Large Area Left	48	24	PSST	0.40	Right	Remove existing sign and support.
6	W1-21	Left Curve Warning	36	36	PSST	0.42	Right	Remove existing sign and support.
	W13-17-35	Advisory Speed 35	24	24	PSST			Remove existing sign.
7	W1-21	Left Curve Warning	36	36	PSST	0.50	Left	Remove and replace existing sign. Remove existing support. See Curve No. 7 on Sign Installation table for installation details.
	W13-17-35	Advisory Speed 35	24	24	PSST			Remove and replace existing sign. See Curve No. 7 on Sign Installation table for installation details.
8	W1-23	Right Curve Warning	36	36	PSST	0.73	Left	Remove existing sign and support.
	W13-17-35	Advisory Speed 35	24	24	PSST			Remove existing sign.

X:\Projects\2020\Projects\20027-000 (Clackamas County Rural Curve Design)\CAD\C-16.dwg 6/25/2021 4:45 PM Rachel Vogt

Rural Curve Systemic Signing
Rosemont Road

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

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SWM

NO.	DATE	REVISIONS

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:25:13-07'00"
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

Sheet No. C-16-2

DATE: JUNE 2021 PROJECT NO.: #2019-18

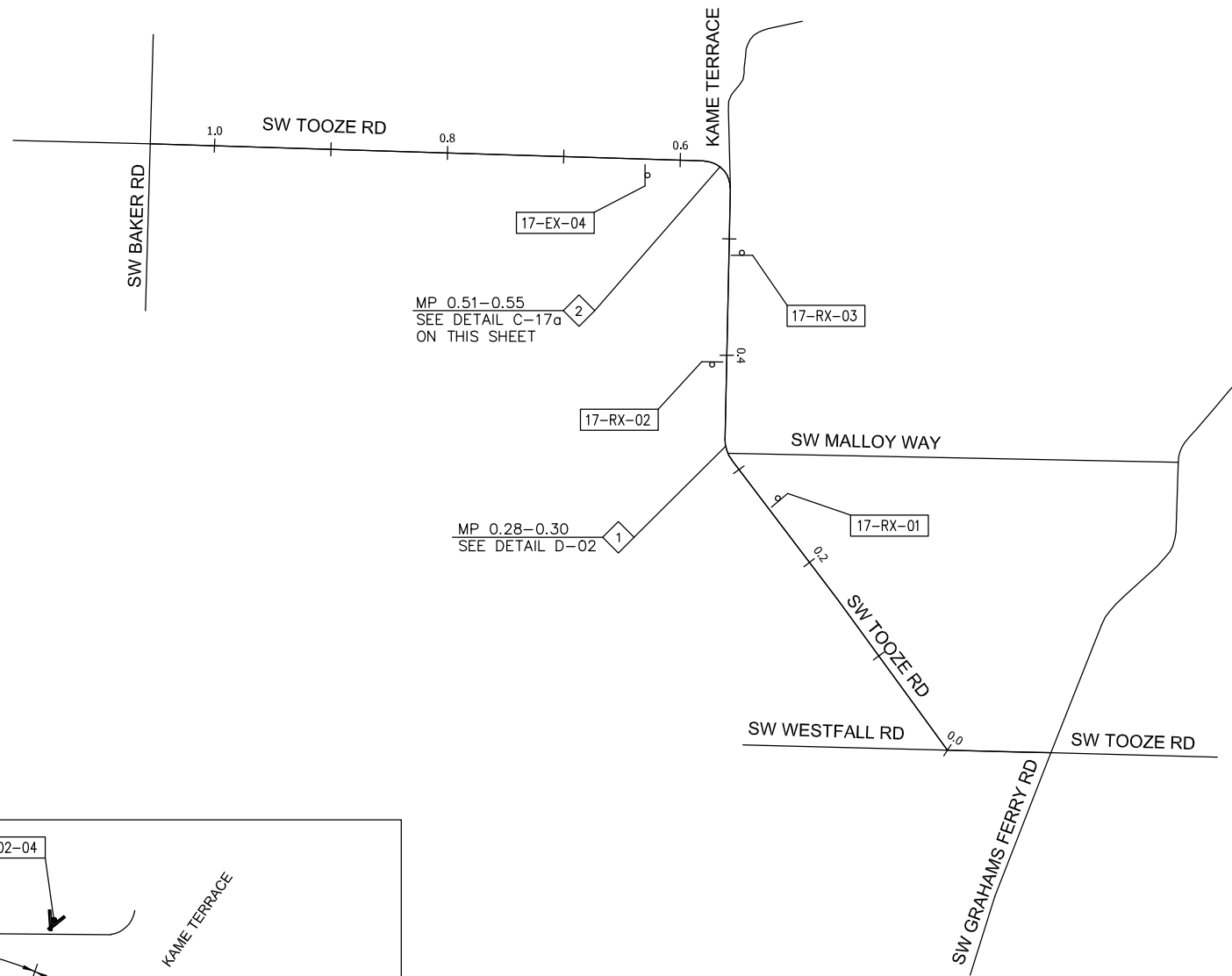
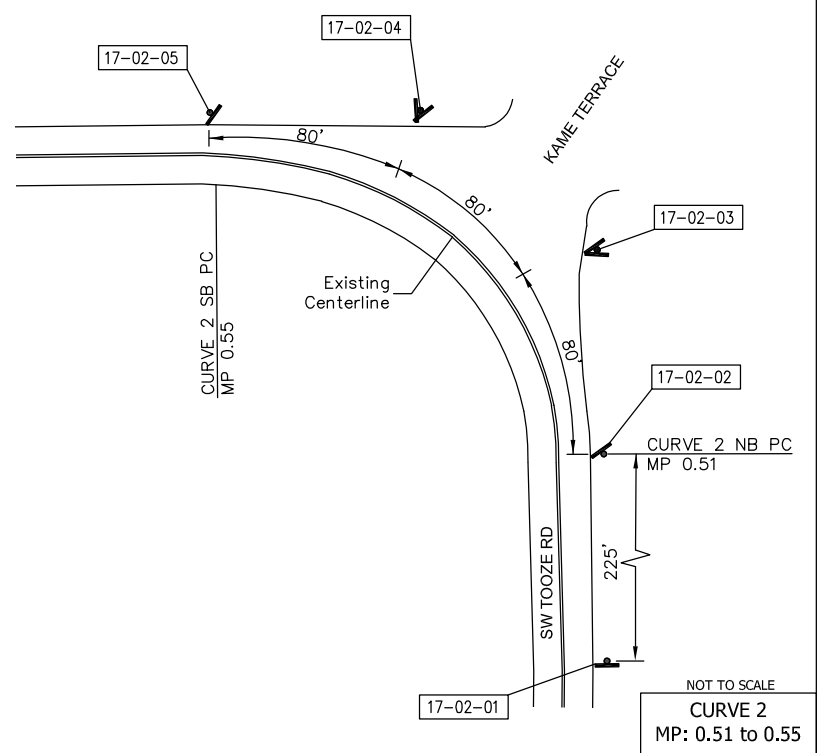
DIRECTOR
DAN JOHNSON

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-17.dwg 6/25/2021 4:45 PM Rachel Vogt

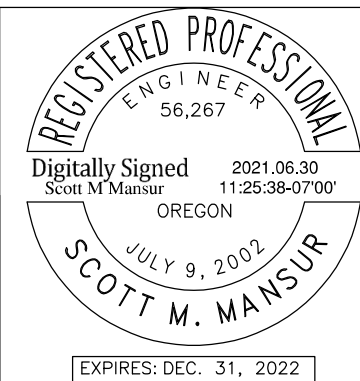
Detail C-17a

NB: INCREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 20 MPH
 ADVANCE DISTANCE: 225'

SB: DECREASING
 POSTED SPEED: 55 MPH
 ADVISORY SPEED: 20 MPH
 ADVANCE DISTANCE: 225'



DKS
 117 Commercial St NE, Suite 310
 Salem, Oregon 97301
 www.dksassociates.com



REVISIONS

NO.	DATE	DESIGNED BY:	REV	DRAFTED BY:	DKS CAD	CHECKED BY:	SMM

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

Rural Curve Systemic Signing
SW Tooze Road

DAN JOHNSON
 DIRECTOR

DATE: JUNE 2021 PROJECT NO.: #2019-18

Sheet No.
C-17-1

EXPIRES: DEC. 31, 2022

Sign Installation Table

Curve No.	Sign Post No.	Sign Location						Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks	
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"					X	Y		
Corridor 17 - Tooze Road															
1	1	Northbound	45.32084 -122.80544	55 mph	25 mph	215 ft	-	South	PSST	2" x 2"	W1-1R W13-1P-25	Right Turn Warning Advisory Speed 25	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2	Southbound	45.32116 -122.80566	55 mph	20 mph	-	80 ft	South	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details
	3					-	80 ft	South	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details
	4					225 ft	-	North	PSST	2" x 2"	W1-1L W13-1P-20	Left Turn Warning Advisory Speed 20	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
2	1	Northbound	45.32419 -122.8056	55 mph	20 mph	225 ft	-	South	PSST	2" x 2"	W1-1L W13-1P-20	Left Turn Warning Advisory Speed 20	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2					-	See Detail C-17a	North	PSST	2" x 2"	W1-8R	Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-17a for placement details.
	3					-	See Detail C-17a	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-17a for placement details.
	4					-	See Detail C-17a	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-17a for placement details.
	5					-	See Detail C-17a	North	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-17a for placement details.
	-	Southbound	-	-	55 mph	20 mph	-	-	-	-	-	-	-	-	-

Existing Sign & Sign Removal

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location		Remarks
			X	Y		Milepost	Placement	
Corridor 17 - SW Tooze Road								
1	W1-1R W13-1P-25	Right Turn Warning Advisory Speed 25	36 24	36 24	PSST	0.08	Right	Remove existing sign and support. Remove existing sign.
1	W1-1L W13-1P-20	Left Turn Warning Advisory Speed 20	36 24	36 24	PSST	0.09	Left	Remove existing sign and support. Remove existing sign.
3	W1-1L W13-1P-20	Left Turn Warning Advisory Speed 20	36 24	36 24	PSST	0.48	Right	Remove existing sign and support. Remove existing sign.
4	W1-1R W13-1P-20	Right Turn Warning Advisory Speed 25	36 24	36 24	PSST	0.67	Right	Maintain and protect existing sign and support. Maintain and protect existing sign.

X:\Projects\2020\Projects\20027-000 (Clackamas County Rural Curve Design)\CAD\C-17.dwg 6/25/2021 4:45 PM Rachel Vogt

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30 11:26:05-07'00"
Scott M Mansur
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SMM

REVISIONS

NO.	DATE	DESCRIPTION

Sheet No. C-17-2

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



DAN JOHNSON
DIRECTOR

Rural Curve Systemic Signing
SW Tooze Road

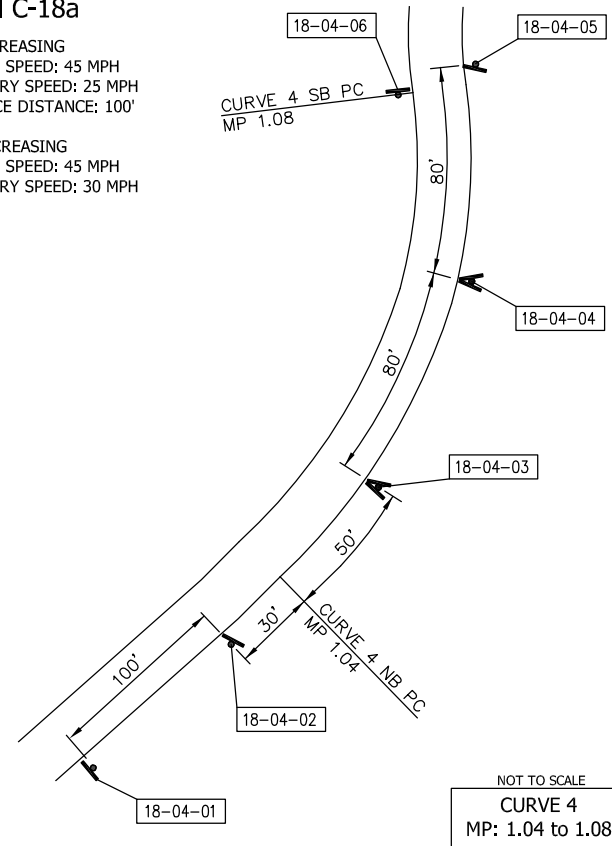
DATE: JUNE 2021

PROJECT NO.: #2019-18

Detail C-18a

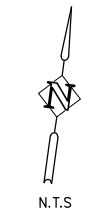
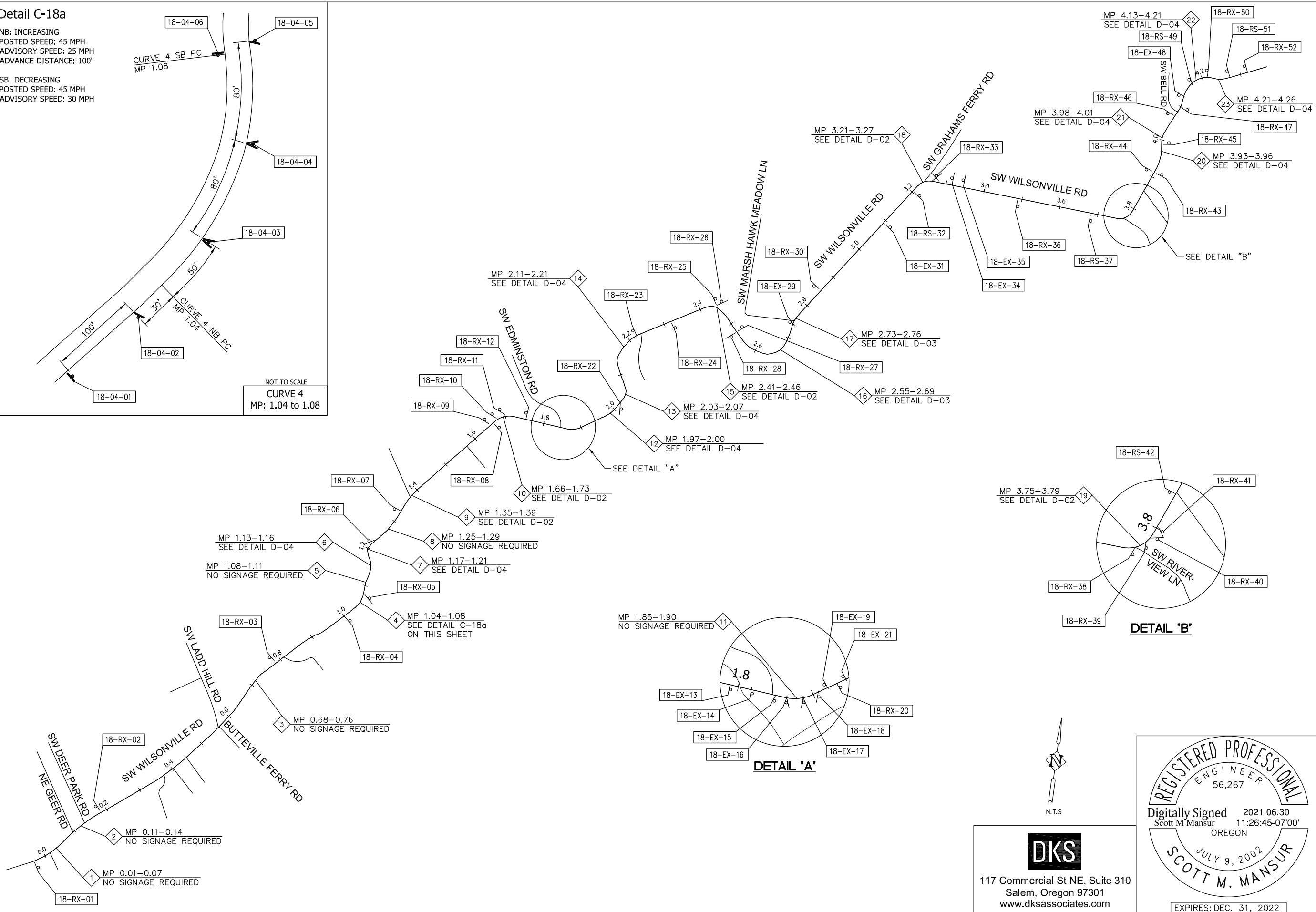
NB: INCREASING
 POSTED SPEED: 45 MPH
 ADVISORY SPEED: 25 MPH
 ADVANCE DISTANCE: 100'

SB: DECREASING
 POSTED SPEED: 45 MPH
 ADVISORY SPEED: 30 MPH



NOT TO SCALE
CURVE 4
 MP: 1.04 to 1.08

X:\Projects\2020\202027-000 (Clackamas County Rural Curve Design)\CAD\C-18.dwg 6/25/2021 4:45 PM Rachel Vogt



DKS
 117 Commercial St NE, Suite 310
 Salem, Oregon 97301
 www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
 56,267
 Digitally Signed 2021.06.30
 Scott M Mansur 11:26:45-07'00'
 OREGON
 JULY 9, 2002
SCOTT M. MANSUR
 EXPIRES: DEC. 31, 2022

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

DESIGNED BY: REV
 DRAFTED BY: DKS CAD
 CHECKED BY: SWM

REVISIONS

NO.	DATE:	DESCRIPTION:

Rural Curve Systemic Signing
SW Wilsonville Road
 DATE: JUNE 2021 PROJECT NO.: #2019-18

DAN JOHNSON
 DIRECTOR

Sheet No.
C-18-1

Sign Installation Table

Curve No.	Sign Post No.	Sign Location						Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks	
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"					X	Y		
Corridor 18 - Wilsonville Road															
1	-	Northbound	-	45 mph	50 mph	No signs required for Curve 1									
	-	Southbound	-	45 mph	55 mph										
2	-	Northbound	-	45 mph	50 mph	No signs required for Curve 2									
	-	Southbound	-	45 mph	45 mph										
3	-	Northbound	-	45 mph	55 mph	No signs required for Curve 3									
	-	Southbound	-	45 mph	50 mph										
4	1	Northbound	45.27064 -122.84265	45 mph	25 mph	100 ft	-	South	PSST	2" x 2"	W1-5L W13-1P-25	Winding Road Left Warning Advisory Speed 25	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2					-	See Detail C-18a	North	PSST	2" x 2"	W1-8R	Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-18a for placement details.
	3					-	See Detail C-18a	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-18a for placement details.
	4					-	See Detail C-18a	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-18a for placement details.
	5					-	See Detail C-18a	North	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See Detail C-18a for placement details.
	6	Southbound	45.37538 -122.72736	45 mph	30 mph	0 ft	-	North	PSST	2" x 2"	W1-1aR-30	Supplemental Right Turn Advisory Speed 30	36	36	Install new sign assembly at field located Point of Curvature.
5	-	Northbound	-	45 mph	40 mph	No signs required for Curve 5									
	-	Southbound	-	45 mph	40 mph										
6	1	Northbound	45.27187 -122.84232	45 mph	30 mph	-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details
	2					-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details
	-	Southbound	-	45 mph	30 mph										
	7	Northbound	45.27251 -122.84254	45 mph	25 mph	0 ft	-	South	PSST	2" x 2"	W1-1aR-25	Supplemental Right Turn Advisory Speed 25	36	36	Install new sign assembly at field located Point of Curvature.
	Southbound	45.27302 -122.84255	45 mph	25 mph	-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details	
	Southbound	45.27302 -122.84255	45 mph	25 mph	-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details	
	Southbound	45.27302 -122.84255	45 mph	25 mph	100 ft	-	North	PSST	2" x 2"	W1-5L W13-1P-25	Winding Road Left Warning Advisory Speed 25	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.	
8	-	Northbound	-	45 mph	40 mph	No signs required for Curve 8									
	-	Southbound	-	45 mph	45 mph										
9	2	Southbound	45.27530 -122.84064	45 mph	40 mph	100 ft	-	South	PSST	2" x 2"	W1-2L W13-1P-40	Left Curve Warning Advisory Speed 40	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
10	1	Northbound	45.27825 -122.83717	45 mph	35 mph	100 ft	-	South	PSST	2" x 2"	W1-2R W13-1P-35	Right Curve Warning Advisory Speed 35	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.
	2	Southbound	45.27860 -122.8359	45 mph	35 mph	-	120 ft	South	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details
	3					-	120 ft	South	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details
	4					-	120 ft	South	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details
	5					-	120 ft	South	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 24	30 30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details
	5					Northbound	45.27825 -122.83717	45 mph	35 mph	100 ft	-	South	PSST	2" x 2"	W1-2L W13-1P-35

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-18.dwg 6/25/2021 4:45 PM Rachel Vogt

Rural Curve Systemic Signing
SW Wilsonville Road

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

DAN JOHNSON
DIRECTOR

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SWM

REVISIONS

NO. DATE: _____
Sheet No. **C-18-2**

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:29:44-07'00'
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

PROJECT NO.: #2019-18
DATE: JUNE 2021

Sign Installation Table

Curve No.	Sign Post No.	Travel Direction	Sign Location				Travel Direction from PC	Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks	
			Point of Curvature	Posted Speed	Advisory Speed	Distance "A"						Distance "B"	X		Y
Corridor 18 - Wilsonville Road															
12	-	Northbound	-	75 mph	75 mph	-	-	-	-	-	-	-	-	No additional curve warnings are required for Curve 12. Existing curve warning signs to remain.	
	-	Southbound	-	75 mph	75 mph	-	-	-	-	-	-	-	-		
13	-	Northbound	4507541 112.8009	45 mph	40 mph	10 ft	South	PSST	4" x 4"	W1-1L W13-1P-15	Warning Road Left Warning Advisory Speed 25	21	36	Install new sign assembly "A" distance from field located 10 ft from curvature.	
	-	Southbound	-	45 mph	40 mph	-	-	-	-	-	-	-	-	-	
10	-	Northbound	1502792 112.8002	45 mph	75 mph	0 ft	South	PSST	2" x 2"	W1-1L-25	No pavement Left Turn Advisory Speed 25	21	36	Install new sign assembly "A" distance from field located Point of Curvature.	
	80 ft					North	PSST	2" x 2"	W1-3L W1-8R	Chevron Alignment Left Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.		
	-					North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.		
	1	Southbound	-	75 mph	30 mph	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.	
11	-	Northbound	-	45 mph	30 mph	-	-	-	-	-	-	-	-	-	
	1	Southbound	4507500 112.84255	75 mph	30 mph	-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.
	2					80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.	
	3					80 ft	North	PSST	2" x 2"	W1-3L W1-8L	Chevron Alignment Left Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.	
	4					80 ft	North	PSST	2" x 2"	W1-3L W1-8R	Chevron Alignment Left Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.	
	5					80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.	
	6					80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.	
	7					80 ft	North	PSST	2" x 2"	W1-3L W1-8R	Chevron Alignment Left Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.	
8	100 ft					South	PSST	4" x 4"	W1-5L W13-1P-30	Warning Road Left Warning Advisory Speed 30	21	36	Install new sign assembly "A" distance from field located 10 ft from curvature.		
15	-	Northbound	1507637 112.82715	75 mph	75 mph	100 ft	North	PSST	4" x 4"	W1-1R W13-1P-25	Right Turn Warning Advisory Speed 25	21	36	Install new sign assembly "A" distance from field located 10 ft from curvature.	
	1	Southbound	4508046 112.83817	75 mph	30 mph	-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.
	1					80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.	
	1					80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details.	
5	10 ft	South	PSST	4" x 4"	W1-1L W13-1P-30	Left Turn Warning Advisory Speed 30	21	36	Install new sign assembly "A" distance from field located 10 ft from curvature.						

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-18.dwg 6/25/2021 4:46 PM Rachel Vogt

Rural Curve Systemic Signing
SW Wilsonville Road

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



DIRECTOR

DAN JOHNSON

PROJECT NO.: #2019-18

DATE: JUNE 2021

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SWM

REVISIONS

NO. DATE:

Sheet No.

C-18-3

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com



Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks	
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Travel Direction from PC					X	Y		
Corridor 18 - Wilsonville Road																
16	1	Northbound	45.28263 -122.82468	45 mph	30 mph	100 ft	-	South	PSST	2" x 2"	W1-3L W13-1P-30	Left Reverse Turn Warning Advisory Speed 30	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.	
	2					-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 30	30 24		Install new sign assembly "B" distance from next chevron assembly. See D-03 for placement details
	3					-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 30	30 24		
	4					-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 30	30 24		Install new sign assembly "B" distance from next chevron assembly. See D-03 for placement details
	5					-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 30	30 24		
	6					-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 30	30 24		Install new sign assembly "B" distance from next chevron assembly. See D-03 for placement details
	7					-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 30	30 24		
	8					-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 30	30 24		Install new sign assembly "B" distance from next chevron assembly. See D-03 for placement details
	9					-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 30	30 24		
	10					-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 30	30 24		Install new sign assembly "B" distance from next chevron assembly. See D-03 for placement details
-	Southbound	-	45 mph	30 mph	-	-	-	-	-	-	-	-	-	-		
17	-	Northbound	-	45 mph	40 mph	-	-	-	-	-	-	-	-	-	-	
	1	Southbound	45.28416 -122.82219	45 mph	40 mph	100 ft	-	North	PSST	2" x 2"	W1-3R W13-1P-30	Right Reverse Turn Warning Advisory Speed 30	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.	
18	1	Northbound	45.28943 -122.81714	45 mph	35 mph	100 ft	-	South	EX	EX	Right Curve Warning Advisory Speed 35	36 24	36 24	Reinstall existing sign assembly and support "A" distance from field located Point of Curvature. See Existing Sign 32 for details.		
	2	Southbound	45.28985 -122.81583	45 mph	35 mph	-	120 ft	South	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 30	30 24	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details	
	3					-	120 ft	South	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 30	30 24		
	4					-	120 ft	South	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 30	30 24	Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details	
-	-					-	-	-	-	-	-	-	-	-		-
19	1	Northbound	45.28954 -122.80627	45 mph	25 mph	100 ft	-	South	PSST	2" x 2"	W1-1L W13-1P-25	Left Turn Warning Advisory Speed 25	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.	
	2					-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 30	30 24		Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details
	3					-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 30	30 24		
	4					-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 30	30 24		Install new sign assembly "B" distance from next chevron assembly. See D-02 for placement details
	5					-	80 ft	North	PSST	2" x 2"	W1-8L W1-8R	Chevron Alignment Left Chevron Alignment Right	24 30	30 24		
	6	Southbound	45.28999 -122.80561	45 mph	25 mph	0ft	-	North	PSST	2" x 2"	EX	Deer Crossing Warning	30	30	Reinstall existing sign assembly on new support at field located Point of Curvature. See Existing Sign 48 for details.	
	7					100 ft	-	North	PSST	2" x 2"	W1-1R W13-1P-25	Right Turn Warning Advisory Speed 25	36 24	36 24	Install new sign assembly "A" distance from field located Point of Curvature.	

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-18.dwg 6/25/2021 4:46 PM Rachel Vogt

Rural Curve Systemic Signing
SW Wilsonville Road

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



DAN JOHNSON
DIRECTOR

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SWM

REVISIONS

NO. DATE:

Sheet No. C-18-4

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:35:19-07'00'
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

PROJECT NO.: #2019-18
DATE: JUNE 2021

Sign Installation Table

Curve No.	Sign Post No.	Sign Location							Post Type	Post Size	Sign Code	Sign Description	Sign Size (in)		Remarks				
		Travel Direction	Point of Curvature	Posted Speed	Advisory Speed	Distance "A"	Distance "B"	Travel Direction from PC					X	Y					
Corridor 18 - Wilsonville Road																			
20	1	Northbound	45.29175 -122.80468	45 mph	35 mph	100 ft	-	South	PSST	2" x 2"	W1-5L	Winding Road Left Warning	36	36	Install new sign assembly "A" distance from field located Point of Curvature.				
													W13-1P-30	Advisory Speed 30		24	24		
	2					-	120 ft	North	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details				
	3					-	120 ft	North	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details				
		Southbound	-	45 mph	40 mph														
		Northbound	-	45 mph	30 mph														
21	1	Southbound	45.29303 -122.80461	45 mph	35 mph	-	120 ft	South	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details				
													W1-8R	Chevron Alignment Right		24	30		
	2									-	120 ft	South	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details
	3									0 ft	-	North	PSST	2" x 2"	W1-2aL-35	Supplemental Left Curve Advisory Speed 35	36	36	Install new sign assembly at field located Point of Curvature.
4					505 ft	-	South	PSST	2" x 2"	EX	Right Side Road Warning	36	36	Reinstall existing signs on new support "A" distance from field located Point of Curvature. See Existing Sign 49 for details.					
							EX			Advance Street Name Sign (Bell Rd)	30	12							
22	1	Northbound	45.29481 -122.80373	45 mph	30 mph	540 ft	-	South	PSST	2" x 2"	EX	Left Side Road Warning	36	36	Reinstall existing signs on new support "A" distance from field located Point of Curvature. See Existing Sign 45 for details.				
													EX	Advance Street Name Sign (Bell Rd)		30	12		
	2					0 ft	-	South	PSST	2" x 2"	W1-1aL-30	Supplemental Right Turn Advisory Speed 30	36	36	Install new sign assembly at field located Point of Curvature.				
	3	Southbound	45.29539 -122.80268	45 mph	30 mph	-	80 ft	South	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details				
													W1-8R	Chevron Alignment Right		24	30		
	4									-	80 ft	South	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details
5									-	80 ft	South	PSST	2" x 2"	W1-8R	Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details	
6					-	80 ft	South	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details					
					-	80 ft	South	PSST	2" x 2"	W1-8R	Chevron Alignment Right	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details					
23	1	Northbound	45.29534 -122.80252	45 mph	35 mph	-	120 ft	North	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details				
													W1-8R	Chevron Alignment Right		24	30		
	2					-	120 ft	North	PSST	2" x 2"	W1-8L	Chevron Alignment Left	24	30	Install new sign assembly "B" distance from next chevron assembly. See D-04 for placement details				
3	Southbound	45.27302 -122.84255	45 mph	35 mph	100 ft	-	North	PSST	2" x 2"	W1-5R	Winding Road Right Warning	36	36	Install new sign assembly "A" distance from field located Point of Curvature.					
												W13-1P-30	Advisory Speed 30		24	24			
4					200 ft	-	North	EX	EX	EX	School Bus Stop Ahead	30	30	Reinstall existing sign assembly and support at field located Point of Curvature. See Existing Sign 51 for details.					

X:\Projects\2020\20027-000 (Clackamas County Rural Curve Design)\CAD\C-18.dwg 6/25/2021 4:46 PM Rachel Vogt

Rural Curve Systemic Signing
SW Wilsonville Road

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



DAN JOHNSON
DIRECTOR

DESIGNED BY: _____
REV: _____
DRAFTED BY: _____
DKS CAD: _____
CHECKED BY: _____
SMM: _____

NO.	DATE	REVISIONS

Sheet No. **C-18-5**

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER
56,267
Digitally Signed 2021.06.30
Scott M Mansur 11:36:07-07'00'
OREGON
JULY 9, 2002
SCOTT M. MANSUR
EXPIRES: DEC. 31, 2022

PROJECT NO.: #2019-18
DATE: JUNE 2021

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location		Remarks
			X	Y		Milepost	Placement	
Corridor 18 - Wilsonville Road								
2	W1-4L	Reverse Curve Left Warning	36	24	FSS1	-	Right	Remove existing sign and support.
	W23-17-10	Advisory Speed 30	24	24				Remove existing sign.
	W1-4L	Reverse Curve Left Warning	36	36	FSS1	0.1	Left	Remove existing sign and support.
	W23-17-10	Advisory Speed 30	24	24				Remove existing sign.
3	W1-4L	Reverse Curve Left Warning	36	36	FSS1	0.54	Left	Remove existing sign and support.
	W23-17-10	Advisory Speed 30	24	24				Remove existing sign.
4	W1-5L	Warning Road Left Warning	36	36	FSS1	0.03	Right	Remove existing sign and support.
	W23-17-25	Advisory Speed 25	24	24				Remove existing sign.
5	W1-6L	One Direction Large Arrow Left	48	24	FSS1	0.09	Right	Remove existing sign and support.
6	W1-6R	One Direction Large Arrow Right	48	24	FSS1	0.10	Left	Remove existing sign and support.
7	W1-4L	Warning Road Left Warning	36	36	FSS1	0.11	Left	Remove existing sign and support.
	W23-17-25	Advisory Speed 25	24	24				Remove existing sign.
8	W1-7L	Right Curve Warning	36	36	FSS1	0.17	Right	Remove existing sign and support.
	W23-17-25	Advisory Speed 25	24	24				Remove existing sign.
9	W1-8L	Chevron Alignment Right	18	24	FSS1	0.60	Right	Remove existing sign and support.
10	W1-8R	Chevron Alignment Left	18	24	FSS1	0.60	Left	Remove existing sign and support.
11	W1-8R	Chevron Alignment Right	18	24	FSS1	0.71	Right	Remove existing sign and support.
12	W1-8L	Chevron Alignment Left	18	24	FSS1	0.70	Left	Remove existing sign and support.
	W1-10L	Left Curve Warning with Side Street	36	36	FSS1	1.62	Right	Maintain and protect existing sign and support.
	W23-17-30	Advisory Speed 30	24	24				Maintain and protect existing sign.
14	W1-10L	Left Curve Warning with Side Street	36	36	FSS1	1.80	Right	Maintain and protect existing sign and support.
	Custom	Left Speed Exceed Sign	24	30				Maintain and protect existing sign.
15	W1-8L	Chevron Alignment Left	18	24	FSS1	1.88	Right	Maintain and protect existing sign and support.
16	W1-8L	Chevron Alignment Left	18	24	FSS1	1.89	Right	Maintain and protect existing sign.
17	W1-8L	Chevron Alignment Right	18	24	FSS1	1.90	Right	Maintain and protect existing sign and support.
	W1-8L	Chevron Alignment Left	18	24	FSS1			Maintain and protect existing sign.
18	W1-8L	Chevron Alignment Right	18	24	FSS1	1.91	Right	Maintain and protect existing sign and support.
19	W1-10R	Right Curve Warning with Side Street	36	36	FSS1	1.94	Right	Maintain and protect existing sign and support.
	Custom	Left Speed Exceed Sign	24	30				Maintain and protect existing sign.
20	W1-8L	Reverse Turn Left Warning	36	36	FSS1	1.97	Right	Remove existing sign and support.
	W23-17-25	Advisory Speed 25	24	24				Remove existing sign.
21	W1-10R	Right Curve Warning with Side Street	36	36	FSS1	2.00	Right	Maintain and protect existing sign and support.
	W23-17-30	Advisory Speed 30	24	24				Maintain and protect existing sign.
22	W1-6L	One Direction Large Arrow Left	48	24	FSS1	2.09	Right	Remove existing sign and support.
23	W1-7L	Reverse Turn Left Warning	36	36	FSS1	2.52	Left	Remove existing sign and support.
	W23-17-25	Advisory Speed 25	24	24				Remove existing sign.
24	W1-7L	Right Curve Warning	36	36	FSS1	2.71	Right	Remove existing sign and support.
	W23-17-25	Advisory Speed 25	24	24				Remove existing sign.
25	W1-6R	One Direction Large Arrow Right	48	24	FSS1	2.77	Left	Remove existing sign and support.
26	W1-6L	One Direction Large Arrow Left	48	24	FSS1	2.78	Left	Remove existing sign and support.

X:\Projects\2020\Projects\20027-000 (Clackamas County Rural Curve Design)\CAD\C-18.dwg 6/25/2021 4:46 PM Rachel Vogt

Rural Curve Systemic Signing
SW Wilsonville Road

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

DIRECTOR
DAN JOHNSON

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SWM

REVISIONS

NO. DATE:

Sheet No. C-18-6

DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

REGISTERED PROFESSIONAL ENGINEER 56,267
Digitally Signed 2021.06.30 11:36:40-07'00'
SCOTT M. MANSUR
JULY 9, 2002
OREGON
EXPIRES: DEC. 31, 2022

PROJECT NO.: #2019-18
DATE: JUNE 2021

Existing Sign & Sign Removal Table

Sign Post No.	Sign Code	Sign Description	Sign Size (in)		Post Material	Sign Location		Remarks
			X	Y		Milepost	Placement	
Corridor 18 - Wilsonville Road								
27	W1-11	Left Turn Warning	56	36	PSST	2.94	left	Remove existing sign and support.
	W13-IP-30	Advisory Speed 30	27	27				Remove existing sign.
28	W1-31	Reverse Turn Left Warning	36	36	Wood	2.94	right	Remove existing sign and support.
	W13-IP-30	Advisory Speed 30	18	18				Remove existing sign.
29	W1-31	One-Direction Large Arrow Left	18	27	PSST	2.99	left	Maintain and protect existing sign and support.
30	W1-31	Reverse Turn Left Warning	36	36	PSST	2.83	left	Remove existing sign and support.
	W13-IP-30	Advisory Speed 30	27	27				Remove existing sign.
31	W1-10R	Front Curve Warning with Side Road	36	36	PSST	3.10	Right	Maintain and protect existing sign and support.
	W1-15	Advance Street Name Sign (Cushman Terry Rd)	56	17				Maintain and protect existing sign.
32	W1-2R	Left Curve Warning	36	36	PSST	3.18	right	Remove and reinstall existing sign and support. See Curve No. 13 on Sign Installation table for relocation details.
	W13-IP-35	Advisory Speed 35	24	24				Remove and reinstall existing sign. See Curve No. 13 on Sign Installation table for installation details.
33	W1-6R	One-Direction Large Arrow Right	18	27	PSST	3.29	Left	Remove existing sign and support.
	W1-9L	One-Direction Large Arrow Left	18	27				Remove existing sign and support.
34	W1-2L	Left Curve Warning	36	36	PSST	3.15	Left	Maintain and protect existing sign and support.
	W13-IP-35	Advisory Speed 35	24	24				Maintain and protect existing sign.
35	W1-10L	Left Curve Warning with Side Road	36	36	Wood	3.15	left	Maintain and protect existing sign and support.
	W1-15	Advance Street Name Sign (Cushman Terry Rd)	24	12				Maintain and protect existing sign.
36	SW15-1	SLOW Warning	36	36	PSST	3.08	Right	Remove existing sign and support.
37	W1-11	Left Turn Warning	56	36	PSST	3.27	right	Remove existing sign and support.
	W13-IP-25	Advisory Speed 25	18	18				Remove existing sign.
38	W1-5L	Convex Alignment Left	24	36	PSST	3.80	right	Remove existing sign and support.
39	W1-9L	Convex Alignment Left	27	36	PSST	3.81	Right	Remove existing sign and support.
40	W1-6R	One-Direction Large Arrow Right	18	27	PSST	3.82	Right	Remove existing sign and support.
41	W1-9L	Convex Alignment Left	27	36	PSST	3.83	Right	Remove existing sign and support.
42	W11-3	Deer Crossing Warning	36	36	PSST	3.86	left	Remove and reins all existing sign and support. See Curve No. 13 on Sign Installation table for relocation details.
	W1-31	Reverse Turn Left Warning	36	36	PSST	3.80	Right	Remove existing sign and support.
43	W13-IP-30	Advisory Speed 30	27	27				Remove existing sign.
	W1-1R	Right Turn Warning	24	36	PSST	3.85	left	Remove existing sign and support.
44	W13-IP-25	Advisory speed 25	18	18				Remove existing sign.
	W13-IP-25	Advisory speed 25	18	18				Remove existing sign.
13	W1-2L	Left Side Road Warning	56	36	Wood	3.93	right	Remove and save existing sign and remove existing support. See Curve No. 22 on Sign Installation table for relocation details.
	W1-15	Advance Street Name Sign (Deer Rd)	36	17				Remove and save existing sign. See Curve No. 21 on Sign Installation table for relocation details.
16	W1-31	Reverse Turn Left Warning	36	36	PSST	4.12	Left	Remove existing sign and support.
	W13-IP-30	Advisory Speed 30	18	18				Remove existing sign.
17	W1-3R	Reverse Turn Right Warning	36	36	PSST	4.15	Right	Remove existing sign and support.
	W13-IP-30	Advisory speed 30	18	18				Remove existing sign.
18	W11-3	Deer Crossing Warning	36	36	PSST	4.17	left	Maintain and protect existing sign and support.
49	W1-2R	Right Side Road Warning	36	36	PSST	4.26	right	Remove and save existing sign and support. See Curve No. 21 on Sign Installation table for relocation details.
	W1-15	Advance Street Name Sign (Deer Rd)	36	17				Remove and save existing sign. See Curve No. 21 on Sign Installation table for relocation details.
50	W1-6L	One-Direction Large Arrow Left	18	27	PSST	4.24	Left	Remove existing sign and support.
51	S1-3	School Bus Stop Ahead	50	30	PSST	4.20	Left	Remove and reins all existing sign and support. See Curve No. 23 on Sign Installation table for relocation details.
32	W1-3R	Reverse Turn Right Warning	36	36	PSST	4.33	left	Remove existing sign and support.
	W13-IP-25	Advisory speed 25	18	18				Remove existing sign.

Rural Curve Systemic Signing
SW Wilsonville Road

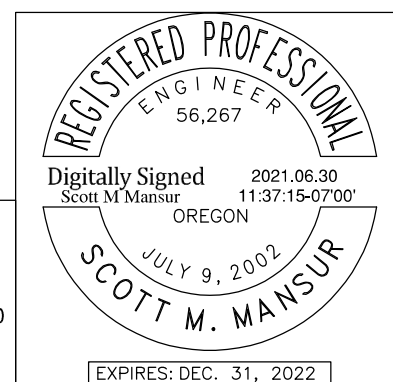
CLACKAMAS COUNTY
DEPT. OF TRANSPORTATION AND DEVELOPMENT
150 BEAVERCREEK ROAD
OREGON CITY, OR 97045

DAN JOHNSON
DIRECTOR

DESIGNED BY: REV
DRAFTED BY: DKS CAD
CHECKED BY: SWM

NO.	DATE	REVISIONS

Sheet No. C-18-7



DKS
117 Commercial St NE, Suite 310
Salem, Oregon 97301
www.dksassociates.com

EXPIRES: DEC. 31, 2022

X:\Projects\2020\Projects\20027-000 (Clackamas County Rural Curve Design)\CAD\C-18.dwg 6/25/2021 4:46 PM Rachel Vogt

PROJECT NO.: #2019-18
DATE: JUNE 2021