PUBLIC MEETING: Port Commission Business Meeting

DATE: Tuesday **February 6, 2024, 6 PM**

LOCATION: Cascade Locks City Hall 140 Wa Na Pa St, Cascade Locks, OR 97014

https://us02web.zoom.us/j/85806615790

AGENDA

1) Commission meeting called to order
   - **a.** Pledge of Allegiance
   - **b.** Roll Call
   - **c.** Modifications, Additions and Changes to the Agenda

2) Special Presentation and Reports by outside resources, staff, and Government Officials
   - **a.** Thunder Island Pedestrian Bridge Update – David McCurry; Page 2
   - **b.** Legislative Update – Dan Mahr; Page 4

3) Discussions
   - **a.** Railroad Quiet Zone Improvement Project Discussion; Page 6

4) Executive Director Report

5) Commission Comments

6) Executive Session under ORS 192.660 (2)(h) Legal Counsel regarding Litigation or likely Litigation to be Filed

7) Adjournment

IMPORTANT DATES

February 8–11, 2024
Special Districts of Oregon Annual (SDAO) Conference
February 19, 2024
Port Office closed in observation of Presidents' Day
February 20, 2024
Port of Cascade Locks Commission Meeting

TECHNICAL MEMORANDUM

To:	Jeremiah Blue, Executive Director Port of Cascade Locks	**Date:**	February 2, 2024
From:	David McCurry, PE, Bridge Engineer Parsons Transportation Group	**Phone:**	(503) 314-0039
Subject:	Technical Memorandum - Thunder Island Pedestrian Bridge Damage Assessment and Repair Update	**Revision:**	1.0

Summary

This technical memo provides a brief overview of the damage assessment and repair options for the Thunder Island Pedestrian Bridge (bridge). The bridge recently experienced structural damage on January 13, 2024, during a storm in which the sternwheeler (vessel) came loose in high winds and impacted the bridge. The direct impact from the vessel and interaction between bridge and vessel during the storm resulted in damage to the concrete structure and caused the bridge to move off the bearings on the southeast side. Port staff eyewitness accounts describe the interaction between the bridge and vessel, which occurred for less than 1 hour.

The overall assessment at the time of this memo is that the bridge can be repaired and does not need to be replaced. The bridge should be repaired before allowing any public access or any vehicles on the bridge because of the recent storm-induced structural and railing damage. An action plan is in place to restore the bridge to its original condition prior to the incident. The plan is intended get the bridge fully reopen by April 15, 2024 –recognizing the important uses of Thunder Island that typically ramp up in May. The Port staff and anyone allowed access to the bridge should follow appropriate safety measures to avoid any safety issues when accessing the bridge on foot. Barriers should be in place to prevent public access.

Bridge Background

Built circa 1970, the bridge is 54 years old and was generally in good structural condition prior to the incident. The original engineering drawings for the bridge were found and are being relied upon for the assessment of the condition, structural integrity, and necessary remediation of the bridge. Pre-incident inspection reports are not available, but review of photos of the bridge prior to the incident did not appear to have any structural issues or damage prior to the incident. The bridge can be described as a single precast concrete girder bridge, with only the concrete curb on both sides and steel railing installed after the bridge was place in location. The structure is a precast prestressed concrete double-tee section with standard detailing, standard materials for the time it was built, and fabricated by a now closed Portland business called Empire Prestress, Inc. the bridge is reported to be designed for 100 pounds per square foot of pedestrian load and a 5-ton vehicle. Parsons is performing engineering calculations to review the structural integrity.

Damage Assessment & Repair

Based on all available evidence, the bridge is reparable, but has exhibited enough damage to require engineering and careful repair procedures. The current plan is to repair, considering safety, cost, and the schedule as key evaluation

criteria. It is recommended that the Port keep the bridge closed to the public until the bridge is reset into position and the damage to the pedestrian handrailing and deck is completed.

The recently acquired available plans were reviewed, the bridge was inspected on site on January 15, still during the storm. A more in-depth observations and detailed measurements were taken on January 30. The available photos and drone video were reviewed and proved to be useful in determining the extent of damage and as a communication tool for discussing with specialty contractors to repair the bridge. Specialty contractors were contacted and consulted to determine the timing and cost of various repairs, including moving the bridge back into the original position.

The repair plan includes:

- Lifting, moving, and resetting the bridge onto new replacement bearings on the south side,
- Patching the missing and damaged concrete and steel reinforcing on the beam and deck,
- Restoring utilities supported by the bridge,
- Replacing the damaged pedestrian railing “in-kind”, and
- Strengthening the bridge (if needed) to make up for any loss of strength due to the vessel collision damage.

The evaluation of the repair also included consideration of replacement. Replacement in kind would cost double the cost of repair and take much longer to construct—impacting the scheduled events in May 2024. An entirely new bridge, different than the existing, would trigger new code compliances, external agency consultation, further project scope increases, and close the bridge for longer than desired at this time.

Cost & Timing of Repair

The cost is estimated to be up to $175,000. The Port and Parsons are working to obtain detailed quotes and estimates for all the work required to restore the bridge. Currently, the estimate covers all the work to restore the bridge with some contingency and engineering. As additional information is obtained, costs may change and will be monitored and managed closely. The intent of the repair process is to reset the bridge into position by end of February and reopen for business by April 15. The timing will be contingent on subcontractor availability.

Dan Mahr
Mahr Strategies
541-978-9000

Government Affairs Report
January, 2024

This month's priority was POCL's bridge funding asks and aligning strategy ahead of the short legislative sessions in Oregon and Washington. A number of other state and federal efforts were addressed as well.

On the Oregon side, outreach to legislators, agencies, and other relevant stakeholders was aimed at refreshing folks' memories on our ask from the 2023 session and sharing updated strategy and the new bridge 1-pager. Individual meetings/conversations were held with local legislators Rep Helfrich and Sen Bonham, leadership and staff from the Joint Transportation Committee (JTC) and Ways and Means, ODOT, the Oregon Building Trades union, the City of Cascade Locks, Hood River County, Governor Kotek's Mid-Columbia staff. I also assisted in writing a press release laying out POCL's legislative strategy and appeared on local radio to talk about the bridge project in late January.

A meeting of the Joint Transportation Committee scheduled for January 12th was moved online due to weather, and I virtually attended that hearing where our bill number was assigned a number: HB 4110. A number of meetings/conversation requests are yet outstanding and remain priorities for February including: ODOT Region 1 leadership, ODOT state affairs, Oregon Trucking Association, Governor Kotek's transportation advisor.

Overall, our ask to the Oregon Legislature feels well situated heading into the Oregon short session and will require monitoring and active lobbying once session begins. I plan to attend the first JTC meeting in Salem on Tuesday, February 6th and others as needed. JTC meetings are scheduled for each Tuesday/Thursday of session from 5pm – 6:30pm. With the exception of the meeting on Tuesday, Feb 13th I'm currently available to attend them all.

At some point, given a normal process, POCL will be invited to testify to the JTC. Ideally this would include David McCurry and me, with options for POCL Commission representation. Final decisions will be made once we have a sense of timing. We would link up that testimony with a round of office visits. Mark Larabee from PCTA is available to testify virtually if available and has been actively reaching out to offices expressing support.

On the Washington side, POCL decided to not pursue funding from the Washington Legislature in this short session. In consult with Rep Kevin Waters, the decision was made to table the ask for the year and spend the months after legislative session building up to an ask in the 2025 long session. A number of meetings/conversations happened during the buildup to that decision including with Rep Waters and his team, staff in Transportation Committee Chair Jake Fey's office, lobbyists representing Skamania County, & the SW Washington RTC.

The decision to not pursue Washington State funding allows POCL to wait out the headwinds facing new transportation funding in the state, and gives the port time to consider a structure for local input on the bridge and hammer out an agreement for how the Washington money would flow. Additionally, any studies completed or underway by the 2025 session can give a better picture of what projects a Washington investment would fund.

Other time in January was spent on engagement with state agencies to help land an Oregon Parks LGGP award to fund the restroom/shower facility at the new PCT trailhead parking lot. This included consultation with Oregon Department of State Lands, Oregon Department of Fish & Wildlife, Oregon Department of Environmental Quality, and Oregon State Parks. Once agency reviews were finished this was handed off to Genevieve.

Other efforts included attending EcoTrust meeting to discuss viability of a local shad industry & scheduling a meeting with WA Congressional staff.

February priorities will center on legislative session in Oregon. Also plan to outreach to a number of federal partners in Oregon and Washington and schedule staff visits to POCL to discuss priorities and federal opportunities. A round of agency outreach would include USDA Rural Development, EPA, EDA, and other agencies that may offer funding for elements of POCL's business plan.

PORT COMMISSION REPORT

TO: PORT COMMISSION

FROM: GENEVIEVE SCHOLL, DEPUTY EXECUTIVE DIRECTOR

SUBJECT: **RAILROAD QUIET ZONE IMPROVEMENT PROJECT DISCUSSION**

DATE: FEBRUARY 6, 2024

Introduction:

During the January 27 Commission work session, the Commission requested a discussion of a Railroad Quiet Zone application/implementation be added to the agenda for tonight's meeting. Staff has collected the attached materials for your reference for the discussion. Included are two sets of engineering drawings completed in 2019 by Tennison Engineering for the City of Cascade Locks that appear to address required improvements at two at-grade crossings within the City limits.

Staff hasn't yet had a chance to understand fully the progress that has already been made toward Federal Railroad Administration (FRA) approval of a quiet zone in Cascade Locks but would like to have preliminary discussion with the Commission on the Port's role in such a project.

FRA's general information brochure on the quiet zone establishment process is attached, along with a citizen letter received in support of the effort.

Recommendation:

Commission direction is sought on the prioritization of this project in the next year and the overall role of the Port in the effort to establish a railroad quiet zone within the Cascade Locks city limits.

GUIDE TO THE QUIET ZONE ESTABLISHMENT PROCESS

An Information Guide

Federal Railroad Administration
1200 New Jersey Avenue S.E.
Washington, DC 20590
Telephone: 202-493-6299
www.fra.dot.gov

Federal Railroad Administration

Highway-Rail Crossing and Trespasser Programs Division

Follow FRA on Facebook and Twitter

Purpose of the Guide

This brochure was developed to serve as a guide for local decision makers seeking a greater understanding of train horn sounding requirements and how to establish quiet zones. Its purpose is to provide a general overview and thus does not contain every detail about the quiet zone establishment process. For more detailed and authoritative information, the reader is encouraged to review the official regulations governing the use of locomotive horns at public highway-rail grade crossings and the establishment of quiet zones that are contained in 49 CFR Part 222. A copy of the rule can be downloaded or printed at http://www.fra.dot.gov/eLib/Details/L02809.

About Quiet Zones

FRA is committed to reducing the number of collisions at highway-rail grade crossings, while establishing a consistent standard for communities who opt to preserve or enhance quality of life for their residents by establishing quiet zones within which routine use of train horns at crossings is prohibited.

Federal regulation requires that locomotive horns begin sounding 15–20 seconds before entering public highway-rail grade crossings, no more than one-quarter mile in advance. Only a public authority, the governmental entity responsible for traffic control or law enforcement at the crossings, is permitted to create quiet zones.

A quiet zone is a section of a rail line at least one-half mile in length that contains one or more consecutive public highway-rail grade crossings at which locomotive horns are not routinely sounded when trains are approaching the crossings. The prohibited use of train horns at quiet zones only applies to trains when approaching and entering crossings and does not include train horn use within passenger stations or rail yards. Train horns may be sounded in emergency situations or to comply with other railroad or FRA rules even within a quiet zone. Quiet zone regulations also do not eliminate the use of locomotive bells at crossings. Therefore, a more appropriate description of a designated quiet zone would be a “reduced train horn area.”

Communities wishing to establish quiet zones must work through the appropriate public authority that is responsible for traffic control or law enforcement at the crossings.

Historical Context

Historically, railroads have sounded locomotive horns or whistles in advance of grade crossings and under other circumstances as a universal safety precaution. Some States allowed local communities to create whistle bans where the train horn was not routinely sounded. In other States, communities created whistle bans through informal agreements with railroads.

In the late 1980's, FRA observed a significant increase in nighttime train-vehicle collisions at certain gated highway-rail grade crossings on the Florida East Coast Railway (FEC) at which nighttime whistle bans had been established in accordance with State statute In 1991, FRA issued Emergency Order #15 requiring trains on the FEC to sound their horns again. The number and rate of collisions at affected crossings returned to pre-whistle ban levels.

In 1994, Congress enacted a law that required FRA to issue a Federal regulation requiring the sounding of locomotive horns at public highway-rail grade crossings. It also gave FRA the ability to provide for exceptions to that requirement by allowing communities under some circumstances to establish "quiet zones."

The Train Horn Rule became effective on June 24, 2005. The rule set nationwide standards for the sounding of train horns at public highway-rail grade crossings. This rule changed the criteria for sounding the horn from distance-based to time-based. It also set limits on the volume of a train horn. The rule also established a process for communities to obtain relief from the routine sounding of train horns by providing criteria for the establishment of quiet zones. Locomotive horns may still be used in the case of an emergency and to comply with Federal regulations or certain railroad rules.

Public Safety Considerations

Because the absence of routine horn sounding increases the risk of a crossing collision, a public authority that desires to establish a quiet zone usually will be required to mitigate this additional risk. At a minimum, each public highway–rail crossing within a quiet zone must be equipped with active warning devices: flashing lights, gates, constant warning time devices (except in rare circumstances) and power out indicators.

In order to create a quiet zone, one of the following conditions must be met

1. ***The Quiet Zone Risk Index (QZRI)*** **is less than or equal to the** ***Nationwide Significant Risk Threshold (NSRT)*** with or without additional safety measures such as Supplementary Safety Measures (SSMs) or Alternative Safety Measures (ASMs) described below. The QZRI is the average risk for all public highway-rail crossings in the quiet zone, including the additional risk for absence of train horns and any reduction in risk due to the risk mitigation measures. The NSRT is the level of risk calculated annually by averaging the risk at all of the Nation's public highway-rail grade crossings equipped with flashing lights and gates where train horns are routinely sounded.
2. ***The Quiet Zone Risk Index (QZRI) is less than or equal to the Risk Index With Horns (RIWH)*** with additional safety measures such as SSMs or ASMs. The RIWH is the average risk for all public highway-rail crossings in the proposed quiet zone when locomotive horns are routinely sounded.
3. ***Install SSMs at every public highway-rail crossing***. This is the best method to reduce to reduce risks in a proposed quiet zone and to enhance safety.

SSMs are pre-approved risk reduction engineering treatments installed at certain public highway-rail crossings within the quiet zone and can help maximize safety benefits and minimize risk. SSMs include: medians or channelization devices, one-way streets with gates, four quadrant gate systems, and temporary or permanent crossing closures. Examples of SSMs are shown on the next page.

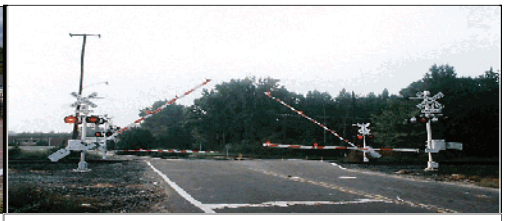
ASMs are safety systems, other than SSMs, that are used to reduce risk in a quiet zone. ASMs typically are improvements that do not fully meet the requirements to be SSMs and their risk reduction effectiveness must be submitted in writing and approved by FRA.

FRA strongly recommends that all crossings in the quiet zone be reviewed by a diagnostic team. A diagnostic team typically consists of representatives from the public authority, railroad, and State agency responsible for crossing safety and FRA grade crossing managers.

Public Safety Considerations continued

Examples of SSMs

Crossing Closure



Four Quadrant Gate System

Gates with Channelization Devices

Gates with Medians

Wayside Horns The train horn rule also provides another method for reducing the impact of routine locomotive horn sounding when trains approach public highway-rail grade crossings. A wayside horn may be installed at highway-rail grade crossings that have flashing lights, gates, constant warning time devices (except in rare circumstances), and power out indicators. The wayside horn is positioned at the crossing and will sound when the warning devices are activated. The sound is directed down the roadway, which greatly reduces the noise footprint of the audible warning. Use of wayside horns is not the same as establishing a quiet zone although they may be used within quiet zones.

Cost Considerations

The enabling Federal statute did not provide funding for the establishment of quiet zones. Public authorities seeking to establish quiet zones should be prepared to finance the installation of SSMs and ASMs used. Costs can vary from $30,000 per crossing to more than $1 million depending on the number of crossings and the types of safety improvements required.

Legal Considerations

The courts will ultimately determine who will be held liable if a collision occurs at a grade crossing located within a quiet zone, based upon the facts of each case, as a collision may have been caused by factors other than the absence of an audible warning. FRA's rule is intended to remove failure to sound the horn as a cause of action in lawsuits involving collisions that have occurred at grade crossings within duly established quiet zones.

The Quiet Zone Establishment Process

Under the Train Horn Rule, only public authorities are permitted to establish quiet zones. Citizens who wish to have a quiet zone in their neighborhood should contact their local government to pursue the establishment of a quiet zone. The following is a typical example of the steps taken to establish a quiet zone:

1. ***Determine*** which crossings will be included in the quiet zone. All public highway-rail crossings in the quiet zone must have, at a minimum, an automatic warning system consisting of flashing lights and gates. The warning systems must be equipped with constant warning time devices (except in rare circumstances) and power out indicators. The length of the quiet zone must be at least one-half mile in length.

2. ***Identify*** any private highway-rail grade crossings within the proposed quiet zone. If they allow access to the public or provide access to active industrial or commercial sites, a diagnostic review must be conducted and the crossing(s) treated in accordance with the recommendations of the diagnostic team.

3. ***Identify*** any pedestrian crossings within the proposed quiet zone and conduct a diagnostic review of those crossings too. They also must be treated in accordance with the diagnostic team's recommendations. *NOTE:* While it is not required by the regulations, FRA recommends that every crossing within a proposed quiet zone be reviewed for safety concerns.

4. ***Update*** the U.S. DOT Crossing Inventory Form to reflect current physical and operating conditions at each public, private, and pedestrian crossing located within a proposed quiet zone.

5. ***Provide*** a Notice of Intent (NOI) to all of the railroads that operate over crossings in the proposed quiet zone, the State agency responsible for highway safety and the State agency responsible for crossing safety. The NOI must list all of the crossings in the proposed quiet zone and give a brief explanation of the tentative plans for implementing improvements within the quiet zone. Additional required elements of the NOI can be found in 49 CFR 222.43(b). The railroads and State agencies have 60 days in which to provide comments to the public authority on the proposed plan.

6. ***Alternative Safety Measures*** – If ASMs are going to be used to reduce risk, an application to FRA must be made. The application must include all of the elements provided in 49 CFR 222.39(b)(1) and copies of the application must be sent to the entities listed in 49 CFR 222.39(b)(3). They will have 60 days to provide comments to FRA on the application. FRA will provide a written decision on the application typically within three to four months after it is received.

The Quiet Zone Establishment Process continued

7. ***Determine*** how the quiet zone will be established using one of the following criteria: (Note that Options 2 through 4 will require the use of the FRA Quiet Zone Calculator available at http://safetydata.fra.dot.gov/quiet/.)

1. Every public highway-rail crossing in the proposed quiet zone is equipped with one or more SSMs.
2. The Quiet Zone Risk Index (QZRI) of the proposed quiet zone is less than or equal to the Nationwide Significant Risk Threshold (NSRT) without installing SSMs or ASMs.
3. The QZRI of the proposed quiet zone is less than or equal to the Nationwide Significant Risk Threshold (NSRT) after the installation of SSMs or ASMs.
4. The QZRI of the proposed quiet zone is less than or equal to the Risk Index with Horns (RIWH) after the installation of SSMs or ASMs.

8. ***Complete*** the installation of SSMs and ASMs and any other required improvements determined by the diagnostic team at all public, private, and pedestrian crossings within the proposed quiet zone.

9. ***Ensure*** that the required signage at each public, private, and pedestrian crossing is installed in accordance with 49 CFR Sections 222.25, 222.27, and 222.35, and the standards outlined in the Manual on Uniform Traffic Control Devices. These signs may need to be covered until the quiet zone is in effect.

10. ***Establish*** the quiet zone by providing a Notice of Quiet Zone Establishment to all of the parties that are listed in 49 CFR Section 222.43(a)(3). Be sure to include all of the required contents in the notice as listed in 49 CFR Section 222.43(d). The quiet zone can take effect no earlier than 21 days after the date on which the Notice of Quiet Zone Establishment is mailed.

*****Appendix C to the Train Horn Rule provides detailed, step by step guidance on how to create a quiet zone.*****

Required Documentation

Public authorities interested in establishing a quiet zone are required to submit certain documentation during the establishment process. FRA has provided checklists for the various documents that can be found at http://www.fra.dot.gov/Elib/Details/L03055.

FRA's Regional Grade Crossing Managers are available to provide technical assistance. A State's department of transportation or rail regulatory agency also may be able to provide assistance to communities pursuing quiet zones.

Public authorities are encouraged to consult with the agencies in their State that have responsibility for crossing safety. Some States may have additional administrative or legal requirements that must be met in order to modify a public highway-rail grade crossing.

Role of Railroads

Communities seeking to establish a quiet zone are required to send a Notice of Intent and a Notice of Quiet Zone Establishment to railroads operating over the public highway-rail grade crossings within the proposed quiet zone. Railroad officials can provide valuable input during the quiet zone establishment process and should be included on all diagnostic teams. Listed below are links to the Class I Railroads and Amtrak.

BNSF Railway (BNSF)	Canadian Pacific (CP)
CSX Transportation (CSX)	Norfolk Southern (NS)
Canadian National (CN)	Union Pacific (UP)
Kansas City Southern (KCS)	Amtrak (ATK)

FINAL NOTE

The information contained in this brochure is provided as general guidance related to the Quiet Zone Establishment Process and should not be considered as a definitive resource. FRA strongly recommends that any public authority desiring to establish quiet zones take the opportunity to review all aspects of safety along its rail corridor. Particular attention should be given to measures that prevent trespassing on railroad tracks since investments made to establish a quiet zone may be negated if the horn has to be routinely sounded to warn trespassers.

POINTS OF CONTACT

General Questions:

Inga Toye, 202-493-6305
Debra Chappell, 202-493-6018
Ron Ries, 202-493-6285

Regional Contacts

Region 1 Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont
1-800-724-5991

Region 2 Delaware, Maryland, Ohio, Pennsylvania, Virginia, West Virginia , and Washington, D.C.
1-800-724-5992

Region 3 Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee
1-800-724-5993

Region 4 Illinois, Indiana, Michigan, Minnesota, and Wisconsin
1-800-724-5040

Region 5 Arkansas, Louisiana, New Mexico, Oklahoma, and Texas
1-800-724-5995

Region 6 Colorado, Iowa, Kansas, Missouri, and Nebraska
1-800-724-5996

Region 7 Arizona, California, Nevada, and Utah
1-800-724-5997

Region 8 Alaska, Idaho, Montana, North Dakota, South Dakota, Oregon, Washington, and Wyoming
1-800-724-5998

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Federal Railroad Administration

1200 New Jersey Avenue S.E.
Washington, DC 20590
Telephone: 202-493-6299
www.fra.dot.gov

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Dear Cascade Locks City Council and Port Commission, Dec. 5, 2023

I am writing to express the importance and potential benefits of securing a quiet zone designation in relation to train horns for our town of Cascade Locks. Implementing such a designation would not only enhance the overall quality of life for our residents but also contribute to the town's economic and social well-being. I would like to request the council and commission jointly pursue a quiet zone designation so that the work and expense can be shared. Obtaining this designation should be a joint effort between the port and city as both would share the benefits.

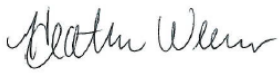
While implementing a quiet zone may involve initial expenses, the long-term gains in terms of improved resident satisfaction, economic growth, and enhanced community appeal justify this investment. I believe that obtaining such a designation would be a strategic move for our town's future prosperity.

Frequent, loud train whistles day and night affect both resident and visitor quality of life. As Cascade Locks attempts to attract new (and keep existing) residents, businesses and tourists, the effect of the train whistles should be seriously considered. We cannot leave this on the backburner any longer.

I encourage the City Council and Port Commissioners to step-up as community leaders and take on the challenge of successfully implementing a quite-zone. Recruit assistance from community members and local businesses if needed as we will all benefit from this positive change. A quieter and more serene town attracts new residents and businesses, contributing to property value appreciation and increased local commerce. Additionally, the improved quality of life may encourage tourism, as visitors are likely to be drawn to a town that prioritizes a peaceful atmosphere.

The City of Stevenson would be a great resource for questions and guidance as they have successfully implemented a quite zone.

Sincerely,



Heather Weaver, MPA

CC: Jordan Bennett, City Administrator

Jeremiah Blue, Executive Director

PROPOSED

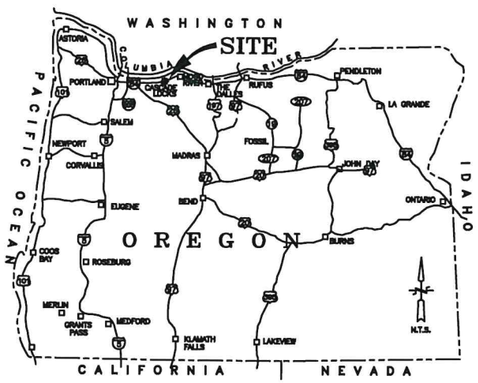
QUIET ZONE IMPROVEMENTS

INDUSTRIAL PARK WAY AND HERMAN CREEK LANE

FOR

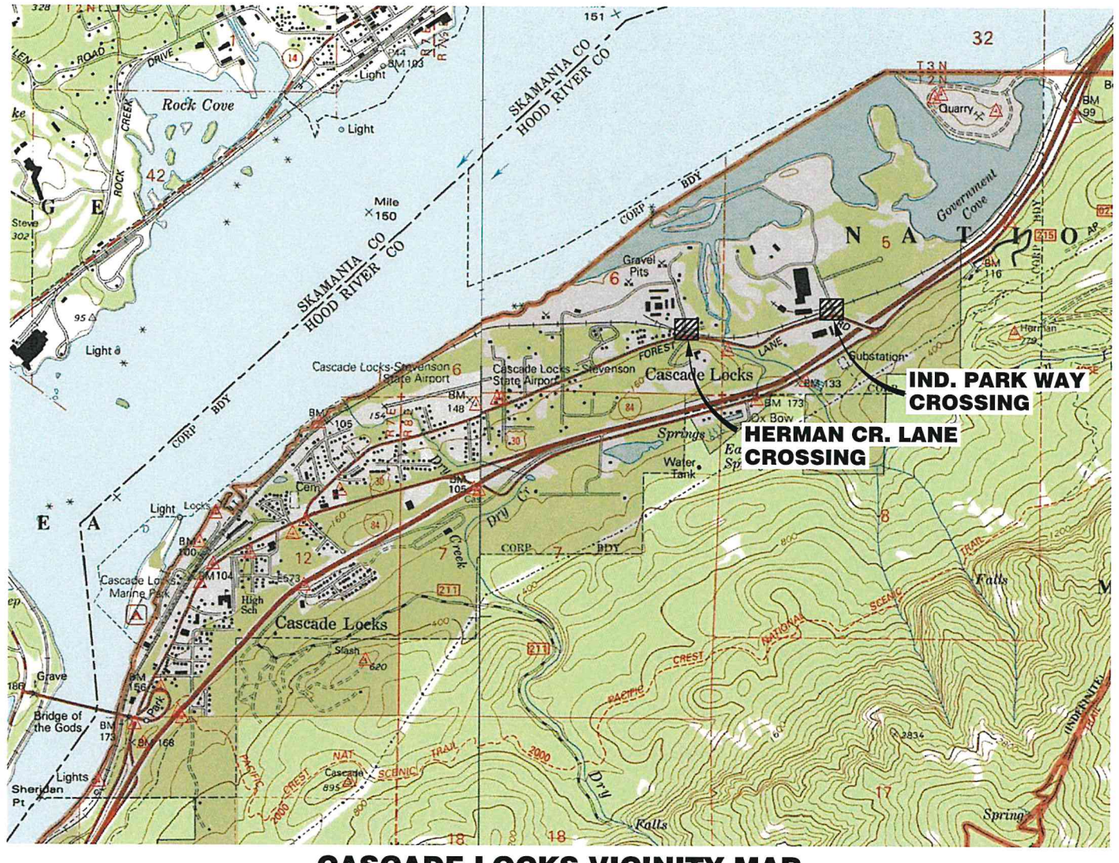
CITY OF CASCADE LOCKS

APRIL 2019



LOCATION MAP

INDEX:



CASCADE LOCKS VICINITY MAP

N.T.S.

OWNER:

CITY OF CASCADE LOCKS
P.O. BOX 308
CASCADE LOCKS, OR. 97014
PH. (541) 374-8484
FAX (541) 374-8752
CONTACT: GORDON ZIMMERMAN, CITY ADMINISTRATOR

ENGINEER:

TENNESON ENGINEERING CORP.
3775 CRATES WAY
THE DALLES, OR. 97058
PH. (541) 296-9177
FAX (541) 296-6657
DARRIN ECKMAN (PROJECT MANAGER)

COVER SHEET
FOR
CITY OF CASCADE LOCKS
QUIET ZONE IMPROVEMENTS
CASCADE LOCKS, OREGON
PLOT DATE: 4/17/2019

DESIGN: D.O.E. | SURVEY: T.E.C.
DWG. FILE: K:\WORK ORDERS\14600\14636\DRAWINGS\CSITE_14636.DWG
DATE: APRIL 17, 2019 | DRAWN: T.E.C.
WORK ORDER: 14636 | SCALE: AS NOTED

TENNESON ENGINEERING CORP.
CONSULTING ENGINEERS
3775 CRATES WAY
THE DALLES, OREGON 97058
PH. 541-296-9177 FAX 541-296-6657

FOR AGENCY REVIEW

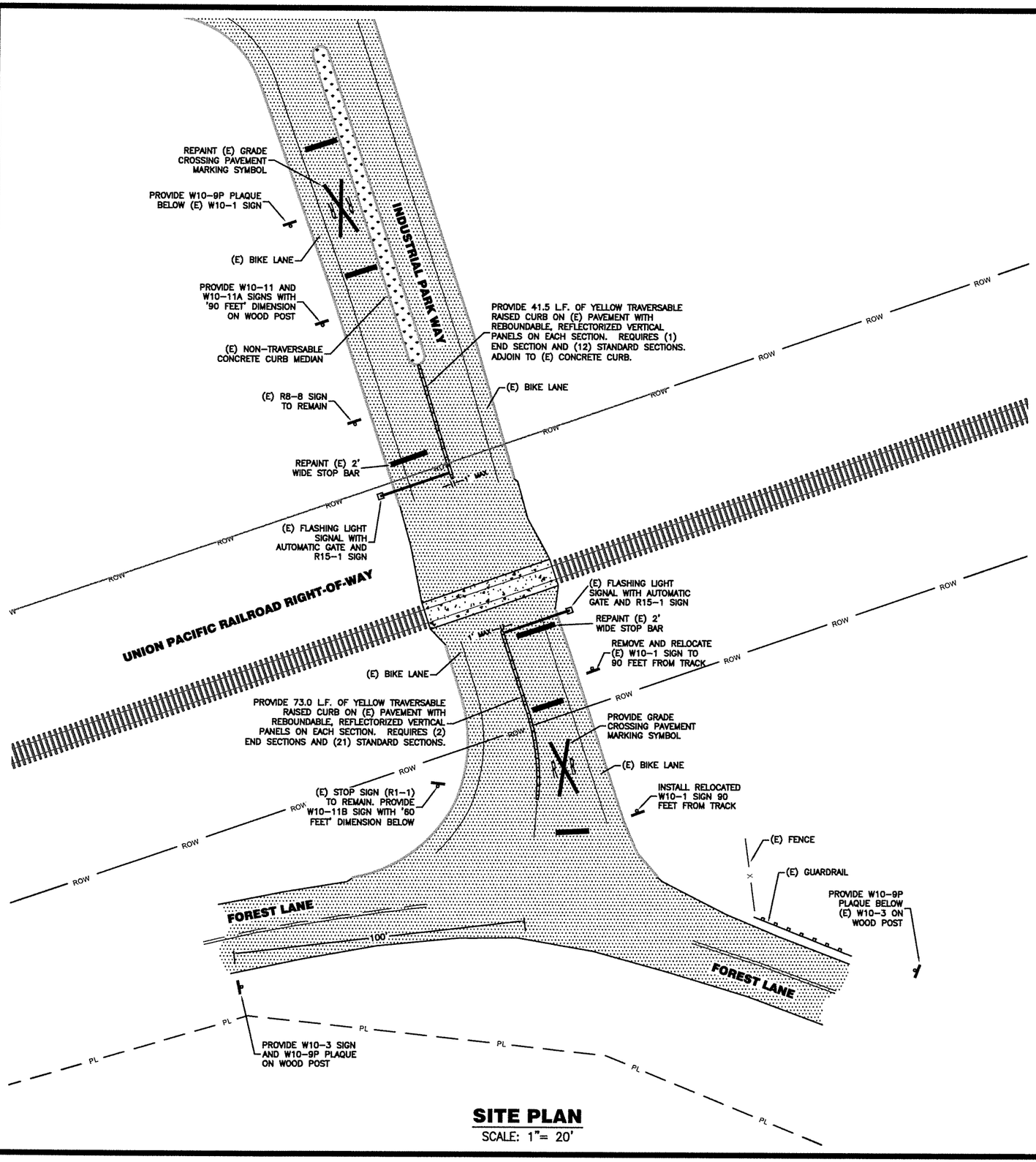
IF THIS BAR IS NOT ONE INCH, THEN ADJUST SCALES ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER 51,430 OREGON JULY 13, 2005 DARRIN O. ECKMAN
RENEWAL DATE: 12/31/19

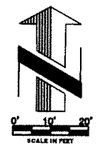
COVER

SHEET 1 4

Work Order No. 14636



SITE PLAN
SCALE: 1"= 20'



CONSTRUCTION NOTES:

1. NO EXCAVATION SHALL BE PERFORMED WITHOUT PROPER NOTIFICATION OF UTILITIES.
2. CONTRACTOR SHALL BE LICENSED WITH THE APPROPRIATE STATE AGENCY FOR THE WORK BEING PERFORMED.
3. CONTRACTOR TO ARRANGE A PRE-CONSTRUCTION MEETING PRIOR TO START OF WORK WITH THE CITY OF CASCADE LOCKS, UPRR AND ODOT REPRESENTATIVES AND THE ENGINEER.
4. CONTRACTOR TO RESTORE SURFACE TO PRECONSTRUCTION CONDITION UPON COMPLETION OF THE PROJECT.
5. WORK WITHIN 25' OF THE CENTERLINE OF THE TRACK WILL REQUIRE UPRR FLAGMEN. CONTRACTOR TO PROVIDE WRITTEN REQUEST FOR FLAGGING, AT LEAST 72 HOURS IN ADVANCE, TO THE UPRR ROADMASTER.
6. CONTRACTOR WILL BE REQUIRED TO FOLLOW ALL OF THE UPRR'S RAILROAD SAFETY REQUIREMENTS.
7. CONTRACTOR WILL BE REQUIRED TO PROVIDE THE FOLLOWING INSURANCE COVERAGE:
   - COMMERCIAL GENERAL LIABILITY INSURANCE. CONTRACTUAL LIABILITY WITH A COMBINED SINGLE LIMIT OF A MINIMUM OF $2,000,000 EACH OCCURRENCE AND AN AGGREGATE LIMIT OF AT LEAST $4,000,000.
   - BUSINESS AUTOMOBILE INSURANCE. COMBINED SINGLE LIMIT OF AT LEAST $2,000,000 PER OCCURRENCE.
   - WORKERS COMPENSATION AND EMPLOYERS LIABILITY INSURANCE EMPLOYERS LIABILITY WITH LIMITS OF AT LEAST $500,000 EACH ACCIDENT, $500,000 BY DISEASE POLICY LIMIT, $500,000 BY DISEASE EACH EMPLOYEE.
   - RAILROAD PROTECTIVE LIABILITY INSURANCE WITH COVERAGE OF AT LEAST $2,000,000 PER OCCURRENCE AND $6,000,000 IN THE AGGREGATE.
   - SEVERABILITY OF INTEREST AND NAMING LICENSOR AS ADDITIONAL INSUREDS SHALL BE INDICATED ON THE CERTIFICATE OF INSURANCE ABOVE (EXCLUDING WORKERS COMPENSATION AND IF APPLICABLE, RAILROAD PROTECTIVE).
8. ROTATE SIGNS APPROPRIATELY TO MATCH INSTALLATION LOCATION.

GENERAL NOTES:

1. CONTRACTOR SHALL PROCURE AND CONFORM TO ALL CONSTRUCTION PERMITS REQUIRED BY THE AGENCY HAVING JURISDICTION (AHJ).
2. CONTRACTOR SHALL PROVIDE ALL BONDS AND INSURANCE REQUIRED BY PUBLIC AND/OR PRIVATE AGENCIES HAVING JURISDICTION.
3. ALL MATERIALS AND WORKMANSHIP FOR FACILITIES IN STREET RIGHT-OF-WAY OR EASEMENTS SHALL CONFORM TO APPROVING AGENCIES' CONSTRUCTION SPECIFICATIONS WHEREIN EACH HAS JURISDICTION, INCLUDING BUT NOT LIMITED TO THE CITY.
4. UNLESS OTHERWISE APPROVED BY THE PUBLIC WORKS DIRECTOR, CONSTRUCTION OF ALL PUBLIC FACILITIES SHALL BE DONE BETWEEN 7:00 AM. AND 5:00 P.M., MONDAY THROUGH FRIDAY.
5. THE CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO COMPLETE THE PROJECT IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DRAWINGS INCLUDING SUCH INCIDENTALS AS MAY BE NECESSARY TO MEET APPLICABLE AGENCY REQUIREMENTS AND PROVIDE A COMPLETED PROJECT.
6. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES A MINIMUM OF 48 BUSINESS HOURS (2 BUSINESS DAYS) PRIOR TO START OF CONSTRUCTION AND COMPLY WITH ALL OTHER REQUIREMENTS OF ORS 757.541 TO 757.571 AND RCW 19.122.
7. ANY INSPECTION BY THE CITY OR OTHER AGENCIES SHALL NOT, IN ANY WAY, RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN STRICT COMPLIANCE WITH THE CONTRACT DOCUMENTS, APPLICABLE CODES AND AGENCY REQUIREMENTS.
8. CONTRACTOR SHALL ERECT AND MAINTAIN BARRICADES, WARNING SIGNS, TRAFFIC CONES PER CITY REQUIREMENTS IN ACCORDANCE WITH THE MUTCD (INCLUDING OREGON AND/OR WASHINGTON AMENDMENTS). ACCESS SHALL BE MAINTAINED AT ALL TIMES. ALL TRAFFIC CONTROL MEASURES SHALL BE APPROVED AND IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITY.
9. CONTRACTOR SHALL BE LICENSED WITH THE CONSTRUCTION CONTRACTOR BOARD.
10. PROJECT IS IN A 110 MPH WIND SPEED AREA.

DESIGN: D.O.E. | SURVEY: T.E.C.
DWG. FILE: K:\WORK ORDERS\14600\14636\DRAWINGS\QSITE_14636.DWG
DATE: APRIL 17, 2019 | DRAWN: T.E.C.
WORK ORDER: 14636 | SCALE: AS NOTED

INDUSTRIAL PARK WAY CROSSING
FOR
CITY OF CASCADE LOCKS
QUIET ZONE IMPROVEMENTS
CASCADE LOCKS, OREGON
PLOT DATE: 4/17/2019

TENNESON ENGINEERING CORP.
CONSULTING ENGINEERS
3775 CRATES WAY
THE DALLES, OREGON 97058
PH. 541-296-9177 FAX 541-296-6657

FOR AGENCY REVIEW

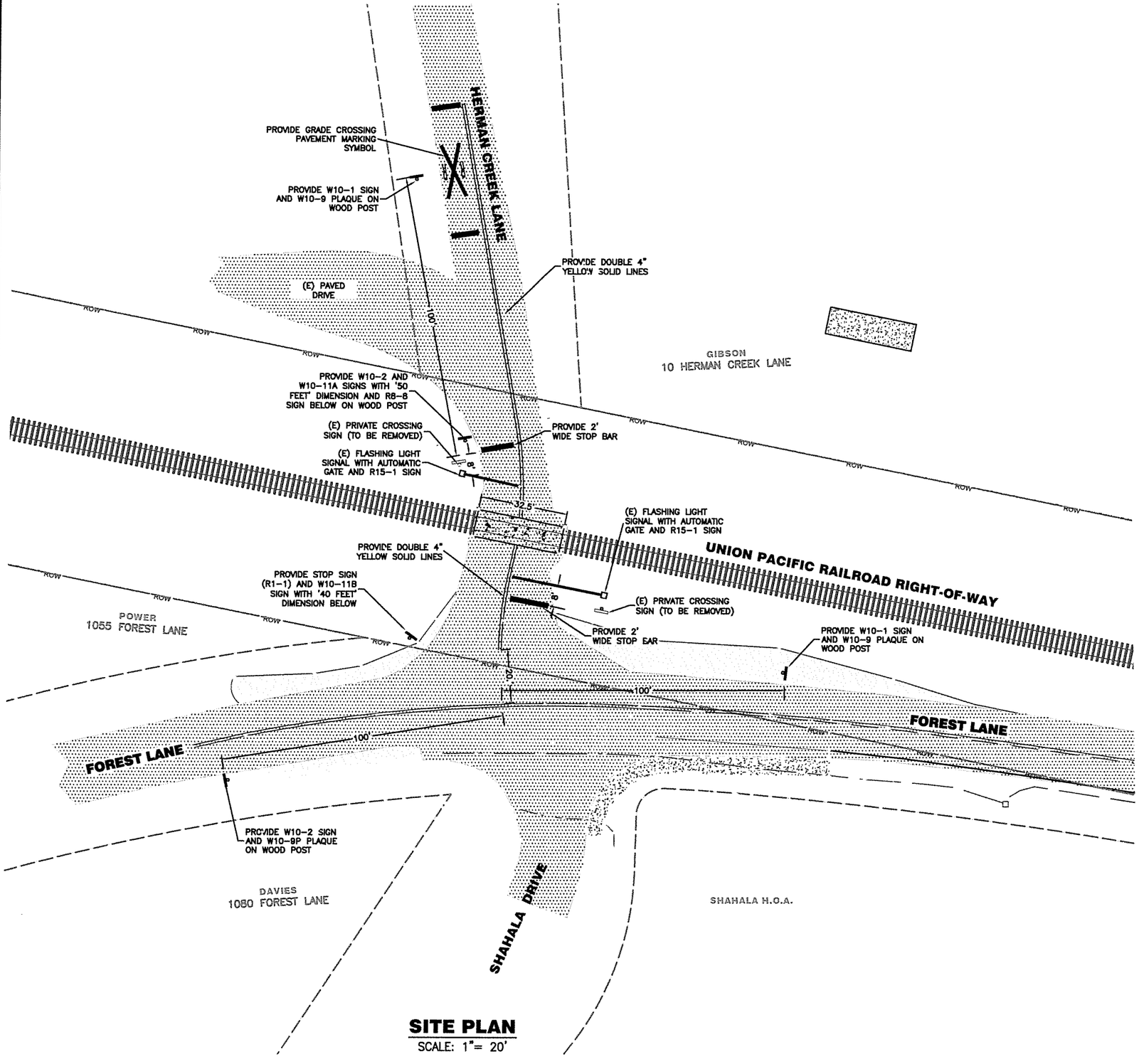
IF THIS BAR IS NOT ONE INCH, THEN ADJUST SCALES ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER
51,430
OREGON
JULY 13, 1995
DARRIN O. FORMAN
RENEWAL DATE: 12/31/19

QUIET ZONE

SHEET 2 4

Work Order No. 14636



SITE PLAN
SCALE: 1"= 20'

CONSTRUCTION NOTES:

1. NO EXCAVATION SHALL BE PERFORMED WITHOUT PROPER NOTIFICATION OF UTILITIES.
2. CONTRACTOR SHALL BE LICENSED WITH THE APPROPRIATE STATE AGENCY FOR THE WORK BEING PERFORMED.
3. CONTRACTOR TO ARRANGE A PRE-CONSTRUCTION MEETING PRIOR TO START OF WORK WITH THE CITY OF CASCADE LOCKS, UPRR AND ODOT REPRESENTATIVES AND THE ENGINEER.
4. CONTRACTOR TO RESTORE SURFACE TO PRECONSTRUCTION CONDITION UPON COMPLETION OF THE PROJECT.
5. WORK WITHIN 25' OF THE CENTERLINE OF THE TRACK WILL REQUIRE UPRR FLAGMEN. CONTRACTOR TO PROVIDE WRITTEN REQUEST FOR FLAGGING, AT LEAST 72 HOURS IN ADVANCE, TO THE UPRR ROADMASTER.
6. CONTRACTOR WILL BE REQUIRED TO FOLLOW ALL OF THE UPRR'S RAILROAD SAFETY REQUIREMENTS.
7. CONTRACTOR WILL BE REQUIRED TO PROVIDE THE FOLLOWING INSURANCE COVERAGE:
   - COMMERCIAL GENERAL LIABILITY INSURANCE. CONTRACTUAL LIABILITY WITH A COMBINED SINGLE LIMIT OF A MINIMUM OF $2,000,000 EACH OCCURRENCE AND AN AGGREGATE LIMIT OF AT LEAST $4,000,000.
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DESIGN: D.O.E. | SURVEY: T.E.C.
DWG. FILE: K:\WORK (DEGOS)\14600\14636\DRAWINGS\QSITE_14636.DWG
DATE: APRIL 17, 2019 | DRAWN: T.E.C.
WORK ORDER: 14636 | SCALE: AS NOTED

HERMAN CREEK LANE CROSSING
FOR
CITY OF CASCADE LOCKS
QUIET ZONE IMPROVEMENTS
CASCADE LOCKS, OREGON
PLOT DATE: 4/17/2019

TENNESON ENGINEERING CORP.
CONSULTING ENGINEERS
3775 CRATES WAY
THE DALLES, OREGON 97058
PH. 541-296-9177 FAX 541-296-6657

FOR AGENCY REVIEW

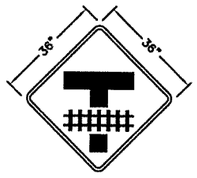
IF THIS BAR IS NOT ONE INCH, THEN ADJUST SCALES ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER
51,430
OREGON
JULY 13, 1982
DARRIN D. FOLMAR
RENEWAL DATE: 12/31/19

QUIET ZONE

SHEET 3 4

Work Order No. 14636



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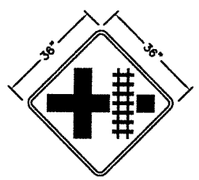

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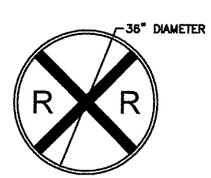

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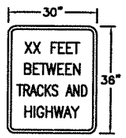

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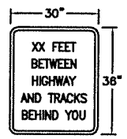

W10-11B

W10-9P

SIGN DETAILS

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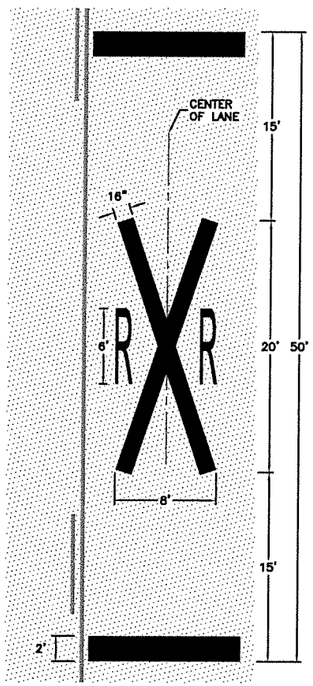
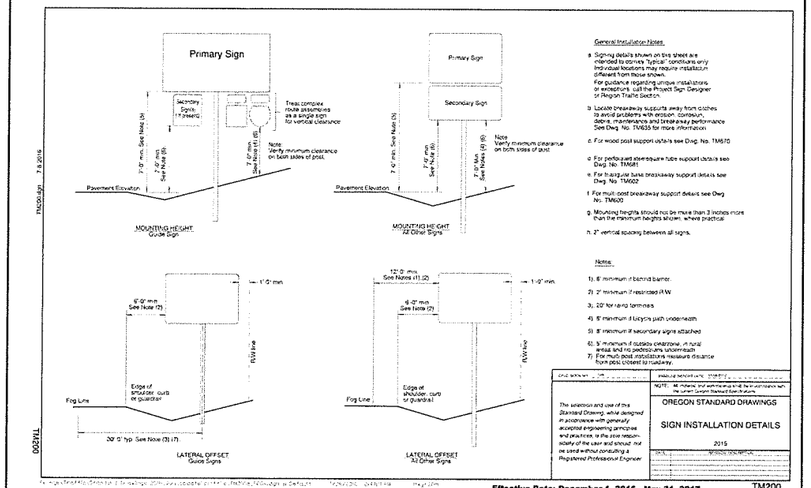
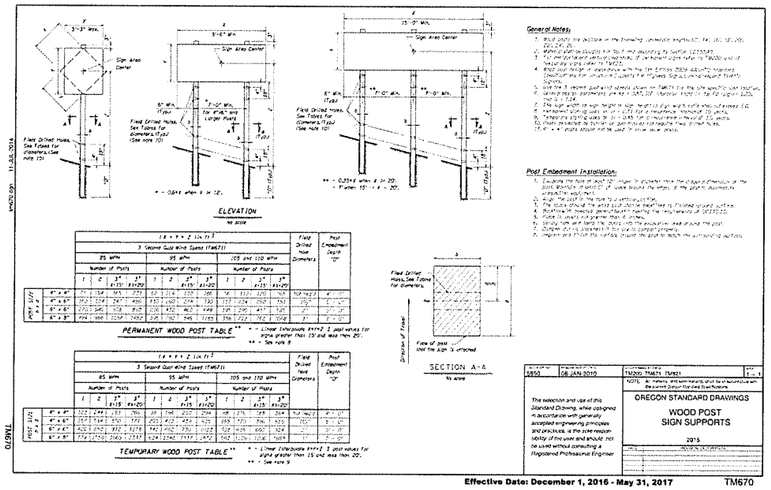
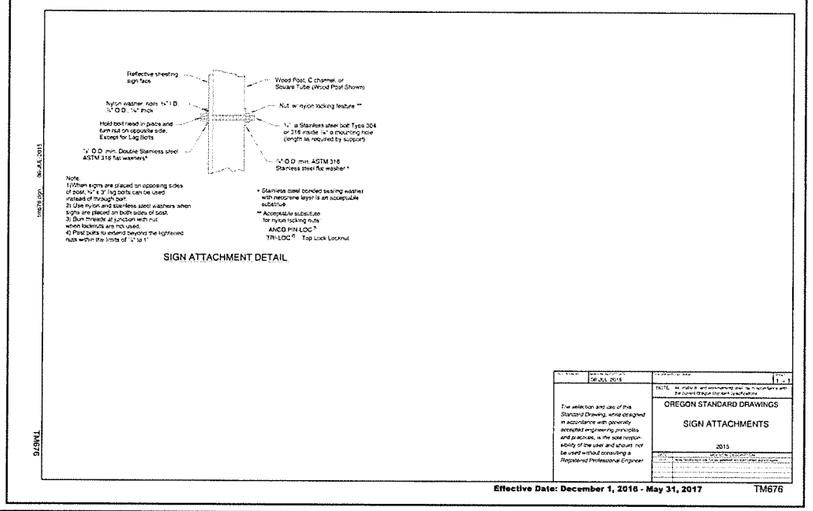


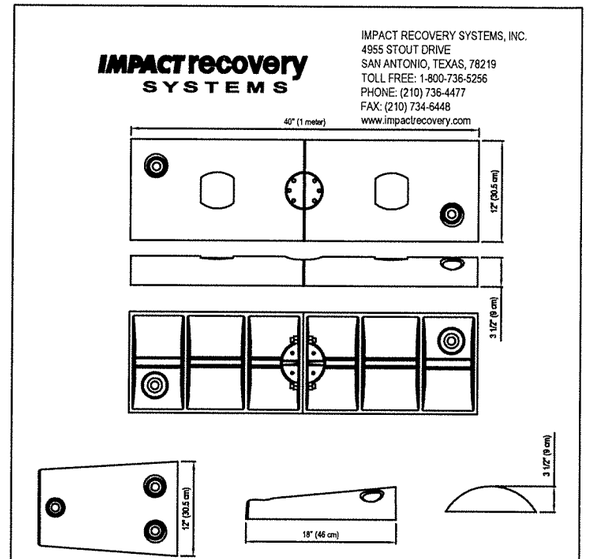
GRADE CROSSING PAVEMENT MARKING SYMBOL DETAIL

SCALE: 1"=6'









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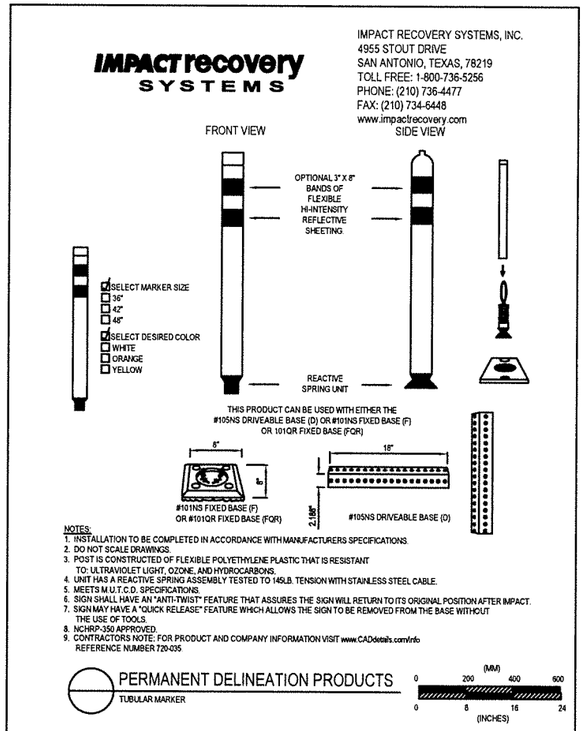


www.CADdetails.com

DESIGN: D.O.E.
SURVEY: T.E.C.
DWG. FILE: K:\WORK ORDERS\14600\14636\[DRAWINGS]\CSTE_14636.DWG
DRAWN: T.E.C.
DATE: APRIL 17, 2019
SCALE: AS NOTED
WORK ORDER: 14636

DETAILS

FOR

CITY OF CASCADE LOCKS
QUIET ZONE IMPROVEMENTS

CASCADE LOCKS, OREGON

PLOT DATE: 4/17/2019

TENNESON ENGINEERING CORP.
CONSULTING ENGINEERS
3775 CRATES WAY
THE DALLES, OREGON 97058
PH. 541-296-9177 FAX 541-296-6657

AGENCY REVIEW ONLY

IF THIS BAR IS NOT ONE INCH, THEN ADJUST SCALES ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER
51,430
OREGON
JULY 13, 1995
DARRIN O. ECKMAN

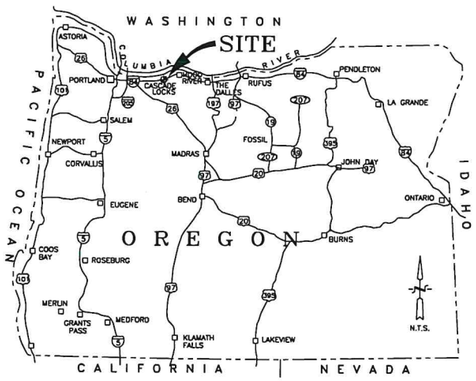
RENEWAL DATE: 12/31/19

DETAILS

SHEET 4 4

Work Order No. 14636

PROPOSED
HERMAN CREEK LANE
CROSSING SAFETY IMPROVEMENTS
FOR
CITY OF CASCADE LOCKS
JULY 2019



LOCATION MAP

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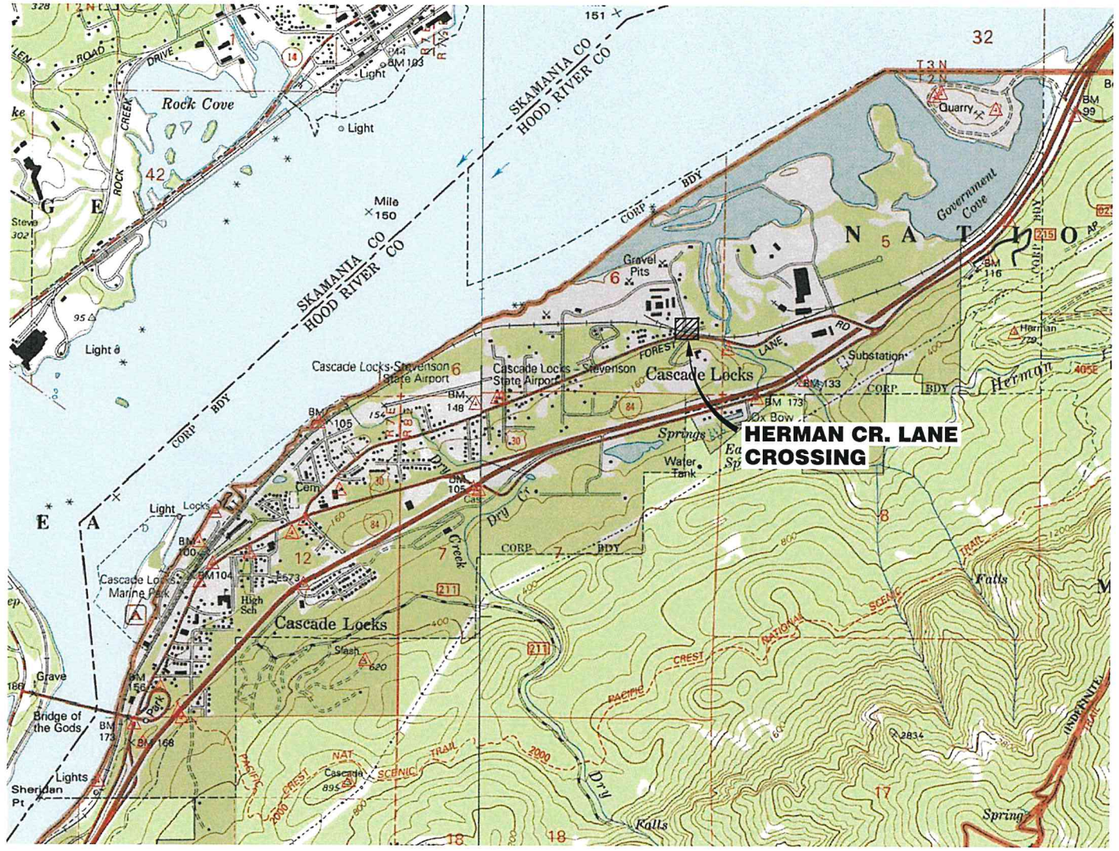

CASCADE LOCKS VICINITY MAP

N.T.S.

OWNER:

CITY OF CASCADE LOCKS
P.O. BOX 308
CASCADE LOCKS, OR. 97014
PH. (541) 374-8484
FAX (541) 374-8752
CONTACT: GORDON ZIMMERMAN, CITY ADMINISTRATOR

ENGINEER:

TENNESON ENGINEERING CORP.
3775 CRATES WAY
THE DALLES, OR. 97058
PH. (541) 296-9177
FAX (541) 296-6657
DARRIN ECKMAN (PROJECT MANAGER)
KEVIN CHRISMAN (PROJECT ENGINEER)

DESIGN: D.O.E./K.W.C. | SURVEY: T.E.C.
DWG. FILE: K:\WORK ORDERS\14600\14636\DRAWINGS\DSITE_14636.DWG
DATE: AUGUST 2, 2019 | DRAWN: K.W.C.
WORK ORDER: 14636 | SCALE: AS NOTED

COVER SHEET
FOR
HERMAN CREEK LANE
CROSSING SAFETY IMPROVEMENTS
CASCADE LOCKS, OREGON
PLOT DATE: 8/22/2019

TENNESON ENGINEERING CORP.
CONSULTING ENGINEERS
3775 CRATES WAY
THE DALLES, OREGON 97058
PH. 541-296-9177 FAX 541-296-6657

FOR AGENCY REVIEW

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REGISTERED PROFESSIONAL ENGINEER 51,430 OREGON JULY 13, 1999 DARRIN O. ECKMAN
PRELIMINARY
RENEWAL DATE: 12/31/19

COVER

SHEET 1 5

Work Order No. 14636

ABBREVIATIONS:

AASHTO – AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
ABS – ACRYLONITRILE BUTADIENE STYRENE
APWA – AMERICAN PUBLIC WORKS ASSOCIATION
ASTM – AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWWA – AMERICAN WATER WORKS ASSOCIATION
BF – BOTTOM OF FOOTING
BSW – BACK OF SIDEWALK
BW – BOTTOM OF WALL
CDF – CONTROLLED DENSITY FILL
CL. – CLASS
CLR – CLEAR
CONT. – CONTINUOUS
COTG – CLEANOUT TO GRADE
C.Y. – CUBIC YARD
DCVA – DOUBLE CHECK VALVE ASSEMBLY
DEQ – OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
DI – DUCTILE IRON
DIA., ø – DIAMETER
DR – DIMENSION RATIO
(E) – EXISTING
EL – ELEVATION
FDC – FIRE DEPARTMENT CONNECTION
FF – FINISH FLOOR
FG – FINISH GRADE
FL – FLANGE
FM – FORCE MAIN
FW – FIRE WATER
G.V. – GATE VALVE
H, HORIZ. – HORIZONTAL
HMAC – HOT MIX ASPHALT CONCRETE
H.S. – HIGH STRENGTH
HYD. – HYDRANT
LEN. – LENGTH
IE – INVERT ELEVATION
L.F. – LINEAL FEET
LP – LIGHT POLE
LT. – LEFT
MUTCD – MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
MV – MEDIUM VOLTAGE
N.C. – NORMALLY CLOSED
N.O. – NORMALLY OPEN
O.C., O/C – ON CENTER
ODOT – OREGON DEPARTMENT OF TRANSPORTATION
OHD – OREGON HEALTH DIVISION
(P) – PROPOSED
PC – POINT OF CURVATURE
P.C.C. – PORTLAND CEMENT CONCRETE
P.I.V. – POST INDICATOR VALVE
PO – PUSH ON
POC – POINT ON CURVE
PRC – POINT OF REVERSE CURVATURE
PSI – POUNDS PER SQUARE INCH
PT – POINT OF TANGENCY
PVC – POLYVINYL CHLORIDE
ROW – RIGHT OF WAY
RT. – RIGHT
S – SLOPE
SAN – SANITARY
SD – STORM DRAIN
SDCB – STORM DRAIN CATCH BASIN
SDCO – STORM DRAIN CLEANOUT
SDMH – STORM DRAIN MANHOLE
SDR – STANDARD DIMENSION RATIO
S.F. – SQUARE FEET
SSCO – SANITARY SEWER CLEANOUT
SSMH – SANITARY SEWER MANHOLE
SS – SANITARY SEWER
STA – STATION
STM – STORM
SW – SIDEWALK
S.Y. – SQUARE YARD
TC – TOP OF CURB
TS – TOP OF SIDEWALK OR SLAB
TF – TOP OF FOOTING
TP – TOP OF PAVEMENT
TW – TOP OF WALL
TYP. – TYPICAL
U.N.O. – UNLESS NOTED OTHERWISE
V, VERT. – VERTICAL

GENERAL NOTES:

A) CONTRACTOR SHALL PROCURE AND CONFORM TO ALL CONSTRUCTION PERMITS REQUIRED BY THE CITY. CONTRACTOR TO PAY ALL PROJECT PERMIT COSTS.

B) CONTRACTOR TO PAY ALL PROJECT UTILITY TAPPING, TV, AND CHLORINATION COSTS. COST FOR RETESTING SHALL BE BORNE BY THE CONTRACTOR. CONTRACTOR SHALL COORDINATE AND PAY ALL COSTS ASSOCIATED WITH CONNECTING TO EXISTING WATER, SANITARY SEWER AND STORM SEWER FACILITIES.

C) CONTRACTOR SHALL PROVIDE ALL BONDS AND INSURANCE REQUIRED BY PUBLIC AND/OR PRIVATE AGENCIES HAVING JURISDICTION.

D) ALL MATERIALS AND WORKMANSHIP FOR FACILITIES IN STREET RIGHT-OF-WAY OR EASEMENTS SHALL CONFORM TO APPROVING AGENCIES' CONSTRUCTION SPECIFICATIONS WHEREIN EACH HAS JURISDICTION, INCLUDING BUT NOT LIMITED TO THE CITY, HOOD RIVER COUNTY, OREGON HEALTH DIVISION (OHD) AND OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY (DEQ).

E) UNLESS OTHERWISE APPROVED BY THE PUBLIC WORKS DIRECTOR, CONSTRUCTION OF ALL PUBLIC FACILITIES SHALL BE DONE BETWEEN 7:00 AM. AND 5:00 P.M., MONDAY THROUGH FRIDAY.

F) THE CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO COMPLETE THE PROJECT IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DRAWINGS INCLUDING SUCH INCIDENTALS AS MAY BE NECESSARY TO MEET APPLICABLE AGENCY REQUIREMENTS AND PROVIDE A COMPLETED PROJECT.

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J) CONTRACTOR SHALL BE LICENSED WITH THE CONSTRUCTION CONTRACTOR BOARD.

K) ELEVATIONS ARE BASED ON AN ASSUMED DATUM.

EXISTING UTILITIES & FACILITIES:

A) THE CONTRACTOR SHALL MAINTAIN ONE COMPLETE SET OF APPROVED DRAWINGS ON THE CONSTRUCTION SITE AT ALL TIMES WHEREON HE WILL RECORD ANY APPROVED DEVIATIONS IN CONSTRUCTION FROM THE APPROVED DRAWINGS, AS WELL AS THE STATION LOCATIONS AND DEPTHS OF ALL EXISTING UTILITIES ENCOUNTERED. THESE FIELD RECORD DRAWINGS SHALL BE KEPT UP TO DATE AT ALL TIMES AND SHALL BE AVAILABLE FOR INSPECTION BY THE CITY UPON REQUEST. FAILURE TO CONFORM TO THIS REQUIREMENT MAY RESULT IN DELAY OF PAYMENT AND/OR FINAL ACCEPTANCE OF THE PROJECT.

B) UPON COMPLETION OF CONSTRUCTION OF ALL NEW FACILITIES, CONTRACTOR SHALL SUBMIT A CLEAN SET OF FIELD RECORD DRAWINGS CONTAINING ALL AS-BUILT DRAWINGS TO THE ENGINEER FOR USE IN THE PREPARATION OF AS-BUILT DRAWINGS FOR SUBMITTAL TO THE CITY AND OWNER. ALL INFORMATION SHOWN ON THE CONTRACTORS FIELD RECORD DRAWINGS SHALL BE SUBJECT TO VERIFICATION BY THE ENGINEER. IF SIGNIFICANT ERRORS OR DEVIATIONS ARE NOTED BY THE ENGINEER, AN AS-BUILT SURVEY PREPARED AND STAMPED BY A REGISTERED PROFESSIONAL LAND SURVEYOR AND/OR QUALIFIED ENGINEER SHALL BE COMPETED AT THE CONTRACTOR'S EXPENSE.

C) THE LOCATION AND DESCRIPTIONS OF EXISTING UTILITIES SHOWN ON THE DRAWING, ARE COMPILED FROM AVAILABLE RECORDS AND/OR FIELD SURVEYS. THE ENGINEER OR UTILITY COMPANIES DO NOT GUARANTEE THE ACCURACY OR THE COMPLETENESS OF SUCH RECORDS. CONTRACTOR SHALL FIELD VERIFY LOCATIONS AND SIZES OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

D) THE CONTRACTOR SHALL LOCATE AND MARK ALL EXISTING PROPERTY AND STREET MONUMENTS PRIOR TO CONSTRUCTION. ANY MONUMENTS DISTURBED DURING CONSTRUCTION OF THE PROJECT SHALL BE REPLACED BY A REGISTERED LAND SURVEYOR AT THE CONTRACTORS EXPENSE.

E) CONTRACTOR SHALL FIELD VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES WHERE NEW FACILITIES CROSS. CONTRACTOR SHALL BE RESPONSIBLE FOR EXPOSING POTENTIAL UTILITY CONFLICTS FAR ENOUGH AHEAD OF CONSTRUCTION TO MAKE NECESSARY GRADE MODIFICATIONS WITHOUT DELAYING THE WORK. IF GRADE MODIFICATION IS NECESSARY, CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER, AND THE DESIGN ENGINEER SHALL OBTAIN APPROVAL FROM THE CITY ENGINEER PRIOR TO CONSTRUCTION. ALL UTILITY CROSSINGS SHALL BE POTHOLED AS NECESSARY PRIOR TO EXCAVATING OR BORING TO ALLOW THE CONTRACTOR TO PREVENT GRADE OR ALIGNMENT CONFLICTS.

F) ALL FACILITIES SHALL BE MAINTAINED IN-PLACE BY THE CONTRACTOR UNLESS OTHERWISE SHOWN OR DIRECTED. CONTRACTOR SHALL TAKE ALL PRECAUTIONS NECESSARY TO SUPPORT, MAINTAIN, OR OTHERWISE PROTECT EXISTING UTILITIES AND OTHER FACILITIES AT ALL TIMES DURING CONSTRUCTION. CONTRACTOR TO LEAVE EXISTING FACILITIES IN AN EQUAL OR BETTER-THAN-ORIGINAL CONDITION AND TO THE SATISFACTION OF THE CITY ENGINEER.

G) UTILITIES OR INTERFERING PORTIONS OF UTILITIES THAT ARE ABANDONED IN PLACE SHALL BE REMOVED BY THE CONTRACTOR THE EXTENT NECESSARY TO ACCOMPLISH THE WORK. THE CONTRACTOR SHALL PLUG THE REMAINING EXPOSED ENDS OF ABANDONED UTILITIES IN A METHOD APPROVED BY THE CITY.

H) CONTRACTOR SHALL REMOVE ALL EXISTING SIGNS, MAILBOXES (POSTAL SERVICE NOTIFICATION REQUIRED), FENCES, LANDSCAPING, ETC., AS REQUIRED TO AVOID DAMAGE DURING CONSTRUCTION AND REPLACE THEM TO EXISTING OR BETTER CONDITION.

I) ANY SEPTIC TANKS ENCOUNTERED DURING CONSTRUCTION SHALL BE PUMPED OUT. CONTRACTOR SHALL BREAK BOTTOM OF TANK OUT AND BACKFILL WITH PEA GRAVEL UNLESS OTHERWISE REQUIRED BY PUBLIC AGENCIES HAVING JURISDICTION. SEPTIC TANK REMOVAL TO BE IN ACCORDANCE WITH SANITARIAN REQUIREMENTS.

J) ANY WELLS ENCOUNTERED SHALL BE ABANDONED PER STATE REQUIREMENTS.

K) ANY FUEL TANKS ENCOUNTERED SHALL BE REMOVED AND DISPOSED OF PER STATE REQUIREMENTS. BACKFILL WITH COMPACTED GRANULAR MATERIAL.

L) CONTRACTOR SHALL COORDINATE AND PAY ALL COSTS ASSOCIATED WITH REMOVING OR ABANDONING ANY SEPTIC TANKS, WELLS (INCLUDING BOREHOLE PIEZOMETERS) AND FUEL TANKS ENCOUNTERED AS PER REGULATING AGENCY REQUIREMENTS. WHEN SHOWN ON THE DRAWINGS, THESE STRUCTURES SHALL BE REMOVED OR ABANDONED AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY UPON DISCOVERY OF ANY SEPTIC TANKS, WELLS OR FUEL TANKS NOT SHOWN ON THE DRAWINGS, AND OBTAIN CONCURRENCE FROM THE OWNER PRIOR TO PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A DETAILED COST BREAKDOWN OF ALL WORK RELATED TO REMOVING ABANDONING SAID STRUCTURES. THE CONTRACTOR BE REIMBURSED ON A TIME & MATERIALS BASIS OR AT A NEGOTIATED PRICE AS AGREED TO BY THE OWNER.

M) THE CONTRACTOR SHALL BE RESPONSIBLE FOR MANAGING CONSTRUCTION ACTIVITIES TO ENSURE THAT PUBLIC STREETS AND RIGHT-OF-WAYS ARE KEPT CLEAN OF MUD, DUST OR DEBRIS. DUST ABATEMENT SHALL BE MAINTAINED BY ADEQUATE WATERING OF THE SITE BY THE CONTRACTOR.

GRADING, PAVING & DRAINAGE:

A) UNLESS OTHERWISE NOTED, ALL GRADING, ROCKING AND PAVING TO CONFORM TO ODOT/APWA STANDARD SPECIFICATIONS AS AMENDED BY THE CITY, CURRENT EDITION.

B) CLEAR AND GRUB WITHIN WORK LIMITS ALL SURFACE VEGETATION, TREES, STUMPS, BRUSH, ECT. DO NOT DAMAGE OR REMOVE TREES EXCEPT AS APPROVED BY THE ENGINEER SHOWN ON THE DRAWINGS. PROTECT ALL ROOTS TWO INCHES IN DIAMETER OR LARGER.

C) STRIP WORK LIMITS, REMOVING ALL ORGANIC MATTER, WHICH CANNOT BE COMPACTED INTO A STABLE MASS. ALL TREES, BRUSH AND DEBRIS ASSOCIATED WITH CLEARING, STRIPPING OR GRADING SHALL BE REMOVED AND DISPOSED OF OFF-SITE.

D) IMMEDIATELY FOLLOWING STRIPPING OPERATIONS, COMPACT SUBGRADE TO 95% WITHIN IMPROVED AREAS (90% IN OTHER AREAS) OF THE MAXIMUM DRY DENSITY PER ASTM D-698 TEST METHOD (STANDARD PROCTOR). SUBGRADES MUST BE INSPECTED AND APPROVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO PLACING EMBANKMENTS, ENGINEERED FILLS OR FINE GRADING FOR BASE ROCK. CITY TO INSPECT WORK PERFORMED WITHIN R.O.W.

E) ALL FILLS SHALL BE ENGINEERED EXCEPT FOR FILLS LESS THAN 18-INCHES IN DEPTH WHICH ARE LOCATED OUTSIDE THE PUBLIC RIGHT-OF-WAY, BUILDING PADS, PARKING LOTS OR OTHER AREAS TO BE IMPROVED. ENGINEERED FILLS SHALL BE CONSTRUCTED IN 6" LIFTS OVER APPROVED SUBGRADES. EACH LIFT SHALL BE COMPACTED TO 95% OF THE MAXIMUM DRY DENSITY PER ASTM D-698 TEST METHOD (STANDARD PROCTOR)(90% ASTM D-698 FOR ALL OTHER AREAS).

F) CRUSHED ROCK SHALL CONFORM TO SECTION 00641 (AGGREGATE SUBBASE, BASE, AND SHOULDERS) ODOT/APWA STANDARD SPECIFICATIONS AS AMENDED BY THE CITY. COMPACT TO 95% OF THE MAXIMUM DRY DENSITY PER ASTM D-698 TEST METHOD (STANDARD PROCTOR). WRITTEN COMPACTION TEST RESULTS FROM AN INDEPENDENT TESTING LABORATORY BE RECEIVED BY THE OWNER'S AUTHORIZED REPRESENTATIVE PRIOR TO PLACING A.C. PAVEMENT.

G) A.C. PAVEMENT SHALL CONFORM TO SECTION 00744 (HOT MIXED ASPHALT CONCRETE PAVEMENT (HMAC)) ODOT/APWA STANDARD SPECIFICATIONS AS AMENDED BY THE CITY. PAVEMENT SHALL BE COMPACTED TO MINIMUM OF 91% OF MAXIMUM DENSITY AS DETERMINED BY THE RICE STANDARD METHOD.

H) UNLESS OTHERWISE SHOWN ON THE DRAWINGS, STRAIGHT GRADES SHALL BE RUN BETWEEN ALL FINISH GRADE ELEVATIONS AND/OR FINISH CONTOUR LINES SHOWN.

I) FINISH PAVEMENT GRADES AT TRANSITION TO EXISTING PAVEMENT SHALL MATCH EXISTING PAVEMENT GRADES OR BE FEATHERED PAST JOINTS WITH EXISTING PAVEMENT AS REQUIRED TO PROVIDE A SMOOTH, FREE DRAINING SURFACE.

J) ALL EXISTING OR CONSTRUCTED MANHOLES, CLEANOUTS, MONUMENTS, GAS VALVES, WATER VALVES AND SIMILAR STRUCTURES SHALL BE ADJUSTED TO MATCH FINISH GRADES OF THE PAVEMENT, SIDEWALK, LANDSCAPED AREA OR MEDIAN STRIP WHEREON THEY LIE. VERIFY THAT ALL VALVE BOXES AND RISERS ARE CLEAN AND CENTERED OVER THE OPERATION NUT. ADJUSTMENT AFTER PLACEMENT OF FINAL WEARING COURSE WILL NOT BE ALLOWED.

K) UNLESS OTHERWISE SHOWN ON THE DRAWINGS, NO CUT OR FILL SLOPES SHALL BE CONSTRUCTED STEEPER THAN 2H:1V.

L) CONTRACTOR SHALL SEED AND MULCH ALL EXPOSED SLOPES AND DISTURBED AREA, WHICH ARE NOT SCHEDULED TO BE LANDSCAPED.

TESTING AND INSPECTION:

A) THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL REQUIRED OR NECESSARY INSPECTIONS ARE COMPLETED BY THE OWNER'S AUTHORIZED INSPECTORS PRIOR TO PROCEEDING WITH SUBSEQUENT WORK WHICH COVERS OR THAT IS DEPENDENT ON THE WORK TO BE INSPECTED. FAILURE TO OBTAIN NECESSARY INSPECTION(S) AND APPROVAL(S) SHALL RESULT IN THE CONTRACTOR BEING FULLY RESPONSIBLE FOR ALL PROBLEMS ARISING FROM UNINSPECTED WORK.

B) UNLESS OTHERWISE SPECIFIED, THE FOLLOWING TABLE OUTLINES THE MINIMUM TESTING SCHEDULE FOR THE PROJECT. THIS TESTING SCHEDULE IS NOT COMPLETE, AND DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY OF OBTAINING ALL NECESSARY INSPECTIONS FOR ALL WORK PERFORMED, REGARDLESS OF WHO IS RESPONSIBLE FOR PAYMENT.

REQUIRED TESTING AND FREQUENCY		Party Responsible for payment: Contractor		Others (See note 1)
STREETS, PARKING LOTS. PADS, FILLS. ETC.		√	See note 2 & note 3	
SUBGRADE	1 TEST/4000 S.F/LIFT (2 MIN)	√	See note 2 & note 3	
BASEROCK	1 TEST/4000 S.F/LIFT	√	See note 2	
ASPHALT	1 TEST/4000 S.F/LIFT (2 MIN)			
PIPED UTILITIES, ALL				
TRENCH BACKFILL	1 TEST/200 FOOT TRENCH/LIFT (2 MIN)	√	See note 2	
WATER				
PRESSURE	(TO BE WITNESSED BY ENGINEER OR APPROVING AGENCY)	√		
BACTERIAL WATER TEST	PER OHD/DOH	√	See note 2	
CHLORINE RESIDUAL TEST	PER CITY REQUIREMENTS	√		
SANITARY SEWER				
AIR TEST	PER CITY OR ODOT/APWA WHICHEVER IS MORE STRINGENT	√	See note 4	
MANDREL	95% OF ACTUAL INSIDE DIAMETER	√		
TV INSPECTION	LINES MUST BE CLEANED PRIOR TO TV WORK	√		
MANHOLE OR APPROVING AGENCY.	VACUUM TEST EACH MANHOLE. WITNESSED BY ENGINEER	√	See note 2 & note 4	
STORM				
MANDREL	95% OF ACTUAL INSIDE DIAMETER	√		
TV INSPECTION	LINES MUST BE CLEANED PRIOR TO TV WORK	√		

NOTE 1: OTHERS REFERS TO OWNER, ENGINEER OR APPRAISING AGENCY AS APPLICABLE. CONTRACTOR RESPONSIBLE FOR SCHEDULING TESTING. ALL TESTING MUST BE COMPLETED PRIOR TO PERFORMING SUBSEQUENT WORK.

NOTE 2: TESTING MUST BE PERFORMED BY AN APPROVED INDEPENDENT TESTING AGENCY.

NOTE 3: IN ADDITION TO IN PLACE DENSITY TESTING, THE SUBGRADE AND BASEROCK SHALL BE PROOF-ROLLED WITH A LOADED 10 YARD DUMP TRUCK PROVIDED BY THE CONTRACTOR. LOCATION AND PATTERN OF PROOF-ROLL TO BE AS DIRECTED BY THE OWNERS AUTHORIZED REPRESENTATIVE.

NOTE 4: CONTRACTOR MAY USE HYDROSTATIC TESTING IN LIEU OF VACUUM AND AIR TESTING.

GENERAL LEGEND:

- (E) SANITARY SEWER
- SS-X — SS-X — (P) SANITARY SEWER ; X=SIZE (IN)
- (E) STORM SEWER
- SD-X — SD-X — (P) STORM SEWER ; X=SIZE (IN)
- MANHOLE
- CLEAN OUT
- CATCH BASIN
- (E) WATER LINE
- W-X — W-X — (P) WATER LINE ; X=SIZE (IN)
- FIRE HYDRANT
- WATER VALVE
- WATER METER
- OHE — OHE — OVERHEAD ELECTRIC LINE
- OHT — OHT — OVERHEAD TELEPHONE LINE
- OHTV — OHTV — OVERHEAD TELEVISION LINE
- (E) UTILITY POLE
- UE — UE — UNDERGROUND ELECTRIC LINE
- UT — UT — UNDERGROUND TELEPHONE LINE
- UTV — UTV — UNDERGROUND TELEVISION LINE
- GAS — GAS — NATURAL GAS LINE
- (E) FENCE LINE
- (P) FENCE LINE
- GB — GB — GRADE BREAK LINE
- C — C — CATCH LINE
- D — D — DITCH LINE
- (E) CONTOUR LINE
- 100 — 100 — (E) INDEX CONTOUR LINE
- (P) FG CONTOUR LINE
- 100 — 100 — (P) FG INDEX CONTOUR LINE

NOTE : ALL OTHERS AS NOTED ON PLAN

HATCH LEGEND :

- EXISTING BUILDING
- PROPOSED BUILDING
- EXISTING CONCRETE
- PROPOSED CONCRETE
- EXISTING ASPHALT
- PROPOSED ASPHALT
- EXISTING GRAVEL
- PROPOSED GRAVEL
- EXISTING LANDSCAPING
- PROPOSED LANDSCAPING

DESIGN: D.O.E./K.W.C. | SURVEY: T.E.C.
DWG. FILE: K:\WORK ORDERS\14600\14636\DRAWINGS\SITE_14636.DWG
DATE: AUGUST 2, 2019 | DRAWN: K.W.C.
WORK ORDER: 14636 | SCALE: AS NOTED

NOTES & LEGENDS
FOR
HERMAN CREEK LANE
CROSSING SAFETY IMPROVEMENTS
CASCADE LOCKS, OREGON
PLOT DATE: 8/2/2019

TENNESON ENGINEERING CORP.
CONSULTING ENGINEERS
3775 CRATES WAY
THE DALLES, OREGON 97058
PH. 541-296-9177 FAX 541-296-6657

FOR AGENCY REVIEW

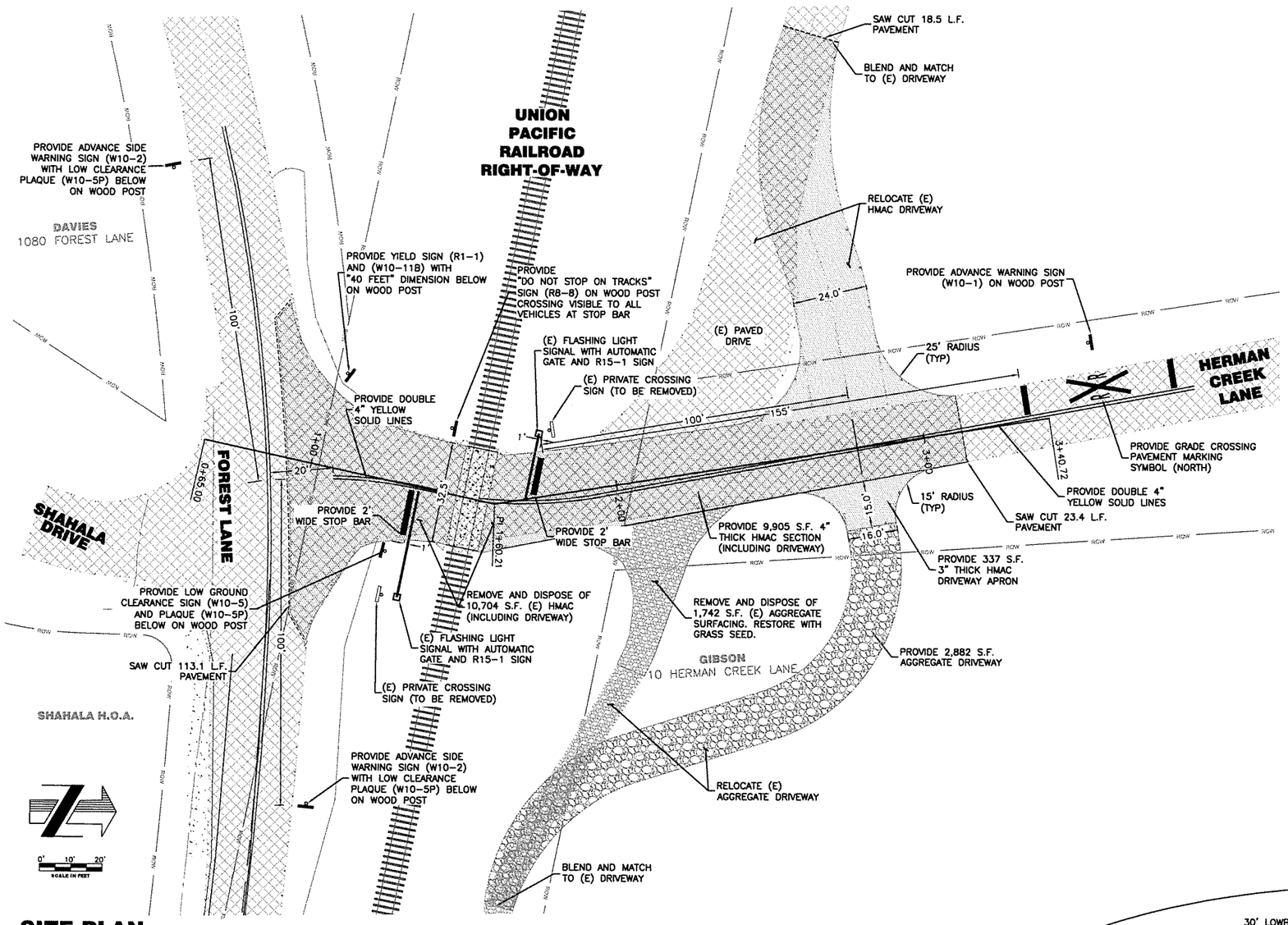
IF THIS BAR IS NOT ONE INCH, THEN ADJUST SCALES ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER
51,430
PRELIMINARY
OREGON
JULY 12, 1999
DARRIN O. ECKMAN
RENEWAL DATE: 12/31/19

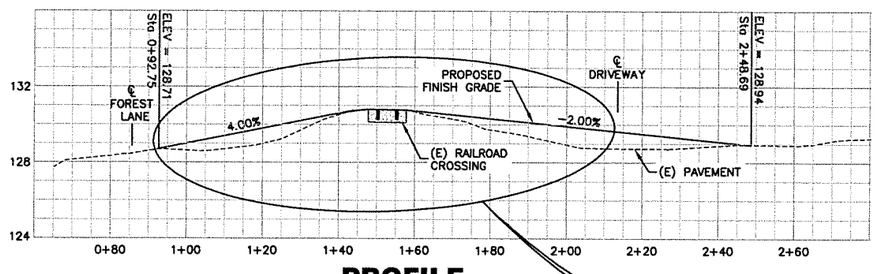
NOTES

SHEET 2 5

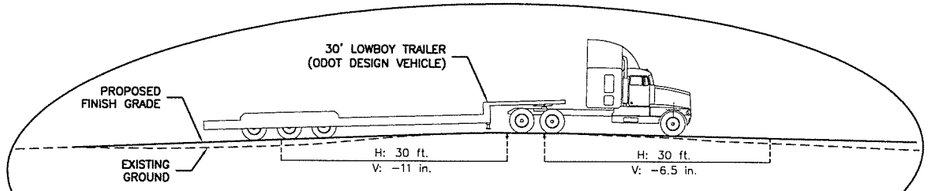
Work Order No. 14636



SITE PLAN
SCALE: 1"= 20'



PROFILE
HORZ: 1"= 20'
VERT: 1"=4'



CLEARANCE DETAIL
HORZ: 1"= 10'
VERT: 1"=10'

CONSTRUCTION NOTES:

1. NO EXCAVATION SHALL BE PERFORMED WITHOUT PROPER NOTIFICATION OF UTILITIES.
2. CONTRACTOR SHALL BE LICENSED WITH THE APPROPRIATE STATE AGENCY FOR THE WORK BEING PERFORMED.
3. CONTRACTOR TO ARRANGE A PRE-CONSTRUCTION MEETING PRIOR TO START OF WORK WITH THE CITY OF CASCADE LOCKS, UPRR AND ODOT REPRESENTATIVES AND THE ENGINEER.
4. CONTRACTOR TO RESTORE SURFACE TO PRECONSTRUCTION CONDITION UPON COMPLETION OF THE PROJECT.
5. WORK WITHIN 25' OF THE CENTERLINE OF THE TRACK WILL REQUIRE UPRR FLAGMEN. CONTRACTOR TO PROVIDE WRITTEN REQUEST FOR FLAGGING, AT LEAST 72 HOURS IN ADVANCE, TO THE UPRR ROADMASTER.
6. CONTRACTOR WILL BE REQUIRED TO FOLLOW ALL OF THE UPRR'S RAILROAD SAFETY REQUIREMENTS.
7. CONTRACTOR WILL BE REQUIRED TO PROVIDE THE FOLLOWING INSURANCE COVERAGE:
   - COMMERCIAL GENERAL LIABILITY INSURANCE. CONTRACTUAL LIABILITY WITH A COMBINED SINGLE LIMIT OF A MINIMUM OF $2,000,000 EACH OCCURRENCE AND AN AGGREGATE LIMIT OF AT LEAST $4,000,000.
   - BUSINESS AUTOMOBILE INSURANCE. COMBINED SINGLE LIMIT OF AT LEAST $2,000,000 PER OCCURRENCE.
   - WORKERS COMPENSATION AND EMPLOYERS LIABILITY INSURANCE EMPLOYERS' LIABILITY WITH LIMITS OF AT LEAST $500,000 EACH ACCIDENT, $500,000 BY DISEASE POLICY LIMIT, $500,000 BY DISEASE EACH EMPLOYEE.
   - RAILROAD PROTECTIVE LIABILITY INSURANCE WITH COVERAGE OF AT LEAST $2,000,000 PER OCCURRENCE AND $6,000,000 IN THE AGGREGATE.
   - SEVERABILITY OF INTEREST AND NAMING LICENSOR AS ADDITIONAL INSUREDS SHALL BE INDICATED ON THE CERTIFICATE OF INSURANCE ABOVE (EXCLUDING WORKERS COMPENSATION AND IF APPLICABLE, RAILROAD PROTECTIVE).
8. ORIENT/ROTATE SIGNS APPROPRIATELY TO MATCH INSTALLATION LOCATION.

GENERAL NOTES:

1. CONTRACTOR SHALL PROCURE AND CONFORM TO ALL CONSTRUCTION PERMITS REQUIRED BY THE AGENCY HAVING JURISDICTION (AHJ).
2. CONTRACTOR SHALL PROVIDE ALL BONDS AND INSURANCE REQUIRED BY PUBLIC AND/OR PRIVATE AGENCIES HAVING JURISDICTION.
3. ALL MATERIALS AND WORKMANSHIP FOR FACILITIES IN STREET RIGHT-OF-WAY OR EASEMENTS SHALL CONFORM TO APPROVING AGENCIES' CONSTRUCTION SPECIFICATIONS WHEREIN EACH HAS JURISDICTION, INCLUDING BUT NOT LIMITED TO THE CITY.
4. UNLESS OTHERWISE APPROVED BY THE PUBLIC WORKS DIRECTOR, CONSTRUCTION OF ALL PUBLIC FACILITIES SHALL BE DONE BETWEEN 7:00 AM. AND 5:00 P.M., MONDAY THROUGH FRIDAY.
5. THE CONTRACTOR SHALL PERFORM ALL WORK NECESSARY TO COMPLETE THE PROJECT IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DRAWINGS INCLUDING SUCH INCIDENTALS AS MAY BE NECESSARY TO MEET APPLICABLE AGENCY REQUIREMENTS AND PROVIDE A COMPLETED PROJECT.
6. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES A MINIMUM OF 48 BUSINESS HOURS (2 BUSINESS DAYS) PRIOR TO START OF CONSTRUCTION AND COMPLY WITH ALL OTHER REQUIREMENTS OF ORS 757.541 TO 757.571 AND RCW 19.122.
7. ANY INSPECTION BY THE CITY OR OTHER AGENCIES SHALL NOT, IN ANY WAY, RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN STRICT COMPLIANCE WITH THE CONTRACT DOCUMENTS, APPLICABLE CODES AND AGENCY REQUIREMENTS.
8. CONTRACTOR SHALL ERECT AND MAINTAIN BARRICADES, WARNING SIGNS, TRAFFIC CONES PER CITY REQUIREMENTS IN ACCORDANCE WITH THE MUTCD (INCLUDING OREGON AND/OR WASHINGTON AMENDMENTS). ACCESS SHALL BE MAINTAINED AT ALL TIMES. ALL TRAFFIC CONTROL MEASURES SHALL BE APPROVED AND IN PLACE PRIOR TO ANY CONSTRUCTION ACTIVITY.
9. CONTRACTOR SHALL BE LICENSED WITH THE CONSTRUCTION CONTRACTOR BOARD.
10. PROJECT IS IN A 110 MPH WIND SPEED AREA.
11. DESIGN ALLOWS FOR 5" CLEARANCE WITH A 36' WHEELBASE VEHICLE PER ECK AND KANG'S 85TH PERCENTILE VEHICLE (TRANSPORTATION RESEARCH RECORD 1356 AND FHWA "DESIGN GUIDELINES FOR AT-GRADE INTERSECTIONS NEAR HIGHWAY-RAILROAD GRADE CROSSINGS")

DESIGN: D.O.E./K.W.C.
SURVEY: T.E.C.
DWG. FILE: K:\WORK ORDERS\14600\14636\DRAWINGS\SITE_14636.DWG
DATE: AUGUST 2, 2019
DRAWN: K.W.C.
WORK ORDER: 14636
SCALE: AS NOTED

SITE PLAN
FOR
HERMAN CREEK LANE
CROSSING SAFETY IMPROVEMENTS
CASCADE LOCKS, OREGON
PLOT DATE: 8/2/2019

TENNESON ENGINEERING CORP.
CONSULTING ENGINEERS
3775 CRATES WAY
THE DALLES, OREGON 97058
PH. 541-296-9177 FAX 541-296-6657

FOR AGENCY REVIEW

IF THIS BAR IS NOT ONE INCH, THEN ADJUST SCALES ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER
51,430
PRELIMINARY
OREGON
JULY 13, 1999
DARRIN O. ECKMAN
RENEWAL DATE: 12/31/19

SITE

SHEET 3 5

Work Order No. 14636

DAVIES
80 FOREST LANE

SHAHALA DRIVE

SHAHALA H.O.A.

GIBSON
10 HERMAN CREEK LANE

PROJECT BENCH MARK
ALUMINUM CAP
ELEV=128.69

MATCH (E)
PAVED ROADWAY

MATCH (E) CONCRETE PANELS

MATCH (E) PAVED DRIVEWAY

MATCH (E) GRAVEL DRIVEWAY

MATCH (E) PAVED ROAD

CATCH LINE (TYP)

MATCH=129.51
MATCH=129.23
MATCH=128.70
MATCH=128.11
MATCH=127.59
MATCH=129.11
MATCH=128.88
MATCH=128.71
MATCH=128.78
MATCH=128.90
MATCH=128.94
MATCH=128.94
MATCH=128.94
MATCH=127.96
MATCH=128.17
MATCH=128.08

EP=129.74
EP=129.68
EP=129.76
EP=129.83
EP=130.40
EP=129.99
EP=130.40
EP=129.60
EP=127.50
EP=129.28
EP=129.46
EP=129.72
EP=129.98
EP=130.12
EP=130.42
EP=130.72
EP=0.00
EP=129.75
EP=129.45
EP=129.01
EP=129.03
EP=129.01

(E)CONC=130.75
(E)CONC=130.78
(E)CONC=130.75
(E)CONC=130.76
(E)CONC=130.75
(E)CONC=130.78

ROW

GRADING PLAN
SCALE: 1"= 10'

0' 5' 10'
SCALE IN FEET

GRADING NOTE:

1. FINISH GRADE CONTOURS SHOWN AT 0.5' INTERVALS.
2. ALL FILL SLOPES TO BE 3H:1V OR FLATTER.

DESIGN: D.O.E./K.W.C.
SURVEY: T.E.C.
DWG. FILE: K:\WORK ORDERS\14600\14636\DRAWINGS\GSITE_14636.DWG
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GRADING PLAN
FOR
HERMAN CREEK LANE
CROSSING SAFETY IMPROVEMENTS
CASCADE LOCKS, OREGON
PLOT DATE: 8/2/2019

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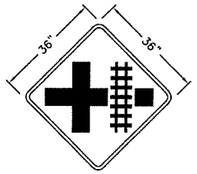
OREGON
JULY 12, 1979
DARRIN O. ECKMAN
RENEWAL DATE: 12/31/19

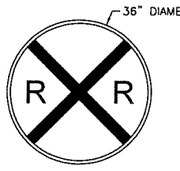
GRADING

SHEET 4 5

Work Order No. 14636



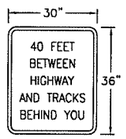
W10-2



W10-1

W10-5

R8-8



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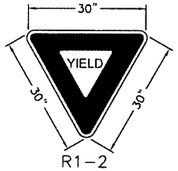
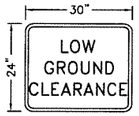


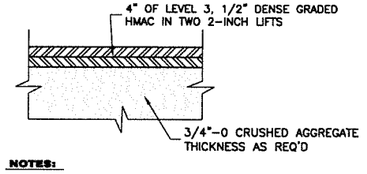
R1-2



W10-5P

SIGN DETAILS

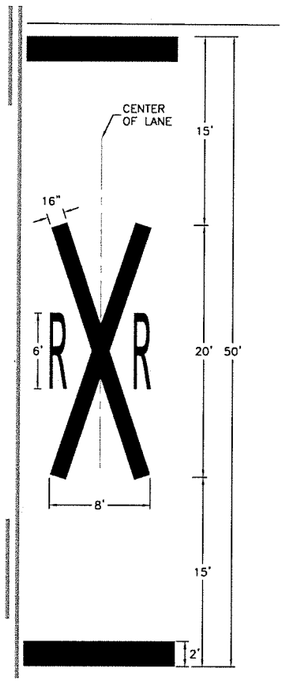
SCALE: N.T.S.



NOTES:

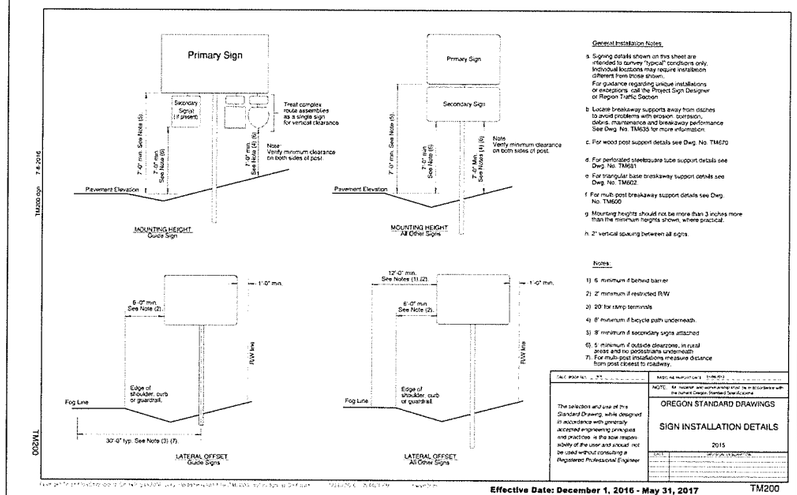
1. ASPHALT TO BE COMPACTED TO 92% OF RICE DENSITY.
2. AGGREGATE TO BE COMPACTED TO 95% OF OPTIMUM DENSITY (ASTM D-698)
3. AT RESIDENTIAL DRIVEWAY USE 3" HMAC IN ONE LIFT.

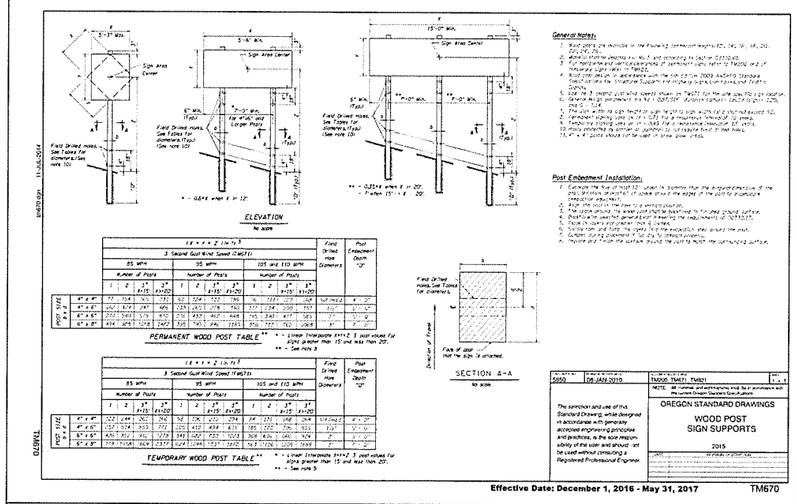
HMAC SECTION

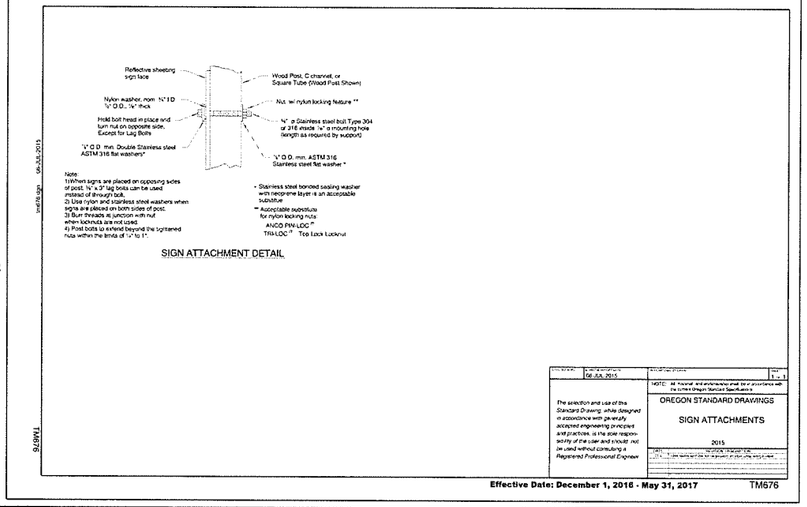


GRADE CROSSING PAVEMENT MARKING SYMBOL DETAIL

SCALE: N.T.S.







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WORK ORDER: 14636

DETAILS

FOR

HERMAN CREEK LANE
CROSSING SAFETY IMPROVEMENTS

CASCADE LOCKS, OREGON

PLOT DATE: 8/2/2019

AGENCY REVIEW ONLY

IF THIS BAR IS NOT ONE INCH, THEN ADJUST SCALES ACCORDINGLY

REGISTERED PROFESSIONAL ENGINEER
51,430
PRELIMINARY
OREGON
JULY 13, 1979
DARRIN O. ECKMAN

RENEWAL DATE: 12/31/19

DETAILS

SHEET 5 5

Work Order No. 14636