



CONTRACT PROVISIONS

**Contract Documents
Bid Proposal
Project Specifications
and Special Provisions**

for

**Onyx Drive Roadway Improvements
City Project No. 302.0138**

February 2020

**CITY OF LAKEWOOD
PUBLIC WORKS DEPARTMENT
6000 Main Street SW
Lakewood, WA 98499-5027**

CONTRACT PROVISIONS

for

Onyx Drive Roadway Improvements City Project No. 302.0138

February 2020

Prepared by:

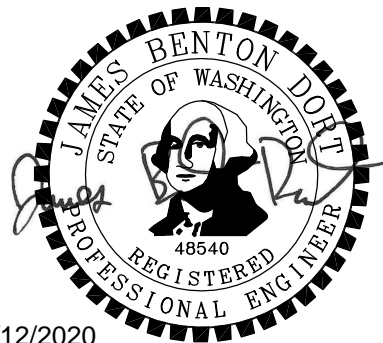
*BCRA
2106 Pacific Avenue, Suite 300
Tacoma, WA 98402*

The above mentioned Contract Provisions have been reviewed and approved for advertisement. Such review includes all contract documents, specifications, and plans associated with the project.

Prepared by: Andrew Cirillo, PE

Reviewed by: Ben Dort, P.E.

Approved by: Paul Bucich, P.E.



2/12/2020

**CONTRACT PROVISIONS
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City Project No. 302.0138**

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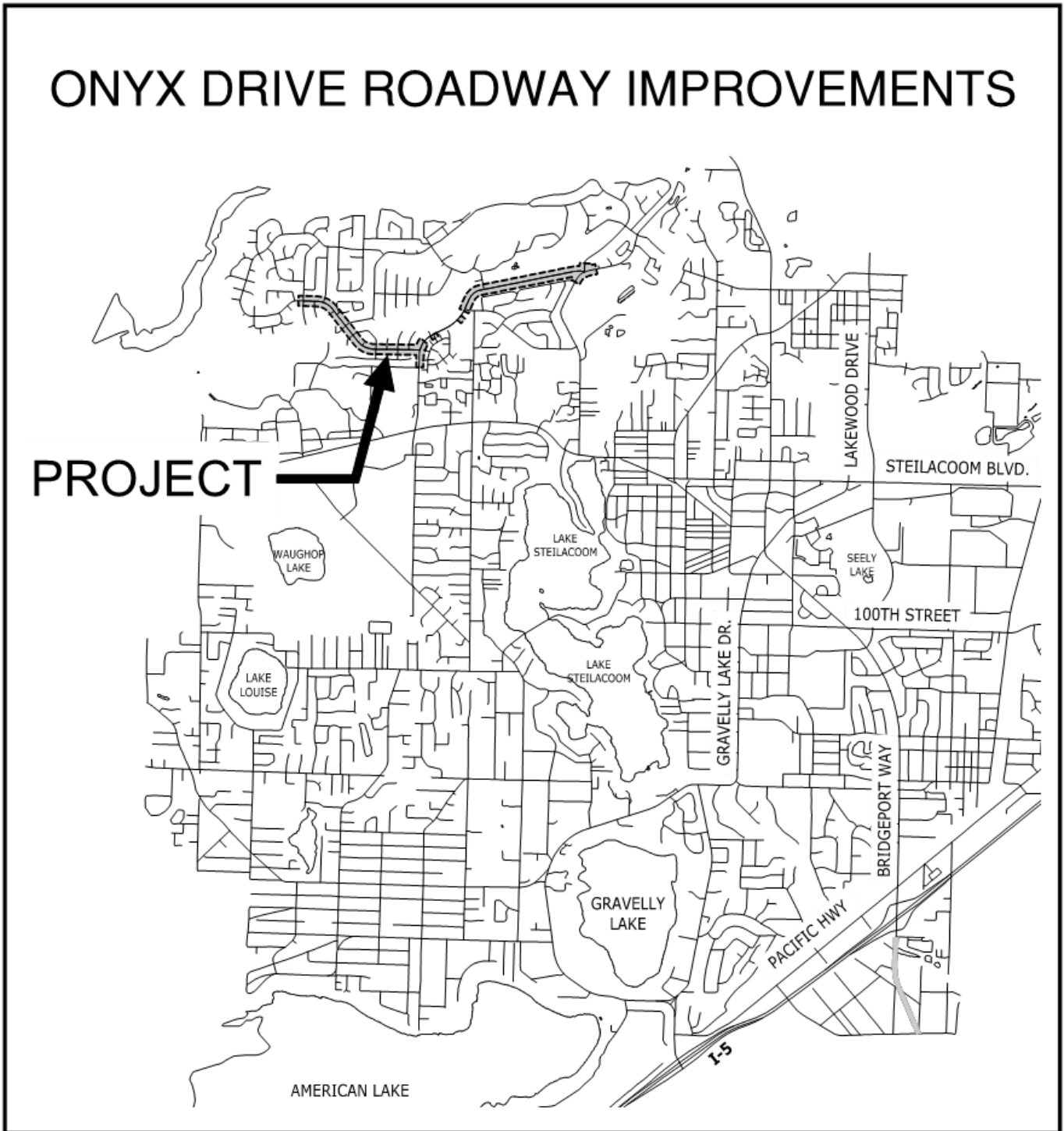
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- Appendix A – State Prevailing Wage Rates
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VICINITY MAP

ONYX DRIVE ROADWAY IMPROVEMENTS



ADVERTISEMENT FOR BIDS

Onyx Drive Roadway Improvements City Project No. 302.0138

Sealed bids will be received by the City of Lakewood at the office of the City Clerk at 6000 Main Street SW, Lakewood, Washington 98499-5027, until **2:00 p.m. on Thursday, March 5, 2020** and not later, and will then be opened and publicly read aloud in the American Lake Conference Room.

This contract provides for the construction of:

Improvements include roadway improvements to approximately 7,000 feet of Onyx Drive SW from 97th Avenue SW to 87th Avenue SW and from Garnet Lane SW to Phillips Road SW. Proposed work includes asphalt, curb, gutter, sidewalk, driveway and illumination improvements, and all other work necessary to complete the project as specified and shown in the Contract Documents.

Plans, specifications, addenda, and plan holders list for this project are available on-line through Builders Exchange of Washington, Inc. at <http://www.bxwa.com>. Click on: "Posted Projects"; "Public Works"; "City of Lakewood, WA." Bidders are encouraged to "Register as a Bidder", in order to receive automatic email notification of future addenda and to be placed on the "Bidders List". Contact Builders Exchange of Washington at (425) 258-1303 should you require further assistance. Informational copies of any available maps, plans, and specifications are on file for inspection in the office of the Lakewood Public Works Director (253) 589-2489.

Bidders shall be qualified for the type of work proposed. A Bidder's Construction Experience form is included in the Contract Provisions.

All bids shall be submitted on the prescribed Bid Forms and in the manner as stated in this advertisement and in the Bid Documents, and said bids shall be accompanied by a bid deposit in the form of cash, cashier's check, certified check, postal money order, or a surety bond to the City of Lakewood in the amount of five percent (5%) of the total amount of the bid. **Faxed bids and/or surety bonds will not be accepted.**

Bids must be submitted in a sealed envelope with the outside clearly marked with the bid opening date and time, the project name and number as it appears in this advertisement and the name and address of the bidder. Bids shall be addressed to the City Clerk, City of Lakewood, 6000 Main Street SW, Lakewood, Washington 98499-5027.

The City of Lakewood reserves the right to waive informalities in the bidding, accept a proposal of the lowest responsible bidder, reject any or all bids, republish the call for bids, revise or cancel the work, or require the work to be done in another way if the best interest of the City is served.

Briana Schumacher
City Clerk

Daily Journal of Commerce	Publish:	<u>February 13, 2020; February 20, 2020; February 27, 2020</u>
Tacoma News Tribune	Publish:	<u>February 13, 2020; February 20, 2020; February 27, 2020</u>

BIDDERS CHECKLIST

1. Have the bid forms been properly signed?
2. Have you bid on all items?
3. Is the contractor's state license number shown on the bid form?
4. Has a Bid Deposit or Bid Bond been included?
5. Has the non-collusion affidavit been properly executed?
6. Have you listed all sub-contractors that will be used for the project and signed the Listing of Proposed Subcontractors form? ***If no subcontractors are to be used so indicate.***
7. Has the Bidder's Construction Experience form been filled out?

The following forms are to be executed after the contract is awarded:

- A. Contract - To be executed by the successful Bidder and the City.
- B. Contract Bond (Performance and Payment Bond) - To be executed on the form provided by City, by the successful Bidder and its surety company. ***To include name and address of surety and power of attorney of signatory.***
- C. E-Verify Affidavit of Compliance completed and signed.
- D. Insurance certificate(s).
- E. Labor and Industries Forms.
- F. City of Lakewood Business License – Copy to be provided by contractor at pre-construction conference.

INFORMATION FOR BIDDERS

This Information for Bidders and the Advertisement for Bids are hereby made a part of the Contract Documents.

The following supplements the information in the Advertisement for Bids:

1. Bidding Requirements:

Sealed bids will be received by the City of Lakewood (herein called "City"), at the time, date, and location as stated in the Advertisement for Bids or as amended through addendum, and then at said office publicly opened and read aloud.

Each bid shall be received by the City in the manner set forth in the Advertisement for Bids. Each bid must be submitted in a sealed envelope, so marked as to indicate its contents without being opened, and labeled and addressed in conformance with the instructions of the Advertisement for Bids.

Each bid shall be submitted on the required Bid Form contained in the Contract Provisions, and the Bid Form must be fully completed and executed when submitted. Only one copy of the Bid Form is required.

Any bid may be withdrawn prior to the scheduled time for the opening of bids or authorized postponement thereof. Any bid received after the time and date specified will not be considered. No Bidder will be permitted to withdraw its bid between the closing time for receipt for bids and the execution of contract, unless the award is delayed for a period exceeding 30 calendar days. A conditional or qualified bid will not be accepted.

2. Sales Tax:

The City agrees to pay Washington State retail sales tax to the Bidder as set forth in Section 1-07.2 of the WSDOT Standard Specifications.

3. Examination of Plans, Specifications and Site:

Before submitting a bid, the Contractor shall carefully examine each component of the Contract Provisions prepared for the Work and any other available supporting data so as to be thoroughly familiar with all the requirements. However, the City and Engineer will not assume responsibility for variations of subsoil quality or condition at locations other than places shown and at the time investigation was made (if any). The availability of this information shall not relieve the Bidder of his/her/its duty to examine the project site nor of any other responsibility under the Contract.

The Bidder shall make an alert, "heads-up, eyes-open" reasonable examination of the project site and conditions under which the Work is to be performed, including but not limited to: current site topography; soil and moisture conditions; underground obstructions; public and private utilities; the availability and cost of labor; and available facilities for transportation, handling, and storage of materials and equipment.

Bidders must satisfy themselves of the accuracy of the estimated quantities in the bid schedule by examination of the site and review of the specifications, including addenda. After bids have been submitted, the Bidder shall not assert that there was a misunderstanding concerning the quantities of the work or of the nature of the work to be done.

The Contractor shall inform the City concerning any chemical hazard that the Contractor may bring to the City's workplace, and the Contractor shall comply with all applicable local, State and Federal laws relating to hazardous chemicals.

4. Property Issues:

All Bidders shall base their bids upon full restoration of all property within the right-of-way and construction limits, and wherever Bidder will have 'right of entry'. The easements and right of entry documents that have been acquired are available for inspection and review. The Bidder is advised to review the conditions of the permits, easements, and rights of entry, as he shall be required to comply with all conditions at no additional cost to the City. All other permits, licenses, etc., shall be the responsibility of the Bidder. The Bidder shall comply with the requirements of each.

5. Interpretation of Contract Provisions:

The Bidder shall promptly notify City of any discovered conflicts, ambiguities, or discrepancies in or between, or omissions from the Contract Provisions. Questions or comments about these Contract Provisions should be directed to the attention of Troy Pokswinski, City of Lakewood, (253) 983-7729. Questions received less than two (2) days prior to the date of bid opening might not be answered. Any interpretation or correction of the Contract Provisions will be made only by addendum, and a copy of such **addendum** will be mailed or delivered to each person receiving a set of such Contract Provisions. The City will be responsible for any other explanations or interpretations of the Contract Provisions. *No oral interpretations of any provision in the Contract Provisions will be made to any Bidder.*

6. Special Schedule Considerations/Sequencing of Work:

Attention is particularly called to those parts of the contract documents and specifications which deal with the following:

- (a) Inspection and testing of materials.
- (b) Insurance requirements.
- (c) Wage rates.
- (d) Stated allowances.

7. Award of Contract:

If the Bidder is notified of the acceptance of this bid within thirty (30) calendar days of the date set for opening bids, or any time thereafter before this bid is withdrawn, the Bidder shall execute a contract for the work, in the standard form of the contract noted in the specifications, for a compensation computed from the sums stipulated in the Bid Form and furnish insurance, performance, and payment bonds as stipulated. The successful Bidder, within ten (10) calendar days after the award date, shall return the signed City-prepared contract, all required Certificates of Insurance, and a satisfactory contract bond. The City, within twenty (20) calendar days of receipt of acceptable contract bond and contract signed by the party to whom the contract was awarded, shall sign the contract and return to such party an executed duplicate of the contract. Should there be reasons why the City cannot return the contract within such period, the time may be extended by mutual agreement of the City and Contractor. Should the City not execute the contract within such period, the Bidder may, by written notice, withdraw its signed contract. Such notice of withdrawal shall be effective upon receipt of the notice by the City.

Failure to execute the contract or return the insurance certificate and bond, or failure to provide Disadvantaged, Minority, or Women's Business Enterprise information if required in the contract shall result in forfeiture of the proposal bond (bid bond) or deposit of the Bidder.

The notice to proceed shall be issued within ten (10) calendar days of the execution of the contract by the City. Should there be reasons why the notice to proceed cannot be issued within such period, the time may be extended by mutual agreement between the City and the Contractor. If the notice to proceed has not been issued within ten (10) calendar days or within the period mutually agreed upon, the Contractor may terminate the contract without further

liability on the part of either party.

The contract, when endorsed by the City Manager, together with all bid documents, Standard Specifications, Special Provisions, Addenda and plans, shall become a contract binding on both parties whereby the Bidder agrees to perform the complete contract work, as specified, and the City agrees to make payment to the Bidder, as specified for the completed and accepted work.

8. Legal holidays for the City of Lakewood are:

New Year's Day	January 1
Martin Luther King's Birthday	3rd Monday in January
Washington's Birthday	3rd Monday in February
Memorial Day	Last Monday in May
Independence Day	July 4
Labor Day	1st Monday in September
Veteran's Day	November 11
Thanksgiving Day	4th Thursday of November
Day after Thanksgiving	4th Friday of November
Christmas Day	December 25

When any of these holidays occur on Saturday or Sunday, the preceding Friday or the following Monday, respectively, is a legal holiday for the City of Lakewood.

9. Hazardous Materials:

The Contractor shall inform the City concerning any chemical hazard that the Contractor may bring to the City's workplace, and the Contractor shall comply with all applicable local, State and Federal laws relating to hazardous chemicals.

**CITY OF LAKEWOOD
BIDDER INQUIRY FORM
Public Works Department**

The responses to Contractor's inquiries, unless incorporated into a formal addendum to the Contract, are not part of the Contract and are provided for the Contractor's convenience only. The responses may be considered along with all other information furnished to prospective Bidders for the purpose of Bidding on the project. The use of information provided in the responses to Contractor's inquiries is not to be construed in any way as a waiver of the provisions nor excuse the Contractor from full compliance with the Contract requirements. Bidders are cautioned that subsequent responses or Contract addenda may affect or vary a response previously given and any such subsequent response or addenda should be taken into consideration when submitting a Bid for the project. Inquiries submitted within forty-eight (48) hours of the Bid opening might not be addressed.

Bidder inquiries may be e-mailed to eswanstrom@cityoflakewood.us or submitted attention Eric Swanstrom, City of Lakewood Public Works, 6000 Main St. SW, Lakewood, WA 98499.

Company Name:

Contact Name:

Phone Number:

e-mail Address:

INQUIRY

Bidder Inquiry No. ___ of ___ (Include specific references to items, Specifications, and/or plan sheets with your inquiry.)

City of Lakewood Response - Name: _____ Phone: _____ Date: _____

ADDITIONAL INQUIRIES:

Bidder Inquiry No. ___ of ___ (Include specific references to items, Specifications, and/or plan sheets with your inquiry.)
City of Lakewood Response - Name: _____ Phone: _____ Date: _____

Bidder Inquiry No. ___ of ___ (Include specific references to items, Specifications, and/or plan sheets with your inquiry.)
City of Lakewood Response - Name: _____ Phone: _____ Date: _____

BID FORM

TO: City of Lakewood, City Clerk's Office
ADDRESS: 6000 Main Street SW, Lakewood, WA 98499-5027

PROPOSAL TO LAKEWOOD CITY COUNCIL, LAKEWOOD, WASHINGTON

**PROJECT: Onyx Drive Roadway Improvements
City Project No. 302.0138**

Bidder _____

Address _____

Date _____

Contractor's State Lic. # _____

Bidders Declaration of Understanding

The Bidder, in compliance with the City's Advertisement for Bids and Instructions for Bidders for **Onyx Drive Roadway Improvements**, having examined the specifications, drawings, related documents, and the site of the proposed work, and being familiar with all of the conditions surrounding the work of the proposed project including the availability of material and labor, hereby proposes to furnish all labor, materials, tools, expendable equipment, affidavits of prevailing wages paid, utility and transportation services, and incidentals, necessary to perform the complete contract, in a workmanlike manner, and as required by and in strict conformance with the Standard Specifications, Special Provisions, Addenda and plans, all for the rates and lump sum prices listed below. These prices shall cover all expenses incurred in performing the work required under the contract documents, for which this bid is a part. All sales tax shall be included in the lump sum and unit prices within this bid.

Base bid includes all work shown on drawings or described in the specifications except for items specifically described in the Alternate Bids.

The Base Bid will be determined by using the Bid Schedule. Quantities for lump sum items will not be measured, and payment will be made on the lump sum bid price.

The City will award the Base Bid and select all or any combination of the listed alternate(s) or make no award of the alternate(s) - whichever is in the City's best interest.

Completion Time and Liquidated Damages

If awarded a contract, the Bidder shall begin work within ten (10) calendar days after receipt of notice to proceed and complete the contract work, including corrections, finish and cleanup, within **One-Hundred and Twenty (120) working days** from the date in the Written Notice to Proceed.

It is further understood and agreed that the City may deduct liquidated damages from payments due or to become due the Contractor in the amount set forth in Section 1-08.9 for each working day in excess of the **One-Hundred and Twenty (120) working days** stipulated in the paragraph above.

The liquidated damages do not include, and are in addition to, damages from the costs for legal expense, administrative and court costs incurred beyond contract completion date. The cost of additional administrative surveillance, legal expense, and court costs beyond contract completion date shall be billed the contractor at standard billing rates for said services then in effect.

Prevailing Wages

The Bidder agrees to pay to labor not less than the hourly minimum rates of wages and fringe benefits determined by the State of Washington Department of Labor and Industries or, if applicable, the U.S. Secretary of Labor, whichever is the higher rate.

Unit Prices

The Bidder agrees that for adding or deleting work items to/from the scope of work, the contract sum shall be adjusted in accordance with the following unit prices, where the City elects to use this method of determining costs.

Unit prices listed refer to all items installed and completely in place and include all costs connected with such items, including, but not necessarily limited to: materials, labor, overhead, and projects for general contractor and/or subcontractor.

Change Orders

Written "Change Orders" will be issued formalizing and authorizing changes.

BID SCHEDULE
Onyx Drive Roadway Improvements
City Project No. 302.0138

Note: Unit prices for all items, all extensions, and the total amount bid must be shown. Where conflict occurs between the unit price and the total amount named for any item the unit price shall prevail, and totals shall be corrected to conform thereto. All entries must be typed or entered in ink. A bid must be received on all items. If any unit prices or extensions are left blank or represent \$0.00, the bid will be disqualified.

Item No.	Section Number	Item Description	Quantity	Unit	Unit Price	Amount
1	SP 1-05.4	Roadway Surveying	1	LS		
2	SS 1-07.15	SPCC Plan	1	LS		
3	SS 1-09.7	Mobilization	1	LS		
4	SS 1-10	Project Temporary Traffic Control	1	LS		
5	SS 1-10	Pedestrian Traffic Control	1	LS		
6	SP 2-01	Clearing and Grubbing	1	LS		
7	SP 2-01	Roadside Cleanup	1	FA	\$ 20,000	\$ 20,000
8	SP 2-02	Removal of Structure and Obstruction	1	LS		
9	SP 2-02	Sawcutting	8,570	LF		
10	SP 2-02	Utility Potholing	40	Ea.		
11	SP 2-02	Utility Conflict Resolution	1	FA	\$ 10,000	\$ 10,000
12	SP 2-03	Roadway Excavation Incl. Haul	8,850	CY		
13	SS 2-03	Unsuitable Foundation Excavation, Incl. Haul	470	CY		
14	SP 2-03	Gravel Borrow Incl. Haul	1,400	Ton		

Item No.	Section Number	Item Description	Quantity	Unit	Unit Price	Amount
15	SP 2-03	Embankment Compaction	2,700	CY		
16	SP 2-09	Trench Protection System	1	LS		
17	SP 4-04	Crushed Surfacing Top Course	5,080	Ton		
18	SP 5-04	HMA Cl. 1/2" PG 58H-22	4,320	Ton		
19	SP 5-04	HMA for Approach Cl. 1/2" PG 58H-22	720	Ton		
20	SP 5-05	Raised Crosswalk	186	SY		
21	SP 6-02	Cast-In-Place Concrete Wall	1,120	SF		
22	SP 7-04	Schedule A Storm Sewer Pipe, 12 In. Diam.	990	LF		
23	SP 7-04	Ductile Iron Storm Sewer Pipe, 12 In. Diam.	398	LF		
24	SP 7-05	Catch Basin Type 1	40	Ea.		
25	SP 7-05	Catch Basin Type 2, 48-In. Diam.	4	Ea.		
26	SP 7-05	Catch Basin Type 2, 60-In. Diam.	2	Ea.		
27	SP 7-05	Adjust Catch Basin	16	Ea.		
28	SP 7-05	Adjust Manhole	28	Ea.		
29	SP 7-05	Rotate Lid and Ladder	7	Ea.		
30	SS 7-05	Connection to Drainage Structure	12	Ea.		
31	SP 7-05	3' Infiltration Trench	210	LF		

Item No.	Section Number	Item Description	Quantity	Unit	Unit Price	Amount
32	SP 7-05	6' Infiltration Trench	40	LF		
33	SP 7-06	1' Interceptor Trench	3,906	LF		
34	SP 7-06	2' Interceptor Trench	5,334	LF		
35	SP 7-05	Water Quality Treatment Unit 1	1	LS		
36	SP 7-05	Water Quality Treatment Unit 2	1	LS		
37	SP 7-05	Water Quality Treatment Unit 3	1	LS		
38	SP 7-05	Water Quality Treatment Unit 4	1	LS		
39	SP 7-05	Water Quality Treatment Unit 5	1	LS		
40	SP 7-05	Adjust Catch Basin, Furnish New Frame and Cover	8	Ea.		
41	SS 7-14	Moving Existing Hydrant	1	Ea.		
42	SP 7-20	Adjust Valve Casing	58	Ea.		
43	SP 7-20	Adjust Junction Box	45	Ea.		
44	SP 8-01	Erosion/Water Pollution Control	1	LS		
45	SP 8-01	Inlet Protection	86	Ea.		
46	SP 8-01	Seeding, Fertilizing, and Mulching	1,280	SY		
47	SS 8-01	Silt Fence	2,280	LF		
48	SP 8-02	Plant Selection Amelanchier X Grandiflora	26	Ea.		

Item No.	Section Number	Item Description	Quantity	Unit	Unit Price	Amount
49	SP 8-02	Bark Mulch	360	CY		
50	SP 8-02	Topsoil Type A	610	CY		
51	SP 8-04	Cement Concrete Traffic Curb and Gutter	14,010	LF		
52	SP 8-04	Cement Concrete Rolled Curb	550	LF		
53	SP 8-04	Cement Concrete Pedestrian Curb	1,040	LF		
54	SP 8-06	Cement Concrete Approach	110	SY		
55	SP 8-06	Cement Concrete Driveway Entrance Type 1	1,680	SY		
56	SP 8-06	Cement Concrete Driveway Entrance Type 2	130	SY		
57	SP 8-06	Cement Concrete Driveway Entrance Type 3	197	SY		
58	SP 8-06	Cement Concrete Driveway Entrance Type 4	27	SY		
59	SP 8-06	Colored Cement Concrete Pullout	289	SY		
60	SS 8-09	Raised Pavement Marker Type 2	2	Per 100		
61	SP 8-12	Wood Fence	442	LF		
62	SP 8-13	Survey Monument	19	Ea.		
63	SP 8-14	Cement Concrete Sidewalk	8,160	SY		
64	SP 8-14	Cement Conc. Single Direction Curb Ramp Type A	17	Ea.		
65	SP 8-14	Cement Conc. Perpendicular Curb Ramp Type A	3	Ea.		

Item No.	Section Number	Item Description	Quantity	Unit	Unit Price	Amount
66	SP 8-14	Cement Concrete Parallel Curb Ramp Type A	7	Ea.		
67	SP-8-14	Cement Concrete Parallel Curb Ramp Type B	28	Ea.		
68	SP 8-14	Cast Iron Detectable Warning Surface	1,110	SF		
69	SP 8-15	Cobble Surfacing	145	Ton		
70	SP 8-18	Cluster Mailbox, 4 Unit	11	Ea.		
71	SP 8-18	Cluster Mailbox, 8 Unit	1	Ea.		
72	SP 8-20	Illumination System Complete	1	LS		
73	SP 8-21	Permanent Signing	1	LS		
74	SP 8-21	Project Sign	2	Ea.		
75	SP 8-21	Hard-wired Radar Speed Sign	1	LS		
76	SP 8-22	Paint Line	165	LF		
77	SP 8-22	Painted Wide Lane Line	365	LF		
78	SP 8-22	Profiled Plastic Line	6,630	LF		
79	SP 8-22	Profiled Plastic Wide Lane Line	30	LF		
80	SP 8-22	Plastic Stop Line	313	LF		
81	SP 8-22	Plastic Traffic Arrow	4	Ea.		
82	SP 8-22	Plastic Speed Table Marking	10	Ea.		

Item No.	Section Number	Item Description	Quantity	Unit	Unit Price	Amount
83	SP 8-22	Plastic Bicycle Lane Symbol	1	Ea.		
84	SP 8-22	Plastic Crosswalk Marking	543	LF		
85	SS 8-22	Temporary Pavement Markings - Short Duration	6,530	LF		

BID TOTAL: \$ _____

BIDDER INFORMATION AND SIGNATURE

The Bidder proposes to accept as full payment for the work proposed herein, the amount computed under the provisions of the Contract Documents. The undersigned bids for the following described project:

Onyx Drive Roadway Improvements City Project No. 302.0138

Addenda Acknowledgment

By signing below, Bidder acknowledges receipt and understanding of the following Addenda to the Contract Provisions:

Addendum No.	Date of Receipt	Signature
1		
2		
3		
4		
5		

Note: Failure to acknowledge receipt of Addenda may be considered as an irregularity in the Bid Proposal and the City reserves the right to determine whether the bid will be disqualified.

The party by whom this bid is submitted and by whom the contract will be entered into, in the event the award is made to this party, is:

Contractor (Firm Name)

Signature

Address

Name (Print) & Title

Phone Number

Date of Signing

Contractor's Washington State License
Number

(Indicate whether contractor is partnership,
joint venture, corporation, or sole
proprietorship)*

*If Bidder is a corporation, write State of Incorporation under signature. If partnership, give full names of all partners.

The name of the President, Treasurer, and/or Manager of the bidding corporation, or the names of all persons and parties interested in this bid as partners or principals, are as follows:

Name	Address

If Sole Proprietor or Partnership

IN WITNESS hereto, the undersigned has set his (its) hand this _____ day of _____, 20____.

Signature of Bidder

Title

If Corporation

IN WITNESS WHEREOF, the undersigned corporation has caused this instrument to be executed by its duly authorized officers this _____ day of _____, 20____.

Attest:

Name of Corporation

Secretary

by _____

Title _____

Sworn to me before me this _____ day of _____, 20____.

Notary Public in and for the State of
Washington Residing at

NOTES:

If the Bidder is a co-partnership, give firm name under which business is transacted; proposal must be executed by a partner. If the Bidder is a corporation, proposal must be executed in the corporate name by the president or vice-president (or any other corporate officer accompanied by evidence of authority to sign).

DEPOSIT OR BID BOND FORM

BID DEPOSIT STATEMENT:

A Bid Guaranty in an amount of five percent (5%) of the total amount bid based upon the approximate estimate of quantities at the prices stated in this bid, and in the form identified below, is attached hereto:

Cash in the amount of \$ _____

Cashier's Check in the amount of \$ _____ # _____

Certified Check in the amount of \$ _____ payable to the City

Postal Money Order in the amount of \$ _____

Bid Bond in the amount of five percent (5%) of the total bid amount (see attached form).

Surety:

If the Bidder is awarded a construction contract on this Bid, the Surety that will provide the Contract Bond will be:

_____ Whose address is:

_____ Street

_____ City State Zip Code

BID BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, _____ as Principal and _____ as Surety, are held and firmly bound unto the CITY OF LAKEWOOD as Obligee, in the penal sum of _____ Dollars, for the payment of which the Principal and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, by these presents.

The condition of this obligation is such that if the Obligee shall make any award to the Principal for:

_____ according to the terms of the bid made by the Principal, and the Principal shall duly make and enter into a contract with the Obligee in accordance with the terms of said bid and award and shall give bond for the faithful performance thereof, with Surety or Sureties approved by the Obligee; or if the Principal shall, in case of failure so to do, pay and forfeit to the Obligee the penal amount of the deposit specified in the advertisement for bids, then this obligation shall be null and void; otherwise it shall be and remain in full force and effect and the Surety shall forthwith pay and forfeit to the Obligee, as penalty and liquidated damages, the amount of this bond.

SIGNED, SEALED AND DATED THIS _____ day of _____, 20____.

Principal

Surety

Signature of Authorized Official

By _____
Attorney in Fact (Attach Power of Attorney)

Title (Typed)

Name and address of local _____
Agent and/or Surety _____
Company: _____

Surety companies executing bonds must appear on the current Authorized Insurance List in the State of Washington per Section 1-02.7 of the Standard Specifications.

Local Agency Name City of Lakewood
Local Agency Address 6000 Main ST SW Lakewood, WA 98499

Local Agency Subcontractor List

Prepared in compliance with RCW 39.30.060 as amended

To Be Submitted with the Bid Proposal

Project Name Onyx Drive Roadway Improvements

Failure to list subcontractors with whom the bidder, if awarded the contract, will directly subcontract for performance of the work of heating, ventilation and air conditioning, plumbing, as described in Chapter 18.106 RCW, and electrical, as described in Chapter 19.28 RCW or naming more than one subcontractor to perform the same work will result in your bid being non-responsive and therefore void.

Subcontractor(s) with whom the bidder will directly subcontract that are proposed to perform the work of heating, ventilation and air conditioning, plumbing, as described in Chapter 18.106 RCW, and electrical as described in Chapter 19.28 RCW must be listed below. The work to be performed is to be listed below the subcontractor(s) name.

To the extent the Project includes one or more categories of work referenced in RCW 39.30.060, and no subcontractor is listed below to perform such work, the bidder certifies that the work will either (i) be performed by the bidder itself, or (ii) be performed by a lower tier subcontractor who will not contract directly with the bidder.

Subcontractor Name _____
 Work to be Performed _____

Subcontractor Name _____
 Work to be Performed _____

Subcontractor Name _____
 Work to be Performed _____

Subcontractor Name _____
 Work to be Performed _____

Subcontractor Name _____
 Work to be Performed _____

*Bidder's are notified that is the opinion of the enforcement agency that PVC or metal conduit, junction boxes, etc, are considered electrical equipment and therefore considered part of electrical work, even if the installation is for future use and no wiring or electrical current is connected during the project.

BIDDER'S CONSTRUCTION EXPERIENCE

All questions must be answered and the data given must be clear and comprehensive. If necessary, add separate sheets for items marked "*".

1. Name of Bidder:
2. Permanent main office address:
3. When organized:
4. Where incorporated:
5. How many years have you been engaged in the contracting business under your present firm name?
6. *Contracts on hand. (Schedule these, showing gross amount of each contract and the approximate anticipated dates of completion.)
7. *General character of work performed by your company:
8. *Have you ever failed to complete any work awarded to you?
If so, where and why?
9. *Have you ever defaulted on a contract?
10. *List the more important projects recently completed by your company, stating approximate cost for each, and the month and year completed.
11. *List your major equipment available for this contract:
12. *Experience in construction work similar in importance to this project:
13. Will you, upon request, fill out a detailed financial statement and furnish any other information that may be required by the City?
14. The undersigned hereby authorizes and requests any person, firm or corporation to furnish any information requested by the City of Lakewood.

Bidder: _____

Date: _____

By: _____

Title: _____

CONTRACT AGREEMENT

Onyx Drive Roadway Improvements

City Project No. 302.0138

THIS AGREEMENT, made and entered into this _____ day of _____, 20____, by and between the **CITY OF LAKEWOOD**, Washington, a municipal corporation, hereinafter referred to as the City, and _____, hereinafter called the Contractor,.

WITNESSETH:

WHEREAS, the City desires to have certain services and/or work performed as hereinafter set forth requiring specialized skills and other supportive capabilities; and,

WHEREAS, the Contractor represents that the Contractor is qualified and possesses sufficient skills and the necessary capabilities, including technical and professional expertise where required, to perform the services set forth in this Agreement.

NOW THEREFORE, in consideration of the terms, conditions, covenants, and performance contained herein, the parties hereto agree as follows:

1. SCOPE OF SERVICES.

The Contractor shall perform such services and accomplish such work, including the furnishing of all materials and equipment necessary for full performance thereof, as are identified and designated as Contractor responsibilities throughout this Agreement and as detailed in the attached plans, specifications, addenda, and the 2018 Standard Specifications for Road, Bridge, Municipal Public Works Construction prepared by the Washington State Department of Transportation and the Washington State Chapter of the American Public Works Association herein after called the Standard Specification, and shall perform any alterations in or additions to the work provided under this contract and every part thereof.

2. TIME FOR PERFORMANCE AND LIQUIDATED DAMAGES.

A. The Contractor shall perform the work of the scope of service in accordance with the time for performance as specified in the Bid Form.

B. Liquidated damages shall apply as specified in the Bid Form.

3. COMPENSATION AND METHOD OF PAYMENT.

A. Payments for services provided hereunder shall be made following the performance of such services, unless otherwise permitted by law and approved in writing by the City.

B. No payment shall be made for any service rendered by the Contractor except for services identified and set forth in this agreement.

C. The City shall pay the Contractor for work performed under this Agreement as detailed in the Bid Schedule which is incorporated herein and made a part hereof by this reference.

D. The Contractor shall submit to the City, in accordance with the procedures specified in the Standard Specifications, and on forms approved by the City, a voucher or invoice for services rendered during the pay period. The City shall initiate authorization for payment after receipt of said approved voucher or invoice and shall make payment to the Contractor within approximately thirty (30) days thereafter.

4. INDEPENDENT CONTRACTOR RELATIONSHIP.

A. The parties intend that the relationship of an independent Contractor between the Contractor and the City will be created by this Agreement. The City is interested primarily in the results to be achieved. The implementation of services will lie solely with the Contractor. No agent, employee, servant or representative

of the Contractor shall be deemed to be an employee, agent, servant or representative of the City for any purpose, and the employees of the Contractor are not entitled to any of the benefits the City provides for its employees. The Contractor will be solely and entirely responsible for its acts and for the acts of its agents, employees, servants, subcontractors or representatives during the performance of this Agreement.

B. In the performance of the services herein contemplated the Contractor is an independent contractor with the authority to control and direct the performance of the details of the work, however, the results of the work contemplated herein must meet the approval of the City and shall be subject to the City's general rights of inspection and review to secure the satisfactory completion thereof.

5. CONTRACTOR'S EMPLOYEES – PREVAILING WAGE REQUIREMENTS.

The Contractor shall be responsible for payment of wages and salaries, plus all appropriate and timely employment related contributions, for all employees of the Contractor, including but not limited to Workers Compensation Insurance and Unemployment Insurance. The Contractor shall also comply with applicable prevailing wage requirements, and shall document the same to the City upon request, and shall file with the City appropriate affidavits, certificates and/or statements of compliance with the prevailing wage requirements. The Contractor shall also ensure that any sub-contractors or agents of the Contractor shall comply with the requirements hereof.

6. CONTRACTOR'S EMPLOYEES – EMPLOYMENT ELIGIBILITY REQUIREMENTS

The Contractor and any subcontractors shall comply with E-Verify as set forth in Lakewood Municipal Code Chapter 1.42. E-Verify is an Internet-based system operated by United States Citizenship and Immigration Services in partnership with the Social Security Administration. E-Verify is free to employers and is available in all 50 states. E-Verify provides an automated link to federal databases to help employers determine employment eligibility of new hires and the validity of their Social Security numbers. The Contractor shall enroll in, participate in and document use of E-Verify as a condition of the award of this contract. The Contractor shall continue participation in E-Verify throughout the course of the Contractor's contractual relationship with the City. If the Contractor uses or employs any subcontractor in the performance of work under this contract, or any subsequent renewals, modifications or extension of this contract, the subcontractor shall register in and participate in E-Verify and certify such participation to the Contractor. The Contractor shall show proof of compliance with this section, and/or proof of subcontractor compliance with this section, within three (3) working days of the date of the City's request for such proof.

7. BOND REQUIREMENTS.

The Contractor shall provide and deliver to the City, through its Contract Administrator identified below, such Performance Bond(s) as may be required by the City, in such amount(s) and form(s) as required by the City.

8. HOLD HARMLESS AND INDEMNIFICATION.

The Contractor shall indemnify and hold the City and its agents, employees, and/or officers, harmless from and shall process and defend at its own expense any and all claims, demands, suits, at law or equity, actions, penalties, losses, damages, or costs, of whatsoever kind or nature, brought against the City arising out of, in connection with, or incident to the execution of this Agreement and/or the Contractor's performance or failure to perform any aspect of this Agreement; provided, however, that if such claims are caused by or result from the concurrent negligence of the City, its agents, employees, and/or officers, this indemnity provision shall be valid and enforceable only to the extent of the negligence of the Contractor; and provided further, that nothing herein shall require the Contractor to hold harmless or defend the City, its agents, employees and/or officers from any claims arising from the sole negligence of the City, its agents, employees, and/or officers. No liability shall attach to the City by reason of entering into this Agreement except as expressly provided herein.

9. INSURANCE.

The Contractor shall obtain, and keep in force during the full term of this Agreement, Public Liability and Property Damage Insurance in accordance with Sections 1-07.18 of the APWA General Special Provisions to the Standard Specifications and the following additions:

A. The City shall be specifically named as **ADDITIONAL INSURED** in the insurance coverage required hereinabove. A certificate of such insurance or a copy of such insurance policy or policies shall be provided to the City within ten (10) working days after the execution of the Agreement. The Contractor's insurer shall agree to give the City thirty (30) days written notice of cancellation or reduction in coverage below the limits set forth herein. Coverage in the minimum amount set forth herein shall not be construed to relieve the Contractor from liability in excess of such coverage. Further, the City reserves all claims or rights of action against the Contractor as if the City were not named in the subject policy or policies.

10. COMPLIANCE WITH LAWS.

A. The Contractor, in the performance of the Agreement, shall comply with all applicable federal, state or local laws and ordinances, including regulations for licensing, certification and operation of facilities, programs and accreditation, and licensing of individuals, and any other standards or criteria as described in this Agreement to assure quality of services.

B. The Contractor specifically agrees to pay any applicable business and permit fees and taxes which may be due on account of this Agreement.

11. NONDISCRIMINATION.

A. The City is an equal opportunity employer.

B. In the performance of this Agreement, the Contractor will not discriminate against any employee or applicant for employment on the grounds of race, creed, color, national origin, sex, marital status, age, or the presence of any sensory, mental or physical handicap; provided that the prohibition against discrimination in employment because of handicap shall not apply if the particular disability prevents the proper performance of the particular worker involved. The Contractor shall ensure that applicants are employed, and that employees are treated during employment without discrimination because of their race, creed, color, national origin, sex, marital status, age, or the presence of any sensory, mental or physical handicap. Such action shall include, but not be limited to: employment, upgrading, demotion or transfers, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and programs for training including apprenticeships. The Contractor shall take such action with respect to this Agreement as may be required to ensure full compliance with Chapter 49.60 Revised Code of Washington, Law Against Discrimination.

C. The Contractor will not discriminate against any recipient of any services or benefits provided for in this Agreement on the grounds of race, creed, color, national origin, sex, marital status, age or the presence of any sensory, mental or physical handicap.

D. If any assignment and/or subcontracting has been authorized by the City, said assignment or subcontract shall include appropriate safeguards against discrimination. The Contractor shall take such action as may be required to ensure full compliance with the provision in the immediately preceding paragraphs herein.

12. RESTRICTION AGAINST ASSIGNMENT.

The Contractor shall not assign this Contract or any interest herein, nor any money due or to become due hereunder without first obtaining the written consent of the City, nor shall the Contractor subcontract any part of the services to be performed hereunder, without first obtaining the consent of the City.

13. CONTINUATION OF PERFORMANCE.

In the event that any dispute or conflict arises between the parties while this Contract is in effect, the Contractor agrees that, notwithstanding such dispute or conflict, the Contractor shall continue to make a good faith effort to cooperate and continue work toward successful completion of assigned duties and

responsibilities.

14. CONTRACT ADMINISTRATION.

This Contract shall be administered by _____ on behalf of the Contractor and by the City Manager or designee on behalf of the City. Any written notices required by terms of this Contract shall be served or mailed to the following address(es):

If to the City:

City of Lakewood
6000 Main Street SW
Lakewood, WA 98499

If to the Contractor:

15. CONSTRUCTION AND VENUE.

This Contract shall be construed in accordance with laws of the State of Washington. In the event of any litigation regarding the construction or effect of this Contract, or the rights of the parties pursuant to this Contract, it is agreed that venue shall be Pierce County, Washington.

16. TERMINATION AND SUSPENSION.

A. The City may terminate this Agreement upon not less than fifteen (15) days written notice to the Contractor if the services provided for herein are no longer needed from the Contractor.

B. If this Agreement is terminated through no fault of the Contractor, the Contractor shall be compensated for services performed prior to termination in accordance with the rate of compensation provided in the Contract Documents incorporated herein.

17. MERGER AND AMENDMENT.

This Contract contains the entire understanding of the parties with respect to the matters set forth herein and any prior or contemporaneous understandings are merged herein. This contract shall not be modified except by written instrument executed by all parties hereto.

IN WITNESS WHEREOF the parties hereto have caused this agreement to be executed the day and year first above written.

CITY OF LAKEWOOD, OWNER

CONTRACTOR

John J. Caulfield, City Manager

Name: _____
Title: _____

ATTEST:

Alice M. Bush, MMC, City Clerk

APPROVED AS TO FORM:

Heidi Wachter, City Attorney

CONTRACT BOND (PERFORMANCE AND PAYMENT BOND)

Bond to the City of Lakewood

Bond #

KNOW ALL MEN BY THESE PRESENTS:

That we, the undersigned, _____ as Principal, and _____ a corporation, organized and existing under the laws of the State of Washington, as a surety corporation, and qualified under the laws of the State of Washington to become surety upon bonds of contractors with municipal corporations as surety, are jointly and severally held and firmly bound to the **City of Lakewood** in the penal sum of \$ _____ for the payment of which sum on demand we bind ourselves and our successors, heirs, administrators or personal representatives, as the case may be.

This obligation is entered into pursuant to the statutes of the State of Washington and the ordinances of the City of Lakewood.

Dated at _____, Washington, this _____ day of _____, 20____.

The conditions of the above obligation are such that:

WHEREAS, the City of Lakewood has let or is about to let to the said _____ the above bounded Principal, a certain contract, the said contract being numbered 302.0138, and providing for construction of Onyx Drive Roadway Improvements (which contract is referred to herein and is made a part hereof as though attached hereto), and

WHEREAS, the said Principal has accepted, or is about to accept, the said contract, and undertake to perform the work therein provided for in the manner and within the time set forth; now, therefore,

If the said Principal, _____, shall faithfully perform all of the provisions of said contract in the manner and within the time therein set forth, or within such extensions of time as may be granted under said contract, and shall pay all laborers, mechanics, subcontractors and materialmen, and all persons who shall supply said Principal or subcontractors with provisions and supplies for the carrying on of said work, applicable taxes, and workers compensation premiums, and shall indemnify and hold the City of Lakewood harmless from any damage or expense by reason of failure of performance as specified in said contract or from defects appearing or developing in the material or workmanship provided or performed under said contract within a period of one year after its acceptance thereof by the City of Lakewood, then and in that event, this obligation shall be void; but otherwise, it shall be and remain in full force and effect.

Executed at _____, Washington this _____ day of _____, 20____.

Principal

Surety

Signature of Authorized Official

Signature of Authorized Official

Title

Attorney in Fact (Attach Power of Attorney)

Name and address of local Office of agent
And/or Surety Company:

Surety companies executing bonds must appear on the current Authorized Insurance List in the State of Washington per Section 1-02.7 of the Standard Specifications.

CITY OF LAKEWOOD

E-VERIFY REQUIREMENTS FOR CONTRACTORS

By Ordinance, the City of Lakewood requires that all contractors who enter into agreements to provide services or products to the City use the Department of Homeland Security's E-Verify system when hiring new employees for the term of the contract.

E-Verify is an electronic system designed to verify the documentation of job applicants. It is run by the Department of Homeland Security.

Who is affected?

- All contractors doing business for the City of Lakewood. There is no minimum dollar value for contracts affected.
- All subcontractors employed by the general contractor on these contracts.

Are there exceptions?

- Contracts for "Commercial-Off-The-Shelf" items are exempted from this requirement.
- Individuals, Companies, or other organizations who do not have employees.

How long must the contractor comply with the E-Verify system?

- For at least the term of the contract.

Are there other stipulations?

- E-Verify must be used ONLY for NEW HIRES during the term of the contract. It is NOT to be used for EXISTING EMPLOYEES.
- E-Verify must be used to verify the documentation of ANY new employee during the term of the contract, not just those directly or indirectly working on deliverables related to the City of Lakewood contract.

How will the City of Lakewood check for compliance?

- All contractors will retain a copy of the E-Verify Memorandum of Understanding that they execute with the Department of Homeland Security AND
- Sign and submit to the City an Affidavit of Compliance with their signed contract.
- All General Contractors will be required to have their subcontractors sign an Affidavit of Compliance and retain that Affidavit for 4 years after end of the contract.
- The City of Lakewood has the right to audit the Contractor's compliance with the E-Verify Ordinance.

Further information on E-Verify can be found at the following website:

<http://www.uscis.gov/e-verify>

If you have questions about the City's E-Verify Ordinance, please contact the City of Lakewood's legal department prior to contracting with the City.

CITY OF LAKEWOOD

**AFFIDAVIT OF COMPLIANCE WITH LAKEWOOD MUNICIPAL CODE 1.42
“E-VERIFY“**

As the person duly authorized to enter into such commitment for

_____,
(Company or Organization Name)

I hereby certify that the Company or Organization named herein will

(check one box below)

- Be in compliance with all of the requirements of City of Lakewood Municipal Code Chapter 1.42 for the duration of the contract entered into between the City of Lakewood and the Company or Organization.

OR

- Hire no employees for the term of the contract between the City and the Company or Organization.

NAME

TITLE

DATE

Amendments to Standard Specifications

1 INTRO.AP1

2 **INTRODUCTION**

3 The following Amendments and Special Provisions shall be used in conjunction with the
4 2018 Standard Specifications for Road, Bridge, and Municipal Construction.

5

6

AMENDMENTS TO THE STANDARD SPECIFICATIONS

7

8 The following Amendments to the Standard Specifications are made a part of this contract
9 and supersede any conflicting provisions of the Standard Specifications. For informational
10 purposes, the date following each Amendment title indicates the implementation date of the
11 Amendment or the latest date of revision.

12

13 Each Amendment contains all current revisions to the applicable section of the Standard
14 Specifications and may include references which do not apply to this particular project.

15

16 1-01.AP1

17 **Section 1-01, Definitions and Terms**

18 **August 6, 2018**

19 **1-01.3 Definitions**

20 The following new term and definition is inserted before the definition for “Shoulder”:

21

22 **Sensitive Area** – Natural features, which may be previously altered by human activity,
23 that are present on or adjacent to the project location and protected, managed, or
24 regulated by local, tribal, state, or federal agencies.

25

26 The following new term and definition is inserted after the definition for “Working Drawings”:

27

28 **WSDOT Form** – Forms developed and maintained by WSDOT that are required or
29 available for use on a project. These forms can be downloaded from the forms
30 catalogue at:

31

32 <http://wsdot.wa.gov/forms/pdfForms.html>

33

34 1-02.AP1

35 **Section 1-02, Bid Procedures and Conditions**

36 **June 3, 2019**

37 **1-02.4(1) General**

38 This section is supplemented with the following:

39

40 Prospective Bidders are advised that the Contracting Agency may include a partially
41 completed Washington State Department of Ecology (Ecology) Transfer of Coverage
42 (Ecology Form ECY 020-87a) for the Construction Stormwater General Permit
43 (CSWGP) as part of the Bid Documents. When the Contracting Agency requires the
44 transfer of coverage of the CSWGP to the Contractor, an informational copy of the
45 Transfer of Coverage and the associated CSWGP will be included in the appendices.
46 As a condition of Section 1-03.3, the Contractor is required to complete sections I, III,
47 and VIII of the Transfer of Coverage and return the form to the Contracting Agency.

48

1 The Contracting Agency is responsible for compliance with the CSWGP until the end of
2 day that the Contract is executed. Beginning on the day after the Contract is executed,
3 the Contractor shall assume complete legal responsibility for compliance with the
4 CSWGP and full implementation of all conditions of the CSWGP as they apply to the
5 Contract Work.
6

7 **1-02.5 Proposal Forms**

8 The first sentence of the first paragraph is revised to read:
9

10 At the request of a Bidder, the Contracting Agency will provide a physical Proposal
11 Form for any project on which the Bidder is eligible to Bid.
12

13 **1-02.6 Preparation of Proposal**

14 Item number 1 of the second paragraph is revised to read:
15

- 16 1. A unit price for each item (omitting digits more than two places to the right of the
17 decimal point),
18

19 In the third sentence of the fourth paragraph, "WSDOT Form 422-031" is revised to read
20 "WSDOT Form 422-031U".
21

22 The following new paragraph is inserted before the last paragraph:
23

24 The Bidder shall submit with their Bid a completed Contractor Certification Wage Law
25 Compliance form (WSDOT Form 272-009). Failure to return this certification as part of
26 the Bid Proposal package will make this Bid Nonresponsive and ineligible for Award. A
27 Contractor Certification of Wage Law Compliance form is included in the Proposal
28 Forms.
29

30 **1-02.13 Irregular Proposals**

31 Item 1(h) is revised to read:
32

- 33 h. The Bidder fails to submit Underutilized Disadvantaged Business Enterprise Good
34 Faith Effort documentation, if applicable, as required in Section 1-02.6, or if the
35 documentation that is submitted fails to demonstrate that a Good Faith Effort to
36 meet the Condition of Award was made;
37

38 Item 1(i) is revised to read the following three items:
39

- 40 i. The Bidder fails to submit a UDBE Bid Item Breakdown form, if applicable, as
41 required in Section 1-02.6, or if the documentation that is submitted fails to meet
42 the requirements of the Special Provisions;
43
44 j. The Bidder fails to submit UDBE Trucking Credit Forms, if applicable, as required in
45 Section 1-02.6, or if the documentation that is submitted fails to meet the
46 requirements of the Special Provisions; or
47
48 k. The Bid Proposal does not constitute a definite and unqualified offer to meet the
49 material terms of the Bid invitation.
50

1 1-03.AP1
2 **Section 1-03, Award and Execution of Contract**
3 **January 2, 2018**

4 **1-03.3 Execution of Contract**

5 The first paragraph is revised to read:
6

7 Within 20 calendar days after the Award date, the successful Bidder shall return the
8 signed Contracting Agency-prepared Contract, an insurance certification as required by
9 Section 1-07.18, a satisfactory bond as required by law and Section 1-03.4, the Transfer
10 of Coverage form for the Construction Stormwater General Permit with sections I, III,
11 and VIII completed when provided, and shall be registered as a contractor in the state of
12 Washington.
13

14 **1-03.5 Failure to Execute Contract**

15 The first sentence is revised to read:
16

17 Failure to return the insurance certification and bond with the signed Contract as
18 required in Section 1-03.3, or failure to provide Disadvantaged, Minority or Women's
19 Business Enterprise information if required in the Contract, or failure or refusal to sign
20 the Contract, or failure to register as a contractor in the state of Washington, or failure to
21 return the completed Transfer of Coverage for the Construction Stormwater General
22 Permit to the Contracting Agency when provided shall result in forfeiture of the proposal
23 bond or deposit of this Bidder.
24

25 1-05.AP1

26 **Section 1-05, Control of Work**
27 **August 6, 2018**

28 **1-05.5 Vacant**

29 This section, including title, is revised to read:
30

31 **1-05.5 Tolerances**

32 Geometrical tolerances shall be measured from the points, lines, and surfaces defined
33 in Contract documents.
34

35 A plus (+) tolerance increases the amount or dimension to which it applies, or raises a
36 deviation from level. A minus (-) tolerance decreases the amount or dimension to which
37 it applies, or lowers a deviation from level. Where only one signed tolerance is specified
38 (+ or -), there is no specified tolerance in the opposing direction.
39

40 Tolerances shall not be cumulative. The most restrictive tolerance shall control.
41

42 Tolerances shall not extend the Work beyond the Right of Way or other legal
43 boundaries identified in the Contract documents. If application of tolerances causes the
44 extension of the Work beyond the Right of Way or legal boundaries, the tolerance shall
45 be reduced for that specific instance.
46

47 Tolerances shall not violate other Contract requirements. If application of tolerances
48 causes the Work to violate other Contract requirements, the tolerance shall be reduced
49 for that specific instance. If application of tolerances causes conflicts with other

1 components or aspects of the Work, the tolerance shall be reduced for that specific
2 instance.

3 4 **1-05.9 Equipment**

5 The following new paragraph is inserted before the first paragraph:
6

7 Prior to mobilizing equipment on site, the Contractor shall thoroughly remove all loose
8 dirt and vegetative debris from drive mechanisms, wheels, tires, tracks, buckets and
9 undercarriage. The Engineer will reject equipment from the site until it returns clean.

10
11 This section is supplemented with the following:
12

13 Upon completion of the Work, the Contractor shall completely remove all loose dirt and
14 vegetative debris from equipment before removing it from the job site.
15

16 1-06.AP1

17 **Section 1-06, Control of Material** 18 **January 7, 2019**

19 **1-06.1(3) Aggregate Source Approval (ASA) Database**

20 This section is supplemented with the following:
21

22 Regardless of status of the source, whether listed or not listed in the ASA database the
23 source owner may be asked to provide testing results for toxicity in accordance with
24 Section 9-03.21(1).
25

26 **1-06.2(2)D Quality Level Analysis**

27 This section is supplemented with the following new subsection:
28

29 **1-06.2(2)D5 Quality Level Calculation – HMA Compaction**

30 The procedures for determining the quality level and pay factor for HMA compaction are
31 as follows:
32

- 33 1. Determine the arithmetic mean, X_m , for compaction of the lot:
34

$$35 \quad X_m = \frac{\sum x}{n}$$

36

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Where:

x = individual compaction test values for each subplot in the lot.

$\sum x$ = summation of individual compaction test values

n = total number test values

2. Compute the sample standard deviation, "S", for each constituent:
43

$$44 \quad S = \left[\frac{n \sum x^2 - (\sum x)^2}{n(n-1)} \right]^{\frac{1}{2}}$$

45

46

Where:

1 $\sum x^2 =$ summation of the squares of individual compaction test values
2 $(\sum x)^2 =$ summation of the individual compaction test values squared
3

4 3. Compute the lower quality index (Q_L):
5

6
$$Q_L = \frac{X_m - LSL}{S}$$

7
8 Where:

9 LSL = 92.0
10

11 4. Determine P_L (the percent within the lower Specification limit which
12 corresponds to a given Q_L) from Table 1. For negative values of Q_L , P_L is equal
13 to 100 minus the table P_L . If the value of Q_L does not correspond exactly to a
14 figure in the table, use the next higher value.
15

16 5. Determine the quality level (the total percent within Specification limits):
17

18 Quality Level = P_L
19

20 6. Using the quality level from step 5, determine the composite pay factor (CPF)
21 from Table 2.
22

23 7. If the CPF determined from step 6 is 1.00 or greater: use that CPF for the
24 compaction lot; however, the maximum HMA compaction CPF using an LSL =
25 92.0 shall be 1.05.
26

27 8. If the CPF from step 6 is not 1.00 or greater: repeat steps 3 through 6 using an
28 LSL = 91.5. The value thus determined shall be the HMA compaction CPF for
29 that lot; however, the maximum HMA compaction CPF using an LSL = 91.5
30 shall be 1.00.
31

32 **1-06.2(2)D1 Quality Level Analysis**

33 The following new sentence is inserted after the first sentence:
34

35 The quality level calculations for HMA compaction are completed using the formulas in
36 Section 1-06.2(2)D5.
37

38 **1-06.2(2)D4 Quality Level Calculation**

39 The first paragraph (excluding the numbered list) is revised to read:
40

41 The procedures for determining the quality level and pay factors for a material, other
42 than HMA compaction, are as follows:
43

44 **1-06.6 Recycled Materials**

45 The first three sentences of the second paragraph are revised to read:
46

47 The Contractor shall submit a Recycled Material Utilization Plan on WSDOT Form 350-
48 075A within 30 calendar days after the Contract is executed. The plan shall provide the
49 Contractor's anticipated usage of recycled concrete aggregates for meeting the
50 requirements of these Specifications. The quantity of recycled concrete aggregate will

1 be provided in tons and as a percentage of the Plan quantity for eligible material listed
2 in Section 9-03.21(1)E Table on Maximum Allowable percent (By Weight) of Recycled
3 Material.

4
5 The last paragraph is revised to read:

6
7 Within 30 calendar days after Physical Completion, the Contractor shall report the
8 quantity of recycled concrete aggregates that were utilized in the construction of the
9 project for each eligible item listed in Section 9-03.21(1)E. The Contractor's report shall
10 be provided on WSDOT Form 350-075A, Recycled Materials Reporting.

11
12 **1-06.6(1)A General**

13 Item 1(a) in the second paragraph is revised to read:

- 14
15 a. The estimated costs for the Work for each material with 25 percent recycled
16 concrete aggregate. The cost estimate shall include for each material a
17 documented price quote from the supplier with the lowest total cost for the Work.

18
19 1-07.AP1

20 **Section 1-07, Legal Relations and Responsibilities to the Public**
21 **April 1, 2019**

22 **1-07.5 Environmental Regulations**

23 This section is supplemented with the following new subsections:

24
25 **1-07.5(5) U.S. Army Corps of Engineers**

26 When temporary fills are permitted, the Contractor shall remove fills in their entirety and
27 the affected areas returned to pre-construction elevations.

28
29 If a U.S. Army Corps of Engineers permit is noted in Section 1-07.6 of the Special
30 Provisions, the Contractor shall retain a copy of the permit or the verification letter (in
31 the case of a Nationwide Permit) on the worksite for the life of the Contract. The
32 Contractor shall provide copies of the permit or verification letter to all subcontractors
33 involved with the authorized work prior to their commencement of any work in waters of
34 the U.S.

35
36 **1-07.5(6) U.S. Fish/Wildlife Services and National Marine Fisheries Service**

37 The Contracting Agency will provide fish exclusion and handling services if the Work
38 dictates. However, if the Contractor discovers any fish stranded by the project and a
39 Contracting Agency biologist is not available, they shall immediately release the fish into
40 a flowing stream or open water.

41
42 **1-07.5(1) General**

43 The first sentence is deleted and replaced with the following:

44
45 No Work shall occur within areas under the jurisdiction of resource agencies unless
46 authorized in the Contract.

47
48 The third paragraph is deleted.

49
50 **1-07.5(2) State Department of Fish and Wildlife**

51 This section is revised to read:

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In doing the Work, the Contractor shall:

1. Not degrade water in a way that would harm fish, wildlife, or their habitat.
2. Not place materials below or remove them from the ordinary high water line except as may be specified in the Contract.
3. Not allow equipment to enter waters of the State except as specified in the Contract.
4. Revegetate in accordance with the Plans, unless the Special Provisions permit otherwise.
5. Prevent any fish-threatening silt buildup on the bed or bottom of any body of water.
6. Ensure continuous stream flow downstream of the Work area.
7. Dispose of any project debris by removal, burning, or placement above high-water flows.
8. Immediately notify the Engineer and stop all work causing impacts, if at any time, as a result of project activities, fish are observed in distress or a fish kill occurs.

If the Work in (1) through (3) above differs little from what the Contract requires, the Contracting Agency will measure and pay for it at unit Contract prices. But if Contract items do not cover those areas, the Contracting Agency will pay pursuant to Section 1-09.4. Work in (4) through (8) above shall be incidental to Contract pay items.

1-07.5(3) State Department of Ecology

This section is revised to read:

In doing the Work, the Contractor shall:

1. Comply with Washington State Water Quality Standards.
2. Perform Work in such a manner that all materials and substances not specifically identified in the Contract documents to be placed in the water do not enter waters of the State, including wetlands. These include, but are not limited to, petroleum products, hydraulic fluid, fresh concrete, concrete wastewater, process wastewater, slurry materials and waste from shaft drilling, sediments, sediment-laden water, chemicals, paint, solvents, or other toxic or deleterious materials.
3. Use equipment that is free of external petroleum-based products.
4. Remove accumulations of soil and debris from drive mechanisms (wheels, tracks, tires) and undercarriage of equipment prior to using equipment below the ordinary high water line.

- 1 5. Clean loose dirt and debris from all materials placed below the ordinary high
2 water line. No materials shall be placed below the ordinary high water line
3 without the Engineer's concurrence.
4
- 5 6. When a violation of the Construction Stormwater General Permit (CSWGP)
6 occurs, immediately notify the Engineer and fill out WSDOT Form 422-011,
7 Contractor ECAP Report, and submit the form to the Engineer within 48 hours
8 of the violation.
9
- 10 7. Once Physical Completion has been given, prepare a Notice of Termination
11 (Ecology Form ECY 020-87) and submit the Notice of Termination
12 electronically to the Engineer in a PDF format a minimum of 7 calendar days
13 prior to submitting the Notice of Termination to Ecology.
14
- 15 8. Transfer the CSWGP coverage to the Contracting Agency when Physical
16 Completion has been given and the Engineer has determined that the project
17 site is not stabilized from erosion.
18
- 19 9. Submit copies of all correspondence with Ecology electronically to the
20 Engineer in a PDF format within four calendar days.
21

22 **1-07.5(4) Air Quality**

23 This section is revised to read:

24
25 The Contractor shall comply with all regional clean air authority and/or State
26 Department of Ecology rules and regulations.
27

28 The air quality permit process may include additional State Environment Policy Act
29 (SEPA) requirements. Contractors shall contact the appropriate regional air pollution
30 control authority well in advance of beginning Work.
31

32 When the Work includes demolition or renovation of any existing facility or structure that
33 contains Asbestos Containing Material (ACM) and/or Presumed Asbestos-Containing
34 Material (PACM), the Contractor shall comply with the National Emission Standards for
35 Hazardous Air Pollutants (NESHAP).
36

37 Any requirements included in Federal and State regulations regarding air quality that
38 applies to the "owner or operator" shall be the responsibility of the Contractor.
39

40 **1-07.7(1) General**

41 The first sentence of the third paragraph is revised to read:

42
43 When the Contractor moves equipment or materials on or over Structures, culverts or
44 pipes, the Contractor may operate equipment with only the load-limit restrictions in
45 Section 1-07.7(2).
46

47 The first sentence of the last paragraph is revised to read:

48
49 Unit prices shall cover all costs for operating over Structures, culverts and pipes.
50

51 **1-07.9(1) General**

52 The last sentence of the sixth paragraph is revised to read:

1
2 Generally, the Contractor initiates the request by preparing standard form 1444 Request
3 for Authorization of Additional Classification and Rate, available at
4 <https://www.dol.gov/whd/recovery/dbsurvey/conformance.htm>, and submitting it to the
5 Engineer for further action.
6

7 **1-07.9(2) Posting Notices**

8 The second sentence of the first paragraph (up until the colon) is revised to read:
9

10 The Contractor shall ensure the most current edition of the following are posted:
11

12 The revision dates are deleted from all items in the numbered list.
13

14 The following new items are inserted after item number 1:
15

16 2. **Mandatory Supplement to EEOC P/E-1** published by US Department of Labor.
17 Post for projects with federal-aid funding.
18

19 3. **Pay Transparency Nondiscrimination Provision** published by US Department of
20 Labor. Post for projects with federal-aid funding.
21

22 Item number 2 through 12 are renumbered to 4 through 14, respectively.
23

24 **1-07.11(2) Contractual Requirements**

25 In this section, "creed" is revised to read "religion".
26

27 Item numbers 1 through 9 are revised to read 2 through 10, respectively.
28

29 After the preceding Amendment is applied, the following new item number 1 is inserted:
30

31 1. The Contractor shall maintain a Work site that is free of harassment, humiliation,
32 fear, hostility and intimidation at all times. Behaviors that violate this requirement
33 include but are not limited to:
34

35 a. Persistent conduct that is offensive and unwelcome.
36

37 b. Conduct that is considered to be hazing.
38

39 c. Jokes about race, gender, or sexuality that are offensive.
40

41 d. Unwelcome, unwanted, rude or offensive conduct or advances of a sexual
42 nature which interferes with a person's ability to perform their job or creates an
43 intimidating, hostile, or offensive work environment.
44

45 e. Language or conduct that is offensive, threatening, intimidating or hostile
46 based on race, gender, or sexual orientation.
47

48 f. Repeating rumors about individuals in the Work Site that are considered to be
49 harassing or harmful to the individual's reputation.
50

51 **1-07.11(5) Sanctions**

52 This section is supplemented with the following:

1
2 Immediately upon the Engineer's request, the Contractor shall remove from the Work
3 site any employee engaging in behaviors that promote harassment, humiliation, fear or
4 intimidation including but not limited to those described in these specifications.
5

6 **1-07.11(6) Incorporation of Provisions**

7 The first sentence is revised to read:
8

9 The Contractor shall include the provisions of Section 1-07.11(2) Contractual
10 Requirements (1) through (5) and the Section 1-07.11(5) Sanctions in every subcontract
11 including procurement of materials and leases of equipment.
12

13 **1-07.15(1) Spill Prevention, Control, and Countermeasures Plan**

14 The last sentence of the first paragraph is revised to read:
15

16 An SPCC Plan template and guidance information is available at
17 [http://www.wsdot.wa.gov/environment/technical/disciplines/hazardous-materials/spill-](http://www.wsdot.wa.gov/environment/technical/disciplines/hazardous-materials/spill-prevent-report)
18 [prevent-report.](http://www.wsdot.wa.gov/environment/technical/disciplines/hazardous-materials/spill-prevent-report)
19

20 **1-07.16(2)A Wetland and Sensitive Area Protection**

21 The first sentence of the first paragraph is revised to read:
22

23 Existing wetland and other sensitive areas, where shown in the Plans or designated by
24 the Engineer, shall be saved and protected through the life of the Contract.
25

26 **1-07.18 Public Liability and Property Damage Insurance**

27 Item number 1 is supplemented with the following new sentence:
28

29 This policy shall be kept in force from the execution date of the Contract until the
30 Physical Completion Date.
31

32 1-08.AP1

33 **Section 1-08, Prosecution and Progress January 7, 2019**

34 **1-08.1 Subcontracting**

35 The first sentence of the seventh paragraph is revised to read:
36

37 All Work that is not performed by the Contractor will be considered as subcontracting
38 except: (1) purchase of sand, gravel, crushed stone, crushed slag, batched concrete
39 aggregates, ready-mix concrete, off-site fabricated structural steel, other off-site
40 fabricated items, and any other materials supplied by established and recognized
41 commercial plants; or (2) delivery of these materials to the Work site in vehicles owned
42 or operated by such plants or by recognized independent or commercial hauling
43 companies hired by those commercial plants.
44

45 The following new paragraph is inserted after the seventh paragraph:
46

47 The Contractor shall not use businesses (material suppliers, vendors, subcontractors,
48 etc.) with federal purchasing exclusions. Businesses with exclusions are identified using
49 the System for Award Management web page at www.SAM.gov.
50

1 **1-08.5 Time for Completion**

2 Item number 2 of the sixth paragraph is supplemented with the following:

3

- 4 f. A copy of the Notice of Termination sent to the Washington State Department of
5 Ecology (Ecology); the elapse of 30 calendar days from the date of receipt of the
6 Notice of Termination by Ecology; and no rejection of the Notice of Termination by
7 Ecology. This requirement will not apply if the Construction Stormwater General
8 Permit is transferred back to the Contracting Agency in accordance with Section 8-
9 01.3(16).

10

11 **1-08.7 Maintenance During Suspension**

12 The fifth paragraph is revised to read:

13

14 The Contractor shall protect and maintain all other Work in areas not used by traffic. All
15 costs associated with protecting and maintaining such Work shall be the responsibility
16 of the Contractor.

17

18 1-09.AP1

19 **Section 1-09, Measurement and Payment**

20 **August 6, 2018**

21 **1-09.2(1) General Requirements for Weighing Equipment**

22 The last paragraph is supplemented with the following:

23

24 When requested by the Engineer, the Contractor's representative shall collect the
25 tickets throughout the day and provide them to the Engineer's designated receiver, not
26 later than the end of shift, for reconciliation. Tickets for loads not verified as delivered
27 will receive no pay.

28

29 **1-09.2(2) Specific Requirements for Batching Scales**

30 The last sentence of the first paragraph is revised to read:

31

32 Batching scales used for concrete or hot mix asphalt shall not be used for batching
33 other materials.

34

35 **1-09.10 Payment for Surplus Processed Materials**

36 The following sentence is inserted after the first sentence of the second paragraph:

37

38 For Hot Mix Asphalt, the Plan quantity and quantity used will be adjusted for the quantity
39 of Asphalt and quantity of RAP or other materials incorporated into the mix.

40

41 2-01.AP2

42 **Section 2-01, Clearing, Grubbing, and Roadside Cleanup**

43 **April 1, 2019**

44 **2-01.2(3) Disposal Method No. 3 – Chipping**

45 Item number 2 of the first paragraph is revised to read:

46

- 47 2. Chips shall be disposed outside of sensitive areas, and in areas that aren't in
48 conflict with permanent Work.

49

1 2-02.AP2
2 **Section 2-02, Removal of Structures and Obstructions**
3 **April 2, 2018**

4 **2-02.3(3) Removal of Pavement, Sidewalks, Curbs, and Gutters**

5 In item number 3 of the first paragraph, the second sentence is revised to read:

6
7 For concrete pavement removal, a second vertical full depth relief saw cut offset 12 to
8 18 inches from and parallel to the initial saw cut is also required, unless the Engineer
9 allows otherwise.

10

11 2-03.AP2

12 **Section 2-03, Roadway Excavation and Embankment**
13 **April 1, 2019**

14 **2-03.3(14)F Displacement of Unsuitable Foundation Materials**

15 This section, including title, is revised to read:

16

17 **2-03.3(14)F Vacant**

18

19 2-09.AP2

20 **Section 2-09, Structure Excavation**
21 **April 1, 2019**

22 **2-09.2 Materials**

23 In the first paragraph, the references to “Portland Cement” and “Aggregates for Portland
24 Cement Concrete” are revised to read:

25

26 Cement 9-01
27 Fine Aggregate for Concrete 9-03.1(2)

28

29 **2-09.3(3)B Excavation Using Open Pits – Extra Excavation**

30 The last two paragraphs are deleted and replaced with the following:

31

32 The excavation height (Ht) shall be calculated within a vertical plane as the difference
33 between the lowest elevation in the excavation and the highest elevation of the ground
34 surface immediately adjacent to the excavation. Pavement thickness and other surface
35 treatments existing at the time of the excavation shall be included in the height
36 calculation.

37

38 **Submittals and Design Requirements**

39 Excavations 4-feet and less in height do not require design and submittals. The
40 Contractor shall provide a safe work environment and shall execute the work in a
41 manner that does not damage adjacent pavements, utilities, or structures. If the
42 Engineer determines the Contractor’s work may potentially affect adjacent traffic,
43 pavements, utilities, or structures, the Engineer may request a Type 1 Working Drawing
44 from the Contractor. The Contractor shall explain in the Type 1 Working Drawing how
45 the Engineer’s concerns will be addressed, why infrastructure will not be damaged by
46 the work, and how worker safety will be preserved.

47

1 For excavations that have soil types and slope geometries defined in WAC 296-155 part
2 N and are between 4-feet and 20-feet in height, the Contractor shall submit Type 2
3 Working Drawings. Required submittal elements include, at a minimum, the following:
4

- 5 1. A plan view showing the limits of the excavation and its relationship to traffic,
6 structures, utilities and other pertinent project elements. If the stability of the
7 excavation requires no-load zones or equipment setback distances, those shall
8 be shown on the plan view.
9
- 10 2. A typical or controlling cross section showing the proposed excavation, original
11 ground line, and locations of traffic, existing structures, utilities, site
12 constraints, surcharge loads, or other conditions that could affect the stability
13 of the slope. If the stability of the excavation requires no-load zones or
14 equipment setback distances, those shall be shown in cross section.
15
- 16 3. A summary clearly describing subsurface conditions, soil type for WAC 296-
17 155 part N, and groundwater conditions, sequencing considerations, and
18 governing assumptions.
19

20 Where WAC 296-155 part N requires an engineer's design, the Contractor shall submit
21 Type 2E Working Drawings. Required submittal elements include, at a minimum, the
22 three items above and the following additional items:
23

- 24 4. Supporting calculations for the design of the excavation, the soil and material
25 properties selected for design, and the justification for the selection for those
26 properties, in accordance with the WSDOT *Geotechnical Design Manual M 46-*
27 *03*.
28
- 29 5. Safety factors, or load and resistance factors used, and justification for their
30 selection, in accordance with the WSDOT *Geotechnical Design Manual M 46-*
31 *03*, and referenced AASHTO design manuals.
32
- 33 6. A monitoring plan to evaluate the excavation performance throughout its
34 design life.
35
- 36 7. Any supplemental subsurface explorations made by the Contractor to meet the
37 requirements for geotechnical design of excavation slopes, in accordance with
38 the WSDOT *Geotechnical Design Manual M 46-03*.
39

40 **2-09.3(3)D Shoring and Cofferdams**

41 The first sentence of the sixth paragraph is revised to read:
42

43 Structural shoring and cofferdams shall be designed for conditions stated in this Section
44 using methods shown in Division I Section 5 of the AASHTO *Standard Specifications for*
45 *Highway Bridges* Seventeenth Edition – 2002 for allowable stress design, or the
46 *AASHTO LRFD Bridge Design Specifications* for load and resistance factor design.
47

1 3-01.AP3
2 **Section 3-01, Production from Quarry and Pit Sites**
3 **April 2, 2018**

4 **3-01.1 Description**

5 The first paragraph is revised to read:

6
7 This Work shall consist of manufacturing and producing crushed and screened
8 aggregates including pit run aggregates of the kind, quality, and grading specified for
9 use in the construction of concrete, hot mix asphalt, crushed surfacing, maintenance
10 rock, ballast, gravel base, gravel backfill, gravel borrow, riprap, and bituminous surface
11 treatments of all descriptions.

12
13 4-04.AP4

14 **Section 4-04, Ballast and Crushed Surfacing**
15 **April 2, 2018**

16 **4-04.3(5) Shaping and Compaction**

17 This section is supplemented with the following new paragraph:

18
19 When using 100% Recycled Concrete Aggregate, the Contractor may submit a written
20 request to use a test point evaluation for compaction acceptance testing in lieu of
21 compacting to 95% of the standard density as determined by the requirements of
22 Section 2-03.3(14)D. The test point evaluation shall be performed in accordance with
23 SOP 738.

24
25 5-01.AP5

26 **Section 5-01, Cement Concrete Pavement Rehabilitation**
27 **January 7, 2019**

28 **5-01.2 Materials**

29 The reference for Concrete Patching Material is revised to read:

30
31 Concrete Patching Material, Grout, and Mortar 9-20.1

32
33 **5-01.3(1)A1 Concrete Patching Materials**

34 In this section, each reference to "9-20" is revised to read "9-20.1".

35

36 **5-01.3(4) Replace Cement Concrete Panel**

37 This section's content is deleted and replaced with the following new subsections:

38

39 **5-01.3(4)A General**

40 Curing, cold weather work, concrete pavement construction in adjacent lines, and
41 protection of pavement shall meet the requirements of Section 5-05.3(13) through
42 Section 5-05.3(15). The Contractor, at no cost to the Contracting Agency, shall repair
43 any damage to existing pavement caused by the Contractor's operations.

44

45 **5-01.3(4)B Sawing and Dimensional Requirements**

46 Concrete slabs to be replaced as shown in the Plans or staked by the Engineer shall be
47 at least 6.0 feet long and full width of an existing pavement panel. The portion of the
48 panel to remain in place shall have a minimum dimension of 6 feet in length and full

1 panel width; otherwise the entire panel shall be removed and replaced. There shall be
 2 no new joints closer than 3.0 feet to an existing transverse joint or crack. A vertical full
 3 depth saw cut is required along all longitudinal joints and at transverse locations and,
 4 unless the Engineer allows otherwise, an additional vertical full depth relief saw cut
 5 located 12 to 18 inches from and parallel to the initial longitudinal and transverse saw
 6 cut locations is also required. Removal of existing cement concrete pavement shall not
 7 cause damage to adjacent slabs that are to remain in place. In areas that will be
 8 ground, slab replacements shall be performed prior to pavement grinding.

9
 10 Side forms shall meet the requirements of Section 5-05.3(7)B whenever a sawed full
 11 depth vertical face cannot be maintained.

12
 13 **5-01.3(4)C Dowel Bars and Tie Bars**

14 For the half of a dowel bar or tie bar placed in fresh concrete, comply with the
 15 requirements of Section 5-05.

16
 17 For the half of a dowel bar or tie bar placed in hardened concrete, comply with the
 18 Standard Plans and the following.

19
 20 After drilling, secure dowel bars and tie bars into the existing pavement with either an
 21 epoxy bonding agent Type I or IV as specified in Section 9-26.1, or a grout Type 2 for
 22 non-shrink applications as specified in Section 9-20.3.

23
 24 Dowel bars shall be placed at the mid depth of the concrete slab, centered over the
 25 transverse joint, and parallel to the centerline and to the roadway surface, within the
 26 tolerances in the table below. Dowel bars may be adjusted to avoid contact with existing
 27 dowel bars in the transverse joint at bridge approach slabs or existing panels provided
 28 the adjusted dowel bars meet the tolerances below.

29
 30 Tie bars shall be placed at the mid depth of the concrete slab, centered over the joint,
 31 perpendicular to centerline, and parallel to the roadway surface, within the tolerances in
 32 the table below. The horizontal position of tie bars may be adjusted to avoid contact with
 33 existing tie bars in the longitudinal joint where panel replacement takes place, provided
 34 the adjusted tie bars meet the tolerances below.

35

Placement Tolerances		
	Dowel Bars	Tie Bars
Vertical: Center of Bar to Center of Slab Depth	± 1.00 inch max	± 1.00 inch max
Dowel Bar Centered Over the Transverse Joint	± 1.00 inch max	N/A
Tie Bar Centered Over the Longitudinal Joint	N/A	± 1.00 inch max
Parallel to Centerline Over the Length of the Dowel Bar	± 0.50 inch max	N/A
Perpendicular to Longitudinal Joint Over the Length of the Tie Bar	N/A	± 1.00 inch max
Parallel to Roadway Surface Over the Length of the Bar	± 0.50 inch max	± 1.00 inch max

36

37 Dowel bars and tie bars shall be placed according to the Standard Plan when multiple
 38 panels are placed. Panels shall be cast separately from the bridge approach slab.

39

1 Dowel bars to be drilled into existing concrete or at a new transverse contraction joint
2 shall have a parting compound, such as curing compound, grease, or other Engineer
3 accepted equal, applied to them prior to placement.
4

5 Clean the drilled holes in accordance with the epoxy or grout manufacturer's
6 instructions. Holes shall be clean and dry at the time of placing the epoxy, or grout and
7 tie bars. Completely fill the void between the tie bar and the outer limits of the drilled
8 hole with epoxy or grout. Use retention rings to prevent leakage of the epoxy or grout
9 and support the tie bar to prevent movement until the epoxy or grout has cured the
10 minimum time recommended by the manufacturer.
11

12 **5-01.3(4)D Foundation Preparation**

13 The Contractor shall smooth the surfacing below the removed panel and compact it to
14 the satisfaction of the Engineer. Crushed surfacing base course, or hot mix asphalt may
15 be needed to bring the surfacing to grade prior to placing the new concrete.
16

17 If the material under the removed panel is uncompactable and the Engineer requires it,
18 the Contractor shall excavate the Subgrade 2 feet, place a soil stabilization construction
19 geotextile meeting the requirements of Section 9-33, and backfill with crushed surfacing
20 base course. This Work may include:
21

- 22 1. Furnishing and hauling crushed surfacing base course to the project site.
- 23 2. Excavating uncompactable material.
- 24 3. Furnishing and placing a soil stabilization construction geotextile.
- 25 4. Backfilling and compacting crushed surfacing base course.
- 26 5. Removing, hauling and restocking any unused crushed surfacing base course.
- 27
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32 **5-01.3(4)E Concrete Finishing**

33 Grade control shall be the responsibility of the Contractor.
34

35 All panels shall be struck off level with the adjacent panels and floated to a smooth
36 surface.
37

38 Final finish texturing shall meet the requirements of Section 5-05.3(11).
39

40 In areas where the Plans do not require grinding, the surface smoothness will be
41 measured with a 10-foot straightedge by the Engineer in accordance with Section 5-
42 05.3(12). If the replacement panel is located in an area that will be ground as part of
43 concrete pavement grinding in accordance with Section 5-01.3(9), the surface
44 smoothness shall be measured, by the Contractor, in conjunction with the smoothness
45 measurement done in accordance with Section 5-01.3(10).
46

47 **5-01.3(4)F Joints**

48 All transverse and longitudinal joints shall be sawed and sealed in accordance with
49 Section 5-05.3(8). The Contractor may use a hand pushed single blade saw for sawing
50 joints.
51

1 **5-01.3(4)G Cracked Panels**
2 Replacement panels that crack shall be repaired as specified in Section 5-05.3(22) at
3 no cost to the Contracting Agency. When repairing replacement panels that have
4 cracked, epoxy-coated dowel bars meeting the requirements of Section 9-07.5(1) may
5 be substituted for the corrosion resistant dowel bars specified.
6

7 **5-01.3(4)H Opening to Traffic**
8 Opening to traffic shall meet the requirements of Section 5-05.3(17).
9

10 **5-01.3(5) Partial Depth Spall Repair**
11 The second sentence of the third paragraph is revised to read:

12
13 All sandblasting residue shall be removed.
14

15 **5-01.3(7) Sealing Existing Concrete Random Cracks**
16 The second sentence of the second paragraph is revised to read:

17
18 Immediately prior to sealing, the cracks shall be clean.
19

20 **5-01.3(8) Sealing Existing Longitudinal and Transverse Joint**
21 The first sentence of the fifth paragraph is revised to read:

22
23 Immediately prior to sealing, the cracks shall be clean.
24

25 **5-01.3(10) Pavement Smoothness**
26 This section is revised to read:

27
28 Pavement surface smoothness for cement concrete pavement grinding on this project
29 will include International Roughness Index (IRI) testing. Ride quality will be evaluated
30 using the Mean Roughness Index (MRI) calculated by averaging the IRI data for the left
31 and right wheel path within the section.
32

33 **Smoothness Testing Equipment and Operator Certification**
34 Use an inertial profiler and operator that meet the requirements of Section 5-05.3(3)E.
35

36 **Surface Smoothness**
37 Operate the inertial profiler in accordance with AASHTO R 57. Collect two longitudinal
38 traces, one in each wheel path. Collect the control profile at locations designated in
39 Table 2 prior to any pavement rehabilitation Work on the areas to be tested. Collect an
40 acceptance profile at locations designated in Table 2 after completion of all cement
41 concrete pavement grinding on the project. Profiles shall be collected in a continuous
42 pass including areas excluded from pay adjustments. Provide notice to the Engineer a
43 minimum of seven calendar days prior to testing.
44

Travel lanes where cement concrete grinding is shown in the plans	Control profile
Additional locations designated by the Engineer	Control profile

Travel lanes with completed cement concrete pavement grinding	Acceptance profile
Bridges, approach panels and 0.02 miles before and after bridges and approach panels and other excluded areas within lanes requiring testing	Control and acceptance profile
Ramps, Shoulders and Tapers	Do not test

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Within 30 calendar days after the Contractor’s testing, the Engineer may perform verification testing. If the verification testing shows a difference in MRI greater than the 10 percent, the following resolution process will be followed:

1. The profiles, equipment and procedures will be evaluated to determine the cause of the difference.
2. If the cause of the discrepancy cannot be resolved the pavement shall be retested with both profilers at a mutually agreed time. The two profilers will test the section within 30 minutes of each other. If the retest shows a difference in MRI equal or greater than the percentages shown in Table 2 of AASHTO R 54 the Engineer’s test results will be used for pavement smoothness acceptance.

The Contractor shall evaluate profiles for acceptance or corrective action using the current version of ProVAL and provide the results including the profile data in unfiltered electronic Engineering Research Division (ERD) file format to the Engineer within 3 calendar days of completing each days profile testing. If the profile data files are created using an export option in the manufacturer’s software where filter settings can be specified, use the filter settings that were used to create data files for certification.

Analyze the entire profile. Exclude areas listed in Table 3.

Table 3	
Areas Excluded from MRI Acceptance Requirements	
Location	Exclude
Beginning and end of grinding	Pavement within 0.02 mile
Bridges and approach slabs	The bridge and approach slab and 0.02 mile from the ends of the bridge or approach slab
Defects in the existing roadway identified by the Contractor that adversely affect the MRI such as dips, depressions and wheel path longitudinal joints. ¹	0.01-mile section containing the defect and the 0.01-mile section following the section with the defect.
¹ The presence of defects is subject to verification by the Engineer	

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Report the MRI results in inches per mile for each 0.01-mile section and each 0.10-mile section. Do not truncate 0.10-mile sections for areas excluded from MRI acceptance requirements. MRI requirements will not apply to 0.10-mile sections with more than three 0.01 mile-sections excluded. MRI requirements for the individual 0.01-mile sections shall still apply. The Engineer will verify the analysis.

1
2

The MRI for each 0.10 mile of ground lane will comply with the following:

Control Profile MRI per 0.10 Mile	Maximum MRI of Acceptance Profile per 0.10 Mile
≤130 inches/mile	78 inches/mile
>130 inches/mile	0.6 x Control Profile MRI

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The MRI for each 0.01 mile of the completed cement concrete grinding shall not exceed 160 inches/mile.

All Work is subject to parallel and transverse 10-foot straightedge requirements, corrective work and disincentive adjustments.

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Surface smoothness of travel lanes including areas subject to MRI testing shall not vary more than 1/8 inch from the lower edge of a 10-foot straightedge placed on the surface parallel to the centerline.

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The smoothness perpendicular to the centerline will be measured with a 10-foot straightedge within the lanes. There shall be not vertical elevation difference of more than a 1/4 inch between lanes.

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21

Pavement that does not meet these requirements will be subject to corrective Work. All corrective Work shall be completed at no additional expense, including traffic control, to the Contracting Agency. Pavement shall be repaired by one or more of the following methods:

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24
25

1. Diamond grinding.
2. By other method accepted by the Engineer.

26
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28

Repair areas shall be re-profiled to ensure they no longer require corrective Work. With concurrence of the Engineer, a 10-foot straight edge may be used in place of the inertial profiler.

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If correction of the roadway as listed above either will not or does not produce satisfactory results as to smoothness or serviceability the Engineer may accept the completed pavement and a credit will be calculated in accordance with Section 5-01.5. Under these circumstances, the decision whether to accept the completed pavement or to require corrective work as described above shall be vested entirely in the Engineer.

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5-01.5 Payment

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This section is supplemented with the following:

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43

“Grinding Smoothness Compliance Adjustment”, by calculation. Grinding Smoothness Compliance Adjustments will be based on the requirements in Section 5-01.3(10) and the following calculations:

44
45
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48

A smoothness compliance adjustment will be calculated in the sum of minus \$100 for each and every section of single traffic lane 0.01 mile in length and \$1,000 for each and every section of single traffic lane 0.10 mile in length that does not meet the requirements in Section 5-01.3(10) after corrective Work.

1 5-02.AP5
2 **Section 5-02, Bituminous Surface Treatment**
3 **April 1, 2019**

4 **5-02.3(5) Application of Aggregates**

5 The first sentence of the eleventh paragraph is revised to read:

6
7 The Contractor shall use a pickup broom in all curbed areas, on all bridges, within city
8 limits, within sensitive areas, and where shown in the Plans both before the application
9 of emulsified asphalt and during the final brooming operation.

10

11 5-04.AP5

12 **Section 5-04, Hot Mix Asphalt**
13 **April 1, 2019**

14 **5-04.1 Description**

15 The last sentence of the first paragraph is revised to read:

16

17 The manufacture of HMA may include additives or processes that reduce the optimum
18 mixing temperature (Warm Mix Asphalt) or serve as a compaction aid in accordance
19 with these Specifications.

20

21 **5-04.2 Materials**

22 The reference to “Warm Mix Asphalt Additive” is revised to read “HMA Additive”.

23

24 **5-04.2(1) How to Get an HMA Mix Design on the QPL**

25 The last bullet in the first paragraph is revised to read:

26

- 27 • Do not include HMA additives that reduce the optimum mixing temperature or serve
28 as a compaction aid when developing a mix design or submitting a mix design for
29 QPL evaluation. The use of HMA additives is not part of the process for obtaining
30 approval for listing a mix design on the QPL. Refer to Section 5-04.2(2)B.

31

32 In the table, “WSDOT Standard Practice QC-8” is revised to read “WSDOT Standard
33 Practice QC-8 located in the WSDOT Materials Manual M 46-01”.

34

35 **5-04.2(1)C Mix Design Resubmittal for QPL Approval**

36 Item number 3 of the first paragraph is revised to read:

37

- 38 3. Changes in modifiers used in the asphalt binder.

39

40 **5-04.2(2)B Using Warm Mix Asphalt Processes**

41 This section, including title, is revised to read:

42

43 **5-04.2(2)B Using HMA Additives**

44 The Contractor may, at the Contractor’s discretion, elect to use additives that reduce the
45 optimum mixing temperature or serve as a compaction aid for producing HMA. Additives
46 include organic additives, chemical additives and foaming processes. The use of
47 Additives is subject to the following:

48

- 1 • Do not use additives that reduce the mixing temperature in accordance with
- 2 Section 5-04.3(6) in the production of High RAP/Any RAS mixtures.
- 3
- 4 • Before using additives, obtain the Engineer’s approval using WSDOT Form
- 5 350-076 to describe the proposed additive and process.
- 6

7 **5-04.3(3)A Mixing Plant**

8 Item number 5 of the first paragraph is revised to read:

- 9
- 10 5. Provide HMA sampling equipment that complies with FOP for AASHTO T 168:
- 11
- 12 • Use a mechanical sampling device accepted by the Engineer, or
 - 13
 - 14 • Platforms or devices to enable sampling from the truck transport without
 - 15 entering the truck transport for sampling HMA.
 - 16

17 **5-04.3(4) Preparation of Existing Paved Surfaces**

18 The first sentence of the fourth paragraph is revised to read:

19

20 Unless otherwise allowed by the Engineer, use cationic emulsified asphalt CSS-1, CSS-

21 1h, or Performance Graded (PG) asphalt for tack coat.

22

23 **5-04.3(6) Mixing**

24 The first paragraph is revised to read:

25

26 The asphalt supplier shall introduce recycling agent and anti-stripping additive, in the

27 amount designated on the QPL for the mix design, into the asphalt binder prior to

28 shipment to the asphalt mixing plant.

29

30 The seventh paragraph is revised to read:

31

32 Upon discharge from the mixer, ensure that the temperature of the HMA does not

33 exceed the optimum mixing temperature shown on the accepted Mix Design Report by

34 more than 25°F, or as allowed by the Engineer. When an additive is included in the

35 manufacture of HMA, do not heat the additive (at any stage of production including in

36 binder storage tanks) to a temperature higher than the maximum recommended by the

37 manufacturer of the additive.

38

39 **5-04.3(7) Spreading and Finishing**

40 The last row of the table is revised to read:

41

3/8 inch	0.25 feet	0.30 feet
----------	-----------	-----------

42

43 **5-04.3(8) Aggregate Acceptance Prior to Incorporation in HMA**

44 The following new paragraph is inserted after the first paragraph:

45

46 The Contracting Agency’s combined aggregate bulk specific gravity (Gsb) blend as

47 shown on the HMA Mix Design will be used for VMA calculations until the Contractor

48 submits a written request for a Gsb test. The new Gsb will be used in the VMA

49 calculations for HMA from the date the Engineer receives the written request for a Gsb

50 retest. The Contractor may request aggregate specific gravity (Gsb) testing be

51 performed by the Contracting Agency twice per project. The Gsb blend of the combined

1 stockpiles will be used to calculate voids in mineral aggregate (VMA) of any HMA
2 produced after the new Gsb is determined.

3
4 **5-04.3(9)A1 Test Section – When Required, When to Stop**

5 The following new row is inserted after the second row in Table 9:
6

VMA	Minimum PF _i of 0.95 based on the criteria in Section 5-04.3(9)B4 ²	None ⁴
-----	---	-------------------

7
8 **5-04.3(9)A2 Test Section – Evaluating the HMA Mixture in a Test Section**

9 In Table 9a, the test property “Gradation, Asphalt Binder, and V_a” is revised to read
10 “Gradation, Asphalt Binder, VMA, and V_a”

11
12 In Table 9a, the first column of the third row is revised to read:
13

Aggregates: Sand Equivalent Uncompacted Void Content Fracture
--

14
15 **5-04.3(9)B3 Mixture Statistical Evaluation – Acceptance Testing**

16 In Table 11, “V_a” is revised to read “VMA and V_a”

17
18 **5-04.3(9)B5 Mixture Statistical Evaluation – Composite Pay Factors (CPF)**

19 The following new row is inserted above the last row in Table 12:
20

Voids in Mineral Aggregate (VMA)	2
----------------------------------	---

21
22 **5-04.3(9)B7 Mixture Statistical Evaluation – Retests**

23 The second to last sentence is revised to read:

24
25 The sample will be tested for a complete gradation analysis, asphalt binder content,
26 VMA and V_a, and the results of the retest will be used for the acceptance of the HMA
27 mixture in place of the original mixture subplot sample test results.
28

29 **5-04.3(10)A HMA Compaction – General Compaction Requirements**

30 The last paragraph is revised to read:

31
32 On bridge decks and on roadway approaches within five feet of a bridge/back of
33 pavement seat, rollers shall not be operated in a vibratory mode, defined as a mode in
34 which the drum vibrates vertically. However, unless otherwise noted on the plans,
35 rollers may be operated in an oscillatory mode, defined as a mode in which the drum
36 vibrates in the horizontal direction only.
37

38 **5-04.3(10)C1 HMA Compaction Statistical Evaluation – Lots and Sublots**

39 The bulleted item in the fourth paragraph is revised to read:

- 40
41 • For a compaction lot in progress with a compaction CPF less than 0.75 using an
42 LSL = 91.5, a new compaction lot will begin at the Contractor’s request after the

1 Engineer is satisfied that material conforming to the Specifications can be
2 produced. See also Section 5-04.3(11)F.

3
4 **5-04.3(10)C2 HMA Compaction Statistical Evaluation – Acceptance Testing**

5 In the table, “WSDOT FOP for AASHTO T 355” is revised to read “FOP for AASHTO T 355”.

6
7 **5-04.3(10)C3 HMA Statistical Compaction – Price Adjustments**

8 In the first paragraph, “WSDOT FOP for AASHTO T 355” is revised to read “FOP for
9 AASHTO T 355”.

10
11 The first sentence in the second paragraph is revised to read:

12
13 For each HMA compaction lot (that is accepted by Statistical Evaluation) which does not
14 meet the criteria in the preceding paragraph, the compaction lot shall be evaluated in
15 accordance with Section 1-06.2(2)D5 to determine the appropriate Composite Pay
16 Factor (CPF).

17
18 The last two paragraphs are revised to read:

19
20 Determine the Compaction Price Adjustment (CPA) from the table below, selecting the
21 equation for CPA that corresponds to the value of CPF determined above.

22

Calculating HMA Compaction Price Adjustment (CPA)	
Value of CPF	Equation for Calculating CPA
When CPF > 1.00	$CPA = [1.00 \times (CPF - 1.00)] \times Q \times UP$
When CPF = 1.00	CPA = \$0
When CPF < 1.0	$CPA = [0.60 \times (CPF - 1.00)] \times Q \times UP$

23

24 Where

25 CPA = Compaction Price Adjustment for the compaction lot (\$)

26 CPF = Composite Pay Factor for the compaction lot (maximum is 1.05)

27 Q = Quantity in the compaction lot (tons)

28 UP = Unit price of the HMA in the compaction lot (\$/ton)

29

30 **5-04.3(10)C4 HMA Statistical Compaction – Requests for Retesting**

31 The first sentence is revised to read:

32

33 For a compaction subplot that has been tested with a nuclear density gauge that did not
34 meet the minimum of 91.5 percent of the theoretical maximum density in a compaction
35 lot with a CPF below 1.00 and thus subject to a price reduction or rejection, the
36 Contractor may request that a core, taken at the same location as the nuclear density
37 test, be used for determination of the relative density of the compaction subplot.

38

39 **5-04.3(13) Surface Smoothness**

40 The second to last paragraph is revised to read:

41

42 When concrete pavement is to be placed on HMA, the surface tolerance of the HMA
43 shall be such that no surface elevation lies above the Plan grade minus the specified
44 Plan depth of concrete pavement. Prior to placing the concrete pavement, bring any

1 such irregularities to the required tolerance by grinding or other means allowed by the
2 Engineer.

3
4 **5-04.5 Payment**

5 The paragraph following the Bid item “Crack Sealing-LF”, per linear foot is revised to read:

6
7 The unit Contract price per linear foot for “Crack Sealing-LF” shall be full payment for all
8 costs incurred to perform the Work described in Section 5-04.3(4)A.

9
10 5-05.AP5

11 **Section 5-05, Cement Concrete Pavement**

12 **April 1, 2019**

13 **5-05.1 Description**

14 In the first paragraph, “portland cement concrete” is revised to read “cement concrete”.

15
16 **5-05.2 Materials**

17 In the first paragraph, the reference to “Portland Cement” is revised to read:

18
19 Cement 9-01

20
21 In the first paragraph, the section reference for Concrete Patching Material is revised to read
22 “9-20.1”.

23
24 The second paragraph is revised to read:

25
26 Cementitious materials are considered to be the following: portland cement, blended
27 hydraulic cement, fly ash, ground granulated blast furnace slag and microsilica fume.

28
29 **5-05.3(1) Concrete Mix Design for Paving**

30 The table title in item number 4 is revised to read **Concrete Batch Weights**.

31
32 In item 4a, “Portland Cement” is revised to read “Cement”.

33
34 **5-05.3(3)E Smoothness Testing Equipment**

35 This section is revised to read:

36
37 Inertial profilers shall meet all requirements of AASHTO M 328 and be certified in
38 accordance with AASHTO R 56 within the preceding 12 months.

39
40 The inertial profiler operator shall be certified as required by AASHTO R 56 within three
41 years preceding profile measurement.

42
43 Equipment or operator certification by other states or a profiler certification facility will be
44 accepted provided the certification meets the requirements of AASHTO R 56.

45 Documentation verifying certification by another state shall be submitted to the Engineer
46 a minimum of 14 calendar days prior to profile measurement. Equipment certification
47 documentation shall include the information required by part 8.5 and 8.6 of AASHTO R
48 56. Operator documentation shall include a statement from the certifying state that
49 indicates the operator is certified to operate the inertial profiler to be used on the project.
50 The decision whether another state’s certification meets the requirements of AASHTO R
51 56 shall be vested entirely in the Engineer.

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5-05.3(4) Measuring and Batching Materials

Item number 2 is revised to read:

- 2. **Batching Materials** – On all projects requiring more than 2,500 cubic yards of concrete for paving, the batching plant shall be equipped to proportion aggregates and cement by weight by means of automatic and interlocked proportioning devices of accepted type.

5-05.3(4)A Acceptance of Portland Cement Concrete Pavement

This section’s title is revised to read:

Acceptance of Portland Cement or Blended Hydraulic Cement Concrete Pavement

The first sentence is revised to read:

Acceptance of portland cement or blended hydraulic cement concrete pavement shall be as provided under statistical or nonstatistical acceptance.

5-05.3(7) Placing, Spreading, and Compacting Concrete

This section’s content is deleted.

5-05.3(10) Tie Bars and Corrosion Resistant Dowel Bars

The first sentence of the last paragraph is revised to read:

The tie bar holes shall be clean before grouting.

5-05.3(12) Surface Smoothness

This section is revised to read:

Pavement surface smoothness for this project will include International Roughness Index (IRI) testing. The Contractor shall perform IRI testing on each through lane, climbing lane, and passing lane, greater than 0.25 mile in length and these lanes will be subject to incentive/disincentive adjustments. Ride quality will be evaluated using the Mean Roughness Index (MRI) calculated by averaging the IRI data for the left and right wheel path within the section.

Ramps, shoulders and tapers will not be included in MRI testing for pavement smoothness and will not be subject to incentive adjustments. All Work is subject to parallel and transverse 10-foot straightedge requirements, corrective work and disincentive adjustments.

Operate the inertial profiler in accordance with AASHTO R 57. Collect two longitudinal traces, one in each wheel path. Collect profile data after completion of all concrete paving on the project in a continuous pass including areas excluded from pay adjustments. Provide notice to the Engineer a minimum of seven calendar days prior to testing.

Within 30 calendar days after the Contractor’s testing, the Engineer may perform verification testing. If the verification testing shows a difference in MRI greater than the percentages shown in Table 2 of AASHTO R 54 the following resolution process will be followed:

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1. The profiles, equipment and procedures will be evaluated to determine the cause of the difference.
2. If the cause of the discrepancy cannot be resolved the pavement shall be retested with both profilers at a mutually agreed time. The two profilers will test the section within 30 minutes of each other. If the retest shows a difference in MRI equal or greater than the percentages shown in Table 2 of AASHTO R 54 the Engineer's test results will be used to establish pay adjustments.

Surface smoothness of travel lanes not subject to MRI testing will be measured with a 10-foot straightedge no later than 5:00 p.m. of the day following the placing of the concrete. The completed surface of the wearing course shall not vary more than 1/8 inch from the lower edge of a 10-foot straightedge placed on the surface parallel to the centerline.

Smoothness perpendicular to the centerline will be measured with a 10-foot straightedge across all lanes with the same cross slope, including shoulders when composed of cement concrete pavement. The overlapping 10-foot straightedge measurement shall be discontinued at a point 6 inches from the most extreme outside edge of the finished cement concrete pavement. The completed surface of the wearing course shall not vary more than 1/4 inch from the lower edge of a 10-foot straightedge placed on the surface perpendicular to the centerline. Any deviations in excess of the above tolerances shall be corrected.

The Contractor shall evaluate profiles for acceptance, incentive payments, disincentive payments, or corrective action using the current version of ProVAL and provide the results including the profile data in unfiltered electronic Engineering Research Division (ERD) file format to the Engineer within 2 calendar days of completing testing each section of pavement. If the profile data files are created using an export option in the manufacturer's software where filter settings can be specified, use the filter settings that were used to create data files for certification. Analyze the entire profile. Exclude any areas specifically identified in the Contract. Exclude from the analysis the first 100 feet after the start of the paving operations and last 100 feet prior to the end of the paving operation, the first 100 feet on either side of bridge Structures and bridge approach slab. Report the MRI results in inches per mile for each 52.8 foot section and horizontal distance measurements in project stationing to the nearest foot. Include pay adjustments in the results. The Engineer will verify the analysis.

Corrective work for pavement smoothness may be taken by the Contractor prior to MRI testing. After completion of the MRI testing the Contractor shall measure the smoothness of each 52.8-foot section with an MRI greater than 125 inches per mile with a 10-foot straightedge within 14 calendar days or as allowed by the Engineer. The Contractor shall identify all locations that require corrective work and provide the straight edge measurements at each location that exceeds the allowable limit to the Engineer. If all measurements in a 52.8-foot section comply with smoothness requirements, the Contractor shall provide the maximum measurement to the Engineer and a statement that corrective work is not required. Unless allowed by the Engineer, corrective work shall be taken by the Contractor for pavement identified by the Contractor or Engineer that does not meet the following requirements:

- 1 1. The completed surface shall be of uniform texture, smooth, uniform as to
2 crown and grade, and free from defects of all kinds.
- 3
- 4 2. The completed surface shall not vary more than 1/8 inch from the lower edge of
5 a 10-foot straightedge placed on the surface parallel to the centerline.
- 6
- 7 3. The completed surface shall vary not more than 1/4 inch in 10 feet from the rate
8 of transverse slope shown in the Plans.
- 9

10 All corrective work shall be completed at no additional expense, including traffic control,
11 to the Contracting Agency. Corrective work shall not begin until the concrete has
12 reached its design strength unless allowed by the Engineer. Pavement shall be repaired
13 by one or more of the following methods:

- 14
- 15 1. Diamond grinding; repairs shall not reduce pavement thickness by more than
16 1/4 inch less than the thickness shown in the Plans. When required by the
17 Engineer, the Contractor shall verify the thickness of the concrete pavement by
18 coring. Thickness reduction due to corrective work will not be included in
19 thickness measurements for calculating the Thickness Deficiency in Section 5-
20 05.5(1)A.
- 21
- 22 2. Removal and replacement of the cement concrete pavement.
- 23
- 24 3. By other method allowed by the Engineer.
- 25

26 For repairs following MRI testing the repaired area shall be checked by the Contractor
27 with a 10-foot straightedge to ensure it no longer requires corrective work. With
28 concurrence of the Engineer an inertial profiler may be used in place of the 10-foot
29 straight edge.

30
31 If correction of the roadway as listed above either will not or does not produce
32 satisfactory results as to smoothness or serviceability the Engineer may accept the
33 completed pavement and a credit will be calculated in accordance with Section 5-05.5.
34 The credit will be in addition to the price adjustment for MRI. Under these
35 circumstances, the decision whether to accept the completed pavement or to require
36 corrective work as described above shall be vested entirely in the Engineer.

37
38 **5-05.3(22) Repair of Defective Pavement Slabs**

39 The last sentence of the fourth paragraph is revised to read:

40
41 All sandblasting residue shall be removed.

42
43 **5-05.4 Measurement**

44 Item number 3 of the second paragraph is revised to read:

- 45
- 46 3. The depth shall be determined in accordance with Section 5-05.5(1). The depth
47 utilized to calculate the volume shall not exceed the Plan depth plus 0.04 feet.
- 48

49 The third paragraph is revised to read:

50
51 The volume of cement concrete pavement in each thickness lot shall equal the
52 measured length × width × thickness measurement.

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The last paragraph is revised to read:

The calculation for cement concrete compliance adjustment is the volume of concrete represented by the CPF and the Thickness deficiency adjustment.

5-05.5 Payment

The paragraph following the Bid item “Cement Conc. Pavement”, per cubic yard is supplemented with the following:

All costs associated with performing the magnetic pulse induction thickness testing shall be included in the unit Contract price per cubic yard for “Cement Conc. Pavement”.

The Bid item “Ride Smoothness Compliance Adjustment”, by calculation, and the paragraph following this bid item are revised to read:

“Ride Smoothness Compliance Adjustment”, by calculation.

Smoothness Compliance Adjustments will be based on the requirements in Section 5-05.3(12) and the following calculations:

1. Final MRI acceptance and incentive/disincentive payments for pavement smoothness will be calculated as the average of the ten 52.8-foot sections in each 528 feet in accordance with the price adjustment schedule.
 - a. For sections of a lane that are a minimum of 52.8 feet and less than 528 feet, the price adjustment will be calculated using the average of the 52.8 foot MRI values and the price adjustment prorated for the length of the section.
 - b. MRI values per 52.8-feet that were measured prior to corrective work will be included in the 528 foot price adjustment for sections with corrective work.
2. In addition to the price adjustment for MRI a smoothness compliance adjustment will be calculated in the sum of minus \$1000.00 for each and every section of single traffic lane 52.8 feet in length in that does not meet the 10-foot straight edge requirements in Section 5-05.3(12) after corrective Work.

Price Adjustment Schedule

MRI for each 528 ft. section	Pay Adjustment Schedule
in. / mi.	\$ / 0.10 mi.
< 30	2400
30	2400
31	2320
32	2240
33	2160
34	2080
35	2000
36	1920
37	1840

38	1760
39	1680
40	1600
41	1520
42	1440
43	1360
44	1280
45	1200
46	1120
47	1040
48	960
49	880
50	800
51	720
52	640
53	560
54	480
55	400
56	320
57	240
58	160
59	80
60	0
61	0
62	0
63	0
64	0
65	0
66	0
67	0
68	0
69	0
70	0
71	0
72	0
73	0
74	0
75	0
76	-80
77	-160
78	-240
79	-320
80	-400
81	-480
82	-560
83	-640
84	-720
85	-800
86	-880
87	-960

88	-1040
89	-1120
90	-1200
91	-1280
92	-1360
93	-1440
94	-1520
95	-1600
96	-1680
97	-1760
98	-1840
99	-1920
100	-2000
101	-2080
102	-2160
103	-2240
104	-2320
105	-2400
106	-2480
107	-2560
108	-2640
109	-2720
110	-2800
111	-2880
112	-2960
113	-3040
114	-3120
115	-3200
116	-3280
117	-3360
118	-3440
119	-3520
120	-3600
121	-3680
122	-3760
123	-3840
124	-3920
≥125	-4000

1
2 The bid item “Portland Cement Concrete Compliance Adjustment”, by calculation, and the
3 paragraph following this bid item are revised to read:

4
5 “Cement Concrete Compliance Adjustment”, by calculation.

6
7 Payment for “Cement Concrete Compliance Adjustment” will be calculated by
8 multiplying the unit Contract price for the cement concrete pavement, times the volume
9 for adjustment, times the percent of adjustment determined from the calculated CPF
10 and the Deficiency Adjustment listed in Section 5-05.5(1)A.

11
12 **5-05.5(1) Pavement Thickness**

13 This section is revised to read:

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Cement concrete pavement shall be constructed in accordance with the thickness requirements in the Plans and Specifications. Tolerances allowed for Subgrade construction and other provisions, which may affect thickness, shall not be construed to modify such thickness requirements.

Thickness measurements in each lane paved shall comply with the following:

Thickness Testing of Cement Concrete Pavement	
Thickness Lot Size	15 panels maximum
Thickness test location determined by	Engineer will select testing locations in accordance with WSDOT TM 716 method B.
Sample method	AASHTO T 359
Sample preparation performed by	Contractor provides, places, and secures disks in the presence of the Engineer ¹
Measurement method	AASHTO T 359
Thickness measurement performed by	Contractor, in the presence of the Engineer ²
¹ Reflectors shall be located at within 0.5 feet of the center of the panel. The Contractor shall supply a sufficient number of 300 mm-diameter round reflectors meeting the requirements of AASHTO T 359 to accomplish the required testing.	
² The Contractor shall provide all equipment and materials needed to perform the testing.	

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Thickness measurements shall be rounded to the nearest 0.01 foot.

Each thickness test location where the pavement thickness is deficient by more than 0.04 foot, shall be subject to price reduction or corrective action as shown in Table 2.

Table 2 Thickness Deficiency	
0.04' < Thickness Deficiency ≤ 0.06'	10
0.06' < Thickness deficiency ≤ 0.08'	25
Thickness deficiency > 0.08'	Remove and replace the panels or the panels may be accepted with no payment at the discretion of the Engineer.

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The price reduction shall be computed by multiplying the percent price reduction in Table 2 by the unit Contract price by the volume of pavement represented by the thickness test lot.

Additional cores may be taken by the Contractor to determine the limits of an area that has a thickness deficiency greater than 0.04 feet. Cores shall be taken at the approximate center of the panel. Only the panels within the limits of the deficiency area as determined by the cores will be subject to a price reduction or corrective action. The cores shall be taken in the presence of the Engineer and delivered to the Engineer for measurement. All costs for the additional cores including filling the core holes with patching material meeting the requirements of Section 9-20 will be the responsibility of the Contractor.

5-05.5(1)A Thickness Deficiency of 0.05 Foot or Less

This section, including title, is revised to read:

1 **5-05.5(1)A Vacant**

2

3 **5-05.5(1)B Thickness Deficiency of More Than 0.05 Foot**

4 This section, including title, is revised to read:

5

6 **5-05.5(1)B Vacant**

7

8 6-01.AP6

9 **Section 6-01, General Requirements for Structures**

10 **January 7, 2019**

11 This section is supplemented with the following new subsections:

12

13 **6-01.16 Repair of Defective Work**

14 **6-01.16(1) General**

15 When using repair procedures that are described elsewhere in the Contract
16 Documents, the Working Drawing submittal requirements of this Section shall not
17 apply to those repairs unless noted otherwise.

18

19 Repair procedures for defective Work shall be submitted as Type 2 Working
20 Drawings. Type 2E Working Drawings shall be submitted when required by the
21 Engineer. As an alternative to submitting Type 2 or 2E Working Drawings, defective
22 Work within the limits of applicability of a pre-approved repair procedure may be
23 repaired using that procedure. Repairs using a pre-approved repair procedure shall
24 be submitted as a Type 1 Working Drawing.

25

26 Pre-approved repair procedures shall consist of the following:

27

- 28 • The procedures listed in Section 6-01.16(2)
- 29
- 30 • For precast concrete, repair procedures in the annual plant approval
31 process documents that have been approved for use by the Contracting
32 Agency.

33

34 All Working Drawings for repair procedures shall include:

35

- 36 • A description of the defective Work including location, extent and pictures
- 37
- 38 • Materials to be used in the repair. Repairs using manufactured products
39 shall include written manufacturer recommendations for intended uses of
40 the product, surface preparation, mixing, aggregate extension (if
41 applicable), ambient and surface temperature limits, placement methods,
42 finishing and curing.
- 43
- 44 • Construction procedures
- 45
- 46 • Plan details of the area to be repaired
- 47
- 48 • Calculations for Type 2E Working Drawings

49

50 Material manufacturer's instructions and recommendations shall supersede any
51 conflicting requirements in pre-approved repair procedures.

1
2 The Engineer shall be notified prior to performing any repair procedure and shall be
3 given an opportunity to inspect the repair work being performed.
4

5 **6-01.16(2) Pre-Approved Repair Procedures**

6 **6-01.16(2)A Concrete Spalls and Poor Consolidation (Rock Pockets,
7 Honeycombs, Voids, etc.)**

8 This repair shall be limited to the following areas:
9

- 10 • Areas that are not on top Roadway surfaces (with or without an
11 overlay) including but not limited to concrete bridge decks, bridge
12 approach slabs or cement concrete pavement
- 13
- 14 • Areas that are not underwater
- 15
- 16 • Areas that are not on precast barrier, except for the bottom 4 inches
17 (but not to exceed 1 inch above blockouts)
- 18
- 19 • Areas that do not affect structural adequacy as determined by the
20 Engineer.
21

22 The repair procedure is as follows:
23

- 24 1. Remove all loose and unsound concrete. Impact breakers shall not
25 exceed 15 pounds in weight when removing concrete adjacent to
26 reinforcement or other embedments and shall not exceed 30 pounds
27 in weight otherwise. Operate impact breakers at angles less than 45
28 degrees as measured from the surface of the concrete to the tool and
29 moving away from the edge of the defective Work. Concrete shall be
30 completely removed from exposed surfaces of existing steel
31 reinforcing bars. If half or more of the circumference of any steel
32 reinforcing bar is exposed, if the reinforcing bar is loose or if the bond
33 to existing concrete is poor then concrete shall be removed at least $\frac{3}{4}$
34 inch behind the reinforcing bar. Do not damage any existing
35 reinforcement. Stop work and allow the Engineer to inspect the repair
36 area after removing all loose and unsound concrete. Submit a
37 modified repair procedure when required by the Engineer.
38
- 39 2. Square the edges of the repair area by cutting an edge perpendicular
40 to the concrete surface around the repair area. The geometry of the
41 repair perimeter shall minimize the edge length and shall be
42 rectangular with perpendicular edges, avoiding reentrant corners. The
43 depth of the cut shall be a minimum of $\frac{3}{4}$ inch, but shall be reduced if
44 necessary to avoid damaging any reinforcement. For repairs on
45 vertical surfaces, the top edge shall slope up toward the front at a 1-
46 vertical-to-3-horizontal slope.
47
- 48 3. Remove concrete within the repair area to a depth at least matching
49 the cut depth at the edges. Large variations in the depth of removal
50 within short distances shall be avoided. Roughen the concrete
51 surface. The concrete surface should be roughened to at least
52 Concrete Surface Profile (CSP) 5 in accordance with ICRI Guideline

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No. 310.2R, unless a different CSP is recommended by the patching material manufacturer.

4. Inspect the concrete repair surface for delaminations, debonding, microcracking and voids using hammer tapping or a chain drag. Remove any additional loose or unsound concrete in accordance with steps 1 through 3.
5. Select a patching material in accordance with Section 9-20.2 that is appropriate for the repair location and thickness. The concrete patching material shall be pumpable or self-consolidating as required for the type of placement that suits the repair. The patching material shall have a minimum compressive strength at least equal to the specified compressive strength of the concrete.
6. Prepare the concrete surface and reinforcing steel in accordance with the patching material manufacturer's recommendations. At a minimum, clean the concrete surfaces (including perimeter edges) and reinforcing steel using oil-free abrasive blasting or high-pressure (minimum 5,000 psi) water blasting. All dirt, dust, loose particles, rust, laitance, oil, film, microcracked/bruised concrete or foreign material of any sort shall be removed. Damage to the epoxy coating on steel reinforcing bars shall be repaired in accordance with Section 6-02.3(24)H.
7. Construct forms if necessary, such as for patching vertical or overhead surfaces or where patching extends to the edge or corner of a placement.
8. When recommended by the patching material manufacturer, saturate the concrete in the repair area and remove any free water at the concrete surface to obtain a saturated surface dry (SSD) substrate. When recommended by the patching material manufacturer, apply a primer, scrub coat or bonding agent to the existing surfaces. Epoxy bonding agents, if used, shall be Type II or Type V in accordance with Section 9-26.1.
9. Place and consolidate the patching material in accordance with the manufacturer's recommendations. Work the material firmly into all surfaces of the repair area with sufficient pressure to achieve proper bond to the concrete.
10. The patching material shall be textured, cured and finished in accordance with the patching material manufacturer's recommendations and/or the requirements for the repaired component. Protect the newly placed patch from vibration in accordance with Section 6-02.3(6)D.
11. When the completed repair does not match the existing concrete color and will be visible to the public, a sand and cement mixture that is color matched to the existing concrete shall be rubbed, brushed, or applied to the surface of the patching material and the concrete.

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6-01.10 Utilities Supported by or Attached to Bridges

In the third paragraph, "Federal Standard 595" is revised to read "SAE AMS Standard 595".

6-01.12 Final Cleanup

The second sentence of the first paragraph is revised to read:

Structure decks shall be clean.

The second paragraph is deleted.

6-02.AP6

Section 6-02, Concrete Structures

April 1, 2019

6-02.1 Description

The first sentence is revised to read:

This Work consists of the construction of all Structures (and their parts) made of portland cement or blended hydraulic cement concrete with or without reinforcement, including bridge approach slabs.

6-02.2 Materials

In the first paragraph, the references to "Portland Cement" and "Aggregates for Portland Cement Concrete" are revised to read:

Cement	9-01
Aggregates for Concrete	9-03.1

The reference to metakaolin is deleted.

6-02.3(2) Proportioning Materials

The second paragraph is revised to read:

Unless otherwise specified, the Contractor shall use Type I or II portland cement or blended hydraulic cement in all concrete as defined in Section 9-01.2(1).

The last sentence of the fifth paragraph is revised to read:

With the Engineer's written concurrence, microsilica fume may be used in all classifications of Class 4000, Class 3000, and commercial concrete and is limited to a maximum of 10 percent of the cementitious material.

6-02.3(2)A Contractor Mix Design

The last sentence of the last paragraph is revised to read:

For all other concrete, air content shall be a minimum of 4.5 percent and a maximum of 7.5 percent for all concrete placed above the finished ground line unless noted otherwise.

1 **6-02.3(2)A1 Contractor Mix Design for Concrete Class 4000D**

2 Item number 5 of the first paragraph is deleted.

3

4 Item number 6 of the first paragraph (after the preceding Amendment is applied) is
5 renumbered to 5.

6

7 **6-02.3(2)B Commercial Concrete**

8 The second paragraph is revised to read:

9

10 Where concrete Class 3000 is specified for items such as, culvert headwalls, plugging
11 culverts, concrete pipe collars, pipe anchors, monument cases, Type PPB, PS, I, FB
12 and RM signal standards, pedestals, cabinet bases, guardrail anchors, fence post
13 footings, sidewalks, concrete curbs, curbs and gutters, and gutters, the Contractor may
14 use commercial concrete. If commercial concrete is used for sidewalks, concrete curbs,
15 curbs and gutters, and gutters, it shall have a minimum cementitious material content of
16 564 pounds per cubic yard of concrete, shall be air entrained, and the tolerances of
17 Section 6-02.3(5)C shall apply.

18

19 **6-02.3(4) Ready-Mix Concrete**

20 The first sentence of the first paragraph is revised to read:

21

22 All concrete, except lean concrete, shall be batched in a prequalified manual, semi-
23 automatic, or automatic plant as described in Section 6-02.3(4)A.

24

25 **6-02.3(4)D Temperature and Time For Placement**

26 The following is inserted after the first sentence of the first paragraph:

27

28 The upper temperature limit for placement for Class 4000D concrete may be increased
29 to a maximum of 80°F if allowed by the Engineer.

30

31 **6-02.3(5)C Conformance to Mix Design**

32 Item number 1 of the second paragraph is revised to read:

33

34 1. Cement weight plus 5 percent or minus 1 percent of that specified in the
35 mix design.

36

37 **6-02.3(6)A1 Hot Weather Protection**

38 The first paragraph is revised to read:

39

40 The Contractor shall provide concrete within the specified temperature limits. Cooling of
41 the coarse aggregate piles by sprinkling with water is permitted provided the moisture
42 content is monitored, the mixing water is adjusted for the free water in the aggregate
43 and the coarse aggregate is removed from at least 1 foot above the bottom of the pile.
44 Sprinkling of fine aggregate piles with water is not allowed. Refrigerating mixing water or
45 replacing all or part of the mixing water with crushed ice is permitted, provided the ice is
46 completely melted by placing time.

47

48 The second sentence of the second paragraph is revised to read:

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50 These surfaces include forms, reinforcing steel, steel beam flanges, and any others that
51 touch the concrete.

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6-02.3(7) Vacant

This section, including title, is revised to read:

6-02.3(7) Tolerances

Unless noted otherwise, concrete construction tolerances shall be in accordance with this section. Tolerances in this section do not apply to cement concrete pavement.

Horizontal deviation of roadway crown points, cross-slope break points, and curb, barrier or railing edges from alignment or work line: ± 1.0 inch

Deviation from plane: ± 0.5 inch in 10 feet

Deviation from plane for roadway surfaces: ± 0.25 inch in 10 feet

Deviation from plumb or specified batter: ± 0.5 inch in 10 feet, but not to exceed a total of ± 1.5 inches

Vertical deviation from profile grade for roadway surfaces: ± 1 inch

Vertical deviation of top surfaces (except roadway surfaces): ± 0.75 inch

Thickness of bridge decks and other structural slabs not at grade: ± 0.25 inch

Length, width and thickness of elements such as columns, beams, crossbeams, diaphragms, corbels, piers, abutments and walls, including dimensions to construction joints in initial placements: $+0.5$ inch, -0.25 inch

Length, width and thickness of spread footing foundations: $+2$ inches, -0.5 inch

Horizontal location of the as-placed edge of spread footing foundations: The greater of $\pm 2\%$ of the horizontal dimension of the foundation perpendicular to the edge and ± 0.5 inch. However, the tolerance shall not exceed ± 2 inches.

Location of opening, insert or embedded item at concrete surface: ± 0.5 inch

Cross-sectional dimensions of opening: ± 0.5 inch

Bridge deck, bridge approach slab, and bridge traffic barrier expansion joint gaps with a specified temperature range, measured at a stable temperature: ± 0.25 inch

Horizontal deviation of centerline of bearing pad, oak block or other bearing assembly: ± 0.125 inch

Horizontal deviation of centerline of supported element from centerline of bearing pad, oak block or other bearing assembly ± 0.25 inch

Vertical deviation of top of bearing pad, oak block or other bearing assembly: ± 0.125 inch

6-02.3(10)C Finishing Equipment

The first paragraph is revised to read:

1 The finishing machine shall be self-propelled and be capable of forward and reverse
2 movement under positive control. The finishing machine shall be equipped with augers
3 and a rotating cylindrical single or double drum screed. The finishing machine shall
4 have the necessary adjustments to produce the required cross section, line, and grade.
5 The finishing machine shall be capable of raising the screeds, augers, and any other
6 parts of the finishing mechanical operation to clear the screeded surface, and returning
7 to the specified grade under positive control. Unless otherwise allowed by the Engineer,
8 a finishing machine manufacturer technical representative shall be on site to assist the
9 first use of the machine on the Contract.

10

11 The first sentence of the second paragraph is revised to read:

12

13 For bridge deck widening of 20 feet or less, and for bridge approach slabs, or where
14 jobsite conditions do not allow the use of the conventional configuration finishing
15 machines, or modified conventional machines as described above; the Contractor may
16 submit a Type 2 Working Drawing proposing the use of a hand-operated motorized
17 power screed such as a "Texas" or "Bunyan" screed.

18

19 **6-02.3(10)D4 Monitoring Bridge Deck Concrete Temperature After Placement**

20 This section, including title, is revised to read:

21

22 **6-02.3(10)D4 Vacant**

23

24 **6-02.3(10)D5 Bridge Deck Concrete Finishing and Texturing**

25 In the third subparagraph of the first paragraph, the last sentence is revised to read:

26

27 The Contractor shall texture the bridge deck surface to within 3-inches minimum and
28 24-inches maximum of the edge of concrete at expansion joints, within 1-foot minimum
29 and 2-feet maximum of the curb line, and within 3-inches minimum and 9-inches
30 maximum of the perimeter of bridge drain assemblies.

31

32 **6-02.3(10)F Bridge Approach Slab Orientation and Anchors**

33 The second to last paragraph is revised to read:

34

35 The compression seal shall be a 2½ inch wide gland and shall conform to Section 9-
36 04.1(4).

37

38 The last paragraph is deleted.

39

40 **6-02.3(13)A Strip Seal Expansion Joint System**

41 In item number 3 of the third paragraph, "Federal Standard 595" is revised to read "SAE
42 AMS Standard 595".

43

44 **6-02.3(13)B Compression Seal Expansion Joint System**

45 The first paragraph is revised to read:

46

47 Compression seal glands shall conform to Section 9-04.1(4) and be sized as shown in
48 the Plans.

49

50 **6-02.3(14)C Pigmented Sealer for Concrete Surfaces**

51 This section is supplemented with the following new paragraph:

52

1 Pigmented Sealer Materials shall be a product listed in the current WSDOT Qualified
2 Products List (QPL). If the pigmented sealer material is not listed in the current WSDOT
3 QPL, a sample shall be submitted to the State Materials Laboratory in Tumwater for
4 evaluation and acceptance in accordance with Section 9-08.3.
5

6 **6-02.3(20) Grout for Anchor Bolts and Bridge Bearings**

7 The second, third and fourth paragraphs are revised to read:
8

9 Grout shall be a workable mix with a viscosity that is suitable for the intended
10 application. Grout shall not be placed outside of the manufacturer recommended range
11 of thickness. The Contractor shall receive concurrence from the Engineer before using
12 the grout.
13

14 Field grout cubes and cylinders shall be fabricated and tested in accordance with
15 Section 9-20.3 when requested by the Engineer, but not less than once per bridge pier
16 or once per day.
17

18 Before placing grout, the substrate on which it is to be placed shall be prepared as
19 recommended by the manufacturer to ensure proper bonding. The grout shall be cured
20 as recommended by the manufacturer. The grout may be loaded when a minimum of
21 4,000 psi compressive strength is attained.
22

23 The fifth paragraph is deleted.
24

25 **6-02.3(23) Opening to Traffic**

26 This section is supplemented with the following new paragraph:
27

28 After curing bridge approach slabs in accordance with Section 6-02.3(11), the
29 bridge approach slabs may be opened to traffic when a minimum compressive strength
30 of 2,500 psi is achieved.
31

32 **6-02.3(24)C Placing and Fastening**

33 This section is revised to read:
34

35 The Contractor shall position reinforcing steel as the Plans require and shall ensure that
36 the steel is set within specified tolerances. Adjustments to reinforcing details outside of
37 specified tolerances to avoid interferences and for other purposes are acceptable when
38 approved by the Engineer.
39

40 When spacing between bars is 1 foot or more, they shall be tied at all intersections.
41 When spacing is less than 1 foot, every other intersection shall be tied. If the Plans
42 require bundled bars, they shall be tied together with wires at least every 6 feet. All
43 epoxy-coated bars in the top mat of the bridge deck shall be tied at all intersections,
44 however they may be tied at alternate intersections when spacing is less than 1 foot in
45 each direction and they are supported by continuous supports meeting all other
46 requirements of supports for epoxy-coated bars. Other epoxy-coated bars shall also be
47 tied at all intersections, but shall be tied at alternate intersections when spacing is less
48 than 1 foot in each direction. Wire used for tying epoxy-coated reinforcing steel shall be
49 plastic coated. **Tack welding is not permitted on reinforcing steel.**
50

1 Abrupt bends in the steel are permitted only when one steel member bends around
2 another. Vertical stirrups shall pass around main reinforcement or be firmly attached to
3 it.
4

5 For slip-formed concrete, the reinforcing steel bars shall be tied at all intersections and
6 cross braced to keep the cage from moving during concrete placement. Cross bracing
7 shall be with additional reinforcing steel. Cross bracing shall be placed both
8 longitudinally and transversely.
9

10 After reinforcing steel bars are placed in a traffic or pedestrian barrier and prior to slip-
11 form concrete placement, the Contractor shall check clearances and reinforcing steel
12 bar placement. This check shall be accomplished by using a template or by operating
13 the slip-form machine over the entire length of the traffic or pedestrian barrier. All
14 clearance and reinforcing steel bar placement deficiencies shall be corrected by the
15 Contractor before slip-form concrete placement.
16

17 Precast concrete supports (or other accepted devices) shall be used to maintain the
18 concrete coverage required by the Plans. The precast concrete supports shall:
19

- 20 1. Have a bearing surface measuring not greater than 2 inches in either dimension,
21 and
22
- 23 2. Have a compressive strength equal to or greater than that of the concrete in which
24 they are embedded.
25

26 In slabs, each precast concrete support shall have either: (1) a grooved top that will hold
27 the reinforcing bar in place, or (2) an embedded wire that protrudes and is tied to the
28 reinforcing steel. If this wire is used around epoxy-coated bars, it shall be coated with
29 plastic.
30

31 Precast concrete supports may be accepted based on a Manufacturer's Certificate of
32 Compliance.
33

34 In lieu of precast concrete supports, the Contractor may use metal or all-plastic supports
35 to hold uncoated bars. Any surface of a metal support that will not be covered by at
36 least ½ inch of concrete shall be one of the following:
37

- 38 1. Hot-dip galvanized after fabrication in keeping with AASHTO M232 Class D;
39
- 40 2. Coated with plastic firmly bonded to the metal. This plastic shall be at least
41 3/32 inch thick where it touches the form and shall not react chemically with the
42 concrete when tested in the State Materials Laboratory. The plastic shall not
43 shatter or crack at or above -5°F and shall not deform enough to expose the
44 metal at or below 200°F; or
45
- 46 3. Stainless steel that meet the requirements of ASTM A493, Type 302. Stainless
47 steel chair supports are not required to be galvanized or plastic coated.
48

49 In lieu of precast concrete supports, epoxy-coated reinforcing bars may be supported by
50 one of the following:
51

- 1 1. Metal supports coated entirely with a dielectric material such as epoxy or
2 plastic,
3
- 4 2. Other epoxy-coated reinforcing bars, or
5
- 6 3. All-plastic supports.
7

8 Damaged coatings on metal bar supports shall be repaired prior to placing concrete.
9

10 All-plastic supports shall be lightweight, non-porous, and chemically inert in concrete.
11 All-plastic supports shall have rounded seatings, shall not deform under load during
12 normal temperatures, and shall not shatter or crack under impact loading in cold
13 weather. All-plastic supports shall be placed at spacings greater than 1 foot along the
14 bar and shall have at least 25 percent of their gross place area perforated to
15 compensate for the difference in the coefficient of thermal expansion between plastic
16 and concrete. The shape and configuration of all-plastic supports shall permit complete
17 concrete consolidation in and around the support.
18

19 A “mat” is two adjacent and perpendicular layers of reinforcing steel. In bridge decks,
20 top and bottom mats shall be supported adequately enough to hold both in their proper
21 positions. If bar supports directly support, or are directly supported on No. 4 bars, they
22 shall be spaced at not more than 3-foot intervals (or not more than 4-foot intervals for
23 bars No. 5 and larger). Wire ties to girder stirrups shall not be considered as supports.
24 To provide a rigid mat, the Contractor shall add other supports and tie wires to the top
25 mat as needed.
26

27 Unless noted otherwise, the minimum concrete cover for main reinforcing bars shall be:

28 3 inches to a concrete surface deposited against earth without intervening forms.
29

30 2½ inches to the top surface of a concrete bridge deck or bridge approach slab.
31

32 2 inches to a concrete surface when not specified otherwise in this section or in the
33 Contract documents.
34

35 1½ inches to a concrete barrier or curb surface.
36
37

38 Except for top cover in bridge decks and bridge approach slabs, minimum concrete
39 cover to ties and stirrups may be reduced by ½ inch but shall not be less than 1 inch.
40 Minimum concrete cover shall also be provided to the outermost part of mechanical
41 splices and headed steel reinforcing bars.
42

43 Reinforcing steel bar location, concrete cover and clearance shall not vary more than
44 the following tolerances from what is specified in the Contract documents:
45

46 Reinforcing bar location for members 12 inches or less in thickness: ±0.25 inch
47

48 Reinforcing bar location for members greater than 12 inches in thickness: ±0.375
49 inch
50

- 1 Reinforcing bar location for bars placed at equal spacing within a plane: the greater
2 of either ± 1 inch or ± 1 bar diameter within the plane. The total number of bars shall
3 not be fewer than that specified.
4
5 The clearance between reinforcement shall not be less than the greater of the bar
6 diameter or 1 inch for unbundled bars. For bundled bars, the clearance between
7 bundles shall not be less than the greater of 1 inch or a bar diameter derived from
8 the equivalent total area of all bars in the bundle.
9
10 Longitudinal location of bends and ends of bars: ± 1 inch
11
12 Embedded length of bars and length of bar lap splices:
13
14 No. 3 through No. 11: -1 inch
15
16 No. 14 through No. 18: -2 inches
17
18 Concrete cover measured perpendicular to concrete surface (except for the top
19 surface of bridge decks, bridge approach slabs and other roadway surfaces): ± 0.25
20 inch
21
22 Concrete cover measured perpendicular to concrete surface for the top surface of
23 bridge decks, bridge approach slabs and other roadway surfaces: +0.25 inch, -0
24 inch
25
26 Before placing any concrete, the Contractor shall:
27
28 1. Clean all mortar from reinforcement, and
29
30 2. Obtain the Engineer's permission to place concrete after the Engineer has
31 inspected the placement of the reinforcing steel. (Any concrete placed without
32 the Engineer's permission shall be rejected and removed.)
33

34 **6-02.3(25)H Finishing**

35 The last paragraph is revised to read:

36
37 The Contractor may repair defects in prestressed concrete girders in accordance with
38 Section 6-01.16.
39

40 **6-02.3(25)I Fabrication Tolerances**

41 Item number 12 of the first paragraph is revised to read:

42
43 12. Stirrup Projection from Top of Girder:

44
45 Wide flange thin deck and slab girders: $\pm \frac{1}{2}$ inch

46
47 All other girders: $\pm \frac{3}{4}$ inch
48

49 **6-02.3(27) Concrete for Precast Units**

50 The last sentence of the first paragraph is revised to read:
51

1 Type III portland cement or blended hydraulic cement is permitted to be used in precast
2 concrete units.

3
4 **6-02.3(28)B Casting**

5 In the second paragraph, the reference to Section 6-02.3(25)B is revised to read Section 6-
6 02.3(25)C.

7
8 **6-02.3(28)D Contractors Control Strength**

9 In the first paragraph, "WSDOT FOP for AASHTO T 23" is revised to read "FOP for AASHTO
10 T 23".

11
12 **6-02.3(28)E Finishing**

13 This section is supplemented with the following:

14
15 The Contractor may repair defects in precast panels in accordance with Section 6-
16 01.16.

17
18 6-03.AP6

19 **Section 6-03, Steel Structures**
20 **January 7, 2019**

21 **6-03.2 Materials**

22 In the first paragraph, the material reference for Paints is revised to read:

23
24 Paints and Related Materials 9-08

25
26 **6-03.3(25)A3 Ultrasonic Inspection**

27 The first paragraph (up until the colon) is revised to read:

28
29 Complete penetration groove welds on plates 5/16 inch and thicker in the following
30 welded assemblies or Structures shall be 100 percent ultrasonically inspected:

31
32 **6-03.3(33) Bolted Connections**

33 The first paragraph is supplemented with the following:

34
35 After final tightening of the fastener components, the threads of the bolts shall at a
36 minimum be flush with the end of the nut.

37
38 The following is inserted after the third sentence of the fourth paragraph:

39
40 When galvanized bolts are specified, tension-control galvanized bolts are not permitted.

41
42 6-05.AP6

43 **Section 6-05, Piling**
44 **January 2, 2018**

45 **6-05.3(9)A Pile Driving Equipment Approval**

46 The fourth sentence of the second paragraph is revised to read:

47

1 For prestressed concrete piles, the allowable driving stress in kips per square inch shall
2 be $0.095 \cdot \sqrt{f'_c}$ plus prestress in tension, and $0.85f'_c$ minus prestress in compression,
3 where f'_c is the concrete compressive strength in kips per square inch.
4

5 6-07.AP6

6 **Section 6-07, Painting**

7 **January 7, 2019**

8 **6-07.1 Description**

9 The first sentence is revised to read:

10

11 This work consists of containment, surface preparation, shielding adjacent areas from
12 work, testing and disposing of debris, furnishing and applying paint, and cleaning up
13 after painting is completed.
14

15 **6-07.2 Materials**

16 The material reference for Paint is revised to read:

17

18 Paint and Related Materials 9-08
19

20 **6-07.3(1)A Work Force Qualifications for Shop Application of Paint**

21 This section is supplemented with the following new sentence:

22

23 The work force may be accepted based on the approved facility.
24

25 **6-07.3(1)B Work Force Qualifications for Field Application of Paint**

26 The first two paragraphs are revised to read:

27

28 The Contractor preparing the surface and applying the paint shall be certified under
29 SSPC-QP 1 or NACE International Institute Contractor Accreditation Program (NIICAP)
30 AS 1.
31

32 The Contractor removing and otherwise disturbing existing paint containing lead and
33 other hazardous materials shall be certified under SSPC-QP 2, Category A or NIICAP
34 AS 2.
35

36 The third paragraph (up until the colon) is revised to read:

37

38 In lieu of the above SSPC or NIICAP certifications, the Contractor performing the
39 specified work shall complete both of the following actions:
40

41 Item number 2 of the third paragraph is revised to read:

42

43 2. The Contractor's quality control inspector(s) for the project shall be NACE-certified
44 CIP Level 3 or SSPC Protective Coating Inspector (PCI) Level 3.
45

46 **6-07.3(2) Submittals**

47 The first paragraph is supplemented with the following:

48

49 Each component of the plan shall identify the specification section it represents.
50

1 **6-07.3(2)B Contractor’s Quality Control Program Submittal Component**

2 The numbered list in the first paragraph is revised to read:

- 3
- 4 1. Description of the inspection procedures, tools, techniques and the acceptance
 - 5 criteria for all phases of work.
 - 6
 - 7 2. Procedure for implementation of corrective action for non-conformance work.
 - 8
 - 9 3. The paint system manufacturer’s recommended methods of preventing defects.
 - 10
 - 11 4. The Contractor’s frequency of quality control inspection for each phase of work.
 - 12
 - 13 5. Example of each completed form(s) of the daily quality control report used to
 - 14 document the inspection work and tests performed by the Contractor’s quality
 - 15 control personnel.
 - 16

17 **6-07.3(2)C Paint System Manufacturer and Paint System Information Submittal**

18 **Component**

19 Item number 1 is revised to read:

- 20
- 21 1. Product data sheets and Safety Data Sheets (SDS) on the paint materials, paint
 - 22 preparation, and paint application, as specified by the paint manufacturer,
 - 23 including:
 - 24
 - 25 a. All application instructions, including the mixing and thinning directions.
 - 26
 - 27 b. Recommended spray nozzles and pressures.
 - 28
 - 29 c. Minimum and maximum drying time between coats.
 - 30
 - 31 d. Restrictions on temperature and humidity.
 - 32
 - 33 e. Repair procedures for shop and field applied coatings.
 - 34
 - 35 f. Maximum dry film thickness for each coat.
 - 36
 - 37 g. Minimum wet film thickness for each coat to achieve the specified minimum
 - 38 dry film thickness.
 - 39

40 **6-07.3(2)D Hazardous Waste Containment, Collection, Testing, and Disposal**

41 **Submittal Component**

42 The first paragraph (up until the colon) is revised to read:

43

44 The hazardous waste containment, collection, testing, and disposal shall meet all

45 Federal and State requirements, and the submittal component of the painting plan shall

46 include the following:

47

48 **6-07.3(2)E Cleaning and Surface Preparation Submittal Component**

49 Item 1(b) of the first paragraph is revised to read::

- 50
- 51 b. Type, manufacturer, and brand of abrasive blast material and all associated
 - 52 additives, including Safety Data Sheets (SDS).

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6-07.3(3)B Quality Control and Quality Assurance for Field Application of Paint

The last sentence of the first paragraph (excluding the numbered list) is revised to read:

The Contractor’s quality control operations shall include a minimum monitoring and documenting the following for each working day:

Item number 1 in the fourth paragraph is revised to read:

- 1. Environmental conditions for painting in accordance with ASTM E 337.

Item number 4 in the fourth paragraph is revised to read:

- 4. Pictorial of surface preparation guides in accordance with SSPC-VIS 1, 3, 4, and 5.

Item number 5 in the fourth paragraph is revised to read:

- 5. Surface profile by Keanne-Tator comparator in accordance with ASTM D 4417 and SSPC PA17.

6-07.3(4) Paint System Manufacturer’s Technical Representative

This section is revised to read:

The paint system manufacturer’s representative shall be present at the jobsite for the pre-painting conference and for the first day of paint application, and shall be available to the Contractor and Contracting Agency for consultation for the full project duration.

6-07.3(5) Pre-Painting Conference

The second paragraph is revised to read:

If the Contractor’s key personnel change between any work operations, an additional conference shall be held if requested by the Engineer.

6-07.3(6)A Paint Containers

In item number 2 of the first paragraph, “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

6-07.3(6)B Paint Storage

Item number 2 of the second paragraph is revised to read:

- 2. The Contractor shall monitor and document daily the paint material storage facility with a high-low recording thermometer device.

6-07.3(7) Paint Sampling and Testing

The first two paragraphs are revised to read:

The Contractor shall provide the Engineer 1 quart of each paint representing each lot. Samples shall be accompanied with a Safety Data Sheet.

If the quantity of paint required for each component of the paint system for the entire project is 20 gallons or less, then the paint system components will be accepted as specified in Section 9-08.1(7).

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6-07.3(8)A Paint Film Thickness Measurement Gages

The first paragraph is revised to read:

Paint dry film thickness measurements shall be performed with either a Type 1 pull-off gage or a Type 2 electronic gage as specified in SSPC Paint Application Specification No. 2, Procedure for Determining Conformance to Dry Coating Thickness Requirements.

6-07.3(9) Painting New Steel Structures

The last sentence of the second paragraph is revised to read:

Welded shear connectors are not required to painted.

The last paragraph is revised to read:

Temporary attachments or supports for scaffolding, containment or forms shall not damage the paint system.

6-07.3(9)A Paint System

The first paragraph is revised to read:

The paint system applied to new steel surfaces shall consist of the following:

Option 1 (component based paint system):

Primer Coat – Inorganic Zinc Rich	9-08.1(2)C
Intermediate Coat – Moisture Cured Polyurethane	9-08.1(2)G
Intermediate Stripe Coat – Moisture Cured Polyurethane	9-08.1(2)G
Top Coat – Moisture Cured Polyurethane	9-08.1(2)H

Option 2 (performance based paint system):

Primer Coat – Inorganic Zinc Rich	9-08.1(2)M
Intermediate Coat – Epoxy	9-08.1(2)M
Intermediate Stripe Coat – Epoxy	9-08.1(2)M
Top Coat – Polyurethane	9-08.1(2)M

The following new paragraph is inserted after the first paragraph:

Paints and related materials shall be products listed in the current WSDOT Qualified Products List (QPL). Component based paint systems shall be listed on the QPL in the applicable sections of Section 9-08. Performance based systems shall be listed on the current Northeast Protective Coatings Committee (NEPCOAT) Qualified Products List “A” as listed on the WSDOT QPL in Section 9-08.1(2)M. If the paint and related materials for the component based system is not listed in the current WSDOT QPL, a sample shall be submitted to the State Materials Laboratory in Tumwater for evaluation and acceptance in accordance with Section 9-08.

6-07.3(9)C Mixing and Thinning Paint

This section is revised to read:

1 The Contractor shall thoroughly mix paint in accordance with the manufacturer's written
2 recommendations and by mechanical means to ensure a uniform and lump free
3 composition. Paint shall not be mixed by means of air stream bubbling or boxing. Paint
4 shall be mixed in the original containers and mixing shall continue until all pigment or
5 metallic powder is in suspension. Care shall be taken to ensure that the solid material
6 that has settled to the bottom of the container is thoroughly dispersed. After mixing, the
7 Contractor shall inspect the paint for uniformity and to ensure that no unmixed pigment
8 or lumps are present.

9
10 Catalysts, curing agents, hardeners, initiators, or dry metallic powders that are
11 packaged separately may be added to the base paint in accordance with the paint
12 manufacturer's written recommendations and only after the paint is thoroughly mixed to
13 achieve a uniform mixture with all particles wetted. The Contractor shall then add the
14 proper volume of curing agent to the correct volume of base and mix thoroughly. The
15 mixture shall be used within the pot life specified by the manufacturer. Unused portions
16 shall be discarded at the end of each work day. Accelerants are not permitted except as
17 allowed by the Engineer.

18
19 The Contractor shall not add additional thinner at the application site except as allowed
20 by the Engineer. The amount and type of thinner, if allowed, shall conform to the
21 manufacturer's specifications. If recommended by the manufacturer and allowed by the
22 Engineer, a measuring cup shall be used for the addition of thinner to any paint with
23 graduations in ounces. No un-measured addition of thinner to paint will be allowed. Any
24 paint found to be thinned by unacceptable methods will be rejected.

25
26 When recommended by the manufacturer, the Contractor shall constantly agitate paint
27 during application by use of paint pots equipped with mechanical agitators.

28
29 The Contractor shall strain all paint after mixing to remove undesirable matter, but
30 without removing the pigment or metallic powder.

31
32 Paint shall be stored and mixed in a secure, contained location to eliminate the potential
33 for spills into State waters and onto the ground and highway surfaces.

34
35 **6-07.3(9)D Coating Thickness**

36 This section is revised to read:

37
38 Dry film thickness shall be measured in accordance with SSPC Paint Application
39 Specification No. 2, *Procedure for Determining Conformance to Dry Coating Thickness*
40 *Requirements*.

41
42 The minimum dry film thickness of the primer coat shall not be less than 2.5 mils.

43
44 The minimum dry film thickness of each coat (combination of intermediate and
45 intermediate stripe, and top) shall be not less than 3.0 mils.

46
47 The dry film thickness of each coat shall not be thicker than the paint manufacturer's
48 recommended maximum thickness.

49
50 The minimum wet film thickness of each coat shall be specified by the paint
51 manufacturer to achieve the minimum dry film thickness.

52

1 Film thickness, wet and dry, will be measured by gages conforming to Section 6-
2 07.3(8)A.
3
4 Wet measurements will be taken immediately after the paint is applied in accordance
5 with ASTM D4414. Dry measurements will be taken after the coating is dry and hard in
6 accordance with SSPC Paint Application Specification No. 2.
7
8 Each painter shall be equipped with wet film thickness gages and shall be responsible
9 for performing frequent checks of the paint film thickness throughout application.
10
11 Coating thickness measurements may be made by the Engineer after the application of
12 each coat and before the application of the succeeding coat. In addition, the Engineer
13 may inspect for uniform and complete coverage and appearance. One hundred percent
14 of all thickness measurements shall meet or exceed the minimum wet film thickness. In
15 areas where wet film thickness measurements are impractical, dry film thickness
16 measurements may be made. If a question arises about an individual coat's thickness
17 or coverage, it may be verified by the use of a Tooke gage in accordance with ASTM
18 D4138.
19
20 If the specified number of coats does not produce a combined dry film thickness of at
21 least the sum of the thicknesses required per coat, if an individual coat does not meet
22 the minimum thickness, or if visual inspection shows incomplete coverage, the coating
23 system will be rejected and the Contractor shall discontinue painting and surface
24 preparation operations and shall submit a Type 2 Working Drawing of the repair
25 proposal. The repair proposal shall include documentation demonstrating the cause of
26 the less-than-minimum thickness, along with physical test results, as necessary, and
27 modifications to Work methods to prevent similar results. The Contractor shall not
28 resume painting or surface preparation operations until receiving the Engineer's
29 acceptance of the completed repair.
30

31 **6-07.3(9)E Surface Temperature Requirements Prior to Application of Paint**

32 This section, including title, is revised to read:

33
34 **6-07.3(9)E Environmental Condition Requirements Prior to Application of Paint**

35 Paint shall be applied only during periods when:

- 36
37 1. Air and steel temperatures are in accordance with the paint manufacturer's
38 recommendations but in no case less than 35°F nor greater than 115°F.
39
40 2. Steel surface temperature is a minimum of 5°F above the dew point.
41
42 3. Steel surface is not wet.
43
44 4. Relative humidity is within the manufacturer's recommended range.
45
46 5. The anticipated ambient temperature will remain above 35°F or the
47 manufacturer's minimum temperature, whichever is greater, during the paint
48 drying and curing period.
49

50 Application will not be allowed if conditions are not favorable for proper application and
51 performance of the paint.
52

1 Paint shall not be applied when weather conditions are unfavorable to proper curing. If a
2 paint system manufacturer's recommendations allow for application of a paint under
3 environmental conditions other than those specified, the Contractor shall submit a Type
4 2 Working Drawing consisting of a letter from the paint manufacturer specifying the
5 environmental conditions under which the paint can be applied. Application of paint
6 under environmental conditions other than those specified in this section will not be
7 allowed without the Engineer's concurrence.
8
9

10 **6-07.3(9)F Shop Surface Cleaning and Preparation**

11 The last sentence is revised to read:

12

13 The entire steel surface to be painted, including surfaces specified in Section 6-
14 07.3(9)G to receive a mist coat of primer, shall be cleaned to a near white condition in
15 accordance with SSPC-SP 10, *Near-white Metal Blast Cleaning*, and shall be in this
16 condition immediately prior to paint application.
17

18 **6-07.3(9)G Application of Shop Primer Coat**

19 The first paragraph is supplemented with the following:

20

21 Repairs of the shop primer coat shall be prepared in accordance with the painting plan.
22 Shop primer coat repair paint shall be selected from the approved component based or
23 performance based paint system in accordance with Section 6-07.3(10)H.
24

25 **6-07.3(9)H Containment for Field Coating**

26 This section is revised to read:

27

28 The Contractor shall use a containment system in accordance with Section 6-07.3(10)A
29 for surface preparation and prime coating of all uncoated areas remaining, including
30 bolts, nuts, washers, and splice plates.
31

32 During painting operations of the intermediate, stripe and top coats the Contractor shall
33 furnish, install, and maintain drip tarps below the areas to be painted to contain all
34 spilled paint, buckets, brushes, and other deleterious material, and prevent such
35 materials from reaching the environment below or adjacent to the structure being
36 painted. Drip tarps shall be absorbent material and hung to minimize puddling. The
37 Contractor shall evaluate the project-specific conditions to determine the specific type
38 and extent of containment needed to control the paint emissions and shall submit a
39 containment plan in accordance with Section 6-07.3(2).
40

41 **6-07.3(9)I Application of Field Coatings**

42 This section is revised to read:

43

44 An on-site supervisor shall be present for each work shift at the bridge site.
45

46 Upon completion of erection Work, all uncoated or damaged areas remaining, including
47 bolts, nuts, washers, and splice plates, shall be prepared in accordance with Section 6-
48 07.3(9)F, followed by a field primer coat of a zinc-rich primer and final coats of paint
49 selected from the approved component or performance based paint system in
50 accordance with Section 6-07.3(10)H. . The intermediate, intermediate stripe, and top
51 coats shall be applied in accordance with the manufacturer's written recommendations.
52

1 Upon completion of erection Work, welds for steel column jackets may be prepared in
2 accordance with SSPC-SP 15, Commercial Grade Power Tool Cleaning.
3
4 The minimum drying time between coats shall be as shown in the product data sheets,
5 but not less than 12 hours. The Contractor shall determine whether the paint has cured
6 sufficiently for proper application of succeeding coats.
7
8 The maximum time between intermediate and top coats shall be in accordance with the
9 manufacturer's written recommendations. If the maximum time between coats is
10 exceeded, all newly coated surfaces shall be prepared to SSPC-SP 7, *Brush-off Blast*
11 *Cleaning*, and shall be repainted with the same paint that was cleaned, at no additional
12 cost to the Contracting Agency.
13
14 Each coat shall be applied in a uniform layer, completely covering the preceding coat.
15 The Contractor shall correct runs, sags, skips, or other deficiencies before application of
16 succeeding coats. Such corrective work may require re-cleaning, application of
17 additional paint, or other means as determined by the Engineer, at no additional cost to
18 the Contracting Agency.
19
20 Dry film thickness measurements will be made in accordance with Section 6-07.3(9)D.
21
22 All paint damage that occurs shall be repaired in accordance with the manufacturer's
23 written recommendations. On bare areas or areas of insufficient primer thickness, the
24 repair shall include field-applied zinc-rich primer and the final coats of paint selected
25 from the approved component or performance based paint system in accordance with
26 Section 6-07.3(10)H. On areas where the primer is at least equal to the minimum
27 required dry film thickness, the repair shall include the application of the final two coats
28 of the paint system. All paint repair operations shall be performed by the Contractor at
29 no additional cost or time to the Contracting Agency.
30

31 **6-07.3(10)A Containment**

32 The first sentence of the third paragraph is revised to read:

33
34 Emissions shall be assessed by Visible Emission Observations (Method A) in SSPC
35 Technology Update No. 7, *Conducting Ambient Air, Soil, and Water Sampling of*
36 *Surface Preparation and Paint Disturbance Activities*, Section 6.2 and shall be limited to
37 the Level A Acceptance Criteria Option Level 0 Emissions standard.
38

39 **6-07.3(10)D Surface Preparation Prior to Overcoat Painting**

40 The first paragraph is revised to read:

41
42 The Contractor shall remove any visible oil, grease, and road tar in accordance with
43 SSPC-SP 1, *Solvent Cleaning*.
44

45 The second paragraph is revised to read:

46
47 Following any preparation by SSPC-SP1, all steel surfaces to be painted shall be
48 prepared in accordance with SSPC-SP 7, *Brush-off Blast Cleaning*. Surfaces
49 inaccessible to brush-off blast shall be prepared in accordance with SSPC-SP 3, *Power*
50 *Tool Cleaning*, as allowed by the Engineer.
51

52 The first sentence of the third paragraph is revised to read:

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Following brush-off blast cleaning, the Contractor shall perform spot abrasive blast cleaning in accordance with SSPC-SP 6, *Commercial Blast Cleaning*.

The second to last sentence of the third paragraph is revised to read:

For small areas, as allowed by the Engineer, the Contractor may substitute cleaning in accordance with SSPC-SP 15, *Commercial Grade Power Tool Cleaning*.

6-07.3(10)G Treatment of Pack and Rust Gaps

The second paragraph is revised to read:

Pack rust forming a gap between steel surfaces of $\frac{1}{16}$ to $\frac{1}{4}$ inch shall be cleaned to a depth of at least one half of the gap width. The gaps shall be cleaned and prepared in accordance with SSPC-SP6. The cleaned gap shall be treated with rust penetrating sealer, prime coated, and then caulked to form a watertight seal along the top edge and the two sides of the steel pieces involved, using the rust penetrating sealer and caulk as accepted by the Engineer. The bottom edge or lowest edge of the steel pieces involved shall not be caulked.

The third paragraph is supplemented with the following:

Caulk shall be a single-component urethane sealant conforming to Section 9-08.7.

The fifth paragraph is revised to read:

At locations where gaps between steel surfaces exceed $\frac{1}{4}$ inch, the Contractor shall clean and prepare the gap in accordance SSPC-SP6, apply the rust penetrating sealer, apply the prime coat, and then fill the gap with foam backer rod material as accepted by the Engineer. The foam backer rod material shall be of sufficient diameter to fill the crevice or gap. The Contractor shall apply caulk over the foam backer rod material to form a watertight seal.

This section is supplemented with the following new paragraph:

Caulk and backer rod, if needed, shall be placed prior to applying the top coat. The Contractor, with the concurrence of the Engineer, may apply the rust penetrating sealer after application of the prime coat provided the primer is removed in the areas to be sealed. The areas to be sealed shall be re-cleaned and re-prepared in accordance with SSPC-SP6.

6-07.3(10)H Paint System

The first paragraph is revised to read:

The paint system applied to existing steel surfaces shall consist of the following five-coat system:

Option 1 (component based system):

Primer Coat – Zinc-filled Moisture Cured Polyurethane	9-08.1(2)F
Primer Stripe Coat - Moisture Cured Polyurethane	9-08.1(2)F
Intermediate Coat - Moisture Cured Polyurethane	9-08.1(2)G

1	Intermediate Stripe Coat - Moisture Cured Polyurethane	9-08.1(2)G
2	Top Coat - Moisture Cured Polyurethane	9-08.1(2)H
3		
4	Option 2 (performance based system):	
5		
6	Primer Coat – Zinc-rich Epoxy	9-08.1(2)N
7	Primer Stripe Coat – Epoxy	9-08.1(2)N
8	Intermediate Coat – Epoxy	9-08.1(2)N
9	Intermediate Stripe Coat – Epoxy	9-08.1(2)N
10	Top Coat – Polyurethane	9-08.1(2)N

11
12 The following new paragraph is inserted after the first paragraph:

13
14 Paints and related materials shall be a product listed in the current WSDOT Qualified
15 Products List (QPL). Component based paint systems shall be listed on the QPL in the
16 applicable sections of Section 9-08. Performance based systems shall be listed on the
17 current Northeast Protective Coatings Committee (NEPCOAT) Qualified Products List
18 “B” as listed on the WSDOT QPL in Section 9-08.1(2)N. If the paint and related material
19 for the component based system is not listed in the current WSDOT QPL, a sample
20 shall be submitted to the State Materials Laboratory in Tumwater for evaluation and
21 acceptance in accordance with Section 9-08.
22

23 **6-07.3(10)J Mixing and Thinning Paint**

24 This section is revised to read:

25
26 Mixing and thinning paint shall be in accordance with Section 6-07.3(9)C.
27

28 **6-07.3(10)K Coating Thickness**

29 This section is revised to read:

30
31 Coating thickness shall be in accordance with Section 6-07.3(9)D except the minimum
32 dry film thickness of each coat (combination of primer and primer stripe, combination of
33 intermediate and intermediate stripe, and top) shall not be less than 3.0 mils.
34

35 **6-07.3(10)L Environmental Condition Requirements Prior to Application of
36 Paint**

37 This section is revised to read:

38
39 Environmental conditions shall be in accordance with Section 6-07.3(9)E.
40

41 **6-07.3(10)M Steel Surface Condition Requirements Prior to Application of
42 Paint**

43 The third paragraph is revised to read:

44
45 Edges of existing paint shall be feathered in accordance with SSPC-PA 1, *Shop, Field,
46 and Maintenance Coating of Metals*, Note 15.20.
47

48 **6-07.3(10)N Field Coating Application Methods**

49 The third sentence is revised to read:

50
51 The Contractor may apply stripe coat paint using spray or brush but shall follow spray
52 application using a brush to ensure complete coverage around structural geometric

1 irregularities and to push the paint into gaps between existing steel surfaces and around
2 rivets and bolts.

3
4 **6-07.3(10)O Applying Field Coatings**

5 The second to last paragraph is revised to read:

6
7 Each application of primer, primer stripe, intermediate, intermediate stripe, and top coat
8 shall be considered as separately applied coats. The Contractor shall not use a
9 preceding or subsequent coat to remedy a deficiency in another coat. The Contractor
10 shall apply the top coat to at least the minimum specified top coat thickness, to provide
11 a uniform appearance and consistent finish coverage.

12
13 **6-07.3(10)P Field Coating Repair**

14 The second sentence is revised to read:

15
16 Repair areas shall be cleaned of all damaged paint and the system reapplied using all
17 coats typical to the paint system and shall meet the minimum coating thickness.

18
19 **6-07.3(11)A Painting of Galvanized Surfaces**

20 This section is revised to read:

21
22 All galvanized surfaces receiving paint shall be prepared for painting in accordance with
23 the ASTM D 6386. The method of preparation shall be brush-off in accordance with
24 SSPC-SP16 *Brush-Off Blast Cleaning of Coated and Uncoated Galvanized Steel,*
25 *Stainless Steels, and Non-Ferrous Metals* or as otherwise allowed by the Engineer. The
26 Contractor shall not begin painting until receiving the Engineer's acceptance of the
27 prepared galvanized surface. For galvanized bolts used for replacement of deteriorated
28 existing rivets, the Contractor, with the concurrence of the Engineer and after successful
29 demonstration testing, may prepare galvanized surfaces in accordance with SSPC-SP1
30 followed by SSPC-SP2, *Hand Tool Cleaning* or SSPC-SP3, *Power Tool Cleaning*. The
31 demonstration testing shall include adhesion testing of the first coat of paint over
32 galvanized bolts, nuts, and washers or a representative galvanized surface. Adhesion
33 testing shall be performed in accordance with ASTM D 4541 for 600 psi minimum
34 adhesion. A minimum of 3 successful tests shall be performed on the galvanized
35 surface prepared and painted using the same methods and materials to be used on the
36 galvanized bolts, nuts and washers in the field.

37
38 **6-07.3(11)A2 Paint Coat Materials**

39 This section is revised to read:

40
41 The Contractor shall paint the dry surface as follows:

- 42
43 1. The first coat over a galvanized surface shall be an epoxy polyamide
44 conforming to Section 9-08.1(2)E . In the case of galvanized bolts used for
45 replacement of deteriorated existing rivets and for small surface areas less
46 than or equal to one square foot, an intermediate moisture cured polyurethane
47 conforming to Section 9-08.1(2)G may be used as a first coat. In both cases
48 the first coat shall be compatible with galvanizing and as recommended by the
49 top coat manufacturer.
- 50
51 2. The second coat shall be a top coat moisture cured aliphatic polyurethane
52 conforming to Section 9-08.1(2)H or a top coat polyurethane conforming to

1 Section 6-07.3(10)H Option 2 NEPCOAT performance based paint
2 specification compatible with the first coat as recommended by the
3 manufacturer.

4
5 Each coat shall be dry before the next coat is applied. All coats applied in the shop shall
6 be dried hard before shipment.

7
8 **6-07.3(11)B Powder Coating of Galvanized Surfaces**

9 This section is revised to read:

10
11 Powder coating of galvanized surfaces shall consist of the following coats:

- 12
13 1. The first coat shall be an epoxy powder primer coat conforming to Section 9-
14 08.2.
15
16 2. The second coat shall be a polyester finish coat conforming to Section 9-08.2.
17

18 **6-07.3(11)B3 Galvanized Surface Cleaning and Preparation**

19 The first three paragraphs are revised to read:

20
21 Galvanized surfaces receiving the powder coating shall be cleaned and prepared for
22 coating in accordance with ASTM D 7803, and the project-specific powder coating plan.

23
24 Assemblies conforming to the ASTM D 7803 definition for newly galvanized steel shall
25 receive surface smoothing and surface cleaning in accordance with ASTM D 7803,
26 Section 5, and surface preparation in accordance with ASTM D 7803, Section 5.1.3.

27
28 Assemblies conforming to the ASTM D 7803 definition for partially weathered
29 galvanized steel shall be checked and prepared in accordance with ASTM D 7803,
30 Section 6, before then receiving surface smoothing and surface cleaning in accordance
31 with ASTM D 7803, Section 5, and surface preparation in accordance with ASTM D
32 7803, Section 5.1.3.

33
34 The fourth paragraph (up until the colon) is revised to read:

35
36 Assemblies conforming to the ASTM D 7803 definition for weathered galvanized steel
37 shall be prepared in accordance with ASTM D 7803, Section 7 before then receiving
38 surface smoothing and surface cleaning in accordance with ASTM D 7803, Section 5,
39 and surface preparation in accordance with ASTM D 7803, Section 5.3 except as
40 follows:

41
42 **6-07.3(11)B5 Testing**

43 Item number 4 in the first paragraph is revised to read:

- 44
45 4. Adhesion testing in accordance with ASTM D 4541 for 600 psi minimum adhesion
46 for the complete two-component system.

47
48 The second sentence of the fourth paragraph is revised to read:

49
50 Rejected assemblies shall be repaired or recoated by the Contractor, at no additional
51 expense to the Contracting Agency, in accordance with the powder coating

1 manufacturer's recommendation as detailed in the project-specific powder coating plan,
2 until the assemblies satisfy the acceptance testing requirements.

3
4 **6-07.3(12) Painting Ferry Terminal Structures**

5 This section is revised to read:

6
7 Painting of ferry terminal Structures shall be in accordance with Section 6-07.3 as
8 supplemented below.

9
10 This section is supplemented with the following new subsections:

11
12 **6-07.3(12)A Painting New Steel Ferry Terminal Structures**

13 Painting of new steel Structures shall be in accordance with Section 6-07.3(9) except
14 that all coatings (primer, intermediate, intermediate stripe, and top) shall be applied in
15 the shop with the following exceptions:

- 16
17 1. Steel surfaces to be field welded.
18
19 2. Steel surfaces to be greased.
20
21 3. The length of piles designated in the Plans not requiring painting.
22

23 The minimum drying time between coats shall be as shown in the product data sheets,
24 but not less than 12 hours. The Contractor shall determine whether the paint has cured
25 sufficiently for proper application of succeeding coats.

26
27 **6-07.3(12)A1 Paint Systems**

28 Paint systems for Structural Steel, which includes vehicle transfer spans and
29 towers, pedestrian overhead loading structures and towers, upland structural steel
30 and other elements as designated in the Special Provisions shall be as specified in
31 Section 6-07.3(9)A.

32
33 Paint systems for Piling, Landing Aids and Life Ladders shall be as specified in the
34 Special Provisions.

35
36 **6-07.3(12)A2 Paint Color**

37 Paint colors shall be as specified in the Special Provisions.

38
39 **6-07.3(12)A3 Coating Thickness**

40 Coating thicknesses shall be as specified in the Special Provisions.

41
42 **6-07.3(12)A4 Application of Field Coatings**

43 An on-site supervisor shall be present for each work shift at the project site.

44
45 Upon completion of erection Work, all uncoated or damaged areas remaining,
46 including bolts, nuts, washers, splice plates, and field welds shall be prepared in
47 accordance with SSPC-SP 1, Solvent Cleaning, followed by SSPC-SP 11, *Power*
48 *Tool Cleaning to Bare Metal*. Surface preparation shall be measured according to
49 SSPC-VIS 3. SSPC-SP 11 shall be performed for a minimum distance of 1 inch
50 from the uncoated or damaged area. In addition, intact shop-applied coating
51 surrounding the area shall be abraded or sanded for a distance of 6 inches out from
52 the properly prepared clean/bare metal areas to provide adequate roughness for

1 application of field coatings. All sanding dust and contamination shall be removed
2 prior to application of field coatings.

3
4 Field applied paint for Structural Steel shall conform to Section 6-07.3(10)H, as
5 applicable. Field applied paint for Piling, Landing Aids and Life Ladders shall be as
6 specified in the Special Provisions.

7
8 For areas above the tidal zone, the minimum drying time between coats shall be as
9 shown in the product data sheets, but not less than 12 hours. For areas within the
10 tidal zone, the minimum drying time between coats shall be as recommended by
11 the paint system manufacturer. The Contractor shall determine whether the paint
12 has cured sufficiently for proper application of succeeding coats.

13
14 The maximum time between intermediate and top coats shall be in accordance with
15 the manufacturer's written recommendations. If the maximum time between coats
16 is exceeded, all newly coated surfaces shall be prepared to SSPC-SP 3, *Power*
17 *Tool Cleaning*, and shall be repainted with the same paint that was cleaned, at no
18 additional cost to the Contracting Agency.

19
20 Each coat shall be applied in a uniform layer, completely covering the preceding
21 coat. The Contractor shall correct runs, sags, skips, or other deficiencies before
22 application of succeeding coats. Such corrective work may require re-cleaning,
23 application of additional paint, or other means as determined by the Engineer, at no
24 additional cost to the Contracting Agency.

25
26 Surface preparation for underwater locations shall consist of removing all dirt, oil,
27 grease, loose paint, loose rust, and marine growth from the area that is to be
28 repaired. The sound paint surrounding the damaged area shall be roughened to
29 meet the requirements of the manufacturer. Paint for underwater applications shall
30 be as specified in the Special Provisions and shall be applied in accordance with
31 the manufacturer's recommendations.

32 33 **6-07.3(12)B Painting Existing Steel Ferry Terminal Structures**

34 Painting of existing steel structures shall be in accordance with Section 6-07.3(10) as
35 supplemented by the following.

36 37 **6-07.3(12)B1 Containment**

38 Containment for full removal shall be in accordance with Section 6-07.3(10)A.
39 Containment for overcoat systems shall be in accordance with all applicable
40 Permits as required in the Special Provisions.

41
42 Prior to cleaning the Contractor shall enclose all exposed electrical and mechanical
43 equipment to seal out dust, water, and paint. Non-metallic surfaces shall not be
44 abrasive blasted or painted. Unless otherwise specified, the following metallic
45 surfaces shall not be painted and shall be protected from abrasive blasting and
46 painting:

- 47
48 1. Galvanized and stainless steel surfaces not previously painted,
49
50 2. Non-skid surfaces,
51
52 3. Unpainted intentionally greased surfaces,

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4. Equipment labels, identification plates, tags, etc.,
5. Fire and emergency containers or boxes,
6. Mechanical hardware such as hoist sheaves, hydraulic cylinders, gear boxes, wire rope, etc.

The Contractor shall submit a Type 2 Working Drawing consisting of materials and equipment used to shield components specified to not be cleaned and painted. The Contractor shall shut off the power prior to working around electrical equipment. The Contractor shall follow the lock-out/tag-out safety provisions of the WAC 296-803 and all other applicable safety standards.

6-07.3(12)B2 Surface Preparation

For applications above high water and within the tidal zone, surface preparation for overcoat painting shall be in accordance with SSPC-SP 1, *Solvent Cleaning*, followed by SSPC-SP 3, *Power Tool Cleaning*. Use of wire brushes is not allowed. After SP 3 cleaning has been completed all surfaces exhibiting coating failure down to the steel substrate, and those exhibiting visible corrosion, shall be prepared down to clean bare steel in accordance with SSPC-SP 15, *Commercial Grade Power Tool Cleaning*. Surface preparation shall be measured according to SSPC-VIS 3. SSPC-SP 15 shall be performed for a minimum distance of 1 inch from the area exhibiting failure or visible corrosion. In addition, intact shop-applied coating surrounding the repair area shall be abraded or sanded for a distance of 6 inches out from the properly prepared clean/bare metal areas to provide adequate roughness for application of repair coatings. All sanding dust and contamination shall be removed prior to application of repair coatings. Surface preparation for full paint removal shall be in accordance with Section 6-07.3(10)E except SSPC-SP 11 will be permitted as detailed in the Contractor's painting plan and as allowed by the Engineer.

Surface preparation for underwater locations shall consist of removing all dirt, oil, grease, loose paint, loose rust, and marine growth from the area that is to be repaired. The sound paint surrounding the damaged area shall be roughened as required by the coating manufacturer.

Removed marine growth may be released to state waters provided the marine growth is not mixed with contaminants (paint, oil, rust, etc.) and it shall not accumulate on the sea bed. All marine growth containing contaminants shall be collected for proper disposal.

Surface preparation for the underside of bridge decks (consisting of either a steel grid system of main bars or tees and a light gauge metal form, in-filled with concrete or a corrugated light gauge metal form, in-filled with concrete) shall be in accordance with SSPC-SP 2, *Hand Tool Cleaning* or SSPC-SP 3, *Power Tool Cleaning* with the intent of not causing further damage to the light gauge metal form. Following removal of any pack rust and corroded sections from the underside of the bridge deck, cleaning and flushing to remove salts and prior to applying the primer coat, the Contractor shall seal the entire underside of the deck system with rust-penetrating sealer. Damage to galvanized metal forms and/or grids shall be

1 repaired in accordance with ASTM A 780, with the preferred method of repair using
2 paints containing zinc dust.

3
4 **6-07.3(12)B3 Paint Systems**

5 Paints systems for Structural Steel, which includes vehicle transfer spans and
6 towers, pedestrian overhead loading structures and towers, upland structural steel
7 and other elements as designated in the Special Provisions shall be as specified in
8 Section 6-07.3(10)H.

9
10 Paint systems for Piling, Landing Aids, Life Ladders, underside of vehicle transfer
11 span bridge decks, non-skid surface treated areas, and anti-graffiti coatings shall
12 be as specified in the Special Provisions.

13
14 **6-07.3(12)B4 Paint Color**

15 Paint colors shall be as specified in the Special Provisions.

16
17 **6-07.3(12)B5 Coating Thickness**

18 Coating thicknesses shall be as specified in the Special Provisions.

19
20 **6-07.3(12)B6 Application of Field Coatings**

21 Application of field coatings shall be in accordance with Section 6-07.3(10)O and
22 Section 6-07.3(12)A2 except for the following:

- 23
- 24 1. All coatings applied in the field shall be applied using a brush or roller.
25 Spray application methods may be used if allowed by the Engineer.
 - 26
 - 27 2. Applied coatings shall not be immersed until the coating has been cured
28 as required by the coating manufacturer.
 - 29
 - 30 3. Non-skid surface treatment products shall be applied in accordance with
31 the manufacturer's recommendations.
 - 32
 - 33 4. Anti-graffiti coatings shall be applied in one coat following application of
34 the top coat, where specified in the Plans.
 - 35

36 **6-07.3(14)B Reference Standards**

37 The second standard reference (to SSPC CS 23.00), and its accompanying title, is revised
38 to read:

39

40	SSPC CS 23.00	Specification for the Application of Thermal Spray Coatings
41		(Metallizing) of Aluminum, Zinc, and Their Alloys and
42		Composites for the Corrosion Protection of Steel
43		

44 6-08.AP6
45 **Section 6-08, Bituminous Surfacing on Structure Decks**
46 **January 7, 2019**

47 **6-08.3(7)A Concrete Deck Preparation**

48 The first sentence of the first paragraph is revised to read:

49
50 The Contractor, with the Engineer, shall inspect the exposed concrete deck to establish
51 the extent of bridge deck repair in accordance with Section 6-09.3(6).

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6-08.3(8)A Structure Deck Preparation

The second sentence of the last paragraph is revised to read:

Prior to applying the primer or sheet membrane, all dust and loose material shall be removed from the Structure Deck.

6-09.AP6

Section 6-09, Modified Concrete Overlays January 7, 2019

6-09.3 Construction Requirements

This section is supplemented with the following new subsection:

6-09.3(15) Sealing and Texturing Concrete Overlay

After the requirements for checking for bond have been met, all joints and visible cracks shall be filled and sealed with a high molecular weight methacrylate resin (HMWM). Cracks 1/16 inch and greater in width shall receive two applications of HMWM. Immediately following the application of HMWM, the wetted surface shall be coated with sand for abrasive finish.

After all cracks have been filled and sealed and the HMWM resin has cured, the concrete overlay surface shall receive a longitudinally sawn texture in accordance with Section 6-02.3(10)D5.

Traffic shall not be permitted on the finished concrete until it has reached a minimum compressive strength of 3,000 psi as verified by rebound number determined in accordance with ASTM C805 and the longitudinally sawn texture is completed.

6-09.3(1)B Rotary Milling Machines

This section is revised to read:

Rotary milling machines used to remove an upper layer of existing concrete overlay, when present, shall have a maximum operating weight of 50,000 pounds and conform to Section 6-08.3(5)B.

6-09.3(1)C Hydro-Demolition Machines

The first sentence of this section is revised to read:

Hydro-demolition machines shall consist of filtering and pumping units operating in conjunction with a remote-controlled robotic device, using high-velocity water jets to remove sound concrete to the nominal scarification depth shown in the Plans with a single pass of the machine, and with the simultaneous removal of deteriorated concrete.

6-09.3(1)D Shot Blasting Machines

This section, including title, is revised to read:

6-09.3(1)D Vacant

6-09.3(1)E Air Compressor

This section is revised to read:

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Air compressors shall be equipped with oil traps to eliminate oil from being blown onto the bridge deck.

6-09.3(1)J Finishing Machine

This section is revised to read:

The finishing machine shall meet the requirements of Section 6-02.3(10) and the following requirements:

The finishing machine shall be equipped with augers, followed by an oscillating, vibrating screed, vibrating roller tamper, or a vibrating pan, followed by a rotating cylindrical double drum screed. The vibrating screed, roller tamper or pan shall be of sufficient length and width to properly consolidate the mixture. The vibrating frequency of the vibrating screed, roller tamper or pan shall be variable with positive control.

6-09.3(2) Submittals

Item number 1 and 2 are revised to read:

1. A Type 1 Working Drawing consisting of catalog cuts and operating parameters of the hydro-demolition machine selected by the Contractor for use in this project to scarify concrete surfaces.
2. A Type 1 Working Drawing consisting of catalog cuts, operating parameters, axle loads, and axle spacing of the rotary milling machine (if used to remove an upper layer of existing concrete overlay when present).

The first sentence of item number 3 is revised to read:

A Type 2 Working Drawing of the Runoff Water Disposal Plan.

6-09.3(5)A General

The first sentence of the fourth paragraph is revised to read:

All areas of the deck that are inaccessible to the selected scarifying machine shall be scarified to remove the concrete surface matrix to a maximum nominal scarification depth shown in the Plans by a method acceptable to the Engineer.

This section is supplemented with the following:

Concrete process water generated by scarifying concrete surface and removing existing concrete overlay operations shall be contained, collected, and disposed of in accordance with Section 5-01.3(11) and Section 6-09.3(5)C, and the Section 6-09.3(2) Runoff Water Disposal Plan.

6-09.3(5)B Testing of Hydro-Demolition and Shot Blasting Machines

This section's title is revised to read:

Testing of Hydro-Demolition Machines

The second paragraph is revised to read:

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In the “sound” area of concrete, the equipment shall be programmed to remove concrete to the nominal scarification depth shown in the Plans with a single pass of the machine.

6-09.3(5)D Shot Blasting

This section, including title, is revised to read:

6-09.3(5)D Vacant

6-09.3(5)E Rotomilling

This section, including title, is revised to read:

6-09.3(5)E Removing Existing Concrete Overlay Layer by Rotomilling

When the Contractor elects to remove the upper layer of existing concrete overlay, when present, by rotomilling prior to final scarifying, the entire concrete surface of the bridge deck shall be milled to remove the surface matrix to the depth specified in the Plans with a tolerance as specified in Section 6-08.3(5)B. The operating parameters of the rotary milling machine shall be monitored in order to prevent the unnecessary removal of concrete below the specified removal depth.

6-09.3(6) Further Deck Preparation

The first paragraph is revised to read::

Once the lane or strip being overlaid has been cleaned of debris from scarifying, the Contractor, with the Engineer, shall perform a visual inspection of the scarified surface. The Contractor shall mark those areas of the existing bridge deck that are authorized by the Engineer for further deck preparation by the Contractor.

Item number 4 of the second paragraph is deleted.

The first sentence of the third paragraph is deleted.

6-09.3(6)A Equipment for Further Deck Preparation

This section is revised to read:

Further deck preparation shall be performed using either power driven hand tools conforming to Section 6-09.3(1)A, or hydro-demolition machines conforming to Section 6-09.3(1)C.

6-09.3(6)B Deck Repair Preparation

The second paragraph is deleted.

The last sentence of the second paragraph (after the preceding Amendment is applied) is revised to read:

In no case shall the depth of a sawn vertical cut exceed $\frac{3}{4}$ inch or to the top of the top steel reinforcing bars, whichever is less.

The first sentence of the third to last paragraph is revised to read:

1 Where existing steel reinforcing bars inside deck repair areas show deterioration greater
2 than 20-percent section loss, the Contractor shall furnish and place steel reinforcing
3 bars alongside the deteriorated bars in accordance with the details shown in the
4 Standard Plans.
5

6 The last paragraph is deleted.
7

8 **6-09.3(7) Surface Preparation for Concrete Overlay**

9 The first seven paragraphs are deleted and replaced with the following:
10

11 Following the completion of any required further deck preparation the entire lane or strip
12 being overlaid shall be cleaned to be free from oil and grease, rust and other foreign
13 material that may still be present. These materials shall be removed by detergent-
14 cleaning or other method accepted by the Engineer followed by sandblasting.
15

16 After detergent cleaning and sandblasting is completed, the entire lane or strip being
17 overlaid shall be cleaned in final preparation for placing concrete.
18

19 Hand tool chipping, sandblasting and cleaning in areas adjacent to a lane or strip being
20 cleaned in final preparation for placing concrete shall be discontinued when final
21 preparation is begun. Scarifying and hand tool chipping shall remain suspended until
22 the concrete has been placed and the requirement for curing time has been satisfied.
23 Sandblasting and cleaning shall remain suspended for the first 24 hours of curing time
24 after the completion of concrete placing.
25

26 Scarification, and removal of the upper layer of concrete overlay when present, may
27 proceed during the final cleaning and overlay placement phases of the Work on
28 adjacent portions of the Structure so long as the scarification and concrete overlay
29 removal operations are confined to areas which are a minimum of 100 feet away from
30 the defined limits of the final cleaning or overlay placement in progress. If the
31 scarification and concrete overlay removal impedes or interferes in any way with the
32 final cleaning or overlay placement as determined by the Engineer, the scarification and
33 concrete overlay removal Work shall be terminated immediately and the scarification
34 and concrete overlay removal equipment removed sufficiently away from the area being
35 prepared or overlaid to eliminate the conflict. If the grade is such that water and
36 contaminants from the scarification and concrete overlay removal operation will flow into
37 the area being prepared or overlaid, the scarification and concrete overlay removal
38 operation shall be terminated and shall remain suspended for the first 24 hours of curing
39 time after the completion of concrete placement.
40

41 **6-09.3(11) Placing Concrete Overlay**

42 The first sentence of item number 3 in the fourth paragraph is revised to read:
43

44 Concrete shall not be placed when the temperature of the concrete surface is less than
45 45°F or greater than 75°F, and wind velocity at the construction site is in excess of 10
46 mph.
47

48 **6-09.3(12) Finishing Concrete Overlay**

49 The third paragraph is deleted.
50

51 The last paragraph is deleted.
52

1 **6-09.3(13) Curing Concrete Overlay**
2 The first sentence of the first paragraph is revised to read:
3
4 As the finishing operation progresses, the concrete shall be immediately covered with a
5 single layer of clean, new or used, wet burlap.
6
7 The last sentence of the second paragraph is deleted.
8
9 The following two new paragraphs are inserted after the second paragraph:
10
11 As an alternative to the application of burlap and fog spraying described above, the
12 Contractor may propose a curing system using proprietary curing blankets specifically
13 manufactured for bridge deck curing. The Contractor shall submit a Type 2 Working
14 Drawing consisting of details of the proprietary curing blanket system, including product
15 literature and details of how the system is to be installed and maintained.
16
17 The wet curing regimen as described shall remain in place for a minimum of 42-hours.
18
19 The last paragraph is deleted.
20
21 **6-09.3(14) Checking for Bond**
22 The first sentence of the first paragraph is revised to read:
23
24 After the requirements for curing have been met, the entire overlaid surface shall be
25 sounded by the Contractor, in a manner accepted by and in the presence of the
26 Engineer, to ensure total bond of the concrete to the bridge deck.
27
28 The last sentence of the first paragraph is deleted.
29
30 The second paragraph is deleted.
31
32 6-10.AP6
33 **Section 6-10, Concrete Barrier**
34 **August 6, 2018**
35 **6-10.2 Materials**
36 In the first paragraph, the reference to "Portland Cement" is revised to read:
37
38 Cement 9-01
39
40 **6-10.3(6) Placing Concrete Barrier**
41 The first two sentences of the first paragraph are revised to read:
42
43 Precast concrete barriers Type 2, Type 4, Type F, precast single slope barrier, and
44 transitions shall rest on a paved foundation shaped to a uniform grade and section. The
45 foundation surface for precast concrete barriers Type 2, Type 4, Type F, precast single
46 slope barrier, and transitions shall meet this test for uniformity: When a 10-foot
47 straightedge is placed on the surface parallel to the centerline for the barrier, the
48 surface shall not vary more than ¼ inch from the lower edge of the straightedge.
49

1 6-11.AP6
2 **Section 6-11, Reinforced Concrete Walls**
3 **April 2, 2018**

4 **6-11.2 Materials**

5 In the first paragraph, the reference to “Aggregates for Portland Cement Concrete” is revised
6 to read:

7
8 Aggregates for Concrete 9-03.1
9

10 6-12.AP6
11 **Section 6-12, Noise Barrier Walls**
12 **August 6, 2018**

13 **6-12.2 Materials**

14 In the first paragraph, the reference to “Aggregates for Portland Cement Concrete” is revised
15 to read:

16
17 Aggregates for Concrete 9-03.1
18

19 The first paragraph is supplemented with the following new material reference:

20
21 Noise Barrier Wall Access Door 9-06.17
22

23 **6-12.3(9) Access Doors and Concrete Landing Pads**

24 The second paragraph is deleted and replaced with the following:

25
26 All frame and door surfaces, except stainless steel surfaces, shall be painted in
27 accordance with Section 6-07.3(9). Primer shall be applied to all non-stainless steel
28 surfaces. All primer coated exposed metal surfaces shall be field painted with the
29 remaining Section 6-07.3(9)A paint system coats. The top coat, when dry, shall match
30 the color specified in the Plans or Special Provisions.
31

32 This section is supplemented with the following:

33
34 Access door deadbolt locks shall be capable of accepting a Best CX series core. The
35 Contractor shall furnish and install a spring-loaded construction core lock with each
36 lock. The Engineer will furnish the permanent Best CX series core for the Contractor to
37 install at the conclusion of the project.
38

39 6-13.AP6
40 **Section 6-13, Structural Earth Walls**
41 **August 6, 2018**

42 **6-13.2 Materials**

43 In the first paragraph, the reference to “Aggregates for Portland Cement Concrete” is revised
44 to read:

45
46 Aggregates for Concrete 9-03.1
47

1 **6-13.3(4) Precast Concrete Facing Panel and Concrete Block Fabrication**

2 Item number 1 of the sixth paragraph is revised to read:

3

- 4 1. Vertical dimensions shall be $\pm \frac{1}{16}$ inch of the Plan dimension, and the rear height
5 shall not exceed the front height.

6

7 Item number 3 of the sixth paragraph is revised to read:

8

- 9 3. All other dimensions shall be $\pm \frac{1}{4}$ inch of the Plan dimension.

10

11 6-14.AP6

12 **Section 6-14, Geosynthetic Retaining Walls**

13 **April 2, 2018**

14 **6-14.2 Materials**

15 In the first paragraph, the references to “Portland Cement” and “Aggregates for Portland
16 Cement Concrete” are revised to read:

17

18	Cement	9-01
19	Aggregates for Concrete	9-03.1

20

21 6-15.AP6

22 **Section 6-15, Soil Nail Walls**

23 **January 7, 2019**

24 **6-15.3(7) Shotcrete Facing**

25 The last paragraph is supplemented with the following:

26

- 27 After final tightening of the nut, the threads of the soil nail shall at a minimum be flush
28 with the end of the nut.

29

30 6-16.AP6

31 **Section 6-16, Soldier Pile and Soldier Pile Tieback Walls**

32 **April 2, 2018**

33 **6-16.2 Materials**

34 In the first paragraph, the reference to “Aggregates for Portland Cement Concrete” is revised
35 to read:

36

37	Aggregates for Concrete	9-03.1
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38

39 6-18.AP6

40 **Section 6-18, Shotcrete Facing**

41 **April 1, 2019**

42 **6-18.2 Materials**

43 The reference to metakaolin is deleted.

44

45 **6-18.3(3) Testing**

46 In the last sentence of the first paragraph, “AASHTO T 24” is revised to read “ASTM C1604”.

47

- 1 **6-18.3(3)B Production Testing**
2 In the last sentence, “AASHTO T 24” is revised to read “ASTM C1604”.
3
- 4 **6-18.3(4) Qualifications of Contractor’s Personnel**
5 In the last sentence of the second paragraph, “AASHTO T 24” is revised to read “ASTM
6 C1604”.
7
- 8 6-19.AP6
9 **Section 6-19, Shafts**
10 **January 7, 2019**
- 11 **6-19.2 Materials**
12 In the first paragraph, the references to “Portland Cement” and “Aggregates for Portland
13 Cement Concrete” are revised to read:
14
- | | | |
|----|-------------------------|--------|
| 15 | Cement | 9-01 |
| 16 | Aggregates for Concrete | 9-03.1 |
- 17
- 18 **6-19.3(1)A Shaft Construction Tolerances**
19 The last paragraph is supplemented with the following:
20
- 21 The elevation of the top of the reinforcing cage for drilled shafts shall be within +6
22 inches and -3 inches from the elevation shown in the Plans.
23
- 24 **6-19.3(2)D Nondestructive QA Testing Organization and Personnel**
25 Item number 4 in the first paragraph is revised to read:
26
- 27 4. Personnel preparing test reports shall be a Professional Engineer, licensed under
28 Title 18 RCW, State of Washington, and shall seal the report in accordance with
29 WAC 196-23-020.
30
- 31 **6-19.3(3)C Conduct of Shaft Casing Installation and Removal and Shaft
32 Excavation Operations**
33 The first paragraph is supplemented with the following:
34
- 35 In no case shall shaft excavation and casing placement extend below the bottom of
36 shaft excavation as shown in the Plans.
37
- 38 **6-19.3(6)E Thermal Wire and Thermal Access Point (TAPS)**
39 The third sentence of the third paragraph is revised to read:
40
- 41 The thermal wire shall extend from the bottom of the reinforcement cage to the top of
42 the shaft, with a minimum of 5-feet of slack wire provided above the top of shaft.
43
- 44 The following new sentence is inserted after the third sentence of the third paragraph:
45
- 46 All thermal wires in a shaft shall be equal lengths.
47
- 48 **6-19.3(9)D Nondestructive QA Testing Results Submittal**
49 The last sentence of the first paragraph is revised to read:
50

1 Results shall be a Type 2E Working Drawing presented in a written report.

2

3 7-02.AP7

4 **Section 7-02, Culverts**

5 **April 2, 2018**

6 **7-02.2 Materials**

7 In the first paragraph, the references to “Portland Cement” and “Aggregates for Portland
8 Cement Concrete” are revised to read:

9

10 Cement 9-01

11 Aggregates for Concrete 9-03.1

12

13 **7-02.3(6)A4 Excavation and Bedding Preparation**

14 The first sentence of the third paragraph is revised to read:

15

16 The bedding course shall be a 6-inch minimum thickness layer of culvert bedding
17 material, defined as granular material either conforming to Section 9-03.12(3) or to
18 AASHTO Grading No. 57 as specified in Section 9-03.1(4)C.

19

20 7-05.AP7

21 **Section 7-05, Manholes, Inlets, Catch Basins, and Drywells**

22 **August 6, 2018**

23 **7-05.3 Construction Requirements**

24 The fourth sentence of the third paragraph is deleted.

25

26 7-08.AP7

27 **Section 7-08, General Pipe Installation Requirements**

28 **April 2, 2018**

29 **7-08.3(3) Backfilling**

30 The fifth sentence of the fourth paragraph is revised to read:

31

32 All compaction shall be in accordance with the Compaction Control Test of Section 2-
33 03.3(14)D except in the case that 100% Recycled Concrete Aggregate is used.

34

35 The following new sentences are inserted after the fifth sentence of the fourth paragraph:

36

37 When 100% Recycled Concrete Aggregate is used, the Contractor may submit a written
38 request to use a test point evaluation for compaction acceptance. Test Point evaluation
39 shall be performed in accordance with SOP 738.

40

41 8-01.AP8

42 **Section 8-01, Erosion Control and Water Pollution Control**

43 **April 1, 2019**

44 **8-01.1 Description**

45 This section is revised to read:

46

1 This Work consists of furnishing, installing, maintaining, removing and disposing of best
2 management practices (BMPs), as defined in the Washington Administrative Code
3 (WAC) 173-201A, to manage erosion and water quality in accordance with these
4 Specifications and as shown in the Plans or as designated by the Engineer.
5

6 The Contracting Agency may have a National Pollution Discharge Elimination System
7 Construction Stormwater General Permit (CSWGP) as identified in the Contract Special
8 Provisions. The Contracting Agency may or may not transfer coverage of the CSWGP
9 to the Contractor when a CSWGP has been obtained. The Contracting Agency may not
10 have a CSWGP for the project but may have another water quality related permit as
11 identified in the Contract Special Provisions or the Contracting Agency may not have
12 water quality related permits but the project is subject to applicable laws for the Work.
13 Section 8-01 covers all of these conditions.
14

15 This section is supplemented with the following new subsection:
16

17 **8-01.1(1) Definitions**

18 **1. pH Affected Stormwater**

- 19
- 20 a. Stormwater contacting green concrete (concrete that has set/stiffen but is still
21 curing), recycled concrete, or engineered soils (as defined in the Construction
22 Stormwater General Permit (CSWGP)) as a natural process
23
- 24 b. pH monitoring shall be performed in accordance with the CSWGP, or Water
25 Quality Standards (WQS in accordance with WAC 173-201A (surface) or 173-
26 200C (ground)) when the CSWGP does not apply
27
- 28 c. May be neutralized and discharged to surface waters or infiltrated
29

30 **2. pH Affected Non-Stormwater**

- 31
- 32 a. Conditionally authorized in accordance with CSWGP Special Condition S.1.C.,
33 uncontaminated water contacting green concrete, recycled concrete, or
34 engineered soils (as defined in the CSWGP)
35
- 36 b. Shall not be categorized as cementitious wastewater/concrete wastewater, as
37 defined below
38
- 39 c. Shall be managed and treated in accordance with the CSWGP, or WQS when
40 the CSWGP does not apply
41
- 42 d. pH adjustment and dechlorination may be necessary, as specified in the
43 CSWGP or in accordance with WQS when the CSWGP does not apply
44
- 45 e. May be neutralized, treated, and discharged to surface waters in accordance
46 with the CSWGP, with the exception of water-only shaft drilling slurry. Water-
47 only shaft drilling slurry may be treated, neutralized, and infiltrated but not
48 discharged to surface waters (Refer to Special Conditions S1.C. Authorized
49 Discharges and S1.d Prohibited Discharges of the CSWGP)
50

51 **3. Cementitious Wastewater/Concrete Wastewater**
52

- 1 a. Any water that comes into contact with fine cementitious particles or slurry; any
2 water used in the production, placement and/or clean-up of cementitious
3 products; any water used to cut, grind, wash, or otherwise modify cementitious
4 products
5
6 b. When any water, including stormwater, commingles with cementitious
7 wastewater/concrete wastewater, the resulting water is considered
8 cementitious wastewater/concrete wastewater and shall be managed to
9 prevent discharge to waters of the State, including ground water
10
11 c. CSWGP Examples include: water used for or resulting from concrete
12 truck/mixer/pumper/tool/chute rinsing or washing, concrete saw cutting and
13 surfacing (sawing, coring, grinding, roughening, hydro-demolition, bridge and
14 road surfacing)
15
16 d. Cannot be neutralized and discharged or infiltrated
17

18 **8-01.2 Materials**

19 The first paragraph is revised to read:

20
21 Materials shall meet the requirements of the following sections:

22		
23	Corrugated Polyethylene Drain Pipe	9-05.1(6)
24	Quarry Spalls and Permeable Ballast	9-13
25	Erosion Control and Roadside Planting	9-14
26	Construction Geotextile	9-33
27		

28 The second paragraph is deleted.
29

30 **8-01.3(1) General**

31 This section is revised to read:

32
33 Adaptive management shall be employed throughout the duration of the project for the
34 implementation of erosion and water pollution control permit requirements for the
35 current condition of the project site. The adaptive management includes the selection
36 and utilization of BMPs, scheduling of activities, prohibiting unacceptable practices,
37 implementing maintenance procedures, and other managerial practices that when used
38 singularly or in combination, prevent or reduce the release of pollutants to waters of the
39 State. The adaptive management shall use the means and methods identified in this
40 section and means and methods identified in the Washington State Department of
41 Transportation's Temporary Erosion and Sediment Control Manual or the Washington
42 State Department of Ecology's Stormwater Management Manuals for construction
43 stormwater.
44

45 The Contractor shall install a high visibility fence along the lines shown in the Plans or
46 as instructed by the Engineer.
47

48 Throughout the life of the project, the Contractor shall preserve and protect the
49 delineated preservation area, acting immediately to repair or restore any high visibility
50 fencing damaged or removed.
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All discharges to surface waters shall comply with surface water quality standards as defined in Washington Administrative Code (WAC) Chapter 173-201A. All discharges to groundwater shall comply with groundwater quality standards WAC Chapter 173-200. The Contractor shall comply with the CSWGP when the project is covered by the CSWGP.

Work, at a minimum, shall include the implementation of:

1. Sediment control measures prior to ground disturbing activities to ensure all discharges from construction areas receive treatment prior to discharging from the site.
2. Flow control measures to prevent erosive flows from developing.
3. Water management strategies and pollution prevention measures to prevent contamination of waters that will be discharged to surface waters or the ground.
4. Erosion control measures to stabilize erodible earth not being worked.
5. Maintenance of BMPs to ensure continued compliant performance.
6. Immediate corrective action if evidence suggests construction activity is not in compliance. Evidence includes sampling data, olfactory or visual evidence such as the presence of suspended sediment, turbidity, discoloration, or oil sheen in discharges.

To the degree possible, the Contractor shall coordinate this Work with permanent drainage and roadside restoration Work the Contract requires.

Clearing, grubbing, excavation, borrow, or fill within the Right of Way shall never expose more erodible earth than as listed below:

Western Washington (West of the Cascade Mountain Crest)		Eastern Washington (East of the Cascade Mountain Crest)	
May 1 through September 30	17 Acres	April 1 through October 31	17 Acres
October 1 through April 30	5 Acres	November 1 through March 31	5 Acres

The Engineer may increase or decrease the limits based on project conditions.

Erodible earth is defined as any surface where soils, grindings, or other materials may be capable of being displaced and transported by rain, wind, or surface water runoff.

Erodible earth not being worked, whether at final grade or not, shall be covered within the specified time period (see the table below), using BMPs for erosion control.

Western Washington	Eastern Washington
---------------------------	---------------------------

(West of the Cascade Mountain Crest)	
October 1 through April 30	2 days maximum
May 1 to September 30	7 days maximum

(East of the Cascade Mountain Crest)	
October 1 through June 30	5 days maximum
November 1 through March 31	10 days maximum

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When applicable, the Contractor shall be responsible for all Work required for compliance with the CSWGP including annual permit fees.

If the Engineer, under Section 1-08.6, orders the Work suspended, the Contractor shall continue to comply with this division during the suspension.

8-01.3(1)A Submittals

This section's content is deleted.

This section is supplemented with the following new subsection:

8-01.3(1)A1 Temporary Erosion and Sediment Control Plan

Temporary Erosion and Sediment Control (TESC) Plans consist of a narrative section and plan sheets that meets the Washington State Department of Ecology's Stormwater Pollution Prevention Plan (SWPPP) requirement in the CSWGP. For projects that do not require a CSWGP but have the potential to discharge to surface waters of the state, an abbreviated TESC plan shall be used, which may consist of a narrative and/or plan sheets and shall demonstrate compliance with applicable codes, ordinances and regulations, including the water quality standards for surface waters; Chapter 173-201A of the Washington Administrative Code (WAC) and water quality standards for groundwaters in accordance with Chapter 173-200 WAC.

The Contractor shall either adopt the TESC Plan in the Contract or develop a new TESC Plan. If the Contractor adopts the TESC Plan in scenarios in which the CSWGP is transferred to the Contractor, the Contractor shall modify the TESC Plan to match the Contractor's schedule, method of construction, and to include all areas that will be used to directly support construction activity such as equipment staging yards, material storage areas, or borrow areas. TESC Plans shall include all high visibility fence shown in the Plans. All TESC Plans shall meet the requirements of the current edition of the WSDOT Temporary Erosion and Sediment Control Manual M 3109 and be adaptively managed throughout construction based on site inspections and required sampling to maintain compliance with the CSWGP, or WQS when no CSWGP applies. The Contractor shall develop a schedule for implementation of the TESC work and incorporate it into the Contractor's progress schedule.

The Contractor shall submit their TESC Plan (either the adopted plan or new plan) as Type 2 Working Drawings. At the request of the Engineer, updated TESC Plans shall be submitted as Type 1 Working Drawings.

8-01.3(1)B Erosion and Sediment Control (ESC) Lead

This section is revised to read:

1 The Contractor shall identify the ESC Lead at the preconstruction discussions and in the
2 TESC Plan. The ESC Lead shall have, for the life of the Contract, a current Certificate
3 of Training in Construction Site Erosion and Sediment Control from a course approved
4 by the Washington State Department of Ecology. The ESC Lead must be onsite or on
5 call at all times throughout construction. The ESC Lead shall be listed on the
6 Emergency Contact List required under Section 1-05.13(1).

7
8 The ESC Lead shall implement the TESC Plan. Implementation shall include, but is not
9 limited to:

- 10
11 1. Installing, adaptively managing, and maintaining temporary erosion and
12 sediment control BMPs to assure continued performance of their intended
13 function. Damaged or inadequate BMPs shall be corrected immediately.
- 14
15 2. Updating the TESC Plan to reflect current field conditions.
- 16
17 3. Discharge sampling and submitting Discharge Monitoring Reports (DMRs) to
18 the Washington State Department of Ecology in accordance with the CSWGP.
- 19
20 4. Develop and maintain the Site Log Book as defined in the CSWGP. When the
21 Site Log Book or portion thereof is electronically developed, the electronic
22 documentation must be accessible onsite. As a part of the Site Log Book, the
23 Contractor shall develop and maintain a tracking table to show that identified
24 TESC compliance issues are fully resolved within 10 calendar days. The table
25 shall include the date an issue was identified, a description of how it was
26 resolved, and the date the issue was fully resolved.

27
28 The ESC Lead shall also inspect all areas disturbed by construction activities, all on-site
29 erosion and sediment control BMPs, and all stormwater discharge points at least once
30 every calendar week and within 24-hours of runoff events in which stormwater
31 discharges from the site. Inspections of temporarily stabilized, inactive sites may be
32 reduced to once every calendar month. The Washington State Department of Ecology's
33 Erosion and Sediment Control Site Inspection Form, located at
34 [https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-](https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Construction-stormwater-permit)
35 [permits/Construction-stormwater-permit](https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Construction-stormwater-permit), shall be completed for each inspection and a
36 copy shall be submitted to the Engineer no later than the end of the next working day
37 following the inspection.

38 39 **8-01.3(1)C Water Management**

40 This section is supplemented with the following new subsections:

41 42 **8-01.3(1)C5 Water Management for In-Water Work Below Ordinary High Water 43 Mark (OHWM)**

44 Work over surface waters of the state (defined in WAC 173-201A-010) or below the
45 OHWM (defined in RCW 90.58.030) shall comply with water quality standards for
46 surface waters of the State of Washington.

47 48 **8-01.3(1)C6 Environmentally Acceptable Hydraulic Fluid**

49 All equipment containing hydraulic fluid that extends from a bridge deck over surface
50 waters of the state or below the OHWM, shall be equipped with a biodegradable
51 hydraulic fluid. The fluid shall achieve either a Pw1 Environmental Persistence
52 Classification stated in ASTM D6046 ($\geq 60\%$ biodegradation in 28 days) or equivalent

1 standard. Alternatively, hydraulic fluid that meets International Organization for
2 Standardization (ISO 15380), the European Union Ecolabel, or equivalent certification
3 will also be accepted.

4
5 The Contractor shall submit a Type 1 Working Drawing consisting of a manufacturer
6 catalog cut of the hydraulic fluid used.

7
8 The designation of biodegradable hydraulic fluid does not mean fluid spills are
9 acceptable. The Contractor shall respond to spills to land or water in accordance with
10 the Contract, the associated SPCC Plan, and all applicable local, state, and federal
11 regulations.

12 13 **8-01.3(1)C7 Turbidity Curtain**

14 All Work for the turbidity curtain shall be in accordance with the manufacturer's
15 recommendations for the site conditions. Removal procedures shall be developed and
16 used to minimize silt release and disturbance of silt. The Contractor shall submit a Type
17 2 Working Drawing, detailing product information, installation and removal procedures,
18 equipment and workforce needs, maintenance plans, and emergency
19 repair/replacement plans.

20
21 Turbidity curtain materials, installation, and maintenance shall be sufficient to comply
22 with water quality standards.

23
24 The Contractor shall notify the Engineer 10 days in advance of removing the turbidity
25 curtain. All components of the turbidity curtain shall be removed from the project.

26 27 **8-01.3(1)C1 Disposal of Dewatering Water**

28 This section is revised to read:

29
30 When uncontaminated groundwater is encountered in an excavation on a project it may
31 be infiltrated within vegetated areas of the right of way not designated as Sensitive
32 Areas or incorporated into an existing stormwater conveyance system at a rate that will
33 not cause erosion or flooding in any receiving surface water.

34
35 Alternatively, the Contractor may pursue independent disposal and treatment
36 alternatives that do not use the stormwater conveyance system provided it is in
37 compliance with the applicable WACs and permits.

38 39 **8-01.3(1)C2 Process Wastewater**

40 This section is revised to read:

41
42 Wastewater generated on-site as a byproduct of a construction process shall not be
43 discharged to surface waters of the State. Some sources of process wastewater may be
44 infiltrated in accordance with the CSWGP. Some sources of process wastewater may
45 be disposed via independent disposal and treatment alternatives in compliance with the
46 applicable WACs and permits.

47 48 **8-01.3(1)C3 Shaft Drilling Slurry Wastewater**

49 This section is revised to read:

50
51 Wastewater generated on-site during shaft drilling activity shall be managed and
52 disposed of in accordance with the requirements below. No shaft drilling slurry

1 wastewater shall be discharged to surface waters of the State. Neither the sediment nor
2 liquid portions of the shaft drilling slurry wastewater shall be contaminated, as
3 detectable by visible or olfactory indication (e.g., chemical sheen or smell).
4

5 1. Water-only shaft drilling slurry or water slurry with accepted flocculants may be
6 infiltrated on-site. Flocculants used shall meet the requirements of Section 9-
7 14.5(1) or shall be chitosan products listed as General Use Level Designation
8 (GULD) on the Washington State Department of Ecology's stormwater
9 treatment technologies webpage for construction treatment. Infiltration is
10 permitted if the following requirements are met:

- 11
- 12 a. Wastewater shall have a pH of 6.5 – 8.5 prior to discharge.
- 13
- 14 b. The amount of flocculant added to the slurry shall be kept to the minimum
15 needed to adequately settle out solids. The flocculant shall be thoroughly
16 mixed into the slurry.
- 17
- 18 c. The slurry removed from the shaft shall be contained in a leak proof cell or
19 tank for a minimum of 3 hours.
- 20
- 21 d. The infiltration rate shall be reduced if needed to prevent wastewater from
22 leaving the infiltration location. The infiltration site shall be monitored
23 regularly during infiltration activity. All wastewater discharged to the
24 ground shall fully infiltrate and discharges shall stop before the end of
25 each work day.
- 26
- 27 e. Drilling spoils and settled sediments remaining in the containment cell or
28 tank shall be disposed of in accordance with Section 6-19.3(4)F.
- 29
- 30 f. Infiltration locations shall be in upland areas at least 150 feet away from
31 surface waters, wells, on-site sewage systems, aquifer sensitive recharge
32 areas, sole source aquifers, well head protection areas, and shall be
33 marked on the plan sheets before the infiltration activity begins.
- 34
- 35 g. Prior to infiltration, the Contractor shall submit a Shaft Drilling Slurry
36 Wastewater Management and Infiltration Plan as a Type 2 Working
37 Drawing. This Plan shall be kept on-site, adapted if needed to meet the
38 construction requirements, and updated to reflect what is being done in
39 the field. The Working Drawing shall include, at a minimum, the following
40 information:
- 41
- 42 i. Plan sheet showing the proposed infiltration location and all surface
43 waters, wells, on-site sewage systems, aquifer-sensitive recharge
44 areas, sole source aquifers, and well-head protection areas within
45 150 feet.
- 46
- 47 ii. The proposed elevation of soil surface receiving the wastewater for
48 infiltration and the anticipated phreatic surface (i.e., saturated soil).
- 49
- 50 iii. The source of the water used to produce the slurry.
- 51
- 52 iv. The estimated total volume of wastewater to be infiltrated.

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- v. The accepted flocculant to be used (if any).
- vi. The controls or methods used to prevent surface wastewater runoff from leaving the infiltration location.
- vii. The strategy for removing slurry wastewater from the shaft and containing the slurry wastewater once it has been removed from the shaft.
- viii. The strategy for monitoring infiltration activity and adapting methods to ensure compliance.
- ix. A contingency plan that can be implemented immediately if it becomes evident that the controls in place or methods being used are not adequate.
- x. The strategy for cleaning up the infiltration location after the infiltration activity is done. Cleanup shall include stabilizing any loose sediment on the surface within the infiltration area generated as a byproduct of suspended solids in the infiltrated wastewater or soil disturbance associated with BMP placement and removal.

2. Shaft drilling mineral slurry, synthetic slurry, or slurry with polymer additives not allowed for infiltration shall be contained and disposed of by the Contractor at an accepted disposal facility in accordance with Section 2-03.3(7)C. Spoils that have come into contact with mineral slurry shall be disposed of in accordance with Section 6-19.3(4)F.

8-01.3(1)C4 Management of Off-Site Water

This section is revised to read:

Prior to clearing and grubbing, the Contractor shall intercept all sources of off-site surface water and overland flow that will run-on to the project. Off-site surface water run-on shall be diverted through or around the project in a way that does not introduce construction related pollution. It shall be diverted to its preconstruction discharge location in a manner that does not increase preconstruction flow rate and velocity and protects contiguous properties and waterways from erosion. The Contractor shall submit a Type 2 Working Drawing consisting of the method for performing this Work.

8-01.3(1)E Detention/Retention Pond Construction

This section is revised to read:

Permanent or temporary ponds shall be constructed before beginning other grading and excavation Work in the area that drains into that pond. Detention/retention ponds may be constructed concurrently with grading and excavation when allowed by the Engineer. Temporary conveyances shall be installed concurrently with grading in accordance with the TESC Plan so that newly graded areas drain to the pond as they are exposed.

8-01.3(2) Seeding, Fertilizing, and Mulching

This section's title is revised to read:

1 **8-01.3(2) Temporary Seeding and Mulching**

2

3 **8-01.3(2)A Preparation for Application**

4 This section is revised to read:

5

6 A cleated roller, crawler tractor, or similar equipment, which forms longitudinal
7 depressions at least 2 inches deep shall be used for compaction and preparation of the
8 surface to be seeded. The entire area shall be uniformly covered with longitudinal
9 depressions formed perpendicular to the natural flow of water on the slope. The soil
10 shall be conditioned with sufficient water so the longitudinal depressions remain in the
11 soil surface until completion of the seeding.

12

13 **8-01.3(2)A1 Seeding**

14 This section is deleted in its entirety.

15

16 **8-01.3(2)A2 Temporary Seeding**

17 This section is deleted in its entirety.

18

19 **8-01.3(2)B Seeding and Fertilizing**

20 This section, including title, is revised to read:

21

22 **8-01.3(2)B Temporary Seeding**

23 Temporary grass seed shall be a commercially prepared mix, made up of low growing
24 grass species that will grow without irrigation at the project location, and accepted by
25 the Engineer. The application rate shall be two pounds per 1000 square feet.

26

27 The Contractor shall notify the Engineer not less than 24 hours in advance of any
28 seeding operation and shall not begin the Work until areas prepared or designated for
29 seeding have been accepted. Following the Engineer's acceptance, seeding of the
30 accepted slopes shall begin immediately.

31

32 Temporary seeding may be sown at any time allowed by the Engineer. Temporary
33 seeding shall be sown by one of the following methods:

34

- 35 1. A hydro seeder that utilizes water as the carrying agent, and maintains
36 continuous agitation through paddle blades. It shall have an operating capacity
37 sufficient to agitate, suspend, and mix into a homogeneous slurry the specified
38 amount of seed and water or other material. Distribution and discharge lines
39 shall be large enough to prevent stoppage and shall be equipped with a set of
40 hydraulic discharge spray nozzles that will provide a uniform distribution of the
41 slurry.
- 42 2. Blower equipment with an adjustable disseminating device capable of
43 maintaining a constant, measured rate of material discharge that will ensure an
44 even distribution of seed at the rates specified.
- 45 3. Power-drawn drills or seeders.
- 46 4. Areas in which the above methods are impractical may be seeded by hand
47 methods.

48

49

50

51

1 When seeding by hand, the seed shall be incorporated into the top ¼ inch of soil by
2 hand raking or other method that is allowed by the Engineer.

3
4 Seed applied using a hydroseeder shall have a tracer added to visibly aid uniform
5 application. This tracer shall not be harmful to plant, aquatic, or animal life. If Short-
6 Term Mulch is used as a tracer, the application rate shall not exceed 250 pounds
7 per acre.

8
9 Seed and fertilizer may be applied in one application provided that the fertilizer is placed
10 in the hydroseeder tank no more than 1 hour prior to application.

11 12 **8-01.3(2)D Mulching**

13 This section, including title, is revised to read:

14 15 **8-01.3(2)D Temporary Mulching**

16 Temporary mulch shall be straw, wood strand, or HECP mulch and shall be used for the
17 purpose of erosion control by protecting bare soil surface from particle displacement.
18 Mulch shall not be applied below the anticipated water level of ditch slopes, pond
19 bottoms, and stream banks. HECP mulch shall not be used within the Ordinary High
20 Water Mark. Non-HECP mulches applied below the anticipated water level shall be
21 removed or anchored down so that it cannot move or float, at no additional expense to
22 the Contracting Agency.

23
24 Straw or wood strand mulch shall be applied at a rate to achieve at least 95 percent
25 visual blockage of the soil surface.

26
27 Short Term Mulch shall be hydraulically applied at the rate of 2500 pounds per acre and
28 may be applied in one lift.

29
30 Moderate Term Mulch and Long Term Mulch shall be hydraulically applied at the rate of
31 3500 pounds per acre with no more than 2000 pounds applied in any single lift.

32
33 Mulch sprayed on signs or sign Structures shall be removed the same day.

34
35 Areas not accessible by mulching equipment shall be mulched by accepted
36 hand methods.

37 38 **8-01.3(2)F Dates for Application of Final Seed, Fertilizer, and Mulch**

39 This section is deleted in its entirety.

40 41 **8-01.3(2)G Protection and Care of Seeded Areas**

42 This section is deleted in its entirety.

43 44 **8-01.3(2)H Inspection**

45 This section is deleted in its entirety.

46 47 **8-01.3(2)I Mowing**

48 This section is deleted in its entirety.

49 50 **8-01.3(3) Placing Biodegradable Erosion Control Blanket**

51 This section's title is revised to read:

52

1 **8-01.3(3) Placing Erosion Control Blanket**

2

3 The first sentence of the first paragraph is revised to read:

4

5 Erosion Control Blankets are used as an erosion prevention device and to enhance the
6 establishment of vegetation.

7

8 The second paragraph is revised to read:

9

10 When used to enhance the establishment of seeded areas, seeding and fertilizing shall
11 be done prior to blanket installation.

12

13 **8-01.3(4) Placing Compost Blanket**

14 This section is revised to read:

15

16 Compost blankets are used for erosion control. Compost blanket shall be only be placed
17 on ground surfaces that are steeper than 3-foot horizontal and 1-foot vertical though
18 steeper slopes shall be broken by wattles or compost socks placed according to the
19 Standard Plans. Compost shall be placed to a depth of 3 inches over bare soil. An
20 organic tackifier shall be placed over the entire composted area when dry or windy
21 conditions are present or expected. The tackifier shall be applied immediately after the
22 application of compost to prevent compost from leaving the composted area.

23

24 Medium compost shall be used for the compost blanket. Compost may serve the
25 purpose of soil amendment as specified in Section 8-02.3(6).

26

27 **8-01.3(5) Plastic Covering**

28 The first paragraph is revised to read:

29

30 **Erosion Control** – Plastic coverings used to temporarily cover stockpiled materials,
31 slopes or bare soils shall be installed and maintained in a way that prevents water from
32 intruding under the plastic and prevents the plastic cover from being damaged by wind.
33 Plastic coverings shall be placed with at least a 12-inch overlap of all seams and be a
34 minimum of 6 mils thick. Use soil stabilization and energy dissipation BMPs to minimize
35 the erosive energy flows coming off sloped areas of plastic (e.g., toe of slope). When
36 feasible, prevent the clean runoff from plastic from hitting bare soil. Direct flows from
37 plastic to stabilized outlet areas.

38

39 **8-01.3(7) Stabilized Construction Entrance**

40 The first paragraph is revised to read:

41

42 Temporary stabilized construction entrance shall be constructed in accordance with the
43 *Standard Plans*, prior to construction vehicles entering the roadway from locations that
44 generate sediment track out on the roadway. Material used for stabilized construction
45 entrance shall be free of extraneous materials that may cause or contribute to track out.

46

47 **8-01.3(8) Street Cleaning**

48 This section is revised to read:

49

50 Self-propelled pickup street sweepers shall be used to remove and collect dirt and other
51 debris from the Roadway. The street sweeper shall effectively collect these materials
52 and prevent them from being washed or blown off the Roadway or into waters of the

1 State. Street sweepers shall not generate fugitive dust and shall be designed and
2 operated in compliance with applicable air quality standards. Material collected by the
3 street sweeper shall be disposed of in accordance with Section 2-03.3(7)C.

4
5 When allowed by the Engineer, power broom sweepers may be used in non-sensitive
6 areas. The broom sweeper shall sweep dirt and other debris from the roadway into the
7 work area. The swept material shall be prevented from entering or washing into waters
8 of the State.

9
10 Street washing with water will require the concurrence of the Engineer.

11
12 **8-01.3(12) Compost Socks**

13 The first two sentences of the first paragraph are revised to read:

14
15 Compost socks are used to disperse flow and sediment. Compost socks shall be
16 installed as soon as construction will allow but before flow conditions create erosive
17 flows or discharges from the site. Compost socks shall be installed prior to any mulching
18 or compost placement.

19
20 **8-01.3(13) Temporary Curb**

21 The last two sentences of the second paragraph are revised to read:

22
23 Temporary curbs shall be a minimum of 4 inches in height. Temporary curb shall be
24 installed so that ponding does not occur in the adjacent roadway.

25
26 **8-01.3(14) Temporary Pipe Slope Drain**

27 The third and fourth paragraphs are revised to read:

28
29 The pipe fittings shall be water tight and the pipe secured to the slope with metal posts,
30 wood stakes, or sand bags.

31
32 The water shall be discharged to a stabilized conveyance, sediment trap, stormwater
33 pond, rock splash pad, or vegetated strip, in a manner to prevent erosion and maintain
34 water quality compliance.

35
36 The last paragraph is deleted.

37
38 **8-01.3(15) Maintenance**

39 This section is revised to read:

40
41 Erosion and sediment control BMPs shall be maintained or adaptively managed as
42 required by the CSWGP until the Engineer determines they are no longer needed.
43 When deficiencies in functional performance are identified, the deficiencies shall be
44 rectified immediately.

45
46 The BMPs shall be inspected on the schedule outlined in Section 8-01.3(1)B for
47 damage and sediment deposits. Damage to or undercutting of BMPs shall be repaired
48 immediately.

49
50 In areas where the Contractor's activities have compromised the erosion control
51 functions of the existing grasses, the Contractor shall overseed at no additional cost to
52 the Contracting Agency.

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The quarry spalls of construction entrances shall be refreshed, replaced, or screened to maintain voids between the spalls for collecting mud and dirt.

Unless otherwise specified, when the depth of accumulated sediment and debris reaches approximately 1/3 the height of the BMP the deposits shall be removed. Debris or contaminated sediment shall be disposed of in accordance with Section 2-03.3(7)C. Clean sediments may be stabilized on-site using BMPs as allowed by the Engineer.

8-01.3(16) Removal

This section is revised to read:

The Contractor shall remove all temporary BMPs, all associated hardware and associated accumulated sediment deposition from the project limits prior to Physical Completion unless otherwise allowed by the Engineer. When the temporary BMP materials are made of natural plant fibers unaltered by synthetic materials the Engineer may allow leaving the BMP in place.

The Contractor shall remove BMPs and associated hardware in a way that minimizes soil disturbance. The Contractor shall permanently stabilize all bare and disturbed soil after removal of BMPs. If the installation and use of the erosion control BMPs have compacted or otherwise rendered the soil inhospitable to plant growth, such as construction entrances, the Contractor shall take measures to rehabilitate the soil to facilitate plant growth. This may include, but is not limited to, ripping the soil, incorporating soil amendments, or seeding with the specified seed.

At the request of the Contractor and at the sole discretion of the Engineer the CSWGP may be transferred back to the Contracting Agency. Approval of the Transfer of Coverage request will require the following:

1. All other Work required for Contract Completion has been completed.
2. All Work required for compliance with the CSWGP has been completed to the maximum extent possible. This includes removal of BMPs that are no longer needed and the site has undergone all Stabilization identified for meeting the requirements of Final Stabilization in the CSWGP.
3. An Equitable Adjustment change order for the cost of Work that has not been completed by the Contractor.
4. Submittal of the Washington State Department of Ecology Transfer of Coverage form (Ecology form ECY 020-87a) to the Engineer.

If the Engineer approves the transfer of coverage back to the Contracting Agency, the requirement in Section 1-07.5(3) for the Contractor's submittal of the Notice of Termination form to the Washington State Department of Ecology will not apply.

8-01.4 Measurement

This section's content is deleted and replaced with the following new subsections:

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8-01.4(1) Lump Sum Bid for Project (No Unit Items)

When the Bid Proposal contains the item “Erosion Control and Water Pollution Prevention” there will be no measurement of unit or force account items for Work defined in Section 8-01 except as described in Sections 8-01.4(3) and 8-01.4(4). Also, except as described in Section 8-01.4(3), all of Sections 8-01.4(2) and 8-01.5(2) are deleted.

8-01.4(2) Item Bids

When the Proposal does not contain the items “Erosion Control and Water Pollution Prevention”, Section 8-01.4(1) and 8-01.5(1) are deleted and the Bid Proposal will contain some or all of the following items measured as noted.

ESC lead will be measured per day for each day that an inspection is made and a report is filed.

Erosion control blanket and plastic covering will be measured by the square yard along the ground slope line of surface area covered and accepted.

Turbidity curtains will be measured by the linear foot along the ground line of the installed curtain.

Check dams will be measured per linear foot one time only along the ground line of the completed check dam. No additional measurement will be made for check dams that are required to be rehabilitated or replaced due to wear.

Stabilized construction entrances will be measured by the square yard by ground slope measurement for each entrance constructed.

Tire wash facilities will be measured per each for each tire wash installed.

Street cleaning will be measured by the hour for the actual time spent cleaning pavement, refilling with water, dumping and transport to and from cleaning locations within the project limits, as authorized by the Engineer. Time to mobilize the equipment to or from the project limits on which street cleaning is required will not be measured.

Inlet protections will be measured per each for each initial installation at a drainage structure.

Silt fence, gravel filter, compost berms, and wood chip berms will be measured by the linear foot along the ground line of the completed barrier.

Wattles and compost socks will be measured by the linear foot.

Temporary curbs will be measured by the linear foot along the ground line of the completed installation.

Temporary pipe slope drains will be measured by the linear foot along the flow line of the pipe.

Coir logs will be measured by the linear foot along the ground line of the completed installation.

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Outlet protections will be measured per each initial installation at an outlet location.

Temporary seeding, temporary mulching, and tackifiers will be measured by the acre by ground slope measurement.

Compost blanket will be measured by the square yard by ground slope surface area covered and accepted.

8-01.4(3) Reinstating Unit Items with Lump Sum Erosion Control and Water Pollution Prevention

The Contract Provisions may establish the project as lump sum, in accordance with Section 8-01.4(1) and also include one or more of the items included above in Section 8-01.4(2). When that occurs, the corresponding measurement provision in Section 8-01.4(2) is not deleted and the Work under that item will be measured as specified.

8-01.4(4) Items not included with Lump Sum Erosion Control and Water Pollution Prevention

Compost blanket will be measured by the square yard by ground slope surface area covered and accepted.

Temporary mulch will be measured by the acre by ground slope surface area covered and accepted.

High visibility fence will be measured by the linear foot along the ground line of the completed fence.

8-01.5 Payment

This section's content is deleted and replaced with the following new subsections:

8-01.5(1) Lump Sum Bid for Project (No Unit Items)

Payment will be made for the following Bid item when it is included in the Proposal:

“Erosion Control and Water Pollution Prevention”, lump sum.

The lump sum Contract price for “Erosion Control and Water Pollution Prevention” shall be full pay to perform the Work as described in Section 8-01 except for costs compensated by Bid Proposal items inserted through Contract Provisions as described in Section 8-01.4(2). Progress payments for the lump sum item “Erosion Control and Water Pollution Prevention” will be made as follows:

1. The Contracting Agency will pay 15 percent of the bid amount for the initial set up for the item. Initial set up includes the following:
 - a. Acceptance of the TESC Plan provided by the Contracting Agency or submittal of a new TESC Plan,
 - b. Submittal of a schedule for the installation of the BMPs, and
 - c. Identifying water quality sampling locations.

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2. 70 percent of the bid amount will be paid in accordance with Section 1-09.9.
 3. Once the project is physically complete and copies of the all reports submitted to the Washington State Department of Ecology have been submitted to the Engineer, and, if applicable, transference of the CSWGP back to the Contracting Agency is complete, the remaining 15 percent of the bid amount shall be paid in accordance with Section 1-09.9.

10 **8-01.5(2) Item Bids**

- 11 "ESC Lead", per day.
12
13 "Turbidity Curtain", per linear foot.
14
15 "Erosion Control Blanket", per square yard.
16
17 "Plastic Covering", per square yard.
18
19 "Check Dam", per linear foot.
20
21 "Inlet Protection", per each.
22
23 "Gravel Filter Berm", per linear foot.
24
25 "Stabilized Construction Entrance", per square yard.
26
27 "Street Cleaning", per hour.
28
29 "Silt Fence", per linear foot.
30
31 "Wood Chip Berm", per linear foot.
32
33 "Compost Berm", per linear foot.
34
35 "Wattle", per linear foot.
36
37 "Compost Sock", per linear foot.
38
39 "Coir Log", per linear foot.
40
41 "Temporary Curb", per linear foot.
42
43 "Temporary Pipe Slope Drain", per linear foot.
44
45 "Temporary Seeding", per acre.
46
47 "Temporary Mulching", per acre.
48
49 "Compost Blanket", per square yard.
50
51 "Outlet Protection", per each.
52

1 "Tackifier", per acre.
2
3 "Erosion/Water Pollution Control", by force account as provided in Section 1-09.6.
4
5 Maintenance and removal of erosion and water pollution control devices including
6 removal and disposal of sediment, stabilization and rehabilitation of soil disturbed
7 by these activities, and any additional Work deemed necessary by the Engineer to
8 control erosion and water pollution will be paid by force account in accordance with
9 Section 1-09.6.

10
11 To provide a common Proposal for all Bidders, the Contracting Agency has entered an
12 amount in the Proposal to become a part of the Contractor's total Bid.

13
14 **8-01.5(3) Reinstating Unit Items with Lump Sum Erosion Control and Water**
15 **Pollution Prevention**

16 The Contract may establish the project as lump sum, in accordance with Section 8-
17 01.4(1) and also reinstate the measurement of one or more of the items described in
18 Section 8-01.4(2), except for Erosion/Water Pollution Control, by force account. When
19 that occurs, the corresponding payment provision in Section 8-01.5(2) is not deleted
20 and the Work under that item will be paid as specified.

21
22 **8-01.5(4) Items not included with Lump Sum Erosion Control and Water Pollution**
23 **Prevention**

24 Payment will be made for the following Bid item when it is included in the Proposal:

25
26 "High Visibility Fence", per linear foot.

27
28 8-02.AP8

29 **Section 8-02, Roadside Restoration**
30 **April 1, 2019**

31 This section, including all subsections, is revised to read:

32
33 **8-02.1 Description**

34 This Work consists of preserving, maintaining, establishing and augmenting vegetation
35 on the roadsides and within mitigation or sundry site areas. It includes vegetation
36 preservation, weed and pest control, furnishing and placing topsoil, compost, and soil
37 amendments, and furnishing and planting seed, sod and plants of all forms and
38 container types. It includes performing plant establishment activities and soil
39 bioengineering. Work shall be performed in accordance with these Specifications and
40 as shown in the Plans or as designated by the Engineer.

41
42 Trees, whips, shrubs, ground covers, cuttings, live stakes, live poles, live branches,
43 rhizomes, tubers, rootstock, and seedlings will hereinafter be referred to collectively as
44 "plants" or "plant material". Grass, wildflowers, and other plant materials installed in
45 seed form will hereinafter be referred to collectively as "seed".

46
47 **8-02.2 Materials**

48 Materials shall meet the requirements of the following sections:

- 49
50 Erosion Control and Roadside Planting 9-14
51 Water 9-25.2

1
2 Botanical identification and nomenclature of plant materials shall be based on
3 descriptions by Hitchcock and Cronquist in "Flora of the Pacific Northwest". Botanical
4 identification and nomenclature of plant material not found in "Flora" shall be based on
5 Bailey in "Hortus Third" or superseding editions and amendments or as referenced in
6 the Plans.
7

8 **8-02.3 Construction Requirements**

9 **8-02.3(1) Responsibility During Construction**

10 The Contractor shall prepare, install, and ensure adequate and proper care of all
11 roadside seeded, planted, and lawn areas on the project until all plant
12 establishment periods required by the Contract are complete or until Physical
13 Completion of the project, whichever is last.
14

15 Adequate and proper care shall include, but is not limited to, keeping all plant
16 material in a healthy, growing condition by watering, pruning, and other actions
17 deemed necessary for plant health. This Work shall include keeping the project
18 area free from insect infestation, weeds or unwanted vegetation, litter, and other
19 debris along with retaining the finished grades and mulch in a neat uniform
20 condition.
21

22 Existing desirable vegetation shall be saved and protected unless removal is
23 required by the Contract or allowed by the Engineer.
24

25 The Contractor shall have sole responsibility for the maintenance and appearance
26 of the roadside restoration.
27

28 **8-02.3(2) Work Plans**

29 Three Work Plan submittals exist under this Section:
30

- 31 1. Roadside Work Plan: This plan is required when Work will disturb the
32 roadside beyond 20 feet from the pavement or where trees or native
33 vegetation will be removed, the Contractor shall submit a Type 2 Working
34 Drawing.
35
- 36 2. Weed and Pest Control Plan: This plan is required when the proposal
37 contains the item "Weed and Pest Control," and prior to application of any
38 chemicals or weed control activities, the Contractor shall submit a Type 2
39 Working Drawing.
40
- 41 3. Plant Establishment Plan: This plan is required when the proposal
42 contains the item "PSIPE__", and prior to completion of Initial Planting, the
43 Contractor shall submit a Type 2 Working Drawing.
44

45 **8-02.3(2)A Roadside Work Plan**

46 The Roadside Work Plan shall define the expected impacts to the roadside
47 and restoration resulting from Work necessary to meet all Contract
48 requirements. The Contractor shall define how the roadside restoration Work
49 included in the Contract will be phased and coordinated with project Work such
50 as earthwork, staging, access, erosion and water pollution control, irrigation,
51 etc. The Roadside Work Plan shall include the following:
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1. Limiting impacts to roadsides:
 - a. Limits of Work including locations of staging or parking.
 - b. Means and methods for vegetation protection (in accordance with Section 1-07.16(2)).
 - c. Locations outside of clearing limits where vegetation shall be removed to provide access routes or other needs to accomplish the Work.
 - d. Plans for removal, preservation and stockpile of topsoil or other native materials, if outside of clearing and grubbing limits and within the project limits.
2. Roadside Restoration:
 - a. Plan for propagation and procurement of plants, ground preparation for planting, and installation of plants.
 - b. Means and methods to limit soil compaction where seeding and planting are to occur, such as steel plates, hog fuel access roads, wood mats for sensitive areas (including removal) and decompaction for unavoidable impacts.
 - c. Plan and timing to incorporate or remove erosion control items.
3. Lawn Installation:
 - a. Schedule for lawn installation work.
 - b. Establishment and maintenance of lawns.

8-02.3(2)B Weed and Pest Control Plan

The Weed and Pest Control Plan shall describe all weed and pest control needs for the project.

The plan shall be prepared and signed by a licensed Commercial Pest Control Operator or Consultant. The plan for control of weeds and pests on the Contract in accordance with Section 8-02.3(3) shall include the following:

1. Names of plan preparer and pesticide operators, including contact information. The Contractor shall furnish the Engineer evidence that all operators are licensed with appropriate endorsements, and that the pesticide used is registered for use by the Washington State Department of Agriculture.
2. Means and methods of weed control, including mechanical and/or chemical.
3. Schedule for weed control including re-entry times for pesticide application by pesticide type.

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4. Proposed pesticide use in accordance with Section 8-02.3(3)A: name, application rate, and Safety Data Sheets of all proposed pesticides. Include a copy of the current product label for each pesticide to be used.
5. Plan to ensure worker safety until pesticide re-entry periods are met.

8-02.3(2)C Plant Establishment Plan

The Plant Establishment Plan shall describe activities necessary to ensure continued health and vigor of planted and seeded areas in accordance with the requirements of Sections 8-02.3(12) and 8-02.3(13). Should the plan become unworkable at any time during the first-year plant establishment, the Contractor shall submit a revised plan prior to proceeding with further Work. The Plant Establishment Plan shall include:

1. Proposed scheduling of joint inspection meetings, activities, materials, equipment to be utilized for the first-year plant establishment.
2. Proposed adaptive management activities to ensure successful establishment of seeded, sodded, and planted areas.
3. A contact person.
4. Management of the irrigation system, when applicable.

8-02.3(3) Weed and Pest Control

The Contractor shall control weed and pest species within the project limits using integrated pest management principles consisting of mechanical, biological, and chemical controls that are outlined in the Weed and Pest Control Plan or as designated by the Engineer. Controlling weeds consists of killing and removing weeds by chemical, mechanical, and hand methods.

8-02.3(3)A Chemical Pesticides

Chemical pesticides include, but are not restricted to, any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any pest, including but not limited to, insecticides, herbicides, fungicides, adjuvants, and additives, including plant regulators, defoliant and desiccants. The Contractor shall apply chemical pesticides in accordance with the label recommendations, the Washington State Department of Ecology, local sensitive area ordinances, and Washington State Department of Agriculture laws and regulations. Only those pesticides listed in the table Herbicides Approved for Use on WSDOT Rights of Way and accepted as part of the Weed and Pest Control Plan or by written authorization from the Engineer may be used (www.wsdot.wa.gov/maintenance/roadside/herbicide_use.htm).

The applicator shall be licensed by the State of Washington as a Commercial Applicator or Commercial Operator, with additional endorsements as required by the Special Provisions or the proposed weed control plan. All chemical pesticides shall be delivered to the job site in the original containers, or if pre-mixed off-site, a certification of the components and formulation from the

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supplier is required. The licensed applicator or operator shall complete WSDOT Form 540-509, Commercial Pesticide Application Record, each day the pesticide is applied and furnish a copy to the Engineer by the following business day.

The Contractor shall ensure confinement of the chemicals within the designated areas. The use of spray chemical pesticides shall require the use of anti-drift and activating agents and a spray pattern indicator unless otherwise allowed by the Engineer.

The Contractor shall assume all responsibility for rendering any area unsatisfactory for planting by reason of chemical application. Damage to adjacent areas, either on or off the Highway Right of Way, shall be repaired to the satisfaction of the Engineer or the property owner at no additional cost to the Contracting Agency.

8-02.3(3)B Planting and Lawn Area Weed Control

Planting and lawn area weed control consists of controlling weeds and pests in planted and lawn areas shown in the Plans. This Work is included in the bid items for planting and lawn installation.

All planting and lawn areas shall be prepared so that they are weed and debris free at the time of planting and until completion of the project. The planting areas shall include the entire ground surface, regardless of cover, areas around plants, and those areas shown in the Plans.

Within planting or lawn areas, all species that are not shown in the Plans are unwanted and shall be controlled unless specifically allowed by the Engineer to remain.

Grass growing within the mulch ring of a plant, including grass applied in accordance with Sections 8-01.3(2)A1, 8-02.3(9) or 8-02.3(10), shall be considered a weed and shall be controlled on the project in accordance with the weed and pest control plan.

All applications of post-emergent herbicides shall be made while green and growing tissue is present. Residual herbicides shall not be used where rhizomatous species or perennial species are indicated.

Should unwanted vegetation reach the flowering and seed stage in violation of these Specifications, the Contractor shall physically remove and bag the seed heads prior to seed dispersion. All physically removed vegetation and seed heads shall be disposed of off-site at no cost to the Contracting Agency.

8-02.3(3)C Project Area Weed and Pest Control

The Contractor shall control weeds not otherwise covered in accordance with Section 8-02.3(3)B, in all areas within the project limits, including erosion control seeding areas and vegetation preservation areas, as designated by the Engineer.

When the Bid Item "Project Area Weed and Pest Control" is included in the Contract, the Contractor shall also control all weeds specified as noxious by

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the Washington State Department of Agriculture, the local Weed District, or the County Noxious Weed Control Board outside of planting areas within the project limits.

8-02.3(4) Topsoil

Topsoil shall not be worked or placed when the ground or topsoil is frozen, or excessively wet.

The Contractor shall protect topsoil stockpiled for project use to prevent erosion and weed growth. Weed growth on topsoil stockpile sites shall be immediately eliminated in accordance with the accepted Weed and Pest Control Plan and Section 8-02.3(3)C.

The subsoil where topsoil is to be placed shall be tilled to a depth of 1 foot or as specified in the Special Provisions or the Plans. Topsoil of the type specified shall be evenly spread over the specified areas to the depth shown in the Plans or as otherwise ordered by the Engineer. Topsoil depths greater than 6 inches shall be placed in lifts no more than 6 inches in depth. The first lift of topsoil shall be incorporated with sub-soil to a depth of 8 inches and subsequent lifts placed and lightly tamped between lifts. After the topsoil has been spread, all large clods, hard lumps, and rocks 2 inches in diameter and larger, and litter shall be raked up, removed, and disposed.

8-02.3(4)A Topsoil Type A

Topsoil Type A shall be as specified in the Special Provisions. The Contractor shall submit a certification by the supplier that the contents of the Topsoil meet the requirements in the Special Provisions.

8-02.3(4)B Topsoil Type B

Topsoil Type B shall be naturally occurring topsoil taken from within the project limits and shall meet the requirements of Section 9-14.1(2). Topsoil Type B shall be taken from areas shown in the Plans to the designated depth and stockpiled at locations that will not interfere with the construction of the project, and outside of sensitive areas, as allowed by the Engineer. A minimum of two weeks prior to excavation of Topsoil Type B, the Contractor shall pre-treat the vegetation on the designated Topsoil Type B areas according to the Weed and Pest Control Plan. Areas beyond the slope stakes shall be disturbed as little as possible in the above operations and under no circumstances shall Topsoil Type B be stockpiled within 10 feet of any existing tree or vegetation area designated to be saved and protected. The Contractor shall protect topsoil stockpile from weed infestation.

The Contractor shall set aside sufficient material to satisfy the needs of the project.

Upon completion of topsoil placement, the Contractor shall dispose of remaining stockpiled Topsoil Type B not required for use on the project at no additional expense to the Contracting Agency in accordance with Section 2-03.3(7)C.

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Should a shortage of Topsoil Type B occur, and the Contractor has wasted or otherwise disposed of topsoil material, the Contractor shall furnish Topsoil Type A or C at no additional expense to the Contracting Agency.

8-02.3(4)C Topsoil Type C

Topsoil Type C shall be naturally occurring topsoil obtained from a source provided by the Contractor outside of the Contracting Agency-owned Right of Way. Topsoil Type C shall meet the requirements of Sections 8-02.3(4)B and 9-14.1(3). The Contractor shall not begin removal of Topsoil Type C from the proposed source until the material has been allowed for use by the Engineer.

8-02.3(5) Roadside Seeding, Lawn and Planting Area Preparation

This Work includes preparing worked areas for the installation of all types of permanent erosion control planting. Work shall be conducted so the flow lines in drainage channels are maintained. Material displaced by the Contractor's operations that interferes with drainage shall be removed from the channel and disposed of as allowed by the Engineer.

8-02.3(5)A Seeding Area Preparation

The Contractor shall prepare roadside seeding areas as follows:

1. Remove all excess material, debris, stumps, and rocks greater than 3 inches in diameter from areas to be seeded. Dispose of removed materials offsite.
2. Prepare roadside seeding area to a weed free and bare condition.
3. Bring area to uniform grade and install topsoil, soil amendments, or compost as specified. Any slopes 3(H) to 1(V) or steeper shall not be tilled unless otherwise specified.
4. Compact to provide a reasonably firm but friable seedbed; tractor walk to uniformly cover the surface with longitudinal depressions at least 2 inches deep formed perpendicular to the natural flow of water on the slope. Condition the soil with sufficient water so the longitudinal depressions remain in the soil surface until completion of the seeding.
5. Seed and mulch within 2 days of preparation.

8-02.3(5)B Lawn Area Preparation

The Contractor shall prepare lawn areas as follows:

1. Prepare lawn area to a weed free and bare condition in accordance with Section 8-02.3(3)B.
2. Remove excess material, stumps, wood or rocks over 3 inches in diameter and remove from site.
3. Bring area to uniform grade and install topsoil or soil amendments in accordance with Section 8-02.3(4) and 8-02.3(6).

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4. Till to an 8-inch depth, rake to a smooth even grade without low areas that trap water, and compact with a 50-pound roller. The finished grade of the soil shall be 1 inch below the top of all curbs, junction and valve boxes, walks, driveways, and other Structures.
5. Seed or sod the area within two days of preparation.

8-02.3(5)C Planting Area Preparation

The Contractor shall prepare planting areas as follows:

1. Prepare planting area to a weed free and bare condition in accordance with Section 8-02.3(3)B.
2. Decompact soil to a depth of 18 inches where construction activities have taken place or where native soils are compacted.
3. Return soil to uniform grade even with surrounding areas, leaving no holes or mounds over 3 inches in depth or height.
4. Remove excess material, stumps, wood or rocks over 3 inches in diameter and remove from site.
5. Apply compost or other amendments as indicated in the plans and in accordance with Section 8-02.3(6).
6. Cultivate amendments to a depth of 12 inches to provide a reasonably firm but friable planting area. Do not till any slopes 3(H) to 1(V) or steeper.
7. Return soil to a uniform finished grade, 1 inch, or the specified depth of mulch plus 1 inch, below walks, curbs, junction and valve boxes, catch basins, and driveways, unless otherwise specified.
8. Begin planting and mulching the area within two days of final preparation.

8-02.3(6) Soil Amendments

The Contractor shall place soil amendments of the type, quality, and quantities specified where shown in the Plans or as specified in the Special Provisions. Areas receiving soil amendments shall be bare soil or vegetation free prior to application. All soil amendments shall be installed as shown in the Plans within 30 calendar days after delivery to the project site.

8-02.3(6)A Compost

Compost used for soil amendments shall be Fine Compost unless otherwise designated in the Plans. When compost blanket is used for temporary erosion control, the compost blanket may be incorporated into the soil immediately prior to planting when used as compost soil amendment. The area shall be prepared in accordance with Section 8-02.3(5) prior to placing compost.

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8-02.3(6)B Fertilizers

The Contractor shall apply fertilizer in the form, mixture, and rate specified in the Special Provisions or as directed by the Engineer. Application procedures shall be in accordance with the manufacturer’s recommendations unless otherwise specified in the Special Provisions.

The Contractor shall submit a guaranteed fertilizer analysis label for the selected product a minimum of one week prior to application for acceptance. Following the Engineer’s acceptance, fertilizing of the accepted ground or vegetated surfaces shall begin immediately.

In seeding and lawn areas to be fertilized, the fertilizer shall be applied concurrently with the seed. When fertilizer is hydraulically applied, the fertilizer shall be suitable for application with seeding as specified in Section 8-02.3(9)C. If hydroseeding, the fertilizer shall be placed in the hydroseeder tank no more than 1 hour prior to application.

Fertilizers for planting areas shall be applied concurrently with compost and applied prior to incorporation, unless tablet form fertilizer is specified. Where tablet form fertilizer is specified, fertilizer shall be applied concurrently with plant installation.

Fertilizer sprayed on signs or sign structures shall be removed the same day.

Areas not accessible by fertilizing equipment shall be fertilized by allowed hand methods.

Second Application: A second application of fertilizer shall be applied as specified in the Special Provisions at the locations designated in the Plans. The fertilizer shall be applied during the months of March, April, or May of the following year after the initial seeding, planting, or lawn installation. The fertilizer shall be dry granular pellets or pearls and applied in accordance with the manufacturer’s recommendations or as specified in the Special Provisions.

8-02.3(7) Layout of Planting, Lawn and Seeding Areas

The Contractor shall lay out and prepare planting and lawn areas and receive the Engineer’s acceptance of layout and preparation prior to any installation activities. The Contractor shall stake the location of all trees larger than 1-inch caliper and the perimeter of all planting areas for acceptance by the Engineer prior to any installation activities.

The Contractor shall locate all trees to be planted in mowable grass areas a minimum of 10 feet from the edge of planting areas, other trees, fence lines, and bottom of ditches unless otherwise specified.

Tree locations shown in the Plans shall be considered approximate unless shown with stationing and offset distance. In irrigated areas, trees shall be located so their trunk is a minimum of 1/3 of the spray radius away from the nearest sprinkler head.

Unless otherwise shown, planting areas located adjacent to Roadways shall begin 6 feet from the edge of shoulder on roadway fills and begin 5 feet up on the back slope from the bottom on roadway cut sections. Plants within planting areas shall

1 be located such that mature branching pattern will not block sight distance, signs,
2 or other traffic-related devices. No trees shall be placed where the mature canopy
3 will grow to within 10 feet of existing power lines. Where roadside ditches are
4 present, planting areas shall begin 5 feet from the centerline of the ditch unless
5 shown otherwise in the Plans.
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7 **8-02.3(8) Planting**

8 **8-02.3(8)A Dates and Conditions for Planting**

9 No plant material shall be planted until it has been inspected and accepted for
10 planting by the Engineer. Rejected material shall be removed from the project
11 site immediately. All plants for the project or a sufficient quantity to plant 1-acre
12 of the site, whichever is less, shall be received on site prior to the Engineer
13 beginning inspection of the plants.
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15 Under no circumstances will planting be permitted during unsuitable soil or
16 weather conditions as determined by the Engineer. Unsuitable conditions may
17 include frozen soil, freezing weather, saturated soil, standing water, high
18 winds, heavy rains, and high water levels. The ground shall be moist at the
19 time of planting. All planting shall be accomplished during the following
20 periods:
21

- 22 1. Non-Irrigated Plant Material
23 Western Washington (West of the Cascade Mountain Crest) –
24 October 1 to March 1.
25 Eastern Washington (East of the Cascade Mountain Crest) – October
26 1 to November 15.
27
- 28 2. Irrigated Plant Material
29

30 In irrigated areas, plant material shall not be installed until the irrigation
31 system is fully operational and accepted by the Engineer. Trees and
32 shrubs may be planted in irrigated areas during the non-irrigated planting
33 window before the irrigation system is functional with the written
34 concurrence of the Engineer only if the irrigation system is guaranteed to
35 be operational prior to the end of the non-irrigated planting window.
36

37 **8-02.3(8)B Plant Installation**

38 The Contractor shall handle plant material in the following manner:
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- 40 1. Root systems shall be kept covered and damp at all times. Plant
41 material shall be kept in containers until the time of planting.
42
- 43 2. Roots shall not be bunched, curled, twisted, or unreasonably bent
44 when placed in the planting hole. Bare root plant material shall be
45 dormant at the time of harvesting and planting. The root systems of
46 all bare root plant material shall be dipped in a slurry immediately
47 prior to planting.
48
- 49 3. Plant material supplied in wrapped balls shall not be removed from
50 the wrapping until the time of planting at the planting location. The
51 root system of balled plant material shall be moist at the time of
52 planting. Root balls shall be loosened prior to planting. All burlap,

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baskets, string, wire and other such materials shall be removed from the hole when planting balled plants.

- 4. Plant cutting material shall be dormant at the time of cutting and planting. All cuttings shall be installed immediately if buds begin to swell.
- 5. Plants shall be placed with the crown at the finished grade. In their final position, plants shall have their top true root (not adventitious root) no more than 1 inch below the soil surface, no matter where that root was located in the original root ball or container. The backfill material, including container and root ball soil, shall be thoroughly watered on the same day that planting occurs regardless of season.

When installing plants, the Contractor shall dig planting holes three times the diameter of the container or root ball size. Any glazed surface of the planting hole shall be roughened prior to planting.

8-02.3(8)C Pruning, Staking, Guying, and Wrapping

Plants shall be pruned at the time of planting, only to remove minor broken or damaged twigs, branches or roots. Pruning shall be performed with a sharp tool and shall be done in such a manner as to retain or to encourage natural growth characteristics of the plants. All other pruning shall be performed only after the plants have been in the ground at least 1 year and when plants are dormant.

Trees shall only be staked when so noted in the Plans. Each tree shall be staked or guyed before completion of the backfilling in accordance with the details shown in the Plans.

Trees shall be wrapped when so noted in the Plans.

8-02.3(9) Seeding, Fertilizing, and Mulching

For all seed, the Contractor shall furnish the following documentation to the Engineer:

- 1. The state or provincial seed dealer license and endorsements.
- 2. Copies of Washington State Department of Agriculture (WSDA) test results on each lot of seed. Test results shall be within six months prior to the date of application.

8-02.3(9)A Dates for Application of Seed

Unless otherwise allowed by the Engineer, the Contractor shall apply seed for permanent erosion control during the following periods:

Western Washington ¹ (West of the Cascade Mountain Crest)	Eastern Washington (East of the Cascade Mountain Crest)
March 1 through May 15 September 1 through October 1	October 1 through November 15

¹Seeding may be allowed outside these dates when allowed by the Engineer.

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All roadway excavation and embankment ground surfaces that are completed to final grades shall be prepared and seeded during the first available seeding window. When environmental conditions are not conducive to satisfactory results, the Engineer may suspend the seeding Work until such time that the desired results are likely to be obtained. If seeding is suspended, temporary erosion control methods according to Section 8-01 shall be used to protect the bare soil until seeding conditions improve.

8-02.3(9)B Seeding and Fertilizing

The Contractor shall prepare the seeding area in accordance with Section 8-02.3(5)A and apply seed at the rate and mix specified in the Special Provisions. The Contractor shall notify the Engineer within 5 days in advance of any seeding operation and shall not begin the Work until areas prepared or designated for seeding have been accepted. Following the Engineer's acceptance, seeding of the accepted ground surfaces shall begin immediately.

Seeding shall not be done during windy weather or when the ground is frozen, or excessively wet.

When seeding by hand, the seed shall be incorporated into the top ¼ inch of soil by hand raking or other method that is allowed by the Engineer.

Seed applied as a separate operation using a hydroseeder shall have a tracer added to visibly aid uniform application. The tracer shall be HECP Short-Term Mulch applied at a rate of 200 to 250 pounds per acre and the tracer shall carry the measured specified seeding rate.

8-02.3(9)C Seeding with Fertilizers and Mulches

When the Proposal includes any variation of seeding, fertilizing, and without mulching, the seed and fertilizer shall be applied in one application followed by mulching. West of the Cascade Mountains, seed, fertilizer, and mulch may be completely applied in one application. East of the Cascades, seeding, fertilizing, and mulching shall not be applied as a single application unless allowed by the Engineer in writing prior to application. The fertilizing and mulching shall meet the requirements of Sections 8-02.3(6) and 8-02.3(11).

8-02.3(9)D Inspection

Seeded areas will be inspected upon completion of seeding, fertilizing, and mulching. The Work in any area will not be measured for payment until a uniform distribution of the materials is accomplished at the specified rate. Areas that have not received a uniform application of seed, fertilizer, and mulch at the specified rate, as determined by the Engineer, shall be re-seeded, re-fertilized, or re-mulched prior to payment for seeding within a designated area.

8-02.3(9)E Protection and Care of Seeded Areas

The Contractor shall install and establish a stable and weed free stand of grass as specified within all designated permanent seeding areas. A stable stand of grass shall meet the following requirements:

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1. A dense and uniform canopy cover, 70% for Western Washington and 50% for Eastern Washington, of specified species covers all seeded areas after 3 months of active growth following germination during the growing season. Canopy cover is defined as the cover of living and vigorous grass blades, leaves, and shoots of specified species. Volunteer species, weeds, woody plants, or other undesirable vegetation shall not factor into the canopy cover. Growth and establishment may require supplemental irrigation to meet cover requirements.
2. Stand health is evident by vigorously growing planted species having a uniform rich-green appearance and with no dead patches or major gaps of growth. A stand of grass that displays rusting, wilting, stunted growth, disease, yellowing or browning of leaves, or bare patches does not meet the stand health requirement.
3. The Contractor shall establish a stable stand of grass free of all weeds, non-specified grasses, and other undesirable vegetation. Weed control shall be in accordance with the Weed and Pest Control Plan and occur on a monthly basis during the establishment period and through the life of the Contract.
4. Remove all trash, rocks, construction debris, and other obstructions that may be detrimental to the continued establishment of future seeding.

In addition to the requirements of Section 1-07.13(1), restoration of eroded areas including clean up, removal, and proper disposal of eroded material, filling and raking of eroded areas with Topsoil Type A or fine compost, and re-application of the specified seed, fertilizer, and mulch shall occur at no additional cost to the Contracting Agency.

8-02.3(10) Lawn Installation

8-02.3(10)A Dates and Conditions for Lawn Installation

In irrigated areas, lawn installation shall not begin until the irrigation system is fully operational.

Unless otherwise allowed by the Engineer, seeded lawn installation shall be performed during the following time periods at the location shown:

Western Washington (West of the Cascade Mountain Crest)	Eastern Washington (East of the Cascade Mountain Crest)
March 1 through May 15 September 1 through October 1	October 1 through November 15
When irrigation system is operational March 1 through October 1	When irrigation system is operational March 1 through November 1

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8-02.3(10)B Lawn Seeding and Sodding

The Contractor shall prepare the lawn area in accordance with Section 8-02.3(5) and apply seed at the mix and rate of application as specified in the Special Provisions.

The Contractor shall have the option of sodding in lieu of seeding for lawn installation at no additional expense to the Contracting Agency. Seeding in lieu of sodding will not be allowed.

Seed placed by hand shall be raked into the soil. Following raking, the seeded soil shall be rolled with a smooth 50-pound roller. Sod strips shall be placed within 48 hours of being cut. Placement shall be without voids and have the end joints staggered. Following placement, the sod shall be rolled with a smooth roller to establish contact with the soil.

Barriers shall be erected, with warning signs where necessary, to preclude pedestrian traffic access to the newly placed lawn during the establishment period.

8-02.3(10)C Lawn Establishment

Lawn establishment shall consist of caring for all new lawn areas within the limits of the project.

The lawn establishment period shall begin immediately after the lawn seeding or sodding has been accepted by the Engineer and shall extend to the end of four mowings or 20 working days whichever is longer. The mowings shall be done in accordance with Section 8-02.3(10)D.

During the lawn establishment period, the Contractor shall ensure the continuing healthy growth of the turf. This care shall include keeping the project in a presentable condition including, but not limited to, removal of litter, mowing, trimming, removal of grass clippings, edging, fertilization, insecticide and fungicide applications, weed control, watering, repairing the irrigation system, and repair and reseeding all damaged areas.

Temporary barriers shall be removed only when directed by the Engineer.

All Work performed under lawn establishment shall comply with established turf management practices.

Acceptance of lawn planting as specified will be based on a uniform stand of grass and a uniform grade at the time of final inspection. The Contractor shall recultivate, re-grade, reseed, and refertilize areas that are bare or have a poor stand of grass or not having a uniform grade through any cause before final inspection at no additional cost to the Contracting Agency.

8-02.3(10)D Lawn Mowing

Lawn mowing shall begin immediately after the lawn establishment period has been accepted by the Engineer and shall extend to the end of the Contract or the first-year plant establishment, whichever is last.

The Contractor shall accomplish the following minimum requirements:

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1. Mow, trim, and edge as often as conditions dictate, at a minimum, once per week between April and September. Maximum height of lawn shall not exceed 3 inches. The cutting height shall be 2 inches. Cuttings, trimmings, and edgings shall be disposed of off the project site. When the Engineer allows the use of a mulching mower, trimmings may be left in place.
2. Water as often as conditions dictate depending on weather and soil conditions.
3. Provide fertilizer, weed control, water, and other measures as necessary to establish and maintain a healthy stand of grass.

8-02.3(11) Mulch

Mulches associated with seeding and planting shall be of the type specified in the Special Provisions or as indicated in the Plans. The Contractor shall evenly apply mulch at the rates indicated in the Plans. Mulches shall not be placed below the anticipated water level of ditch slopes, pond bank slopes, and stream banks, or in areas of standing or flowing water.

8-02.3(11)A Mulch for Seeding Areas

The Contractor shall furnish and evenly apply Hydraulically Applied Erosion Control Product (HECP) Long Term Mulch at the rates indicated and in accordance with the Manufacturer's specifications unless otherwise specified.

HECP Long Term Mulch shall be hydraulically applied at the rate of 3500 pounds per acre with no more than 2000 pounds applied in any single lift. HECP mulch shall not be used within the Ordinary High Water Mark.

Mulch sprayed on signs or sign Structures shall be removed the same day.

Areas not accessible by mulching equipment shall be mulched by accepted hand methods.

HECP Long Term Mulch may be applied with seed and fertilizer west of the summit of the Cascade Range. East of the summit of the Cascade Range, seed and fertilizer shall be applied in a single application followed by the application of mulch.

8-02.3(11)B Bark or Woodchip Mulch

The Contractor shall apply bark or wood chip mulch of the type and depth specified where shown in the Plans or as specified in the Special Provisions.

The Contractor shall complete final grading and placement/incorporation of soil amendments within the planting area prior to placement of mulch. Areas receiving bark mulch shall be bare soil or vegetation free before application, except where trees and other plants are specifically identified in the Plans or designated by the Engineer to be saved and protected.

Bark or wood chip mulch shall be placed to a uniform non-compacted depth of 3 inches over all planting areas unless otherwise specified. Mulch shall be

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feathered to the base of the plant and 1 inch below the top of junction and valve boxes, curbs, and pavement edges.

Any contamination of the mulch due to the Contractor's operations shall be corrected to its former condition at no additional cost to the Contracting Agency. Mulch placed to a thickness greater than specified shall be at no additional cost to the Contracting Agency.

The Contractor shall keep plant material crowns, runners, and branches free of mulch at all times.

8-02.3(11)C Bark or Woodchip Mulch Rings

The Contractor shall apply mulch rings around plants installed within existing vegetation areas or within seeded areas as shown in the Plans. Bark or wood chip mulch rings shall be applied to the surface of vegetation free amended soil in the isolated plant locations where shown in the Plans or as specified in the Special Provisions. Bark or wood chip mulch shall be placed to a uniform non-compacted depth of 3 inches to a radius of 2 feet around all plants within interplanted plant locations.

8-02.3(12) Completion of Initial Planting

Upon completion of the initial planting within a designated area, the Engineer will make an inspection of all planting areas. The Engineer will notify the Contractor, in writing, of any replacements or corrective action necessary to meet the plant installation requirements. The Contractor shall replace all plants and associated materials rejected or missing and correct unsatisfactory conditions.

Completion of the initial planting within a designated area includes the following conditions:

1. 100 percent of each of the plant material categories are installed as shown in the Plans.
2. Planting Area is cleaned up.
3. Repairs are completed, including but not limited to, full operation of the irrigation system.
4. Mulch coverage is complete.
5. All weeds are controlled.

8-02.3(13) Plant Establishment

Plant establishment consists of caring for all plants and planting areas within the project limits. The provisions of Sections 1-07.13(2) and 1-07.13(3) do not apply to this Section.

When the Proposal includes the bid item PSIFE____ (Plant Selection Including Plant Establishment), that bid item includes one year of plant establishment Work. The first year of plant establishment shall begin immediately upon written notification from the Engineer of the completion of initial planting for the project. The first-year plant establishment period shall be a minimum of one calendar year.

1 The one calendar year shall be extended an amount equal to any periods where
2 the Contractor does not comply with the plant establishment requirements and
3 plan.
4

5 During the first-year plant establishment period, the Contractor shall perform all
6 Work necessary to ensure the resumption and continued growth of the transplanted
7 material. This Work shall include, but is not limited to, applying water, removing
8 foreign, dead, or rejected plant material, maintaining all planting areas in a weed-
9 free condition, and replacing all unsatisfactory plant material planted under the
10 Contract. If plants are stolen or damaged by the acts of others, the Contracting
11 Agency will pay invoice cost only for the replacement plants with no mark-up and
12 the Contractor will be responsible for the labor to install the replacement plants.
13 Other weed control within the project limits but outside of planting, lawn, or seeding
14 areas shall be as specified in Section 8-02.3(3)C.
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16 During the first year of plant establishment, the Contractor shall meet monthly or at
17 an agreed upon schedule with the Engineer for the purpose of joint inspection of
18 the planting material. The Contractor shall correct all unsatisfactory conditions
19 identified by the Engineer within a 10-day period immediately following the
20 inspection. If plant replacement is required, the Contractor shall, within the 10-day
21 period, submit a plan and schedule for the plant procurement and replacement to
22 occur during the planting period as designated in Section 8-02.3(8). At the end of
23 the plant establishment period, plants that do not show normal growth shall be
24 replaced and all staking and guying that remain on the project shall be removed
25 unless otherwise allowed by the Engineer.
26

27 All automatic irrigation systems shall be operated fully automatic during the plant
28 establishment period and until final acceptance of the Contract. Payment for water
29 used to water in plants, or hand watering of plant material or lawn areas unless
30 otherwise specified, is the responsibility of the Contractor during the first-year plant
31 establishment period.
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33 Subsequent year plant establishment periods shall begin immediately at the
34 completion of the preceding year's plant establishment period. Each subsequent
35 plant establishment period shall be one full calendar year in duration.
36

37 During the plant establishment period(s) after the first year plant establishment, the
38 Work necessary for the continued healthy and vigorous growth of all plants material
39 shall be performed as directed by the Engineer.
40

41 Payment for water used to water plants during the subsequent year(s) of plant
42 establishment will be paid under the plant establishment item.
43

44 **8-02.3(14) Plant Replacement**

45 The Contractor shall be responsible for growing or arrange to provide sufficient
46 plants for replacement of all plant material rejected through first-year plant
47 establishment. All replacement plant material shall be inspected and accepted by
48 the Engineer prior to installation. All rejected plant material shall be replaced with
49 acceptable plants meeting the specifications and installed according to the
50 requirements of this Section at dates allowed by the Engineer.
51

1 All replacement plants shall be of the same species as the plants they replace and
2 meet the requirements of Section 9-14.8 unless otherwise allowed by the Engineer.
3 Plants may vary in size reflecting one season of growth should the Contractor elect
4 to hold plant material under nursery conditions for an additional year to serve as
5 replacement plants. Replacement plant material larger than specified in the Plans
6 shall meet the applicable section requirements of the ASNS for container class, ball
7 size, spread, and branching characteristics.
8

9 **8-02.3(15) Bioengineering**

10 Bioengineering consists of using plant materials for the purpose of streambank or
11 earthen slope construction and surface stabilization. This Work may include
12 installing woody plant cuttings in various forms as well as part of streambank or
13 earthen slope construction.
14

15 **8-02.3(15)A Fascines**

16 Live fascines shall be constructed of live and dead cuttings bundled together
17 with a diameter of 8 to 18 inches. Live cuttings shall be the species shown in
18 the Plans. Dead branches may be cuttings from any woody, non-invasive plant
19 native to the project area. Dead branches may be placed within the live fascine
20 and on the side exposed to the air. Live branches shall be placed in contact
21 with the soil along their entire length. Each live fascine must contain a
22 minimum of eight live branches. Dead branches shall constitute no more than
23 40 percent of the total fascine content.
24

25 The total length of each live fascine shall be a minimum of 5 feet. Branches
26 shall be bundled into log-like forms and bound with biodegradable twine
27 spaced at 1-foot intervals along the entire length of the live fascine. Live
28 fascines shall be installed horizontally in a trench whose depth shall be $\frac{1}{2}$ the
29 diameter of the live fascine. Secure the live fascine with live stakes 3 feet in
30 length and $\frac{3}{4}$ inch in diameter placed at 18-inch intervals. A minimum of three
31 live stakes shall be used per fascine. The live stakes shall be driven through
32 the live fascine vertically into the slope. The ends of live fascines shall be
33 woven together so that no gap remains between the two sections of the
34 live fascine.
35

36 Prior to being covered with soil, the fascine shall be thoroughly watered. Once
37 the fascine is covered with 6 inches of soil, the soil covering the fascine shall
38 be thoroughly watered.
39

40 When used to remedy erosion areas, live fascines shall extend a minimum of
41 two feet beyond the visible area of erosion and soil disturbance. The locations
42 for live fascines and live stake rows shall be identified in the field for review
43 and acceptance by the Engineer. The Engineer may require adjustment of
44 fascine locations prior to installation in order to best accomplish the intended
45 functions.
46

47 Plant replacement during plant establishment for "PSIPE Live Fascine" will be
48 required for any section void of live shoots for a length of 3 feet or more.
49 Replacement shall consist of installing live stakes, spaced 1 foot apart above
50 the fascine within the area void of live shoots. Live stakes shall be of the same
51 species as the live fascine and shall have a minimum length of 3 feet and a

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minimum diameter of 3/4 inch. The requirements of Section 8-02.3(8) apply to PSIPE Live Fascine.

8-02.3(15)B Brush Mattress

Live brush mattress shall be constructed of live branch cuttings, live poles, jute rope and topsoil. The live cuttings and live poles shall be from the plant species designated in the Plans. Live branch cuttings shall be placed with the cut ends oriented down slope as shown in the Plans. Cuttings shall overlap from side to side and from top to bottom as each layer is constructed. The live branches in each succeeding upper layer shall overlap the adjacent lower layer by a minimum of 6 inches. A maximum of 20 percent of the branches may be dead branches, but the live branches shall be distributed evenly to provide even rooting and growth over the entire area of the brush mattress.

The Contractor shall anchor the live brush mattress to the slope using stakes and jute rope as shown in the Plans. Initially, the stakes shall be installed to protrude above the live brush mattress. The Contractor shall attach the jute rope to the stakes and tighten the rope by tamping the stakes further into the bank, pulling the live brush mattress tight against the soil surface. The Contractor shall cover the live brush mattress with sufficient stockpiled topsoil to ensure good soil contact with the live plant material.

Plant replacement during plant establishment for “PSIPE Live Brush Mattress” will be required for any section void of live shoots for an area of 25 square feet or more. Replacement shall consist of installing live stakes, spaced 3 feet apart in a triangular pattern within the area void of live shoots. Live stakes shall be of the same species as the live brush mattress and shall have a minimum length of 3 feet and a minimum diameter of 3/4 inch. The requirements of Section 8-02.3(8) apply to PSIPE Brush Mattress.

8-02.3(15)C Brush Layer

Brush layers shall be constructed of live branch cuttings, randomly mixed, from the plant species listed under the brush layer heading in the Plans. The number of branches required will vary depending on the average branch diameter and layer thickness.

Brush layers shall be placed in a trench dug at a 45 degree incline into the slope or stream bank. Two-thirds to three-fourths of the length of the live branches shall be buried. Soil shall be firmly tamped in place. Succeeding layers shall be spaced as detailed in the Plans. Brush layer placed in stream banks shall be angled downstream.

Brush layers may include plant establishment when designated as PSIPE Brush Layer. Plant replacement for PSIPE Brush Layer will be required for each section void of live shoots for a continuous distance of 3 feet or more. The requirements of Section 8-02.3(8) apply to PSIPE Brush Layer.

8-02.3(16) Roadside Maintenance Under Construction

When the Contract includes the item, Roadside Maintenance Under Construction, this Work includes roadside mowing and ditch maintenance, and noxious weed control outside of planting areas according to Section 8-02.3(3)C.

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8-02.3(16)A Roadside Mowing

The Contractor shall mow designated roadside grass areas to the limits designated by the Engineer. Roadside mowing is limited to slopes not steeper than 3(H) to 1(V).

The Contractor shall mow according to the following requirements:

1. Trim around traffic equipment, structures, planting areas, or other features extending above ground preceding or simultaneously with each mowing.
2. Maintain grass between 4 and 12 inches in height.
3. Operate mowing equipment with suitable guards to prevent throwing rocks or debris onto the traveled way or off of the Contracting Agency property. Power driven equipment shall not cause ruts, deformation, and compaction of the vegetated soil.
4. Removing clippings is required on the traveled way, shoulders, walkways, or Structures.
5. Restore soil rutting to a smooth and even grade at the direction of the Engineer.

8-02.3(16)B Ditch Maintenance

The Contractor shall maintain drainage for the duration of the Contract according to the following requirements:

1. Maintain flow lines in drainage channels and roadside ditches.
2. Cutting or trimming vegetation within drainage channels to maintain positive flow.
3. Remove dirt and debris from inside of culverts or any drainage area where runoff has allowed accumulations and re-seed for erosion control.
4. Restore channels to previous operational condition.

8-02.4 Measurement

Topsoil, bark or woodchip mulch and soil amendments will be measured by the acre or the square yard along the grade and slope of the area covered immediately after placement. Weed control pre-treatment of topsoil areas, excavation, and stockpiling are included in the bid item "Topsoil Type ____.

Bark or woodchip mulch rings will be measured per each.

Compost will be measured by the acre or the square yard along the grade and slope of the area covered immediately after application.

Seeding, fertilizing, and mulching will be measured by the acre or the square yard by ground slope measurement or through the use of design data.

1
2 Seeding and fertilizing by hand will be measured by the square yard. No adjustment in
3 area size will be made for the vegetation free zone around each plant.
4
5 Seeded lawn, sod installation, and lawn mowing will be measured along the ground
6 slope and computed in square yards of actual lawn completed, established, and
7 accepted.
8
9 Plant selection will be measured per each.
10
11 PSIPE __ (Plant Selection Including Plant Establishment) will be measured per each.
12
13 Live Pole will be measured per each.
14
15 Live Stake Row will be measured by the linear foot along the ground slope line.
16
17 The pay quantities for plant materials will be determined by count of the number of
18 satisfactory plants in each category accepted by the Engineer.
19
20 Fascine and PSIPE live fascine will be measured by the linear foot along the ground
21 slope line.
22
23 Brush mattress and PSIPE live brush mattress will be measured by the surface square
24 yard along the ground slope line.
25
26 Brush layer and PSIPE brush layer will be measured by the linear foot along the ground
27 slope line.
28
29 Water will be measured in accordance with Section 2-07.4. Measurement will be made
30 of only that water hauled in tank trucks or similar equipment.
31
32 **8-02.5 Payment**
33 Payment will be made for each of the following listed Bid items that are included in the
34 Proposal:
35
36 "Project Area Weed and Pest Control" will be paid in accordance with Section 1-
37 09.6.
38 For the purpose of providing a common Proposal for all Bidders, the Contracting
39 Agency entered an amount for "Project Area Weed and Pest Control" in the
40 Proposal to become a part of the total Bid by the Contractor. Payment under this
41 item will be made only when the Work is not already covered by other items.
42
43 "Topsoil Type _____", per acre.
44 The unit Contract price per acre for "Topsoil Type _____" shall be full payment for all
45 costs for the specified Work.
46
47 "Fine Compost ", per acre or per square yard.
48 "Medium Compost", per acre or per square yard.
49 "Coarse Compost", per acre or per square yard.
50 The unit Contract price per acre for "Fine Compost", "Medium Compost" or "Coarse
51 Compost" shall be full pay for furnishing and spreading the compost onto the
52 existing soil.

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“Soil Amendment”, per acre.
The unit Contract price per acre for “Soil Amendment” shall be full pay for furnishing and incorporating the soil amendment into the existing soil.

“Plant Selection ____”, per each.
The unit Contract price for “Plant Selection ____”, per each shall be full pay for all Work to perform the work as specified within the planting area prior to planting for weed control, planting area preparation and installation of plants with initial watering.

As the plants that do not include plant establishment are obtained, propagated, and grown, partial payments will be made as follows:

Payment of 15 percent of the unit Contract price per each when the plant materials have been contracted, propagated, and are growing under nursery conditions. The Contractor shall provide the Engineer with certification that the plant material has been procured or contracted for delivery to the project for planting within the time limits of the project. The certification shall state the location, quantity, and size of all material.

Payment will be increased to 100 percent of the unit Contract price per each for contracted plant material at the completion of the initial planting.

All partial payments shall be limited to the actual number of healthy vigorous plants that meet the stage requirements, limited to plan quantity. Previous partial payments made for materials rejected or missing will be deducted from future payments due the Contractor.

“PSIPE ____”, per each.
The unit Contract price for “PSIPE ____”, per each, shall be full pay for all Work necessary to perform as specified within the planting area for weed control and planting area preparation, planting, cleanup, and water necessary to complete planting operations as specified to the end of first year plant establishment.

As the plants that include plant establishment are obtained, propagated, and grown, partial payments will be made as follows after inspection by the Engineer:

Payment of 5 percent of the unit Contract price, per each, when the plant materials have been contracted, propagated, and are growing under nursery conditions. The Contractor shall provide the Engineer with certification that the plant material has been procured or contracted for delivery to the project for planting within the time limits of the project. The certification shall state the location, quantity, and size of all material.

Payment will be increased to 15 percent of the unit Contract price, per each, upon completion of the initial weed control and planting area preparation Work.

Payment will be increased to 60 percent of the unit Contract price per each for the contracted plant material in a designated unit area when planted.

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Payment will be increased to 70 percent of the unit Contract price per each for contracted plant material at the completion of the initial planting.

Payment will be increased to the appropriate percentage upon reaching the following plant establishment milestones:

June 30th	80 percent
September 30th	90 percent
Completion of first-year plant establishment or after all replacement plants have been installed, whichever is later.	100 percent

Plant establishment milestones are achieved when planting areas meet conditions described in Section 8-02.3(13).

“Seeding, Fertilizing and Mulching”, per acre.

“Seeding and Fertilizing”, per acre or per square yard.

“Seeding and Fertilizing by Hand”, per square yard.

“Second Application of Fertilizer”, per acre.

“Seeding and Mulching”, per acre.

“Seeded Lawn Installation”, per square yard.

“Sod Installation”, per square yard.

“Lawn Mowing”, per square yard.

The unit Contract price per square yard for “Seeded Lawn Installation” or “Sod Installation” shall be full pay for all costs necessary to prepare the area, plant or sod the lawn, erect barriers, control weeds, and establish lawn areas and for furnishing all labor, tools, equipment, and materials necessary to complete the Work as specified and shall be paid in the following sequence for healthy, vigorous lawn:

Completion of Lawn Planting	60 percent of individual areas
Mid Lawn Establishment (after two mowings)	85 percent of individual areas
Completion of Lawn Establishment (after four mowings)	100 percent of individual areas

“Plant Establishment Year ____” will be paid in accordance with Section 1-09.6. For the purpose of providing a common Proposal for all Bidders, the Contracting Agency entered an amount for “Plant Establishment - ____ Year” in the Proposal to become a part of the total Bid by the Contractor.

“Live Pole”, per each.

“Live Stake Row”, per linear foot.

1
2 "Bark or Wood Chip Mulch", per acre.
3
4 "Bark or Wood Chip Mulch Rings", per each.
5 The unit Contract price per acre for "Bark or Wood Chip Mulch" shall be full pay for
6 furnishing and spreading the mulch onto the existing soil.
7
8 "Fascine" and "PSIPE Live Fascine", per linear foot.
9 "Brush Mattress" and "PSIPE Live Brush Mattress", per square yard.
10 "Brush Layer" and "PSIPE Brush Layer", per linear foot.
11 When PSIPE is included with Fascine, Brush Mattress, or Brush Layer, the
12 payment schedule for PSIPE ____ will apply.
13
14 "Roadside Maintenance under Construction" will be paid in accordance with
15 Section 1-09.6.
16 For the purpose of providing a common Proposal for all Bidders, the Contracting
17 Agency has entered an amount for "Roadside Maintenance Under Construction" in
18 the Proposal to become a part of the total Bid by the Contractor.
19
20 "Water", per M Gal.
21
22

23 8-04.AP8
24 **Section 8-04, Curbs, Gutters, and Spillways**
25 **April 2, 2018**

26 **8-04.2 Materials**

27 In the first paragraph, the reference to "Portland Cement" is revised to read:

28
29 Cement 9-01
30

31 **8-04.3(1) Cement Concrete Curbs, Gutters, and Spillways**

32 The first paragraph is supplemented with the following:

33
34 Roundabout truck apron cement concrete curb and gutter shall be constructed with air
35 entrained concrete Class 4000 conforming to the requirements of Section 6-02.
36

37 8-06.AP8
38 **Section 8-06, Cement Concrete Driveway Entrances**
39 **April 2, 2018**

40 **8-06.2 Materials**

41 In the first paragraph, the reference to "Portland Cement" is revised to read:

42
43 Cement 9-01
44

45 **8-06.3 Construction Requirements**

46 The first paragraph is revised to read:

47
48 Cement concrete driveway approaches shall be constructed with air entrained concrete
49 Class 4000 conforming to the requirements of Section 6-02 or Portland Cement or

1 Blended Hydraulic Cement Concrete Pavement conforming to the requirements of
2 Section 5-05.

3
4 8-07.AP8

5 **Section 8-07, Precast Traffic Curb**
6 **April 2, 2018**

7 **8-07.3(1) Installing Curbs**

8 The first sentence of the first paragraph is revised to read:

9
10 The curb shall be firmly bedded for its entire length and breadth on a mortar bed
11 conforming to Section 9-20.4(3) composed of one part Portland cement or blended
12 hydraulic cement and two parts sand.

13
14 The fourth paragraph is revised to read:

15
16 All joints between adjacent pieces of curb except joints for expansion and/or drainage
17 as designated by the Engineer shall be filled with mortar composed of one part Portland
18 cement or blended hydraulic cement and two parts sand.

19
20 8-09.AP8

21 **Section 8-09, Raised Pavement Markers**
22 **April 1, 2019**

23 **8-09.5 Payment**

24 The last paragraph is revised to read:

25
26 The unit Contract price per hundred for "Raised Pavement Marker Type 1", "Raised
27 Pavement Marker Type 2", "Raised Pavement Marker Type 3 _____ In.", and
28 "Recessed Pavement Marker" shall be full pay for furnishing and installing the markers
29 in accordance with these Specifications.

30
31 8-11.AP8

32 **Section 8-11, Guardrail**
33 **April 1, 2019**

34 **8-11.3(1)A Erection of Posts**

35 The first sentence of the first paragraph is revised to read:

36
37 Posts shall be set to the true line and grade of the Highway after the grade is in place
38 and compaction is completed.

39
40 **8-11.3(1)C Terminal and Anchor Installation**

41 The first paragraph is revised to read:

42
43 All excavation and backfilling required for installation of anchors shall be performed in
44 accordance with Section 2-09, except that the costs thereof shall be included in the unit
45 Contract price for the anchor installed.

46
47 The first sentence of the second to last paragraph is revised to read:

48

1 Assembly and installation of Beam Guardrail Non-flared Terminals for Type 31 guardrail
2 shall be supervised at all times by a manufacturer’s representative, or an installer who
3 has been trained and certified by the manufacturer.
4

5 The last paragraph is revised to read:
6

7 Beam Guardrail Non-flared Terminals for Type 31 guardrail shall meet the crash test
8 and evaluation criteria in the Manual for Assessing Safety Hardware (MASH).
9

10 **8-11.4 Measurement**

11 The third paragraph is revised to read:
12

13 Measurement of beam guardrail _____ terminal will be per each for the
14 completed terminal.
15

16 The fourth paragraph is revised to read:
17

18 Measurement of beam guardrail Type 31 buried terminal Type 2 will be per linear foot
19 for the completed terminal.
20

21 The sixth paragraph is revised to read:
22

23 Measurement of beam guardrail anchor Type 10 will be per each for the completed
24 anchor, including the attachment of the anchor to the guardrail.
25

26 **8-11.5 Payment**

27 The Bid item “Beam Guardrail Anchor Type ____”, per each is revised to read “Beam
28 Guardrail Anchor Type 10”, per each.
29

30 The Bid item “Beam Guardrail Buried Terminal Type 1”, per each is deleted from this
31 section.
32

33 The Bid item “Beam Guardrail Buried Terminal Type 2”, per linear foot and the following
34 paragraph are revised to read:
35

36 “Beam Guardrail Type 31 Buried Terminal Type 2”, per linear foot.
37

38 The unit Contract price per linear foot for “Beam Guardrail Type 31 Buried Terminal
39 Type 2” shall be full payment for all costs to obtain and provide materials and perform
40 the Work as described in Section 8-11.3(1)C.
41

42 8-14.AP8

43 **Section 8-14, Cement Concrete Sidewalks**

44 **April 2, 2018**

45 **8-14.2 Materials**

46 In the first paragraph, the reference to “Portland Cement” is revised to read:
47

48 Cement 9-01
49

50 In the second paragraph, each reference to “Federal Standard 595” is revised to read “SAE
51 AMS Standard 595”.

1
2 8-16.AP8
3 **Section 8-16, Concrete Slope Protection**
4 **April 2, 2018**

5 **8-16.2 Materials**

6 In the first paragraph, the last two material references are revised to read:

7

8	Poured Portland Cement or Blended Hydraulic Cement	
9	Concrete Slope Protection	9-13.5(2)
10	Pneumatically Placed Portland Cement or Blended	
11	Hydraulic Cement Concrete Slope Protection	9-13.5(3)

12

13 8-17.AP8
14 **Section 8-17, Impact Attenuator Systems**
15 **January 7, 2019**

16 **8-17.3 Construction Requirements**

17 This section is supplemented with the following:

18
19 Permanent impact attenuators shall meet the crash test and evaluation criteria of the
20 Manual for Assessing Safety Hardware (MASH), except as otherwise noted in the Plans
21 or Special Provisions.

22
23 8-20.AP8
24 **Section 8-20, Illumination, Traffic Signal Systems, Intelligent Transportation**
25 **Systems, and Electrical**
26 **August 6, 2018**

27 **8-20.1(1) Regulations and Code**

28 The last paragraph is revised to read:

29
30 Persons performing electrical Work shall be certified in accordance with and supervised
31 as required by RCW 19.28.161. Proof of certification shall be worn at all times in
32 accordance with WAC 296-46B-942. Persons failing to meet these certification
33 requirements may not perform any electrical work, and shall stop any active electrical
34 work, until their certification is provided and worn in accordance with this Section.

35
36 **8-20.2(2) Equipment List and Drawings**

37 This section is renumbered:

38
39 **8-20.2(1) Equipment List and Drawings**

40
41 **8-20.3(4) Foundations**

42 The second sentence of the first paragraph is revised to read:

43
44 Concrete for Type II, III, IV, V, and CCTV signal standards and light standard
45 foundations shall be Class 4000P and does not require air entrainment.

46
47 **8-20.3(5)A General**

48 The last two sentences of the last paragraph is deleted.

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This section is supplemented with the following:

All conduits shall include a pull tape with the equipment grounding conductor. The pull tape shall be attached to the conduit near the end bell or grounded end bushing, or to duct plugs or caps if present, at both ends of the conduit.

8-20.3(8) Wiring

The seventeenth paragraph is supplemented with the following:

Pulling tape shall meet the requirements of Section 9-29.1(10). Pull string may not be used.

8-20.3(14)C Induction Loop Vehicle Detectors

Item number 2 is deleted.

Item numbers 3 through 12 are renumbered to 2 through 11, respectively.

8-21.AP8

**Section 8-21, Permanent Signing
January 7 2019**

8-21.3(5) Sign Relocation

The second sentence of the first paragraph is revised to read:

Where the existing sign Structure is mounted on concrete pedestals, the Contractor shall remove the pedestal to a minimum of 2 feet below finished grade and backfill the remaining hole with material similar to that surrounding the hole.

8-21.3(9)F Foundations

Item number 3 of the twelfth paragraph is supplemented with the following new sentence:

Class 4000P concrete for roadside sign structures does not require air entrainment.

8-22.AP8

**Section 8-22, Pavement Marking
January 7, 2019**

8-22.3(2) Preparation of Roadway Surfaces

The second paragraph is revised to read:

Remove all other contaminants from pavement surfaces that may adversely affect the installation of new pavement marking.

8-22.3(3)F Application Thickness

The second to last sentence of the last paragraph is revised to read:

After grinding, clean the groove.

1 9-00.AP9
2 **Section 9-00, Definitions and Tests**
3 **January 7, 2019**

4 **9-00.4 Sieves for Testing Purposes**

5 This section is revised to read:

6
7 Test sieves shall be made of either: (1) woven wire cloth conforming to ASTM E11, or
8 (2) square-hole, perforated plates conforming to ASTM E323.
9

10 **9-00.7 Galvanized Hardware, AASHTO M 232**

11 The first sentence is revised to read:

12
13 An acceptable alternate to hot-dip galvanizing in accordance with AASHTO M 232 will
14 be zinc coatings mechanically deposited in accordance with ASTM B695, providing the
15 minimum thickness of zinc coating is not less than that specified in AASHTO M 232,
16 and the process will not produce hydrogen embrittlement in the base metal.
17

18 9-02.AP9

19 **Section 9-02, Bituminous Materials**
20 **January 7, 2019**

21 **9-02.1 Asphalt Material, General**

22 The second paragraph is revised to read:

23
24 The Asphalt Supplier of Performance Graded (PG) asphalt binder and emulsified
25 asphalt shall have a Quality Control Plan (QCP) in accordance with WSDOT QC 2
26 "Standard Practice for Asphalt Suppliers That Certify Performance Graded and
27 Emulsified Asphalts". The Asphalt Supplier's QCP shall be submitted and receive the
28 acceptance of the WSDOT State Materials Laboratory. Once accepted, any change to
29 the QCP will require a new QCP to be submitted for acceptance. The Asphalt Supplier
30 of PG asphalt binder and emulsified asphalt shall certify through the Bill of Lading that
31 the PG asphalt binder or emulsified asphalt meets the Specification requirements of the
32 Contract.
33

34 **9-02.1(4) Performance Graded Asphalt Binder (PGAB)**

35 This section's title is revised to read:

36
37 **Performance Graded (PG) Asphalt Binder**
38

39 The first paragraph is revised to read:

40
41 PG asphalt binder meeting the requirements of AASHTO M 332 Table 1 of the grades
42 specified in the Contract shall be used in the production of HMA. For HMA with greater
43 than 20 percent RAP by total weight of HMA, or any amount of RAS, the new asphalt
44 binder, recycling agent and recovered asphalt (RAP and/or RAS) when blended in the
45 proportions of the mix design shall meet the PG asphalt binder requirements of
46 AASHTO M 332 Table 1 for the grade of asphalt binder specified by the Contract.
47

48 The second paragraph, including the table, is revised to read:
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In addition to AASHTO M 332 Table 1 specification requirements, PG asphalt binders shall meet the following requirements:

		Additional Requirements by Performance Grade (PG) Asphalt Binders					
Property	Test Method	PG58S-22	PG58H-22	PG58V-22	PG64S-28	PG64H-28	PG64V-28
RTFO Residue: Average Percent Recovery @ 3.2 kPa	AASHTO T 350 ¹			30% Min.	20% Min.	25% Min.	30% Min.
¹ Specimen conditioned in accordance with AASHTO T 240 – RTFO.							

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The third paragraph is revised to read:

The RTFO $J_{nr\text{diff}}$ and the PAV direct tension specifications of AASHTO M 332 are not required.

10

9-02.1(6) Cationic Emulsified Asphalt

This section is revised to read:

Cationic Emulsified Asphalt meeting the requirements of AASHTO M 208 Table 1 of the grades specified in the Contract shall be used.

11

9-02.5 Warm Mix Asphalt (WMA) Additive

This section, including title, is revised to read:

12

9-02.5 HMA Additive

Additives for HMA shall be accepted by the Engineer.

13

9-03.AP9

14

Section 9-03, Aggregates

15

January 7, 2019

16

9-03.1 Aggregates for Portland Cement Concrete

This section's title is revised to read:

17

Aggregates for Concrete

18

9-03.1(1) General Requirements

The first two sentences of the first paragraph are revised to read:

19

Concrete aggregates shall be manufactured from ledge rock, talus, or sand and gravel in accordance with the provisions of Section 3-01. Reclaimed aggregate may be used if it complies with the specifications for concrete.

20

The second paragraph (up until the colon) is revised to read:

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Aggregates for concrete shall meet the following test requirements:

The second sentence of the second to last paragraph is revised to read:

The Contractor shall submit test results according to ASTM C1567 through the Engineer to the State Materials Laboratory that demonstrate that the proposed fly ash when used with the proposed aggregates and cement will control the potential expansion to 0.20 percent or less before the fly ash and aggregate sources may be used in concrete.

9-03.1(2) Fine Aggregate for Portland Cement Concrete

This section's title is revised to read:

Fine Aggregate for Concrete

9-03.1(4) Coarse Aggregate for Portland Cement Concrete

This section's title is revised to read:

Coarse Aggregate for Concrete

9-03.1(4)C Grading

The first paragraph (up until the colon) is revised to read:

Coarse aggregate for concrete when separated by means of laboratory sieves shall conform to one or more of the following gradings as called for elsewhere in these Specifications, Special Provisions, or in the Plans:

9-03.1(5) Combined Aggregate Gradation for Portland Cement Concrete

This section's title is revised to read:

Combined Aggregate Gradation for Concrete

9-03.1(5)B Grading

In the last paragraph, "WSDOT FOP for WAQTC/AASHTO T 27/T 11" is revised to read "FOP for WAQTC/AASHTO T 27/T 11".

9-03.2 Aggregate for Job-Mixed Portland Cement Mortar

This section's title is revised to read:

Aggregate for Job-Mixed Portland Cement or Blended Hydraulic Cement Mortar

The first sentence of the first paragraph is revised to read:

Fine aggregate for portland cement or blended hydraulic cement mortar shall consist of sand or other inert materials, or combinations thereof, accepted by the Engineer, having hard, strong, durable particles free from adherent coating.

9-03.4(1) General Requirements

The first paragraph (up until the colon) is revised to read:

1 Aggregate for bituminous surface treatment shall be manufactured from ledge rock,
 2 talus, or gravel, in accordance with Section 3-01. Aggregates for Bituminous Surface
 3 Treatment shall meet the following test requirements:
 4

5 **9-03.8(1) General Requirements**

6 The first paragraph (up until the colon) is revised to read:
 7

8 Aggregates for Hot Mix Asphalt shall meet the following test requirements:
 9

10 **9-03.8(2) HMA Test Requirements**

11 The two tables in the second paragraph are replaced with the following three tables:
 12

Mix Criteria	HMA Class							
	3/8 inch		1/2 inch		3/4 inch		1 inch	
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Voids in Mineral Aggregate (VMA), %	15.0		14.0		13.0		12.0	
Voids Filled With Asphalt (VFA), %								
ESAL's (millions)	VFA							
< 0.3	70	80	70	80	70	80	67	80
0.3 to < 3	65	78	65	78	65	78	65	78
≥ 3	73	76	65	75	65	75	65	75
Dust/Asphalt Ratio	0.6	1.6	0.6	1.6	0.6	1.6	0.6	1.6

13

Test Method	ESAL's (millions)	Number of Passes
Hamburg Wheel-Track Testing, FOP for AASHTO T 324 Minimum Number of Passes with no Stripping Inflection Point and Maximum Rut Depth of 10mm	< 0.3	10,000
	0.3 to < 3	12,500
	≥ 3	15,000
Indirect Tensile (IDT) Strength (psi) of Bituminous Materials FOP for ASTM D6931		175 Maximum

14

	ESAL's (millions)	N initial	N design	N maximum
% Gmm	< 0.3	≤ 91.5	96.0	≤ 98.0
	0.3 to < 3	≤ 90.5	96.0	≤ 98.0
	≥ 3	≤ 89.0	96.0	≤ 98.0
Gyratory Compaction (number of gyrations)	< 0.3	6	50	75
	0.3 to < 3	7	75	115
	> 3	8	100	160

15

16 **9-03.8(7) HMA Tolerances and Adjustments**

17 In the table in item number 1, the fifth row is revised to read:
 18

Asphalt binder	-0.4% to 0.5%		±0.7%
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19

20 In the table in item number 1, the following new row is inserted before the last row:
 21

Voids in Mineral Aggregate, VMA	-1.0%		
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9-03.9(1) Ballast

The second paragraph (up until the colon) is revised to read:

Aggregates for ballast shall meet the following test requirements:

9-03.14(4) Gravel Borrow for Structural Earth Wall

The second sentence of the first paragraph is revised to read:

The material shall be substantially free of shale or other soft, poor durability particles, and shall not contain recycled materials, such as glass, shredded tires, concrete rubble, or asphaltic concrete rubble.

9-03.21(1)B Recycled Concrete Aggregate Approval and Acceptance

The first sentence of the second paragraph is revised to read:

Recycled concrete aggregate may be used as coarse aggregate or blended with coarse aggregate for Commercial Concrete, Class 3000 concrete, or Cement Concrete Pavement.

Item number 4 of the second paragraph is revised to read:

- 4. For Cement Concrete Pavement mix designs using recycled concrete aggregates, the Contractor shall submit evidence that ASR mitigating measures control expansion in accordance with Section 9-03.1(1).

This section is supplemented with the following new subsection:

9-03.21(1)B1 Recycled Concrete Aggregate Approval and Acceptance

Recycled concrete aggregate may be approved through a three tiered system that consists of the following:

Tier 1	
Approval Requirements	Approval of the Reclamation Facility is not required.
Acceptance Requirements	Certification of toxicity characteristics in accordance with Section 9-03.21(1). Field acceptance testing in accordance with Section 3-04.
Approved to provide the following Aggregate Materials:	
9-03.10 Aggregate for Gravel Base 9-03.12(1)B Gravel Backfill for Foundations Class B 9-03.12(2) Gravel Backfill for Walls 9-03.12(3) Gravel Backfill for Pipe Zone Bedding 9-03.14(1) Gravel Borrow 9-03.14(2) Select Borrow 9-03.14(2) Select Borrow (greater than 3 feet below subgrade and side slope) 9-03.14(3) Common Borrow 9-03.14(3) Common Borrow (greater than 3 feet below subgrade and side slope) 9-03.17 Foundation Material Class A and Class B 9-03.18 Foundation Material Class C 9-03.19 Bank Run Gravel for Trench Backfill	

Tier 2

32

Approval Requirements	The Reclamation Facility shall have a Quality Control Plan (QCP) in accordance with WSDOT QC 9 “Standard Practice for Approval of Reclamation Facilities of WSDOT Recycled Concrete and Returned Concrete”. The Reclamation Facility’s QCP shall be submitted and approved by the WSDOT State Materials Laboratory. Once accepted, any changes to the QCP will require a new QCP to be submitted for acceptance. Evaluation of aggregate source properties (LA Wear and Degradation) for the recycled concrete aggregate is not required.
Acceptance Requirements	Certification of toxicity characteristics in accordance with Section 9-03.21(1), required if requested. Field acceptance testing in accordance with Section 3-04 is required. Provide certification in accordance with WSDOT QC 9 for every lot. A lot shall be no larger than 10,000 tons.
Approved to provide the following Aggregate Materials:	
Tier 1 aggregate materials 9-03.1 Coarse Aggregate for Commercial Concrete or Concrete class 3000 9-03.9(1) Ballast 9-03.9(2) Permeable Ballast 9-03.9(3) Crushed Surfacing 9-03.12(1)A Gravel Backfill for Foundations Class A	

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Tier 3	
Approval Requirements	The Reclamation Facility shall have a Quality Control Plan (QCP) in accordance with WSDOT QC 10 “Standard Practice for Approval of Reclamation Facilities of Recycled Concrete Aggregates from Stockpiles of Unknown Sources”. The Reclamation Facility’s QCP shall be submitted and approved by the WSDOT State Materials Laboratory. Once accepted, any changes to the QCP will require a new QCP to be submitted for acceptance. Evaluation of aggregate source properties (LA Wear and Degradation) for the recycled concrete aggregate is required.
Acceptance Requirements	Certification of toxicity characteristics in accordance with Section 9-03.21(1) is required. Field acceptance testing in accordance with Section 3-04 is required. Provide certification in accordance with WSDOT QC 10 for every lot. A lot shall be no larger than 10,000 tons
Approved to provide the following Aggregate Materials:	
Tier 1 aggregate materials 9-03.1 Coarse Aggregate for Commercial Concrete or Concrete class 3000 9-03.9(1) Ballast 9-03.9(2) Permeable Ballast 9-03.9(3) Crushed Surfacing 9-03.12(1)A Gravel Backfill for Foundations Class A	

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1 For Reclamation Facilities that do not participate in Tier 2 and Tier 3, approval of
2 recycled concrete aggregate will be in accordance with Section 9-03.21(1), and
3 acceptance will be in accordance with Section 3-04.
4

5 **9-03.21(1)E Table on Maximum Allowable percent (By Weight) of Recycled**
6 **Material**

7 “Portland Cement” is deleted from the first two rows in the table.
8

9 The following new row is inserted after the second row:
10

Coarse Aggregate for Concrete Pavement	9-03.1(4)	0	100	0	0
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11

12 The first column of the fourth row (after the preceding Amendment is applied) is revised to
13 read:
14

15 Coarse Aggregate for Commercial Concrete and Class 3000 Concrete
16

17 9-04.AP9

18 **Section 9-04, Joint and Crack Sealing Materials**
19 **January 7, 2019**

20 This section’s title is revised to read:
21

22 **Joint Sealing Materials**
23

24 **9-04.1(2) Premolded Joint Filler for Expansion Joints**

25 In this section, each reference to “AASHTO T 42” is revised to read “ASTM D 545”.
26

27 **9-04.2(1)A1 Hot Poured Sealant for Cement Concrete Pavement**

28 This section is supplemented with the following:
29

30 Hot poured sealant for cement concrete pavement is acceptable for installations in joints
31 where cement concrete pavement abuts a bituminous pavement.
32

33 **9-04.2(1)A2 Hot Poured Sealant for Bituminous Pavement**

34 This section is supplemented with the following:
35

36 Hot poured sealant for bituminous pavement is acceptable for installations in joints
37 where cement concrete pavement abuts a bituminous pavement.
38

39 **9-04.2(1)B Sand Slurry for Bituminous Pavement**

40 Item number 2 of the first paragraph is revised to read:
41

42 2. Two percent portland cement or blended hydraulic cement, and
43

44 **9-04.3 Joint Mortar**

45 The first paragraph is revised to read:
46

47 Mortar for hand mortared joints shall conform to Section 9-20.4(3) and consist of one
48 part portland cement or blended hydraulic cement, three parts fine sand, and sufficient
49 water to allow proper workability.

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9-04.5 Flexible Plastic Gaskets

In the table, the Test Method value for **Specific Gravity at 77°F** is revised to read “ASTM D71”.

In the table, the Test Method value for **Flash Point COC, F** is revised to read “ASTM D93 REV A”.

In the table, the Test Method value for **Volatile Matter** is revised to read “ASTM D6”.

9-05.AP9

Section 9-05, Drainage Structures and Culverts January 7, 2019

9-05.3(1)A End Design and Joints

The second sentence of the first paragraph is revised to read:

The joints and gasket material shall meet the requirements of ASTM C990.

9-05.3(1)C Age at Shipment

The last sentence of the first paragraph is revised to read:

Unless it is tested and accepted at an earlier age, it shall not be considered ready for shipment sooner than 28 days after manufacture when made with Type II portland cement or blended hydraulic cement, nor sooner than 7 days when made with Type III portland cement.

9-05.7(3) Concrete Storm Sewer Pipe Joints

The second sentence is revised to read:

The joints and gasket material shall meet the requirements of ASTM C990.

9-05.7(4)A Hydrostatic Pressure on Pipes in Straight Alignment

The first sentence is revised to read:

Hydrostatic pressure tests on pipes in straight alignment shall be made in accordance with the procedure outlined in Section 10 of ASTM C990, except that they shall be performed on an assembly consisting of not less than three nor more than five pipe sections selected from stock by the Engineer and assembled in accordance with standard installation instructions issued by the manufacturer.

9-05.24(1) Polypropylene Culvert Pipe and Storm Sewer Pipe

This section is revised to read:

Polypropylene culvert and storm sewer pipe shall conform to the following requirements:

1. For dual wall pipe sizes up to 60 inches: ASTM F2881 or AASHTO M 330, Type S or Type D.
2. For double or triple wall pipe sizes up to 60 inches: ASTM F2764.

1 3. Fittings shall be factory welded, injection molded, or PVC.

2

3 **9-05.24(2) Polypropylene Sanitary Sewer Pipe**

4 This section is revised to read:

5

6 Polypropylene sanitary sewer pipe shall conform to the following requirements:

7

8 1. For pipe sizes up to 60 inches: ASTM F2764.

9

10 2. Fittings shall be factory welded, injection molded, or PVC.

11

12 9-06.AP9

13 **Section 9-06, Structural Steel and Related Materials**

14 **January 7, 2019**

15 **9-06.5 Bolts**

16 This section's title is revised to read:

17

18 **Bolts and Rods**

19

20 **9-06.5(4) Anchor Bolts**

21 This section, including title, is revised to read:

22

23 **9-06.5(4) Anchor Bolts and Anchor Rods**

24 Anchor bolts and anchor rods shall meet the requirements of ASTM F1554 and, unless
25 otherwise specified, shall be Grade 105 and shall conform to Supplemental
26 Requirements S2, S3, and S4.

27

28 Nuts for ASTM F1554 Grade 105 black anchor bolts and anchor rods shall conform to
29 ASTM A563, Grade D or DH. Nuts for ASTM F1554 Grade 105 galvanized anchor bolts
30 and anchor rods shall conform to either ASTM A563, Grade DH, or AASHTO M292,
31 Grade 2H, and shall conform to the overtapping, lubrication, and rotational testing
32 requirements in Section 9-06.5(3). Nuts for ASTM F1554 Grade 36 or 55 black or
33 galvanized anchor bolts and anchor rods shall conform to ASTM A563, Grade A or DH.
34 Washers shall conform to ASTM F436.

35

36 The bolts and rods shall be tested by the manufacturer in accordance with the
37 requirements of the pertinent Specification and as specified in these Specifications.
38 Anchor bolts, anchor rods, nuts, and washers shall be inspected prior to shipping to the
39 project site. The Contractor shall submit to the Engineer for acceptance a
40 Manufacturer's Certificate of Compliance for the anchor bolts, anchor rods, nuts, and
41 washers, as defined in Section 1-06.3. If the Engineer deems it appropriate, the
42 Contractor shall provide a sample of the anchor bolt, anchor rod, nut, and washer for
43 testing.

44

45 All bolts, rods, nuts, and washers shall be marked and identified as required in the
46 pertinent Specification.

47

48 **9-06.15 Welded Shear Connectors**

49 The third paragraph is revised to read:

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51 Mechanical properties shall be determined in accordance with AASHTO T 244.

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9-06.17 Vacant

This section, including title, is revised to read:

9-06.17 Noise Barrier Wall Access Door

Access door frames shall be formed of 14-gauge steel to the size and dimensions shown in the Plans. The access door frame head and jamb members shall be mitered, securely welded, and ground smooth. Each head shall have two anchors and each jamb shall have three anchors. The hinges shall be reinforced with ¼-inch by 12-inch plate, width equal to the full inside width of the frame.

Access doors shall be full flush 1-¾-inch thick seamless doors with a polystyrene core. Door faces shall be constructed with smooth seamless 14-gauge roller-levered, cold-rolled steel sheet conforming to ASTM A 792 Type SS, Grade 33 minimum, Coating Designation AZ55 minimum. The vertical edges shall be neat interlocked hemmed edge seam. The top and bottom of the door shall be enclosed with 14-gauge channels. Mortise and reinforcement for locks and hinges shall be 10-gauge steel. Welded top cap shall be ground and filled for exterior applications. The bottom channel shall have weep holes.

Each access door shall have three hinges. Access door hinges shall be ASTM A 276 Type 316 stainless steel, 4-½-inches square, with stainless steel ball bearing and non-removable pins.

Each access door shall have two pull plates. The pull plates shall be ASTM A 240 Type 316 stainless steel, with a grip handle of one-inch diameter and 8 to 10-inches in length.

The door assembly shall be fabricated and assembled as a complete unit including all hardware specified prior to shipment.

9-06.18 Metal Bridge Railing

The second sentence of the first paragraph is revised to read:

Steel used for metal railings, when galvanized after fabrication in accordance with AASHTO M111, shall have a controlled silicon content of either 0.00 to 0.06 percent or 0.15 to 0.25 percent.

9-07.AP9

Section 9-07, Reinforcing Steel

January 7, 2019

9-07.5(1) Epoxy-Coated Dowel Bars (for Cement Concrete Rehabilitation)

This section (including title) is revised to read:

9-07.5(1) Dowel Bars for Cement Concrete Pavement Rehabilitation

Dowel bars for Cement Concrete Pavement Rehabilitation shall be 1½ inch outside diameter plain round steel bars or tubular bars 18 inches in length and meet the requirements of one of the following dowel bar types:

1. Epoxy-coated dowel bars shall be round plain steel bars of the dimensions shown in the Standard Plans. They shall conform to AASHTO M31, Grade 60 or ASTM A615, Grade 60 and shall be coated in accordance with ASTM

1 A1078 Type 2 coating, except that the bars may be cut to length after being
2 coated. Cut ends shall be coated in accordance with ASTM A1078 with a
3 patching material that is compatible with the coating, inert in concrete and
4 recommended by the coating manufacturer. The thickness of the epoxy
5 coating shall be 10 mils plus or minus 2 mils. The Contractor shall furnish a
6 written certification that properly identifies the coating material, the number of
7 each batch of coating material used, quantity represented, date of
8 manufacture, name and address of manufacturer, and a statement that the
9 supplied coating material meets the requirements of ASTM A1078 Type 2
10 coating. Patching material, compatible with the coating material and inert in
11 concrete and recommended by the manufacturer shall be supplied with each
12 shipment for field repairs by the Contractor.

13
14 2. ASTM A513 steel tubes made from Grade 60 Carbon Steel Tube with a 1.625
15 inch outside diameter and a 0.120 inch wall thickness. Both the inside and
16 outside of the tube shall be zinc coated with G40 galvanizing in accordance
17 with ASTM A653. Following zinc coating the tubes shall be coated in
18 accordance with Section 9-07.5(1) item 1. The ends of the tube shall be
19 capped to prevent intrusion of concrete or other materials.
20

21 **9-07.5(2) Corrosion Resistant Dowel Bars (for Cement Concrete Pavement and**
22 **Cement Concrete Pavement Rehabilitation)**

23 The first paragraph (up until the colon) is revised to read:

24
25 Corrosion resistant dowel bars shall be 1½ inch outside diameter plain round steel bars
26 or tubular bars 18 inches in length and meet the requirements of one of the following:
27

28 Item number 4 and 5 of the first paragraph are revised to read:

- 29
30 4. Corrosion-resistant, low-carbon, chromium plain steel bars for concrete
31 reinforcement meeting all the requirements of ASTM A 1035 Alloy Type CS Grade
32 100 or Alloy Type CS Grade 120.
33
34 5. Zinc Clad dowel bars shall be 1½ inch solid bars or 1.625 inch outside diameter by
35 0.120 inch wall tubular bars meeting the chemical and physical properties of
36 AASHTO M 31, Grade 60, or AASHTO M 255, Grade 60. The bars shall have a
37 minimum of 0.035 inches A710 Zinc alloy clad to the plain steel inner bar or tube.
38 A710 Zinc shall be composed of: zinc: 99.5 percent, by weight, minimum; copper:
39 0.1-0.25 percent, by weight; and iron: 0.0020 percent, by weight, maximum. Each
40 end of tubular bars shall be plugged using a snug-fitting insert to prohibit any
41 intrusion of concrete or other materials.
42

43 The numbered list in the first paragraph is supplemented with the following:

- 44
45 6. Multicoated fusion bonded epoxy bars shall consist of an ASTM A615 bar with
46 alternating layers of ASTM A934 coating and an abrasion resistant overcoat (ARO).
47 The ASTM A934 coating shall form the base and there shall be two layers of each
48 coating material. The minimum thickness of the combined layers of the ASTM A934
49 coating and ARO coating shall be 20 mils. The ARO shall meet the following
50 requirements:
51

Test	Method	Specification
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Gouge Resistance	NACE TM0215, 30 kg wt., LS-1 bit @ 25°C	< 0.22 mm
Gouge Resistance	NACE TM0215, 50 kg wt., LS-1 bit @ 25°C	< 0.44 mm

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- 7. ASTM A513 steel tubes made from Grade 60 Carbon Steel Tube with a 1.625 inch outside diameter and a 0.120 inch wall thickness. Both the inside and outside of the tube shall be zinc coated with G90 galvanizing in accordance with ASTM A653. Following zinc coating the tubes shall be coated in accordance with Section 9-07.5(1) item 1. The ends of the tube shall be capped to prevent intrusion of concrete or other materials.

The last paragraph is revised to read:

Stainless Steel Clad and Stainless Steel Tube Dowel bar ends shall be sealed with a patching material (primer and finish coat) used for patching epoxy-coated reinforcing steel as required in Section 9-07.3, item 6.

9-07.7 Wire Mesh

This section is supplemented with the following:

Welded wire manufacturers shall participate in the NTPEP Audit Program for Reinforcing Steel (rebar) Manufacturers and shall be listed on the NTPEP audit program website displaying that they are NTPEP compliant.

9-08.AP9

**Section 9-08, Paints and Related Materials
January 7, 2019**

9-08.1(1) Description

The first sentence is revised to read:

Paint used for highway and bridge structure applications shall be made from materials meeting the requirements of the applicable Federal and State Paint Specifications, Department of Defense (DOD), American Society of Testing of Materials (ASTM), and The Society for Protective Coatings (SSPC) specifications in effect at time of manufacture.

9-08.1(2) Paint Types

This section is supplemented with the following new subsections:

9-08.1(2)M NEPCOAT Qualified Products List A

Qualified products used shall be part of a NEPCOAT system supplied by the same manufacturer.

9-08.1(2)N NEPCOAT Qualified Products List B

Qualified products used shall be part of a NEPCOAT system supplied by the same manufacturer.

9-08.1(2)D Organic Zinc-Rich Primer

This section, including title, is revised to read:

Vacant

1 **9-08.1(2)E Epoxy Polyamide**

2 This section is revised to read:

3

4 Epoxy polyamide shall be a two-component system conforming to MIL-DTL-24441 or
5 SSPC Coating Standard No. 42.

6

7 **9-08.1(2)H Top Coat, Single-Component, Moisture-Cured Polyurethane**

8 This section is revised to read:

9

10 Vehicle Type: Moisture-cured aliphatic polyurethane.

11

12 Color and Gloss: Meet the SAE AMS Standard 595 Color as specified in the table
13 below.

14

15 The Top Coat shall meet the following requirements:

16

17 The resin shall be an aliphatic urethane.

18

19 Minimum-volume solids 50 percent.

20

21 The top coat shall be semi-gloss.

22

Color	Semi-Gloss
Washington Gray	26357
Mt. Baker Gray	26134
Mt. St. Helens Gray	26306
Cascade Green	24158

23

24 **9-08.1(2)I Rust-Penetrating Sealer**

25 This section is revised to read:

26

27 Rust-penetrating sealer shall be a two-component, chemically-cured, 100 percent solids
28 epoxy.

29

30 **9-08.1(2)J Black Enamel**

31 This section is revised to read:

32

33 The enamel shall conform to Federal Specification MIL PRF 24635E Type II Class 2.

34

35 **9-08.1(2)K Orange Equipment Enamel**

36 The first paragraph is revised to read:

37

38 The enamel shall be an alkyd gloss enamel conforming to Federal Specification MIL-
39 PRF-24635E Type II Class 1. The color, when dry, shall match that of SAE AMS
40 Standard 595, color number 12246.

41

42 **9-08.1(2)L Exterior Acrylic Latex Paint-White**

43 The first paragraph is revised to read:

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45 This paint shall conform to Federal Specification MIL-PRF-24635E Type II Class 1, 2 or
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9-08.1(7) Acceptance

This section is revised to read:

For projects with moisture-cured polyurethane quantities less than 20 gallons, acceptance will be by the Manufacturer’s Certificate of Compliance.

For projects with moisture-cured polyurethane quantities greater than 20 gallons, the product shall be listed in the current WSDOT Qualified Products List (QPL). If the lot number is listed on the QPL, it may be accepted without additional testing. If the lot number is not listed on the QPL, a 1 quart sample shall be submitted to the State Materials Laboratory for testing and acceptance.

For all other paint types, acceptance will be based on visual inspection.

9-08.1(8) Standard Colors

In the first paragraph, the reference to “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

The second paragraph is revised to read:

Unless otherwise specified, all top or finish coats shall be semi-gloss, with the paint falling within the range of 35 to 70 on the 60-degree gloss meter.

9-08.2 Powder Coating Materials for Coating Galvanized Surfaces

The last paragraph is revised to read:

Repair materials shall be as recommended by the powder coating manufacturer and as specified in the Contractor’s powder coating plan as accepted by the Engineer.

9-08.3 Pigmented Sealer Materials for Coating of Concrete Surfaces

This section, including title, is revised to read:

9-08.3 Concrete Surface Treatments

9-08.3(1) Pigmented Sealer Materials

The pigmented sealer shall be a semi-opaque, colored toner containing only methyl methacrylate-ethyl acrylate copolymer resins, toning pigments suspended in solution at all times by a chemical suspension agent, and solvent. Toning pigments shall be laminar silicates, titanium dioxide, and inorganic oxides only. There shall be no settling or color variation. Tinting shall occur at the factory at the time of manufacture and placement in containers, prior to initial shipment. Use of vegetable or marine oils, paraffin materials, stearates, or organic pigments in any part of coating formulation will not be permitted. The color of pigmented sealer shall be as specified by the Contracting Agency. The Contractor shall submit a 1-quart wet sample, a drawdown color sample, and spectrophotometer or colorimeter readings taken in accordance with ASTM D2244, for each batch and corresponding standard color card. The calculated Delta E shall not exceed 1.5 from the Commission Internationale de l’Eclairage (CIELAB) when measured at 10 degrees Standard Observer and Illuminant D 65.

The 1-quart wet sample shall be submitted in the manufacturer’s labeled container with product number, batch number, and size of batch. The companion drawdown

1 color sample shall be labeled with the product number, batch number, and size of
2 batch. The Contractor shall submit the specified samples and readings to the
3 Engineer at least 14 calendar days prior to the scheduled application of the sealer.
4 The Contractor shall not begin applying pigmented sealer until receiving the
5 Engineer's written approval of the pigmented sealer color samples.
6

7 **9-08.3(2) Exposed Aggregate Concrete Coatings and Sealers**

8 **9-08.3(2)A Retardant Coating**

9 Retardant coating shall exhibit the following properties:

- 10 1. Retards the set of the surface mortar of the concrete without
11 preventing the concrete to reach the specified 28 day compressive
12 strength.
13
- 14 2. Leaves the aggregate with its original color and luster, and firmly
15 embedded in the concrete matrix.
16
- 17 3. Allows the removal of the surface mortar in accordance with the
18 methods specified in Section 6-02.3(14)E without the use of acidic
19 washing compounds.
20
- 21 4. Allows for uniform removal of the surface mortar.
22

23
24 If the Contractor proposes use of a retardant coating that is not listed in the
25 current WSDOT QPL, the Contractor shall submit a Type 2 Working Drawing
26 consisting of a one quart product sample from a current lot along with
27 supporting product information, Safety Data Sheet, and a Manufacturer's
28 Certificate of Compliance stating that the product conforms to the above
29 performance requirements.
30

31 **9-08.3(2)B Clear Sealer**

32 The sealer for concrete surfaces with exposed aggregate finish shall be a
33 clear, non-gloss, penetrating sealer of either a silane, siloxane, or silicone
34 based formulation.
35

36 **9-08.3(3) Permeon Treatment**

37 Permeon treatment shall be a product of known consistent performance in
38 producing the SAE AMS Standard 595 Color No. 30219 target color hue
39 established by WSDOT, either selected from the WSDOT Qualified Products List
40 (QPL), or an equivalent product accepted by the Engineer. For acceptance of
41 products not listed in the current WSDOT QPL, the Contractor shall submit Type 3
42 Working Drawings consisting of a one quart product sample from a current lot,
43 supporting product information and a Safety Data Sheet.
44

45 9-13.AP9

46 **Section 9-13, Riprap, Quarry Spalls, Slope Protection, and Rock for Erosion** 47 **and Scour Protection and Rock Walls** 48 **April 2, 2018**

49 **9-13.1(1) General**

50 The last paragraph is revised to read:
51

1 Riprap and quarry spalls shall be free from segregation, seams, cracks, and other
2 defects tending to destroy its resistance to weather and shall meet the following test
3 requirements:
4

5 **9-13.5 Concrete Slope Protection**

6 This section is revised to read:
7

8 Concrete slope protection shall consist of reinforced portland cement or blended
9 hydraulic cement concrete poured or pneumatically placed upon the slope with a
10 rustication joint pattern or semi-open concrete masonry units placed upon the slope
11 closely adjoining each other.
12

13 **9-13.5(2) Poured Portland Cement Concrete Slope Protection**

14 This section's title is revised to read:
15

16 **Poured Portland Cement or Blended Hydraulic Cement Concrete Slope Protection**
17

18 **9-13.5(3) Pneumatically Placed Portland Cement Concrete Slope Protection**

19 This section's title is revised to read:
20

21 **Pneumatically Placed Portland Cement or Blended Hydraulic Cement Concrete**
22 **Slope Protection**
23

24 The first paragraph is revised to read:
25

26 **Cement** – This material shall be portland cement or blended hydraulic cement as
27 specified in Section 9-01.
28

29 **9-13.7(1) Rock for Rock Walls and Chinking Material**

30 The first paragraph (up until the colon) is revised to read:
31

32 Rock for rock walls and chinking material shall be hard, sound and durable material,
33 free from seams, cracks, and other defects tending to destroy its resistance to weather,
34 and shall meet the following test requirements:
35

36 9-14.AP9

37 **Section 9-14, Erosion Control and Roadside Planting**
38 **August 6, 2018**

39 **9-14.4(2) Hydraulically Applied Erosion Control Products (HECPs)**

40 In Table 1, the last four rows are deleted.
41

42 **9-14.4(2)A Long-Term Mulch**

43 The first paragraph is supplemented with the following:
44

45 Products containing cellulose fiber produced from paper or paper components will not
46 be accepted.
47

48 Table 2 is supplemented with the following new rows:
49

Water Holding Capacity	ASTM D 7367	800 percent minimum
------------------------	-------------	---------------------

Organic Matter Content	AASHTO T 267	90 percent minimum
Seed Germination Enhancement	ASTM D 7322	Long Term 420 percent minimum

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9-14.4(2)B Moderate-Term Mulch

This section is revised to read:

Within 48 hours of application, the Moderate-Term Mulch shall bond with the soil surface to create a continuous, absorbent, flexible, erosion-resistant blanket. Moderate-Term Mulch shall effectively perform the intended erosion control function in accordance with Section 8-01.3(1) for a minimum of 3 months, or until temporary vegetation has been established, whichever comes first.

Moderate-Term Mulch shall not be used in conjunction with permanent seeding.

9-14.4(2)C Short-Term Mulch

This section is revised to read:

Short-Term Mulch shall effectively perform the intended erosion control function in accordance with Section 8-01.3(1) for a minimum of 2 months, or until temporary vegetation has been established, whichever comes first. Short-Term Mulch shall not be used in conjunction with permanent seeding.

9-16.AP9
Section 9-16, Fence and Guardrail
August 6, 2018

9-16.3(1) Rail Element

The last sentence of the first paragraph is revised to read:

All rail elements shall be formed from 12-gage steel except for thrie beam reducer sections, reduced length thrie beam rail elements, thrie beams used for bridge rail retrofits, and Design F end sections, which shall be formed from 10-gage steel.

9-16.3(5) Anchors

The last paragraph is revised to read:

Cement grout shall conform to Section 9-20.3(4) and consist of one part portland cement or blended hydraulic cement and two parts sand.

9-18.AP9
Section 9-18, Precast Traffic Curb
April 2, 2018

9-18.1(1) Aggregates and Proportioning

Item number 1 of the first paragraph is revised to read:

1. Portland cement or blended hydraulic cement shall conform to the requirements of Section 9-01 except that it may be Type I portland cement conforming to AASHTO M 85.

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9-20.AP9

**Section 9-20, Concrete Patching Material, Grout, and Mortar
April 1, 2019**

9-20.1 Patching Material

This section, including title, is revised to read:

9-20.1 Patching Material for Cement Concrete Pavement

Concrete patching material shall be prepackaged mortar extended with aggregate. The amount of aggregate for extension shall conform to the manufacturer’s recommendation.

Patching mortar and patching mortar extended with aggregate shall contain cementitious material and conform to Sections 9-20.1(1) and 9-20.1(2). The Manufacturer shall use the services of a laboratory that has an equipment calibration verification system and a technician training and evaluation process in accordance with AASHTO R 18 to perform all tests specified in Section 9-20.1.

9-20.1(1) Patching Mortar

Patching mortar shall conform to the following requirements:

Compressive Strength	ASTM Test Method	Specification
at 3 hours	C 39	Minimum 3,000 psi
at 24 hours	C 39	Minimum 5,000 psi
Length Change		
at 28 days	C 157	0.15 percent maximum
Total Chloride Ion Content	C 1218	1 lb/yd ³ maximum
Bond Strength		
at 24 hours	C 882 (As modified by C 928, Section 9.5)	Minimum 1,000 psi
Scaling Resistance (at 25 cycles of freezing and thawing)	C 672 (As modified by C 928, Section 9.4)	1 lb/ft ² maximum

9-20.1(2) Patching Mortar Extended with Aggregate

Patching mortar extended with aggregate shall meet the following requirements:

Compressive Strength	ASTM Test Method	Specification
at 3 hours	C 39	Minimum 3,000 psi
at 24 hours	C 39	Minimum 5,000 psi
Length Change		
at 28 days	C 157	0.15 percent maximum
Bond Strength		
at 24 hours	C 882 (As modified by ASTM C928, Section 9.5)	Minimum 1,000 psi
Scaling Resistance (at 25 cycles of freezing and thawing)	C 672	2 Maximum Visual Rating
Freeze thaw	C 666	Maximum expansion 0.10% Minimum durability 90.0%

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9-20.1(3) Aggregate

Aggregate used to extend the patching mortar shall conform to Section 9-03.1(4) and be AASHTO Grading No. 8. A Manufacturer's Certificate of Compliance shall be submitted showing the aggregate source and the gradation. Mitigation for Alkali Silica Reaction (ASR) will not be required for the extender aggregate used for concrete patching material.

9-20.1(4) Water

Water shall meet the requirements of Section 9-25.1. The quantity of water shall be within the limits recommended by the repair material manufacturer.

9-20.2 Specifications

This section, including title, is revised to read:

9-20.2 Patching Material for Concrete Structure Repair

Concrete patching material shall be a prepackaged mixture of portland or blended hydraulic cement, aggregate, and admixtures. Fly ash, ground granulated blast furnace slag and microsilica fume may be used. The concrete patching material may be shrinkage compensated. The concrete patching material shall also meet the following requirements:

- Compressive strength of 6000 psi or higher at 28 days in accordance with AASHTO T 22 (ASTM C 39), unless noted otherwise
- Bond strength of 250 psi or higher at 28 days or less in accordance with ASTM C 1583 or ICRI 210.3R
- Shrinkage shall be 0.05 percent (500 microstrain) or lower at 28 days in accordance with AASHTO T 160 (ASTM C 157) as modified by ICRI 320.3R
- Permeability shall be 2,000 coulombs or lower at 28 days in accordance with AASHTO T 277 (ASTM C 1202)
- Freeze-thaw resistance shall have a durability factor of 90 percent or higher after a minimum of 300 cycles in accordance with AASHTO T 161 Procedure A (ASTM C 666)
- Soluble chloride ion limits in Section 6-02.3(2) shall be satisfied

9-20.2(1) Patching Mortar

This section, including title, is deleted in its entirety.

9-20.2(2) Patching Mortar Extended with Aggregate

This section, including title, is deleted in its entirety.

9-20.3(3) Grout Type 3 for Unconfined Bearing Pad Applications

This section's title is revised to read:

Grout Type 3 for Unconfined Applications

This section is revised to read:

1
2 Grout Type 3 shall be a prepackaged material that does not include expansive
3 admixtures meeting the following requirements:

- 4
5 • Compressive strength shall be 4000 psi or higher at 28 days in accordance
6 with AASHTO T 22 (ASTM C 39) for grout extended with coarse aggregate or
7 AASHTO T 106 (ASTM C109) otherwise.
8
9 • Bond strength shall meet one of the following:
10
11 ◦ 250 psi or higher at 28 days or less in accordance with ASTM C1583.
12
13 ◦ 2000 psi or higher at 28 days or less in accordance with ASTM C882. The
14 following modification to ASTM C882 is acceptable: use Type 3 Grout in
15 lieu of epoxy resin base bonding system and freshly mixed portland-
16 cement mortar in the procedure for testing Type II and V systems.
17
18 • Drying shrinkage shall be 0.08 percent (800 microstrain) or lower at 28 days in
19 accordance with AASHTO T 160 (ASTM C157). The following modification to
20 AASHTO T 160 is acceptable: use a standard specimen size of 3 x 3 x 11-¼
21 inches.
22

23 **9-20.5 Bridge Deck Repair Material**

24 Item number 3 of the first paragraph is revised to read:

- 25
26 3. Permeability of less than 2,000 coulombs at 28-days or more in accordance with
27 AASHTO T 277.
28

29 9-21.AP9

30 **Section 9-21, Raised Pavement Markers (RPM)** 31 **January 2, 2018**

32 **9-21.2 Raised Pavement Markers Type 2**

33 This section's content is deleted.
34

35 **9-21.2(1) Physical Properties**

36 This section, including title, is revised to read:
37

38 **9-21.2(1) Standard Raised Pavement Markers Type 2**

39 The marker housing shall contain reflective faces as shown in the Plans to reflect
40 incident light from either a single or opposite directions and meet the requirements of
41 ASTM D 4280 including Flexural strength requirements.
42

43 **9-21.2(2) Optical Requirements**

44 This section, including title, is revised to read:
45

46 **9-21.2(2) Abrasion Resistant Raised Markers Type 2**

47 Abrasion Resistant Raised Markers Type 2 shall comply with Section 9-21.2(1) and
48 meet the requirements of ASTM D 4280 with the following additional requirement: The
49 coefficient of luminous intensity of the markers shall be measured after subjecting the
50 entire lens surface to the test described in ASTM D 4280 Section 9.5 using a sand drop

1 apparatus. After the exposure described above, retroreflected values shall not be less
2 than 0.5 times a nominal unblemished sample.

3
4 **9-21.2(3) Strength Requirements**

5 This section is deleted in its entirety.

6
7 9-23.AP9

8 **Section 9-23, Concrete Curing Materials and Admixtures**
9 **April 1, 2019**

10 **9-23.12 Natural Pozzolan**

11 This section is revised to read:

12
13 Natural Pozzolans shall be ground Pumice and shall conform to the requirements of
14 AASHTO M295 Class N, including supplementary optional chemical requirements as
15 set forth in Table 2.

16
17 **9-23.13 Blended Supplementary Cementitious Material**

18 The second sentence is revised to read:

19
20 Blended SCMs shall be limited to binary or ternary blends of fly ash, ground granulated
21 blast furnace slag and microsilica fume.

22
23 The second to last sentence is deleted.

24
25 9-26.AP9

26 **Section 9-26, Epoxy Resins**
27 **January 7, 2019**

28 **9-26.1(1) General**

29 The following new sentence is inserted after the first sentence of the first paragraph:

30
31 For pre-packaged cartridge kits, the epoxy bonding agent shall meet the requirements
32 of ASTM C881 when mixed according to manufacturer instructions, utilizing the
33 manufacturer's mixing nozzle.

34
35 **9-26.1(2) Packaging and Marking**

36 The first sentence of the first paragraph is revised to read:

37
38 The components of the epoxy system furnished under these Specifications shall be
39 supplied in separate containers or pre-packaged cartridge kits that are non-reactive with
40 the materials contained.

41
42 The second paragraph is revised to read:

43
44 Separate containers shall be marked by permanent marking that identify the formulator,
45 "Component A" (contains the Epoxy Resin) and "Component B" (Contains the Curing
46 Agent), type, grade, class, lot or batch number, mixing instructions and the quantity
47 contained in pounds or gallons as defined by these Specifications.

48
49 The following new paragraph is inserted after the second paragraph:

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Pre-packaged cartridge kits shall be marked by permanent marking that identify the formulator, type, grade, class, lot or batch number, mixing instructions and the quantity contained in ounces or milliliters as defined by these Specifications.

9-28.AP9

Section 9-28, Signing Materials and Fabrication
April 1, 2019

9-28.2 Manufacturer’s Identification and Date

The second sentence is revised to read:

In addition, the width and height dimension, in inches, the Contract number, and the number of the sign as it appears in the Plans shall be placed using 3-inch series C black letters on the back of destination, distance, and large special signs.

9-28.10 Vacant

This section, including title, is revised to read:

9-28.10 Digital Printing

Transparent and opaque durable inks used in digital printed sign messages shall be as recommended by the manufacturer. When properly applied, digital printed colors shall have a warranty life of the base retroreflective sign sheeting. Digital applied colors shall present a smooth surface, free from foreign material, and all messages and borders shall be clear and sharp. Digital printed signs shall conform to 70% of the retroreflective minimum values established for its type and color. Digitally printed signs shall meet the daytime color and luminance, and nighttime color requirements of ASTM D 4956. No variations in color or overlapping of colors will be permitted. Digital printed permanent traffic signs shall have an integrated engineered match component clear protective overlay recommended by the sheeting manufacturer applied to the entire face of the sign. On Temporary construction/maintenance signs printed with black ink only, the protective overlay film is optional, as long as the finished sign has a warranty of a minimum of three years from sign sheeting manufacturer.

All digital printed traffic control signs shall be an integrated engineered match component system. The integrated engineered match component system shall consist of retroreflective sheeting, durable ink(s), and clear overlay film all from the same manufacturer applied to aluminum substrate conforming to Section 9-28.8.

The sign fabricator shall use an approved integrated engineered match component system as listed on the Qualified Products List (QPL). Each approved digital printer shall only use the compatible retroreflective sign sheeting manufacturer’s engineered match component system products.

Each retroreflective sign sheeting manufacturer/integrated engineered match component system listed on the QPL shall certify a department approved sign fabricator is approved to operate their compatible digital printer. The sign fabricator shall re-certify annually with the retroreflective sign manufacturer to ensure their digital printer is still meeting manufacturer’s specifications for traffic control signs. Documentation of each re-certification shall be submitted to the QPL Engineer annually.

1 **9-28.11 Hardware**

2 The last paragraph is revised to read:

3

4 All steel parts shall be galvanized in accordance with AASHTO M111. Steel bolts and
5 related connecting hardware shall be galvanized in accordance with ASTM F 2329.

6

7 **9-28.14(2) Steel Structures and Posts**

8 The first sentence of the third paragraph is revised to read:

9

10 Anchor rods for sign bridge and cantilever sign structure foundations shall conform to
11 Section 9-06.5(4), including Supplemental Requirement S4 tested at -20°F.

12

13 In the second sentence of the fourth paragraph, "AASHTO M232" is revised to read "ASTM
14 F 2329".

15

16 The first sentence of the fifth paragraph is revised to read:

17

18 Except as otherwise noted, steel used for sign structures and posts shall have a
19 controlled silicon content of either 0.00 to 0.06 percent or 0.15 to 0.25 percent.

20

21 The last sentence of the last paragraph is revised to read:

22

23 If such modifications are contemplated, the Contractor shall submit a Type 2 Working
24 Drawing of the proposed modifications.

25

26 9-29.AP9

27 **Section 9-29, Illumination, Signal, Electrical**

28 **April 1, 2019**

29 **9-29.1 Conduit, Innerduct, and Outerduct**

30 This section is supplemented with the following new subsections:

31

32 **9-29.1(10) Pull Tape**

33 Pull tape shall be pre-lubricated polyester pulling tape. The pull tape shall have a
34 minimum width of ½-inch and a minimum tensile strength of 500 pounds. Pull tape may
35 have measurement marks.

36

37 **9-29.1(11) Foam Conduit Sealant**

38 Foam conduit sealant shall be self-expanding waterproof foam designed to prevent both
39 water and pest intrusion. The foam shall be designed for use in and around electrical
40 equipment, including both insulated and bare conductors.

41

42 **9-29.2(1) Junction Boxes**

43 The first paragraph is revised to read:

44

45 For the purposes of this Specification concrete is defined as portland cement or blended
46 hydraulic cement concrete and non-concrete is all others.

47

48 **9-29.2(1)A2 Non-Concrete Junction Boxes**

49 The first paragraph is revised to read:

50

1 Material for the non-concrete junction boxes shall be of a quality that will provide for a
2 similar life expectancy as portland cement or blended hydraulic cement concrete in a
3 direct burial application.
4

5 **9-29.2(2)A Standard Duty Cable Vaults and Pull Boxes**

6 In the table in the last paragraph, the fourth, fifth and sixth rows are revised to read:
7

Slip Resistant Lid	ASTM A36 steel
Frame	ASTM A36 steel
Slip Resistant Frame	ASTM A36 steel

8

9 **9-29.3(2)A1 Single Conductor Current Carrying**

10 This second sentence is revised to read:
11

12 Insulation shall be XLP (cross-linked polyethylene) or EPR (Ethylene Propylene
13 Rubber), Type USE (Underground Service Entrance) or USE-2, and rated for 600-volts
14 or higher.
15

16 **9-29.6 Light and Signal Standards**

17 In the first sentence of the third paragraph, "AASHTO M232" is revised to read "ASTM F
18 2329".
19

20 Item number 2 of the last paragraph is revised to read:
21

- 22 2. The steel light and signal standard fabricator's shop drawing submittal, including
23 supporting design calculations, submitted as a Type 2E Working Drawing in
24 accordance with Section 8-20.2(1) and the Special Provisions.
25

26 **9-29.6(1) Steel Light and Signal Standards**

27 In the second paragraph, "AASHTO M232" is revised to read "ASTM F 2329".
28

29 The first sentence of the last paragraph is revised to read:
30

31 Steel used for light and signal standards shall have a controlled silicon content of either
32 0.00 to 0.06 percent or 0.15 to 0.25 percent.
33

34 **9-29.6(5) Foundation Hardware**

35 In the last paragraph, "AASHTO M232" is revised to read "ASTM F 2329".
36

37 **9-29.10(1) Conventional Roadway Luminaires**

38 This section is revised to read:
39

40 All conventional roadway luminaires shall meet 3G vibration requirements as described
41 in ANSI C136.31.
42

43 All luminaires shall have housings fabricated from aluminum. The housing shall be
44 painted flat gray, SAE AMS Standard 595 color chip No. 26280, unless otherwise
45 specified in the Contract. Painted housings shall withstand a 1,000 hour salt spray test
46 as specified in ASTM B117.
47

1 Each housing shall include a four bolt slip-fitter mount capable of accepting a nominal 2”
2 tenon and adjustable within +/- 5 degrees of the axis of the tenon. The clamping
3 bracket(s) and the cap screws shall not bottom out on the housing bosses when
4 adjusted within the +/- 5 degree range. No part of the slipfitter mounting brackets on the
5 luminaires shall develop a permanent set in excess of 0.2 inch when the cap screws
6 used for mounting are tightened to a torque of 32 foot-pounds. Each luminaire shall
7 include leveling reference points for both transverse and longitudinal adjustment.
8

9 All luminaires shall include shorting caps when shipped. The caps shall be removed and
10 provided to the Contracting Agency when an alternate control device is required to be
11 installed in the photocell socket. House side shields shall be included when required by
12 the Contract. Order codes shall be modified to the minimum extent necessary to include
13 the option for house side shields.
14

15 This section is supplemented with the following new subsections:
16

17 **9-29.10(1)A High Pressure Sodium (HPS) Conventional Roadway Luminaires**

18 HPS conventional roadway luminaires shall meet the following requirements:
19

- 20 1. General shape shall be “cobrahead” style, with flat glass lens and full cutoff
21 optics.
22
- 23 2. Light pattern distribution shall be IES Type III.
24
- 25 3. The reflector of all luminaires shall be of a snap-in design or secured with
26 screws. The reflector shall be polished aluminum or prismatic borosilicate
27 glass.
28
- 29 4. Flat lenses shall be formed from heat resistant, high-impact, molded
30 borosilicate or tempered glass.
31
- 32 5. The lens shall be mounted in a doorframe assembly, which shall be hinged to
33 the luminaire and secured in the closed position to the luminaire by means of
34 an automatic latch. The lens and doorframe assembly, when closed, shall
35 exert pressure against a gasket seat. The lens shall not allow any light output
36 above 90 degrees nadir. Gaskets shall be composed of material capable of
37 withstanding the temperatures involved and shall be securely held in place.
38
- 39 6. The ballast shall be mounted on a separate exterior door, which shall be
40 hinged to the luminaire and secured in the closed position to the luminaire
41 housing by means of an automatic type of latch (a combination hex/slot
42 stainless steel screw fastener may supplement the automatic-type latch).
43
- 44 7. Each luminaire shall be capable of accepting a 150, 200, 250, 310, or 400 watt
45 lamp complete and associated ballast. Lamps shall mount horizontally.
46

47 **9-29.10(1)B Light Emitting Diode (LED) Conventional Roadway Luminaires**

48 LED Conventional Roadway Luminaires are divided into classes based on their
49 equivalent High Pressure Sodium (HPS) luminaires. Current classes are 200W, 250W,
50 310W, and 400W. LED luminaires are required to be pre-approved in order to verify
51 their photometric output. To be considered for pre-approval, LED luminaires must meet
52 the requirements of this section.

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LED luminaires shall include a removable access door, with tool-less entry, for access to electronic components and the terminal block. The access door shall be removable, but include positive retention such that it can hang freely without disconnecting from the luminaire housing. LED drivers may be mounted either to the interior of the luminaire housing or to the removable door itself.

LED drivers shall be removable for user replacement. All internal modular components shall be connected by means of mechanical plug and socket type quick disconnects. Wire nuts may not be used for any purpose. All external electrical connections to the luminaire shall be made through the terminal block.

LED luminaires shall include a 7-pin NEMA photocell receptacle. The LED driver(s) shall be dimmable from ten volts to zero volts. LED output shall have a Correlated Color Temperature (CCT) of 4000K nominal (4000-4300K) and a Color Rendering Index (CRI) of 70 or greater. LED output shall be a minimum of 85% at 75,000 hours at 25 degrees Celsius.

LED luminaires shall be available for 120V, 240V, and 480V supply voltages. Voltages refer to the supply voltages to the luminaires present in the field. LED power usage shall not exceed the following maximum values for the applicable wattage class:

Class	Max. Wattage
200W	110W
250W	165W
310W	210W
400W	275W

Only one brand of LED conventional roadway luminaire may be used on a Contract. They do not necessarily have to be the same brand as any high-mast, underdeck, or wall-mount luminaires when those types of luminaires are specified in the Contract. LED luminaires shall include a standard 10 year manufacturer warranty.

The list of pre-approved LED Conventional Roadway Luminaires is available at <http://www.wsdot.wa.gov/Design/Traffic/ledluminaires.htm>.

9-29.10(2) Decorative Luminaires

This section, including title, is revised to read:

9-29.10(2) Vacant

9-29.12 Electrical Splice Materials

This section is supplemented with the following new subsections:

9-29.12(3) Splice Enclosures

9-29.12(3)A Heat Shrink Splice Enclosure

Heat shrink splice enclosures shall be medium or heavy wall cross-linked polyolefin, meeting the requirements of AMS-DTL-23053/15, with thermoplastic adhesive sealant. Heat shrink splices used for “wye” connections require rubber electrical mastic tape.

1 **9-29.12(3)B Molded Splice Enclosure**
2 Molded splice enclosures shall use epoxy resin in a clear rigid plastic mold. The
3 material used shall be compatible with the insulation material of the insulated
4 conductor or cable. The component materials of the resin insulation shall be
5 packaged ready for convenient mixing without removing from the package.
6

7 **9-29.12(4) Re-Enterable Splice Enclosure**
8 Re-enterable splice enclosures shall use either dielectric grease or a flexible resin
9 contained in a two-piece plastic mold. The mold shall either snap together or use
10 stainless steel hose clamps.
11

12 **9-29.12(5) Vinyl Electrical Tape for Splices**
13 Vinyl electrical tape in splicing applications shall meet the requirements of MIL-I-
14 24391C.
15

16 **9-29.12(1) Illumination Circuit Splices**

17 This section is revised to read:

18
19 Underground illumination circuit splices shall be solderless crimped connections
20 capable of securely joining the wires, both mechanically and electrically, as defined in
21 Section 8-20.3(8). Aerial illumination splices shall be solderless crimp connectors or
22 split bolt vice-type connectors.
23

24 **9-29.12(1)A Heat Shrink Splice Enclosure**

25 This section is deleted in its entirety.
26

27 **9-29.12(1)B Molded Splice Enclosure**

28 This section is deleted in its entirety.
29

30 **9-29.12(2) Traffic Signal Splice Material**

31 This section is revised to read:

32
33 Induction loop splices and magnetometer splices shall use an uninsulated barrel-type
34 crimped connector capable of being soldered.
35

36 **9-29.13(10)D Cabinets for Type 170E and 2070 Controllers**

37 The first sentence of item number 4 is revised to read:

38
39 A disposable paper filter element with dimensions of 12" × 16" × 1" shall be provided in
40 lieu of a metal filter.
41

42 Item number 6 is revised to read:

43
44 6. LED light strips shall be provided for cabinet lighting, powered from the Equipment
45 breaker on the Power Distribution Assembly. Each LED light strip shall be
46 approximately 12 inches long, have a minimum output of 320 lumens, and have a
47 color temperature of 4100K (cool white) or higher. There shall be three light strips
48 for each rack within the cabinet. Lighting shall be ceiling mounted – rack mounted
49 lighting is not permitted. Light strips shall be installed in the locations shown in the
50 Standard Plans. Lighting shall not interfere with the proper operation of any other
51 ceiling mounted equipment. All lighting fixtures above a rack shall energize

1 automatically when either door to that respective rack is opened. Each door switch
2 shall be labeled "Light".

3
4 Item number 7 is revised to read:

5
6 7. Rack mounted equipment shall be as shown in the Standard Plans. The cabinet
7 shall use PDA #2LX and Output File #1LX. Where an Auxiliary Output File is
8 required, Output File #2LX shall also be included.

9
10 This section is supplemented with the following new item:

11
12 9. The PCB connectors for Field Terminal Blocks FT1 through FT6 on Output Files
13 #1LX and #2LX shall be capable of accepting minimum 14 AWG field wiring, have
14 a pitch of 5.08 mm, and use screw flange type locking to secure the plug and
15 socket connection. The sockets on the Field Terminal Panel shall be secured to the
16 panel such that unplugging a connector will not result in the socket moving or
17 separating from the panel.

18 19 **9-29.13(11) Traffic Data Accumulator and Ramp Meters**

20 Item number 2 is revised to read:

21
22 2. Rack mounted equipment shall be as shown in the Standard Plans.

23
24 Item number 3 is revised to read:

25
26 3. PDA #3LX shall be furnished with three Model 200 Load Switches installed. PDA
27 #3LX shall be modified to include a second Model 430 transfer relay, mounted on
28 the rear of the PDA and wired as shown in the Standard Plans.

29 30 **9-29.13(12) ITS Cabinet**

31 This section's title is revised to read:

32 33 **Type 331L ITS Cabinet**

34
35 The first paragraph (excluding the numbered list) is revised to read:

36
37 Basic ITS cabinets shall be Model 331L Cabinets, unless otherwise specified in the
38 Contract. Type 331L Cabinets shall be constructed in accordance with the TEES, with
39 the following modifications:

40
41 Item number 6 of the first paragraph is revised to read:

42
43 6. LED light strips shall be provided for cabinet lighting, powered from the Equipment
44 breaker on the Power Distribution Assembly. Each LED light strip shall be
45 approximately 12 inches long, have a minimum output of 320 lumens, and have a
46 color temperature of 4100K (cool white) or higher. There shall be three light strips
47 for each rack within the cabinet. Lighting shall be ceiling mounted – rack mounted
48 lighting is not permitted. Light strips shall be installed in the locations shown in the
49 Standard Plans. Lighting shall not interfere with the proper operation of any other
50 ceiling mounted equipment. All lighting fixtures above a rack shall energize
51 automatically when either door to that respective rack is opened. Each door switch
52 shall be labeled "Light".

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9-29.16(2)E Painting Signal Heads

In the first sentence, “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

9-29.17 Signal Head Mounting Brackets and Fittings

In the first paragraph, item number 2 under **Stainless Steel** is revised to read:

- 2. Bands or cables for Type N mount.

9-29.20 Pedestrian Signals

In item 2C of the second paragraph, “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

9-29.24 Service Cabinets

The third sentence of item number 6 is revised to read:

The dead front cover shall have cutouts for the entire breaker array, with blank covers where no circuit breakers are installed.

Item number 8 is revised to read:

- 8. Lighting contactors shall meet the requirements of Section 9-29.24(2).

The last sentence of item number 10 is revised to read:

Dead front panels shall prevent access to any exposed, live components, and shall cover all equipment except for circuit breakers (including blank covers), the photocell test/bypass switch, and the GFCI receptacle.

9-29.24(2) Electrical Circuit Breakers and Contactors

This section is revised to read:

All circuit breakers shall be bolt-on type, with the RMS-symmetrical interrupting capacity described in this Section. Circuit breakers for 120/240/277 volt circuits shall be rated at 240 or 277 volts, as applicable, with an interrupting capacity of not less than 10,000 amperes. Circuit breakers for 480 volt circuits shall be rated at 480 volts, and shall have an interrupting capacity of not less than 14,000 amperes.

Lighting contactors shall be rated for tungsten or ballasted (such as sodium vapor, mercury vapor, metal halide, and fluorescent) lamp loads. Contactors for 120/240/277 volt circuits shall be rated at 240 volts maximum line to line voltage, or 277 volts maximum line to neutral voltage, as applicable. Contactors for 480 volt circuits shall be rated at 480 volt maximum line to line voltage.

9-33.AP9

**Section 9-33, Construction Geosynthetic
August 6, 2018**

9-33.4(1) Geosynthetic Material Approval

The second sentence of the first paragraph is revised to read:

1 If the geosynthetics material is not listed in the current WSDOT QPL, a Manufacturer's
2 Certificate of Compliance including Certified Test Reports of each proposed
3 geosynthetic shall be submitted to the State Materials Laboratory in Tumwater for
4 evaluation.
5

6 The last paragraph is revised to read:
7

8 Geosynthetics used as reinforcement in permanent geosynthetic retaining walls,
9 reinforced slopes, reinforced embankments, and other geosynthetic reinforcement
10 applications require proof of compliance with the National Transportation Product
11 Evaluation Program (NTPEP) in accordance with AASHTO Standard Practice R 69,
12 Standard Practice for Determination of Long-Term Strength for Geosynthetic
13 Reinforcement.
14

15 9-34.AP9

16 **Section 9-34, Pavement Marking Material**
17 **January 7, 2019**

18 **9-34.2(2) Color**

19 The first sentence is revised to read:
20

21 Paint draw-downs shall be prepared according to ASTM D823.
22

23 Each reference to "Federal Standard 595" is revised to read "SAE AMS Standard 595".
24

25 **9-34.2(3) Prohibited Materials**

26 This section is revised to read:
27

28 Traffic paint shall not contain mercury, lead, chromium, diarylide pigments, toluene,
29 chlorinated solvents, hydrolysable chlorine derivatives, ethylene-based glycol ethers
30 and their acetates, nor any other EPA hazardous waste material over the regulatory
31 levels in accordance with CFR 40 Part 261.24.
32

33 **9-34.2(5) Low VOC Waterborne Paint**

34 The heading "Standard Waterborne Paint" is supplemented with "Type 1 and 2".
35

36 The heading "High-Build Waterborne Paint" is supplemented with "Type 4".
37

38 The heading "Cold Weather Waterborne Paint" is supplemented with "Type 5".
39

40 In the row beginning with "@ 90°F", each minimum value is revised to read "60".
41

42 In the row beginning with "Fineness of Grind, (Hegman Scale)", each minimum value is
43 revised to read "3".
44

45 The last four rows are replaced with the following:
46

Vehicle Composition	ASTM D 2621	100% acrylic emulsion	100% cross-linking acrylic ⁴	100% acrylic emulsion
Freeze-Thaw Stability, KU	ASTM D 2243 and D 562	@ 5 cycles show no coagulation or change	@ 5 cycles show no coagulation or change	@ 3 cycles show no coagulation or change

		in viscosity greater than ± 10 KU	in viscosity greater than ± 10 KU	in viscosity greater than ± 10 KU
Heat Stability	ASTM D 562 ²	± 10 KU from the initial viscosity	± 10 KU from the initial viscosity	± 10 KU from the initial Viscosity
Low Temperature Film Formation	ASTM D 2805 ³	No Cracks*		No Cracks
Cold Flexibility ⁵	ASTM D522	Pass at 0.5 in mandrel*		
Test Deck Durability ⁶	ASTM D913	$\geq 70\%$ paint retention in wheel track*		
Mud Cracking	(See note 7)	No Cracks	No Cracks	

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After the preceding Amendments are applied, the following new column is inserted after the “Standard Waterborne Paint Type 1 and 2” column:

Semi-Durable Waterborne Paint Type 3			
White		Yellow	
Min.	Max.	Min.	Max.
Within ± 0.3 of qualification sample			
80	95	80	95
60		60	
77		77	
	65		65
43		43	
	1.25		1.25
3		3	
0.98		0.96	
88		50	
100°		100°	
9.5		9.5	
	10		10
100% acrylic emulsion			
@ 5 cycles show no coagulation or change in viscosity greater than ± 10 KU			
± 10 KU from the initial viscosity			
No Cracks			
Pass at 0.25 in mandrel			
$\geq 70\%$ paint retention in wheel track			
No Cracks			

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The footnotes are supplemented with the following:

⁴Cross-linking acrylic shall meet the requirements of federal specification TT-P-1952F Section 3.1.1.

⁵Cold Flexibility: The paint shall be applied to an aluminum panel at a wet film thickness of 15 mils and allowed to dry under ambient conditions (50 \pm 10% RH and 72 \pm 5 °F) for 24 hours. A cylindrical mandrel apparatus (in accordance with ASTM D522 method B) shall be put in a 40°F refrigerator when the paint is drawn down. After 24 hours, the aluminum panel with dry paint shall be put in the 40°F refrigerator with the mandrel apparatus for 2 hours. After 2 hours, the panel and test apparatus shall be removed and immediately tested to according to ASTM D522 to evaluate cold flexibility. Paint must

1 show no evidence of cracking, chipping or flaking when bent 180 degrees over a
2 mandrel bar of specified diameter.

3
4 ⁶NTPEP test deck, or a test deck conforming to ASTM D713, shall be conducted for a
5 minimum of six months with the following additional requirements: it shall be applied at
6 15 wet mils to a test deck that is located at 40N latitude or higher with at least 10,000
7 ADT and which was applied during the months of September through November.

8
9 ⁷Paint is applied to an approximately 4"x12" aluminum panel using a drawdown bar with
10 a 50 mil gap. The coated panel is allowed to dry under ambient conditions (50±10% RH
11 and 72±5 °F) for 24 hours. Visual evaluation of the dry film shall reveal no cracks.

12 13 **9-34.3 Plastic**

14 In the first sentence of the last paragraph, "Federal Standard 595" is revised to read "SAE
15 AMS Standard 595".

16 17 **9-34.3(2) Type B – Pre-Formed Fused Thermoplastic**

18 In the last two paragraphs, each reference to "Federal Standard 595" is revised to read "SAE
19 AMS Standard 595".

20 21 **9-34.3(4) Type D – Liquid Cold Applied Methyl Methacrylate**

22 The Test Method value for **Adhesion to PCC or HMA, psi** is revised to read "ASTM
23 D4541¹".

24 25 **9-34.4 Glass Beads for Pavement Marking Materials**

26 In the Test Method column of the table titled Metal Concentration Limits, "EPA 3052 SW-846
27 6010C" is revised to read "EPA 3052 SW-846 6010D".

28 29 **9-34.5(1) Temporary Pavement Marking Tape – Short Duration**

30 This section, including title, is revised to read:

31 32 **9-34.5(1) Temporary Pavement Marking Tape – Short Duration (Removable)**

33 Temporary pavement marking tape for short duration (usage is for up to two months)
34 shall conform to ASTM D4592 Type I except that black tape, black mask tape and the
35 black portion of the contrast removable tape, shall be non-reflective.

36 37 **9-34.5(2) Temporary Pavement Marking Tape – Long Duration**

38 This section's title is revised to read:

39 40 **Temporary Pavement Marking Tape – Long Duration (Non-Removable)**

41
42 The first sentence is revised to read:

43
44 Temporary pavement marking tape for long duration (usage is for greater than two
45 months and less than one year) shall conform to ASTM D4592 Type II.

46
47 ASTM E2176 is deleted from the second sentence.

48 49 **9-34.7(1) Requirements**

50 The first paragraph is revised to read:

51

1 Field performance evaluation is required for low VOC solvent-based paint per Section 9-
2 34.2(4), Type A – liquid hot applied thermoplastic per Section 9-34.3(1), Type B –
3 preformed fused thermoplastic per Section 9-34.3(2), Type C – cold applied preformed
4 tape per Section 9-34.3(3), and Type D – liquid applied methyl methacrylate per Section
5 9-34.3(4).
6

7 The last paragraph is deleted.
8

9 **9-34.7(1)C Auto No-Track Time**

10 The first paragraph is revised to read:
11

12 Auto No-Track Time will only be required for low VOC solvent-based paint in
13 accordance with Section 9-34.2(4).
14

15 The second and third sentences of the second paragraph are deleted.

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INTRODUCTION TO THE SPECIAL PROVISIONS

(August 14, 2013 APWA GSP)

The work on this project shall be accomplished in accordance with the *Standard Specifications for Road, Bridge and Municipal Construction*, 2018 edition, as issued by the Washington State Department of Transportation (WSDOT) and the American Public Works Association (APWA), Washington State Chapter (hereafter “Standard Specifications”). The Standard Specifications, as modified or supplemented by the Amendments to the Standard Specifications and these Special Provisions, all of which are made a part of the Contract Documents, shall govern all of the Work.

These Special Provisions are made up of both General Special Provisions (GSPs) from various sources, which may have project-specific fill-ins; and project-specific Special Provisions. Each Provision either supplements, modifies, or replaces the comparable Standard Specification, or is a new Provision. The deletion, amendment, alteration, or addition to any subsection or portion of the Standard Specifications is meant to pertain only to that particular portion of the section, and in no way should it be interpreted that the balance of the section does not apply.

The project-specific Special Provisions are not labeled as such. The GSPs are labeled under the headers of each GSP, with the effective date of the GSP and its source. For example:

(March 8, 2013 APWA GSP)
(April 1, 2013 WSDOT GSP)

Also incorporated into the Contract Documents by reference are:

- *Manual on Uniform Traffic Control Devices for Streets and Highways*, currently adopted edition, with Washington State modifications, if any
- *Standard Plans for Road, Bridge and Municipal Construction*, WSDOT/APWA, current edition
- City of Lakewood Public Works Department Standard Plans

Contractor shall obtain copies of these publications, at Contractor’s own expense.

DIVISION 1 GENERAL REQUIREMENTS

1-01 DEFINITIONS AND TERMS

1-01.3 Definitions

[Supplement]

(January 4, 2016 APWA GSP)

Delete the heading Completion Dates and the three paragraphs that follow it, and replace them with the following:

DATES

Bid Opening Date

The date on which the Contracting Agency publicly opens and reads the Bids.

Award Date

The date of the formal decision of the Contracting Agency to accept the lowest responsible and responsive Bidder for the Work.

Contract Execution Date

The date the Contracting Agency officially binds the Agency to the Contract.

Notice to Proceed Date

The date stated in the Notice to Proceed on which the Contract time begins.

Substantial Completion Date

The day the Engineer determines the Contracting Agency has full and unrestricted use and benefit of the facilities, both from the operational and safety standpoint, any remaining traffic disruptions will be rare and brief, and only minor incidental work, replacement of temporary substitute facilities, plant establishment periods, or correction or repair remains for the Physical Completion of the total Contract.

Physical Completion Date

The day all of the Work is physically completed on the project. All documentation required by the Contract and required by law does not necessarily need to be furnished by the Contractor by this date.

Completion Date

The day all the Work specified in the Contract is completed and all the obligations of the Contractor under the contract are fulfilled by the Contractor. All documentation required by the Contract and required by law must be furnished by the Contractor before establishment of this date.

Final Acceptance Date

The date on which the Contracting Agency accepts the Work as complete.

Supplement this Section with the following:

All references in the Standard Specifications, Amendments, or WSDOT General Special Provisions, to the terms “Department of Transportation”, “Washington State Transportation Commission”, “Commission”, “Secretary of Transportation”, “Secretary”, “Headquarters”, and “State Treasurer” shall be revised to read “Contracting Agency”.

All references to the terms “State” or “state” shall be revised to read “Contracting Agency” unless the reference is to an administrative agency of the State of Washington, a State statute or regulation, or the context reasonably indicates otherwise.

All references to “State Materials Laboratory” shall be revised to read “Contracting Agency designated location”.

All references to “final contract voucher certification” shall be interpreted to mean the Contracting Agency form(s) by which final payment is authorized, and final completion and acceptance granted.

Additive

A supplemental unit of work or group of bid items, identified separately in the Bid Proposal, which may, at the discretion of the Contracting Agency, be awarded in addition to the base bid.

Alternate

One of two or more units of work or groups of bid items, identified separately in the Bid Proposal, from which the Contracting Agency may make a choice between different methods or material of construction for performing the same work.

Business Day

A business day is any day from Monday through Friday except holidays as listed in Section 1-08.5.

Contract Bond

The definition in the Standard Specifications for “Contract Bond” applies to whatever bond form(s) are required by the Contract Documents, which may be a combination of a Payment Bond and a Performance Bond.

Contract Documents

See definition for “Contract”.

Contract Time

The period of time established by the terms and conditions of the Contract within which the Work must be physically completed.

Notice of Award

The written notice from the Contracting Agency to the successful Bidder signifying the Contracting Agency’s acceptance of the Bid Proposal.

Notice to Proceed

The written notice from the Contracting Agency or Engineer to the Contractor authorizing and directing the Contractor to proceed with the Work and establishing the date on which the Contract time begins.

Traffic

Both vehicular and non-vehicular traffic, such as pedestrians, bicyclists, wheelchairs, and equestrian traffic.

1-02 BID PROCEDURES AND CONDITIONS

1-02.1 Prequalification of Bidders [Replacement]

Delete this Section and replace it with the following:

1-02.1 Qualifications of Bidder

(January 24, 2011 APWA GSP)

Before award of a public works contract, a bidder must meet at least the minimum qualifications of RCW 39.04.350(1) to be considered a responsible bidder and qualified to be awarded a public works project.

1-02.2 Plans and Specifications [Replacement]

(June 27, 2011 APWA GSP)

Delete this section and replace it with the following:

Information as to where Bid Documents can be obtained or reviewed can be found in the Call for Bids (Advertisement for Bids) for the work.

After award of the contract, plans and specifications will be issued to the Contractor at no cost as detailed below:

To Prime Contractor	No. of Sets	Basis of Distribution
Reduced plans (11" x 17")	10	Furnished automatically upon award.
Contract Provisions	5	Furnished automatically upon award.
Large plans (e.g., 22" x 34")	5	Furnished only upon request.

Additional plans and Contract Provisions may be obtained by the Contractor from the source stated in the Call for Bids, at the Contractor’s own expense

1-02.4(2) Subsurface Information**[Supplement]***(March 8, 2013 APWA GSP)*

The second sentence in the first paragraph is revised to read:

The Summary of Geotechnical Conditions and the boring logs, if and when included as an appendix to the Special Provisions, shall be considered as part of the Contract.

1-02.5 Proposal Forms**[Replacement]***(July 31, 2017 APWA GSP)*

Delete this section and replace it with the following:

The Proposal Form will identify the project and its location and describe the work. It will also list estimated quantities, units of measurement, the items of work, and the materials to be furnished at the unit bid prices. The bidder shall complete spaces on the proposal form that call for, but are not limited to, unit prices; extensions; summations; the total bid amount; signatures; date; and, where applicable, retail sales taxes and acknowledgment of addenda; the bidder's name, address, telephone number, and signature; the bidder's UDBE/DBE/M/WBE commitment, if applicable; a State of Washington Contractor's Registration Number; and a Business License Number, if applicable. Bids shall be completed by typing or shall be printed in ink by hand, preferably in black ink. The required certifications are included as part of the Proposal Form.

The Contracting Agency reserves the right to arrange the proposal forms with alternates and additives, if such be to the advantage of the Contracting Agency. The bidder shall bid on all alternates and additives set forth in the Proposal Form unless otherwise specified.

1-02.6 Preparation of Proposal**[Supplement]***(July 11, 2018 APWA GSP)*

Supplement the second paragraph with the following:

4. If a minimum bid amount has been established for any item, the unit or lump sum price must equal or exceed the minimum amount stated.
5. Any correction to a bid made by interlineation, alteration, or erasure, shall be initialed by the signer of the bid.

Delete the last two paragraphs, and replace them with the following:

If no Subcontractor is listed, the Bidder acknowledges that it does not intend to use any Subcontractor to perform those items of work.

The Bidder shall submit with their Bid a completed Contractor Certification Wage Law Compliance form, provided by the Contracting Agency. Failure to return this certification as part of the Bid Proposal package will make this Bid Nonresponsive and ineligible for Award. A Contractor Certification of Wage Law Compliance form is included in the Proposal Forms.

The Bidder shall make no stipulation on the Bid Form, nor qualify the bid in any manner.

A bid by a corporation shall be executed in the corporate name, by the president or a vice president (or other corporate officer accompanied by evidence of authority to sign).

A bid by a partnership shall be executed in the partnership name, and signed by a partner. A copy of the partnership agreement shall be submitted with the Bid Form if any UDBE requirements are to be satisfied through such an agreement.

A bid by a joint venture shall be executed in the joint venture name and signed by a member of the joint venture. A copy of the joint venture agreement shall be submitted with the Bid Form if any UDBE requirements are to be satisfied through such an agreement.

1-02.7 Bid Deposit

[Supplement]

(March 8, 2013 APWA GSP)

Supplement this section with the following:

Bid bonds shall contain the following:

1. Contracting Agency-assigned number for the project;
2. Name of the project;
3. The Contracting Agency named as obligee;
4. The amount of the bid bond stated either as a dollar figure or as a percentage which represents five percent of the maximum bid amount that could be awarded;
5. Signature of the bidder's officer empowered to sign official statements. The signature of the person authorized to submit the bid should agree with the signature on the bond, and the title of the person must accompany the said signature;
6. The signature of the surety's officer empowered to sign the bond and the power of attorney.

If so stated in the Contract Provisions, bidder must use the bond form included in the Contract Provisions.

If so stated in the Contract Provisions, cash will not be accepted for a bid deposit.

1-02.9 Delivery of Proposal

[Replacement]

(December 19, 2019 APWA GSP, Option A)

Delete this section and replace it with the following:

Each Proposal shall be submitted in a sealed envelope, with the Project Name and Project Number as stated in the Call for Bids clearly marked on the outside of the envelope, or as otherwise required in the Bid Documents, to ensure proper handling and delivery.

To be considered responsive on a FHWA-funded project, the Bidder may be required to submit the following items, as required by Section 1-02.6:

- UDBE Written Confirmation Document from each UDBE firm listed on the Bidder's completed UDBE Utilization Certification (WSDOT 272-056U)
- Good Faith Effort (GFE) Documentation
- UDBE Bid Item Breakdown (WSDOT 272-054)
- UDBE Trucking Credit Form (WSDOT 272-058)

These documents, if applicable, shall be received either with the Bid Proposal or as a supplement to the Bid. These documents shall be received no later than 48 hours (not including Saturdays, Sundays and Holidays) after the time for delivery of the Bid Proposal.

If submitted after the Bid Proposal is due, the document(s) must be submitted in a sealed envelope labeled the same as for the Proposal, with "Supplemental Information" added. All other information required to be submitted with the Bid Proposal must be submitted with the Bid Proposal itself, at the time stated in the Call for Bids.

Proposals that are received as required will be publicly opened and read as specified in Section 1-02.12. The Contracting Agency will not open or consider any Bid Proposal that is received after the time specified in the Call for Bids for receipt of Bid Proposals, or received in a location other than that specified in the Call for Bids. The Contracting Agency will not open or consider any "Supplemental Information" (UDBE confirmations, or GFE documentation) that is received after the time specified above, or received in a location other than that specified in the Call for Bids.

If an emergency or unanticipated event interrupts normal work processes of the Contracting Agency so that Proposals cannot be received at the office designated for receipt of bids as specified in Section 1-02.12 the time specified for receipt of the Proposal will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which the normal work processes of the Contracting Agency resume.

1-02.10 Withdrawing, Revising, or Supplementing Proposal [Replacement]
(July 23, 2015 APWA GSP)

Delete this section, and replace it with the following:

After submitting a physical Bid Proposal to the Contracting Agency, the Bidder may withdraw, revise, or supplement it if:

1. The Bidder submits a written request signed by an authorized person and physically delivers it to the place designated for receipt of Bid Proposals, and
2. The Contracting Agency receives the request before the time set for receipt of Bid Proposals, and
3. The revised or supplemented Bid Proposal (if any) is received by the Contracting Agency before the time set for receipt of Bid Proposals.

If the Bidder's request to withdraw, revise, or supplement its Bid Proposal is received before the time set for receipt of Bid Proposals, the Contracting Agency will return the unopened Proposal package to the Bidder. The Bidder must then submit the revised or supplemented package in its entirety. If the Bidder does not submit a revised or supplemented package, then its bid shall be considered withdrawn.

Late revised or supplemented Bid Proposals or late withdrawal requests will be date recorded by the Contracting Agency and returned unopened. Mailed, emailed, or faxed requests to withdraw, revise, or supplement a Bid Proposal are not acceptable.

1-02.13 Irregular Proposals [Modification]
(December 19, 2019 APWA GSP)

Delete this section and replace it with the following:

1. A Proposal will be considered irregular and will be rejected if:
 - a. The Bidder is not prequalified when so required;
 - b. The authorized Proposal form furnished by the Contracting Agency is not used or is altered;
 - c. The completed Proposal form contains any unauthorized additions, deletions, alternate Bids, or conditions;
 - d. The Bidder adds provisions reserving the right to reject or accept the award, or enter into the Contract;
 - e. A price per unit cannot be determined from the Bid Proposal;
 - f. The Proposal form is not properly executed;
 - g. The Bidder fails to submit or properly complete a Subcontractor list, if applicable, as required in Section 1-02.6;

- h. The Bidder fails to submit or properly complete an Underutilized Disadvantaged Business Enterprise Certification, if applicable, as required in Section 1-02.6;
 - i. The Bidder fails to submit written confirmation from each UDBE firm listed on the Bidder's completed UDBE Utilization Certification that they are in agreement with the bidder's UDBE participation commitment, if applicable, as required in Section 1-02.6, or if the written confirmation that is submitted fails to meet the requirements of the Special Provisions;
 - j. The Bidder fails to submit UDBE Good Faith Effort documentation, if applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to demonstrate that a Good Faith Effort to meet the Condition of Award was made;
 - k. The Bidder fails to submit a UDBE Bid Item Breakdown form, if applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to meet the requirements of the Special Provisions;
 - l. The Bidder fails to submit UDBE Trucking Credit Forms, if applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to meet the requirements of the Special Provisions;
 - m. The Bid Proposal does not constitute a definite and unqualified offer to meet the material terms of the Bid invitation; or
 - n. More than one Proposal is submitted for the same project from a Bidder under the same or different names.
2. A Proposal may be considered irregular and may be rejected if:
- a. The Proposal does not include a unit price for every Bid item;
 - b. Any of the unit prices are excessively unbalanced (either above or below the amount of a reasonable Bid) to the potential detriment of the Contracting Agency;
 - c. Receipt of Addenda is not acknowledged;
 - d. A member of a joint venture or partnership and the joint venture or partnership submit Proposals for the same project (in such an instance, both Bids may be rejected); or
 - e. If Proposal form entries are not made in ink.

1-02.14 Disqualification of Bidders

[Replacement]

(May 17, 2018 APWA GSP, Option B)

Delete this section and replace it with the following:

A Bidder will be deemed not responsible if the Bidder does not meet the mandatory bidder responsibility criteria in RCW 39.04.350(1), as amended; or does not meet Supplemental Criteria 1-7 listed in this Section.

The Contracting Agency will verify that the Bidder meets the mandatory bidder responsibility criteria in RCW 39.04.350(1), and Supplemental Criteria 1-2. Evidence that the Bidder meets Supplemental Criteria 3-7 shall be provided by the Bidder as stated later in this Section.

1. Delinquent State Taxes
 - A. Criterion: The Bidder shall not owe delinquent taxes to the Washington State Department of Revenue without a payment plan approved by the Department of Revenue.
 - B. Documentation: The Bidder, if and when required as detailed below, shall sign a statement (on a form to be provided by the Contracting Agency) that the Bidder does not owe delinquent taxes to the Washington State Department of Revenue, or if delinquent taxes are owed to the Washington State Department of Revenue, the Bidder must submit a written payment plan approved by the Department of Revenue, to the Contracting Agency by the deadline listed below.
2. **Federal Debarment**
 - A. Criterion: The Bidder shall not currently be debarred or suspended by the Federal government.
 - B. Documentation: The Bidder shall not be listed as having an “active exclusion” on the U.S. government’s “System for Award Management” database (www.sam.gov).
3. **Subcontractor Responsibility**
 - A. Criterion: The Bidder’s standard subcontract form shall include the subcontractor responsibility language required by RCW 39.06.020, and the Bidder shall have an established procedure which it utilizes to validate the responsibility of each of its subcontractors. The Bidder’s subcontract form shall also include a requirement that each of its subcontractors shall have and document a similar procedure to determine whether the sub-tier subcontractors with whom it contracts are also “responsible” subcontractors as defined by RCW 39.06.020.
 - B. Documentation: The Bidder, if and when required as detailed below, shall submit a copy of its standard subcontract form for review by the Contracting Agency, and a written description of its procedure for validating the responsibility of subcontractors with which it contracts.
4. **Claims Against Retainage and Bonds**
 - A. Criterion: The Bidder shall not have a record of excessive claims filed against the retainage or payment bonds for public works projects in the three years prior to the bid submittal date, that demonstrate a lack of effective management by the Bidder of making timely and appropriate payments to its subcontractors, suppliers, and workers, unless there are

extenuating circumstances and such circumstances are deemed acceptable to the Contracting Agency.

B. Documentation: The Bidder, if and when required as detailed below, shall submit a list of the public works projects completed in the three years prior to the bid submittal date that have had claims against retainage and bonds and include for each project the following information:

- Name of project
- The owner and contact information for the owner;
- A list of claims filed against the retainage and/or payment bond for any of the projects listed;
- A written explanation of the circumstances surrounding each claim and the ultimate resolution of the claim.

5. **Public Bidding Crime**

A. Criterion: The Bidder and/or its owners shall not have been convicted of a crime involving bidding on a public works contract in the five years prior to the bid submittal date.

B. Documentation: The Bidder, if and when required as detailed below, shall sign a statement (on a form to be provided by the Contracting Agency) that the Bidder and/or its owners have not been convicted of a crime involving bidding on a public works contract.

6. **Termination for Cause / Termination for Default**

A. Criterion: The Bidder shall not have had any public works contract terminated for cause or terminated for default by a government agency in the five years prior to the bid submittal date, unless there are extenuating circumstances and such circumstances are deemed acceptable to the Contracting Agency.

B. Documentation: The Bidder, if and when required as detailed below, shall sign a statement (on a form to be provided by the Contracting Agency) that the Bidder has not had any public works contract terminated for cause or terminated for default by a government agency in the five years prior to the bid submittal date; or if Bidder was terminated, describe the circumstances. .

7. **Lawsuits**

A. Criterion: The Bidder shall not have lawsuits with judgments entered against the Bidder in the five years prior to the bid submittal date that demonstrate a pattern of failing to meet the terms of contracts, unless there are extenuating circumstances and such circumstances are deemed acceptable to the Contracting Agency

- B. **Documentation:** The Bidder, if and when required as detailed below, shall sign a statement (on a form to be provided by the Contracting Agency) that the Bidder has not had any lawsuits with judgments entered against the Bidder in the five years prior to the bid submittal date that demonstrate a pattern of failing to meet the terms of contracts, or shall submit a list of all lawsuits with judgments entered against the Bidder in the five years prior to the bid submittal date, along with a written explanation of the circumstances surrounding each such lawsuit. The Contracting Agency shall evaluate these explanations to determine whether the lawsuits demonstrate a pattern of failing to meet of terms of construction related contracts

As evidence that the Bidder meets the Supplemental Criteria stated above, the apparent low Bidder must submit to the Contracting Agency by 12:00 P.M. (noon) of the second business day following the bid submittal deadline, a written statement verifying that the Bidder meets the supplemental criteria together with supporting documentation (sufficient in the sole judgment of the Contracting Agency) demonstrating compliance with the Supplemental Criteria. The Contracting Agency reserves the right to request further documentation as needed from the low Bidder and documentation from other Bidders as well to assess Bidder responsibility and compliance with all bidder responsibility criteria. The Contracting Agency also reserves the right to obtain information from third-parties and independent sources of information concerning a Bidder's compliance with the mandatory and supplemental criteria, and to use that information in their evaluation. The Contracting Agency may consider mitigating factors in determining whether the Bidder complies with the requirements of the supplemental criteria.

The basis for evaluation of Bidder compliance with these mandatory and supplemental criteria shall include any documents or facts obtained by Contracting Agency (whether from the Bidder or third parties) including but not limited to: (i) financial, historical, or operational data from the Bidder; (ii) information obtained directly by the Contracting Agency from others for whom the Bidder has worked, or other public agencies or private enterprises; and (iii) any additional information obtained by the Contracting Agency which is believed to be relevant to the matter.

If the Contracting Agency determines the Bidder does not meet the bidder responsibility criteria above and is therefore not a responsible Bidder, the Contracting Agency shall notify the Bidder in writing, with the reasons for its determination. If the Bidder disagrees with this determination, it may appeal the determination within two (2) business days of the Contracting Agency's determination by presenting its appeal and any additional information to the Contracting Agency. The Contracting Agency will consider the appeal and any additional information before issuing its final determination. If the final determination affirms that the Bidder is not responsible, the Contracting Agency will not execute a contract with any other Bidder until at least two business days after the Bidder determined to be not responsible has received the Contracting Agency's final determination.

Request to Change Supplemental Bidder Responsibility Criteria Prior To Bid: Bidders with concerns about the relevancy or restrictiveness of the Supplemental Bidder Responsibility Criteria may make or submit requests to the Contracting Agency to modify the criteria. Such requests shall be in writing, describe the nature of the concerns, and propose specific modifications to the criteria. Bidders shall submit such requests to the Contracting Agency no later than five (5) business days prior to the bid submittal deadline and address the request to the Project Engineer or such other person designated by the Contracting Agency in the Bid Documents.

1-02.15 Pre Award Information

[Modification]

(August 14, 2013 APWA GSP)

Revise this section to read:

Before awarding any contract, the Contracting Agency may require one or more of these items or actions of the apparent lowest responsible bidder:

1. A complete statement of the origin, composition, and manufacture of any or all materials to be used,
2. Samples of these materials for quality and fitness tests,
3. A progress schedule (in a form the Contracting Agency requires) showing the order of and time required for the various phases of the work,
4. A breakdown of costs assigned to any bid item,
5. Attendance at a conference with the Engineer or representatives of the Engineer,
6. Obtain, and furnish a copy of, a business license to do business in the city or county where the work is located.
7. Any other information or action taken that is deemed necessary to ensure that the bidder is the lowest responsible bidder.

1-03 AWARD AND EXECUTION OF CONTRACT

1-03.1 Consideration of Bids

[Modification]

(January 23, 2006 APWA GSP)

Revise the first paragraph to read:

After opening and reading proposals, the Contracting Agency will check them for correctness of extensions of the prices per unit and the total price. If a discrepancy exists between the price per unit and the extended amount of any bid item, the price per unit will control. If a minimum bid amount has been established for any item and the bidder's unit or lump sum price is less than the minimum specified amount, the Contracting Agency will unilaterally revise the unit or lump sum price, to the minimum specified amount and recalculate the extension. The total of extensions, corrected where necessary, including sales taxes where applicable and such additives and/or alternates

as selected by the Contracting Agency, will be used by the Contracting Agency for award purposes and to fix the Awarded Contract Price amount and the amount of the contract bond.

1-03.3 Execution of Contract**[Modification]***(October 1, 2005 APWA GSP)*

Revise this section to read:

Copies of the Contract Provisions, including the unsigned Form of Contract, will be available for signature by the successful bidder on the first business day following award. The number of copies to be executed by the Contractor will be determined by the Contracting Agency.

Within 10 calendar days after the award date, the successful bidder shall return the signed Contracting Agency-prepared contract, an insurance certification as required by Section 1-07.18, and a satisfactory bond as required by law and Section 1-03.4. Before execution of the contract by the Contracting Agency, the successful bidder shall provide any pre-award information the Contracting Agency may require under Section 1-02.15. Until the Contracting Agency executes a contract, no proposal shall bind the Contracting Agency nor shall any work begin within the project limits or within Contracting Agency-furnished sites. The Contractor shall bear all risks for any work begun outside such areas and for any materials ordered before the contract is executed by the Contracting Agency.

If the bidder experiences circumstances beyond their control that prevents return of the contract documents within the calendar days after the award date stated above, the Contracting Agency may grant up to a maximum of 2 additional calendar days for return of the documents, provided the Contracting Agency deems the circumstances warrant it.

1-03.4 Contract Bond**[Replacement]***(July 23, 2015 APWA GSP)*

Delete the first paragraph and replace it with the following:

The successful bidder shall provide executed payment and performance bond(s) for the full contract amount. The bond may be a combined payment and performance bond; or be separate payment and performance bonds. In the case of separate payment and performance bonds, each shall be for the full contract amount. The bond(s) shall:

1. Be on Contracting Agency-furnished form(s);
2. Be signed by an approved surety (or sureties) that:
 - a. Is registered with the Washington State Insurance Commissioner, and
 - b. Appears on the current Authorized Insurance List in the State of Washington published by the Office of the Insurance Commissioner,

3. Guarantee that the Contractor will perform and comply with all obligations, duties, and conditions under the Contract, including but not limited to the duty and obligation to indemnify, defend, and protect the Contracting Agency against all losses and claims related directly or indirectly from any failure:
 - a. Of the Contractor (or any of the employees, subcontractors, or lower tier subcontractors of the Contractor) to faithfully perform and comply with all contract obligations, conditions, and duties, or
 - b. Of the Contractor (or the subcontractors or lower tier subcontractors of the Contractor) to pay all laborers, mechanics, subcontractors, lower tier subcontractors, material person, or any other person who provides supplies or provisions for carrying out the work;
4. Be conditioned upon the payment of taxes, increases, and penalties incurred on the project under titles 50, 51, and 82 RCW; and
5. Be accompanied by a power of attorney for the Surety's officer empowered to sign the bond; and
6. Be signed by an officer of the Contractor empowered to sign official statements (sole proprietor or partner). If the Contractor is a corporation, the bond(s) must be signed by the president or vice president, unless accompanied by written proof of the authority of the individual signing the bond(s) to bind the corporation (i.e., corporate resolution, power of attorney, or a letter to such effect signed by the president or vice president).

1-03.7 Judicial Review

[Modification]

(November 30, 2018 APWA GSP)

Revise this section to read:

Any decision made by the Contracting Agency regarding the Award and execution of the Contract or Bid rejection shall be conclusive subject to the scope of judicial review permitted under Washington Law. Such review, if any, shall be timely filed in the Superior Court of the county where the Contracting Agency headquarters is located, provided that where an action is asserted against a county, RCW 36.01.050 shall control venue and jurisdiction.

1-04 SCOPE OF THE WORK

1-04.2 Coordination of Contract Documents, Plans, Special Provisions, Specifications, and Addenda

[Modification]

(March 13, 2012 APWA GSP)

Revise the second paragraph to read:

Any inconsistency in the parts of the contract shall be resolved by following this order of precedence (e.g., 1 presiding over 2, 2 over 3, 3 over 4, and so forth):

1. Addenda,
2. Proposal Form,

3. Special Provisions,
4. Contract Plans,
5. Amendments to the Standard Specifications,
6. Standard Specifications,
7. Contracting Agency's Standard Plans or Details (if any), and
8. WSDOT Standard Plans for Road, Bridge, and Municipal Construction.

1-05 CONTROL OF WORK

1-05.4 Conformity With and Deviations from Plans and Stakes [Supplement]

Add the following new sub-section:

1-05.4(1) Roadway, Retaining Wall and Utility Surveys

(August 7, 2017 WSDOT GSP)

Contractor Surveying - Roadway

Copies of the Contracting Agency provided primary survey control data are available for the bidder's inspection at the office of the Engineer.

The Contractor shall be responsible for setting, maintaining, and resetting all alignment stakes, slope stakes, and grades necessary for the construction of the roadbed, drainage, surfacing, paving, channelization and pavement marking, illumination and signals, guardrails and barriers, and signing. Except for the survey control data to be furnished by the Contracting Agency, calculations, surveying, and measuring required for setting and maintaining the necessary lines and grades shall be the Contractor's responsibility.

The Contractor shall inform the Engineer when monuments are discovered that were not identified in the Plans and construction activity may disturb or damage the monuments. All monuments noted on the plans "DO NOT DISTURB" shall be protected throughout the length of the project or be replaced at the Contractors expense.

Detailed survey records shall be maintained, including a description of the work performed on each shift, the methods utilized, and the control points used. The record shall be adequate to allow the survey to be reproduced. A copy of each day's record shall be provided to the Engineer within three working days after the end of the shift.

The meaning of words and terms used in this provision shall be as listed in "Definitions of Surveying and Associated Terms" current edition, published by the American Congress on Surveying and Mapping and the American Society of Civil Engineers.

The survey work shall include but not be limited to the following:

1. Verify the primary horizontal and vertical control furnished by the Contracting Agency, and expand into secondary control by adding stakes and hubs as well as additional survey control needed for the project. Provide descriptions of

- secondary control to the Contracting Agency. The description shall include coordinates and elevations of all secondary control points.
2. Establish the centerlines of all alignments, by placing hubs, stakes, or marks on centerline or on offsets to centerline at all curve points (PCs, PTs, and PIs) and at points on the alignments spaced no further than 50 feet.
 3. Establish clearing limits, placing stakes at all angle points and at intermediate points not more than 50 feet apart. The clearing and grubbing limits shall be 5 feet beyond the toe of a fill and 10 feet beyond the top of a cut unless otherwise shown in the Plans.
 4. Establish grading limits, placing slope stakes at centerline increments not more than 50 feet apart. Establish offset reference to all slope stakes. If Global Positioning Satellite (GPS) Machine Controls are used to provide grade control, then slope stakes may be omitted at the discretion of the Contractor
 5. Establish the horizontal and vertical location of all drainage features, placing offset stakes to all drainage structures and to pipes at a horizontal interval not greater than 25 feet.
 6. Establish roadbed and surfacing elevations by placing stakes at the top of subgrade and at the top of each course of surfacing. Subgrade and surfacing stakes shall be set at horizontal intervals not greater than 50 feet in tangent sections, 25 feet in curve sections with a radius less than 300 feet, and at 10-foot intervals in intersection radii with a radius less than 10 feet. Transversely, stakes shall be placed at all locations where the roadway slope changes and at additional points such that the transverse spacing of stakes is not more than 12 feet. If GPS Machine Controls are used to provide grade control, then roadbed and surfacing stakes may be omitted at the discretion of the Contractor.
 7. Establish intermediate elevation benchmarks as needed to check work throughout the project.
 8. Provide references for paving pins at 25-foot intervals or provide simultaneous surveying to establish location and elevation of paving pins as they are being placed.
 9. For all other types of construction included in this provision, (including but not limited to channelization and pavement marking, illumination and signals, guardrails and barriers, and signing) provide staking and layout as necessary to adequately locate, construct, and check the specific construction activity.
 10. Contractor shall determine if changes are needed to the profiles or roadway sections shown in the Contract Plans in order to achieve proper smoothness and drainage where matching into existing features, such as a smooth transition from new pavement to existing pavement. The Contractor shall submit these changes to the Engineer for review and approval 10 days prior to the beginning of work.

The Contractor shall provide the Contracting Agency copies of any calculations and staking data when requested by the Engineer.

To facilitate the establishment of these lines and elevations, the Contracting Agency will provide the Contractor with primary survey control information consisting of descriptions of two primary control points used for the horizontal and vertical control, and descriptions of two additional primary control points for every additional three miles of project length. Primary control points will be described by reference to the project alignment and the coordinate system and elevation datum utilized by the project. In addition, the Contracting Agency will supply horizontal coordinates for the beginning and ending points and for each Point of Intersection (PI) on each alignment included in the project.

The Contractor shall ensure a surveying accuracy within the following tolerances:

	Vertical	Horizontal
Slope stakes	±0.10 feet	±0.10 feet
Subgrade grade stakes set 0.04 feet below grade	±0.01 feet	±0.5 feet (parallel to alignment) ±0.1 feet (normal to alignment)
Stationing on roadway	N/A	±0.1 feet
Alignment on roadway	N/A	±0.04 feet
Surfacing grade stakes	±0.01 feet	±0.5 feet (parallel to alignment) ±0.1 feet (normal to alignment)
Roadway paving pins for surfacing or paving	±0.01 feet	±0.2 feet (parallel to alignment) ±0.1 feet (normal to alignment)

The Contracting Agency may spot-check the Contractor's surveying. These spot-checks will not change the requirements for normal checking by the Contractor.

When staking roadway alignment and stationing, the Contractor shall perform independent checks from different secondary control to ensure that the points staked are within the specified survey accuracy tolerances.

The Contractor shall calculate coordinates for the alignment. The Contracting Agency will verify these coordinates prior to issuing approval to the Contractor for commencing with the work. The Contracting Agency will require up to seven calendar days from the date the data is received.

Contract work to be performed using contractor-provided stakes shall not begin until the stakes are approved by the Contracting Agency. Such approval shall not relieve the Contractor of responsibility for the accuracy of the stakes.

Stakes shall be marked in accordance with Standard Plan A10.10. When stakes are needed that are not described in the Plans, then those stakes shall be marked, at no additional cost to the Contracting Agency as ordered by the Engineer.

Payment

Payment will be made for the following bid item when included in the proposal:

"Roadway Surveying", lump sum.

The lump sum contract price for "Roadway Surveying" shall be full pay for all labor, equipment, materials, and supervision utilized to perform the Work specified, including any resurveying, checking, correction of errors, replacement of missing or damaged stakes, and coordination efforts.

1-05.7 Removal of Defective and Unauthorized Work [Supplement]

(October 1, 2005 APWA GSP)

Supplement this section with the following:

If the Contractor fails to remedy defective or unauthorized work within the time specified in a written notice from the Engineer, or fails to perform any part of the work required by the Contract Documents, the Engineer may correct and remedy such work as may be identified in the written notice, with Contracting Agency forces or by such other means as the Contracting Agency may deem necessary.

If the Contractor fails to comply with a written order to remedy what the Engineer determines to be an emergency situation, the Engineer may have the defective and unauthorized work corrected immediately, have the rejected work removed and replaced, or have work the Contractor refuses to perform completed by using Contracting Agency or other forces. An emergency situation is any situation when, in the opinion of the Engineer, a delay in its remedy could be potentially unsafe, or might cause serious risk of loss or damage to the public.

Direct or indirect costs incurred by the Contracting Agency attributable to correcting and remedying defective or unauthorized work, or work the Contractor failed or refused to perform, shall be paid by the Contractor. Payment will be deducted by the Engineer from monies due, or to become due, the Contractor. Such direct and indirect costs shall include in particular, but without limitation, compensation for additional professional services required, and costs for repair and replacement of work of others destroyed or damaged by correction, removal, or replacement of the Contractor's unauthorized work.

No adjustment in contract time or compensation will be allowed because of the delay in the performance of the work attributable to the exercise of the Contracting Agency's rights provided by this Section.

The rights exercised under the provisions of this section shall not diminish the Contracting Agency's right to pursue any other avenue for additional remedy or damages with respect to the Contractor's failure to perform the work as required.

1-05.11 Final Inspection

[Replacement]

Delete this section and replace it with the following:

1-05.11 Final Inspections and Operational Testing

(October 1, 2005 APWA GSP)

1-05.11(1) Substantial Completion Date

When the Contractor considers the work to be substantially complete, the Contractor shall so notify the Engineer and request the Engineer establish the Substantial Completion Date. The Contractor's request shall list the specific items of work that remain to be completed in order to reach physical completion. The Engineer will schedule an inspection of the work with the Contractor to determine the status of completion. The Engineer may also establish the Substantial Completion Date unilaterally.

If, after this inspection, the Engineer concurs with the Contractor that the work is substantially complete and ready for its intended use, the Engineer, by written notice to the Contractor, will set the Substantial Completion Date. If, after this inspection the Engineer does not consider the work substantially complete and ready for its intended use, the Engineer will, by written notice, so notify the Contractor giving the reasons therefore.

Upon receipt of written notice concurring in or denying substantial completion, whichever is applicable, the Contractor shall pursue vigorously, diligently and without unauthorized interruption, the work necessary to reach Substantial and Physical Completion. The Contractor shall provide the Engineer with a revised schedule indicating when the Contractor expects to reach substantial and physical completion of the work. The above process shall be repeated until the Engineer establishes the Substantial Completion Date and the Contractor considers the work physically complete and ready for final inspection.

1-05.11(2) Final Inspection and Physical Completion Date

When the Contractor considers the work physically complete and ready for final inspection, the Contractor by written notice, shall request the Engineer to schedule a final inspection. The Engineer will set a date for final inspection. The Engineer and the Contractor will then make a final inspection and the Engineer will notify the Contractor in writing of all particulars in which the final inspection reveals the work incomplete or unacceptable. The Contractor shall immediately take such corrective measures as are necessary to remedy the listed deficiencies. Corrective work shall be pursued vigorously, diligently, and without interruption until physical completion of the listed deficiencies. This process will continue until the Engineer is satisfied the listed deficiencies have been corrected.

If action to correct the listed deficiencies is not initiated within 7 days after receipt of the written notice listing the deficiencies, the Engineer may, upon written notice to the Contractor, take whatever steps are necessary to correct those deficiencies pursuant to Section 1-05.7.

The Contractor will not be allowed an extension of contract time because of a delay in the performance of the work attributable to the exercise of the Engineer's right hereunder.

Upon correction of all deficiencies, the Engineer will notify the Contractor and the Contracting Agency, in writing, of the date upon which the work was considered physically complete. That date shall constitute the Physical Completion Date of the contract, but shall not imply acceptance of the work or that all the obligations of the Contractor under the contract have been fulfilled.

1-05.11(3) Operational Testing

It is the intent of the Contracting Agency to have at the Physical Completion Date a complete and operable system. Therefore when the work involves the installation of machinery or other mechanical equipment; street lighting, electrical distribution or signal systems; irrigation systems; buildings; or other similar work it may be desirable for the Engineer to have the Contractor operate and test the work for a period of time after final inspection but prior to the physical completion date. Whenever items of work are listed in the Contract Provisions for operational testing they shall be fully tested under operating conditions for the time period specified to ensure their acceptability prior to the Physical Completion Date. During and following the test period, the Contractor shall correct any items of workmanship, materials, or equipment which prove faulty, or that are not in first class operating condition. Equipment, electrical controls, meters, or other devices and equipment to be tested during this period shall be tested under the observation of the Engineer, so that the Engineer may determine their suitability for the purpose for which they were installed. The Physical Completion Date cannot be established until testing and corrections have been completed to the satisfaction of the Engineer.

The costs for power, gas, labor, material, supplies, and everything else needed to successfully complete operational testing, shall be included in the unit contract prices related to the system being tested, unless specifically set forth otherwise in the proposal.

Operational and test periods, when required by the Engineer, shall not affect a manufacturer's guaranties or warranties furnished under the terms of the contract.

1-05.13 Superintendents, Labor and Equipment of Contractor [Modification]

(August 14, 2013 APWA GSP)

Delete the sixth and seventh paragraphs of this section.

1-05.15 Method of Serving Notices [Modification]

(March 25, 2009 APWA GSP)

Revise the second paragraph to read:

All correspondence from the Contractor shall be directed to the Project Engineer. All correspondence from the Contractor constituting any notification, notice of protest, notice of dispute, or other correspondence constituting notification required to be furnished under the Contract, must be in paper format, hand delivered or sent via mail delivery service to the Project Engineer's office. Electronic copies such as e-mails or electronically delivered copies of correspondence will not constitute such notice and will not comply with the requirements of the Contract.

1-05.16 Water and Power [New]

(October 1, 2005 APWA GSP)

The Contractor shall make necessary arrangements, and shall bear the costs for power and water necessary for the performance of the work, unless the contract includes power and water as a pay item.

1-06 CONTROL OF MATERIAL

1-06.1(4) Fabrication Inspection Expense

(June 27, 2011 AWPA GSP)

Delete this section in its entirety.

1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

1-07.1 Laws to be Observed [Supplement]

(October 1, 2005 APWA GSP)

Supplement this section with the following:

In cases of conflict between different safety regulations, the more stringent regulation shall apply.

The Washington State Department of Labor and Industries shall be the sole and paramount administrative agency responsible for the administration of the provisions of the Washington Industrial Safety and Health Act of 1973 (WISHA).

The Contractor shall maintain at the project site office, or other well known place at the project site, all articles necessary for providing first aid to the injured. The Contractor shall establish, publish, and make known to all employees, procedures for ensuring immediate removal to a hospital, or doctor's care, persons, including employees, who may have been injured on the project site. Employees should not be permitted to work on the project site before the Contractor has established and made known procedures for removal of injured persons to a hospital or a doctor's care.

The Contractor shall have sole responsibility for the safety, efficiency, and adequacy of the Contractor's plant, appliances, and methods, and for any damage or injury resulting from their failure, or improper maintenance, use, or operation. The Contractor shall be solely and completely responsible for the conditions of the project site, including safety for all persons and property in the performance of the work. This requirement shall apply continuously, and not be limited to normal working hours. The required or implied duty of the Engineer to conduct construction review of the Contractor's performance does not, and shall not, be intended to include review and adequacy of the Contractor's safety measures in, on, or near the project site.

1-07.1 Confined Space

[Supplement]

(April 3, 2006 WSDOT GSP)

Section 1-07.1 is supplemented with the following:

Confined spaces are known to exist at the following locations:

- Storm Structures
- Excavations

The Contractor shall be fully responsible for the safety and health of all on-site workers and compliant with Washington Administrative Code (WAC 296-809).

The Contractor shall prepare and implement a confined space program for each of the confined spaces identified above. The Contractor's Confined Space program shall be sent to the contracting agency at least 30 days prior to the Contractor beginning work in or adjacent to the confined space. No work shall be performed in or adjacent to the confined space until the plan is submitted to the Engineer as required. The Contractor shall communicate with the Project Engineer to ensure a coordinated effort for providing

and maintaining a safe worksite for both the Contracting Agency's and Contractor's workers when working in or near a confined space.

All costs to prepare and implement the confined space program shall be included in the bid prices for the various items associated with the confined space work.

1-07.2 State Sales Tax [Replacement]

Delete this section, including its sub-sections, in its entirety and replace it with the following:

1-07.2 State Sales Tax

(June 27, 2011 APWA GSP)

The Washington State Department of Revenue has issued special rules on the State sales tax. Sections 1-07.2(1) through 1-07.2(3) are meant to clarify those rules. The Contractor should contact the Washington State Department of Revenue for answers to questions in this area. The Contracting Agency will not adjust its payment if the Contractor bases a bid on a misunderstood tax liability.

The Contractor shall include all Contractor-paid taxes in the unit bid prices or other contract amounts. In some cases, however, state retail sales tax will not be included. Section 1-07.2(2) describes this exception.

The Contracting Agency will pay the retained percentage (or release the Contract Bond if a FHWA-funded Project) only if the Contractor has obtained from the Washington State Department of Revenue a certificate showing that all contract-related taxes have been paid (RCW 60.28.051). The Contracting Agency may deduct from its payments to the Contractor any amount the Contractor may owe the Washington State Department of Revenue, whether the amount owed relates to this contract or not. Any amount so deducted will be paid into the proper State fund.

1-07.2(1) State Sales Tax — Rule 171

WAC 458-20-171, and its related rules, apply to building, repairing, or improving streets, roads, etc., which are owned by a municipal corporation, or political subdivision of the state, or by the United States, and which are used primarily for foot or vehicular traffic. This includes storm or combined sewer systems within and included as a part of the street or road drainage system and power lines when such are part of the roadway lighting system. For work performed in such cases, the Contractor shall include Washington State Retail Sales Taxes in the various unit bid item prices, or other contract amounts, including those that the Contractor pays on the purchase of the materials, equipment, or supplies used or consumed in doing the work.

1-07.2(2) State Sales Tax — Rule 170

WAC 458-20-170, and its related rules, apply to the constructing and repairing of new or existing buildings, or other structures, upon real property. This includes, but is not limited to, the construction of streets, roads, highways, etc., owned by the state of Washington; water mains and their appurtenances; sanitary sewers and sewage disposal systems unless such sewers and disposal systems are within, and a part of, a street or road drainage system; telephone, telegraph, electrical power distribution lines, or other conduits or lines in or above streets or roads, unless such power lines become a part of a street or road lighting system; and installing or attaching of any article of tangible personal property in or to real property, whether or not such personal property becomes a part of the realty by virtue of installation.

For work performed in such cases, the Contractor shall collect from the Contracting Agency, retail sales tax on the full contract price. The Contracting Agency will automatically add this sales tax to each payment to the Contractor. For this reason, the Contractor shall not include the retail sales tax in the unit bid item prices, or in any other contract amount subject to Rule 170, with the following exception.

Exception: The Contracting Agency will not add in sales tax for a payment the Contractor or a subcontractor makes on the purchase or rental of tools, machinery, equipment, or consumable supplies not integrated into the project. Such sales taxes shall be included in the unit bid item prices or in any other contract amount.

1-07.2(3) Services

The Contractor shall not collect retail sales tax from the Contracting Agency on any contract wholly for professional or other services (as defined in Washington State Department of Revenue Rules 138 and 244).

1-07.13(4) Repair of Damage**[Supplement]**

(August 6, 2001 WSDOT GSP)

The Contractor shall promptly repair all damage to either temporary or permanent work as directed by the Engineer. For damage qualifying for relief under Sections 1-07.13(1), 1-07.13(2) or 1-07.13(3), payment will be made in accordance with Section 1-04.4. Payment will be limited to repair of damaged work only. No payment will be made for delay or disruption of work.

1-07.17 Utilities and Similar Facilities**[Supplement]**

Section 1-07.17 is supplemented with the following:

(April 2, 2007 WSDOT GSP)

Locations and dimensions shown in the Plans for existing facilities are in accordance with available information obtained without uncovering, measuring, or other verification.

Public and private utilities, or their Contractors, will furnish all work necessary to adjust, relocate, replace, or construct their facilities unless otherwise provided for in the Plans or these Special Provisions. Such adjustment, relocation, replacement, or construction will be done during the prosecution of the work for this project. It is anticipated that utility adjustment, relocation, replacement or construction within the project limits will be completed as follows:

All known utility conflicts (except water) have been relocated prior to construction. The Contractor shall work with utility providers for adjustment of castings to final grade and for the resolution of unknown utility conflicts.

The Contractor shall attend a mandatory utility preconstruction meeting with the Engineer, all affected Subcontractors, and all utility owners and their Contractors prior to beginning onsite work.

The following addresses and telephone numbers of utility companies known or suspected of having facilities within the project limits are supplied for the Contractor's convenience:

West Pierce Fire
District #2
7509 Grange West
Lakewood, Washington 98499
Telephone: 253.582.4600 (Station)
Fax: 253.582.7912

Tacoma Power
Attention: Joseph Rempe
3628 South 35th Street
Tacoma, Washington 98411-0007
Telephone: 253.502.8290
Fax: 253.502.8724

City of Lakewood Police Department
9401 Lakewood Drive SW
Lakewood, Washington 98499
Telephone: 253.830.5000
Fax: 253.830.5069

Comcast
Attention: Jim LeCompte
1225 Sylvan Way
Bremerton, WA 98310
Telephone: 253.896.5688
Fax: 253.864.4369

CenturyLink Engineering Department
Attention: Eric Charity
2510 South 84th Street, Suite 18
Lakewood, Washington 98499
Telephone: 206.733.8871
Fax: 253.589.1798

Lakewood Water District
Attention: Bobby Gaskin
P.O. BOX 99729
11900 Gravelly Lake Drive SW
Lakewood, Washington 98499
Telephone: 253.588.4423
Fax: 253.588.7150

Puget Sound Energy (Gas)
Attention: Amber Uhls
3130 S. 38th Street
Tacoma, WA 98409
Telephone: 253.476.6137
Fax: 253.476.6323

Puget Sound Energy (Power)
Attention: Cheryl Paras
3130 S. 38th Street
Tacoma, WA 98409
Telephone: 253.476.6300
Fax: 253.476.6323

Clover Park School District – Business Office
 Attn: Bruce Gardner
 10903 Gravelly Lake Drive SW
 Lakewood, WA 98499
 Telephone: 253.583.5011
 Fax: 253.583.5018

Pierce Transit
 Attention: Dixie Scaiqua
 3701 96th Street SW
 P.O. Box 99070
 Lakewood, Washington 98499-0070
 Telephone: 253.581.8001
 Fax: 253.984.8161

U.S. Post Office
 Lakewood Center Branch
 Attention: Tim Fox
 Lakewood, WA 98499
 Telephone: 800.275.8777

Pierce County Sewer
 Attention: Jason Weeks
 10311 Chambers Creek Road West
 Tacoma, WA 98467-1040
 Telephone: 253.798.4654
 Fax: 253.798.3023

Lakeview Light and Power
 Attention: Mark Hadman
 11509 Bridgeport Way SW
 Lakewood, WA 98499
 Telephone: 253.584.6060
 Fax: 253.588.9682

City of Lakewood Operations and Maintenance
 Attention: Scott Williams
 10309 C Lakeview Avenue
 Lakewood, Washington 98499
 Telephone: 253.377.4392
 Fax: 253.503.0653

Pierce County Traffic
 Attention: Rick Butner
 4301 S Pine ST, Suite 446
 Tacoma, Washington 98409
 Telephone: 253.531.6990

Underground Utilities Location Center
 ("One-Call Center")
 811

1-07.18 Public Liability and Property Damage Insurance [Replacement]

Delete this section in its entirety, and replace it with the following:

1-07.18 Insurance
(January 4, 2016 APWA GSP)

1-07.18(1) General Requirements

- A. The Contractor shall procure and maintain the insurance described in all subsections of section 1-07.18 of these Special Provisions, from insurers with a current A. M. Best rating of not less than A-: VII and licensed to do business in the State of Washington. The Contracting Agency reserves the right to approve or reject the insurance provided, based on the insurer's financial condition.
- B. The Contractor shall keep this insurance in force without interruption from the commencement of the Contractor's Work through the term of the Contract and for thirty (30) days after the Physical Completion date, unless otherwise indicated below.

- C. If any insurance policy is written on a claims made form, its retroactive date, and that of all subsequent renewals, shall be no later than the effective date of this Contract. The policy shall state that coverage is claims made, and state the retroactive date. Claims-made form coverage shall be maintained by the Contractor for a minimum of 36 months following the Completion Date or earlier termination of this Contract, and the Contractor shall annually provide the Contracting Agency with proof of renewal. If renewal of the claims made form of coverage becomes unavailable, or economically prohibitive, the Contractor shall purchase an extended reporting period (“tail”) or execute another form of guarantee acceptable to the Contracting Agency to assure financial responsibility for liability for services performed.
- D. The Contractor’s Automobile Liability, Commercial General Liability and Excess or Umbrella Liability insurance policies shall be primary and non-contributory insurance as respects the Contracting Agency’s insurance, self-insurance, or self-insured pool coverage. Any insurance, self-insurance, or self-insured pool coverage maintained by the Contracting Agency shall be excess of the Contractor’s insurance and shall not contribute with it.
- E. The Contractor shall provide the Contracting Agency and all additional insureds with written notice of any policy cancellation, within two business days of their receipt of such notice.
- F. The Contractor shall not begin work under the Contract until the required insurance has been obtained and approved by the Contracting Agency
- G. Failure on the part of the Contractor to maintain the insurance as required shall constitute a material breach of contract, upon which the Contracting Agency may, after giving five business days’ notice to the Contractor to correct the breach, immediately terminate the Contract or, at its discretion, procure or renew such insurance and pay any and all premiums in connection therewith, with any sums so expended to be repaid to the Contracting Agency on demand, or at the sole discretion of the Contracting Agency, offset against funds due the Contractor from the Contracting Agency.
- H. All costs for insurance shall be incidental to and included in the unit or lump sum prices of the Contract and no additional payment will be made.

1-07.18(2) Additional Insured

All insurance policies, with the exception of Workers Compensation, and of Professional Liability and Builder’s Risk (if required by this Contract) shall name the following listed entities as additional insured(s) using the forms or endorsements required herein:

- the Contracting Agency and its officers, elected officials, employees, agents, and volunteers
- BCRA, Inc.

The above-listed entities shall be additional insured(s) for the full available limits of liability maintained by the Contractor, irrespective of whether such limits maintained by

the Contractor are greater than those required by this Contract, and irrespective of whether the Certificate of Insurance provided by the Contractor pursuant to 1-07.18(4) describes limits lower than those maintained by the Contractor.

For Commercial General Liability insurance coverage, the required additional insured endorsements shall be at least as broad as ISO forms CG 20 10 10 01 for ongoing operations and CG 20 37 10 01 for completed operations.

1-07.18(3) Subcontractors

All insurance policies, with the exception of Workers Compensation, and of Professional Liability and Builder's Risk (if required by this Contract) shall name the following listed entities as additional insured(s) using the forms or endorsements required herein:

- the Contracting Agency and its officers, elected officials, employees, agents, and volunteers
- BCRA, Inc.

The above-listed entities shall be additional insured(s) for the full available limits of liability maintained by the Contractor, irrespective of whether such limits maintained by the Contractor are greater than those required by this Contract, and irrespective of whether the Certificate of Insurance provided by the Contractor pursuant to 1-07.18(4) describes limits lower than those maintained by the Contractor.

For Commercial General Liability insurance coverage, the required additional insured endorsements shall be at least as broad as ISO forms CG 20 10 10 01 for ongoing operations and CG 20 37 10 01 for completed operations.

1-07.18(4) Verification of Coverage

The Contractor shall deliver to the Contracting Agency a Certificate(s) of Insurance and endorsements for each policy of insurance meeting the requirements set forth herein when the Contractor delivers the signed Contract for the work. Failure of Contracting Agency to demand such verification of coverage with these insurance requirements or failure of Contracting Agency to identify a deficiency from the insurance documentation provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

Verification of coverage shall include:

1. An ACORD certificate or a form determined by the Contracting Agency to be equivalent.
2. Copies of all endorsements naming Contracting Agency and all other entities listed in 1-07.18(2) as additional insured(s), showing the policy number. The Contractor may submit a copy of any blanket additional insured clause from its policies instead of a separate endorsement.
3. Any other amendatory endorsements to show the coverage required herein.
4. A notation of coverage enhancements on the Certificate of Insurance shall not satisfy these requirements – actual endorsements must be submitted.

Upon request by the Contracting Agency, the Contractor shall forward to the Contracting Agency a full and certified copy of the insurance policy(s). If Builders Risk insurance is required on this Project, a full and certified copy of that policy is required when the Contractor delivers the signed Contract for the work.

1-07.18(5) Coverages and Limits

The Contractor shall deliver to the Contracting Agency a Certificate(s) of Insurance and endorsements for each policy of insurance meeting the requirements set forth herein when the Contractor delivers the signed Contract for the work. Failure of Contracting Agency to demand such verification of coverage with these insurance requirements or failure of Contracting Agency to identify a deficiency from the insurance documentation provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

Verification of coverage shall include:

1. An ACORD certificate or a form determined by the Contracting Agency to be equivalent.
2. Copies of all endorsements naming Contracting Agency and all other entities listed in 1-07.18(2) as additional insured(s), showing the policy number. The Contractor may submit a copy of any blanket additional insured clause from its policies instead of a separate endorsement.
3. Any other amendatory endorsements to show the coverage required herein.
4. A notation of coverage enhancements on the Certificate of Insurance shall not satisfy these requirements – actual endorsements must be submitted.

Upon request by the Contracting Agency, the Contractor shall forward to the Contracting Agency a full and certified copy of the insurance policy(s). If Builders Risk insurance is required on this Project, a full and certified copy of that policy is required when the Contractor delivers the signed Contract for the work.

1-07.18(5)A Commercial General Liability

Commercial General Liability insurance shall be written on coverage forms at least as broad as ISO occurrence form CG 00 01, including but not limited to liability arising from premises, operations, stop gap liability, independent contractors, products-completed operations, personal and advertising injury, and liability assumed under an insured contract. There shall be no exclusion for liability arising from explosion, collapse or underground property damage.

The Commercial General Liability insurance shall be endorsed to provide a per project general aggregate limit, using ISO form CG 25 03 05 09 or an equivalent endorsement.

Contractor shall maintain Commercial General Liability Insurance arising out of the Contractor's completed operations for at least three years following Substantial Completion of the Work.

Such policy must provide the following minimum limits:

\$1,000,000 Each Occurrence

\$2,000,000	General Aggregate
\$2,000,000	Products & Completed Operations Aggregate
\$1,000,000	Personal & Advertising Injury each offence
\$1,000,000	Stop Gap / Employers' Liability each accident

1-07.18(5)B Automobile Liability

Automobile Liability shall cover owned, non-owned, hired, and leased vehicles; and shall be written on a coverage form at least as broad as ISO form CA 00 01. If the work involves the transport of pollutants, the automobile liability policy shall include MCS 90 and CA 99 48 endorsements.

Such policy must provide the following minimum limit:

\$1,000,000	Combined single limit each accident
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1-07.18(5)C Workers' Compensation

The Contractor shall comply with Workers' Compensation coverage as required by the Industrial Insurance laws of the State of Washington.

1-07.23 Public Convenience and Safety**1-07.23(1) Construction Under Traffic****[Supplement]**

Section 7-07.23(1) is supplemented with the following:

(January 2, 2012 WSDOT GSP)

Work Zone Clear Zone

The Work Zone Clear Zone (WZCZ) applies during working and nonworking hours. The WZCZ applies only to temporary roadside objects introduced by the Contractor's operations and does not apply to preexisting conditions or permanent Work. Those work operations that are actively in progress shall be in accordance with adopted and approved Traffic Control Plans, and other contract requirements. During nonworking hours equipment or materials shall not be within the WZCZ unless they are protected by permanent guardrail or temporary concrete barrier. The use of temporary concrete barrier shall be permitted only if the Engineer approves the installation and location.

During actual hours of work, unless protected as described above, only materials absolutely necessary to construction shall be within the WZCZ and only construction vehicles absolutely necessary to construction shall be allowed within the WZCZ or allowed to stop or park on the shoulder of the roadway.

The Contractor's nonessential vehicles and employees private vehicles shall not be permitted to park within the WZCZ at any time unless protected as described above.

Deviation from the above requirements shall not occur unless the Contractor has requested the deviation in writing and the Engineer has provided written approval.

Minimum WZCZ distances are measured from the edge of traveled way and will be determined as follows:

Regulatory Posted Speed	Distance From Traveled Way (Feet)
35 mph or less	10*
40 mph	15
45 to 55 mph	20
60 mph or greater	30

* or 2-feet beyond the outside edge of sidewalk

(*****)

Lane closures are subject to the following restrictions:

Construction shall be phased in such a way to allow at least one lane of travel in each direction at all times except as noted below. Travel lanes shall consist of existing paved roadway or 4 inches of HMA base lift. Travel lanes shall not be allowed on crushed surfacing for more than 7 calendar days for any portion of the road alignment.

There shall be no delay to medical, fire, police, or other emergency vehicles with flashing lights or sirens. The Contractor shall alert all flaggers and personnel of this requirement.

Work requiring closure of more than 1 lane in any one direction shall be performed between the hours of 7 PM to 5 AM. This work includes but is not limited to;

- Roadway utility crossings
- Roadway overlay operations

Existing pedestrian routes and access points shall remain open and clear throughout the project limits and project duration. Closure of existing pedestrian routes and access points shall be limited to one side of the street at any given time and detours provided that shall meet the current MUTCD and PROWAG guidelines. Any temporary routes or alterations to the existing pedestrian routes to facilitate construction shall meet current MUTCD and PROWAG guidelines.

Access to existing bus stop locations shall be maintained at all times. With the approval of Pierce Transit, bus stop locations may be temporarily closed or relocated to facilitate construction. It shall be the Contractor’s responsibility to coordinate this effort.

If the Engineer determines the permitted closure hours adversely affect traffic, the Engineer may adjust the hours accordingly.

The Engineer will notify the Contractor in writing of any change in the closure hours.

No lane closures will be allowed on a holiday or holiday weekend, or after 12:00 PM (noon) on a day prior to a holiday or holiday weekend. Holidays that occur on Friday, Saturday, Sunday or Monday are considered a holiday weekend.

The project Work may require the closure of an intersection to traffic during the progress of the Work. Should an intersection be required to be closed a detour route shall be coordinated with the City of Lakewood. No more than one intersection shall be allowed to be closed at any time during the course of the Work.

1-07.24 Rights of Way

[Replacement]

(July 23, 2015 APWA GSP)

Delete this section and replace it with the following:

Street Right of Way lines, limits of easements, and limits of construction permits are indicated in the Plans. The Contractor's construction activities shall be confined within these limits, unless arrangements for use of private property are made.

Generally, the Contracting Agency will have obtained, prior to bid opening, all rights of way and easements, both permanent and temporary, necessary for carrying out the work. Exceptions to this are noted in the Bid Documents or will be brought to the Contractor's attention by a duly issued Addendum.

Whenever any of the work is accomplished on or through property other than public Right of Way, the Contractor shall meet and fulfill all covenants and stipulations of any easement agreement obtained by the Contracting Agency from the owner of the private property. Copies of the easement agreements may be included in the Contract Provisions or made available to the Contractor as soon as practical after they have been obtained by the Engineer.

Whenever easements or rights of entry have not been acquired prior to advertising, these areas are so noted in the Plans. The Contractor shall not proceed with any portion of the work in areas where right of way, easements or rights of entry have not been acquired until the Engineer certifies to the Contractor that the right of way or easement is available or that the right of entry has been received. If the Contractor is delayed due to acts of omission on the part of the Contracting Agency in obtaining easements, rights of entry or right of way, the Contractor will be entitled to an extension of time. The Contractor agrees that such delay shall not be a breach of contract.

Each property owner shall be given 48 hours notice prior to entry by the Contractor. This includes entry onto easements and private property where private improvements must be adjusted.

The Contractor shall be responsible for providing, without expense or liability to the Contracting Agency, any additional land and access thereto that the Contractor may desire for temporary construction facilities, storage of materials, or other Contractor

needs. However, before using any private property, whether adjoining the work or not, the Contractor shall file with the Engineer a written permission of the private property owner, and, upon vacating the premises, a written release from the property owner of each property disturbed or otherwise interfered with by reasons of construction pursued under this contract. The statement shall be signed by the private property owner, or proper authority acting for the owner of the private property affected, stating that permission has been granted to use the property and all necessary permits have been obtained or, in the case of a release, that the restoration of the property has been satisfactorily accomplished. The statement shall include the parcel number, address, and date of signature. Written releases must be filed with the Engineer before the Completion Date will be established.

1-08 PROSECUTION AND PROGRESS

Add the following new section:

1-08.0 Preliminary Matters

[New]

(May 25, 2006 APWA GSP)

1-08.0(1) Preconstruction Conference

(October 10, 2008 APWA GSP)

Prior to the Contractor beginning the work, a preconstruction conference will be held between the Contractor, the Engineer and such other interested parties as may be invited. The purpose of the preconstruction conference will be:

1. To review the initial progress schedule;
2. To establish a working understanding among the various parties associated or affected by the work;
3. To establish and review procedures for progress payment, notifications, approvals, submittals, etc.;
4. To establish normal working hours for the work;
5. To review safety standards and traffic control; and
6. To discuss such other related items as may be pertinent to the work.

The Contractor shall prepare and submit at the preconstruction conference the following:

1. A breakdown of all lump sum items;
2. A preliminary schedule of working drawing submittals; and
3. A list of material sources for approval if applicable.

1-08.0(2) Hours of Work

[New]

(December 8, 2014 APWA GSP)

Except in the case of emergency or unless otherwise approved by the Engineer, the normal working hours for the Contract shall be any consecutive 8-hour period between 7:00 a.m. and 6:00 p.m. Monday through Friday, exclusive of a lunch break. If the Contractor desires different than the normal working hours stated above, the request must be submitted in writing prior to the preconstruction conference, subject to the provisions below. The working hours for the Contract shall be established at or prior to the preconstruction conference.

All working hours and days are also subject to local permit and ordinance conditions (such as noise ordinances).

If the Contractor wishes to deviate from the established working hours, the Contractor shall submit a written request to the Engineer for consideration. This request shall state what hours are being requested, and why. Requests shall be submitted for review no later than 5 working days prior to the day(s) the Contractor is requesting to change the hours.

If the Contracting Agency approves such a deviation, such approval may be subject to certain other conditions, which will be detailed in writing. For example:

1. On non-Federal aid projects, requiring the Contractor to reimburse the Contracting Agency for the costs in excess of straight-time costs for Contracting Agency representatives who worked during such times. (The Engineer may require designated representatives to be present during the work. Representatives who may be deemed necessary by the Engineer include, but are not limited to: survey crews; personnel from the Contracting Agency's material testing lab; inspectors; and other Contracting Agency employees or third party consultants when, in the opinion of the Engineer, such work necessitates their presence.)
2. Considering the work performed on Saturdays, Sundays, and holidays as working days with regard to the contract time.
3. Considering multiple work shifts as multiple working days with respect to contract time even though the multiple shifts occur in a single 24-hour period.
4. If a 4-10 work schedule is requested and approved the non working day for the week will be charged as a working day.
5. If Davis Bacon wage rates apply to this Contract, all requirements must be met and recorded properly on certified payroll

1-08.3(2)A Type A Progress Schedule

[Revision]

(March 13, 2012 APWA GSP)

Revise this section to read:

The Contractor shall submit 3 copies of a Type A Progress Schedule no later than at the preconstruction conference, or some other mutually agreed upon submittal time. The schedule may be a critical path method (CPM) schedule, bar chart, or other standard schedule format. Regardless of which format used, the schedule shall

identify the critical path. The Engineer will evaluate the Type A Progress Schedule and approve or return the schedule for corrections within 15 calendar days of receiving the submittal.

1-08.4 Notice to Proceed and Prosecution of the Work [Replacement]

(July 23, 2015 APWA GSP)

Notice to Proceed will be given after the contract has been executed and the contract bond and evidence of insurance have been approved and filed by the Contracting Agency. The Contractor shall not commence with the work until the Notice to Proceed has been given by the Engineer. The Contractor shall commence construction activities on the project site within ten days of the Notice to Proceed Date, unless otherwise approved in writing. The Contractor shall diligently pursue the work to the physical completion date within the time specified in the contract. Voluntary shutdown or slowing of operations by the Contractor shall not relieve the Contractor of the responsibility to complete the work within the time(s) specified in the contract.

When shown in the Plans, the first order of work shall be the installation of high visibility fencing to delineate all areas for protection or restoration, as described in the Contract. Installation of high visibility fencing adjacent to the roadway shall occur after the placement of all necessary signs and traffic control devices in accordance with 1-10.1(2). Upon construction of the fencing, the Contractor shall request the Engineer to inspect the fence. No other work shall be performed on the site until the Contracting Agency has accepted the installation of high visibility fencing, as described in the Contract.

1-08.5 Time for Completion [Supplement]

This project shall be physically completed within 120 working days

(November 30, 2018 APWA GSP, Option B)

Revise the third and fourth paragraphs to read:

Contract time shall begin on the first working day following the 10th calendar day after the Notice to Proceed date. If the Contractor starts work on the project at an earlier date, then contract time shall begin on the first working day when onsite work begins.

Each working day shall be charged to the contract as it occurs, until the contract work is physically complete. If substantial completion has been granted and all the authorized working days have been used, charging of working days will cease. Each week the Engineer will provide the Contractor a statement that shows the number of working days: (1) charged to the contract the week before; (2) specified for the physical completion of the contract; and (3) remaining for the physical completion of the contract. The statement will also show the nonworking days and any partial or whole day the Engineer declares as unworkable. Within 10 calendar days after the date of each statement, the Contractor shall file a written protest of any alleged discrepancies in it. To be considered

by the Engineer, the protest shall be in sufficient detail to enable the Engineer to ascertain the basis and amount of time disputed. By not filing such detailed protest in that period, the Contractor shall be deemed as having accepted the statement as correct. If the Contractor is approved to work 10 hours a day and 4 days a week (a 4-10 schedule) and the fifth day of the week in which a 4-10 shift is worked would ordinarily be charged as a working day, then the fifth day of that week will be charged as a working day whether or not the Contractor works on that day.

Revise the sixth paragraph to read:

The Engineer will give the Contractor written notice of the completion date of the contract after all the Contractor's obligations under the contract have been performed by the Contractor. The following events must occur before the Completion Date can be established:

1. The physical work on the project must be complete; and
2. The Contractor must furnish all documentation required by the contract and required by law, to allow the Contracting Agency to process final acceptance of the contract. The following documents must be received by the Project Engineer prior to establishing a completion date:
 - a. *Certified Payrolls (per Section 1-07.9(5)).*
 - b. *Material Acceptance Certification Documents*
 - c. *Monthly Reports of Amounts Credited as DBE Participation, as required by the Contract Provisions.*
 - d. *Final Contract Voucher Certification*
 - e. *Copies of the approved "Affidavit of Prevailing Wages Paid" for the Contractor and all Subcontractors*
 - f. *A copy of the Notice of Termination sent to the Washington State Department of Ecology (Ecology); the elapse of 30 calendar days from the date of receipt of the Notice of Termination by Ecology; and no rejection of the Notice of Termination by Ecology. This requirement will not apply if the Construction Stormwater General Permit is transferred back to the Contracting Agency in accordance with Section 8-01.3(16).*
 - g. *Property owner releases per Section 1-07.24*

1-08.9 Liquidated Damages

[Revision]

(August 14, 2013 APWA GSP)

Revise the fourth paragraph to read:

When the Contract Work has progressed to Substantial Completion as defined in the Contract, the Engineer may determine that the work is Substantially Complete. The Engineer will notify the Contractor in writing of the Substantial Completion Date. For overruns in Contract time occurring after the date so established, the formula for liquidated damages shown above will not apply. For overruns in Contract time occurring after the Substantial Completion Date, liquidated damages shall be assessed on the basis of direct engineering and related costs assignable to the project until the actual Physical Completion Date of all the Contract Work. The

Contractor shall complete the remaining Work as promptly as possible. Upon request by the Project Engineer, the Contractor shall furnish a written schedule for completing the physical Work on the Contract.

1-09 MEASUREMENT AND PAYMENT

1-09.2(1) General Requirements for Weighing Equipment [Modification]

(July 23, 2015 APWA GSP, Option 2)

Revise item 4 of the fifth paragraph to read:

4. Test results and scale weight records for each day's hauling operations are provided to the Engineer daily. Reporting shall utilize WSDOT form 422-027, Scaleman's Daily Report, unless the printed ticket contains the same information that is on the Scaleman's Daily Report Form. The scale operator must provide AM and/or PM tare weights for each truck on the printed ticket.

1-09.6 Force Account [Supplement]

(October 10, 2008 APWA GSP)

Supplement this section with the following:

The Contracting Agency has estimated and included in the Proposal, dollar amounts for all items to be paid per force account, only to provide a common proposal for Bidders. All such dollar amounts are to become a part of Contractor's total bid. However, the Contracting Agency does not warrant expressly or by implication that the actual amount of work will correspond with those estimates. Payment will be made on the basis of the amount of work actually authorized by Engineer.

1-09.9 Payments [Modification]

(March 13, 2012 APWA GSP)

Supplement this section with the following:

Lump sum item breakdowns are not required when the bid price for the lump sum item is less than \$20,000.

1-09.11(3) Time Limitation and Jurisdiction [Modification]

(November 30, 2018 APWA GSP)

Revise this section to read:

For the convenience of the parties to the Contract it is mutually agreed by the parties that any claims or causes of action which the Contractor has against the Contracting Agency arising from the Contract shall be brought within 180 calendar days from the

date of final acceptance (Section 1-05.12) of the Contract by the Contracting Agency; and it is further agreed that any such claims or causes of action shall be brought only in the Superior Court of the county where the Contracting Agency headquarters is located, provided that where an action is asserted against a county, RCW 36.01.050 shall control venue and jurisdiction. The parties understand and agree that the Contractor's failure to bring suit within the time period provided, shall be a complete bar to any such claims or causes of action. It is further mutually agreed by the parties that when any claims or causes of action which the Contractor asserts against the Contracting Agency arising from the Contract are filed with the Contracting Agency or initiated in court, the Contractor shall permit the Contracting Agency to have timely access to any records deemed necessary by the Contracting Agency to assist in evaluating the claims or action.

1-09.13 Claim Resolution
1-09.13(3) Claims \$250,000 or Less **[Replacement]**
(October 1, 2005 APWA GSP)

This section to be deleted and replaced with:

The Contractor and the Contracting Agency mutually agree that those claims that total \$250,000 or less, submitted in accordance with Section 1-09.11 and not resolved by nonbinding ADR processes, shall be resolved through litigation unless the parties mutually agree in writing to resolve the claim through binding arbitration.

1-09.13(3)A Administration of Arbitration **[Modification]**
(November 30, 2018 APWA GSP)

Revise the third paragraph to read:

The Contracting Agency and the Contractor mutually agree to be bound by the decision of the arbitrator, and judgment upon the award rendered by the arbitrator may be entered in the Superior Court of the county in which the Contracting Agency's headquarters is located, provided that where claims subject to arbitration are asserted against a county, RCW 36.01.050 shall control venue and jurisdiction of the Superior Court. The decision of the arbitrator and the specific basis for the decision shall be in writing. The arbitrator shall use the Contract as a basis for decisions.

1-10 TEMPORARY TRAFFIC CONTROL

1-10.2 Traffic Control Management
1-10.2(1) General **[Supplement]**
(January 3, 2017 WSDOT GSP)

Section 1-10.2(1) is supplemented with the following:

Only training with WSDOT TCS card and WSDOT training curriculum is recognized in the State of Washington. The Traffic Control Supervisor shall be certified by one of the following:

The Northwest Laborers-Employers Training Trust
27055 Ohio Ave.
Kingston, WA 98346
(360) 297-3035

Evergreen Safety Council
12545 135th Ave. NE
Kirkland, WA 98034-8709
1-800-521-0778

The American Traffic Safety Services Association
15 Riverside Parkway, Suite 100
Fredericksburg, Virginia 22406-1022
Training Dept. Toll Free (877) 642-4637
Phone: (540) 368-1701

1-10.4(3) Measurement

[Supplement]

(August 2, 2004 WSDOT GSP)

Section 1-10.4(3) is supplemented with the following:

The bid proposal contains the item “Project Temporary Traffic Control,” lump sum and the additional temporary traffic control items listed below. The provisions of Section 1-10.4(1), Section 1-10.4(3), and Section 1-10.5(3) shall apply.

“Pedestrian Traffic Control”, Lump Sum

END OF DIVISION 1

DIVISION 2 EARTHWORK

2-01 CLEARING, GRUBBING, AND ROADSIDE CLEANUP

2-01.1 Description [Supplement]

The limits of clearing and grubbing (construction limits) shall be defined as being the cut and fill lines as shown in the Plans. Where shown on the plans, or in the opinion of the Engineer, or, any trees abutting or adjacent to the limits of clearing and grubbing are damaged and require removal, the Contractor shall remove such trees. For trees removed outside of the construction limits, stumps shall be ground to 12" below grade and roots that extend into within the improved roadway section shall be removed and disposed of.

Any trees flagged by the Engineer to remain within the clearing and grubbing limits shall be left undamaged by the Contractor's operations. Any marked trees damaged shall be replaced in kind at the Contractor's expense. For trees and shrubs which cannot be replaced in kind, the Contractor will be assessed damages equal to the triple value of the tree or shrub in accordance with Section 1-07.16(2) of the Standard Specifications.

Existing landscaping outside the construction limits, including but not limited to, sod, rockeries, irrigation systems, beauty bark, decorative gravel or rock, bushes, and shrubbery shall be protected from damage.

The property owners shall be responsible for removing and/or relocating trees, shrubs, curbing, ornamental plants, and any other decorative landscaping materials within the construction limits that they wish to save. **The Contractor shall give property owners 10 days written notice prior to removing landscaping materials.** All landscaping materials that remain in the construction limits shall be removed and disposed of, or relocated by the Contractor, in accordance with Section 2-01 of the Standard Specifications, these Special Provisions, and the Plans.

2-01.2 Disposal of Usable Material and Debris [Supplement]

The Contractor shall dispose of all debris by Disposal Method No. 2 - Waste Site.

2-01.3(2) Grubbing [Supplement]

The Contractor shall remove all stumps and roots within the improved roadway section area which falls between the back of sidewalk to the back of sidewalk.

2-01.3(4) Roadside Cleanup [Supplement]

The following list of work Items will be paid under the Force Account bid item "Roadside Cleanup" for work outside of the cut/fill limits when directed by the engineer:

1. If directed, fine grading of the areas outside the cut/fill limits, and

- 2. If directed, reshaping areas outside the cut/fill limits to blend naturally with the new construction and surroundings.

If the cut/fill line is not shown on the plans, roadside cleanup will be defined as the area outside of the right of way line or project limits.

2-01.5 Payment [Replacement]

Payment will be made for the following bid item:

Clearing and Grubbing	Lump Sum
Roadside Cleanup	Force Account

The lump sum bid price for “Clearing and Grubbing” shall be full compensation for all labor, materials, tools and equipment necessary to perform the work described in this section in accordance with the Contract Documents.

“Roadside Cleanup” shall be paid by force account as provided in Section 1-09.6. For the purpose of providing a common proposal for all bidders, the Contracting Agency has entered an amount for “Roadside Cleanup” in the Proposal to become a part of the total bid by the Contractor.

2-02 REMOVAL OF STRUCTURES AND OBSTRUCTIONS

2-02.1 Description [Supplement]

This work shall consist of the removal and disposal of various existing improvements, including but not limited to, pavement markings, drainage structures, foundations, junction boxes, fences, signs, mailbox supports/posts, and other items necessary for the accomplishment of the improvement.

It is to be understood that other aboveground or underground facilities not shown in the Plans may be encountered during the course of the work.

All utility valves, manholes, vaults, or pull boxes which are buried shall be conspicuously marked in a fashion acceptable to the Owner and Engineer by the Contractor to allow their location to be determined by the Engineer or utility personnel under adverse conditions (inclement weather or darkness).

Contractor shall check with the utility companies concerning any possible conflict prior to commencing excavation in any area. Contractor shall resolve all crossing and clearance problems with the utility company concerned. No excavation shall begin until all known facilities, in the vicinity of the excavation area, have been located and marked.

In addition to Contractor having all utilities field marked before starting work, Contractor shall have all utilities field marked after they are relocated in conjunction with this project.

At least 2 and not more than 10 business days prior to commencing any excavations for utility potholing or for any other purpose under this Contract, Contractor shall notify the Underground Utilities Location Center by telephone of the planned excavation and progress schedule. A business day is defined as any day other than Saturday, Sunday, or a legal local, state, or Federal holiday. Contractor is also warned that there may be utilities on the project that are not part of the One Call system. They must be contacted directly by Contractor for locations.

Contractor shall make arrangements 48 hours in advance with respective utility owners to have a representative present when their utility is exposed or modified, if the utility chooses to do so.

Existing utilities for telephone, power, gas, water, and television cable facilities shall be adjusted or relocated by the appropriate utility company unless otherwise noted in the Plans. These adjustments may be completed before Contractor begins work or may be performed in conjunction with the contract work. Contractor shall be entirely responsible for coordination with the utility companies and arranging for the movement or adjustment, either temporary or permanent, of their facilities within the project limits. See also Section 1-05.14 of the WSDOT Standard Specifications.

If or when utility conflicts occur, Contractor shall continue the construction process on other aspects of the project whenever possible. No additional compensation will be made to Contractor for reason of delay caused by the actions of any utility company and Contractor shall consider such costs to be incidental to the other items of the contract.

Resolution of Utility Conflicts

The Contractor shall immediately notify the Engineer upon discovery of any unknown utility conflict. The Contractor shall not perform any further work in the unknown utility conflict area until the Engineer has made a determination in the field of the nature of the work required and a written Field Change Authorization is issued.

Utility Potholing

The purpose of utility potholing is to assist the Engineer and Contractor in resolving unknown utility conflicts not shown in the Plans. The Contractor shall physically locate underground utilities in areas where conflicts are evident from the field markings or where requested by the Engineer using methods and equipment acceptable to the Engineer. The Contractor shall submit all potholing requests to the Engineer for approval, at least 2 working days before potholing is scheduled and coordinate with the survey crew to pick up exact utility location (horizontal and vertical) as directed by the Engineer.

In no way shall the work described under Utility Potholing relieve Contractor of any of the responsibilities described in Section 1-07.17 of the Standard Specifications and Special Provisions, and elsewhere in the Contract Documents.

2-02.3 Construction Requirements

[Supplement]

Unless so noted in these Special Provisions or shown in the Plans, no removed material may be placed in any embankment or fill within the project site.

2-02.3(4) Cutting Pavement, Sidewalks, and Curbs [New]

All transitions to existing asphalt or cement concrete driveways, parking lots, curb and gutter, and walkways shall be vertically sawcut full-depth with straight, uniform edges. Existing asphalt pavement roadway edge may be cut with a wheel, provided the wheel cut is full depth and no damage occurs to the pavement which is to remain. Neither impact tools nor pavement breakers may be used for trench crossing of existing pavement unless within the limits of full reconstruction. Trench crossing of existing pavement shall be vertically sawcut.

2-02.4 Measurement [Supplement]

Sawcutting existing cement and asphalt concrete pavements will be measured by the linear foot along the sawcut, full depth. Recutting of edges for pavement patching will not be measured for payment unless the Engineer has directed the Contractor to either widen or increase the depth of the trench such that additional sawcutting and pavement removal is required for pavement patching. No measurement for sawcutting will be made within the full reconstruction limits.

Each pothole will be measured and paid for per each. One pothole shall be defined as the work involved to locate a utility or utilities within an area inscribed within a 5-foot radius. Use of an air lance in multiple locations to determine locations of a single or grouping of utilities within a 5-foot radius shall be considered one pothole for the purposes of measurement and payment.

2-02.5 Payment [Supplement]

Payment will be made for the following bid item(s):

Removal of Structure and Obstruction	Lump Sum
Sawcutting	Per Linear Foot
Utility Potholing	Each
Utility Conflict Resolution	Force Account

The lump sum price for “Removal of Structure and Obstruction” shall also include backfill and compaction as required.

Demolition, removal, and disposal of all other structures and obstructions not covered under other bid items shall be included in the lump sum price for “Removal of Structure and Obstruction”, including but not limited to: abandoning utilities, abandonment and plugging of pipe, removal of pavement markings, existing posts, extruded curb, signs and supports, and removal of other miscellaneous street improvements.

The unit bid price per each for “Utility Potholing” shall be full pay for all work required to physically locate unknown utility conflicts upon approval of the Engineer.

“Utility Conflict Resolution” shall be paid by force account as provided in Section 1-09.6. For the purpose of providing a common proposal for all bidders, the Contracting Agency has entered an amount for “Utility Conflict Resolution” in the Proposal to become a part of the total bid by the Contractor.

2-03 ROADWAY EXCAVATION AND EMBANKMENT

2-03.3 Construction Requirements [Supplement]

Roadway excavation shall include the removal of all materials excavated from within the excavation limits, including but not limited to either asphalt concrete or cement concrete pavement.

Any changes to the proposed work as authorized by the Engineer that would alter these quantities will be calculated by the Engineer and submitted to the Contractor for review and verification. Once verified, the quantities shall be added to or subtracted from the quantities given in this Contract.

Any excavation or embankment beyond the limits indicated in the Plans, unless ordered by the Engineer, shall not be paid for. All work and material required to return these areas to their original conditions, as determined by the Engineer, shall be provided by the Contractor at his sole expense.

All areas shall be excavated, filled, and backfilled as necessary to comply with the grades shown in the Plans. In filled and backfilled areas, fine grading shall begin during the placement and the compaction of the final layer. In cut sections, fine grading shall begin within the final 6 inches of cut. Final grading shall produce a surface that is smooth and even, without abrupt changes in grade.

Excavation for curbs and gutters shall be accomplished by cutting accurately to the cross-sections, grades, and elevations shown. Care shall be taken not to excavate below the specified grades. The Contractor shall maintain all excavations free from detrimental quantities of leaves, brush, sticks, trash, and other debris until final acceptance of the Work.

Acceptable excavated native soils shall be used for roadway embankments, fill under sidewalks, planters, and for construction of fill slopes where shown in the Plans. Care shall be taken to place excavated material at the optimum moisture content to achieve the specified compaction. Any native material used for fill shall be free of organics and debris and have a maximum particle size of 6 inches. Materials which become saturated shall be stockpiled until they are conditioned to the proper moisture content.

The Contractor shall provide temporary drainage to keep the subgrade free from standing water.

It shall be the responsibility of the Contractor to prevent the native materials from becoming saturated with water. The measures may include sloping to drain, compacting the native materials, and diverting runoff away from the materials. If the Contractor fails

to take such preventative measures, any cost or delay related to drying the materials shall be at his own expense.

If the native materials become saturated, it shall be the responsibility of the Contractor to dry the materials to the optimum moisture content.

Following removal of topsoil or excavation to grade and before placement of fills or base courses, the subgrade under the roadway shall be proof-rolled to identify any soft or loose areas which may warrant additional compaction or excavation and replacement.

2-03.3(3) Excavation Below Grade [Supplement]

A subgrade trimmer is not required on this project, but all portions of Section 2-03 of the Standard Specifications shall apply as though a subgrade trimmer were specified.

2-03.3(14)B Earth Embankment Construction [Supplement]

Acceptable native materials shall be used for embankment construction prior to importing material. Native soils shall, at a minimum, meet the requirements of Common Borrow, Section 9-03.14(3) of the Standard Specifications, or as otherwise approved by the Engineer. After depletion of acceptable native soils, Gravel Borrow per Section 9-03.14(1) shall be used for permanent roadway embankment.

2-03.4 Measurement [Supplement]

Earthwork plan quantities listed in the Proposal are neat-line in-place quantities based on original ground cross-section data and do not account for clearing and grubbing, excavation for retaining walls, foundations or utilities. Earthwork plan quantities listed in the Proposal assume excavation and removal of 6" of unsuitable material within nonpaved areas and 4" of pavement section or unsuitable material within paved areas.

The neat-line in-place Roadway Excavation Incl. Haul quantity has been calculated to be 8,850 cubic yards. This is the final pay quantity.

The neat-line in-place Embankment Compaction quantity has been calculated to be 2,700 cubic yards. This is the final pay quantity.

The original ground cross-section data recorded previous to construction will be made available to the contractor for independent verification. Any discrepancies which materially affect the neat-line plan quantities shall be immediately conveyed to the City and documented by Contractor-supplied survey and calculations, using the average end area method. Should discrepancies materially affecting the plan quantities of earthwork be discovered, and verified by the Engineer, the unit prices for "Roadway Excavation Incl. Haul" and/or "Embankment Compaction" shall be adjusted accordingly based on the percent change from calculated plan quantities. No adjustment in quantities will be made for excavated material expansion or embanked material shrink.

2-03.5 Payment**[Supplement]**

Payment will be made for the following bid items:

Roadway Excavation Incl. Haul	Per Cubic Yard
Gravel Borrow Incl. Haul	Per Ton
Embankment Compaction	Per Cubic Yard

The unit contract price per cubic yard for “Roadway Excavation Incl. Haul”, shall be full pay for all labor, materials, tools and equipment necessary to accomplish the work, including but not limited to temporary drainage work, and hauling excavated materials to embankment areas, in accordance with the Contract Documents.

The unit contract price per ton for “Gravel Borrow Incl. Haul” shall be full pay for all labor, materials, tools and equipment including, but not be limited to, furnishing, loading, hauling, mixing, placing, grading, shaping, and compaction in accordance with the Contract Documents.

The unit contract price per cubic yard for “Embankment Compaction” shall be full pay for all labor, materials, tools and equipment necessary to accomplish the work and shall apply for construction of all embankments in accordance with the Contract Documents.

2-09 STRUCTURE EXCAVATION**2-09.1 Description****[Supplement]**

This work shall also consist of providing trench protection systems necessary for construction of utility structures and piping.

2-09.3(1)D Disposal of Excavated Material**[Replacement]**

The Engineer may direct the Contractor to dispose of excavated material in embankments and backfills within the project limits. Excess excavated material shall be hauled and legally disposed of off-site to a Contractor-provided location. All costs associated with hauling and disposing of excavated material shall be included in other bid items as no separate payment will be made.

2-09.3(3)1 General Requirements**[Supplement]**

The Contractor shall further, at his own expense, shore up, or otherwise protect all fences, buildings, walls, walks, curbs, pipe lines, sewers or other installations adjacent to any excavation which might be disturbed during the progress of work. The Contractor will be held liable for any damage which may result to neighboring property from his/her excavation or construction operations.

2-09.3(3)D Shoring and Cofferdams

[Supplement]

Definitions:

Trench protection systems are defined as any system installed after the excavation including, but not limited to: trench boxes, sliding trench shields and jacked shores.

2-09.4 Measurement

[Modification]

No specific unit of measurement will apply to “Trench Protection System” which shall be measured and paid as one lump sum and shall include all costs to provide trench protection and shoring or extra excavation and backfill for all utilities.

2-09.5 Payment

[Supplement]

Payment will be made for the following bid items:

Trench Protection System	Lump Sum
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The unit contract price per lump sum for “Trench Protection System” shall be full pay for all work necessary to provide protection systems for all work required under the contract. When extra excavation is used in lieu of a trench protection system or shoring, the lump sum contract price shall be full pay for all excavation, backfill, compaction, and other work required. If select backfill material is required for backfilling within the limits of structure excavation, it shall also be required as backfill material for the extra excavation at the Contractor’s expense.

END OF DIVISION 2

DIVISION 3 AGGREGATE PRODUCTION AND ACCEPTANCE

3-01 PRODUCTION FROM QUARRY AND PIT SITES

3-01.4 Contractor-Furnished Material Sources [Supplement]

No source has been provided for any materials necessary for the construction of this improvement.

If the sources of materials provided by the Contractor necessitate hauling over roads other than city streets, the Contractor shall, at his own cost and expense, make all arrangements for the use of the haul routes.

3-01.6 Payment [Replacement]

Delete Section 3-01.6 and replace it with the following:

All work covered under Division 3, which is performed by the Contractor, shall be considered included in the costs for furnishing of materials. All costs of acquiring, producing, and placing this material in the finished work shall be included in the unit and lump sum contract prices for the various items involved.

END OF DIVISION 3

DIVISION 4 BASES

4-04 BALLAST AND CRUSHED SURFACING

4-04.1 Description [Supplement]

Crushed surfacing shall be placed where shown in the Plans, as a base for sidewalks, driveways, and pavement, at existing driveways to provide temporary access, as backfill for unsuitable foundation excavation, at mailbox supports, or for any other purposes deemed necessary by the Engineer.

4-04.4 Measurement [Supplement]

Stockpiling of crushed surfacing materials shall not be allowed. Crushed surfacing materials used as a base course for drainage pipes and structures, driveway or project maintenance, pipe zone bedding, replacement of over excavated material performed in lieu of shoring or unauthorized over excavation will not be measured for payment and shall be considered incidental to other bid items.

Crushed surfacing materials used for temporary access and maintenance as required under Section 1-07.23(1) **will not be measured for payment** unless it is placed to final grades and maintained as such until paving.

Should the Contractor not prepare subgrade to the correct line and grades and crushed surfacing materials are placed in excess to the depth required by the plans, the excess depth will not be measured for payment but instead be considered to benefit the Contractor. The crushed surfacing materials shall be measured by neat line and that measurement converted to tons for deduction of payment.

4-04.5 Payment [Supplement]

Payment will be made for the following bid items:

Crushed Surfacing Top Course	Per Ton
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The unit contract price per ton for “Crushed Surfacing Top Course” shall also include furnishing, hauling, compacting, and removing and hauling to waste when required by the Engineer. Quantities have been entered in the Proposal for “Crushed Surfacing Top Course” for bidding purposes only. This item is not subject to the provisions of Section 1-04.6 of the Standard Specifications.

END OF DIVISION 4

DIVISION 5 SURFACE TREATMENTS AND PAVEMENTS

5-04 HOT MIX ASPHALT

(July 18, 2018 APWA GSP)

Delete Section 5-04 and amendments, Hot Mix Asphalt and replace it with the following:

5-04.1 Description

This Work shall consist of providing and placing one or more layers of plant-mixed hot mix asphalt (HMA) on a prepared foundation or base in accordance with these Specifications and the lines, grades, thicknesses, and typical cross-sections shown in the Plans. The manufacture of HMA may include warm mix asphalt (WMA) processes in accordance with these Specifications. WMA processes include organic additives, chemical additives, and foaming.

HMA shall be composed of asphalt binder and mineral materials as may be required, mixed in the proportions specified to provide a homogeneous, stable, and workable mixture.

5-04.2 Materials

Materials shall meet the requirements of the following sections:

Asphalt Binder	9-02.1(4)
Cationic Emulsified Asphalt	9-02.1(6)
Anti-Stripping Additive	9-02.4
HMA Additive	9-02.5
Aggregates	9-03.8
Recycled Asphalt Pavement	9-03.8(3)B
Mineral Filler	9-03.8(5)
Recycled Material	9-03.21
Portland Cement	9-01
Sand	9-03.1(2)
(As noted in 5-04.3(5)C for crack sealing)	
Joint Sealant	9-04.2
Foam Backer Rod	9-04.2(3)A

The Contract documents may establish that the various mineral materials required for the manufacture of HMA will be furnished in whole or in part by the Contracting Agency. If the documents do not establish the furnishing of any of these mineral materials by the Contracting Agency, the Contractor shall be required to furnish such materials in the amounts required for the designated mix. Mineral materials include coarse and fine aggregates, and mineral filler.

The Contractor may choose to utilize recycled asphalt pavement (RAP) in the production of HMA. The RAP may be from pavements removed under the Contract, if any, or pavement material from an existing stockpile.

The Contractor may use up to 20 percent RAP by total weight of HMA with no additional sampling or testing of the RAP. The RAP shall be sampled and tested at a frequency of one sample for every 1,000 tons produced and not less than ten samples per project. The asphalt content and gradation test data shall be reported to the Contracting Agency when submitting the mix design for approval on the QPL. The Contractor shall include the RAP as part of the mix design as defined in these Specifications.

The grade of asphalt binder shall be as required by the Contract. Blending of asphalt binder from different sources is not permitted.

The Contractor may only use warm mix asphalt (WMA) processes in the production of HMA with 20 percent or less RAP by total weight of HMA. The Contractor shall submit to the Engineer for approval the process that is proposed and how it will be used in the manufacture of HMA.

Production of aggregates shall comply with the requirements of Section 3-01. Preparation of stockpile site, the stockpiling of aggregates, and the removal of aggregates from stockpiles shall comply with the requirements of Section 3-02.

5-04.2(1) How to Get an HMA Mix Design on the QPL

If the contractor wishes to submit a mix design for inclusion in the Qualified Products List (QPL), please follow the WSDOT process outlined in Standard Specification 5-04.2(1).

5-04.2(2) Mix Design – Obtaining Project Approval

No paving shall begin prior to the approval of the mix design by the Engineer.

Nonstatistical evaluation will be used for all HMA not designated as Commercial HMA in the contract documents.

Commercial evaluation will be used for Commercial HMA and for other classes of HMA in the following applications: sidewalks, road approaches, ditches, slopes, paths, trails, gores, prelevel, and pavement repair. Other nonstructural applications of HMA accepted by commercial evaluation shall be as approved by the Project Engineer. Sampling and testing of HMA accepted by commercial evaluation will be at the option of the Project Engineer. The Proposal quantity of HMA that is accepted by commercial evaluation will be excluded from the quantities used in the determination of nonstatistical evaluation.

Nonstatistical Mix Design. Fifteen days prior to the first day of paving the contractor shall provide one of the following mix design verification certifications for Contracting Agency review;

- The WSDOT Mix Design Evaluation Report from the current WSDOT QPL, or one of the mix design verification certifications listed below.
- The proposed HMA mix design on WSDOT Form 350-042 with the seal and certification (stamp & sig-nature) of a valid licensed Washington State Professional Engineer.

- The Mix Design Report for the proposed HMA mix design developed by a qualified City or County laboratory that is within one year of the approval date.**

The mix design shall be performed by a lab accredited by a national authority such as Laboratory Accreditation Bureau, L-A-B for Construction Materials Testing, The Construction Materials Engineering Council (CMEC's) ISO 17025 or AASHTO Accreditation Program (AAP) and shall supply evidence of participation in the AASHTO: resource proficiency sample program.

Mix designs for HMA accepted by Nonstatistical evaluation shall;

- Have the aggregate structure and asphalt binder content determined in accordance with WSDOT Standard Operating Procedure 732 and meet the requirements of Sections 9-03.8(2), except that Hamburg testing for ruts and stripping are at the discretion of the Engineer, and 9-03.8(6).
- Have anti-strip requirements, if any, for the proposed mix design determined in accordance with AASHTO T 283 or T 324, or based on historic anti-strip and aggregate source compatibility from previous WSDOT lab testing.

At the discretion of the Engineer, agencies may accept verified mix designs older than 12 months from the original verification date with a certification from the Contractor that the materials and sources are the same as those shown on the original mix design.

Commercial Evaluation Approval of a mix design for "Commercial Evaluation" will be based on a review of the Contractor's submittal of WSDOT Form 350-042 (For commercial mixes, AASHTO T 324 evaluation is not required) or a Mix Design from the current WSDOT QPL or from one of the processes allowed by this section. Testing of the HMA by the Contracting Agency for mix design approval is not required.

For the Bid Item Commercial HMA, the Contractor shall select a class of HMA and design level of Equivalent Single Axle Loads (ESAL's) appropriate for the required use.

5-04.2(2)B Using Warm Mix Asphalt Processes

The Contractor may elect to use additives that reduce the optimum mixing temperature or serve as a compaction aid for producing HMA. Additives include organic additives, chemical additives and foaming processes. The use of Additives is subject to the following:

- Do not use additives that reduce the mixing temperature more than allowed in Section 5-04.3(6) in the production of mixtures.
- Before using additives, obtain the Engineer's approval using WSDOT Form 350-076 to describe the proposed additive and process.

5-04.3 Construction Requirements

5-04.3(1) Weather Limitations

Do not place HMA for wearing course on any Traveled Way beginning October 1st through March 31st of the following year without written concurrence from the Engineer.

Do not place HMA on any wet surface, or when the average surface temperatures are less than those specified below, or when weather conditions otherwise prevent the proper handling or finishing of the HMA.

Minimum Surface Temperature for Paving

Compacted Thickness (Feet)	Wearing Course	Other Courses
Less than 0.10	55°F	45°F
0.10 to .20	45°F	35°F
More than 0.20	35°F	35°F

5-04.3(2) Paving Under Traffic

When the Roadway being paved is open to traffic, the requirements of this Section shall apply.

The Contractor shall keep intersections open to traffic at all times except when paving the intersection or paving across the intersection. During such time, and provided that there has been an advance warning to the public, the intersection may be closed for the minimum time required to place and compact the mixture. In hot weather, the Engineer may require the application of water to the pavement to accelerate the finish rolling of the pavement and to shorten the time required before reopening to traffic.

Before closing an intersection, advance warning signs shall be placed and signs shall also be placed marking the detour or alternate route.

During paving operations, temporary pavement markings shall be maintained throughout the project. Temporary pavement markings shall be installed on the Roadway prior to opening to traffic. Temporary pavement markings shall be in accordance with Section 8-23.

All costs in connection with performing the Work in accordance with these requirements, except the cost of temporary pavement markings, shall be included in the unit Contract prices for the various Bid items involved in the Contract.

5-04.3(3) Equipment

5-04.3(3)A Mixing Plant

Plants used for the preparation of HMA shall conform to the following requirements:

1. **Equipment for Preparation of Asphalt Binder** – Tanks for the storage of asphalt binder shall be equipped to heat and hold the material at the required temperatures. The heating shall be accomplished by steam coils, electricity, or other approved means so that no flame shall be in contact with the storage tank. The circulating system for the asphalt binder shall be designed to ensure proper and continuous circulation during the operating period. A valve for the purpose of sampling the asphalt binder shall be placed in either the storage tank or in the supply line to the mixer.
2. **Thermometric Equipment** – An armored thermometer, capable of detecting temperature ranges expected in the HMA mix, shall be fixed in the asphalt binder feed line at a location near the charging valve at the mixer unit. The thermometer location shall be convenient and safe for access by Inspectors. The plant shall also be equipped with an approved dial-scale thermometer, a mercury actuated thermometer, an electric pyrometer, or another approved thermometric instrument placed at the discharge chute of the drier to automatically register or indicate the temperature of the heated aggregates. This device shall be in full view of the plant operator.
3. **Heating of Asphalt Binder** – The temperature of the asphalt binder shall not exceed the maximum recommended by the asphalt binder manufacturer nor shall it be below the minimum temperature required to maintain the asphalt binder in a homogeneous state. The asphalt binder shall be heated in a manner that will avoid local variations in heating. The heating method shall provide a continuous supply of asphalt binder to the mixer at a uniform average temperature with no individual variations exceeding 25°F. Also, when a WMA additive is included in the asphalt binder, the temperature of the asphalt binder shall not exceed the maximum recommended by the manufacturer of the WMA additive.
4. **Sampling and Testing of Mineral Materials** – The HMA plant shall be equipped with a mechanical sampler for the sampling of the mineral materials. The mechanical sampler shall meet the requirements of Section 1-05.6 for the crushing and screening operation. The Contractor shall provide for the setup and operation of the field-testing facilities of the Contracting Agency as provided for in Section 3-01.2(2).
5. **Sampling HMA** – The HMA plant shall provide for sampling HMA by one of the following methods:
 - a. A mechanical sampling device attached to the HMA plant.
 - b. Platforms or devices to enable sampling from the hauling vehicle without entering the hauling vehicle.

5-04.3(3)B Hauling Equipment

Trucks used for hauling HMA shall have tight, clean, smooth metal beds and shall have a cover of canvas or other suitable material of sufficient size to protect the mixture from adverse weather. Whenever the weather conditions during the work shift include, or are forecast to include, precipitation or an air temperature less than 45°F or when time from loading to unloading exceeds 30 minutes, the cover shall be securely attached to protect the HMA.

The contractor shall provide an environmentally benign means to prevent the HMA mixture from adhering to the hauling equipment. Excess release agent shall be drained prior to filling hauling equipment with HMA. Petroleum derivatives or other coating material that contaminate or alter the characteristics of the HMA shall not be used. For live bed trucks, the conveyer shall be in operation during the process of applying the release agent.

5-04.3(3)C Pavers

HMA pavers shall be self-contained, power-propelled units, provided with an internally heated vibratory screed and shall be capable of spreading and finishing courses of HMA plant mix material in lane widths required by the paving section shown in the Plans.

The HMA paver shall be in good condition and shall have the most current equipment available from the manufacturer for the prevention of segregation of the HMA mixture installed, in good condition, and in working order. The equipment certification shall list the make, model, and year of the paver and any equipment that has been retrofitted.

The screed shall be operated in accordance with the manufacturer's recommendations and shall effectively produce a finished surface of the required evenness and texture without tearing, shoving, segregating, or gouging the mixture. A copy of the manufacturer's recommendations shall be provided upon request by the Contracting Agency. Extensions will be allowed provided they produce the same results, including ride, density, and surface texture as obtained by the primary screed. Extensions without augers and an internally heated vibratory screed shall not be used in the Traveled Way.

When specified in the Contract, reference lines for vertical control will be required. Lines shall be placed on both outer edges of the Traveled Way of each Roadway. Horizontal control utilizing the reference line will be permitted. The grade and slope for intermediate lanes shall be controlled automatically from reference lines or by means of a mat referencing device and a slope control device. When the finish of the grade prepared for paving is superior to the established tolerances and when, in the opinion of the Engineer, further improvement to the line, grade, cross-section, and smoothness can best be achieved without the use of the reference line, a mat referencing device may be substituted for the reference line. Substitution of the device will be subject to the continued approval of the Engineer. A joint matcher may be used subject to the approval of the Engineer. The reference line may be removed after the completion of the first course of HMA when approved by the Engineer. Whenever the Engineer determines that any of these methods are failing to provide the necessary vertical control, the reference lines will be reinstalled by the Contractor.

The Contractor shall furnish and install all pins, brackets, tensioning devices, wire, and accessories necessary for satisfactory operation of the automatic control equipment.

If the paving machine in use is not providing the required finish, the Engineer may suspend Work as allowed by Section 1-08.6. Any cleaning or solvent type liquids spilled on the pavement shall be thoroughly removed before paving proceeds.

5-04.3(3)D Material Transfer Device or Material Transfer Vehicle

A Material Transfer Device/Vehicle (MTD/V) shall only be used with the Engineer's approval, unless other-wise required by the contract.

Where an MTD/V is required by the contract, the Engineer may approve paving without an MTD/V, at the request of the Contractor. The Engineer will determine if an equitable adjustment in cost or time is due.

When used, the MTD/V shall mix the HMA after delivery by the hauling equipment and prior to laydown by the paving machine. Mixing of the HMA shall be sufficient to obtain a uniform temperature throughout the mixture. If a windrow elevator is used, the length of the windrow may be limited in urban areas or through intersections, at the discretion of the Engineer.

To be approved for use, an MTV:

1. Shall be self-propelled vehicle, separate from the hauling vehicle or paver.
2. Shall not be connected to the hauling vehicle or paver.
3. May accept HMA directly from the haul vehicle or pick up HMA from a windrow.
4. Shall mix the HMA after delivery by the hauling equipment and prior to placement into the paving machine.
5. Shall mix the HMA sufficiently to obtain a uniform temperature throughout the mixture.

To be approved for use, an MTD:

1. Shall be positively connected to the paver.
2. May accept HMA directly from the haul vehicle or pick up HMA from a windrow.
3. Shall mix the HMA after delivery by the hauling equipment and prior to placement into the paving machine.
4. Shall mix the HMA sufficiently to obtain a uniform temperature throughout the mixture.

5-04.3(3)E Rollers

Rollers shall be of the steel wheel, vibratory, oscillatory, or pneumatic tire type, in good condition and capable of reversing without backlash. Operation of the roller shall be in accordance with the manufacturer's recommendations. When ordered by the Engineer for any roller planned for use on the project, the Contractor shall provide a copy of the manufacturer's recommendation for the use of that roller for compaction of HMA. The number and weight of rollers shall be sufficient to compact the mixture in compliance with the requirements of Section 5-04.3(10). The use of equipment that results in crushing of the aggregate will not be permitted. Rollers producing pickup, washboard, uneven compaction of the surface, displacement of the mixture or other undesirable results shall not be used.

5-04.3(4) Preparation of Existing Paved Surfaces

When the surface of the existing pavement or old base is irregular, the Contractor shall bring it to a uniform grade and cross-section as shown on the Plans or approved by the Engineer.

Preleveling of uneven or broken surfaces over which HMA is to be placed may be accomplished by using an asphalt paver, a motor patrol grader, or by hand raking, as approved by the Engineer.

Compaction of preleveling HMA shall be to the satisfaction of the Engineer and may require the use of small steel wheel rollers, plate compactors, or pneumatic rollers to avoid bridging across preleveled areas by the compaction equipment. Equipment used for the compaction of preleveling HMA shall be approved by the Engineer.

Before construction of HMA on an existing paved surface, the entire surface of the pavement shall be clean. All fatty asphalt patches, grease drippings, and other objectionable matter shall be entirely removed from the existing pavement. All pavements or bituminous surfaces shall be thoroughly cleaned of dust, soil, pavement grindings, and other foreign matter. All holes and small depressions shall be filled with an appropriate class of HMA. The surface of the patched area shall be leveled and compacted thoroughly. Prior to the application of tack coat, or paving, the condition of the surface shall be approved by the Engineer.

A tack coat of asphalt shall be applied to all paved surfaces on which any course of HMA is to be placed or abutted; except that tack coat may be omitted from clean, newly paved surfaces at the discretion of the Engineer. Tack coat shall be uniformly applied to cover the existing pavement with a thin film of residual asphalt free of streaks and bare spots at a rate between 0.02 and 0.10 gallons per square yard of retained asphalt. The rate of application shall be approved by the Engineer. A heavy application of tack coat shall be applied to all joints. For Roadways open to traffic, the application of tack coat shall be limited to surfaces that will be paved during the same working shift. The spreading equipment shall be equipped with a thermometer to indicate the temperature of the tack coat material.

Equipment shall not operate on tacked surfaces until the tack has broken and cured. If the Contractor's operation damages the tack coat it shall be repaired prior to placement of the HMA.

The tack coat shall be CSS-1, or CSS-1h emulsified asphalt. The CSS-1 and CSS-1h emulsified asphalt may be diluted once with water at a rate not to exceed one-part water to one-part emulsified asphalt. The tack coat shall have sufficient temperature such that it may be applied uniformly at the specified rate of application and shall not exceed the maximum temperature recommended by the emulsified asphalt manufacturer.

5-04.3(4)A Crack Sealing**5-04.3(4)A1 General**

When the Proposal includes a pay item for crack sealing, seal all cracks ¼ inch in width and greater.

Cleaning: Ensure that cracks are thoroughly clean, dry and free of all loose and foreign material when filling with crack sealant material. Use a hot compressed air lance to dry and warm the pavement surfaces within the crack immediately prior to filling a crack with the sealant material. Do not overheat pavement. Do not use direct flame dryers. Routing cracks is not required.

Sand Slurry: For cracks that are to be filled with sand slurry, thoroughly mix the components and pour the mixture into the cracks until full. Add additional CSS-1 cationic emulsified asphalt to the sand slurry as needed for workability to ensure the mixture will completely fill the cracks. Strike off the sand slurry flush with the existing pavement surface and allow the mixture to cure. Top off cracks that were not completely filled with additional sand slurry. Do not place the HMA overlay until the slurry has fully cured.

The sand slurry shall consist of approximately 20 percent CSS-1 emulsified asphalt, approximately 2 percent Portland cement, water (if required), and the remainder clean Class 1 or 2 fine aggregate per section 9-03.1(2). The components shall be thoroughly mixed and then poured into the cracks and joints until full. The following day, any cracks or joints that are not completely filled shall be topped off with additional sand slurry. After the sand slurry is placed, the filler shall be struck off flush with the existing pavement surface and allowed to cure. The HMA overlay shall not be placed until the slurry has fully cured. The requirements of Section 1-06 will not apply to the Portland cement and sand used in the sand slurry.

In areas where HMA will be placed, use sand slurry to fill the cracks.

In areas where HMA will not be placed, fill the cracks as follows:

1. Cracks ¼ inch to 1 inch in width - fill with hot poured sealant.
2. Cracks greater than 1 inch in width – fill with sand slurry.

Hot Poured Sealant: For cracks that are to be filled with hot poured sealant, apply the material in accordance with these requirements and the manufacturer's recommendations. Furnish a Type 1 Working Drawing of the manufacturer's product information and recommendations to the Engineer prior to the start of work, including the manufacturer's recommended heating time and temperatures, allowable storage time and temperatures after initial heating, allowable reheating criteria, and application temperature range. Confine hot poured sealant material within the crack. Clean any overflow of sealant from the pavement surface. If, in the opinion of the Engineer, the Contractor's method of sealing the cracks with hot poured sealant results in an excessive amount of material on the pavement surface, stop and correct the operation to eliminate the excess material.

5-04.3(4)A2 Crack Sealing Areas Prior to Paving

In areas where HMA will be placed, use sand slurry to fill the cracks.

5-04.3(4)A3 Crack Sealing Areas Not to be Paved

In areas where HMA will not be placed, fill the cracks as follows:

- A. Cracks ¼ inch to 1 inch in width - fill with hot poured sealant.
- B. Cracks greater than 1 inch in width – fill with sand slurry.

5-04.3(4)C Pavement Repair

The Contractor shall excavate pavement repair areas and shall backfill these with HMA in accordance with the details shown in the Plans and as marked in the field. The Contractor shall conduct the excavation operations in a manner that will protect the pavement that is to remain. Pavement not designated to be removed that is damaged as a result of the Contractor's operations shall be repaired by the Contractor to the satisfaction of the Engineer at no cost to the Contracting Agency. The Contractor shall excavate only within one lane at a time unless approved otherwise by the Engineer. The Contractor shall not excavate more area than can be completely finished during the same shift, unless approved by the Engineer.

Unless otherwise shown in the Plans or determined by the Engineer, excavate to a depth of 1.0 feet. The Engineer will make the final determination of the excavation depth required. The minimum width of any pavement repair area shall be 40 inches unless shown otherwise in the Plans. Before any excavation, the existing pavement shall be sawcut or shall be removed by a pavement grinder. Excavated materials will become the property of the Contractor and shall be disposed of in a Contractor-provided site off the Right of Way or used in accordance with Sections 2-02.3(3) or 9-03.21.

Asphalt for tack coat shall be required as specified in Section 5-04.3(4). A heavy application of tack coat shall be applied to all surfaces of existing pavement in the pavement repair area.

Placement of the HMA backfill shall be accomplished in lifts not to exceed 0.35-foot compacted depth. Lifts that exceed 0.35-foot of compacted depth may be accomplished with the approval of the Engineer. Each lift shall be thoroughly compacted by a mechanical tamper or a roller.

5-04.3(5) Producing/Stockpiling Aggregates and RAP

Aggregates and RAP shall be stockpiled according to the requirements of Section 3-02. Sufficient storage space shall be provided for each size of aggregate and RAP. Materials shall be removed from stockpile(s) in a manner to ensure minimal segregation when being moved to the HMA plant for processing into the final mixture. Different aggregate sizes shall be kept separated until they have been delivered to the HMA plant.

5-04.3(6) Mixing

After the required amount of mineral materials, asphalt binder, recycling agent and anti-stripping additives have been introduced into the mixer the HMA shall be mixed until complete and uniform coating of the particles and thorough distribution of the asphalt binder throughout the mineral materials is ensured.

When discharged, the temperature of the HMA shall not exceed the optimum mixing temperature by more than 25°F as shown on the reference mix design report or as approved by the Engineer. Also, when a WMA additive is included in the manufacture of HMA, the discharge temperature of the HMA shall not exceed the maximum recommended by the manufacturer of the WMA additive. A maximum water content of 2 percent in the mix, at discharge, will be allowed providing the water causes no problems with handling, stripping, or flushing. If the water in the HMA causes any of these problems, the moisture content shall be reduced as directed by the Engineer.

Storing or holding of the HMA in approved storage facilities will be permitted with approval of the Engineer, but in no event shall the HMA be held for more than 24 hours. HMA held for more than 24 hours after mixing shall be rejected. Rejected HMA shall be disposed of by the Contractor at no expense to the Contracting Agency. The storage facility shall have an accessible device located at the top of the cone or about the third point. The device shall indicate the amount of material in storage. No HMA shall be accepted from the storage facility when the HMA in storage is below the top of the cone of the storage facility, except as the storage facility is being emptied at the end of the working shift.

Recycled asphalt pavement (RAP) utilized in the production of HMA shall be sized prior to entering the mixer so that a uniform and thoroughly mixed HMA is produced. If there is evidence of the recycled asphalt pavement not breaking down during the heating and mixing of the HMA, the Contractor shall immediately suspend the use of the RAP until changes have been approved by the Engineer. After the required amount of mineral materials, RAP, new asphalt binder and asphalt rejuvenator have been introduced into the mixer the HMA shall be mixed until complete and uniform coating of the particles and thorough distribution of the asphalt binder throughout the mineral materials, and RAP is ensured.

5-04.3(7) Spreading and Finishing

The mixture shall be laid upon an approved surface, spread, and struck off to the grade and elevation established. HMA pavers complying with Section 5-04.3(3) shall be used to distribute the mixture. Unless otherwise directed by the Engineer, the nominal compacted depth of any layer of any course shall not exceed the following:

HMA Class 1"	0.35 feet
HMA Class ¾" and HMA Class ½"	
wearing course	0.30 feet
other courses	0.35 feet
HMA Class ⅜"	0.15 feet

On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the paving may be done with other equipment or by hand.

When more than one JMF is being utilized to produce HMA, the material produced for each JMF shall be placed by separate spreading and compacting equipment. The intermingling of HMA produced from more than one JMF is prohibited. Each strip of HMA placed during a work shift shall conform to a single JMF established for the class of HMA specified unless there is a need to make an adjustment in the JMF.

5-04.3(8) Aggregate Acceptance Prior to Incorporation in HMA

For HMA accepted by nonstatistical evaluation the aggregate properties of sand equivalent, uncompacted void content and fracture will be evaluated in accordance with Section 3-04. Sampling and testing of aggregates for HMA accepted by commercial evaluation will be at the option of the Engineer.

5-04.3(9) HMA Mixture Acceptance

Acceptance of HMA shall be as provided under nonstatistical, or commercial evaluation.

Nonstatistical evaluation will be used for the acceptance of HMA unless Commercial Evaluation is specified.

Commercial evaluation will be used for Commercial HMA and for other classes of HMA in the following applications: sidewalks, road approaches, ditches, slopes, paths, trails, gores, prelevel, temporary pavement, and pavement repair. Other nonstructural applications of HMA accepted by commercial evaluation shall be as approved by the Engineer. Sampling and testing of HMA accepted by commercial evaluation will be at the option of the Engineer.

The mix design will be the initial JMF for the class of HMA. The Contractor may request a change in the JMF. Any adjustments to the JMF will require the approval of the Engineer and may be made in accordance with this section.

HMA Tolerances and Adjustments

- Job Mix Formula Tolerances** – The constituents of the mixture at the time of acceptance shall be within tolerance. The tolerance limits will be established as follows:

For Asphalt Binder and Air Voids (Va), the acceptance limits are determined by adding the tolerances below to the approved JMF values. These values will also be the Upper Specification Limit (USL) and Lower Specification Limit (LSL) required in Section 1-06.2(2)D2

Property	Non-Statistical Evaluation	Commercial Evaluation
Asphalt Binder	+/- 0.5%	+/- 0.7%
Air Voids, Va	2.5% min. and 5.5% max	N/A

For Aggregates in the mixture:

- a. First, determine preliminary upper and lower acceptance limits by applying the following tolerances to the approved JMF.

Aggregate Percent Passing	Non-Statistical Evaluation	Commercial Evaluation
1", ¾", ½", and 3/8" sieves	+/- 6%	+/- 8%
No. 4 sieve	+/-6%	+/- 8%
No. 8 Sieve	+/- 6%	+/-8%
No. 200 sieve	+/- 2.0%	+/- 3.0%

- b. Second, adjust the preliminary upper and lower acceptance limits determined from step (a) the minimum amount necessary so that none of the aggregate properties are outside the control points in Section 9-03.8(6). The resulting values will be the upper and lower acceptance limits for aggregates, as well as the USL and LSL required in Section 1-06.2(2)D2.
2. Job Mix Formula Adjustments – An adjustment to the aggregate gradation or asphalt binder content of the JMF requires approval of the Engineer. Adjustments to the JMF will only be considered if the change produces material of equal or better quality and may require the development of a new mix design if the adjustment exceeds the amounts listed below.
- a. **Aggregates** –2 percent for the aggregate passing the 1½", 1", ¾", ½", ⅜", and the No. 4 sieves, 1 percent for aggregate passing the No. 8 sieve, and 0.5 percent for the aggregate passing the No. 200 sieve. The adjusted JMF shall be within the range of the control points in Section 9-03.8(6).
- b. **Asphalt Binder Content** – The Engineer may order or approve changes to asphalt binder content. The maximum adjustment from the approved mix design for the asphalt binder content shall be 0.3 percent

5-04.3(9)C Mixture Acceptance – Nonstatistical Evaluation

HMA mixture which is accepted by Nonstatistical Evaluation will be evaluated by the Contracting Agency by dividing the HMA tonnage into lots.

5-04.3(9)C1 Mixture Nonstatistical Evaluation – Lots and Sublots

A lot is represented by randomly selected samples of the same mix design that will be tested for acceptance. A lot is defined as the total quantity of material or work produced for each Job Mix Formula placed. Only one lot per JMF is expected. A subplot shall be equal to one day's production or 800 tons, whichever is less except that the final subplot will be a minimum of 400 tons and may be increased to 1200 tons.

All of the test results obtained from the acceptance samples from a given lot shall be evaluated collectively. If the Contractor requests a change to the JMF that is approved, the material produced after the change will be evaluated on the basis of the new JMF for the remaining sublots in the current lot and for acceptance of subsequent lots. For a lot in progress with a CPF less than 0.75, a new lot will begin at the Contractor's request

after the Engineer is satisfied that material conforming to the Specifications can be produced.

Sampling and testing for evaluation shall be performed on the frequency of one sample per subplot.

5-04.3(9)C2 Mixture Nonstatistical Evaluation Sampling

Samples for acceptance testing shall be obtained by the Contractor when ordered by the Engineer. The Contractor shall sample the HMA mixture in the presence of the Engineer and in accordance with AASH-TO T 168. A minimum of three samples should be taken for each class of HMA placed on a project. If used in a structural application, at least one of the three samples shall to be tested.

Sampling and testing HMA in a Structural application where quantities are less than 400 tons is at the discretion of the Engineer.

For HMA used in a structural application and with a total project quantity less than 800 tons but more than 400 tons, a minimum of one acceptance test shall be performed. In all cases, a minimum of 3 samples will be obtained at the point of acceptance, a minimum of one of the three samples will be tested for conformance to the JMF:

- If the test results are found to be within specification requirements, additional testing will be at the Engineer's discretion.
- If test results are found not to be within specification requirements, additional testing of the remaining samples to determine a Composite Pay Factor (CPF) shall be performed.

5-04.3(9)C3 Mixture Nonstatistical Evaluation – Acceptance Testing

Testing of HMA for compliance of V_a will at the option of the Contracting Agency. If tested, compliance of V_a will use WSDOT SOP 731.

Testing for compliance of asphalt binder content will be by WSDOT FOP for AASHTO T 308.

Testing for compliance of gradation will be by FOP for WAQTC T 27/T 11.

5-04.3(9)C4 Mixture Nonstatistical Evaluation – Pay Factors

For each lot of material falling outside the tolerance limits in 5-04.3(9), the Contracting Agency will determine a Composite Pay Factor (CPF) using the following price adjustment factors:

Table of Price Adjustment Factors	
Constituent	Factor "f"
All aggregate passing: 1½", 1", ¾", ½", ⅜" and No.4 sieves	2
All aggregate passing No. 8 sieve	15
All aggregate passing No. 200 sieve	20
Asphalt binder	40
Air Voids (Va) (where applicable)	20

Each lot of HMA produced under Nonstatistical Evaluation and having all constituents falling within the tolerance limits of the job mix formula shall be accepted at the unit Contract price with no further evaluation. When one or more constituents fall outside the nonstatistical tolerance limits in the Job Mix Formula shown in Table of Price Adjustment Factors, the lot shall be evaluated in accordance with Section 1-06.2 to determine the appropriate CPF. The nonstatistical tolerance limits will be used in the calculation of the CPF and the maximum CPF shall be 1.00. When less than three sublots exist, backup samples of the existing sublots or samples from the Roadway shall be tested to provide a minimum of three sets of results for evaluation.

5-04.3(9)C6 Mixture Nonstatistical Evaluation – Price Adjustments

For each lot of HMA mix produced under Nonstatistical Evaluation when the calculated CPF is less than 1.00, a Nonconforming Mix Factor (NCMF) will be determined. The NCMF equals the algebraic difference of CPF minus 1.00 multiplied by 60 percent. The total job mix compliance price adjustment will be calculated as the product of the NCMF, the quantity of HMA in the lot in tons, and the unit Contract price per ton of mix.

If a constituent is not measured in accordance with these Specifications, its individual pay factor will be considered 1.00 in calculating the Composite Pay Factor (CPF).

5-04.3(9)C7 Mixture Nonstatistical Evaluation - Retests

The Contractor may request a subplot be retested. To request a retest, the Contractor shall submit a written request within 7 calendar days after the specific test results have been received. A split of the original acceptance sample will be retested. The split of the sample will not be tested with the same tester that ran the original acceptance test. The sample will be tested for a complete gradation analysis, asphalt binder content, and, at the option of the agency, V_a . The results of the retest will be used for the acceptance of the HMA in place of the original subplot sample test results. The cost of testing will be

deducted from any monies due or that may come due the Contractor under the Contract at the rate of \$500 per sample.

5-04.3 (9)D Mixture Acceptance – Commercial Evaluation

If sampled and tested, HMA produced under Commercial Evaluation and having all constituents falling within the tolerance limits of the job mix formula shall be accepted at the unit Contract price with no further evaluation. When one or more constituents fall outside the commercial tolerance limits in the Job Mix Formula shown in 5-04.3(9), the lot shall be evaluated in accordance with Section 1-06.2 to determine the appropriate CPF. The commercial tolerance limits will be used in the calculation of the CPF and the maximum CPF shall be 1.00. When less than three sublots exist, backup samples of the existing sublots or samples from the street shall be tested to provide a minimum of three sets of results for evaluation.

For each lot of HMA mix produced and tested under Commercial Evaluation when the calculated CPF is less than 1.00, a Nonconforming Mix Factor (NCMF) will be determined. The NCMF equals the algebraic difference of CPF minus 1.00 multiplied by 60 percent. The Job Mix Compliance Price Adjustment will be calculated as the product of the NCMF, the quantity of HMA in the lot in tons, and the unit Contract price per ton of mix.

If a constituent is not measured in accordance with these Specifications, its individual pay factor will be considered 1.00 in calculating the Composite Pay Factor (CPF).

5-04.3(10) HMA Compaction Acceptance

HMA mixture accepted by nonstatistical evaluation that is used in traffic lanes, including lanes for intersections, ramps, truck climbing, weaving, and speed change, and having a specified compacted course thickness greater than 0.10-foot, shall be compacted to a specified level of relative density. The specified level of relative density shall be a Composite Pay Factor (CPF) of not less than 0.75 when evaluated in accordance with Section 1-06.2, using a LSL of 92.0 (minimum of 92 percent of the maximum density). The maximum density shall be determined by WSDOT FOP for AASHTO T 729. The specified level of density attained will be determined by the evaluation of the density of the pavement. The density of the pavement shall be determined in accordance with WSDOT FOP for WAQTC TM 8, except that gauge correlation will be at the discretion of the Engineer, when using the nuclear density gauge and WSDOT SOP 736 when using cores to determine density.

Tests for the determination of the pavement density will be taken in accordance with the required procedures for measurement by a nuclear density gauge or roadway cores after completion of the finish rolling.

If the Contracting Agency uses a nuclear density gauge to determine density the test procedures FOP for WAQTC TM 8 and WSDOT SOP T 729 will be used on the day the mix is placed and prior to opening to traffic.

Roadway cores for density may be obtained by either the Contracting Agency or the Contractor in accordance with WSDOT SOP 734. The core diameter shall be 4-inches minimum, unless otherwise approved by the Engineer. Roadway cores will be tested by the Contracting Agency in accordance with WSDOT FOP for AASHTO T 166.

If the Contract includes the Bid item "Roadway Core" the cores shall be obtained by the Contractor in the presence of the Engineer on the same day the mix is placed and at locations designated by the Engineer. If the Contract does not include the Bid item "Roadway Core" the Contracting Agency will obtain the cores.

For a lot in progress with a CPF less than 0.75, a new lot will begin at the Contractor's request after the Engineer is satisfied that material conforming to the Specifications can be produced.

HMA mixture accepted by commercial evaluation and HMA constructed under conditions other than those listed above shall be compacted on the basis of a test point evaluation of the compaction train. The test point evaluation shall be performed in accordance with instructions from the Engineer. The number of passes with an approved compaction train, required to attain the maximum test point density, shall be used on all subsequent paving.

HMA for preleveling shall be thoroughly compacted. HMA that is used for preleveling wheel rutting shall be compacted with a pneumatic tire roller unless otherwise approved by the Engineer.

Test Results

For a subplot that has been tested with a nuclear density gauge that did not meet the minimum of 92 percent of the reference maximum density in a compaction lot with a CPF below 1.00 and thus subject to a price reduction or rejection, the Contractor may request that a core be used for determination of the relative density of the subplot. The relative density of the core will replace the relative density determined by the nuclear density gauge for the subplot and will be used for calculation of the CPF and acceptance of HMA compaction lot.

When cores are taken by the Contracting Agency at the request of the Contractor, they shall be requested by noon of the next workday after the test results for the subplot have been provided or made available to the Contractor. Core locations shall be outside of wheel paths and as determined by the Engineer. Traffic control shall be provided by the Contractor as requested by the Engineer. Failure by the Contractor to provide the requested traffic control will result in forfeiture of the request for cores. When the CPF for the lot based on the results of the HMA cores is less than 1.00, the cost for the coring will be deducted from any monies due or that may become due the Contractor under the Contract at the rate of \$200 per core and the Contractor shall pay for the cost of the traffic control.

5-04.3(10)A HMA Compaction – General Compaction Requirements

Compaction shall take place when the mixture is in the proper condition so that no undue displacement, cracking, or shoving occurs. Areas inaccessible to large

compaction equipment shall be compacted by other mechanical means. Any HMA that becomes loose, broken, contaminated, shows an excess or deficiency of asphalt, or is in any way defective, shall be removed and replaced with new hot mix that shall be immediately compacted to conform to the surrounding area.

The type of rollers to be used and their relative position in the compaction sequence shall generally be the Contractor's option, provided the specified densities are attained. Unless the Engineer has approved otherwise, rollers shall only be operated in the static mode when the internal temperature of the mix is less than 175°F. Regardless of mix temperature, a roller shall not be operated in a mode that results in checking or cracking of the mat. Rollers shall only be operated in static mode on bridge decks.

5-04.3(10)B HMA Compaction – Cyclic Density

Low cyclic density areas are defined as spots or streaks in the pavement that are less than 90 percent of the theoretical maximum density. At the Engineer's discretion, the Engineer may evaluate the HMA pavement for low cyclic density, and when doing so will follow WSDOT SOP 733. A \$500 Cyclic Density Price Adjustment will be assessed for any 500-foot section with two or more density readings below 90 percent of the theoretical maximum density.

5-04.3(10)D HMA Nonstatistical Compaction

5-04.3(10)D1 HMA Nonstatistical Compaction – Lots and Sublots

HMA compaction which is accepted by nonstatistical evaluation will be based on acceptance testing performed by the Contracting Agency dividing the project into compaction lots.

A lot is represented by randomly selected samples of the same mix design that will be tested for acceptance. A lot is defined as the total quantity of material or work produced for each Job Mix Formula placed. Only one lot per JMF is expected. A subplot shall be equal to one day's production or 400 tons, whichever is less except that the final subplot will be a minimum of 200 tons and may be increased to 800 tons. Testing for compaction will be at the rate of 5 tests per subplot per WSDOT T 738.

The subplot locations within each density lot will be determined by the Engineer. For a lot in progress with a CPF less than 0.75, a new lot will begin at the Contractor's request after the Engineer is satisfied that material conforming to the Specifications can be produced.

HMA mixture accepted by commercial evaluation and HMA constructed under conditions other than those listed above shall be compacted on the basis of a test point evaluation of the compaction train. The test point evaluation shall be performed in accordance with instructions from the Engineer. The number of passes with an approved compaction train, required to attain the maximum test point density, shall be used on all subsequent paving.

HMA for preleveling shall be thoroughly compacted. HMA that is used to prelevel wheel ruts shall be compacted with a pneumatic tire roller unless otherwise approved by the Engineer.

5-04.3(10)D2 HMA Compaction Nonstatistical Evaluation – Acceptance Testing

The location of the HMA compaction acceptance tests will be randomly selected by the Engineer from within each subplot, with one test per subplot.

5-04.3(10)D3 HMA Nonstatistical Compaction – Price Adjustments

For each compaction lot with one or two sublots, having all sublots attain a relative density that is 92 percent of the reference maximum density the HMA shall be accepted at the unit Contract price with no further evaluation. When a subplot does not attain a relative density that is 92 percent of the reference maximum density, the lot shall be evaluated in accordance with Section 1-06.2 to determine the appropriate CPF. The maximum CPF shall be 1.00, however, lots with a calculated CPF in excess of 1.00 will be used to offset lots with CPF values below 1.00 but greater than 0.90. Lots with CPF lower than 0.90 will be evaluated for compliance per 5-04.3(11). Additional testing by either a nuclear moisture-density gauge or cores will be completed as required to provide a minimum of three tests for evaluation.

For compaction below the required 92% a Non-Conforming Compaction Factor (NCCF) will be determined. The NCCF equals the algebraic difference of CPF minus 1.00 multiplied by 40 percent. The Compaction Price Adjustment will be calculated as the product of CPF, the quantity of HMA in the compaction control lot in tons, and the unit Contract price per ton of mix.

5-04.3(11) Reject Work

5-04.3(11)A Reject Work General

Work that is defective or does not conform to Contract requirements shall be rejected. The Contractor may propose, in writing, alternatives to removal and replacement of rejected material. Acceptability of such alternative proposals will be determined at the sole discretion of the Engineer. HMA that has been rejected is subject to the requirements in Section 1-06.2(2) and this specification, and the Contractor shall submit a corrective action proposal to the Engineer for approval.

5-04.3(11)B Rejection by Contractor

The Contractor may, prior to sampling, elect to remove any defective material and replace it with new material. Any such new material will be sampled, tested, and evaluated for acceptance.

5-04.3(11)C Rejection Without Testing (Mixture or Compaction)

The Engineer may, without sampling, reject any batch, load, or section of Roadway that appears defective. Material rejected before placement shall not be incorporated into the pavement. Any rejected section of Roadway shall be removed.

No payment will be made for the rejected materials or the removal of the materials unless the Contractor requests that the rejected material be tested. If the Contractor elects to have the rejected material tested, a minimum of three representative samples will be obtained and tested. Acceptance of rejected material will be based on conformance with the nonstatistical acceptance Specification. If the CPF for the rejected material is less than 0.75, no payment will be made for the rejected material; in addition, the cost of sampling and testing shall be borne by the Contractor. If the CPF is greater than or equal to 0.75, the cost of sampling and testing will be borne by the Contracting Agency. If the material is rejected before placement and the CPF is greater than or equal to 0.75, compensation for the rejected material will be at a CPF of 0.75. If rejection occurs after placement and the CPF is greater than or equal to 0.75, compensation for the rejected material will be at the calculated CPF with an addition of 25 percent of the unit Contract price added for the cost of removal and disposal.

5-04.3(11)D Rejection - A Partial Sublot

In addition to the random acceptance sampling and testing, the Engineer may also isolate from a normal sublot any material that is suspected of being defective in relative density, gradation or asphalt binder content. Such isolated material will not include an original sample location. A minimum of three random samples of the suspect material will be obtained and tested. The material will then be statistically evaluated as an independent lot in accordance with Section 1-06.2(2).

5-04.3(11)E Rejection - An Entire Sublot

An entire sublot that is suspected of being defective may be rejected. When a sublot is rejected a minimum of two additional random samples from this sublot will be obtained. These additional samples and the original sublot will be evaluated as an independent lot in accordance with Section 1-06.2(2).

5-04.3(11)F Rejection - A Lot in Progress

The Contractor shall shut down operations and shall not resume HMA placement until such time as the Engineer is satisfied that material conforming to the Specifications can be produced:

1. When the Composite Pay Factor (CPF) of a lot in progress drops below 1.00 and the Contractor is taking no corrective action, or
2. When the Pay Factor (PF) for any constituent of a lot in progress drops below 0.95 and the Contractor is taking no corrective action, or
3. When either the PFi for any constituent or the CPF of a lot in progress is less than 0.75.

5-04.3(11)G Rejection - An Entire Lot (Mixture or Compaction)

An entire lot with a CPF of less than 0.75 will be rejected.

5-04.3(12) Joints**5-04.3(12)A HMA Joints****5-04.3(12)A1 Transverse Joints**

The Contractor shall conduct operations such that the placing of the top or wearing course is a continuous operation or as close to continuous as possible. Unscheduled transverse joints will be allowed and the roller may pass over the unprotected end of the freshly laid mixture only when the placement of the course must be discontinued for such a length of time that the mixture will cool below compaction temperature. When the Work is resumed, the previously compacted mixture shall be cut back to produce a slightly beveled edge for the full thickness of the course.

A temporary wedge of HMA constructed on a 20H:1V shall be constructed where a transverse joint as a result of paving or planing is open to traffic. The HMA in the temporary wedge shall be separated from the permanent HMA by strips of heavy wrapping paper or other methods approved by the Engineer. The wrapping paper shall be removed and the joint trimmed to a slightly beveled edge for the full thickness of the course prior to resumption of paving.

The material that is cut away shall be wasted and new mix shall be laid against the cut. Rollers or tamping irons shall be used to seal the joint.

5-04.3(12)A2 Longitudinal Joints

The longitudinal joint in any one course shall be offset from the course immediately below by not more than 6 inches nor less than 2 inches. All longitudinal joints constructed in the wearing course shall be located at a lane line or an edge line of the Traveled Way. A notched wedge joint shall be constructed along all longitudinal joints in the wearing surface of new HMA unless otherwise approved by the Engineer. The notched wedge joint shall have a vertical edge of not less than the maximum aggregate size or more than $\frac{1}{2}$ of the compacted lift thickness and then taper down on a slope not steeper than 4H:1V. The sloped portion of the HMA notched wedge joint shall be uniformly compacted.

5-04.3(12)B Bridge Paving Joint Seals**5-04.3(12)B1 HMA Sawcut and Seal**

Prior to placing HMA on the bridge deck, establish sawcut alignment points at both ends of the bridge paving joint seals to be placed at the bridge ends, and at interior joints within the bridge deck when and where shown in the Plans. Establish the sawcut alignment points in a manner that they remain functional for use in aligning the sawcut after placing the overlay.

Submit a Type 1 Working Drawing consisting of the sealant manufacturer's application procedure.

Construct the bridge paving joint seal as specified on the Plans and in accordance with the detail shown in the Standard Plans. Construct the sawcut in accordance with the

detail shown in the Standard Plan. Construct the sawcut in accordance with Section 5-05.3(8)B and the manufacturer's application procedure.

5-04.3(12)B2 Paved Panel Joint Seal

Construct the paved panel joint seal in accordance with the requirements specified in section 5-04.3(12)B1 and the following requirement:

1. Clean and seal the existing joint between concrete panels in accordance with Section 5-01.3(8) and the details shown in the Standard Plans.

5-04.3(13) Surface Smoothness

The completed surface of all courses shall be of uniform texture, smooth, uniform as to crown and grade, and free from defects of all kinds. The completed surface of the wearing course shall not vary more than $\frac{1}{8}$ inch from the lower edge of a 10-foot straightedge placed on the surface parallel to the centerline. The transverse slope of the completed surface of the wearing course shall vary not more than $\frac{1}{4}$ inch in 10 feet from the rate of transverse slope shown in the Plans.

When deviations in excess of the above tolerances are found that result from a high place in the HMA, the pavement surface shall be corrected by one of the following methods:

1. Removal of material from high places by grinding with an approved grinding machine, or
2. Removal and replacement of the wearing course of HMA, or
3. By other method approved by the Engineer.

Correction of defects shall be carried out until there are no deviations anywhere greater than the allowable tolerances.

Deviations in excess of the above tolerances that result from a low place in the HMA and deviations resulting from a high place where corrective action, in the opinion of the Engineer, will not produce satisfactory results will be accepted with a price adjustment. The Engineer shall deduct from monies due or that may become due to the Contractor the sum of \$500.00 for each and every section of single traffic lane 100 feet in length in which any excessive deviations described above are found.

When utility appurtenances such as manhole covers and valve boxes are located in the traveled way, the utility appurtenances shall be adjusted to the finished grade prior to paving. This requirement may be waived when requested by the Contractor, at the discretion of the Engineer or when the adjustment details provided in the project plan or specifications call for utility appurtenance adjustments after the completion of paving.

Utility appurtenance adjustment discussions will be included in the Pre-Paving planning (5-04.3(14)B3). Submit a written request to waive this requirement to the Engineer prior to the start of paving.

5-04.3(14) Planing (Milling) Bituminous Pavement

The planning plan must be approved by the Engineer and a pre planning meeting must be held prior to the start of any planing. See Section 5-04.3(14)B2 for information on planning submittals.

Locations of existing surfacing to be planed are as shown in the Drawings.

Where planing an existing pavement is specified in the Contract, the Contractor must remove existing surfacing material and to reshape the surface to remove irregularities. The finished product must be a prepared surface acceptable for receiving an HMA overlay.

Use the cold milling method for planing unless otherwise specified in the Contract. Do not use the planer on the final wearing course of new HMA.

Conduct planing operations in a manner that does not tear, break, burn, or otherwise damage the surface which is to remain. The finished planed surface must be slightly grooved or roughened and must be free from gouges, deep grooves, ridges, or other imperfections. The Contractor must repair any damage to the surface by the Contractor's planing equipment, using an Engineer approved method.

Repair or replace any metal castings and other surface improvements damaged by planing, as determined by the Engineer.

A tapered wedge cut must be planed longitudinally along curb lines sufficient to provide a minimum of 4 inches of curb reveal after placement and compaction of the final wearing course. The dimensions of the wedge must be as shown on the Drawings or as specified by the Engineer.

A tapered wedge cut must also be made at transitions to adjoining pavement surfaces (meet lines) where butt joints are shown on the Drawings. Cut butt joints in a straight line with vertical faces 2 inches or more in height, producing a smooth transition to the existing adjoining pavement.

After planing is complete, planed surfaces must be swept, cleaned, and if required by the Contract, patched and preleveled.

The Engineer may direct additional depth planing. Before performing this additional depth planing, the Contractor must conduct a hidden metal in pavement detection survey as specified in Section 5-04.3(14)A.

5-04.3(14)A Pre-Planing Metal Detection Check

Before starting planing of pavements, and before any additional depth planing required by the Engineer, the Contractor must conduct a physical survey of existing pavement to be planed with equipment that can identify hidden metal objects.

Should such metal be identified, promptly notify the Engineer.

See Section 1-07.16(1) regarding the protection of survey monumentation that may be hidden in pavement.

The Contractor is solely responsible for any damage to equipment resulting from the Contractor's failure to conduct a pre-planing metal detection survey, or from the Contractor's failure to notify the Engineer of any hidden metal that is detected.

5-04.3(14)B Paving and Planing Under Traffic

5-04.3(14)B1 General

In addition, the requirements of Section 1-07.23 and the traffic controls required in Section 1-10, and unless the Contract specifies otherwise or the Engineer approves, the Contractor must comply with the following:

1. Intersections:
 - a. Keep intersections open to traffic at all times, except when paving or planing operations through an intersection requires closure. Such closure must be kept to the minimum time required to place and compact the HMA mixture, or plane as appropriate. For paving, schedule such closure to individual lanes or portions thereof that allows the traffic volumes and schedule of traffic volumes required in the approved traffic control plan. Schedule work so that adjacent intersections are not impacted at the same time and comply with the traffic control restrictions required by the Traffic Engineer. Each individual intersection closure or partial closure, must be addressed in the traffic control plan, which must be submitted to and accepted by the Engineer, see Section 1-10.2(2).
 - b. When planing or paving and related construction must occur in an intersection, consider scheduling and sequencing such work into quarters of the intersection, or half or more of an intersection with side street detours. Be prepared to sequence the work to individual lanes or portions thereof.
 - c. Should closure of the intersection in its entirety be necessary, and no trolley service is impacted, keep such closure to the minimum time required to place and compact the HMA mixture, plane, remove asphalt, tack coat, and as needed.
 - d. Any work in an intersection requires advance warning in both signage and a number of Working Days advance notice as determined by the Engineer, to alert traffic and emergency services of the intersection closure or partial closure.
 - e. Allow new compacted HMA asphalt to cool to ambient temperature before any traffic is allowed on it. Traffic is not allowed on newly placed asphalt until approval has been obtained from the Engineer.
2. Temporary centerline marking, post-paving temporary marking, temporary stop bars, and maintaining temporary pavement marking must comply with Section 8-23.
3. Permanent pavement marking must comply with Section 8-22.

5-04.3(14)B2 Submittals – Planing Plan and HMA Paving Plan

The Contractor must submit a separate planing plan and a separate paving plan to the Engineer at least 5 Working Days in advance of each operation's activity start date. These plans must show how the moving operation and traffic control are coordinated, as they will be discussed at the pre-planing briefing and pre-paving briefing. When requested by the Engineer, the Contractor must provide each operation's traffic control plan on 24 x 36 inch or larger size Shop Drawings with a scale showing both the area of operation and sufficient detail of traffic beyond the area of operation where detour traffic may be required. The scale on the Shop Drawings is 1 inch = 20 feet, which may be changed if the Engineer agrees sufficient detail is shown.

The planing operation and the paving operation include, but are not limited to, metal detection, removal of asphalt and temporary asphalt of any kind, tack coat and drying, staging of supply trucks, paving trains, rolling, scheduling, and as may be discussed at the briefing.

When intersections will be partially or totally blocked, provide adequately sized and noticeable signage alerting traffic of closures to come, a minimum 2 Working Days in advance. The traffic control plan must show where police officers will be stationed when signalization is or may be, countermanded, and show areas where flaggers are proposed.

At a minimum, the planing and the paving plan must include:

1. A copy of the accepted traffic control plan, see Section 1-10.2(2), detailing each day's traffic control as it relates to the specific requirements of that day's planing and paving. Briefly describe the sequencing of traffic control consistent with the proposed planing and paving sequence, and scheduling of placement of temporary pavement markings and channelizing devices after each day's planing, and paving.
2. A copy of each intersection's traffic control plan.
3. Haul routes from Supplier facilities, and locations of temporary parking and staging areas, including return routes. Describe the complete round trip as it relates to the sequencing of paving operations.
4. Names and locations of HMA Supplier facilities to be used.
5. List of all equipment to be used for paving.
6. List of personnel and associated job classification assigned to each piece of paving equipment.
7. Description (geometric or narrative) of the scheduled sequence of planing and of paving, and intended area of planing and of paving for each day's work, must include the directions of proposed planing and of proposed paving, sequence of adjacent lane paving, sequence of skipped lane paving, intersection planing and paving scheduling and sequencing, and proposed notifications and coordinations to be timely made. The plan must show HMA joints relative to the final pavement marking lane lines.
8. Names, job titles, and contact information for field, office, and plant supervisory personnel.
9. A copy of the approved Mix Designs.

10. Tonnage of HMA to be placed each day.
11. Approximate times and days for starting and ending daily operations.

5-04.3(14)B3 Pre-Paving and Pre-Planing Briefing

At least 2 Working Days before the first paving operation and the first planing operation, or as scheduled by the Engineer for future paving and planing operations to ensure the Contractor has adequately prepared for notifying and coordinating as required in the Contract, the Contractor must be prepared to discuss that day's operations as they relate to other entities and to public safety and convenience, including driveway and business access, garbage truck operations, Metro transit operations and working around energized overhead wires, school and nursing home and hospital and other accesses, other contractors who may be operating in the area, pedestrian and bicycle traffic, and emergency services. The Contractor, and Subcontractors that may be part of that day's operations, must meet with the Engineer and discuss the proposed operation as it relates to the submitted planing plan and paving plan, approved traffic control plan, and public convenience and safety. Such discussion includes, but is not limited to:

1. General for both Paving Plan and for Planing Plan:
 - a. The actual times of starting and ending daily operations.
 - b. In intersections, how to break up the intersection, and address traffic control and signalization for that operation, including use of peace officers.
 - c. The sequencing and scheduling of paving operations and of planing operations, as applicable, as it relates to traffic control, to public convenience and safety, and to other contractors who may operate in the Project Site.
 - d. Notifications required of Contractor activities, and coordinating with other entities and the public as necessary.
 - e. Description of the sequencing of installation and types of temporary pavement markings as it relates to planning and to paving.
 - f. Description of the sequencing of installation of, and the removal of, temporary pavement patch material around exposed castings and as may be needed
 - g. Description of procedures and equipment to identify hidden metal in the pavement, such as survey monumentation, monitoring wells, street car rail, and castings, before planning, see Section 5-04.3(14)B2.
 - h. Description of how flaggers will be coordinated with the planing, paving, and related operations.
 - i. Description of sequencing of traffic controls for the process of rigid pavement base repairs.
 - j. Other items the Engineer deems necessary to address.
2. Paving – additional topics:
 - a. When to start applying tack and coordinating with paving.
 - b. Types of equipment and numbers of each type equipment to be used. If more pieces of equipment than personnel are proposed, describe the sequencing of the personnel operating the types of equipment. Discuss the continuance of operator personnel for each type equipment as it relates to meeting Specification requirements.

- c. Number of JMFs to be placed, and if more than one JMF how the Contractor will ensure different JMFs are distinguished, how pavers and MTVs are distinguished if more than one JMF is being placed at the time, and how pavers and MTVs are cleaned so that one JMF does not adversely influence the other JMF.
- d. Description of contingency plans for that day’s operations such as equipment breakdown, rain out, and Supplier shutdown of operations.
- e. Number of sublots to be placed, sequencing of density testing, and other sampling and testing.

5-04.3(15) Sealing Pavement Surfaces

Apply a fog seal where shown in the plans. Construct the fog seal in accordance with Section 5-02.3. Unless otherwise approved by the Engineer, apply the fog seal prior to opening to traffic.

5-04.3(16) HMA Road Approaches

HMA approaches shall be constructed at the locations shown in the Plans or where staked by the Engineer. The Work shall be performed in accordance with Section 5-04.

5-04.4 Measurement

HMA Class 1/2” PG 64 -22 shall be measured per ton by delivery ticket for the following applications:

- base and wearing course between curb line to curb line
- driveway approach
- road widening
- road repair
- trench patching
- parking/driving areas behind back of sidewalk

5-04.5 Payment

Payment will be made for each of the following Bid items that are included in the Proposal:

HMA Class 1/2” PG 58H-22	Per Ton
HMA for Approach and Patching Cl. 1/2” PG 58H-22	Per Ton

The unit Contract price per ton for “HMA Class 1/2” PG 58H-22”, and “HMA for Approach Class 1/2” PG 58H-22” shall be full pay for all labor, materials, tools and equipment necessary to accomplish the specified work, including but not limited to, tack coat, joint sealing, feathering, hauling, placing, wedge curb, and compacting accordance with the Contract Documents.

5-05 CEMENT CONCRETE PAVEMENT

5-05.1 Description [Supplement]

This work shall consist construction of raised crosswalks as shown in the Contract Documents.

5-05.4 Measurement [Supplement]

Raised Crosswalk will be measured by the square yard of the finished surface including integral curbs.

5-05.5 Payment [Supplement]

Payment will be made for the following bid items:

Raised Crosswalk	Per Square Yard
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The unit contract price per square yard for "Raised Crosswalk" shall be full pay for all labor, materials, tools and equipment necessary to provide raised crosswalks in accordance with the Contract Documents, except for those costs included in other items, which are included in this Subsection and are included in the Proposal.

END OF DIVISION 5

DIVISION 6 STRUCTURES

6-02 CONCRETE STRUCTURES

6-02.1 Description [Supplement]

This work shall consist construction of cast-in-place concrete walls as shown in the Contract Documents.

6-02.3(7) Concrete Color [Supplement]

The concrete color for the cast-in-place concrete wall shall be one of the following, or approved equal:

1. Scofield CHROMIX Admixture, color: C-34 Dark Gray
2. Davis Colors Powdered Pigment Admixture, color: Dark Gray (Carbon) 8084
3. Solomon Colors Dry Integral Color, color: 467 Rustique

Cast-In-Place Concrete Walls shall be sealed with a sealer approved by the manufacturer of the integral color admixture. The sealer shall be applied in accordance with the manufacturer’s recommendations.

Submit color cards to the Engineer as a part of the integrally colored concrete submittal.

6-02.4 Measurement [Supplement]

Cast-In-Place Concrete Wall will be measured by the square foot of exposed wall face in the final condition and will not include the wall face below grade or the footing below grade.

6-02.5 Payment [Supplement]

Payment will be made for the following bid items:

Cast-In-Place Concrete Wall	Per Square Foot
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The unit contract price per square foot for “Cast-In-Place Concrete Wall” shall be full pay for all labor, materials, tools and equipment necessary to provide complete walls, including but not limited to excavation, shoring, crushed rock leveling pad, reinforcing steel, thickened sidewalk edge, pre-molded joint filler, backfill, and compaction, in accordance with the Contract Documents.

END OF DIVISION 6

DIVISION 7 DRAINAGE STRUCTURES, STORM SEWERS, SANITARY SEWERS, WATER MAINS AND CONDUITS

7-04 STORM SEWERS

7-04.4 Measurement [Modification]

Delete the second sentence of the first paragraph and replace it with the following:

The number of linear feet will be measured from the center of manhole, catch basin, or similar structure to center of manhole, catch basin, or similar structure.

7-04.5 Payment [Supplement]

Supplement Section 7-04.5 as follows:

Payment will be made for the following bid item:

Schedule A Storm Sewer Pipe, _____ In. Diam.	Per Linear Foot
Ductile Iron Storm Sewer Pipe, _____ In. Diam.	Per Linear Foot

The unit contract price per linear foot for "Schedule A Storm Sewer Pipe, _____ In. Diam." and "Ductile Iron Storm Sewer Pipe, _____ In. Diam." shall also include but not be limited to furnishing and installing pipe, trench excavation, disposal, dewatering (if required), backfilling with suitable material, bedding, compacting, crushed surfacing top course, and cleaning and testing of the pipe.

7-05 MANHOLES, INLETS, CATCH BASINS, AND DRYWELLS

7-05.1 Description [Supplement]

All construction shall be in accordance with the plans, details, specifications, these special provisions, and the manufacturers recommendations.

This work shall also include constructing Water Quality Treatment Units (WQ), infiltration trenches, and interceptor trenches at the locations shown on the Plans. All construction shall be in accordance with the plans, details, specifications, these special provisions, and the manufacturers recommendations.

7-05.2 Materials [Supplement]

Frames shall be Reversible Rectangular Frames per WSDOT Standard Plan B-30.10-03.

Grates shall be Rectangular Vaned Grates per WSDOT Standard Plan B-30.30-03.

Solid Covers shall be Rectangular Solid Metal Covers per WSDOT Standard Plan B-30.20-04.

Circular Frame and Covers shall be per WSDOT Standard Plan B-30.70-04.

Materials shall meet the following requirements of the following sections:

Concrete	6-02
Crushed Surfacing Top Course	9-03.9(3)
Flexible Plastic Gaskets	9-04.4
Metal Castings	9-05.15
Reinforcing Steel	9-07
Concrete Blocks	9-12.1
Concrete Brick	9-12.2

Water Quality Units shall be Contech CatchBasin StormFilter Models SFCB1 and SFCB2, or approved equal.

Water Quality Units shall have a General Use Level Designation (GULD) for Basic Water Quality Treatment from Washington State Ecology’s TAPE program as noted. In addition, the unit(s) shall provide treatment for the total area tributary to each unit as shown in the table below. Water Quality Units shall meet or exceed the design tolerances for the unit(s) shown on the Plans.

WQ Unit No.	WQ Online Flow Rate (cfs)	Total Area (acres)
01	0.0196	0.23
02	0.0204	0.24
03	0.0211	0.23
04	0.0247	0.27
05	0.0307	0.35

If the Contractor elects to submit a Water Quality Unit other than those shown on the Plans and as specified herein, the Water Quality Unit shall be a media cartridge filtration unit with a general use level or conditional use level designation for basic water quality treatment from the Washington State Department of Ecology’s Technology Assessment Protocol (TAPE) program. In addition, the unit(s) shall provide treatment for the total paved and unpaved area tributary to each unit and meet or exceed the design tolerances for the unit(s) shown on the Plans.

Any modifications from the Plans as a result of the substitute product including but not limited to excavation, invert elevations, pipe size, pipe depth, or pipe material shall be considered incidental to the price of this structure.

Water Quality Treatment Units shall be equipped with internal or external overflow devices, as required by the manufacturer.

7-05.3(3) Connections to Existing Manholes [Supplement]

Existing storm sewer pipe shall be connected to new catch basins or manholes in accordance with Section 7-05.3 of the Standard Specifications.

New storm sewer pipe shall be connected to existing catch basins or manholes in accordance with Section 7-05.3 of the Standard Specifications.

Any damage to existing pipe, catch basins, and manholes that are to remain in place, resulting from the Contractor's operations, shall be repaired or replaced by the Contractor at his own expense.

7-05.3(5) Rotation of Lid and Ladders [New]

Where shown in the Plans or where directed by the Engineer, the existing manholes or catch basins shall be adjusted by rotating the cone sections to the orientation shown on the Plans or otherwise designated by the Engineer.

New steps or ladders shall be installed in accordance with WSDOT Standard Plan B-30.90-02. The materials and method of construction shall conform to the requirements specified in this section, and the finished Structure shall conform to the requirements of the Standard Plans except as approved by the Engineer. The existing steps or ladders shall be abandoned in place unless they are in conflict with the location of the new steps or ladders.

7-05.4 Measurement [Supplement]

Structure excavation will not be measured for separate payment.

Rotate lid and ladder will be measured per each.

Infiltration trench, 1' interceptor trench, and 2' interceptor trench will be measured per linear foot of trench installed.

7-05.5 Payment [Supplement]

Payment will be made for the following bid items:

Catch Basin Type 1	Per Each
Catch Basin Type 2, 48 In. Diam.	Per Each
Catch Basin Type 2, 60 In. Diam.	Per Each
Adjust Catch Basin	Per Each
Adjust Manhole	Per Each
Rotate Lid and Ladder	Per Each

3' Infiltration Trench	Per Linear Foot
6' Infiltration Trench	Per Linear Foot
1' Interceptor Trench	Per Linear Foot
2' Interceptor Trench	Per Linear Foot
Water Quality Treatment Unit _____	Per Lump Sum
Adjust Catch Basin, Furnish New Frame and Cover	Per Each

The unit contract price per each for “Catch Basin Type 1”, “Catch Basin Type 2, 48 In. Diam”, and “Catch Basin Type 2, 60 In. Diam”, shall be full pay for all labor, materials, tools and equipment necessary to perform the specified work, including but not limited to, furnishing structure, excavation, bedding, installation, backfill, compaction, frame and grate (or rectangular solid locking metal cover), adjusting to final grade, connection to existing system, and cleaning, in accordance with the Contract Documents.

The unit contract price per each for “Adjust Catch Basin” and “Adjust Manhole” shall be full pay for all labor, materials, tools and equipment necessary to adjust existing catch basins and manholes to final grade, in accordance with the Contract Documents.

The unit contract price per each for “Rotate Lid and Ladder” shall be full pay for all labor, materials, tools and equipment necessary to adjust the rotation and ladder location of existing manholes to the proposed final condition, in accordance with the Contract Documents.

The unit contract price per each for “3' Infiltration Trench” and “6' Infiltration Trench” shall be full pay for all labor, materials, tools and equipment necessary to perform the specified work, including but not limited to excavation, furnishing pipe, observation port, geotextile, gravel backfill, installation, compaction, cleaning, and backfilling of existing location with select native material, in accordance with the Contract Documents.

The unit contract price per each for “1' Interceptor Trench” and “2' Interceptor Trench” shall be full pay for all labor, materials, tools and equipment necessary to perform the specified work, including but not limited to excavation, geotextile, permeable ballast, cobbles, installation, compaction, and cleaning in accordance with the Contract Documents.

The unit contract price per each for “Water Quality Treatment Unit _____” shall be full pay for all labor, materials, tools and equipment necessary to perform the specified work, including but not limited to, furnishing structure, excavation, bedding, installation, backfill, compaction, frame and solid locking metal cover, adjusting to final grade, connection to system, cleaning, and backfilling of existing location with select native material, in accordance with the Contract Documents.

The unit contract price per each for “Adjust Catch Basin, Furnish New Frame and Cover” shall be full pay for all labor, materials, tools and equipment necessary to adjust existing

manholes to final grade and furnish a new frame and cover in accordance with the Contract Documents.

7-08 GENERAL PIPE INSTALLATION REQUIREMENTS

7-08.3(1)A Trenches [Supplement]

Supplement Section 7-08.3(1)A as follows:

Backfill material for the area of unsuitable foundation excavation shall be crushed surfacing top course per Section 9-03.9(3) of the Standard Specifications. Before backfilling with bedding material is begun, the trench shall first be cleaned of all roots, loose stones, and other debris. Bedding materials, if required, shall be placed only upon undisturbed earth.

7-08.3(2)B Pipe Laying – General [Supplement]

Supplement Section 7-08.3(2)B as follows:

The pipe and fittings shall be free of foreign inclusions and visible defects. The ends of the pipe shall be cut squarely and cleanly so as not to adversely affect joining.

7-08.3(2)E Rubber Gasketed Joints [Supplement]

Supplement Section 7-08.3(2)E as follows:

Flexible joints for each type of pipe shall be rubber gasketed in accordance with the Standard Specifications. Mortared, dry-packed, or cast-in-place joints will be permitted only for connection to or through manholes and catch basins. Connections with pipes to catch basins and inlets shall be cement mortared on the interior and exterior of structure.

7-08.3(2)H Jointing of Dissimilar Pipe [Replacement]

Where shown on the plans to connect existing storm drainage pipe to new pipe at a location other than a catch basin. The contractor shall use a Fernco coupler or approved equivalent. When this occurs at an existing catch basin that is shown for removal the pipe shall be cut a minimum of six (6) inches upstream of the removed catch basin. The back-fill material shall be pea gravel meeting the specifications as called out in 9-03.16.

7-08.3(3) Backfilling [Supplement]

Supplement Section 7-08.3(3) as follows:

All backfill for pipe trenches shall be compacted as specified in Section 2-03.3(14)C, Method B of the Standard Specifications with native material, or gravel borrow, if suitable material is not available.

7-08.3(5) Pipe Crossing Existing Utilities [New]

Section 7-08.3(5) is added as follows:

Where storm sewer pipe crosses existing utilities with less than 12 inches of clearance, a sand cushion acceptable to the Engineer shall be placed between the existing and new pipe.

7-08.5 Payment [Supplement]

“Crushed Surfacing Top Course” used to backfill over-excavation, **as approved by Engineer**, will be measured and paid per Section 4-04.5 of the Standard Specifications and these Special Provisions.

7-20 MONUMENT CASTING, VALVE, WATER METER, AND JUNCTION BOXES ADJUSTMENT TO GRADE**7-20.1 Description [New]**

This section covers the adjustment to final grade of utility castings and boxes such as valve boxes, water meter boxes, monument castings, sewer cleanouts, electrical junction boxes, etc., whether or not they are located in paved areas.

Where adjustment of existing utility boxes and castings are required and the existing castings are ordered by the Engineer to be discarded or to be salvaged, the Contractor shall install new materials provided by the appropriate utility company. If new materials are not available from the serving utility, the Contractor shall provide new materials of the type specified, and payment for the new materials will be made under “Force Account” and will be in addition to payment for making the adjustment.

7-20.2 Materials [New]

All materials incorporated into the finished work of adjusting existing utility structures to finished grade shall conform to the requirements of Section 7-05.2, 7-19.2, 9-29.2, and any other applicable sections of the Standard Specifications.

7-20.3 Construction Requirements [New]

The Contractor shall adjust junction boxes, valve boxes, meter boxes, and similar structures to finished grade by utilizing the same methods of construction as specified in Section 7-05.3 of the Standard Specifications.

The Contractor shall notify the Engineer and the appropriate utility representative indicated in Section 1-07.17 of these Special Provisions a minimum of 48 hours in advance of any adjustments for inspection by a representative of the utility company. The respective utility company reserves the right to perform any adjustments with their own forces.

7-20-3(1) Adjusting Valve Box [New]

The Contractor shall adjust existing valve boxes to the new grade as shown in the Plans or as directed by the Engineer. The Contractor shall install a valve stem extension when the operating nut on an existing valve is more than 4 feet below the new grade. The Contractor shall adjust the valve box so that the valve is fully operational. The Contractor shall remove all debris from the adjusted valve box.

If the Engineer determines that an existing valve box or valve box lid is unsuitable for reuse, or that a valve stem extension is required, the Contractor shall install the new materials to be provided by the appropriate utility. Valve stem extensions shall meet the requirements of Section 9-30.3(6)

7-20.4 Measurement [New]

Adjustment of various existing boxes and casings will be measured once per each location requiring adjustment regardless of the number of times the box is adjusted. In the event of adjustments by utility company forces, the adjustments will not be measured for payment on this contract.

7-20.5 Payment [New]

Payment will be in accordance with Section 1-04.1 of the Standard Specifications, for the following bid items:

Adjust Valve Casing	Per Each
Adjust Junction Box	Per Each

The unit contract prices per each for “Adjust Valve Casing” and “Adjust Junction Box” shall be full pay for all labor, materials, tools and equipment necessary to adjust the existing structures to grade, including but not limited to, excavating, backfilling, compacting, surfacing, valve stem extension, installing new valve box or cover, and restoration of adjacent areas in a manner acceptable to the Engineer, in accordance with the Contract Documents.

Adjustment to grade of new castings and structures shall be included in the bid price for the various new items.

END OF DIVISION 7

DIVISION 8 MISCELLANEOUS CONSTRUCTION

8-01 EROSION CONTROL

8-01.1 Description [Supplement]

This work shall consist of seeding, fertilizing, and mulching all disturbed and graded areas between the back of proposed sidewalks and fill slopes, and all other areas as designated by the Engineer. Seeding, fertilizing, and mulching work applies to both temporary erosion control and permanent seeded lawn applications.

8-01.2 Materials [Supplement]

Seed Mix	9-14.2
Fertilizer	9-14.3
Mulch	9-14.4(2)
Tackifier	9-14.4(7) Type A

8-01.3 Construction Requirements

8-01.3(1) General [Supplement]

Water

The Contractor shall make arrangements to ensure an adequate supply of water is available for erosion control and plant establishment. The Contractor shall also furnish all necessary equipment and materials for the adequate irrigation of planted areas through the establishment period. All costs shall be incidental and included in the bid items involved and no additional compensation will be made.

8-01.3(1)A Submittals [Modification]

Revise the first sentence of the first paragraph to read as follows:

The Contractor shall prepare and submit for approval the temporary erosion and sediment control (TESC) Plan, which incorporates the Contractor's anticipated schedule, means and methods for completing the project.

8-01.3(2)A Preparation for Final Application [Supplement]

Seeding and Mulching Plan

All disturbed or bare soil areas shall either be seeded, fertilized, and mulched (seeded) or treated with bark mulch. The Engineer will inspect areas to direct which areas are to receive seeding or bark mulch based on adjacent landowners landscaping. The Engineer will also determine at this time topsoil utilization, bark mulching, and hydroseeding procedures. Contractor shall place 4 inches of Topsoil Type A per 9-14.1(1) of these Special Provisions in all seeded or mulched areas as shown in the Plans.

Soil shall be prepared per 8-02.3(5) of the Standard Specifications and these Special Provisions.

8-01.3(2)B Seeding and Fertilizing**[Supplement]**

Seeding, fertilizing, and mulching shall be accomplished using an approved hydroseeder unless hand seeding is otherwise approved by the Engineer. The slurry seed mixture consisting of seed, fertilizer, mulch, and water shall be applied at the rate of 120 pounds per acre.

Hand Seeding

Seed shall be applied at the rate of 6 pounds per 1,000 square feet. The seed shall be applied by a hand held spreader capable of evenly distributing seed as approved by the Engineer. The seed shall be evenly distributed over the disturbed area. Seed shall be applied after the fertilizer has been applied and the seed raked into the surface soil to the depth of $\frac{1}{4}$ inch and cover with $\frac{1}{4}$ to $\frac{1}{2}$ inch of approved compost.

Fertilizing

Fertilizer application rates shall be per manufacturer's written recommendations. Fertilizer shall be incorporated into the seed, mulch, and water slurry and shall be applied as specified under "Seeding."

Hand Fertilizing

Fertilizer shall be applied at the rate of 10 pounds per 1,000 square feet. The fertilizer shall be applied by a hand held spreader capable of evenly distributing fertilizer as approved by the Engineer. It shall be raked into the surface soil to a depth of one inch.

Over-spray of the seeding and fertilizing outside of the intended planting areas shall be removed by the Contractor immediately after application and to the satisfaction of the Engineer.

The permanent application of seeding, fertilizing, and mulching shall meet the requirements of Section 8-02.3(15) Lawn Installation, Section 8-02.3(16) Lawn Establishment, and Section 8-02.3(17) Lawn Mowing of the Standard Specifications and these Special Provisions.

8.01.3(2)D Mulching**[Supplement]**

Wood cellulose fiber mulch application rate shall be 2,000 pounds per acre. The Contractor shall follow the manufacturer's recommended quantities of mulch in pounds to the tank capacity in gallons. 1,000 pounds of mulch shall be included in the slurry of seed, fertilizer, and water and applied to the areas to be seeded. The remaining 1,000 pounds of mulch shall be applied in a separate operation immediately following the first application.

8.01.3(8) Street Cleaning**[Supplement]**

Contractor shall be responsible at all times, for the maintenance of streets and other utilities affected by construction operations. Contractor shall clean and sweep streets at the end of each working day, and throughout the working day as deemed necessary by Engineer, to render the streets free of all mud, debris, and foreign materials.

In the event Contractor fails to conform to these requirements, Owner shall have the right to have the work done by others and the cost shall be deducted from moneys due to Contractor in accordance with Section 1-05.8 of the Standard Specifications.

8-01.3(8)(9) Inlet Protection [Supplement]

At a minimum, sediment filters shall be provided on inlets to drainage structures per WSDOT Standard Plan I-40.20-00.

Inserts determined by the Engineer to be damaged and otherwise improperly functioning shall be repaired or replaced by the Contractor at no cost to the City.

8-01.4 Measurement [Modification]

Erosion/Water Pollution Control will be measured by the lump sum. Seeding, Fertilization, and Mulching will be measured by the square yard.

8-01.5 Payment [Supplement]

Payment will be made for the following bid items:

Erosion/Water Pollution Control	Per Lump Sum
Inlet Protection	Per Each
Seeding, Fertilizing, and Mulching	Per Square Yard

The lump sum contract price for “Erosion/Water Pollution Control” shall be full pay for all labor, materials, tools and equipment required, to provide erosion and water pollution control in accordance with the approved Temporary Erosion and Sediment Control (TESC) plan, including but not limited to, TESC plan development and implementation, Erosion and Sediment Control Lead, TESC inspections, TESC inspection report preparation and submission, maintenance of inlet protection and silt fencing, street sweeping, dust control (water), plastic sheeting, erosion control blankets, ditches, check dams, sedimentation facilities, TESC facility removal and associated property restoration, in accordance with the Contract Documents.

The unit contract price per each for “Inlet Protection” shall be full pay for all labor, materials, tools and equipment necessary to provide inlet protection, in accordance with the Contract Documents.

The unit contract price per square yard for “Seeding, Fertilizing, and Mulching” shall be full pay for all labor, materials, tools and equipment necessary to perform the specified work, including but not limited to, water, tackifier, lawn establishment, and lawn mowing, in accordance with the Contract Documents.

8-02 ROADSIDE RESTORATION**8-02.2 Materials [Supplement]**

Topsoil Type A	9-14.1(1)
Bark Mulch	9-14.4(3)

8-02.3 Construction Requirements [Supplement]**8-02.3(1) Responsibility During Construction [Supplement]**

Landscaping shall be performed as shown in the Plans in accordance with the latest edition of the American Standard of Nursery Stock published by the American Association of Nurserymen (the A.A.N. Standard) and the Contract Provisions.

The Contractor must acquaint himself with all other work related to site improvements and other work, which might affect preparation for or installation of planting.

It is the Contractor's responsibility to be certain that all equipment and materials selected for this work conform to the requirements of the Contract Documents. The review of a manufacturer's name by the Engineer does not relieve the Contractor of the responsibility for providing materials and equipment which comply with the Contract Documents.

Inspection: Inspections of the project site will be performed by the Engineer. The Engineer will notify the Contractor in writing of any deficiencies in the maintenance work. The Contractor shall perform whatever additional maintenance work is necessary as directed by the Engineer. Failure by the Contractor to perform any additional work within the time limits specified shall result in forfeiture of the monthly payment or a portion thereof.

Protection: All plantings and lawn areas shall be properly protected against harm from wind, unusual weather and the public. All existing trees to remain shall be protected against harm during construction activities by a temporary 6' chain link fence, or a plastic construction fence, as directed by the Engineer.

Cleanup: Cleanup of planting areas shall be made immediately after and as part of the work done in the area. Such cleanup shall include the pickup and removal of all clippings, trimmings, leaves and all other litter and debris originating from any source whatsoever. Planting areas shall be neatly dressed and finished. Walks and paved area shall be hosed off.

8-02.3(2) Roadside Work Plan [Supplement]

Contractor shall keep premises reasonably free from accumulation of debris. At completion of each area of work, Contractor shall remove all debris, equipment, and surplus material.

8-02.3(5) Soil Preparation [Supplement]

In areas to be mulched, subgrade shall be set 7-inches below finished grade. In areas to be seeded, subgrade shall be set at 4-inches below finished grade. Contractor shall place 4 inches of Topsoil Type A in all areas to be mulched or seeded as shown in the Plans.

8-02.3(11) Bark or Wood Chip Mulch [Supplement]

Bark Mulch

3 inches thick of bark mulch shall be spread evenly over areas shown in the plans and as specified by the Engineer. Bark mulch shall be applied per Section 8-02.3(11) of the Standard Specifications and these Special Provisions.

8-02.3(13) Plant Establishment [Revision]

There shall **not** be a one-year plant establishment period under this Contract.

8-02.5 Payment [Supplement / Modification]

Payment will be made for the following bid items:

Plant Selection _____	Per Each
Bark Mulch	Per Cubic Yard
Topsoil Type A	Per Cubic Yard

The unit contract price per each for “Plant Selection _____” shall be full pay for all labor, materials, tools and equipment necessary to provide and install the plant as specified, in accordance with the Contract Documents.

The unit contract price per cubic yard for “Topsoil Type A” and “Bark Mulch” shall be full pay for all labor, materials, tools and equipment necessary to perform the specified work, in accordance with the Contract Documents.

8-04 CURBS, GUTTERS, AND SPILLWAYS

8-04.3 Construction Requirements [Supplement]

Curbs and gutters shall be constructed in accordance with City of Lakewood Standard Plan FR-04 and as shown in the plans.

The Contractor shall remove and replace all Contractor-installed concrete curb with any chips, spalls, cracks, or hairline cracks as directed by the Engineer at no cost to the Owner.

Contractor shall take special care to construct concrete curb to line and grade as shown in the Plans. Concrete curb constructed with excessive bows, waves, or ultimately out-

of-plumb shall be removed and replaced as directed by the Engineer at no cost to the Owner.

The Contractor shall be responsible for barricading, patrolling, or otherwise protecting newly placed concrete. Damaged, vandalized or unsightly concrete shall be removed and replaced at the Contractor’s expense.

The Contractor shall notify the Engineer immediately in cases where the proposed gutter lip elevation appears higher than the adjacent pavement. Gutter lips shall not be constructed higher than the adjacent pavement.

8-04.5 Payment [Supplement]

Payment will be made for the following bid items:

Cement Conc. Traffic Curb and Gutter	Per Linear Foot
Cement Conc. Rolled Curb	Per Linear Foot
Cement Conc. Pedestrian Curb	Per Linear Foot

The unit contract prices for “Cement Conc. Traffic Curb and Gutter”, “Cement Conc. Rolled Curb”, and “Cement Conc. Pedestrian Curb” shall be full pay for all labor, materials, tools and equipment necessary to provide completed curbs and gutters in accordance with the Contract Documents.

8-06 CEMENT CONCRETE DRIVEWAY ENTRANCES

8-06.1 Description [Supplement]

This work shall also consist of reconstructing existing cement concrete driveways (i.e., private driveways) and roadside pullouts as shown in the Plans and in accordance with the Special Provisions and the Standard Plans.

8-06.3 Construction Requirements [Supplement]

All Cement Concrete Driveway Entrances constructed under this contract shall be Driveway Type 1, Driveway Type 2, Driveway Type 3, and Driveway Type 4 per WSDOT Standard Plan F-80.10-04 or as shown in the Plans. Concrete finishing texture shall be broom-swept as shown in WSDOT Standard Plan F-80.10-04 or in the Plans.

Excavation and embankment for driveways, driveway returns, and pullouts shall be considered part of the roadway excavation and embankment and included therein. Modifications of existing surfaced driveways shall be accomplished by sawcutting the existing pavement in accordance with Section 2-02.3(4) of these Special Provisions.

Before placing any concrete, the Contractor shall have on the job site enough waterproof paper or plastic membrane to cover the pour of an entire day, in the event of rain or other unsuitable weather conditions.

During the curing period, all traffic, both pedestrian and vehicular, shall be excluded. Vehicular traffic shall be excluded for such additional time as the Engineer may direct.

The Contractor shall maintain a minimum of a 10-foot wide driveway access for all properties unless otherwise approved by the Engineer. This may require the Contractor to construct driveways in 2 stages as necessary to maintain access.

The Contractor shall be responsible for barricading, patrolling, or otherwise protecting the newly placed concrete to prevent damage. Damaged, vandalized, or unsightly concrete shall be removed and replaced at the expense of the Contractor.

Cement concrete pullouts shall be constructed with integrally colored air entrained concrete Class 4000 conforming to the requirements of Section 6-02 for Portland Cement or Blended Hydraulic Cement Concrete Pavement conforming to the requirements of Section 5-05.

Pullout concrete may be placed, compacted, and finished using hand methods. The tools required for these operations shall be approved by the Engineer. After troweling and before edging, the surface of the pullout shall be brushed in a transverse direction with a stiff bristled broom. Curing of the concrete shall be in accordance with Section 5-05.3(13). The pullout may be opened to traffic in accordance with Section 5-05.3(17).

8-06.3(1) Concrete Color [Supplement]

The concrete color for the cement concrete pullout shall be one of the following, or approved equal:

1. Scofield CHROMIX Admixture, color: C-34 Dark Gray
2. Davis Colors Powdered Pigment Admixture, color: Dark Gray (Carbon) 8084
3. Solomon Colors Dry Integral Color, color: 467 Rustique

Submit color cards to the Engineer as a part of the integrally colored concrete submittal.

Concrete Pullout shall be sealed with a sealer approved by the manufacturer of the integral color admixture. The sealer shall be applied in accordance with the manufacturer's recommendations.

Contractor shall provide a 6'x6' mockup for the colored concrete for the concrete pullout using processes and techniques intended for use on permanent work, including curing, finish and color. Include samples of control, construction, and expansion joints in sample panel. Mockups shall be produced by the individual workers who will perform the work for the project. A portion of the accepted mockup shall remain onsite for comparison.

8-06.4 Measurement [Supplement]

Cement conc. approach and colored cement concrete pullout will be measured by the square yard of the finished surface and will not include the surface area of the driveway entrances.

8-06.5 Payment

[Supplement]

Payment will be made for the following bid item:

Cement Conc. Approach	Per Square Yard
Cement Conc. Driveway Entrance Type 1	Per Square Yard
Cement Conc. Driveway Entrance Type 2	Per Square Yard
Cement Conc. Driveway Entrance Type 3	Per Square Yard
Cement Conc. Driveway Entrance Type 4	Per Square Yard
Colored Cement Conc. Pullout	Per Square Yard

The unit contract price per square yard for “Cement Conc. Approach”, “Cement Conc. Driveway Entrance Type 1”, “Cement Conc. Driveway Entrance Type 2”, “Cement Conc. Driveway Entrance Type 3”, “Cement Conc. Driveway Entrance Type 4” and “Colored Cement Conc. Pullout” shall be full pay for all labor, materials, tools and equipment necessary to complete the work as specified, in accordance with the Contract Documents and Standard Plans, including all costs for constructing driveway entrances in segments and installing and removing temporary approaches.

8-12 CHAINLINK FENCE AND WIRE FENCE

8-12.1 Description

[Supplement]

This Work consists of furnishing and constructing wood fence of the types specified in accordance with the Plans and these Specifications at the locations shown in the Plans.

8-13.2 Materials

[Supplement]

All timber materials for wood fencing shall be No. 1 grade cedar.

Wood posts shall conform to the details and dimensions indicated on the Plans. Wood posts shall be straight, sound, and seasoned with ends sawed off square or as indicated in the Plans. All knots shall be trimmed flush with the surface. All dimension timber and lumber required for fences or gates shall be sound, straight, and free from knots, splits, and shakes.

All metal hardware used for construction of wood fences shall be galvanized.

8-13.3 Construction Requirements

[Supplement]

Wood fences shall be constructed in accordance with details shown in the Plans.

Contractor shall take special care to construct wood fences in a manner consistent with the existing wood fences. Wood fences constructed with excessive bows, waves, or ultimately out-of-plumb shall be removed and replaced as directed by the Engineer at no cost to the Owner.

Posts shall be securely embedded into the ground to meet the proper alignment and elevations. Posts shall be embedded in concrete as shown on the Plans. Posts and rails shall be held in proper positions by secure bracing until such time as the concrete has set sufficiently to hold the posts. Materials shall not be installed on posts, or stress placed on bracing until the concrete has set sufficiently to withstand the stress.

8-12.4 Measurement

Wood Fence will be measured by the linear foot of completed fence along the ground line.

8-12.5 Payment

Wood Fence	Per Linear Foot
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The unit contract price per linear foot for “Wood Fence” shall be full compensation for all labor, materials, tools, and equipment necessary to perform the work described in this section in accordance with the Contract Documents.

8-13 MONUMENT CASES

8-13.1 Description [Supplement]

This work shall include furnishing and installing new Brass Cap Monuments and furnishing and replacing existing Brass Cap Monuments destroyed during construction with a new monument and monument case and cover.

8-13.2 Materials [Supplement]

See City of Lakewood Standard Plan MI-01 and MI-02

Concrete Base shall be replaced with HMA matching roadway section depth.

8-13.3 Construction Requirements [Supplement]

The Contractor’s Professional Land Surveyor (PLS) shall be responsible for perpetuating and documenting existing monuments in compliance with the Application for Permit to Remove or Destroy a Survey Monument (WAC 332-120) and the Washington State Department of Natural Resources. Following approval by the Public Land Survey Office, copies of all approved permits shall be forwarded to the City.

New brass markers shall be marked by an “X” at the intersection location and identified as outlined in RCW 58.09.120.

The Contractor shall work diligently to protect from harm property corners which are encountered during construction. All disturbed property corner shall be replaced by the Contractor’s PLS at no additional cost the City.

8-13.5 Payment [Supplement]

Survey Monument	Per Each
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The unit contract price per each for “Survey Monument” shall be full pay for all labor, professional survey, materials, tools and equipment necessary to provide completed monument, brass disk, monument case and cover, and all permits and documentation in accordance with the Contract Documents and WAC.

8-14 CEMENT CONCRETE SIDEWALKS

8-14.1 Description [Supplement]

This work shall also consist of providing cement concrete cast in place sidewalk, and accessible ramps in accordance with Plans and Special Provisions and providing special treatment to the sidewalk area around utility poles and signal poles that are located within the limits of the proposed sidewalks, in accordance with the Plans and Special Provisions.

8-14.2 Materials [Supplement]

The detectable warning surface shall be cast iron with an H-20 load rating and have the truncated dome shape, as shown in the Plans, from Neenah Foundry, or approved equal. The detectable warning surface shall include lettering reading “CITY OF LAKEWOOD”.

8-14.3 Construction Requirements [Supplement]

The Contractor shall remove and replace all Contractor-installed cement concrete sidewalk with any chips, spalls, cracks, or hairline cracks as directed by the Engineer at no cost to the City.

Contractor shall take special care to construct cement concrete sidewalk to line and grade as shown in the Plans. Cement concrete sidewalk constructed with excessive bows or waves shall be removed and replaced as directed by the Engineer at no cost to the Owner.

8-14.3(4) Curing [Replacement]

Section is deleted and replaced with the following:

The curing materials and procedures outlined in Section 5-05.3(13) of the Standard Specifications shall prevail, except that white pigmented curing compound shall not be used on sidewalks. The curing agent shall be applied immediately after brushing and be maintained for a period of 5 days.

The Contractor shall have readily available sufficient protective covering, such as waterproof paper or plastic membrane, to cover the pour of an entire day in the event of rain or other unsuitable weather. During the curing period, all traffic, both pedestrian and

vehicular, shall be excluded. Vehicular traffic shall be excluded for such additional time as the Engineer may direct.

The Contractor shall be responsible for barricading, patrolling, or otherwise protecting the newly placed concrete to prevent damage. Damaged, vandalized, or unsightly concrete shall be removed and replaced at the expense of the Contractor. Patching, grinding or grouting repair of sidewalks will not be permitted.

8-14.3(7) Sidewalk Treatment Around Utility Poles and Signal Poles [New]

The Contractor shall provide special treatment to the sidewalk area around utility poles and signal poles that are located within the limits of the proposed sidewalks, in accordance with the Standard Plan.

8-14.4 Measurement [Revised]

The second and third paragraphs shall be revised to read

Cement Concrete Single Direction Curb Ramp Type _____ will be measured per each for the complete curb ramp type installed and excludes the furnishing and installation of the cast iron detectable warning surface.

Cement Concrete Perpendicular Curb Ramp Type _____ will be measured per each for the complete curb ramp type installed and excludes the furnishing and installation of the cast iron detectable warning surface.

Cement Concrete Parallel Curb Ramp Type _____ will be measured per each for the complete curb ramp type installed and excludes the furnishing and installation of the cast iron detectable warning surface.

Cast Iron Detectable Warning Surfaces will be measured by the square foot of installed cast iron detectable warning surface as shown in the Plans.

8-14.5 Payment [Supplement]

Payment will be made for the following bid items:

Cement Conc. Sidewalk	Per Square Yard
Cement Conc. Single Direction Curb Ramp Type A	Per Each
Cement Conc. Perpendicular Curb Ramp Type A	Per Each
Cement Conc. Parallel Curb Ramp Type A	Per Each
Cement Conc. Parallel Curb Ramp Type B	Per Each
Cast Iron Detectable Warning Surface	Per Square Foot

The unit contract price per square yard for “Cement Conc. Sidewalk” shall be full pay for all labor, materials, tools and equipment necessary to provide completed sidewalk, including but not limited to, special treatment around utility and signal poles, in accordance with the Contract Documents.

The unit contract price per each for “Cement Conc. Single Direction Curb Ramp Type A” shall be full pay for all equipment, tools, labor and materials required for the complete installation of curb ramp, including but not limited to, forms, concrete, finishing, excavation including haul and disposal regardless of depth. Associated Pedestrian curbing shall be paid in accordance with Section 8-04.

The unit contract price per each for “Cement Conc. Perpendicular Curb Ramp Type A ” shall be full pay for all equipment, tools, labor and materials required for the complete installation of curb ramp, including but not limited to, forms, concrete, finishing, excavation including haul and disposal regardless of depth. Associated Pedestrian curbing shall be paid in accordance with Section 8-04.

The unit contract price per each for “Cement Conc. Parallel Curb Ramp Type A” and “Cement Conc. Parallel Curb Ramp Type B” shall be full pay for all equipment, tools, labor and materials required for the complete installation of curb ramp, including but not limited to, forms, concrete, finishing, excavation including haul and disposal regardless of depth. Associated Pedestrian curbing shall be paid in accordance with Section 8-04.

The unit contract price per square foot for “Cast Iron Detectable Warning Surface” shall be full pay for all labor, materials, tools and equipment necessary to furnish and install the cast iron detectable warning surface in accordance with the Contract Documents.

8-15 RIPRAP

8-15.2 Materials [Supplement]

Streambed Cobbles	9-03.11(2)
Woven Geotextile for Soil Stabilization	9-33.2(1)

8-15.3(4) Construction Requirements [Supplement]

Streambed cobbles for the Cobble Surfacing shall be placed in a manner that will ensure the cobbles attain the specified thickness in one operation. When dumping or placing, care shall be used to avoid disturbing the underlying material. After placement, the streambed cobbles shall be compacted to be uniformly dense and unyielding.

Placement of the salvaged boulders for the Cobble Surfacing, as indicated on the Plans, shall be coordinated and approved with the Engineer and Owner in the field.

8-15.4 Measurement [Supplement]

Cobble Surfacing will be measured by the square yard of streambed cobbles placed in accordance with the Plans.

8-15.5 Payment**[Supplement]**

Payment will be made for the following bid items:

Cobble Surfacing	Per Square Yard
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The unit contract price per square yard for “Cobble Surfacing” shall be full pay for all labor, materials, tools and equipment necessary to perform the specified work, including but not limited to salvaging existing boulders onsite, furnishing cobbles, geotextile, excavation, installation, placement of salvaged boulders, compaction, and cleaning in accordance with the Contract Documents.

8-18 MAILBOX SUPPORT**8-18.3 Construction Requirements****[Supplement]**

The Contractor shall be required to provide temporary structures for existing mailbox locations as required by the local postmaster for continuous mail delivery during project construction. The Contractor shall coordinate with the Engineer prior to setting mailboxes in their permanent locations.

8-18.3(2) Cluster Mailbox**[New]**

Cluster mailbox shall be meet USPS F Specifications and be manufactured by one of the following, or approved equal:

1. Florence Corporation
2. Salsbury Industries
3. Postal Products Unlimited, Inc.

Cluster mailboxes shall be either Type I or Type V with (8) size A doors or (4) size C doors, respectively, as shown on the plans. The mailbox shall be equipped with a weather protected outgoing mail slot, two integrated parcel lockers, matching pedestal, and decals with address numbers. Mailbox and pedestal shall be gray in color.

8-18.4 Measurement**[Supplement]**

Cluster Mailbox, _____ Unit will be measured per each

8-18.5 Payment**[Supplement]**

Payment will be made for the following bid items:

Cluster Mailbox, _____ Unit	Per Each
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The unit contract price per each for “Cluster Mailbox, _____ Unit” shall be full pay for all labor, materials, tools and equipment necessary to furnish and install the cluster mailbox in accordance with the Contract Documents.

8-20 ILLUMINATION, TRAFFIC SIGNAL SYSTEMS AND ELECTRICAL**8-20.1 Description [Supplement]**

This work shall consist of the Illumination system as shown and described in the Contract Documents.

8-20.2 Materials [Supplement]

Unless otherwise specified in the Plans or Special Provisions, all materials shall be new. Used or refurbished equipment or materials will not be accepted.

Final inspection and acceptance of the installed materials will not be given until final installation and testing has been completed on the systems. Approval to install materials and equipment must be obtained in the field by the Engineer prior to installation.

Existing Materials to be Salvaged:

The existing luminaire cobra heads and arms shall be salvaged to the City of Lakewood. The contractor shall remove and deliver the salvaged material to the City of Lakewood Maintenance Shop located at;

9420 Front Street SW
Lakewood WA 98499
Telephone: 253 267-1628

Contracting Agency-Supplied Materials:

The Contracting Agency will supply the following materials:

None

8-20.2(1) Equipment List and Drawing [Supplement]

Within 20 calendar days following execution of the Contract, the Contractor shall submit to the Engineer six (6) sets of catalog cuts and shop drawings required for all illumination work included in the Contract. Three (3) copies of the submitted catalog cuts/shop drawings will be retained for use by the Engineer and three (3) copies will be returned (with appropriate review/approval notations) to the Contractor. Any item not approved and/or requiring revisions shall be corrected and resubmitted by the Contractor within five (5) calendar days after receiving the returned submittals.

In addition to the requirements of Section 8-20.2(1), the Contractor shall submit for approval catalog cuts for the following items including but not limited to:

- Light standards and anchor bolts
- Luminaire arms
- Luminaires and lamps
- Photo-electric control

- Junction boxes
- Hard-wired radar speed signs

Before submittal, the Contractor shall review all shop drawings and catalog cuts for constructability and conformance to the electrical codes, plans and specifications and shall so mark each submittal attesting to such review.

(March 13, 1995 WSDOT GSP)

Pole base to light source distances (H1) for lighting standards with pre-approved plans will be determined or verified by the Engineer at the request of the Contractor prior to fabrication.

Pole base to light source distances (H1) for lighting standards without pre-approved plans and for combination traffic signal and lighting standards will be furnished by the Engineer as part of the final approved shop drawings prior to fabrication.

8-20.3(2) Excavation and Backfilling

[Supplement]

Trench excavation and backfill shall be in accordance with Sections 2-09 and 8-20 of the Standard Specifications except as modified by the Plans and these Special Provisions.

Extra depth shall be provided in the trench as necessary to provide a 12 inch minimum conduit clearance from existing utilities encountered in the field and proposed utilities as indicated in the Plans. Where less than 12 inches of clearance cannot be accomplished, a sand cushion, acceptable to the Engineer, shall be placed between the existing and new pipe.

The Contractor shall provide extra excavation as needed to provide transitions at junctions and angle points in the trench alignment in order to accommodate bends in the conduits. This minor extra excavation shall be incidental to the utility trench bid items.

Pipe bedding shall be crushed surfacing top course and provide uniform support to the conduit. The pipe shall be backfilled with crushed surfacing top course to approximately 2" above the pipe. All remaining backfill for trenches shall be native material, placed and compacted in maximum 1' loose lifts and compacted to 90% maximum density in non-paved areas, and 95% maximum density in paved areas.

Uniform Construction

Trenching for conduit runs shall be performed in a neat manner, and the trench bottom shall be graded to provide uniform grade. All trenching for placement of conduit shall be straight and as narrow in width as practical to provide a minimum of pavement disturbance. Conduits shall be placed in the same trench with other conduits when possible.

8-20.3(2)A Resolving Utility Conflicts**[New]**

The Contractor shall be responsible for determining the exact location of all utilities near underground work. The Contractor shall check with the utility companies concerning any possible conflict prior to commencing excavation in any area.

The Contractor shall be entirely responsible for coordination with the utility companies and arranging for the movement or adjustment, either temporary or permanent, of their facilities within the project limits.

If a conflict is identified, the Contractor shall contact the Engineer. The Contractor and City shall locate alternative locations for poles, cabinet, or junction boxes. The Contractor shall get approval from the Engineer prior to installation. The Contractor may consider changing depth or alignment of conduit to avoid utility conflicts.

Before beginning any excavation work for foundations, vaults, junction boxes or conduit runs, the Contractor shall confirm that the location proposed on the Contract Plans does not conflict with utility location markings placed on the surface by the various utility companies. If a conflict is identified, the following process shall be used to resolve the conflict:

1. Contact the Engineer and determine if there is an alternative location for the foundation, junction box, vault or conduit trench.
2. If an adequate alternate location is not obvious for the underground work, select a location that may be acceptable and pothole to determine the exact location of other utilities. Potholing must be approved by the Engineer.
3. If an adequate alternate alignment still cannot be identified following potholing operations, the pothole area should be restored and work in the area should stop until a new design can be developed.

The Contractor shall not attempt to adjust the location of an existing utility unless specifically agreed to by the utility owner.

8-20.3(4) Foundations**[Supplement]**

Street lighting system luminaire pole foundations shall be per City of Lakewood Standard Plan IS-06, and/or as detailed in the plans. Augured hole may be used as concrete form below 24" from finished grade. Exposed portion of pole foundation above grade shall have rubbed finish.

8-20.3(5) Conduit [Supplement]

Conduit may be installed by open trenching except in areas where new pavement has been constructed by this project.

Conduit installed under the sidewalk shall be installed at a minimum depth of 24 inches and trench backfill may be native after the pipe has been backfilled with crushed surface top course approximately 2 inches above the pipe. Conduit installed in existing paved areas, whether in the roadway area, shoulder area, or areas other than the roadway, shall be bedded and backfilled with crushed surfacing top course unless otherwise shown in the Plans. Conduits for pole risers shall be rigid galvanized steel conduit. Banding of risers to poles shall not be allowed. Riser on utility pole shall comply with electrical purvey requirements.

All underground conduit installed in open trenches shall be marked with a continuous strip of 4 mil x 6 inch width polyethylene marker tape. The tape shall be marked with black legend on yellow background, and buried a maximum of 12 inches below the original elevation of finish grade (except when backfilled with CDF) as applicable. When backfilled with CDF, no marker tape is required.

All empty conduits shall have a nylon pull string with a minimum strength of 500 pounds and 10 feet of slack in each junction box.

8-20.3(5)A Detectable Pull Tape [New]

For all conduits that do not contain electrical conductors, the Contractor shall add a detectable pull tape as indicated on the plans. The pull tape shall be in conformance with Section 9-29.27 of these Special Provisions.

8-20.3(6) Junction Boxes, Cable Vaults, and Pull boxes [Supplement]

Junction boxes shall be placed on a 6-inch cushion of crushed surfacing top course.

Bonding straps shall be provided on all junction boxes between the junction box lid, frame, and conduit ground couplings. All junction box lids shall be grounded in a manner that will allow removal of the lid without breaking the ground.

All junction boxes shall be supplied by the Contractor. The locations of the junction boxes as shown in the Plans are approximate and the exact locations shall be determined in the field by the Engineer. Junction boxes shall be located outside the traveled way, wheelchair ramps and landings, and driveways. The new junction box shall not interfere with any other previous or relocated installation. The lid of the junction box shall be flush with its frame and with the surrounding area whether it is shoulder, sidewalk, or other surface.

Wiring shall not be pulled into any conduit until all associated junction boxes have been adjusted to, or installed in, their final grade and location, unless installation is necessary to maintain system operation. If wire is installed for this reason, sufficient slack shall be left to allow for future adjustment.

When junction boxes are installed or adjusted prior to construction of finished grade, pre-molded joint filler for expansion joints may be placed around the junction boxes. The joint filler shall be removed prior to adjustment to finished grade.

All street light junction boxes shall be separate from traffic signal junction boxes. All junction boxes shall be immediately bolted down with 5 sided bolts by the Contractor after wire installation.

All junction boxes designated as pull points for fiber optic cable shall be configured such that the tensile and bending limitations of the fiber optic cable are not compromised. Junction boxes shall be configured to mechanically protect the fiber optic cable against installation force as well as inert forces after cable pulling operations. Junction boxes shall be installed per the details shown on the Plans.

The Contractor shall not damage any existing conduits when replacing or excavating existing junction boxes. The Contractor is to maintain the integrity of all junction boxes during reconfiguration of the conduits, installation of new conduits or when excavating.

The Contractor shall reconfigure conduits in existing junction boxes as shown in the details in the Plans where the minimum bend radius of the fiber is not achievable. The integrity of the junction box shall be maintained. If damage occurs, the Engineer shall be contacted immediately.

Power and Illumination

Conductors used for power or illumination shall meet the following requirements:

1. USE single conductors, Class B stranded, annealed copper per ASTM B3, IPCBA-NEMA S-19-81, as currently amended.
2. Cross-linked polyethylene insulation jacket per U.L. Standard 854 for Type USE and U.L. Standard 44 for type RHH-RHW.
3. Ampacity rating shall conform to current NEC requirements.

Unless otherwise specified, illumination conductors shall be #6 AWG. No splices shall be allowed in the luminaire wiring; all connections shall be made at terminal locations or at the SEC fused disconnects in the pole base.

8-20.3(9) Bonding, Grounding

[Supplement]

Contractor shall furnish and install ground wire in all new and existing conduits where new electrical conductors are being placed. Ground wires are not required in conduits with only fiber optic cabling.

At points where wiring shields or shielded conductors are grounded, the shields shall be neatly wired and terminated on suitable grounding lugs.

8-20.4 Measurement [Supplement]

Measurement for work under Section 8-20 of the Standard Specifications and these Special Provisions shall be as follows:

Measurement for “Illumination System Complete” shall be per lump sum.

8-20.5 Payment [Supplement]

Payment will be made for the following bid items:

Illumination System Complete	Lump Sum
------------------------------	----------

The lump sum contract price for “Illumination System Complete” shall be full compensation for all labor, material, and tools, including all incidentals and equipment required to satisfactorily provide, install and test a totally operational illumination system including but not limited to poles, arms, fixtures, cabinets, foundations, junction boxes, conduits, conductors, electrical meter, service connections, and trenching as shown in the Plans and as defined in the Standard Specifications and these Special Provisions.

All costs for adjustment of junction boxes, both to the final grade and any grade adjustments required for the various construction stages proposed in the Contract, or for alternative stages proposed by the Contractor, shall be included in the lump sum contract price for the associated system.

8-21 PERMANENT SIGNING

8-21.1 Description [Supplement]

Traffic and project signs specified in the Plans shall conform to the requirements of the WSDOT Sign Fabrication Manual and Sections 8-21 and 9-28 of the Standard Specifications.

Contractor shall supply and install traffic signs, posts, anchors, foundations, bolts and associated equipment and materials as shown in the plans.

8-21.2 Materials [Supplement]

Roadside Sign Structures

Each 15” radar speed sign shall consist of a display enclosure that houses the LED boards, controller, radar, Bluetooth, and shall be available in DC or AC power options. Each 15” radar speed sign shall include a static sign mounted to the display enclosure. The 15” radar speed sign shall be pre-wired to the maximum extent possible. The 15” radar speed sign shall conform to all MUTCD provisions contained in Chapter 2L Changeable Message Signs for color, dimensions, and layout and Chapter 2B.13 for speed limit regulatory signs.

Mechanical Specifications

The display enclosure and static sign shall be constructed from .09" (2.3mm) aluminum. All batteries and electronics shall be mounted in the display enclosure.

Display enclosure shall be a non-sealed, ventilated NEMA 3R type design. Internal components shall be easily accessible with removal of four or fewer external fasteners.

Display enclosure shall be comprised of modular components that are field-replaceable without removal of the sign from the mounting post. The static sign, display window, radar unit, controller board, fuse block(s) and fuse(s), LED display boards, AC power supply, and battery shall also be field-replaceable.

Display enclosure shall not exceed 26.5" (67.3cm) in width and 19.5" (49.5cm) in height. The depth of the display enclosure shall not exceed 7" (17.8cm).

Display enclosure shall be constructed to absorb impacts from thrown objects or vandalism attempts. Display window and LED boards shall deflect inwards up to 2" (5.1cm) without damaging internal components. The LEDs shall be protected by the polycarbonate window upon deflection.

Display window shall be made of ¼" (6.35mm) minimum thickness shatter-resistant UV-protected polycarbonate.

15" radar speed sign shall be designed with LED safety masking to reduce driver distractions introduced by the radar speed display. The display view shall be limited to the forward viewing angle approximately 30° from the roadside.

15" radar speed sign shall have optional integrated strobe(s) which shall be powered and triggered from the display's controller at a speed threshold from 5 to 99 mph (8 to 99 km).

The display enclosure and AC power box fasteners shall be NCHRP 350 crash test approved with the use of AASHTO or FHWA approved break-away base.

Display controller shall be reverse polarity protected.

Static sign shall adhere to MUTCD requirements of 6" increments and shall be 30" (76.2cm) wide by 42" (106.7cm) high with 15" (38.1cm) display digits.

Static sign and display shall not exceed 37 lbs. (16.8 kg) with internal AC power supply.

Static sign letters, "YOUR SPEED" or other regulatory text, shall be printed in two lines using approximately 6" high letters. The sign background surface shall be fluorescent yellow-green, yellow, orange, or white high intensity sheeting or equivalent, as specified in the Contract Plans.

An optional “SLOW DOWN” message shall include LED characters approximately 6” high, and shall be available in either yellow or red LEDs.

Display alignment shall be easily adjusted, without exchanging internal parts, to work on the center median, left, or right side of the roadway.

Display shall be a seven-segment design for maximum digit recognition. A full matrix or 13-segment design is not acceptable.

Each display segment shall consist of 16 discrete LEDs of approximately 15° to 17° viewing angle. LEDs shall be individually aimed to within +/- 2° of each other to concentrate light distribution within the drivers viewing area and to provide consistent cut-off of the display at the edge of the viewing cone.

Display design shall have a 1” black border around the LED sections, and shall have very high contrast between LEDs and their immediate background, to maximize visibility in direct sunlight, fog and night time conditions.

Display window shall have clear LED windows and a black surround matrix of less than or equal to 25% reflectance in accordance with the MUTCD, to maximize viewing contrast in all lighting conditions.

Display must not use anti-glare sheeting that would reduce the display’s visibility and contrast.

Non-illuminated portions of the seven segments display must not have visible “88” ghosting when a mix of on and off segments is displayed or in direct sunlight.

Mounting

Mounting hardware for the 15” radar speed sign shall be available for the following configurations:

2.5” – 3.5” OD Side of pole

Configuration

15” radar speed sign programming software shall maintain settings and schedules indefinitely. The software shall have the capability of data collection for speed, date, and vehicle count.

An optional traffic analysis software shall access the data collection and report on the date, speed and time of the vehicle, the number of daily vehicles, average daily volume, posted speed, average speed, vehicles within user-specified percentiles (typically 50th and 85th percentiles), and percent compliance. The software is also capable of filtering and windowing data for analysis.

Display shall have the following speed threshold programming capabilities: minimum displayed speed, flashing digits in excess of pre-set speed limit, flash rate increase with speeds over the set threshold, and high-speed blank-out threshold. Display digits shall flash at a rate from 120 – 150 FPM, increasing as speed increases.

Optional “SLOW DOWN” message shall display at a preset speed threshold. The display shall alternate between the driver’s speed and “SLOW DOWN” until the high-speed blanking threshold is met, and then only “SLOW DOWN” is displayed.

Data collection function shall have the capacity to record over 200,000 individual data points which include date, time and speed.

Data shall be formatted as a .csv file that can be imported into other traffic analysis tools.

15” radar speed sign software shall allow programming, data downloads and diagnostics to be accessible via Bluetooth wireless link to a Windows-compatible computer, and shall have the following display diagnostics:

- Test the real-time connection to the sign
- Run a test sequence that initiates a display digit roll-up test to verify the sign is operating properly.
- System voltage check, to validate the DC power source
- Validate real-time vehicle count to determine if data is being collected and radar is operational
- Ability to verify and update to new firmware version

The sign shall be capable of displaying numbers from 1 to 99 with optional display in miles or kilometers per hour if requested.

The sign shall be capable of displaying the numeric readout value within one second of detection of a vehicle and shall hold the detected speed for approximately one second after the vehicle passes outside the detection area and return to standby mode with a blank display when no vehicles are present.

The maximum display brightness shall be factory-selectable to allow for special local lighting conditions.

The display shall have the option to trigger up to two external 12-volt devices at different speed thresholds or be controlled by time of day to support integration of external flashers or other devices.

The 15” radar speed sign shall have the capability to integrate with third-party hardware and web-based applications for remote settings control, scheduling, and monitoring of solar panel voltage, battery voltage, median detected speed, communication events and errors.

AC Power

AC powered signs shall be capable of operation from 100-240 volts/47-63 Hz power.

At maximum power draw, display shall not exceed 20 watts if operated on AC.

Fluctuations in line voltage within normal limits shall not affect luminous intensity of the display.

Operational Specifications

Radar device shall meet specifications for an FCC part 15 Low Power Device - 24.150 GHz (K-band) and shall not require an operating license.

The radar shall have a reporting accuracy of ± 1 MPH and shall be set to detect approaching vehicles only.

Radar shall operate on voltages from 10.5VDC to 16.8VDC and shall consume less than 1/3 amp at 12VDC, typically <1/10 amp.

Sign display at maximum brightness shall consume less than 6.5 watts maximum of DC power; with a typical power requirement of 3.5 watts and shall consume less than 1.75 watts in stealth mode (collecting data but no display); shall consume less than 0.95 watts in standby.

The system shall use an ambient brightness sensor for nighttime dimming and apply any optionally-enabled intensity adjustments.

ALR (Array-to-Load Ratio)

System Array-to-Load (ALR) ratio shall be calculated as: Daily Available Energy-In divided by Daily Energy-Out as defined above.

15" radar speed sign solar simulations shall be calculated demonstrating a minimum Array-to-Load (ALR) ratio of 1.2:1 (1.2)

Autonomy

Autonomy is the number of days that the 15" radar speed sign can continue to operate normally in the absence of any solar charging. Autonomy shall be calculated as follows:

(Nominal Battery Capacity de-rated for Temperature minus battery capacity unavailable due to Low Voltage Disconnect) divided by (Daily total energy consumption at specified ADT or as otherwise specified)

15" radar speed sign autonomy shall be a minimum of 5 days.

Environmental

The 15" radar speed sign display enclosure and optional battery cabinet shall be rated to a minimum of NEMA 3R.

The sign shall be 150 mph (241 km/h) wind load rated when installed as specified by the manufacturer.

The 15" radar speed sign display enclosure shall meet a system operating temperature between -40 to 167° F (-40 to 75° C).

Qualifications

The 15" radar speed sign shall be FCC certified to comply with all 47 CFR FCC Part 15 Subpart B Emission requirements.

The 15" radar speed sign shall be manufactured in the USA and shall be Buy America compliant.

Manufacturer shall provide a 3-Year Limited Warranty.

The Manufacturer shall be ISO 9001 certified.

8-21.3(5) Sign Relocation [Supplement]

Existing traffic control and street name signs, which interfere with construction, shall be relocated or removed by the Contractor and temporarily stored in a safe place. "Stop," "Yield," and "One-Way" signs shall be removed or relocated only upon approval of the Engineer. Existing signs shall not be removed until the Contractor has provided temporary measures sufficient to safeguard and direct traffic after the existing signs have been removed. Preservation and maintenance of traffic control and street name signs shall be the sole responsibility of the Contractor, except as otherwise provided in the Contract Documents,

As work progresses and permits, temporarily relocated or removed traffic and street name signs shall be reset in their permanent location by the Contractor. Signs and other traffic control devices damaged or lost by the Contractor, shall be replaced or repaired by the Contractor at no cost to the Owner. The decision of whether a sign can be repaired or shall be replaced shall be the Engineer's and such decision shall be final and binding on the Contractor.

Existing signs not reused shall be returned to the City of Lakewood's Public Works Operation and Maintenance Shop.

8-21.3(12) Steel Sign Posts [Replacement]

Sign posts shall be square 2" x 2" OD, 0.083" wall thickness, rolled carbon sheet steel, ASTM A570 Grade 50. Post shall have 7/16" diameter die-punched knockouts on 1"

centers full length on four sides. Finish shall be hot dipped galvanized AASHTO M-120 with conversion coating and clear organic topcoat. Yield strength 60,000 PSI min.

Post anchor shall be 7 gauge steel heavy duty, 30" long. square 2-1/2" OD with .188 thick wall to receive 2" post with minimum of play. Anchor shall have 4; 7/16" holes on each side, 1" from one end to center of hole. Finish shall be zinc hot dipped galvanized after fabrication. Material shall meet ASTM A500 Grade B.

Steel sign post and anchor shall be installed with 5/16" corner bolt, 3/8" steel rivets with washer, 5/16" flanged nut (for use with corner bolts) and 12" sign cap flat blade for top of posts.

8-21.3(13) Project Signs [New]

The Contractor shall provide project signs where shown in the Plans or where directed by Engineer. Project signs shall be mounted on three 4"x4" posts.

8-21.3(14) Existing Sign Maintenance [New]

The Contractor shall maintain all existing signs within the construction limits through the duration of the project construction. This shall include, but not be limited to: sign cleaning, and resetting of damaged signs whether or not damage was a direct result of Contractor's operations.

8-21.4 Measurement [Modification]

Project Signs will be measured one time per each in their fully constructed initial position.

Sign covering will not be measured, but will be considered as incidental to and included in the bid item "Permanent Signing".

Measurement of "Hard-wired Radar Speed Sign System Complete" shall be per lump sum.

8-21.5 Payment [Supplement]

Payment will be made for the following bid items:

Permanent Signing	Lump Sum
Project Sign	Per Each
Hard-wired Radar Speed Sign	Lump Sum

The lump sum bid price for "Permanent Signing" shall be full pay for all labor, materials, tools and equipment necessary to complete the work as specified, including but not limited to, providing signs and supports, foundations, temporary sign relocations, and

relocation to their permanent location, sign cleaning, sign covering, and maintenance of existing signs during construction, in accordance with the Contract Documents.

The unit bid price per each for "Project Sign" shall be full pay for all labor, materials, tools and equipment necessary to provide complete project sign, including but not limited to, providing signs and supports, maintenance, and removal after project completion, in accordance with the Contract Documents.

The lump sum contract price for "Hard-wired Radar Speed Sign System Complete" shall be full compensation for all labor, materials, equipment, and costs necessary to complete the work as specified and detailed in the Plans, including the sign post, brackets, and speed display sign, excavation and backfilling, conduit, wiring, restoring facilities destroyed or damaged during construction, and for making all required tests. All additional materials and labor, not shown in the Plans or called for herein and which are required to complete the Hard-wired Radar Speed Sign electrical system, shall be included in the lump sum Contract price.

8-22 PAVEMENT MARKINGS

8-22.1 Description [Supplement]

Pavement markings shall conform to Section 8-22 of the Standard Specifications, the Standard Plans in Appendix B, and the latest edition and amendments thereto of the Manual on Uniform Traffic Control Devices (MUTCD) as adopted by the State of Washington, and shall be constructed as shown in the Plans, except as modified herein.

The words "line" and "stripe" shall be considered interchangeable.

This work shall also include construction of durable pavement markings as shown in the Plans. The term "durable" and "plastic" shall be considered interchangeable.

This work shall also include maintaining existing pavement markings through the course of construction within the construction zone in order to provide visible channelization for the traveling public.

8-22.2 Materials [Supplement]

Profiled Plastic Line and Profiled Plastic Wide Line shall be extruded Type D material meeting the requirements of section 9-34.3 of the Standard Specifications. "Profiled Thickness" as shown in the plans and specifications

Plastic Stop Line, Plastic Crosswalk Marking, Plastic Traffic Arrow, and Plastic Speed Table Marking pavement marking materials shall be Type D material meeting the requirements of section 9-34.3 of the Standard Specifications.

Acceptance

The Contractor shall be responsible for supplying material which meets afore stated material and testing requirements. The Contractor shall supply certification that the pavement marking material meets the above specifications.

8-22.3(2) Preparation of Roadway Surfaces [Supplement]

After cleaning of areas to receive pavement markings, the areas shall pass inspection of the Engineer prior to application of the material or the primer coat.

8-22.3(5) Installation Instructions [Supplement]

The Contractor shall provide the Engineer with 2 copies of the manufacturer's product installation procedure recommendations a minimum of five working days prior to scheduled installation date.

When no manufacturer's product installation procedure recommendations have been published, workmanship shall be governed by these Special Provisions and the Standard Specifications.

8-22.4 Measurement [Supplement]

Measurement of "Paint Line", "Profiled Plastic Line", "Profiled Plastic Wide Lane Line", and "Plastic Stop Line" will be based upon the total length of line installed.

Measurement of "Plastic Traffic Arrow", "Plastic Speed Table Marking", and "Plastic Bicycle Lane Symbol" will be per each.

Measurement of "Plastic Crosswalk Line" will be based upon the total length of line installed.

8-22.5 Payment [Supplement]

Payment will be made for the following bid items:

Paint Line	Per Linear Foot
Profiled Plastic Line	Per Linear Foot
Profiled Plastic Wide Lane Line	Per Linear Foot
Plastic Stop Line	Per Linear Foot
Plastic Traffic Arrow	Per Each
Plastic Speed Table Marking	Per Each
Plastic Bicycle Lane Symbol	Per Each
Plastic Crosswalk Marking	Per Linear Foot

The unit contract prices for the above bid items shall be full pay for all labor, materials, tools and equipment necessary to provide the various pavement markings, including but

not limited to, refreshing and maintaining existing pavement markings through the course of construction, in accordance with the Contract Documents.

END OF DIVISION 8

DIVISION 9 MATERIALS

9-03 AGGREGATES

9-03.8(2) HMA Test Requirements

[Supplement]

Supplement with the following:

The number of ESAL's for the design and acceptance of the HMA shall be 2.9 million.

9-03.8(7) HMA Tolerance and Adjustments

[Modification]

Delete Item 1 and replace it with the following:

1. **Job Mix Formula Tolerances.** After the JMF is determined as required in 5-04.3(7)A, the constituents of the mixture at the time of acceptance shall conform to the following tolerances:

	Nonstatistical Evaluation
Aggregate, percent passing	
1", 3/4", 1/2", and 3/8" sieves	±6%
U.S. No. 4 sieve	±6%
U.S. No. 8 sieve	±6%
U.S. No. 200 sieve	±2.0%
Asphalt Binder	±0.5%

These tolerance limits constitute the allowable limits as described in Section 1-06.2. The tolerance limit for aggregate shall not exceed the limits of the control points section, except the tolerance limits for sieves designated as 100% passing will be 99-100. The tolerance limits on sieves shall only apply to sieves with control points.

9-03.11(2) Streambed Cobbles

Streambed cobble shall be clean, naturally occurring water rounded material. Streambed cobbles shall have a well-graded distribution of cobbles sizes and conform to one or more of the following gradings as shown in plans.

9-05 DRAINAGE STRUCTURES, CULVERTS AND CONDUITS

9-05.15(2) Metal Frame, Grate and Solid Metal Cover for Catch Basins or Inlets **[Supplement]**

Grates shall be ductile iron and have the letters "DUCT" cast in the cover.

Frames for catch basins and inlets shall be of cast iron or ductile iron or equivalent approved by the Engineer.

9-14 EROSION CONTROL AND ROADSIDE PLANTING

9-14.1(1) Topsoil Type A [Supplement]

Supplement this section with the following:

Topsoil Type A shall be native to the site or imported. If blended topsoil is imported, then fines should be limited to 25 percent passing through a 200 sieve. Topsoil shall have a pH between 6.0 and 8.0 or matching the pH of the undisturbed soil.

Topsoil Type A shall have a minimum organic content of 10% dry weight in planting beds and bark mulched areas, and 5% organic matter content in turf areas.

9-28 SIGNING MATERIALS AND FABRICATION

9-28.14(2) Steel Structures and Post [Supplement]

Each sign shall be installed with a 2"x2" square steel posts. Posts shall have holes spaced 1 inch on center on all sides. Post shall be installed to single breakaway anchor with corner bolts. See section 8-21.3(12).

Signs installed to street light poles shall have C206R9 ¾ inch wide Bandit, equivalent Panduit or engineers approved equivalent material.

9-29 ILLUMINATION, SIGNALS, ELECTRICAL

9-29.1 Conduit, Innerduct, and Outerduct [Supplement]

Conduit installed under the sidewalk or non-paved areas shall be Schedule 40 PVC. Conduit installed in existing paved areas, whether in the roadway area, shoulder area, driveways, or areas other than the roadway, shall be Schedule 80 PVC unless otherwise noted in the Plans.

Conduits for pole risers shall be rigid galvanized steel conduit.

9-29.2(1) Standard Duty and Heavy Duty Junction Box [Supplement]

Standard Duty Junction Boxes shall conform to Section 9-29.2(1) of the Standard Specifications and shall conform to WSDOT Standard Plan J-11a and J-11c. All lids shall be galvanized and shall bolt down to box.

9-29.2(4) Cover Markings [Supplement]

In addition to the marking requirements required by Washington State Labor and Industries, the cover markings shall be as follows: The legend marked on the cover of

junction boxes used for traffic signals (including interconnect system), flashing beacons or pedestrian signs shall be "TS". Junction boxes used for street lighting shall have "LT" marked on the lid. Junction boxes used for spare conduit systems shall have "LKW" marked on the lid. The legend marked on the cover of junction boxes used for hard-wired radar speed signs shall be "ITS".

9-29.6(1) Steel Light and Signal Standards [Supplement]

All welds shall comply with the latest AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals. Welding inspection shall comply with Section 6-03.3(25)A of the Standard Specifications.

9-29.7 Luminaire Fusing and Electrical Connections at Light Standard Bases, Cantilever Bases and Sign Bridge Bases [Supplement]

Each luminaire shall have fuses and fuseholders for each power conductor above ground potential. Fuses shall be 1.0 cm □ 1.8 cm (13/31" □ 1.5"). Fuses shall be slow blow type (carry 100%, open at 135% within 1 hour, carry 200% for minimum of 10 seconds. Luminaires 250 watts and below shall have 5 amp fuses. Luminaires above 250 watts shall have 10 amp fuses.

9-29.10 Luminaires [Supplement]

Luminaire for Cobra Head Style LED Fixture

The cobra head style LED fixture shall meet the following:

Cree Lighting

Series:	RSWL LED Roadway
Performance:	14L 14,000 lumens
Voltage:	Multi-volt 120-277V
Optics:	2ME - Roadway Type II Medium, 3ME – Roadway Type III
Mounting:	4 Bolt
Color Temp:	2700K, 70 CRI Min
Finish:	Grey
Surge Protection:	Acuity SPD
Control Option:	7 Pin Photocontrol Receptacle
Miscellaneous:	NEMA Label Indicating Wattage

9-29.12 Electrical Splice Materials [Replacement]

Splice kits shall be resin type. Splice kits shall be either in-line or wye.

In-line (or thru barrel) splice kits shall have maximum sheath opening shall be 4 ½ inches, either crimped type or split solder sleeve connectors, fit up to 2 AWG conductors, maximum outside connector diameter of 13/32 inch.

Wye splice kits shall have maximum sheath opening shall be 4 ¾ inches, either split solder sleeve, split bolt up to 4 AWG, or C-type compression up to 2 AWG connectors, fit up to 2 AWG conductors (crimped) or 4 AWG connectors (split bolt).

All Splice have maximum outside cable diameter of 5/8 inch, and be rated up to a maximum of 5kV for unshielded synthetic insulated cables and 1 kV for multiple conductor cable. Single splice kit may not contain more than one splice. Splice kits must be capable of direct bury and submerged applications up to 600 volts and 90 degrees C. All splice kits shall be UL listed 486D and 98U1.

END OF DIVISION 9

Appendix A
Washington State Prevailing
Wage Rates

Washington State Department of Labor and Industries
Policy Statement
(Regarding the Production of "Standard" or "Non-standard" Items)

Below is the department's (State L&I's) list of criteria to be used in determining whether a prefabricated item is "standard" or "non-standard". For items not appearing on WSDOT's predetermined list, these criteria shall be used by the Contractor (and the Contractor's subcontractors, agents to subcontractors, suppliers, manufacturers, and fabricators) to determine coverage under RCW 39.12. The production, in the State of Washington, of non-standard items is covered by RCW 39.12, and the production of standard items is not. The production of any item outside the State of Washington is not covered by RCW 39.12.

1. Is the item fabricated for a public works project? If not, it is not subject to RCW 39.12. If it is, go to question 2.
2. Is the item fabricated on the public works jobsite? If it is, the work is covered under RCW 39.12. If not, go to question 3.
3. Is the item fabricated in an assembly/fabrication plant set up for, and dedicated primarily to, the public works project? If it is, the work is covered by RCW 39.12. If not, go to question 4.
4. Does the item require any assembly, cutting, modification or other fabrication by the supplier? If not, the work is not covered by RCW 39.12. If yes, go to question 5.
5. Is the prefabricated item intended for the public works project typically an inventory item which could reasonably be sold on the general market? If not, the work is covered by RCW 39.12. If yes, go to question 6.
6. Does the specific prefabricated item, generally defined as standard, have any unusual characteristics such as shape, type of material, strength requirements, finish, etc? If yes, the work is covered under RCW 39.12.

Any firm with questions regarding the policy, WSDOT's Predetermined List, or for determinations of covered and non-covered workers shall be directed to State L&I at (360) 902-5330.

**WSDOT's
Predetermined List for
Suppliers - Manufactures - Fabricator**

Below is a list of potentially prefabricated items, originally furnished by WSDOT to Washington State Department of Labor and Industries, that may be considered non-standard and therefore covered by the prevailing wage law, RCW 39.12. Items marked with an X in the "YES" column should be considered to be non-standard and therefore covered by RCW 39.12. Items marked with an X in the "NO" column should be considered to be standard and therefore not covered. Of course, exceptions to this general list may occur, and in that case shall be evaluated according to the criteria described in State and L&I's policy statement.

ITEM DESCRIPTION	YES	NO
1. Metal rectangular frames, solid metal covers, herringbone grates, and bi-directional vaned grates for Catch Basin Types 1, 1L, 1P, and 2 and Concrete Inlets. See Std. Plans		X
2. Metal circular frames (rings) and covers, circular grates, and prefabricated ladders for Manhole Types 1, 2, and 3, Drywell Types 1, 2, and 3 and Catch Basin Type 2. See Std. Plans		X
3. Prefabricated steel grate supports and welded grates, metal frames and dual vaned grates, and Type 1, 2, and 3 structural tubing grates for Drop Inlets. See Std. Plans.		X
4. Concrete Pipe - Plain Concrete pipe and reinforced concrete pipe Class 2 to 5 sizes smaller than 60 inch diameter.		X
5. Concrete Pipe - Plain Concrete pipe and reinforced concrete pipe Class 2 to 5 sizes larger than 60 inch diameter.		X
6. Corrugated Steel Pipe - Steel lock seam corrugated pipe for culverts and storm sewers, sizes 30 inch to 120 inches in diameter. May also be treated, 1 thru 5.		X
7. Corrugated Aluminum Pipe - Aluminum lock seam corrugated pipe for culverts and storm sewers, sizes 30 inch to 120 inches in diameter. May also be treated, #5.		X

ITEM DESCRIPTION	YES	NO
8. Anchor Bolts & Nuts - Anchor Bolts and Nuts, for mounting sign structures, luminaries and other items, shall be made from commercial bolt stock. See Contract Plans and Std. Plans for size and material type.		X
9. Aluminum Pedestrian Handrail - Pedestrian handrail conforming to the type and material specifications set forth in the contract plans. Welding of aluminum shall be in accordance with Section 9-28.14(3).	X	
10. Major Structural Steel Fabrication - Fabrication of major steel items such as trusses, beams, girders, etc., for bridges.	X	
11. Minor Structural Steel Fabrication - Fabrication of minor steel Items such as special hangers, brackets, access doors for structures, access ladders for irrigation boxes, bridge expansion joint systems, etc., involving welding, cutting, punching and/or boring of holes. See Contact Plans for item description and shop drawings.	X	
12. Aluminum Bridge Railing Type BP - Metal bridge railing conforming to the type and material specifications set forth in the Contract Plans. Welding of aluminum shall be in accordance with Section 9-28.14(3).		X
13. Concrete Piling--Precast-Prestressed concrete piling for use as 55 and 70 ton concrete piling. Concrete to conform to Section 9-19.1 of Std. Spec..	X	
14. Precast Manhole Types 1, 2, and 3 with cones, adjustment sections and flat top slabs. See Std. Plans.		X
15. Precast Drywell Types 1, 2, and with cones and adjustment Sections. See Std. Plans.		X
16. Precast Catch Basin - Catch Basin type 1, 1L, 1P, and 2 With adjustment sections. See Std. Plans.		X

ITEM DESCRIPTION	YES	NO
17. Precast Concrete Inlet - with adjustment sections, See Std. Plans		X
18. Precast Drop Inlet Type 1 and 2 with metal grate supports. See Std. Plans.		X
19. Precast Grate Inlet Type 2 with extension and top units. See Std. Plans		X
20. Metal frames, vaned grates, and hoods for Combination Inlets. See Std. Plans		X
21. Precast Concrete Utility Vaults - Precast Concrete utility vaults of various sizes. Used for in ground storage of utility facilities and controls. See Contract Plans for size and construction requirements. Shop drawings are to be provided for approval prior to casting		X
22. Vault Risers - For use with Valve Vaults and Utilities X Vaults.		X
23. Valve Vault - For use with underground utilities. See Contract Plans for details.		X
24. Precast Concrete Barrier - Precast Concrete Barrier for use as new barrier or may also be used as Temporary Concrete Barrier. Only new state approved barrier may be used as permanent barrier.		X
25. Reinforced Earth Wall Panels – Reinforced Earth Wall Panels in size and shape as shown in the Plans. Fabrication plant has annual approval for methods and materials to be used. See Shop Drawing. Fabrication at other locations may be approved, after facilities inspection, contact HQ. Lab.	X	
26. Precast Concrete Walls - Precast Concrete Walls - tilt-up wall panel in size and shape as shown in Plans. Fabrication plant has annual approval for methods and materials to be used	X	

ITEM DESCRIPTION	YES	NO
27. Precast Railroad Crossings - Concrete Crossing Structure Slabs.	X	
28. 12, 18 and 26 inch Standard Precast Prestressed Girder – Standard Precast Prestressed Girder for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A	X	
29. Prestressed Concrete Girder Series 4-14 - Prestressed Concrete Girders for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A	X	
30. Prestressed Tri-Beam Girder - Prestressed Tri-Beam Girders for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A	X	
31. Prestressed Precast Hollow-Core Slab – Precast Prestressed Hollow-core slab for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A.	X	
32. Prestressed-Bulb Tee Girder - Bulb Tee Prestressed Girder for use in structures. Fabricator plant has annual approval of methods and materials to be used. Shop Drawing to be provided for approval prior to casting girders. See Std. Spec. Section 6-02.3(25)A	X	
33. Monument Case and Cover See Std. Plan.		X

ITEM DESCRIPTION	YES	NO
34. Cantilever Sign Structure - Cantilever Sign Structure fabricated from steel tubing meeting AASHTO-M-183. See Std. Plans, and Contract Plans for details. The steel structure shall be galvanized after fabrication in accordance with AASHTO-M-111.	X	
35. Mono-tube Sign Structures - Mono-tube Sign Bridge fabricated to details shown in the Plans. Shop drawings for approval are required prior to fabrication.	X	
36. Steel Sign Bridges - Steel Sign Bridges fabricated from steel tubing meeting AASHTO-M-138 for Aluminum Alloys. See Std. Plans, and Contract Plans for details. The steel structure shall be galvanized after fabrication in accordance with AASHTO-M-111.	X	
37. Steel Sign Post - Fabricated Steel Sign Posts as detailed in Std Plans. Shop drawings for approval are to be provided prior to fabrication		X
38. Light Standard-Prestressed - Spun, prestressed, hollow concrete poles.	X	
39. Light Standards - Lighting Standards for use on highway illumination systems, poles to be fabricated to conform with methods and materials as specified on Std. Plans. See Special Provisions for pre-approved drawings.	X	
40. Traffic Signal Standards - Traffic Signal Standards for use on highway and/or street signal systems. Standards to be fabricated to conform with methods and material as specified on Std. Plans. See Special Provisions for pre-approved drawings	X	
41. Precast Concrete Sloped Mountable Curb (Single and DualFaced) See Std. Plans.		X

ITEM DESCRIPTION	YES	NO
42. Traffic Signs - Prior to approval of a Fabricator of Traffic Signs, the sources of the following materials must be submitted and approved for reflective sheeting, legend material, and aluminum sheeting. NOTE: *** Fabrication inspection required. Only signs tagged "Fabrication Approved" by WSDOT Sign Fabrication Inspector to be installed	X	X
	Custom Message	Std Signing Message
43. Cutting & bending reinforcing steel		X
44. Guardrail components	X	X
	Custom End Sec	Standard Sec
45. Aggregates/Concrete mixes	Covered by WAC 296-127-018	
46. Asphalt	Covered by WAC 296-127-018	
47. Fiber fabrics		X
48. Electrical wiring/components		X
49. treated or untreated timber pile		X
50. Girder pads (elastomeric bearing)	X	
51. Standard Dimension lumber		X
52. Irrigation components		X

ITEM DESCRIPTION	YES	NO
53. Fencing materials		X
54. Guide Posts		X
55. Traffic Buttons		X
56. Epoxy		X
57. Cribbing		X
58. Water distribution materials		X
59. Steel "H" piles		X
60. Steel pipe for concrete pile casings		X
61. Steel pile tips, standard		X
62. Steel pile tips, custom	X	

Prefabricated items specifically produced for public works projects that are prefabricated in a county other than the county wherein the public works project is to be completed, the wage for the offsite prefabrication shall be the applicable prevailing wage for the county in which the actual prefabrication takes place.

It is the manufacturer of the prefabricated product to verify that the correct county wage rates are applied to work they perform.

See RCW [39.12.010](#)

(The definition of "locality" in RCW [39.12.010](#)(2) contains the phrase "wherein the physical work is being performed." The department interprets this phrase to mean the actual work site.

WSDOT's List of State Occupations not applicable to Heavy and Highway Construction Projects

This project is subject to the state hourly minimum rates for wages and fringe benefits in the contract provisions, as provided by the state Department of Labor and Industries.

The following list of occupations, is comprised of those occupations that are not normally used in the construction of heavy and highway projects.

When considering job classifications for use and / or payment when bidding on, or building heavy and highway construction projects for, or administered by WSDOT, these Occupations will be excepted from the included "Washington State Prevailing Wage Rates For Public Work Contracts" documents.

- Building Service Employees
- Electrical Fixture Maintenance Workers
- Electricians - Motor Shop
- Heating Equipment Mechanics
- Industrial Engine and Machine Mechanics
- Industrial Power Vacuum Cleaners
- Inspection, Cleaning, Sealing of Water Systems by Remote Control
- Laborers - Underground Sewer & Water
- Machinists (Hydroelectric Site Work)
- Modular Buildings
- Playground & Park Equipment Installers
- Power Equipment Operators - Underground Sewer & Water
- Residential *** ALL ASSOCIATED RATES ***
- Sign Makers and Installers (Non-Electrical)
- Sign Makers and Installers (Electrical)
- Stage Rigging Mechanics (Non Structural)

The following occupations may be used only as outlined in the preceding text concerning "WSDOT's list for Suppliers - Manufacturers - Fabricators"

- Fabricated Precast Concrete Products
- Metal Fabrication (In Shop)

Definitions for the Scope of Work for prevailing wages may be found at the Washington State Department of Labor and Industries web site and in WAC Chapter 296-127.

Washington State Department of Labor and Industries
Policy Statements
(Regarding Production and Delivery of Gravel, Concrete, Asphalt, etc.)

WAC 296-127-018 Agency filings affecting this section

Coverage and exemptions of workers involved in the production and delivery of gravel, concrete, asphalt, or similar materials.

(1) The materials covered under this section include but are not limited to: Sand, gravel, crushed rock, concrete, asphalt, or other similar materials.

(2) All workers, regardless of by whom employed, are subject to the provisions of chapter 39.12 RCW when they perform any or all of the following functions:

(a) They deliver or discharge any of the above-listed materials to a public works project site:

(i) At one or more point(s) directly upon the location where the material will be incorporated into the project; or

(ii) At multiple points at the project; or

(iii) Adjacent to the location and coordinated with the incorporation of those materials.

(b) They wait at or near a public works project site to perform any tasks subject to this section of the rule.

(c) They remove any materials from a public works construction site pursuant to contract requirements or specifications (e.g., excavated materials, materials from demolished structures, clean-up materials, etc.).

(d) They work in a materials production facility (e.g., batch plant, borrow pit, rock quarry, etc.) which is established for a public works project for the specific, but not necessarily exclusive, purpose of supplying materials for the project.

(e) They deliver concrete to a public works site regardless of the method of incorporation.

(f) They assist or participate in the incorporation of any materials into the public works project.

(3) All travel time that relates to the work covered under subsection (2) of this section requires the payment of prevailing wages. Travel time includes time spent waiting to load, loading, transporting, waiting to unload, and delivering materials. Travel time would include all time spent in travel in support of a public works project whether the vehicle is empty or full. For example, travel time spent returning to a supply source to obtain another load of material for use on a public works site or returning to the public works site to obtain another load of excavated material is time spent in travel that is subject to prevailing wage. Travel to a supply source, including travel from a public works site, to obtain materials for use on a private project would not be travel subject to the prevailing wage.

(4) Workers are not subject to the provisions of chapter 39.12 RCW when they deliver materials to a stockpile.

(a) A "stockpile" is defined as materials delivered to a pile located away from the site of incorporation such that the stockpiled materials must be physically moved from the stockpile and transported to another location on the project site in order to be incorporated into the project.

(b) A stockpile does not include any of the functions described in subsection (2)(a) through (f) of this section; nor does a stockpile include materials delivered or distributed to multiple locations upon the project site; nor does a stockpile include materials dumped at the place of incorporation, or adjacent to the location and coordinated with the incorporation.

(5) The applicable prevailing wage rate shall be determined by the locality in which the work is performed. Workers subject to subsection (2)(d) of this section, who produce such materials at an off-site facility shall be paid the applicable prevailing wage rates for the county in which the off-site facility is located. Workers subject to subsection (2) of this section, who deliver such materials to a public works project site shall be paid the applicable prevailing wage rates for the county in which the public works project is located.

[Statutory Authority: Chapter 39.12 RCW, RCW 43.22.051 and 43.22.270. 08-24-101, § 296-127-018, filed 12/2/08, effective 1/2/09. Statutory Authority: Chapters 39.04 and 39.12 RCW and RCW 43.22.270. 92-01-104 and 92-08-101, § 296-127-018, filed 12/18/91 and 4/1/92, effective 8/31/92.]

Benefit Code Key – Effective 8/31/2019 thru 3/3/2020

Overtime Codes

Overtime calculations are based on the hourly rate actually paid to the worker. On public works projects, the hourly rate must be not less than the prevailing rate of wage minus the hourly rate of the cost of fringe benefits actually provided for the worker.

1. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.
 - B. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - C. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - D. The first two (2) hours before or after a five-eight (8) hour workweek day or a four-ten (10) hour workweek day and the first eight (8) hours worked the next day after either workweek shall be paid at one and one-half times the hourly rate of wage. All additional hours worked and all worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - E. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - F. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours worked, except Labor Day, shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.
 - G. The first ten (10) hours worked on Saturdays and the first ten (10) hours worked on a fifth calendar weekday in a four-ten hour schedule, shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - H. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions or equipment breakdown) shall be paid at one and one-half times the hourly rate of wage. All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - I. All hours worked on Sundays and holidays shall also be paid at double the hourly rate of wage.
 - J. The first two (2) hours after eight (8) regular hours Monday through Friday and the first ten (10) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over ten (10) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage.
 - K. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.
 - M. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - N. All hours worked on Saturdays (except makeup days) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

Overtime Codes Continued

1. O. The first ten (10) hours worked on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays, holidays and after twelve (12) hours, Monday through Friday and after ten (10) hours on Saturday shall be paid at double the hourly rate of wage.
- P. All hours worked on Saturdays (except makeup days if circumstances warrant) and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.
- Q. The first two (2) hours after eight (8) regular hours Monday through Friday and up to ten (10) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day Monday through Saturday and all hours worked on Sundays and holidays (except Christmas day) shall be paid at double the hourly rate of wage. All hours worked on Christmas day shall be paid at two and one-half times the hourly rate of wage.
- R. All hours worked on Sundays and holidays shall be paid at two times the hourly rate of wage.
- S. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays and all other overtime hours worked, except Labor Day, shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.
- U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays (except Labor Day) shall be paid at two times the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.
- V. All hours worked on Sundays and holidays (except Thanksgiving Day and Christmas day) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Thanksgiving Day and Christmas day shall be paid at double the hourly rate of wage.
- W. All hours worked on Saturdays and Sundays (except make-up days due to conditions beyond the control of the employer) shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.
- X. The first four (4) hours after eight (8) regular hours Monday through Friday and the first twelve (12) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over twelve (12) hours Monday through Saturday, Sundays and holidays shall be paid at double the hourly rate of wage. When holiday falls on Saturday or Sunday, the day before Saturday, Friday, and the day after Sunday, Monday, shall be considered the holiday and all work performed shall be paid at double the hourly rate of wage.
- Y. All hours worked outside the hours of 5:00 am and 5:00 pm (or such other hours as may be agreed upon by any employer and the employee) and all hours worked in excess of eight (8) hours per day (10 hours per day for a 4 x 10 workweek) and on Saturdays and holidays (except labor day) shall be paid at one and one-half times the hourly rate of wage. (except for employees who are absent from work without prior approval on a scheduled workday during the workweek shall be paid at the straight-time rate until they have worked 8 hours in a day (10 in a 4 x 10 workweek) or 40 hours during that workweek.) All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and Labor Day shall be paid at double the hourly rate of wage.
- Z. All hours worked on Saturdays and Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid the straight time rate of pay in addition to holiday pay.

Overtime Codes Continued

2. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.
- B. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.
 - C. All hours worked on Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at two times the hourly rate of wage.
 - F. The first eight (8) hours worked on holidays shall be paid at the straight hourly rate of wage in addition to the holiday pay. All hours worked in excess of eight (8) hours on holidays shall be paid at double the hourly rate of wage.
 - G. All hours worked on Sunday shall be paid at two times the hourly rate of wage. All hours worked on paid holidays shall be paid at two and one-half times the hourly rate of wage including holiday pay.
 - H. All hours worked on Sunday shall be paid at two times the hourly rate of wage. All hours worked on holidays shall be paid at one and one-half times the hourly rate of wage.
 - O. All hours worked on Sundays and holidays shall be paid at one and one-half times the hourly rate of wage.
 - R. All hours worked on Sundays and holidays and all hours worked over sixty (60) in one week shall be paid at double the hourly rate of wage.
 - U. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked over 12 hours in a day or on Sundays and holidays shall be paid at double the hourly rate of wage.
 - W. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage. On a four-day, ten-hour weekly schedule, either Monday thru Thursday or Tuesday thru Friday schedule, all hours worked after ten shall be paid at double the hourly rate of wage. The first eight (8) hours worked on the fifth day shall be paid at one and one-half times the hourly rate of wage. All other hours worked on the fifth, sixth, and seventh days and on holidays shall be paid at double the hourly rate of wage.
3. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.
- A. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal shift, and all work on Saturdays shall be paid at time and one-half the straight time rate. Hours worked over twelve hours (12) in a single shift and all work performed after 6:00 pm Saturday to 6:00 am Monday and holidays shall be paid at double the straight time rate of pay. Any shift starting between the hours of 6:00 pm and midnight shall receive an additional one dollar (\$1.00) per hour for all hours worked that shift. The employer shall have the sole discretion to assign overtime work to employees. Primary consideration for overtime work shall be given to employees regularly assigned to the work to be performed on overtime situations. After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.
 - C. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage. All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays shall be paid at double the hourly rate of wage. After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

Overtime Codes Continued

3.
 - E. All hours worked Sundays and holidays shall be paid at double the hourly rate of wage. Each week, once 40 hours of straight time work is achieved, then any hours worked over 10 hours per day Monday through Saturday shall be paid at double the hourly wage rate.
 - F. All hours worked on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sunday shall be paid at two times the hourly rate of wage. All hours worked on paid holidays shall be paid at two and one-half times the hourly rate of wage including holiday pay.
 - H. All work performed on Sundays between March 16th and October 14th and all Holidays shall be compensated for at two (2) times the regular rate of pay. Work performed on Sundays between October 15th and March 15th shall be compensated at one and one half (1-1/2) times the regular rate of pay.
 - J. All hours worked between the hours of 10:00 pm and 5:00 am, Monday through Friday, and all hours worked on Saturdays shall be paid at a one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
 - K. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal 5 am to 6pm shift, and all work on Saturdays shall be paid at one and one-half times the hourly rate of wage. All work performed after 6:00 pm Saturday to 5:00 am Monday and Holidays, and all hours worked in excess of twelve (12) hours in a single shift shall be paid at double the hourly rate of wage.

After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more. When an employee returns to work without at least eight (8) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until he/she shall have the eight (8) hours rest period.

4. ALL HOURS WORKED IN EXCESS OF EIGHT (8) HOURS PER DAY OR FORTY (40) HOURS PER WEEK SHALL BE PAID AT ONE AND ONE-HALF TIMES THE HOURLY RATE OF WAGE.
 - A. All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at double the hourly rate of wage. All hours worked on Saturdays, Sundays and holidays shall be paid at double the hourly rate of wage.
 - B. All hours worked over twelve (12) hours per day and all hours worked on holidays shall be paid at double the hourly rate of wage.
 - C. On Monday through Friday, the first four (4) hours of overtime after eight (8) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay, unless a four (4) day ten (10) hour workweek has been established. On a four (4) day ten (10) hour workweek scheduled Monday through Thursday, or Tuesday through Friday, the first two (2) hours of overtime after ten (10) hours of straight time work shall be paid at one and one half (1-1/2) times the straight time rate of pay. On Saturday, the first twelve (12) hours of work shall be paid at one and one half (1-1/2) times the straight time rate of pay, except that if the job is down on Monday through Friday due to weather conditions or other conditions outside the control of the employer, the first ten (10) hours on Saturday may be worked at the straight time rate of pay. All hours worked over twelve (12) hours in a day and all hours worked on Sunday and Holidays shall be paid at two (2) times the straight time rate of pay.

Overtime Codes Continued

4. D. All hours worked in excess of eight (8) hours per day or forty (40) hours per week shall be paid at double the hourly rate of wage. All hours worked on Saturday, Sundays and holidays shall be paid at double the hourly rate of pay. Rates include all members of the assigned crew.

EXCEPTION:

On all multipole structures and steel transmission lines, switching stations, regulating, capacitor stations, generating plants, industrial plants, associated installations and substations, except those substations whose primary function is to feed a distribution system, will be paid overtime under the following rates:

The first two (2) hours after eight (8) regular hours Monday through Friday of overtime on a regular workday, shall be paid at one and one-half times the hourly rate of wage. All hours in excess of ten (10) hours will be at two (2) times the hourly rate of wage. The first eight (8) hours worked on Saturday will be paid at one and one-half (1-1/2) times the hourly rate of wage. All hours worked in excess of eight (8) hours on Saturday, and all hours worked on Sundays and holidays will be at the double the hourly rate of wage.

All overtime eligible hours performed on the above described work that is energized, shall be paid at the double the hourly rate of wage.

- E. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

On a four-day, ten-hour weekly schedule, either Monday thru Thursday or Tuesday thru Friday schedule, all hours worked after ten shall be paid at double the hourly rate of wage. The Monday or Friday not utilized in the normal four-day, ten hour work week, and Saturday shall be paid at one and one half (1½) times the regular shift rate for the first eight (8) hours. All other hours worked Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

- F. All hours worked between the hours of 6:00 pm and 6:00 am, Monday through Saturday, shall be paid at a premium rate of 20% over the hourly rate of wage. All hours worked on Sundays shall be paid at one and one-half times the hourly rate of wage. All hours worked on holidays shall be paid at double the hourly rate of wage.

- G. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked Monday through Saturday over twelve (12) hours and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

- H. The first two (2) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All other overtime hours worked, except Labor Day, and all hours on Sunday shall be paid at double the hourly rate of wage. All hours worked on Labor Day shall be paid at three times the hourly rate of wage.

- I. The First eight (8) hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of eight (8) per day on Saturdays shall be paid at double the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

- J. The first eight (8) hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of eight (8) hours on a Saturday shall be paid at double the hourly rate of wage. All hours worked over twelve (12) in a day, and all hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.

- K. All hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage, so long as Saturday is the sixth consecutive day worked. All hours worked over twelve (12) in a day Monday through Saturday, and all hours worked on Sundays and Holidays shall be paid at double the hourly rate of wage.

Overtime Codes Continued

4. L. The first twelve (12) hours worked on a Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked on a Saturday in excess of twelve (12) hours shall be paid at double the hourly rate of pay. All hours worked over twelve (12) in a day Monday through Friday, and all hours worked on Sundays shall be paid at double the hourly rate of wage. All hours worked on a holiday shall be paid at one and one-half times the hourly rate of wage, except that all hours worked on Labor Day shall be paid at double the hourly rate of pay.
- M. All hours worked on Sunday and Holidays shall be paid at double the hourly rate. Any employee reporting to work less than nine (9) hours from their previous quitting time shall be paid for such time at time and one-half times the hourly rate.
- N. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays, and all work performed between the hours of midnight (12:00 AM) and eight AM (8:00 AM) every day shall be paid at double the hourly rate of wage.
- O. All hours worked between midnight Friday to midnight Sunday shall be paid at one and one-half the hourly rate of wage. After an employee has worked in excess of eight (8) continuous hours in any one or more calendar days, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of six (6) hours or more. All hours worked on Holidays shall be paid at double the hourly rate of wage.
- P. All hours worked on Holidays shall be paid at one and one-half times the hourly rate of wage.
- Q. The first four (4) hours after eight (8) regular hours Monday through Friday and the first eight (8) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. All hours worked over twelve (12) hours Monday through Saturday shall be paid at double the hourly rate. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- R. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage, so long as Saturday is the sixth consecutive day worked. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.
- S. All hours worked on Saturdays and Holidays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays shall be paid at double the hourly rate of wage.
- T. The first two (2) hours of overtime for hours worked Monday-Friday shall be paid at one and one-half times the hourly rate of wage. All hours worked in excess of ten (10) hours per day shall be paid at double the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage. For work on Saturday which is scheduled prior to the end of shift on Friday, the first six (6) hours work shall be paid at one and one-half times the hourly rate of wage, and all hours over (6) shall be paid double the hourly rate of wage. For work on Saturday which was assigned following the close of shift on Friday, all work shall be paid at double the hourly rate of wage.
- U. The first four (4) hours after eight (8) regular hours Monday through Friday and the first twelve (12) hours on Saturday shall be paid at one and one-half times the hourly rate of wage. (Except on makeup days if work is lost due to inclement weather, then the first eight (8) hours on Saturday may be paid the regular rate.) All hours worked over twelve (12) hours Monday through Saturday, and all hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

Overtime Codes Continued

4. V. Work performed in excess of ten (10) hours of straight time per day when four ten (10) hour shifts are established or outside the normal shift (5 am to 6pm), and all work on Saturdays, except for make-up days shall be paid at time and one-half (1 ½) the straight time rate.

In the event the job is down due to weather conditions, then Saturday may, be worked as a voluntary make-up day at the straight time rate. However, Saturday shall not be utilized as a make-up day when a holiday falls on Friday. All work performed on Sundays and holidays and work in excess of twelve (12) hours per day shall be paid at double (2x) the straight time rate of pay.

After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

When an employee returns to work without a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

- W. All hours worked on Saturdays (except makeup days if work is lost due to inclement weather conditions) shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage.

When an employee returns to work without at least eight (8) hours time off since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

- X. All hours worked on Saturdays shall be paid at one and one-half times the hourly rate of wage. All hours worked on Sundays and holidays shall be paid at double the hourly rate of wage. Work performed outside the normal shift of 6 am to 6pm shall be paid at one and one-half the straight time rate, (except for special shifts or three shift operations). All work performed on Sundays and holidays shall be paid at double the hourly rate of wage. Shifts may be established when considered necessary by the Employer.

The Employer may establish shifts consisting of eight (8) or ten (10) hours of work (subject to WAC 296-127-022), that shall constitute a normal forty (40) hour work week. The Employer can change from a 5-eight to a 4-ten hour schedule or back to the other. All hours of work on these shifts shall be paid for at the straight time hourly rate. Work performed in excess of eight hours (or ten hours per day (subject to WAC 296-127-022) shall be paid at one and one-half the straight time rate.

When due to conditions beyond the control of the Employer, or when contract specifications require that work can only be performed outside the regular day shift, then by mutual agreement a special shift may be worked at the straight time rate, eight (8) hours work for eight (8) hours pay. The starting time shall be arranged to fit such conditions of work.

When an employee returns to work without at a break of eight (8) hours since their previous shift, all such time shall be a continuation of shift and paid at the applicable overtime rate until such time as the employee has had a break of eight (8) hours.

Overtime Codes Continued

4. Y. Work performed in excess of eight (8) hours of straight time per day, or ten (10) hours of straight time per day when four ten (10) hour shifts are established, or forty (40) hours of straight time per week, Monday through Friday, or outside the normal shift, and all work on Saturdays shall be paid at time and one-half the straight time rate. All work performed after 6:00 pm Saturday to 6:00 am Monday and holidays shall be paid at double the straight time rate of pay.

Any shift starting between the hours of 6:00 pm and midnight shall receive an additional one dollar (\$1.00) per hour for all hours worked that shift.

After an employee has worked eight (8) hours at an applicable overtime rate, all additional hours shall be at the applicable overtime rate until such time as the employee has had a break of eight (8) hours or more.

Holiday Codes

5. A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, and Christmas Day (7).
- B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, the day before Christmas, and Christmas Day (8).
- C. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8).
- D. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8).
- H. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Day after Thanksgiving Day, And Christmas (6).
- I. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6).
- J. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, Friday after Thanksgiving Day, Christmas Eve Day, And Christmas Day (7).
- K. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday After Thanksgiving Day, The Day Before Christmas, And Christmas Day (9).
- L. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (8).
- N. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, The Friday After Thanksgiving Day, And Christmas Day (9).
- P. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday And Saturday After Thanksgiving Day, The Day Before Christmas, And Christmas Day (9). If A Holiday Falls On Sunday, The Following Monday Shall Be Considered As A Holiday.
- Q. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6).

Benefit Code Key – Effective 8/31/2019 thru 3/3/2020

Holiday Codes Continued

5. R. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Day After Thanksgiving Day, One-Half Day Before Christmas Day, And Christmas Day. (7 1/2).
- S. Paid Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, And Christmas Day (7).
- T. Paid Holidays: New Year's Day, Washington's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, Christmas Day, And The Day Before Or After Christmas (9).
- Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8).
6. A. Paid Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8).
- E. Paid Holidays: New Year's Day, Day Before Or After New Year's Day, Presidents Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and a Half-Day On Christmas Eve Day. (9 1/2).
- G. Paid Holidays: New Year's Day, Martin Luther King Jr. Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veterans' Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and Christmas Eve Day (11).
- H. Paid Holidays: New Year's Day, New Year's Eve Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday After Thanksgiving Day, Christmas Day, The Day After Christmas, And A Floating Holiday (10).
- I. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday After Thanksgiving Day, And Christmas Day (7).
- T. Paid Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Last Working Day Before Christmas Day, And Christmas Day (9).
- Z. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (7). If a holiday falls on Saturday, the preceding Friday shall be considered as the holiday. If a holiday falls on Sunday, the following Monday shall be considered as the holiday.
7. A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any Holiday Which Falls On A Sunday Shall Be Observed As A Holiday On The Following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.
- B. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- C. Holidays: New Year's Day, Martin Luther King Jr. Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.

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Holiday Codes Continued

7. D. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (8). Unpaid Holidays: President's Day. Any paid holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any paid holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- E. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- F. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the last working day before Christmas day and Christmas day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- G. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day (6). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.
- H. Holidays: New Year's Day, Martin Luther King Jr. Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- I. Holidays: New Year's Day, President's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, The Day Before Christmas Day And Christmas Day (9). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- J. Holidays: New Year's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day and Christmas Day (6). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- K. Holidays: New Year's Day, Memorial Day, Independence Day, Thanksgiving Day, the Friday and Saturday after Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- L. Holidays: New Year's Day, Memorial Day, Labor Day, Independence Day, Thanksgiving Day, the Last Work Day before Christmas Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- M. Paid Holidays: New Year's Day, The Day after or before New Year's Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, And the Day after or before Christmas Day (10). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- N. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. When Christmas falls on a Saturday, the preceding Friday shall be observed as a holiday.
- P. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, And Christmas Day (7). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.

Holiday Codes Continued

7. Q. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the Last Working Day before Christmas Day and Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. If any of the listed holidays falls on a Saturday, the preceding Friday shall be a regular work day.
- R. Paid Holidays: New Year's Day, the day after or before New Year's Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and the day after or before Christmas Day (10). If any of the listed holidays fall on Saturday, the preceding Friday shall be observed as the holiday. If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.
- S. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, Christmas Day, the Day after Christmas, and A Floating Holiday (9). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.
- T. Paid Holidays: New Year's Day, the Day after or before New Year's Day, President's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and The Day after or before Christmas Day. (10). If any of the listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
- V. Holidays: New Year's Day, President's Birthday, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, the day before or after Christmas, and the day before or after New Year's Day. If any of the above listed holidays falls on a Sunday, the day observed by the Nation shall be considered a holiday and compensated accordingly.
- W. Holidays: New Year's Day, Day After New Year's, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Eve Day, Christmas Day, the day after Christmas, the day before New Year's Day, and a Floating Holiday.
- X. Holidays: New Year's Day, Day before or after New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, Christmas Day, and the day before or after Christmas day. If a holiday falls on a Saturday or on a Friday that is the normal day off, then the holiday will be taken on the last normal workday. If the holiday falls on a Monday that is the normal day off or on a Sunday, then the holiday will be taken on the next normal workday.
- Y. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, and Christmas Day. (8) If the holiday falls on a Sunday, then the day observed by the federal government shall be considered a holiday and compensated accordingly.
- Z. Holidays: New Year's Day, President's Day, Independence Day, Memorial Day, Labor Day, Thanksgiving Day, The Friday After Thanksgiving Day, And Christmas Day (8). Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday. Any holiday which falls on a Saturday shall be observed as a holiday on the preceding Friday.
15. A. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the day before Christmas Day and Christmas Day. (8) Any holiday which falls on a Sunday shall be observed as a holiday on the following Monday.
- B. Holidays: New Year's Day, Martin Luther King Jr. Day, President's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, and Christmas Day. (9)
- C. Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, the Friday after Thanksgiving Day, the day before Christmas Day and Christmas Day. (8)

Benefit Code Key – Effective 8/31/2019 thru 3/3/2020

Holiday Codes Continued

15. D. Holidays: New Year's Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Friday after Thanksgiving Day, Christmas Day, and the day after Christmas.
- E. Holidays: the day before New Years's Day, New Year's Day, Martin Luther King, Jr. Day, Presidents' Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, Friday after Thanksgiving Day, the day before Christmas, and Christmas Day. (12)

Note Codes

8. D. Workers working with supplied air on hazmat projects receive an additional \$1.00 per hour.
- L. Workers on hazmat projects receive additional hourly premiums as follows -Level A: \$0.75, Level B: \$0.50, And Level C: \$0.25.
- M. Workers on hazmat projects receive additional hourly premiums as follows: Levels A & B: \$1.00, Levels C & D: \$0.50.
- N. Workers on hazmat projects receive additional hourly premiums as follows -Level A: \$1.00, Level B: \$0.75, Level C: \$0.50, And Level D: \$0.25.
- P. Workers on hazmat projects receive additional hourly premiums as follows -Class A Suit: \$2.00, Class B Suit: \$1.50, Class C Suit: \$1.00, And Class D Suit \$0.50.
- Q. The highest pressure registered on the gauge for an accumulated time of more than fifteen (15) minutes during the shift shall be used in determining the scale paid.
- S. Effective August 31, 2012 – A Traffic Control Supervisor shall be present on the project whenever flagging or spotting or other traffic control labor is being utilized. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. This classification is only effective on or after August 31, 2012.
- T. Effective August 31, 2012 – A Traffic Control Laborer performs the setup, maintenance and removal of all temporary traffic control devices and construction signs necessary to control vehicular, bicycle, and pedestrian traffic during construction operations. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. This classification is only effective on or after August 31, 2012.
- U. Workers on hazmat projects receive additional hourly premiums as follows – Class A Suit: \$2.00, Class B Suit: \$1.50, And Class C Suit: \$1.00. Workers performing underground work receive an additional \$0.40 per hour for any and all work performed underground, including operating, servicing and repairing of equipment. The premium for underground work shall be paid for the entire shift worked. Workers who work suspended by a rope or cable receive an additional \$0.50 per hour. The premium for work suspended shall be paid for the entire shift worked. Workers who do “pioneer” work (break open a cut, build road, etc.) more than one hundred fifty (150) feet above grade elevation receive an additional \$0.50 per hour.

Note Codes Continued

8. V. In addition to the hourly wage and fringe benefits, the following depth and enclosure premiums shall be paid. The premiums are to be calculated for the maximum depth and distance into an enclosure that a diver reaches in a day. The premiums are to be paid one time for the day and are not used in calculating overtime pay.
- Depth premiums apply to depths of fifty feet or more. Over 50' to 100' - \$2.00 per foot for each foot over 50 feet. Over 101' to 150' - \$3.00 per foot for each foot over 101 feet. Over 151' to 220' - \$4.00 per foot for each foot over 220 feet. Over 221' - \$5.00 per foot for each foot over 221 feet.
- Enclosure premiums apply when divers enter enclosures (such as pipes or tunnels) where there is no vertical ascent and is measured by the distance travelled from the entrance. 25' to 300' - \$1.00 per foot from entrance. 300' to 600' - \$1.50 per foot beginning at 300'. Over 600' - \$2.00 per foot beginning at 600'.
- W. Meter Installers work on single phase 120/240V self-contained residential meters. The Lineman/Groundmen rates would apply to meters not fitting this description.
- X. Workers on hazmat projects receive additional hourly premiums as follows - Class A Suit: \$2.00, Class B Suit: \$1.50, Class C Suit: \$1.00, and Class D Suit: \$0.50. Special Shift Premium: Basic hourly rate plus \$2.00 per hour.
- When due to conditions beyond the control of the Employer or when an owner (not acting as the contractor), a government agency or the contract specifications requires that work can only be performed outside the normal 5 am to 6pm shift, then the special shift premium will be applied to the basic hourly rate. When an employee works on a special shift, they shall be paid a special shift premium for each hour worked unless they are in OT or Double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)
- Y. Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay.
- Swinging Stage/Boatswains Chair: Employees working on a swinging state or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents (\$0.75) per hour above the classification rate.
- Z. Workers working with supplied air on hazmat projects receive an additional \$1.00 per hour.
- Special Shift Premium: Basic hourly rate plus \$2.00 per hour. When due to conditions beyond the control of the Employer or when an owner (not acting as a contractor), a government agency or the contract specifications require that more than (4) hours of a special shift can only be performed outside the normal 6 am to 6pm shift, then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they will be paid a special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

Note Codes Continued

9. A. Workers working with supplied air on hazmat projects receive an additional \$1.00 per hour.

Special Shift Premium: Basic hourly rate plus \$2.00 per hour. When due to conditions beyond the control of the Employer or when an owner (not acting as the contractor), a government agency or the contract specifications require that more than four (4) hours of a special shift can only be performed outside the normal 6 am to 6pm shift, then the special shift premium will be applied to the basic straight time for the entire shift. When an employee works on a special shift, they shall be paid a special shift premium for each hour worked unless they are in overtime or double-time status. (For example, the special shift premium does not waive the overtime requirements for work performed on Saturday or Sunday.)

Certified Crane Operator Premium: Crane operators requiring certifications shall be paid \$0.50 per hour above their classification rate.

Boom Pay Premium: All cranes including tower shall be paid as follows based on boom length:

- (A) – 130’ to 199’ – \$0.50 per hour over their classification rate.
- (B) – 200’ to 299’ – \$0.80 per hour over their classification rate.
- (C) – 300’ and over – \$1.00 per hour over their classification rate.

- B. The highest pressure registered on the gauge for an accumulated time of more than fifteen (15) minutes during the shift shall be used in determining the scale paid.

Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay. Swinging Stage/Boatswains Chair: Employees working on a swinging stage or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents (\$0.75) per hour above the classification rate.

- C. Tide Work: When employees are called out between the hours of 6:00 p.m. and 6:00 a.m. to work on tide work (work located in the tide plane) all time worked shall be at one and one-half times the hourly rate of pay. Swinging Stage/Boatswains Chair: Employees working on a swinging stage or boatswains chair or under conditions that require them to be tied off to allow their hands to be free shall receive seventy-five cents (\$0.75) per hour above the classification rate.

Effective August 31, 2012 – A Traffic Control Supervisor shall be present on the project whenever flagging or spotting or other traffic control labor is being utilized. A Traffic Control Laborer performs the setup, maintenance and removal of all temporary traffic control devices and construction signs necessary to control vehicular, bicycle, and pedestrian traffic during construction operations. Flaggers and Spotters shall be posted where shown on approved Traffic Control Plans or where directed by the Engineer. All flaggers and spotters shall possess a current flagging card issued by the State of Washington, Oregon, Montana, or Idaho. These classifications are only effective on or after August 31, 2012.

- D. Industrial Painter wages are required for painting within industrial facilities such as treatment plants, pipelines, towers, dams, bridges, power generation facilities and manufacturing facilities such as chemical plants, etc., or anywhere abrasive blasting is necessary to prepare surfaces, or hazardous materials encapsulation is required.

- E. Heavy Construction includes construction, repair, alteration or additions to the production, fabrication or manufacturing portions of industrial or manufacturing plants, hydroelectric or nuclear power plants and atomic reactor construction. Workers on hazmat projects receive additional hourly premiums as follows -Level A: \$1.00, Level B: \$0.75, Level C: \$0.50, And Level D: \$0.25.

State of Washington
 Department of Labor & Industries
 Prevailing Wage Section - Telephone 360-902-5335
 PO Box 44540, Olympia, WA 98504-4540

Washington State Prevailing Wage

The PREVAILING WAGES listed here include both the hourly wage rate and the hourly rate of fringe benefits. On public works projects, worker's wage and benefit rates must add to not less than this total. A brief description of overtime calculation requirements are provided on the Benefit Code Key.

Journey Level Prevailing Wage Rates for the Effective Date: 2/5/2020

<u>County</u>	<u>Trade</u>	<u>Job Classification</u>	<u>Wage</u>	<u>Holiday</u>	<u>Overtime</u>	<u>Note</u>	<u>*Risk Class</u>
Pierce	Asbestos Abatement Workers	Journey Level	\$50.86	5D	1H		View
Pierce	Boilermakers	Journey Level	\$69.04	5N	1C		View
Pierce	Brick Mason	Journey Level	\$58.82	5A	1M		View
Pierce	Brick Mason	Pointer-Caulker-Cleaner	\$58.82	5A	1M		View
Pierce	Building Service Employees	Janitor	\$19.99	5S	2F		View
Pierce	Building Service Employees	Traveling Waxer / Shampooer	\$20.39	5S	2F		View
Pierce	Building Service Employees	Window Cleaner (High Time)	\$27.29	5S	2F		View
Pierce	Building Service Employees	Window Cleaner (Non-High Time)	\$26.29	5S	2F		View
Pierce	Cabinet Makers (In Shop)	Journey Level	\$28.36		1		View
Pierce	Carpenters	Acoustical Worker	\$62.44	7A	4C		View
Pierce	Carpenters	Carpenter	\$62.44	7A	4C		View
Pierce	Carpenters	Carpenters on Stationary Tools	\$62.57	7A	4C		View
Pierce	Carpenters	Creosoted Material	\$62.54	7A	4C		View
Pierce	Carpenters	Floor Finisher	\$62.44	7A	4C		View
Pierce	Carpenters	Floor Layer	\$62.44	7A	4C		View
Pierce	Carpenters	Scaffold Erector	\$62.44	7A	4C		View
Pierce	Cement Masons	Application of all Composition Mastic	\$62.97	7A	4U		View
Pierce	Cement Masons	Application of all Epoxy Material	\$62.47	7A	4U		View
Pierce	Cement Masons	Application of all Plastic Material	\$62.97	7A	4U		View
Pierce	Cement Masons	Application of Sealing Compound	\$62.47	7A	4U		View
Pierce	Cement Masons	Application of Underlayment	\$62.97	7A	4U		View
Pierce	Cement Masons	Building General	\$62.47	7A	4U		View
Pierce	Cement Masons	Composition or Kalman Floors	\$62.97	7A	4U		View
Pierce	Cement Masons	Concrete Paving	\$62.47	7A	4U		View
Pierce	Cement Masons	Curb & Gutter Machine	\$62.97	7A	4U		View
Pierce	Cement Masons	Curb & Gutter, Sidewalks	\$62.47	7A	4U		View

Pierce	Cement Masons	Curing Concrete	\$62.47	7A	4U		View
Pierce	Cement Masons	Finish Colored Concrete	\$62.97	7A	4U		View
Pierce	Cement Masons	Floor Grinding	\$62.97	7A	4U		View
Pierce	Cement Masons	Floor Grinding/Polisher	\$62.47	7A	4U		View
Pierce	Cement Masons	Green Concrete Saw, self-powered	\$62.97	7A	4U		View
Pierce	Cement Masons	Grouting of all Plates	\$62.47	7A	4U		View
Pierce	Cement Masons	Grouting of all Tilt-up Panels	\$62.47	7A	4U		View
Pierce	Cement Masons	Guniting Nozzleman	\$62.97	7A	4U		View
Pierce	Cement Masons	Hand Powered Grinder	\$62.97	7A	4U		View
Pierce	Cement Masons	Journey Level	\$62.47	7A	4U		View
Pierce	Cement Masons	Patching Concrete	\$62.47	7A	4U		View
Pierce	Cement Masons	Pneumatic Power Tools	\$62.97	7A	4U		View
Pierce	Cement Masons	Power Chipping & Brushing	\$62.97	7A	4U		View
Pierce	Cement Masons	Sand Blasting Architectural Finish	\$62.97	7A	4U		View
Pierce	Cement Masons	Screed & Rodding Machine	\$62.97	7A	4U		View
Pierce	Cement Masons	Spackling or Skim Coat Concrete	\$62.47	7A	4U		View
Pierce	Cement Masons	Troweling Machine Operator	\$62.97	7A	4U		View
Pierce	Cement Masons	Troweling Machine Operator on Colored Slabs	\$62.97	7A	4U		View
Pierce	Cement Masons	Tunnel Workers	\$62.97	7A	4U		View
Pierce	Divers & Tenders	Bell/Vehicle or Submersible Operator (Not Under Pressure)	\$116.20	7A	4C		View
Pierce	Divers & Tenders	Dive Supervisor/Master	\$79.23	7A	4C		View
Pierce	Divers & Tenders	Diver	\$116.20	7A	4C	8V	View
Pierce	Divers & Tenders	Diver On Standby	\$74.23	7A	4C		View
Pierce	Divers & Tenders	Diver Tender	\$67.31	7A	4C		View
Pierce	Divers & Tenders	Manifold Operator	\$67.31	7A	4C		View
Pierce	Divers & Tenders	Manifold Operator Mixed Gas	\$72.31	7A	4C		View
Pierce	Divers & Tenders	Remote Operated Vehicle Operator/Technician	\$67.31	7A	4C		View
Pierce	Divers & Tenders	Remote Operated Vehicle Tender	\$62.69	7A	4C		View
Pierce	Dredge Workers	Assistant Engineer	\$56.44	5D	3F		View
Pierce	Dredge Workers	Assistant Mate (Deckhand)	\$56.00	5D	3F		View
Pierce	Dredge Workers	Boatmen	\$56.44	5D	3F		View
Pierce	Dredge Workers	Engineer Welder	\$57.51	5D	3F		View
Pierce	Dredge Workers	Leverman, Hydraulic	\$58.67	5D	3F		View
Pierce	Dredge Workers	Mates	\$56.44	5D	3F		View
Pierce	Dredge Workers	Oiler	\$56.00	5D	3F		View
Pierce	Drywall Applicator	Journey Level	\$62.44	5D	1H		View
Pierce	Drywall Tapers	Journey Level	\$62.94	5P	1E		View
Pierce	Electrical Fixture Maintenance Workers	Journey Level	\$17.76		1		View
Pierce	Electricians - Inside	Cable Splicer	\$74.69	5C	1G		View
Pierce	Electricians - Inside	Journey Level	\$69.96	5C	1G		View

Pierce	Electricians - Inside	Lead Covered Cable Splicer	\$79.41	5C	1G		View
Pierce	Electricians - Inside	Welder	\$74.69	5C	1G		View
Pierce	Electricians - Motor Shop	Craftsman	\$15.37		1		View
Pierce	Electricians - Motor Shop	Journey Level	\$14.69		1		View
Pierce	Electricians - Powerline Construction	Cable Splicer	\$79.60	5A	4D		View
Pierce	Electricians - Powerline Construction	Certified Line Welder	\$72.98	5A	4D		View
Pierce	Electricians - Powerline Construction	Groundperson	\$47.94	5A	4D		View
Pierce	Electricians - Powerline Construction	Heavy Line Equipment Operator	\$72.98	5A	4D		View
Pierce	Electricians - Powerline Construction	Journey Level Lineperson	\$72.98	5A	4D		View
Pierce	Electricians - Powerline Construction	Line Equipment Operator	\$62.06	5A	4D		View
Pierce	Electricians - Powerline Construction	Meter Installer	\$47.94	5A	4D	8W	View
Pierce	Electricians - Powerline Construction	Pole Sprayer	\$72.98	5A	4D		View
Pierce	Electricians - Powerline Construction	Powderperson	\$54.55	5A	4D		View
Pierce	Electronic Technicians	Journey Level	\$44.70	6Z	1B		View
Pierce	Elevator Constructors	Mechanic	\$94.22	7D	4A		View
Pierce	Elevator Constructors	Mechanic In Charge	\$101.73	7D	4A		View
Pierce	Fabricated Precast Concrete Products	Journey Level	\$15.00		1		View
Pierce	Fence Erectors	Fence Erector	\$43.11	7A	4V	8Y	View
Pierce	Fence Erectors	Fence Laborer	\$43.11	7A	4V	8Y	View
Pierce	Flaggers	Journey Level	\$43.11	7A	4V	8Y	View
Pierce	Glaziers	Journey Level	\$66.51	7L	1Y		View
Pierce	Heat & Frost Insulators And Asbestos Workers	Journeyman	\$76.61	5J	4H		View
Pierce	Heating Equipment Mechanics	Journey Level	\$85.88	7F	1E		View
Pierce	Hod Carriers & Mason Tenders	Journey Level	\$52.44	7A	4V	8Y	View
Pierce	Industrial Power Vacuum Cleaner	Journey Level	\$13.50		1		View
Pierce	Inland Boatmen	Boat Operator	\$61.41	5B	1K		View
Pierce	Inland Boatmen	Cook	\$56.48	5B	1K		View
Pierce	Inland Boatmen	Deckhand	\$57.48	5B	1K		View
Pierce	Inland Boatmen	Deckhand Engineer	\$58.81	5B	1K		View
Pierce	Inland Boatmen	Launch Operator	\$58.89	5B	1K		View
Pierce	Inland Boatmen	Mate	\$57.31	5B	1K		View
Pierce	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Cleaner Operator, Foamer Operator	\$13.50		1		View
Pierce	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Grout Truck Operator	\$13.50		1		View
Pierce	Inspection/Cleaning/Sealing Of	Head Operator	\$13.50		1		View

	Sewer & Water Systems By Remote Control						
Pierce	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Technician	\$13.50		1		View
Pierce	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Tv Truck Operator	\$13.50		1		View
Pierce	Insulation Applicators	Journey Level	\$62.44	7A	4C		View
Pierce	Ironworkers	Journeyman	\$72.18	7N	10		View
Pierce	Laborers	Air, Gas Or Electric Vibrating Screed	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Airtrac Drill Operator	\$52.44	7A	4V	8Y	View
Pierce	Laborers	Ballast Regular Machine	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Batch Weighman	\$43.11	7A	4V	8Y	View
Pierce	Laborers	Brick Pavers	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Brush Cutter	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Brush Hog Feeder	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Burner	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Caisson Worker	\$52.44	7A	4V	8Y	View
Pierce	Laborers	Carpenter Tender	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Cement Dumper-paving	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Cement Finisher Tender	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Change House Or Dry Shack	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Chipping Gun (30 Lbs. And Over)	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Chipping Gun (Under 30 Lbs.)	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Choker Setter	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Chuck Tender	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Clary Power Spreader	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Clean-up Laborer	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Concrete Dumper/Chute Operator	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Concrete Form Stripper	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Concrete Placement Crew	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Concrete Saw Operator/Core Driller	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Crusher Feeder	\$43.11	7A	4V	8Y	View
Pierce	Laborers	Curing Laborer	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Demolition: Wrecking & Moving (Incl. Charred Material)	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Ditch Digger	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Diver	\$52.44	7A	4V	8Y	View
Pierce	Laborers	Drill Operator (Hydraulic, Diamond)	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Dry Stack Walls	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Dump Person	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Epoxy Technician	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Erosion Control Worker	\$50.86	7A	4V	8Y	View

Pierce	Laborers	Faller & Bucker Chain Saw	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Fine Graders	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Firewatch	\$43.11	7A	4V	8Y	View
Pierce	Laborers	Form Setter	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Gabian Basket Builders	\$50.86	7A	4V	8Y	View
Pierce	Laborers	General Laborer	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Grade Checker & Transit Person	\$52.44	7A	4V	8Y	View
Pierce	Laborers	Grinders	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Grout Machine Tender	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Groutmen (Pressure) Including Post Tension Beams	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Guardrail Erector	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Hazardous Waste Worker (Level A)	\$52.44	7A	4V	8Y	View
Pierce	Laborers	Hazardous Waste Worker (Level B)	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Hazardous Waste Worker (Level C)	\$50.86	7A	4V	8Y	View
Pierce	Laborers	High Scaler	\$52.44	7A	4V	8Y	View
Pierce	Laborers	Jackhammer	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Laserbeam Operator	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Maintenance Person	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Manhole Builder-Mudman	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Material Yard Person	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Motorman-Dinky Locomotive	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Nozzleman (Concrete Pump, Green Cutter When Using Combination Of High Pressure Air & Water On Concrete & Rock, Sandblast, Gunite, Shotcrete, Water Blaster, Vacuum Blaster)	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Pavement Breaker	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Pilot Car	\$43.11	7A	4V	8Y	View
Pierce	Laborers	Pipe Layer Lead	\$52.44	7A	4V	8Y	View
Pierce	Laborers	Pipe Layer/Tailor	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Pipe Pot Tender	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Pipe Reliner	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Pipe Wrapper	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Pot Tender	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Powderman	\$52.44	7A	4V	8Y	View
Pierce	Laborers	Powderman's Helper	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Power Jacks	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Railroad Spike Puller - Power	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Raker - Asphalt	\$52.44	7A	4V	8Y	View
Pierce	Laborers	Re-timberman	\$52.44	7A	4V	8Y	View
Pierce	Laborers	Remote Equipment Operator	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Rigger/Signal Person	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Rip Rap Person	\$50.86	7A	4V	8Y	View

Pierce	Laborers	Rivet Buster	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Rodder	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Scaffold Erector	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Scale Person	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Sloper (Over 20")	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Sloper Sprayer	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Spreader (Concrete)	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Stake Hopper	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Stock Piler	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Swinging Stage/Boatswain Chair	\$43.11	7A	4V	8Y	View
Pierce	Laborers	Tamper & Similar Electric, Air & Gas Operated Tools	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Tamper (Multiple & Self-propelled)	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Timber Person - Sewer (Lagger, Shorer & Cribber)	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Toolroom Person (at Jobsite)	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Topper	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Track Laborer	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Track Liner (Power)	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Traffic Control Laborer	\$46.10	7A	4V	9C	View
Pierce	Laborers	Traffic Control Supervisor	\$46.10	7A	4V	9C	View
Pierce	Laborers	Truck Spotter	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Tugger Operator	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Tunnel Work-Compressed Air Worker 0-30 psi	\$120.61	7A	4V	9B	View
Pierce	Laborers	Tunnel Work-Compressed Air Worker 30.01-44.00 psi	\$125.64	7A	4V	9B	View
Pierce	Laborers	Tunnel Work-Compressed Air Worker 44.01-54.00 psi	\$129.32	7A	4V	9B	View
Pierce	Laborers	Tunnel Work-Compressed Air Worker 54.01-60.00 psi	\$135.02	7A	4V	9B	View
Pierce	Laborers	Tunnel Work-Compressed Air Worker 60.01-64.00 psi	\$137.14	7A	4V	9B	View
Pierce	Laborers	Tunnel Work-Compressed Air Worker 64.01-68.00 psi	\$142.24	7A	4V	9B	View
Pierce	Laborers	Tunnel Work-Compressed Air Worker 68.01-70.00 psi	\$144.14	7A	4V	9B	View
Pierce	Laborers	Tunnel Work-Compressed Air Worker 70.01-72.00 psi	\$146.14	7A	4V	9B	View
Pierce	Laborers	Tunnel Work-Compressed Air Worker 72.01-74.00 psi	\$148.14	7A	4V	9B	View
Pierce	Laborers	Tunnel Work-Guage and Lock Tender	\$52.54	7A	4V	8Y	View
Pierce	Laborers	Tunnel Work-Miner	\$52.54	7A	4V	8Y	View
Pierce	Laborers	Vibrator	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Vinyl Seamer	\$50.86	7A	4V	8Y	View
Pierce	Laborers	Watchman	\$39.18	7A	4V	8Y	View
Pierce	Laborers	Welder	\$51.80	7A	4V	8Y	View

Pierce	Laborers	Well Point Laborer	\$51.80	7A	4V	8Y	View
Pierce	Laborers	Window Washer/Cleaner	\$39.18	7A	4V	8Y	View
Pierce	Laborers - Underground Sewer & Water	General Laborer & Topman	\$50.86	7A	4V	8Y	View
Pierce	Laborers - Underground Sewer & Water	Pipe Layer	\$51.80	7A	4V	8Y	View
Pierce	Landscape Construction	Landscape Construction/Landscaping Or Planting Laborers	\$39.18	7A	4V	8Y	View
Pierce	Landscape Construction	Landscape Operator	\$65.71	7A	3K	8X	View
Pierce	Landscape Maintenance	Groundskeeper	\$17.07		1		View
Pierce	Lathers	Journey Level	\$62.44	5D	1H		View
Pierce	Marble Setters	Journey Level	\$58.82	5A	1M		View
Pierce	Metal Fabrication (In Shop)	Fitter	\$15.25		1		View
Pierce	Metal Fabrication (In Shop)	Laborer	\$13.50		1		View
Pierce	Metal Fabrication (In Shop)	Machine Operator	\$13.98		1		View
Pierce	Metal Fabrication (In Shop)	Welder	\$13.98		1		View
Pierce	Millwright	Journey Level	\$63.94	7A	4C		View
Pierce	Modular Buildings	Journey Level	\$13.50		1		View
Pierce	Painters	Journey Level	\$43.40	6Z	2B		View
Pierce	Pile Driver	Crew Tender	\$67.31	7A	4C		View
Pierce	Pile Driver	Crew Tender/Technician	\$67.31	7A	4C		View
Pierce	Pile Driver	Hyperbaric Worker - Compressed Air Worker 0-30.00 PSI	\$77.93	7A	4C		View
Pierce	Pile Driver	Hyperbaric Worker - Compressed Air Worker 30.01 - 44.00 PSI	\$82.93	7A	4C		View
Pierce	Pile Driver	Hyperbaric Worker - Compressed Air Worker 44.01 - 54.00 PSI	\$86.93	7A	4C		View
Pierce	Pile Driver	Hyperbaric Worker - Compressed Air Worker 54.01 - 60.00 PSI	\$91.93	7A	4C		View
Pierce	Pile Driver	Hyperbaric Worker - Compressed Air Worker 60.01 - 64.00 PSI	\$94.43	7A	4C		View
Pierce	Pile Driver	Hyperbaric Worker - Compressed Air Worker 64.01 - 68.00 PSI	\$99.43	7A	4C		View
Pierce	Pile Driver	Hyperbaric Worker - Compressed Air Worker 68.01 - 70.00 PSI	\$101.43	7A	4C		View
Pierce	Pile Driver	Hyperbaric Worker - Compressed Air Worker 70.01 - 72.00 PSI	\$103.43	7A	4C		View
Pierce	Pile Driver	Hyperbaric Worker - Compressed Air Worker 72.01 - 74.00 PSI	\$105.43	7A	4C		View
Pierce	Pile Driver	Journey Level	\$62.69	7A	4C		View
Pierce	Plasterers	Journey Level	\$59.42	7Q	1R		View
Pierce	Playground & Park Equipment	Journey Level	\$13.50		1		View

	Installers						
Pierce	Plumbers & Pipefitters	Journey Level	\$74.72	5A	1G		View
Pierce	Power Equipment Operators	Asphalt Plant Operator	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators	Assistant Engineers	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators	Barrier Machine (zipper)	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Batch Plant Operator: Concrete	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Bobcat	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators	Brokk - Remote Demolition Equipment	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators	Brooms	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators	Bump Cutter	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Cableways	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators	Chipper	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Compressor	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Over 42m	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators	Concrete Finish Machine -laser Screed	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Conveyors	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators	Cranes, 100 Tons - 199 Tons, Or 150 Ft Of Boom (including Jib With Attachments)	\$68.00	7A	3K	8X	View
Pierce	Power Equipment Operators	Cranes: 20 Tons Through 44 Tons With Attachments	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Cranes: 200 tons to 299 tons, or 250' of boom (including jib with attachments)	\$68.68	7A	3K	8X	View
Pierce	Power Equipment Operators	Cranes: 300 tons and over, or 300' of boom (including jib with attachments)	\$69.36	7A	3K	8X	View
Pierce	Power Equipment Operators	Cranes: 45 Tons Through 99 Tons, Under 150' Of Boom (including Jib With Attachments)	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators	Cranes: A-frame - 10 Tons And Under	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators	Cranes: Friction 200 tons and over. Tower Cranes: over 250' in height from base to boom.	\$69.36	7A	3K	8X	View
Pierce	Power Equipment Operators	Cranes: Friction cranes through 199 tons	\$68.68	7A	3K	8X	View
Pierce	Power Equipment Operators	Cranes: Through 19 Tons With Attachments A-frame Over 10 Tons	\$66.20	7A	3K	8X	View

Pierce	Power Equipment Operators	Crusher	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Deck Engineer/deck Winches (power)	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Derricks, On Building Work	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators	Dozers D-9 & Under	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators	Drill Oilers: Auger Type, Truck Or Crane Mount	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators	Drilling Machine	\$68.00	7A	3K	8X	View
Pierce	Power Equipment Operators	Elevator And Man-lift: Permanent And Shaft Type	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators	Finishing Machine, Bidwell And Gamaco & Similar Equipment	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Forklift: 3000 Lbs And Over With Attachments	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators	Forklifts: Under 3000 Lbs. With Attachments	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators	Grade Engineer: Using Blueprints, Cut Sheets,etc.	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Gradechecker/stakeman	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators	Guardrail punch/Auger	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Horizontal/directional Drill Locator	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators	Horizontal/directional Drill Operator	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Hydralifts/Boom Trucks Over 10 Tons	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators	Hydralifts/boom Trucks, 10 Tons And Under	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators	Loader, Overhead 8 Yards. & Over	\$68.00	7A	3K	8X	View
Pierce	Power Equipment Operators	Loader, Overhead, 6 Yards. But Not Including 8 Yards	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators	Loaders, Overhead Under 6 Yards	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Loaders, Plant Feed	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Loaders: Elevating Type Belt	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators	Locomotives, All	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Material Transfer Device	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Mechanics, All (Leadmen - \$0.50 Per Hour Over Mechanic)	\$68.00	7A	3K	8X	View
Pierce	Power Equipment Operators	Motor patrol graders	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators	Oil Distributors, Blower Distribution & Mulch Seeding	\$63.32	7A	3K	8X	View

		Operator					
Pierce	Power Equipment Operators	Outside Hoists (elevators And Manlifts), Air Tuggers, strato	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators	Overhead, Bridge Type Crane: 20 Tons Through 44 Tons	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Overhead, Bridge Type: 100 Tons And Over	\$68.00	7A	3K	8X	View
Pierce	Power Equipment Operators	Overhead, Bridge Type: 45 Tons Through 99 Tons	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators	Pavement Breaker	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators	Pile Driver (other Than Crane Mount)	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Plant Oiler - Asphalt, Crusher	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators	Posthole Digger, Mechanical	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators	Power Plant	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators	Pumps - Water	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators	Quad 9, HD 41, D10 And Over	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators	Quick Tower - No Cab, Under 100 Feet In Height Based To Boom	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators	Remote Control Operator On Rubber Tired Earth Moving Equipment	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators	Rigger And Bellman	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators	Rigger/Signal Person, Bellman (Certified)	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators	Rollagon	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators	Roller, Other Than Plant Mix	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators	Roller, Plant Mix Or Multi-lift Materials	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators	Roto-mill, Roto-grinder	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Saws - Concrete	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators	Scraper, Self Propelled Under 45 Yards	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Scrapers - Concrete & Carry All	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators	Scrapers, Self-propelled: 45 Yards And Over	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators	Service Engineers - Equipment	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators	Shotcrete/gunite Equipment	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	\$68.00	7A	3K	8X	View
Pierce	Power Equipment Operators	Shovel, Excavator, Backhoes: Over 90 Metric Tons	\$68.68	7A	3K	8X	View

Pierce	Power Equipment Operators	Slipform Pavers	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators	Spreader, Topsider & Screedman	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators	Subgrader Trimmer	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Tower Bucket Elevators	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators	Tower crane over 175' through 250' in height, base to boom	\$68.68	7A	3K	8X	View
Pierce	Power Equipment Operators	Tower Crane Up: To 175' In Height, Base To Boom	\$68.00	7A	3K	8X	View
Pierce	Power Equipment Operators	Transporters, All Track Or Truck Type	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators	Trenching Machines	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators	Truck Crane Oiler/driver - 100 Tons And Over	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Truck Crane Oiler/driver Under 100 Tons	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators	Truck Mount Portable Conveyor	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators	Welder	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators	Wheel Tractors, Farmall Type	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators	Yo Yo Pay Dozer	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Asphalt Plant Operator	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Assistant Engineers	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Barrier Machine (zipper)	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Batch Plant Operator: Concrete	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Bobcat	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Brokk - Remote Demolition Equipment	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Brooms	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Bump Cutter	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Cableways	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Chipper	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Compressor	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Concrete Pump: Truck Mount With Boom Attachment Over 42m	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Concrete Finish Machine -laser Screed	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Concrete Pump: Truck Mount With Boom Attachment Up To	\$66.72	7A	3K	8X	View

		42m					
Pierce	Power Equipment Operators-Underground Sewer & Water	Conveyors	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Cranes, 100 Tons - 199 Tons, Or 150 Ft Of Boom (including Jib With Attachments)	\$68.00	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Cranes, 200 tons to 299 tons, or 250' of boom (including jib with attachments)	\$68.68	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Cranes, Over 300 Tons, Or 300' Of Boom Including Jib With Attachments	\$69.36	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Cranes: 20 Tons Through 44 Tons With Attachments	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	cranes: 300 tons and over, or 300' of boom (including jib with attachments)	\$69.36	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Cranes: 45 Tons Through 99 Tons, Under 150' Of Boom (including Jib With Attachments)	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Cranes: A-frame - 10 Tons And Under	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Cranes: Friction 200 tons and over. Tower Cranes: over 250' in height from base to boom.	\$69.36	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Cranes: Friction cranes through 199 tons	\$68.68	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Cranes: Through 19 Tons With Attachments A-frame Over 10 Tons	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Crusher	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Deck Engineer /deck Winches (power)	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Derricks, On Building Work	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Dozers D-9 & Under	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Drill Oilers: Auger Type, Truck Or Crane Mount	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Drilling Machine	\$68.00	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Elevator And Man-lift: Permanent And Shaft Type	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Finishing Machine, Bidwell And Gamaco & Similar Equipment	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Forklift: 3000 Lbs And Over With Attachments	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Forklifts: Under 3000 Lbs. With Attachments	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Grade Engineer: Using Blueprints, Cut Sheets, etc.	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-	Gradechecker/stakeman	\$63.32	7A	3K	8X	View

	Underground Sewer & Water						
Pierce	Power Equipment Operators-Underground Sewer & Water	Guardrail punch/Auger	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Horizontal/directional Drill Locator	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Horizontal/directional Drill Operator	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Hydralifts/Boom Trucks Over 10 Tons	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Hydralifts/boom Trucks, 10 Tons And Under	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Loader, Overhead 8 Yards. & Over	\$68.00	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Loader, Overhead, 6 Yards. But Not Including 8 Yards	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Loaders, Overhead Under 6 Yards	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Loaders, Plant Feed	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Loaders: Elevating Type Belt	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Locomotives, All	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Material Transfer Device	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Mechanics, All (Leadmen - \$0.50 Per Hour Over Mechanic)	\$68.00	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Motor patrol graders	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Oil Distributors, Blower Distribution & Mulch Seeding Operator	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Outside Hoists (elevators And Manlifts), Air Tuggers, strato	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Overhead, Bridge Type Crane: 20 Tons Through 44 Tons	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Overhead, Bridge Type: 100 Tons And Over	\$68.00	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Overhead, Bridge Type: 45 Tons Through 99 Tons	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Pavement Breaker	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Pile Driver (other Than Crane Mount)	\$66.72	7A	3K	8X	View

Pierce	Power Equipment Operators-Underground Sewer & Water	Plant Oiler - Asphalt, Crusher	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Posthole Digger, Mechanical	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Power Plant	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Pumps - Water	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Quad 9, HD 41, D10 And Over	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Quick Tower - No Cab, Under 100 Feet In Height Based To Boom	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Remote Control Operator On Rubber Tired Earth Moving Equipment	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Rigger And Bellman	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Rigger/Signal Person, Bellman (Certified)	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Rollagon	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Roller, Other Than Plant Mix	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Roller, Plant Mix Or Multi-lift Materials	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Roto-mill, Roto-grinder	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Saws - Concrete	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Scraper, Self Propelled Under 45 Yards	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Scrapers - Concrete & Carry All	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Scrapers, Self-propelled: 45 Yards And Over	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Service Engineers - Equipment	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Shotcrete/gunite Equipment	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	\$68.00	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes: Over 90 Metric Tons	\$68.68	7A	3K	8X	View
Pierce	Power Equipment Operators-	Slipform Pavers	\$67.31	7A	3K	8X	View

	Underground Sewer & Water						
Pierce	Power Equipment Operators-Underground Sewer & Water	Spreader, Topsider & Screedman	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Subgrader Trimmer	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Tower Bucket Elevators	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Tower crane over 175' through 250' in height, base to boom	\$68.68	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Tower Crane: Up To 175' In Height, Base To Boom	\$68.00	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Transporters, All Track Or Truck Type	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Trenching Machines	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Truck Crane Oiler/driver - 100 Tons And Over	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Truck Crane Oiler/driver Under 100 Tons	\$66.20	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Truck Mount Portable Conveyor	\$66.72	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Welder	\$67.31	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Wheel Tractors, Farmall Type	\$63.32	7A	3K	8X	View
Pierce	Power Equipment Operators-Underground Sewer & Water	Yo Yo Pay Dozer	\$66.72	7A	3K	8X	View
Pierce	Power Line Clearance Tree Trimmers	Journey Level In Charge	\$50.96	5A	4A		View
Pierce	Power Line Clearance Tree Trimmers	Spray Person	\$48.35	5A	4A		View
Pierce	Power Line Clearance Tree Trimmers	Tree Equipment Operator	\$50.96	5A	4A		View
Pierce	Power Line Clearance Tree Trimmers	Tree Trimmer	\$45.54	5A	4A		View
Pierce	Power Line Clearance Tree Trimmers	Tree Trimmer Groundperson	\$34.51	5A	4A		View
Pierce	Refrigeration & Air Conditioning Mechanics	Journey Level	\$74.71	5A	1G		View
Pierce	Residential Brick Mason	Journey Level	\$27.02		1		View
Pierce	Residential Carpenters	Journey Level	\$46.43	7A	4C		View
Pierce	Residential Cement Masons	Journey Level	\$62.47	7A	4U		View
Pierce	Residential Drywall Applicators	Journey Level	\$46.43	7A	4C		View
Pierce	Residential Drywall Tapers	Journey Level	\$47.17	5P	1E		View
Pierce	Residential Electricians	Journey Level	\$34.65		1		View
Pierce	Residential Glaziers	Journey Level	\$44.15	7L	1H		View
Pierce	Residential Insulation Applicators	Journey Level	\$24.16		1		View
Pierce	Residential Laborers	Journey Level	\$23.86		1		View
Pierce	Residential Marble Setters	Journey Level	\$29.29		1		View
Pierce	Residential Painters	Journey Level	\$29.70		1		View

Pierce	Residential Plumbers & Pipefitters	Journey Level	\$54.12	<u>5A</u>	<u>1G</u>	View
Pierce	Residential Refrigeration & Air Conditioning Mechanics	Journey Level	\$43.34	<u>5A</u>	<u>1G</u>	View
Pierce	Residential Sheet Metal Workers	Journey Level (Field or Shop)	\$51.89	<u>7F</u>	<u>1R</u>	View
Pierce	Residential Soft Floor Layers	Journey Level	\$51.07	<u>5A</u>	<u>3J</u>	View
Pierce	Residential Sprinkler Fitters (Fire Protection)	Journey Level	\$48.18	<u>5C</u>	<u>2R</u>	View
Pierce	Residential Stone Masons	Journey Level	\$29.29		<u>1</u>	View
Pierce	Residential Terrazzo Workers	Journey Level	\$14.86		<u>1</u>	View
Pierce	Residential Terrazzo/Tile Finishers	Journey Level	\$21.96		<u>1</u>	View
Pierce	Residential Tile Setters	Journey Level	\$25.98		<u>1</u>	View
Pierce	Roofers	Journey Level	\$52.87	<u>5A</u>	<u>2O</u>	View
Pierce	Roofers	Using Irritable Bituminous Materials	\$55.87	<u>5A</u>	<u>2O</u>	View
Pierce	Sheet Metal Workers	Journey Level (Field or Shop)	\$85.88	<u>7F</u>	<u>1E</u>	View
Pierce	Shipbuilding & Ship Repair	New Construction Boilermaker	\$36.36	<u>7V</u>	<u>1</u>	View
Pierce	Shipbuilding & Ship Repair	New Construction Carpenter	\$36.36	<u>7V</u>	<u>1</u>	View
Pierce	Shipbuilding & Ship Repair	New Construction Crane Operator	\$36.36	<u>7V</u>	<u>1</u>	View
Pierce	Shipbuilding & Ship Repair	New Construction Electrician	\$36.36	<u>7V</u>	<u>1</u>	View
Pierce	Shipbuilding & Ship Repair	New Construction Heat & Frost Insulator	\$76.61	<u>5J</u>	<u>4H</u>	View
Pierce	Shipbuilding & Ship Repair	New Construction Laborer	\$36.36	<u>7V</u>	<u>1</u>	View
Pierce	Shipbuilding & Ship Repair	New Construction Machinist	\$36.36	<u>7V</u>	<u>1</u>	View
Pierce	Shipbuilding & Ship Repair	New Construction Operating Engineer	\$36.36	<u>7V</u>	<u>1</u>	View
Pierce	Shipbuilding & Ship Repair	New Construction Painter	\$36.36	<u>7V</u>	<u>1</u>	View
Pierce	Shipbuilding & Ship Repair	New Construction Pipefitter	\$36.36	<u>7V</u>	<u>1</u>	View
Pierce	Shipbuilding & Ship Repair	New Construction Rigger	\$36.36	<u>7V</u>	<u>1</u>	View
Pierce	Shipbuilding & Ship Repair	New Construction Sheet Metal	\$36.36	<u>7V</u>	<u>1</u>	View
Pierce	Shipbuilding & Ship Repair	New Construction Shipfitter	\$36.36	<u>7V</u>	<u>1</u>	View
Pierce	Shipbuilding & Ship Repair	New Construction Warehouse/Teamster	\$36.36	<u>7V</u>	<u>1</u>	View
Pierce	Shipbuilding & Ship Repair	New Construction Welder / Burner	\$36.36	<u>7V</u>	<u>1</u>	View
Pierce	Shipbuilding & Ship Repair	Ship Repair Boilermaker	\$46.15	<u>7X</u>	<u>4J</u>	View
Pierce	Shipbuilding & Ship Repair	Ship Repair Carpenter	\$44.95	<u>7X</u>	<u>4J</u>	View
Pierce	Shipbuilding & Ship Repair	Ship Repair Crane Operator	\$45.06	<u>7Y</u>	<u>4K</u>	View
Pierce	Shipbuilding & Ship Repair	Ship Repair Electrician	\$46.15	<u>7X</u>	<u>4J</u>	View
Pierce	Shipbuilding & Ship Repair	Ship Repair Heat & Frost Insulator	\$76.61	<u>5J</u>	<u>4H</u>	View
Pierce	Shipbuilding & Ship Repair	Ship Repair Laborer	\$46.15	<u>7X</u>	<u>4J</u>	View
Pierce	Shipbuilding & Ship Repair	Ship Repair Machinist	\$46.15	<u>7X</u>	<u>4J</u>	View
Pierce	Shipbuilding & Ship Repair	Ship Repair Operating Engineer	\$45.06	<u>7Y</u>	<u>4K</u>	View
Pierce	Shipbuilding & Ship Repair	Ship Repair Painter	\$46.15	<u>7X</u>	<u>4J</u>	View
Pierce	Shipbuilding & Ship Repair	Ship Repair Pipefitter	\$46.15	<u>7X</u>	<u>4J</u>	View

Pierce	Shipbuilding & Ship Repair	Ship Repair Rigger	\$46.15	<u>7X</u>	<u>4J</u>	View
Pierce	Shipbuilding & Ship Repair	Ship Repair Sheet Metal	\$46.15	<u>7X</u>	<u>4J</u>	View
Pierce	Shipbuilding & Ship Repair	Ship Repair Shipwright	\$44.95	<u>7X</u>	<u>4J</u>	View
Pierce	Shipbuilding & Ship Repair	Ship Repair Warehouse / Teamster	\$45.06	<u>7Y</u>	<u>4K</u>	View
Pierce	Sign Makers & Installers (Electrical)	Sign Installer	\$26.17		<u>1</u>	View
Pierce	Sign Makers & Installers (Electrical)	Sign Maker	\$20.33		<u>1</u>	View
Pierce	Sign Makers & Installers (Non-Electrical)	Sign Installer	\$33.43		<u>1</u>	View
Pierce	Sign Makers & Installers (Non-Electrical)	Sign Maker	\$22.79		<u>1</u>	View
Pierce	Soft Floor Layers	Journey Level	\$51.07	<u>5A</u>	<u>3J</u>	View
Pierce	Solar Controls For Windows	Journey Level	\$13.50		<u>1</u>	View
Pierce	Sprinkler Fitters (Fire Protection)	Journey Level	\$81.39	<u>5C</u>	<u>1X</u>	View
Pierce	Stage Rigging Mechanics (Non Structural)	Journey Level	\$13.50		<u>1</u>	View
Pierce	Stone Masons	Journey Level	\$58.82	<u>5A</u>	<u>1M</u>	View
Pierce	Street And Parking Lot Sweeper Workers	Journey Level	\$21.69		<u>1</u>	View
Pierce	Surveyors	Chain Person	\$65.11	<u>7A</u>	<u>3K</u>	View
Pierce	Surveyors	Instrument Persion	\$65.71	<u>7A</u>	<u>3K</u>	View
Pierce	Surveyors	Party Chief	\$66.81	<u>7A</u>	<u>3K</u>	View
Pierce	Telecommunication Technicians	Journey Level	\$44.70	<u>6Z</u>	<u>1B</u>	View
Pierce	Telephone Line Construction - Outside	Cable Splicer	\$41.81	<u>5A</u>	<u>2B</u>	View
Pierce	Telephone Line Construction - Outside	Hole Digger/Ground Person	\$23.53	<u>5A</u>	<u>2B</u>	View
Pierce	Telephone Line Construction - Outside	Installer (Repairer)	\$40.09	<u>5A</u>	<u>2B</u>	View
Pierce	Telephone Line Construction - Outside	Special Aparatus Installer I	\$41.81	<u>5A</u>	<u>2B</u>	View
Pierce	Telephone Line Construction - Outside	Special Apparatus Installer II	\$40.99	<u>5A</u>	<u>2B</u>	View
Pierce	Telephone Line Construction - Outside	Telephone Equipment Operator (Heavy)	\$41.81	<u>5A</u>	<u>2B</u>	View
Pierce	Telephone Line Construction - Outside	Telephone Equipment Operator (Light)	\$38.92	<u>5A</u>	<u>2B</u>	View
Pierce	Telephone Line Construction - Outside	Telephone Lineperson	\$38.92	<u>5A</u>	<u>2B</u>	View
Pierce	Telephone Line Construction - Outside	Television Groundperson	\$22.32	<u>5A</u>	<u>2B</u>	View
Pierce	Telephone Line Construction - Outside	Television Lineperson/Installer	\$29.60	<u>5A</u>	<u>2B</u>	View
Pierce	Telephone Line Construction - Outside	Television System Technician	\$35.20	<u>5A</u>	<u>2B</u>	View
Pierce	Telephone Line Construction - Outside	Television Technician	\$31.67	<u>5A</u>	<u>2B</u>	View
Pierce	Telephone Line Construction -	Tree Trimmer	\$38.92	<u>5A</u>	<u>2B</u>	View

	Outside						
Pierce	Terrazzo Workers	Journey Level	\$54.06	5A	1M		View
Pierce	Tile Setters	Journey Level	\$54.06	5A	1M		View
Pierce	Tile, Marble & Terrazzo Finishers	Finisher	\$44.89	5A	1B		View
Pierce	Traffic Control Stripers	Journey Level	\$47.68	7A	1K		View
Pierce	Truck Drivers	Asphalt Mix Over 16 Yards	\$61.59	5D	4Y	8L	View
Pierce	Truck Drivers	Asphalt Mix To 16 Yards	\$60.75	5D	4Y	8L	View
Pierce	Truck Drivers	Dump Truck	\$60.75	5D	4Y	8L	View
Pierce	Truck Drivers	Dump Truck & Trailer	\$61.59	5D	4Y	8L	View
Pierce	Truck Drivers	Other Trucks	\$61.59	5D	4Y	8L	View
Pierce	Truck Drivers - Ready Mix	Transit Mix	\$61.59	5D	4Y	8L	View
Pierce	Well Drillers & Irrigation Pump Installers	Irrigation Pump Installer	\$16.09		1		View
Pierce	Well Drillers & Irrigation Pump Installers	Oiler	\$15.39		1		View
Pierce	Well Drillers & Irrigation Pump Installers	Well Driller	\$18.30		1		View

Appendix B

Standard Plans and Details

CITY OF LAKEWOOD Standard Plans - Table of Contents

Frontage

[City of Lakewood - Standard Plans](#)

Section FR	Title
FR-01	Residential Driveway
FR-02	Residential Driveway with Ditch Culvert
FR-03	Cement Concrete Sidewalk
FR-04	Curbs
FR-05	Tree and Shrub Planting Layout
FR-06	Street Tree Location
FR-07	Handrail Installation

[WSDOT - Referenced Standard Plans \(latest edition\)](#)

Sections F & H	Title
F-40.12-03	Parallel Curb Ramp
F-40.14-03	Combination Curb Ramp
F-40.15-03	Perpendicular Curb Ramp
F-40.16-03	Single Direction Curb Ramp
F-45.10-02	Detectable Warning Surface
F-80.10-04	Cement Concrete Driveway Entrance Types 1, 2, 3, & 4
F-10.62-02	Precast Sloped Mountable Curb
F-10.64-03	Precast Dual Faced Sloped Mountable Curb
H-10.10-00	Tree and Shrub Planting Details

Illumination and Signals

[City of Lakewood - Standard Plans](#)

Section IS	Title
IS-01	Combined Collector and Service Cabinet Pedestal
IS-02	Controller Cabinet
IS-03	Service and BBS Cabinet Pedestal
IS-04	Service Cabinet Pedestal
IS-05	336 S Communication Service Cabinet Pedestal
IS-06	Street Lights
IS-07	Fiber Junction Box Types 2 and 8
IS-08	Fiber Interconnect and Cabinet Panel Details
IS-09	PTZ Camera Mount and Panel Details

[WSDOT - Referenced Standard Plans \(latest edition\)](#)

Section J	Title
J-40.10-04	Locking Lid Standard Junction Box Types 1 & 2

CITY OF LAKEWOOD Standard Plans - Table of Contents

Pavement Markings and Signs

[City of Lakewood - Standard Plans](#)

Section PS	Title
PS-01	Street Name Sign – Public Street
PS-02	Street Name Sign – Private Street
PS-03	Steel Post Street Sign Support
PS-04	Bicycle Lane Symbol Layout
PS-05	Crosswalk and Stop Bar
PS-06	Bicycle Sharrow Signage and Road Symbol Layout

[Pierce County - Referenced Standard Drawings \(latest edition\)](#)

PC Sections G & H	Title
PC. G2.1	Stop Sign Installation
PC. H2.2	Pavement Markings (left or right turn channelization)
PC. H2.3	Pavement Markings (two-way left turns)
PC. H2.4	Pavement Markings (RPM layouts two-lane, multi-lane, wide, dotted)
PC. H2.5	Pavement Markings (RPM layouts for turn lanes)
PC. H2.8	Pavement Markings (traffic arrow and only details)

[WSDOT - Referenced Standard Plans \(latest edition\)](#)

Section M	Title
M-20.20-02	Profiled and Embossed Plastic Lines
M-24.40-02	Symbol Markings - Traffic Pavement Arrows for low-speed roadways

Roadway

[City of Lakewood - Standard Plans](#)

Section RW	Title
RW-01	Residential Cul-De-Sac
RW-02	Principle/Minor Arterial Street
RW-03	Collector Arterial Street
RW-04	Local Access Street
RW-05	Alley
RW-06	Dead End Hammerhead
RW-07	Speed Table Construction
RW-08	Speed Table Details
RW-09	Speed Table Pavement Markings and Signage

[Pierce County - Referenced Standard Drawings \(latest edition\)](#)

PC Section A	Title
PC. A7.1	Utility Patch (sheet 1 of 2)
PC. A7.2	Utility Patch (sheet 2 of 2 notes)

CITY OF LAKEWOOD Standard Plans - Table of Contents

Stormwater Controls

[City of Lakewood - Standard Plans](#)

Section SW

	Title
SW-01	Curb Inlet Frame and Cover
SW-02	Flow Restrictor and Oil Pollution Control Device
SW-03	Infiltration Trench Detail
SW-04	Individual Roof Downspout System
SW-05	Construction Entrance Rock Pad
SW-06	Geotextile Encased Check Dam Installation
SW-07	Trash Rack Detail

[Pierce County - Referenced Standard Drawings \(latest edition\)](#)

PC Section M

	Title
PC. M2.3	Straw Mulch

[WSDOT - Referenced Standard Plans \(latest edition\)](#)

Sections B& I

	Title
B-5.20-02	Catch Basin Type 1
B-5.60-02	Catch Basin Type 1P
B-10.20-02	Catch Basin Type 2
B-25.60-02	Concrete Inlet
B-30.10-03	Rectangular Frame (Reversible)
B-30.20-04	Rectangular Solid Metal Cover
B-30.30-03	Rectangular Vaned Grate
B-30.40-03	Rectangular Bi-Directional Vaned Grate
I-30.15-02	Silt Fence
I-30.20-00	Erosion Control at Culvert Ends
I-30.30-02	Wattle Installation on a slope
I-40.20-00	Storm Drain Inlet Protection
I-50.20-01	Check Dams on Channels
I-60.10-01	Erosion Control Blanket Placement on a slope

CITY OF LAKEWOOD Standard Plans - Table of Contents

Miscellaneous

[City of Lakewood - Standard Plans](#)

Section MI	Title
MI-01	Survey Monument Type 1 and Type 2
MI-02	Monument Case and Cover
MI-03	Valve Casing Adjustment and Restoration

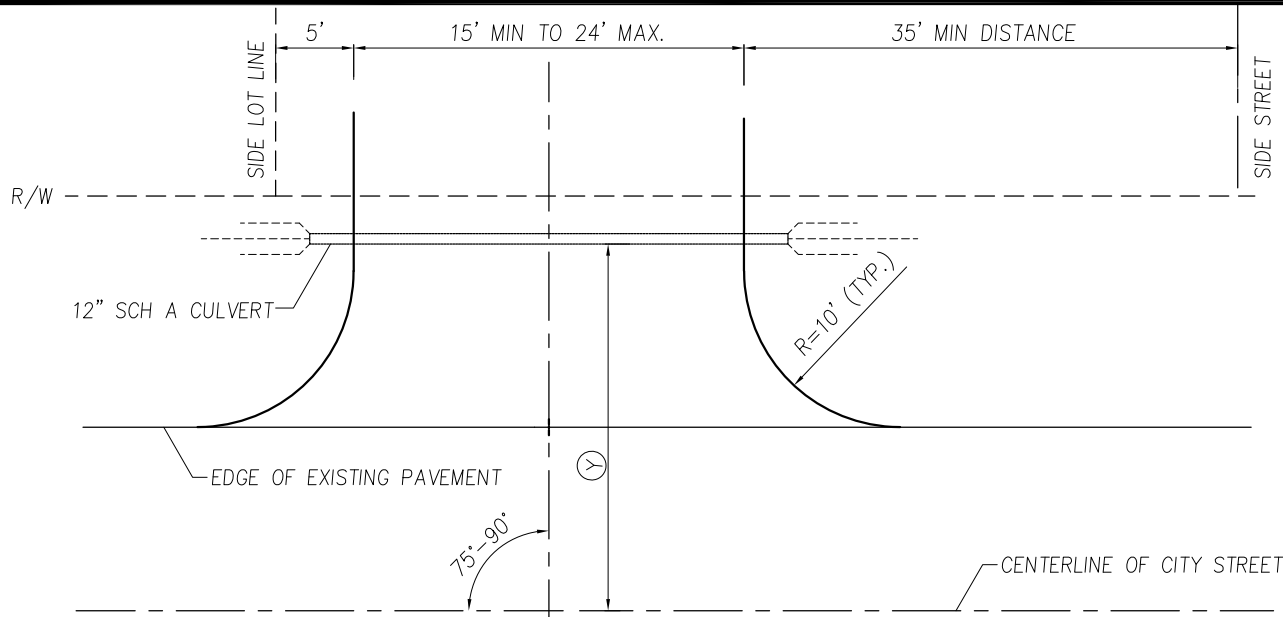
[Pierce County Sanitary Sewer Standard Details \(latest edition\)](#)

Detail	Title
1002	Concrete Manhole Collar

[WSDOT - Referenced Standard Plans \(latest edition\)](#)

Sections H& L	Title
H-60.10-01	Bollard Type 1
H-60.20-01	Bollard Type 2
H-70.10-01	Single Mailbox Support Type 1
H-70.20-01	Multiple Mailbox Support Type 2
L-20.10-03	Chain Link Fence Types 3 and 4 (2 sheets)
L-30.10-02	Chain Link Gate (2 sheets)

- ❑ **City of Lakewood:** https://cityoflakewood.us/public_works_engineering/engineering-services/
- ❑ **WSDOT Referenced Standard Plans (latest edition):** <https://www.wsdot.wa.gov/Design/Standards/default.htm>
- ❑ **Pierce County Sewer:** <https://www.piercecountywa.org/DocumentCenter/View/884/2012-Standard-Sanitary-Sewer-Details?bidId=>
- ❑ **Pierce County Referenced Standard Drawings (latest edition):** <https://www.piercecountywa.org/1745/Standard-Drawings>



PLAN VIEW

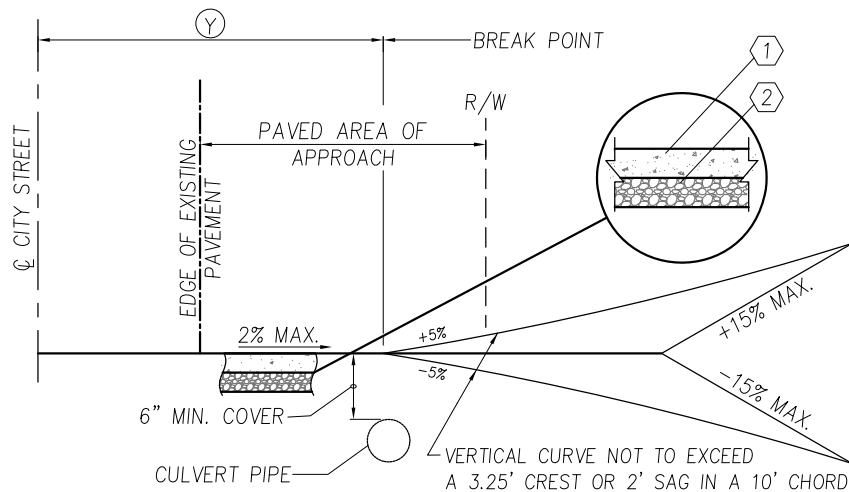
NTS

GENERAL NOTES:

1. MATERIALS AND CONSTRUCTION REQUIREMENTS SHALL BE PER LATEST EDITION OF WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION.
2. STORM DRAINAGE FROM THE ROAD APPROACH SHALL NOT BE PERMITTED TO DRAIN ONTO THE ROADWAY SURFACE. CATCH BASINS OR OTHER DRAINAGE DEVICES SHALL BE USED TO INTERCEPT AND DIVERT THIS WATER.
3. FOLLOW ADDITIONAL INSTRUCTIONS AS DIRECTED BY THE APPROVING ENGINEER AS STATED ON THE APPROVED PERMIT.

CONSTRUCTION NOTES:

- ① 2" HMA COMPACTED DEPTH OR 6" PORTLAND CEMENT CONCRETE
- ② 2" CRUSHED SURFACING COURSE
- Ⓨ 22'- FOR LOCAL TWO LANE STREETS
- Ⓨ 24'- FOR ARTERIAL TWO LANE STREETS



PROFILE VIEW

NTS

APPROVED FOR PUBLICATION

Paul A. Bucich 01/10/20
 Paul A. Bucich, P.E.
 PUBLIC WORKS DIRECTOR/CITY ENGINEER



Public Works Department

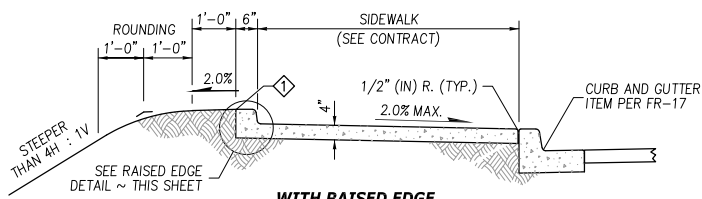
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11/05/19	ORIGINAL DRAWING	AD/CD	PAB

6000 Main Street SW 98499

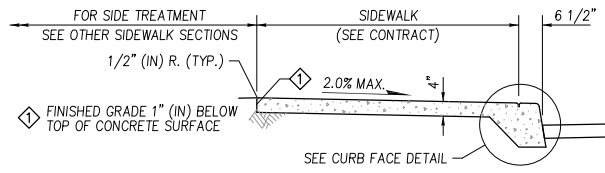
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**Residential Driveway
with Ditch Culvert**

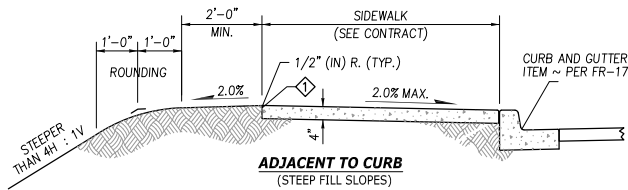
FR-02



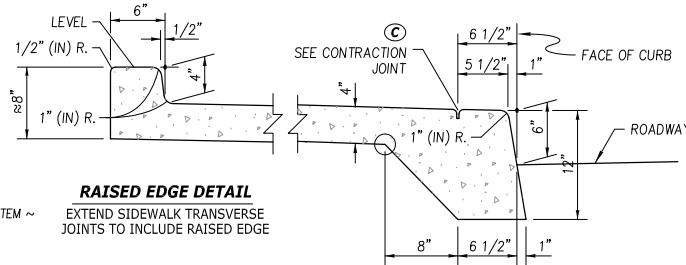
WITH RAISED EDGE



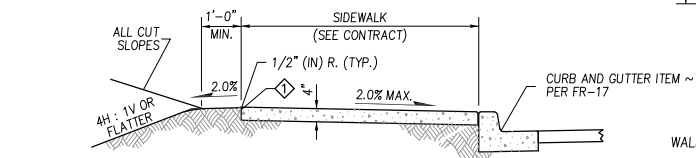
MONOLITHIC CEMENT CONCRETE CURB AND SIDEWALK



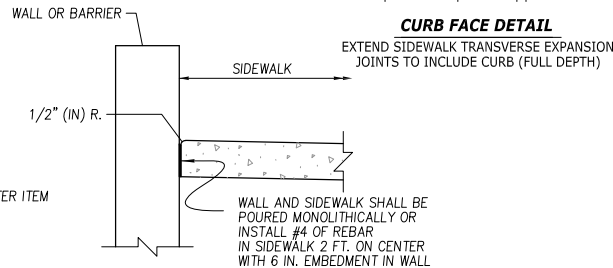
ADJACENT TO CURB (STEEP FILL SLOPES)



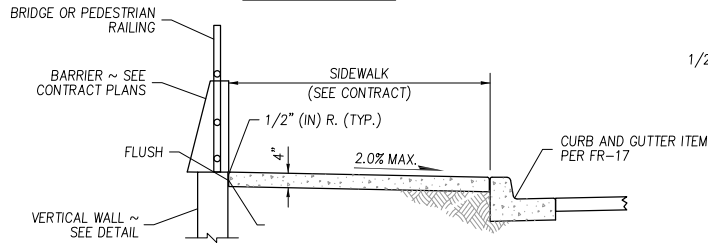
RAISED EDGE DETAIL
EXTEND SIDEWALK TRANSVERSE JOINTS TO INCLUDE RAISED EDGE



ADJACENT TO CURB

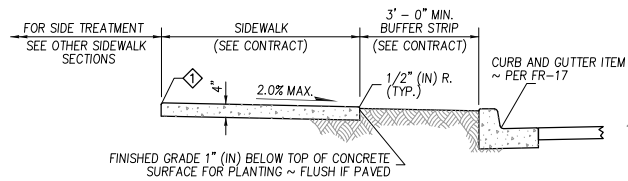


CURB FACE DETAIL
EXTEND SIDEWALK TRANSVERSE EXPANSION JOINTS TO INCLUDE CURB (FULL DEPTH)

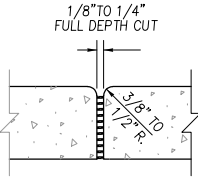


ADJACENT TO CURB AND RAILING OR WALL

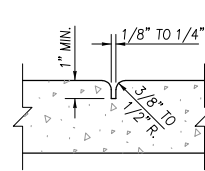
SIDEWALK ADJACENT TO WALL DETAIL



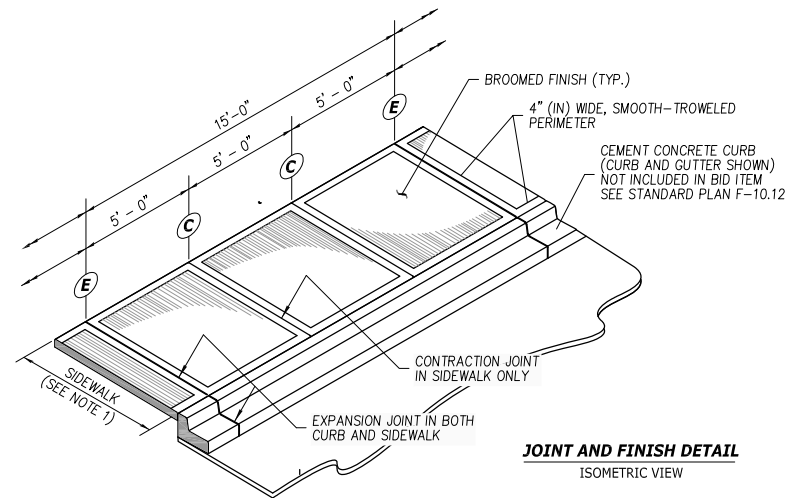
ADJACENT TO BUFFER STRIP



(E) EXPANSION JOINT



(C) CONTRACTION JOINT



JOINT AND FINISH DETAIL
ISOMETRIC VIEW

GENERAL NOTES:

1. MATERIALS AND CONSTRUCTION REQUIREMENTS SHALL BE PER LATEST EDITION OF WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION.
2. FOUR FEET OF SIDEWALK WIDTH SHALL BE THE MINIMUM PEDESTRIAN ACCESSIBLE ROUTE FREE OF VERTICAL AND HORIZONTAL OBSTRUCTIONS.
3. GRATINGS, ACCESS COVERS, JUNCTION BOXES, CABLE VAULTS, PULL BOXES AND OTHER APPURTENANCES WITHIN THE SIDEWALK MUST HAVE SLIP RESISTANT SURFACES, BE FLUSH WITH SURFACE, AND MATCH GRADE OF THE SIDEWALK.
4. A REVERSE SLOPE ON SIDEWALK MAY BE ALLOWED WITH CITY ENGINEER APPROVAL TO ACCOMMODATE THE INSTALLATION OF LOW IMPACT DEVELOPMENT BMP'S.
5. A REDUCED WIDTH OF SIDEWALK MAY BE ALLOWED WITH CITY ENGINEER APPROVAL TO ACCOMMODATE THE INSTALLATION OF LOW IMPACT DEVELOPMENT BMP'S.
6. SIDEWALK SHALL BE PLACED OVER 2" (INCH) CSTC.

APPROVED FOR PUBLICATION

Paul A. Bucich
Paul A. Bucich, P.E.
PUBLIC WORKS DIRECTOR/CITY ENGINEER

01/10/20
DATE



Public Works Department

DATE	REVISION DESCRIPTION	BY	APPROVED
11/05/19	ORIGINAL DRAWING	AD/CD	PAB

11/05/19 ORIGINAL DRAWING

AD/CD

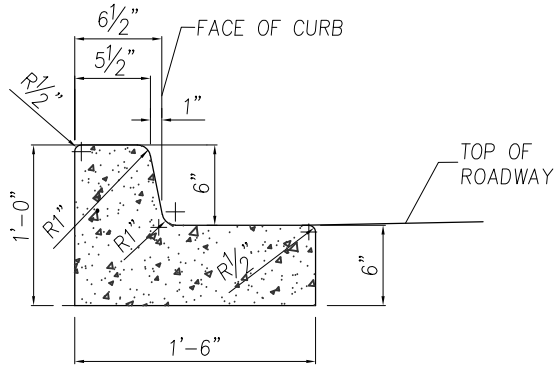
PAB

6000 Main Street SW 98499

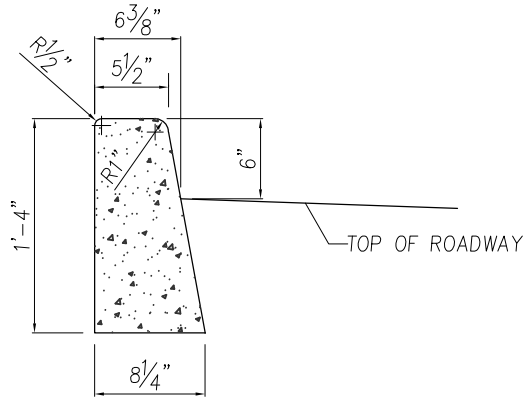
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Cement Concrete Sidewalk

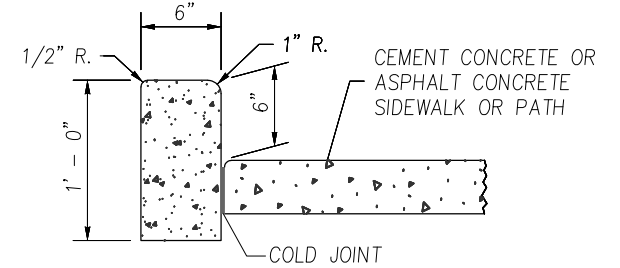
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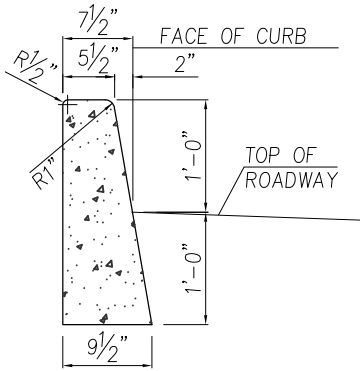
TRAFFIC CURB AND GUTTER



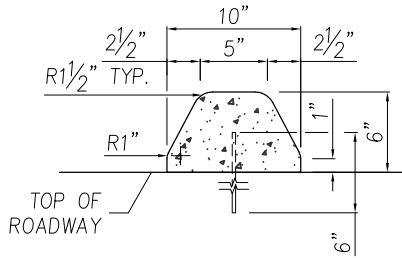
TRAFFIC BARRIER CURB



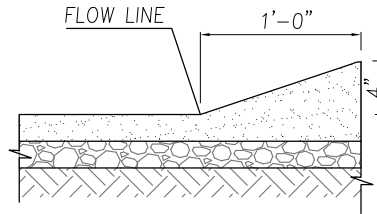
PEDESTRIAN CURB



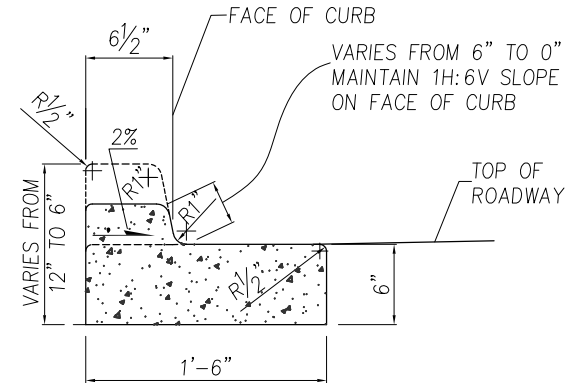
TRUCK BARRIER CURB



EXTRUDED CURB



HMA WEDGE CURB



DEPRESSED CURB AND GUTTER

(AT CURB RAMPS AND DRIVEWAY ENTRANCES)

GENERAL NOTES:

1. MATERIALS AND CONSTRUCTION REQUIREMENTS SHALL BE PER LATEST EDITION OF WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION.

APPROVED FOR PUBLICATION

Paul A. Bucich
Paul A. Bucich, P.E.
 PUBLIC WORKS DIRECTOR/CITY ENGINEER

01/10/20
 DATE



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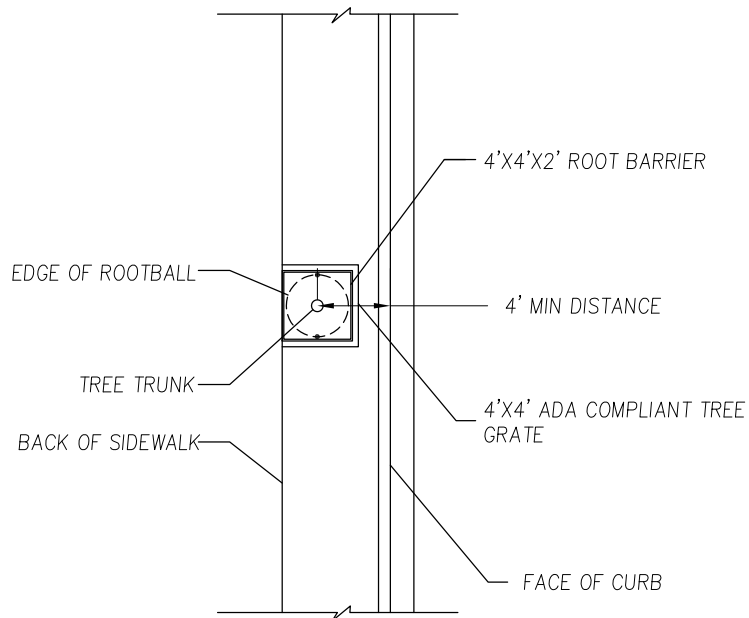
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2/28/12	REVISED DRAWING	TB/LC	DEW
3/2/15	REMOVED TYPE "C" CURB	LC	DEW
9/7/17	REVISED DRAWING	TJM	DEW
1/16/19	REVISED DRAWING	CD	PAB

6000 Main Street SW 98499

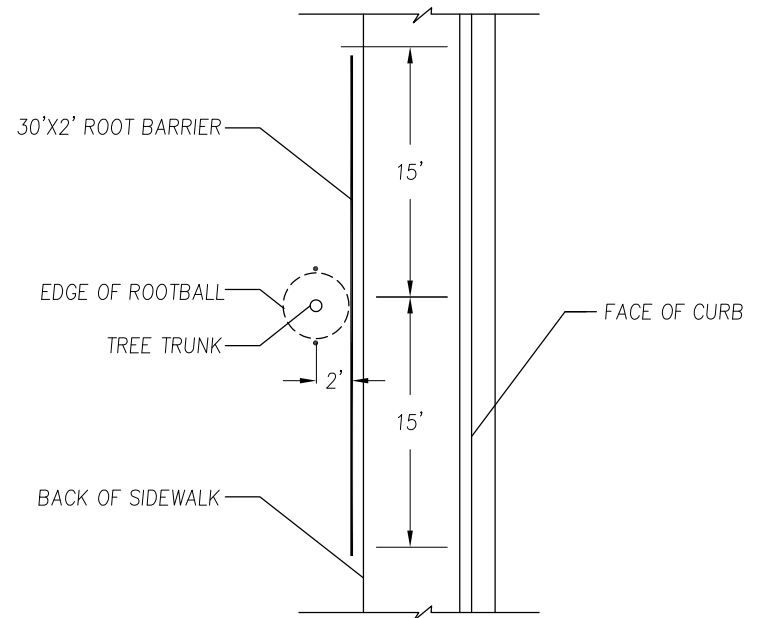
NOT TO SCALE

Curbs

FR-04



TREE PLANTING IN SIDEWALK-PLAN VIEW



TREE PLANTING BEHIND SIDEWALK-PLAN VIEW

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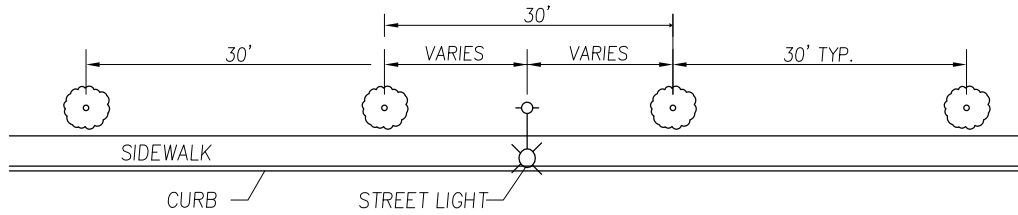
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12/27/19	ORIGINAL DRAWING	AD/CD	PAB

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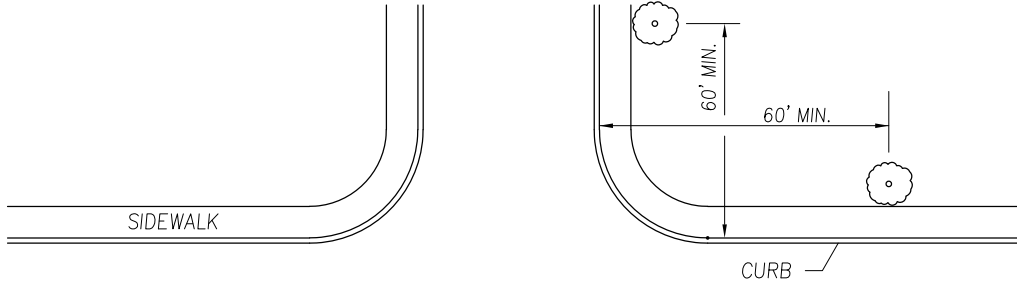
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**Tree/Shrub
 Planting Layout**

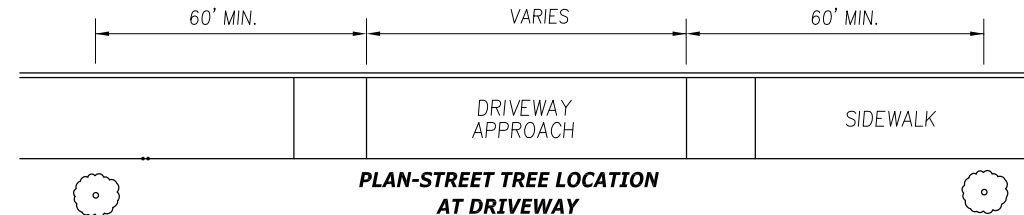
FR-05



PLAN-STREET TREE LOCATION WITH STREET LIGHTS



PLAN-STREET TREE RESTRICTIONS AT INTERSECTIONS



PLAN-STREET TREE LOCATION AT DRIVEWAY

GENERAL NOTES:

1. ALL STREET TREES SHALL BE INSTALLED PER LAKEWOOD STANDARD PLAN FR-05, AND WSDOT, FRONTAGE STANDARD DRAWING H-10.10-00

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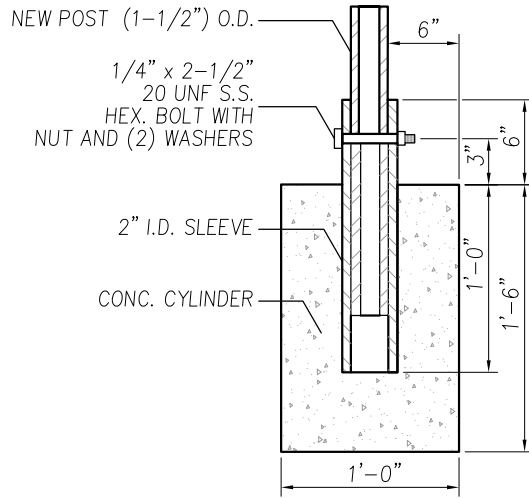
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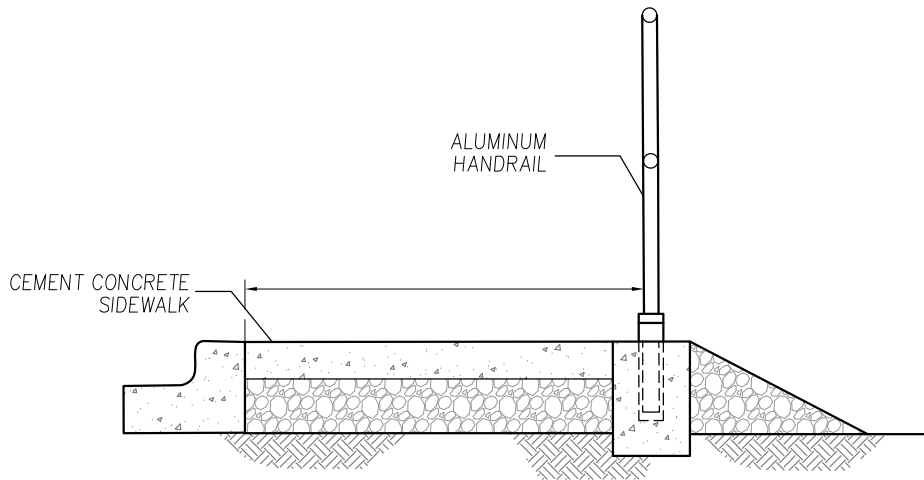
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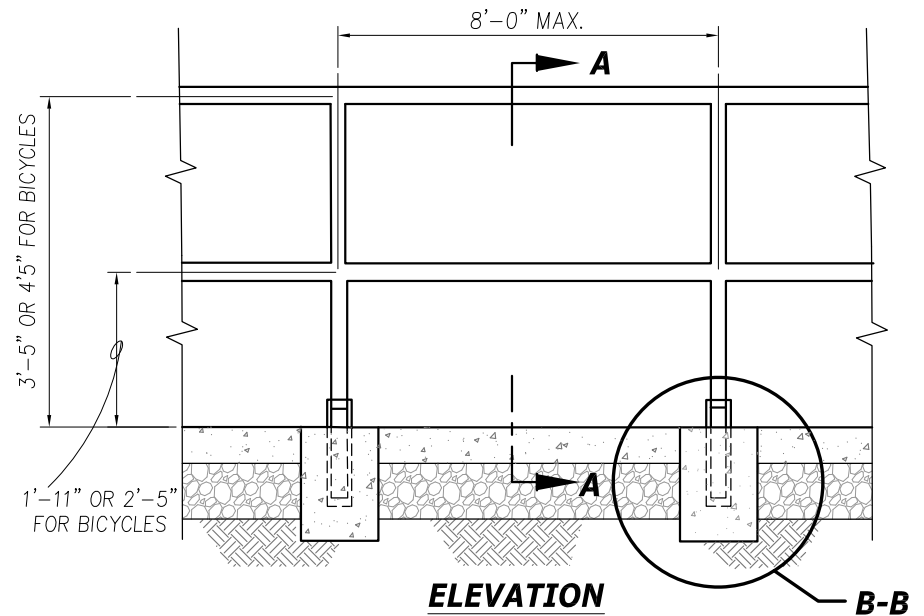
FR-06



DETAIL B-B



SECTION A-A



ELEVATION

B-B

GENERAL NOTES:

- CONNECTORS TO BOTH VERTICAL AND HORIZONTAL RAILS SHALL BE HOLLAENDER INTERNA-RAIL OR PRE-APPROVED EQUIVALENT.

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01/10/20
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12/27/19 ORIGINAL DRAWING

AD/CD

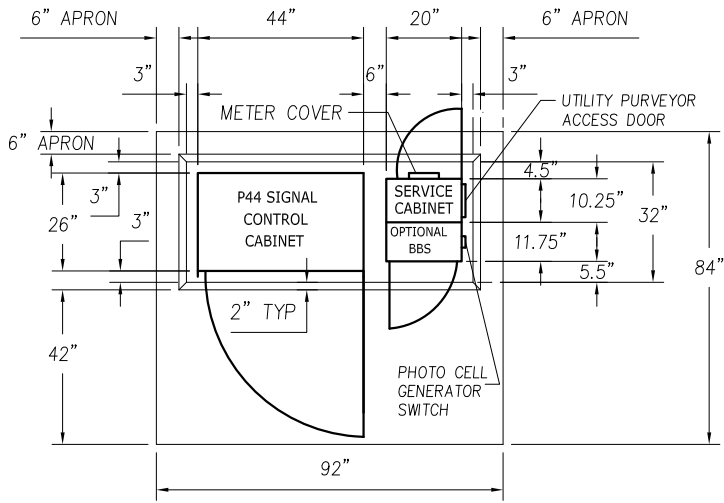
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6000 Main Street SW 98499

NOT TO SCALE

**Handrail
 Installation**

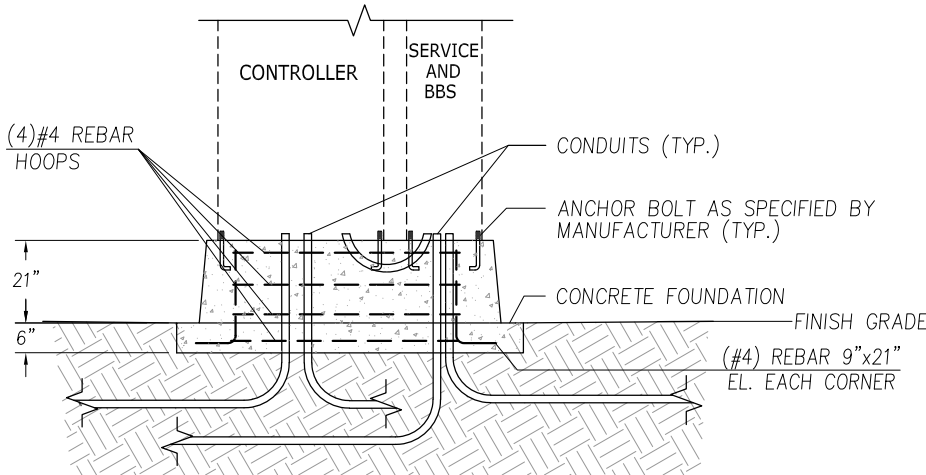
FR-07



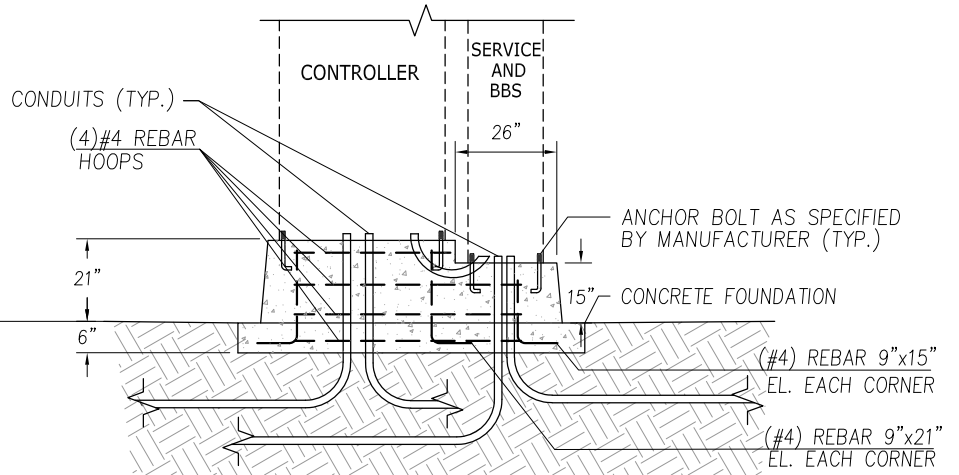
PLAN

GENERAL NOTES:

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9. BBS = BATTERY BACK-UP SYSTEM.



ELECTRICAL SERVICE CABINET UP TO 57" TALL ELEVATION



ELECTRICAL SERVICE CABINET OVER 57" TALL ELEVATION

APPROVED FOR PUBLICATION

Paul A. Bucich
Paul A. Bucich, P.E.
PUBLIC WORKS DIRECTOR/CITY ENGINEER

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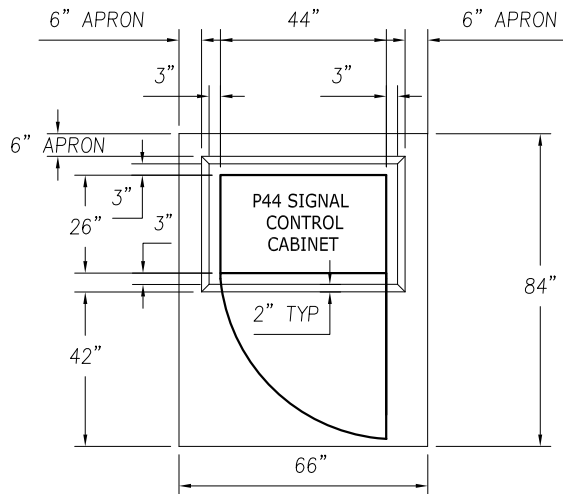


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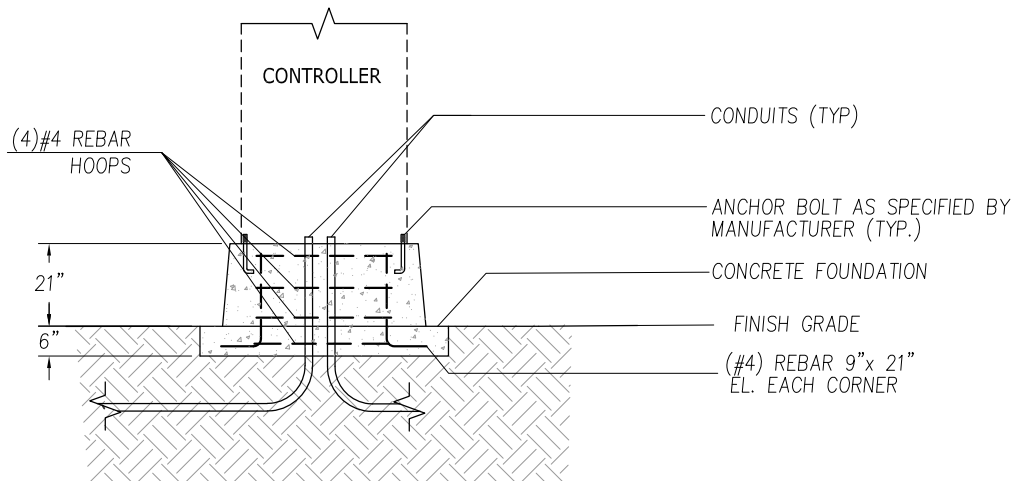
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Combined Collector and Service Cabinet Pedestal

IS-01



PLAN



ELEVATION

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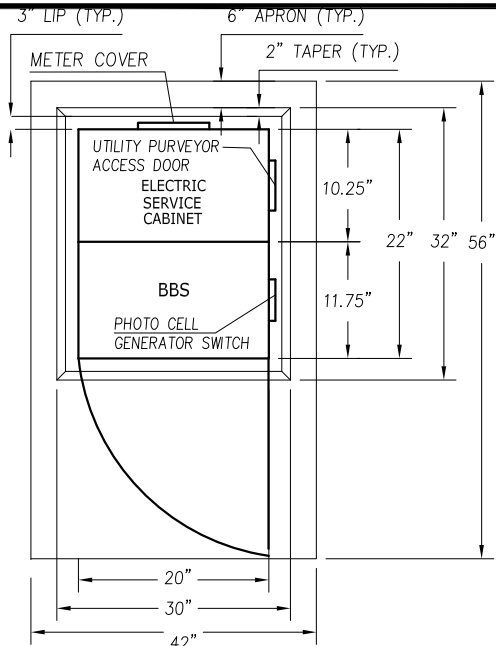
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11/05/19	ORIGINAL DRAWING	AD/CD	PAB

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NOT TO SCALE

Controller Cabinet

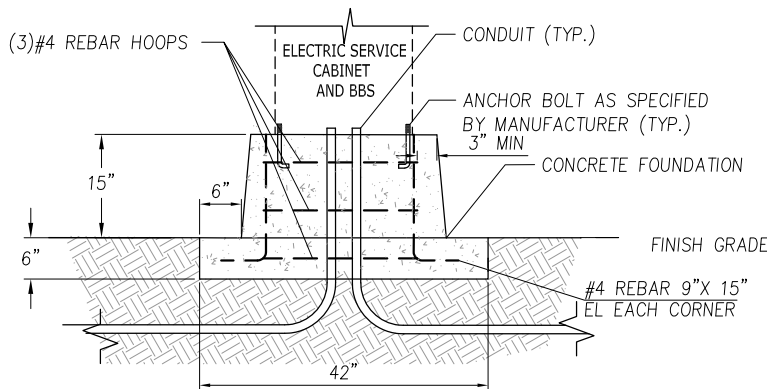
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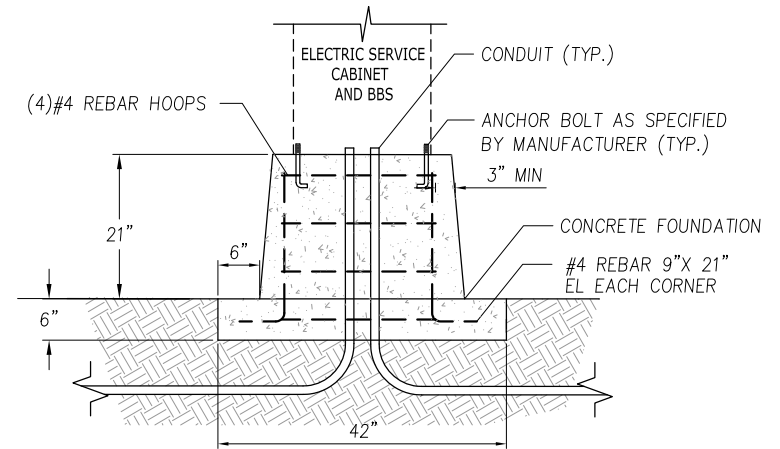
PLAN

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ELECTRICAL SERVICE CABINET OVER 57" TALL ELEVATION



ELECTRICAL SERVICE CABINET UP TO 57" TALL ELEVATION

APPROVED FOR PUBLICATION

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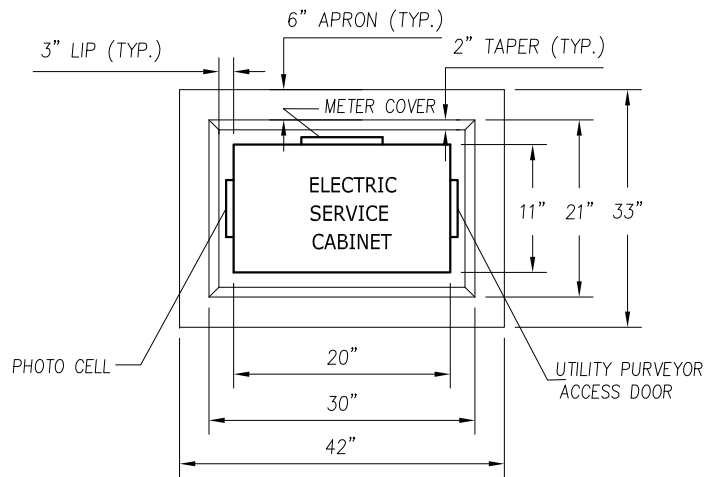


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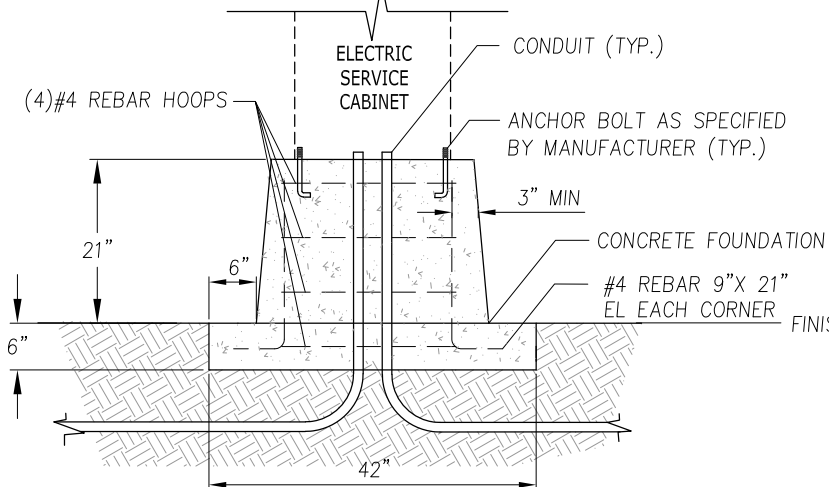
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11/05/19	ORIGINAL DRAWING	AD/CD	PAB
6000 Main Street SW 98499		NOT TO SCALE	

**Service and BBS
Cabinet Pedestal**

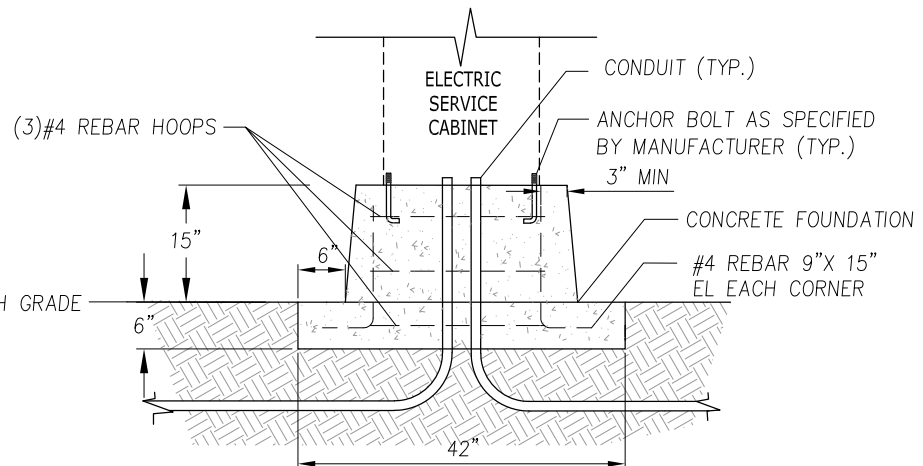
IS-03



PLAN



**ELECTRICAL SERVICE CABINET UP TO 57" TALL
ELEVATION**



**ELECTRICAL SERVICE CABINET OVER 57" TALL
ELEVATION**

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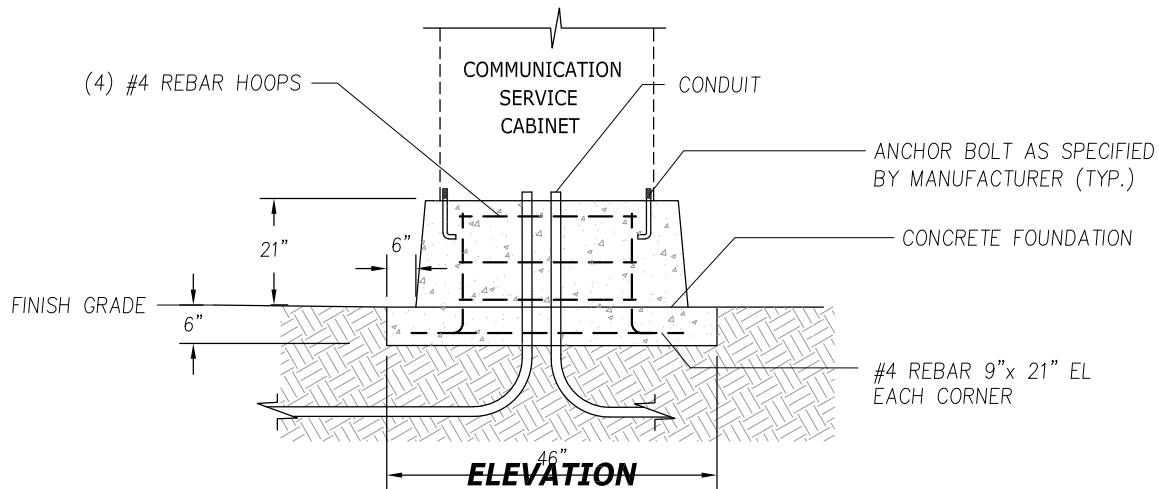
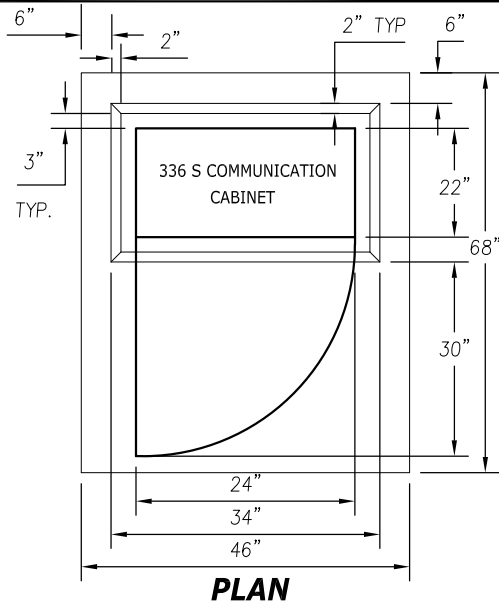
DATE	REVISION DESCRIPTION	BY	APPROVED
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6000 Main Street SW 98499

NOT TO SCALE

**Service Cabinet
Pedestal**

IS-04



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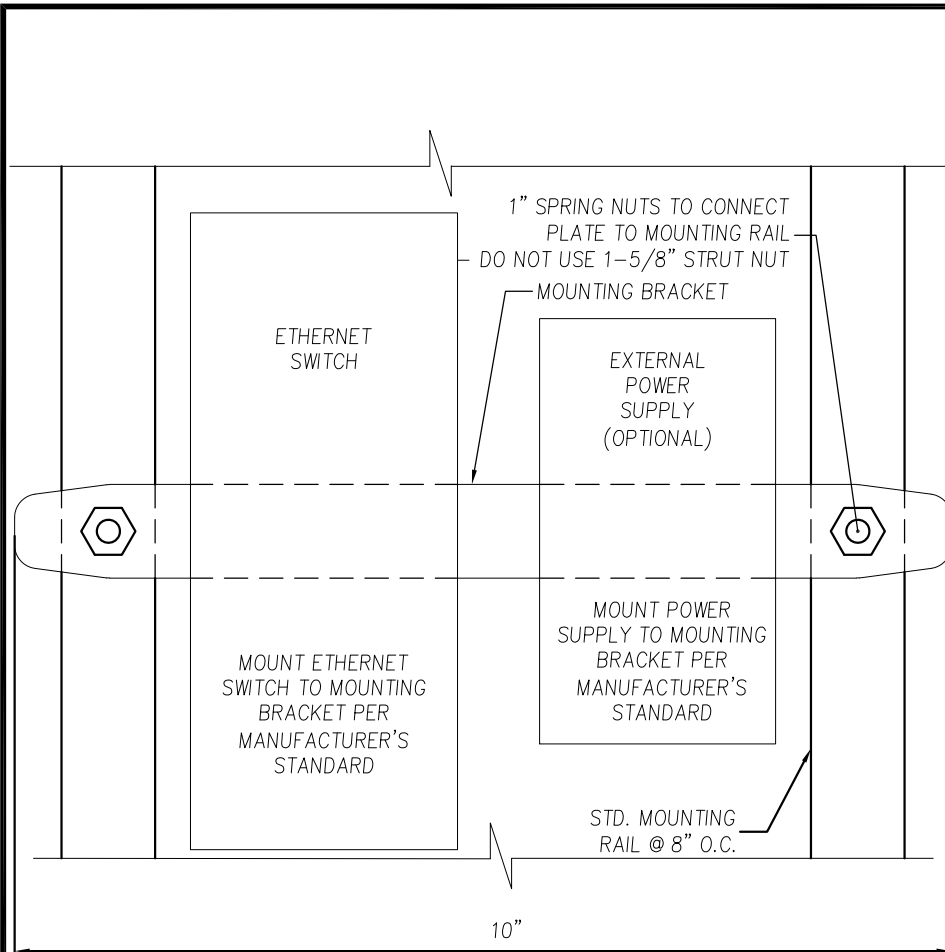
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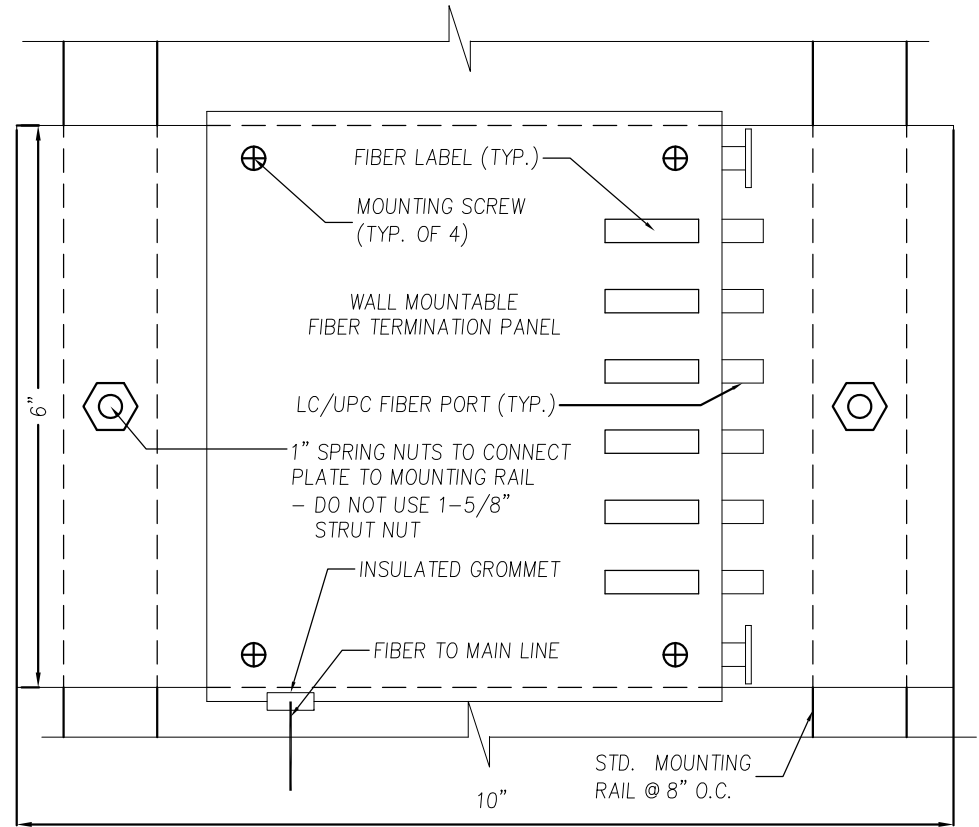
NOT TO SCALE

336 S Communication Service Cabinet Pedestal

IS-05



ETHERNET SWITCH PANEL DETAIL



FIBER PATCH PANEL DETAIL

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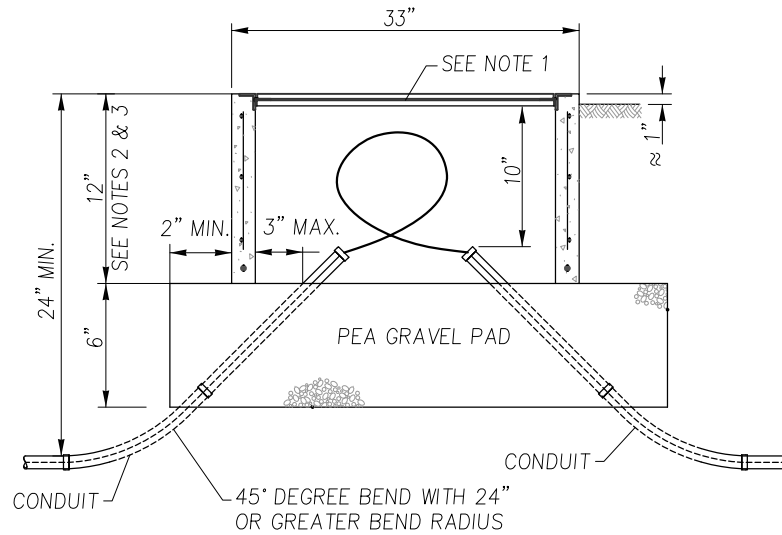
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Fiber Interconnect and Cabinet Panel Details

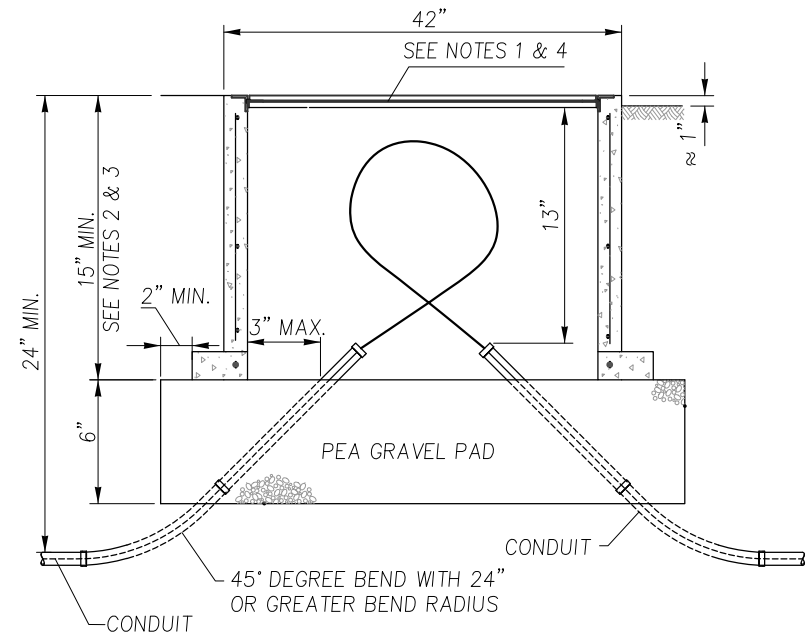
IS-07

GENERAL NOTES:

1. SEE WSDOT STANDARD PLANS FOR JUNCTION BOX DETAILS.
2. THE JUNCTION BOX TYPE 2 SHALL BE PROVIDED WITH A 12" DEEP EXTENSION WHEN SPECIFIED IN THE CONTRACT.
3. THE JUNCTION BOX TYPE 8 SHALL BE PROVIDED WITH A 12" DEEP EXTENSION WHEN SPECIFIED IN THE CONTRACT.
4. ALL JUNCTION BOXES SHALL BE PROVIDED WITH LOCKING LIDS.



TYPE 2



TYPE 8

APPROVED FOR PUBLICATION

Paul A. Bucich
 Paul A. Bucich, P.E.
 PUBLIC WORKS DIRECTOR/CITY ENGINEER

01/10/20
 DATE



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DATE	REVISION DESCRIPTION	BY	APPROVED
9/10/10	ORIGINAL DRAWING	TRN	DEW
2/26/12	REVISED DRAWING	LC/JH	DEW
1/16/19	REVISED DRAWING	AD	PAB

6000 Main Street SW 98499

NOT TO SCALE

**Fiber Junction Box
 Types 2 and 8**

IS-08

FURNISH AND INSTALL CUSTOM PELCO EM1109 MOD SMRI - 2ILW2X BRACKET

BOLT J HOOK 3" FROM TOP OF POLE. INSTALL "KELLEMS" CABLE SUPPORT GRIP

DRILL HOLE ON SIDE OF LUMINAIRE ARM

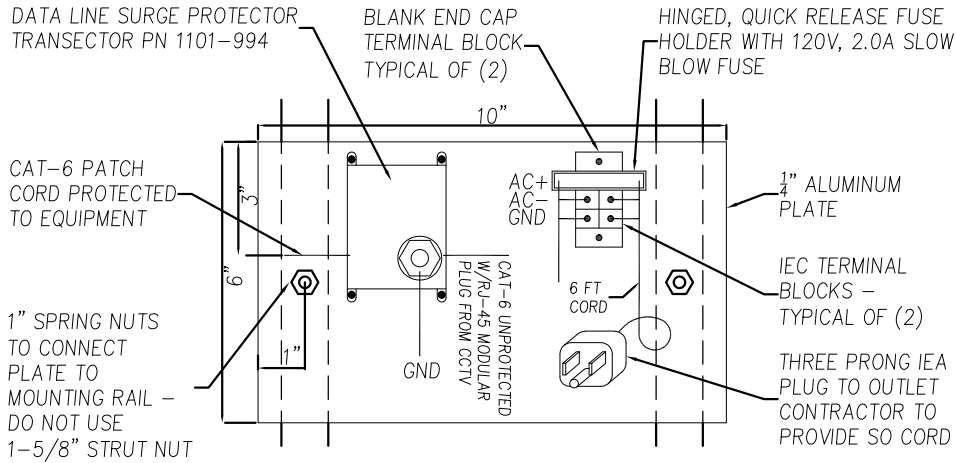
ADJUST BRACKET TO LEVEL CAMERA

ROUTE CAMERA PIGTAIL INTO DRILL HOLE. LOOP CAMERA CONTROL CABLE TO ALLOW ACCESS TO MS-TYPE CONNECTOR

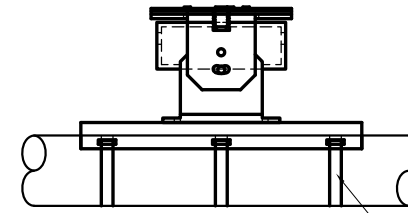
DRIP LOOP

ROUTE CABLE TO HANDHOLE PER WIRE NOTES

PTZ CAMERA MOUNTING DETAIL



PTZ TERMINATION PANEL



ASSEMBLED SIDE VIEW

SECURE MOUNTING BRACKET WITH STEEL CABLE TIES (TYP.)

EPP MOUNT

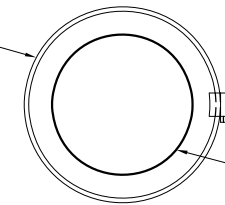
FLANGE BRACKET

BASE BRACKET

5 OUTLET, WEATHERPROOF GANG BOX

MOUNT CRADLE

STEEL CABLE TIE



EXPLODED END VIEW

LUMINAIRE ARM

THREADED NIPPLE

PTZ CAMERA CABLE

CGB FITING WITH CRUSH RING

CLOSURE PLUG TO BE INSTALLED ON ALL UNUSED OUTLETS

PTZ CAMERA CABLE

GANG BOX ASSEMBLY DETAIL

PTZ CAMERA MOUNTING BRACKET

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NOT TO SCALE

PTZ Camera Mount and Panel Details

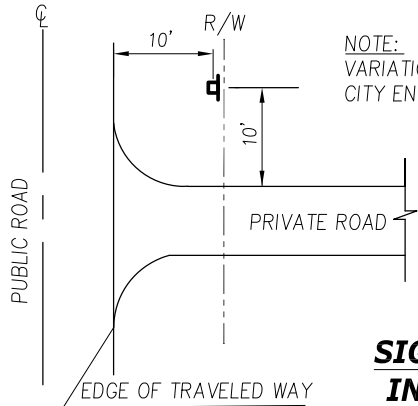
IS-09



**POST MOUNTED SIGN ON LOCAL ROAD
(SPEED LIMIT 25 OR LESS)**



POST MOUNTED SIGN ON ALL OTHER ROADS



NOTE:
VARIATION FROM THIS SIGN LOCATION BY
CITY ENGINEER WRITTEN APPROVAL ONLY.

ROADWAY DESIGNATION ABBREVIATIONS:

- AV - AVENUE
- ST - STREET
- CT - COURT
- BV - BOULEVARD
- CIR - CIRCLE
- DR - DRIVE
- HY - HIGHWAY
- PKWY - PARKWAY
- PL - PLACE
- LN - LANE
- RD - ROAD
- WY - WAY

AREA ABBREVIATIONS:

- E - EAST
- NE - NORTHEAST
- NW - NORTHWEST
- S - SOUTH
- W - WEST

**SIGN PLACEMENT
IN PUBLIC ROW**

GENERAL NOTES:

1. WHITE TEXT AND BORDER ON A BLUE BACKGROUND.
2. TYPE 4 HIGH INTENSITY SHEETING.
3. USE UPPER AND LOWER CASE LETTERING FOR STREET NAME AND TYPE.
4. SIGN SHALL COMPLY WITH MOST RECENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND STANDARD HIGHWAY SIGNS AND MARKINGS BOOK.
5. EXCEPTIONS TO STANDARDS MAY BE PERMITTED BY THE CITY ENGINEER.
6. SIGN MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO INSTALLATION.

LETTERING REQUIREMENTS:

1. STANDARD LETTER SERIES "B" OR "C" (OR "D" FOR A PRIVATE STREET NAME SIGN).
2. DO NOT USE ORDINATE SUFFIXES (1ST, 2ND, 3RD, ETC.)
3. USE STANDARD ROADWAY DESIGNATION AND AREA ABBREVIATION AS LISTED ON THIS SHEET.

SIGN MATERIAL REQUIREMENTS:

4. SHEET ALUMINUM SIGN SHALL BE CONSTRUCTED OF ALLOY 6061-T6, 5052-H36 OR 5052-H38. THICKNESS SHALL BE 0.080" OR 14 GAGE.
5. SIGN FACE MATERIAL SHALL BE MADE OF TYPE IV WHITE SHEETING OVERLAID WITH GREEN ELECTRO CUT FILM WITH STREET NAME CUT OUT.

SIGN POST REQUIREMENTS:

6. SEE CITY OF LAKEWOOD STD PLAN PS-03 - STEEL POST STREET SIGN SUPPORT.

HARDWARE PUBLIC ROAD SIGNS:

7. SIGN BRACKET SHALL BE DIE CAST HIGH STRENGTH ALUMINUM ALLOY DESIGNED FOR MOUNTING ON TOP OF THE STEEL POST.
8. ALL OTHER HARDWARE AND FASTENERS SHALL BE GALVANIZED STEEL.

APPROVED FOR PUBLICATION

Paul A. Bucich 01/10/20
 Paul A. Bucich, P.E.
 PUBLIC WORKS DIRECTOR/CITY ENGINEER



Public Works Department

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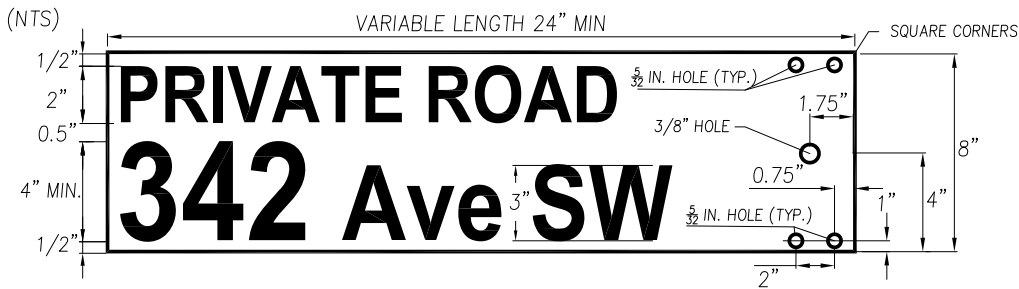
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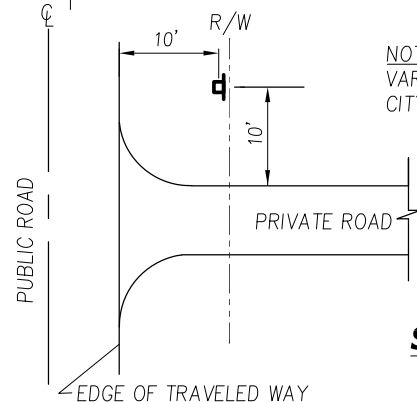
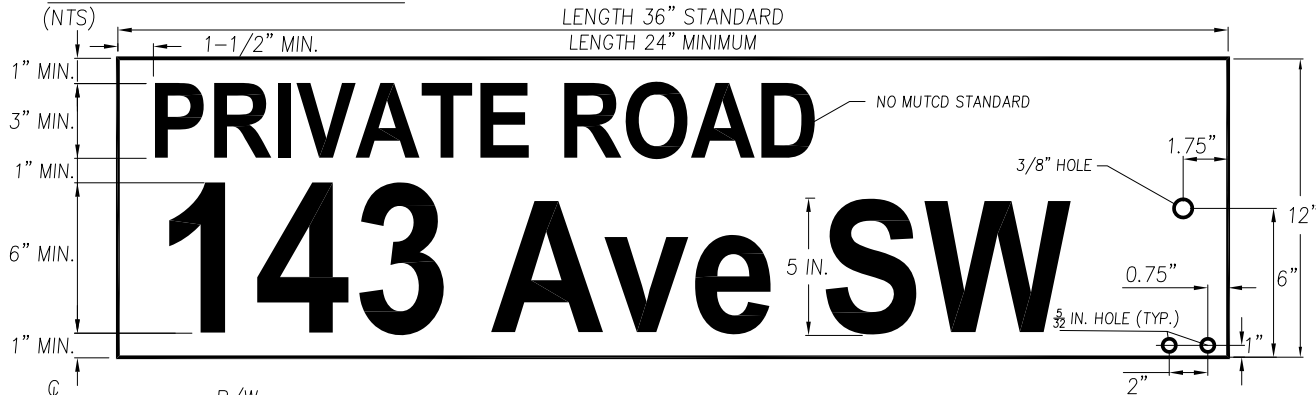
**Street Name Sign
Public Street**

PS-01

AT NON-ARTERIAL INTERSECTIONS ONLY:



AT OR ALONG ARTERIALS:



NOTE:
VARIATION FROM THIS SIGN LOCATION BY
CITY ENGINEER WRITTEN APPROVAL ONLY.

**SIGN PLACEMENT
IN PUBLIC ROW**

ROADWAY DESIGNATION ABBREVIATIONS:

- AV - AVENUE
- ST - STREET
- CT - COURT
- BV - BOULEVARD
- CIR - CIRCLE
- DR - DRIVE
- HY - HIGHWAY
- PKWY - PARKWAY
- PL - PLACE
- LN - LANE
- RD - ROAD
- WY - WAY

AREA ABBREVIATIONS:

- E - EAST
- NE - NORTHEAST
- NW - NORTHWEST
- S - SOUTH
- W - WEST

GENERAL NOTES:

1. WHITE TEXT AND BORDER ON A BLUE BACKGROUND.
2. TYPE 4 HIGH INTENSITY SHEETING.
3. USE UPPER AND LOWER CASE LETTERING FOR STREET NAME AND TYPE.
4. SIGN SHALL COMPLY WITH MOST RECENT EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AND STANDARD HIGHWAY SIGNS AND MARKINGS BOOK.
5. EXCEPTIONS TO STANDARDS MAY BE PERMITTED BY THE CITY ENGINEER.
6. SIGN MUST BE APPROVED BY THE CITY ENGINEER PRIOR TO INSTALLATION.

LETTERING REQUIREMENTS:

1. STANDARD LETTER SERIES "B" OR "C" (OR "D" FOR A PRIVATE STREET NAME SIGN).
2. DO NOT USE ORDINATE SUFFIXES (1ST, 2ND, 3RD, ETC.)
3. USE STANDARD ROADWAY DESIGNATION AND AREA ABBREVIATION AS LISTED ON THIS SHEET.

SIGN MATERIAL REQUIREMENTS:

4. SHEET ALUMINUM SIGN SHALL BE CONSTRUCTED OF ALLOY 6061-T6. 5052-H36 OR 5052-H38. THICKNESS SHALL BE 0.080" OR 14 GAGE.
5. SIGN FACE MATERIAL SHALL BE MADE OF TYPE IV WHITE SHEETING OVERLAID WITH BLUE ELECTRO CUT FILM WITH STREET NAME CUT OUT.

SIGN POST REQUIREMENTS:

6. SEE CITY OF LAKEWOOD STD PLAN PS-03 - STEEL POST STREET SIGN SUPPORT.

HARDWARE PRIVATE ROAD SIGNS:

7. USE 4"x4" GALVANIZED LAG BOLT WITH NYLON WASHER FOR CENTER MOUNTING HOLE. SUPPLEMENT LAG BOLT WITH FOUR 2-1/2" 8 D GALVANIZED NAILS IN THE OUTER HOLES.

APPROVED FOR PUBLICATION

Paul A. Bucich
Paul A. Bucich, P.E.
PUBLIC WORKS DIRECTOR/CITY ENGINEER

01/10/20
DATE



Public Works Department

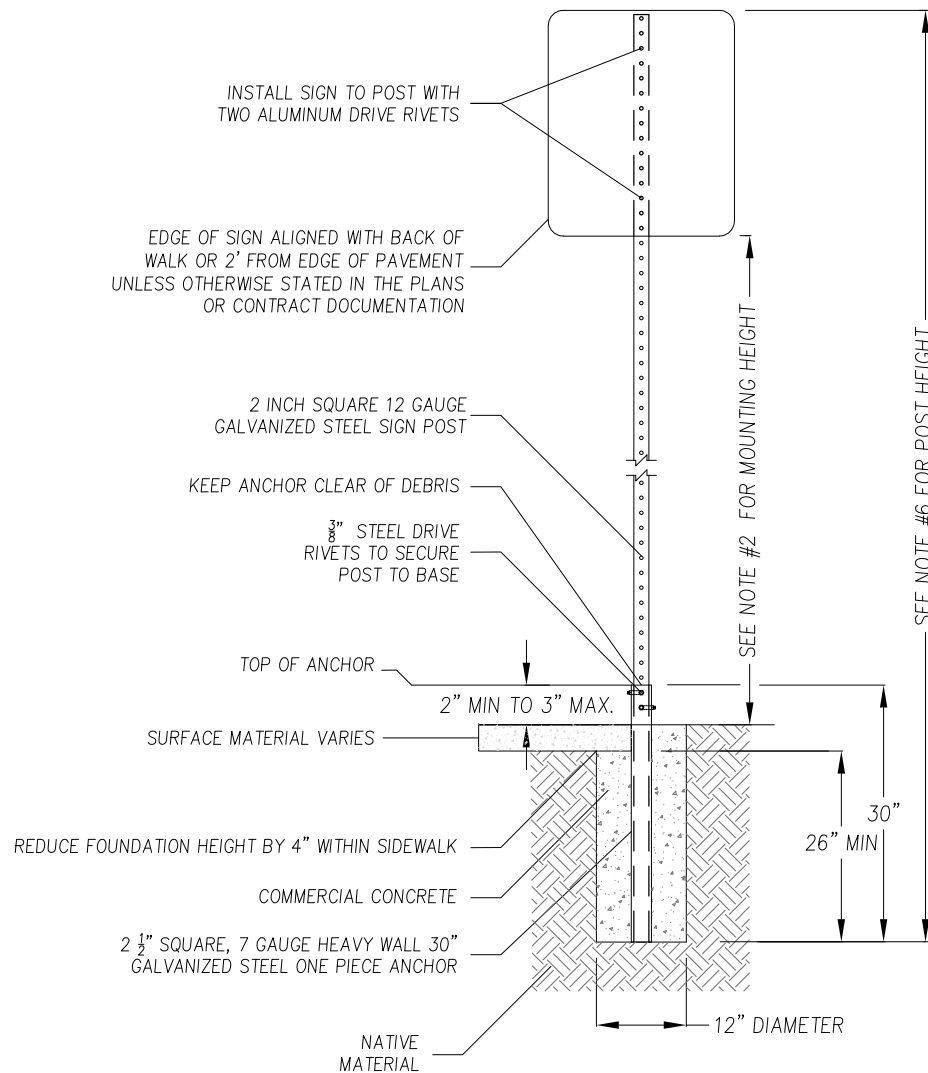
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**Street Name Sign
Private Street**

PS-02



GENERAL NOTES:

1. VERIFY AND STAKE LOCATIONS OF TRAFFIC SIGNS FOR ENGINEER APPROVAL AND ADJUSTMENT PRIOR TO INSTALLATION.
2. MOUNTING HEIGHT SHALL BE 7 FEET UNLESS OTHERWISE APPROVED BY THE ENGINEER WITH EXCEPTION TO:
 - A) MOUNTING HEIGHT FOR SECONDARY SIGNS MOUNTED BELOW ANOTHER SIGN MAY BE REDUCED BY 1 FOOT WHEN NOT LOCATED WITHIN SIDEWALK.
 - B) MOUNTING HEIGHT FOR ARROW AND CHEVRON SIGNS SHALL BE 5 FEET WHEN NOT LOCATED WITHIN SIDEWALK.
3. SIGN FACE SHALL BE TYPE 4 SHEETING.
4. ALL HARDWARE AND FASTENERS SHALL BE GALVANIZED STEEL UNLESS OTHERWISE NOTED.
5. TOP OF FOUNDATION SHALL BE FLUSH WITH FINISH GRADE EXCEPT WHEN COVERED BY SIDEWALK.
6. FOR SIGNS OTHER THAN CHEVRON OR ARROW (WI-6, WI-8):
 - A) USE 12' POST FOR SIGNS UP TO 30" TALL;
 - B) USE 14' POST FOR SIGNS 30-54" TALL;
 - C) CONTACT ENGINEER FOR SIGNS TALLER THAN 54"

APPROVED FOR PUBLICATION

Paul A. Bucich
 Paul A. Bucich, P.E.
 PUBLIC WORKS DIRECTOR/CITY ENGINEER

01/10/20
 DATE



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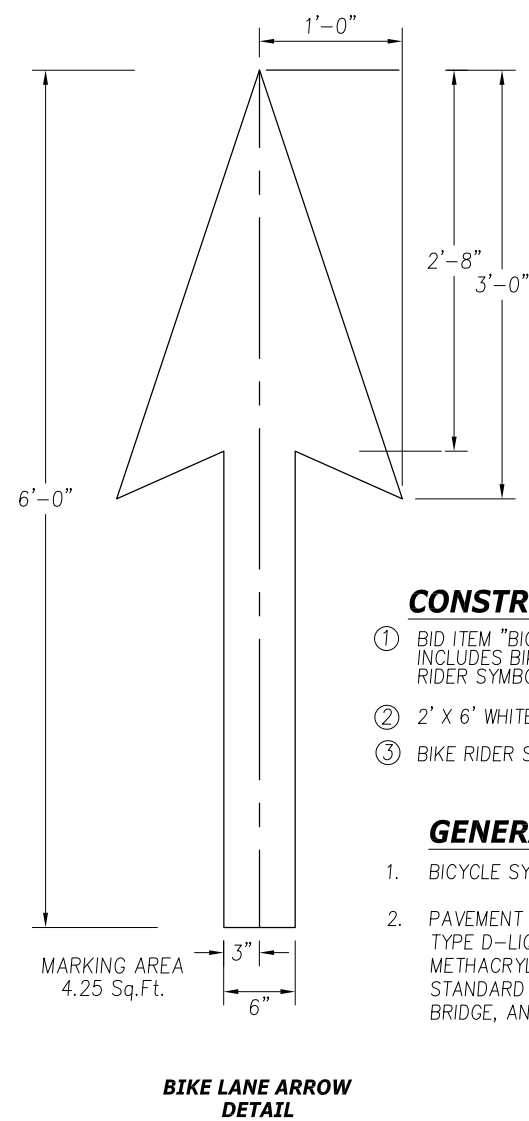
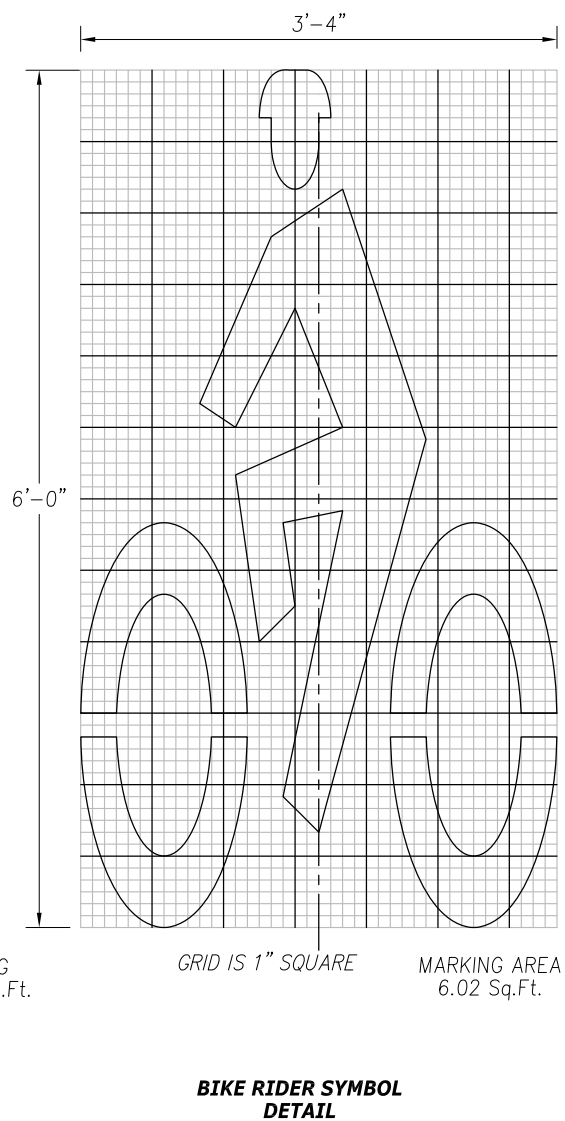
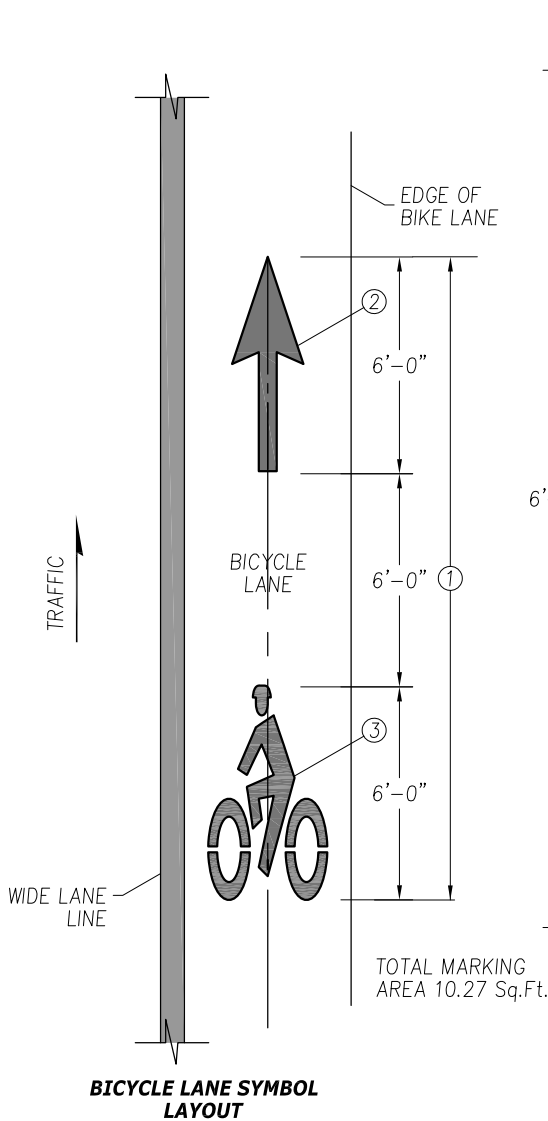
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NOT TO SCALE

**Steel Post
 Street Sign Support**

PS-03



CONSTRUCTION NOTES:

- ① BID ITEM "BICYCLE LANE SYMBOL" INCLUDES BIKE LANE ARROW AND BIKE RIDER SYMBOL
- ② 2' X 6' WHITE BIKE LANE ARROW
- ③ BIKE RIDER SYMBOL

GENERAL NOTES:

- 1. BICYCLE SYMBOLS SHALL BE WHITE.
- 2. PAVEMENT MARKING SHALL BE PLASTIC TYPE D-LIQUID COLD APPLIED METHYL METHACRYLATE (MMA) PER WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION.

APPROVED FOR PUBLICATION

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Public Works Department

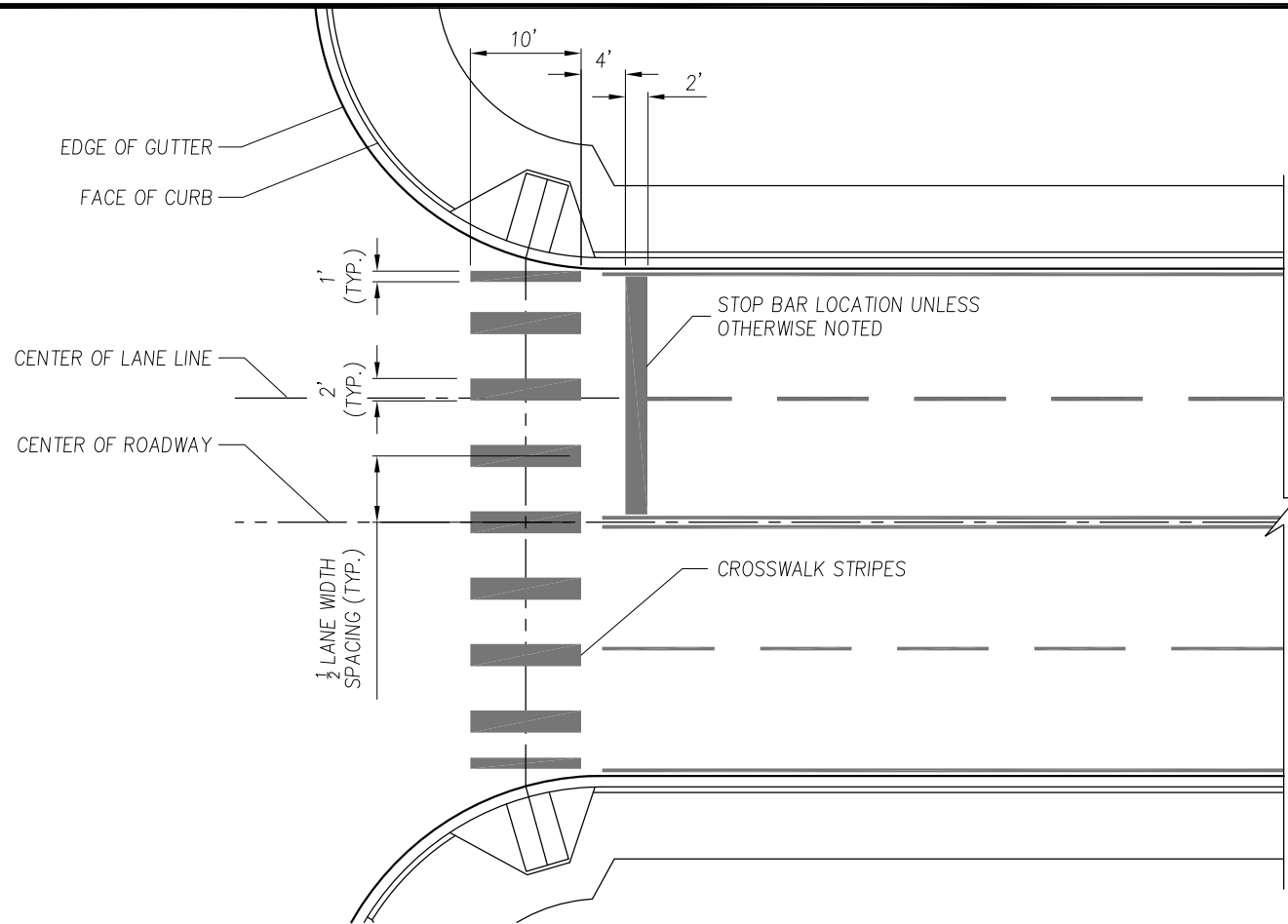
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6000 Main Street SW 98499

NOT TO SCALE

Bicycle Lane Symbol Layout

PS-04



GENERAL NOTES:

1. PAVEMENT MARKING SHALL BE PLASTIC TYPE D-LIQUID COLD APPLIED METHYL METHACRYLATE (MMA) PER WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION.
2. CENTER CROSSWALK ON CURB RAMP ON EACH SIDE OF THE STREET.

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Paul A. Bucich 01/10/20
 Paul A. Bucich, P.E.
 PUBLIC WORKS DIRECTOR/CITY ENGINEER
 DATE



Public Works Department

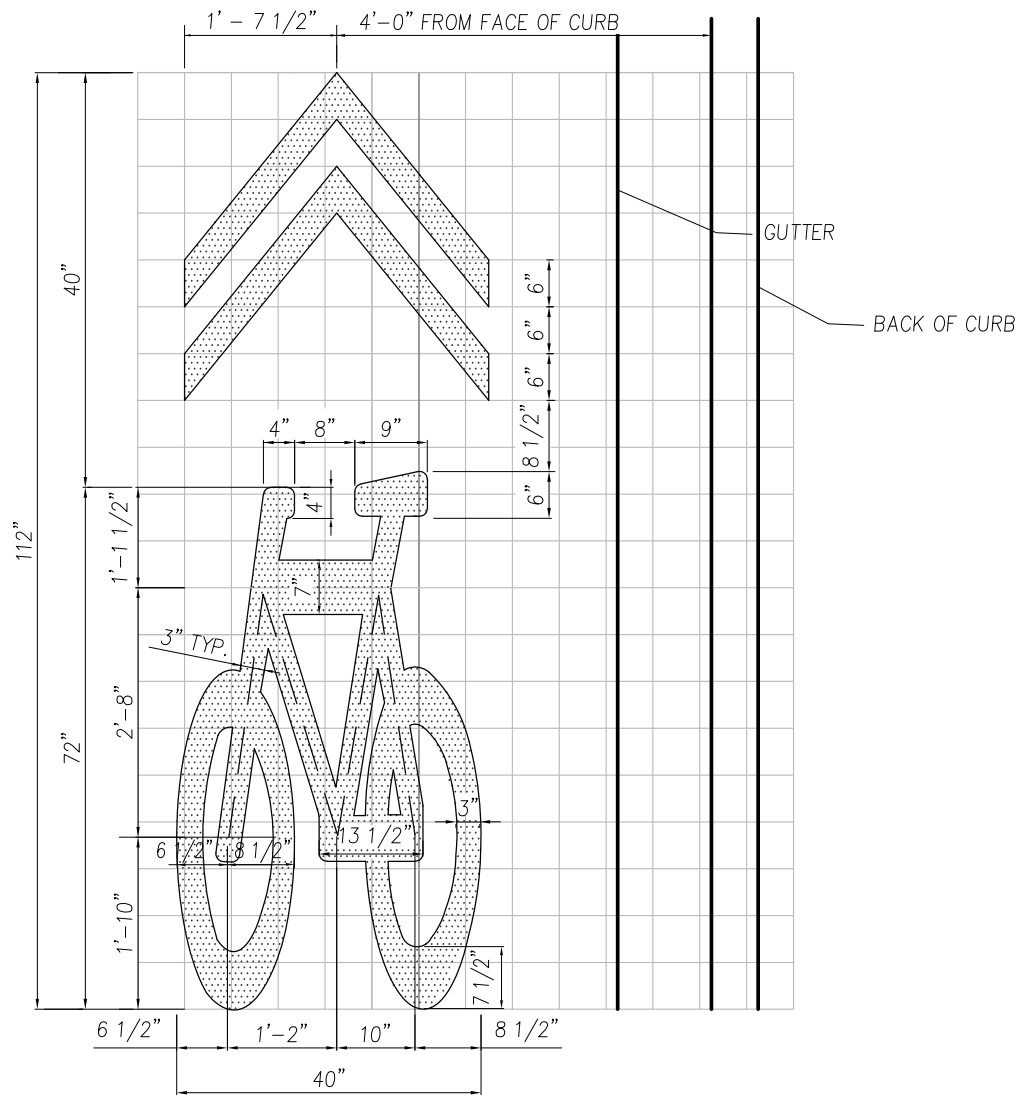
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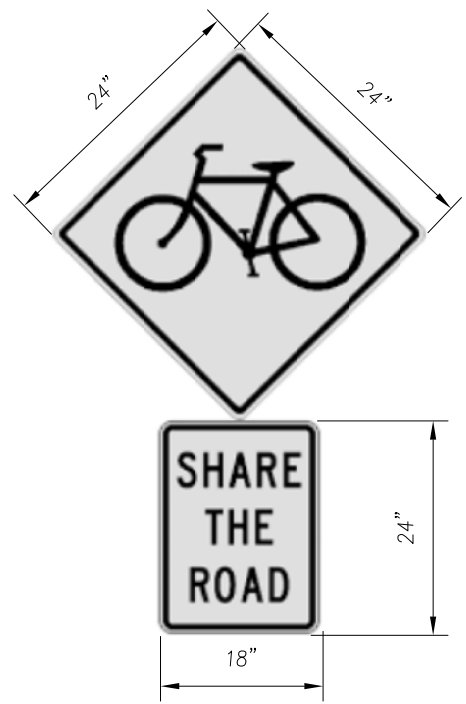
**Crosswalk
and Stop Bar**

PS-05



GENERAL NOTES:

1. ALL ROUNDED CORNERS SHALL HAVE A 1" RADIUS.
2. SHARROW SYMBOL SHALL BE PLASTIC TYPE D-LIQUID COLD APPLIED METHYL METHACRYLATE (MMA), UNLESS OTHERWISE DIRECTED BY CITY ENGINEER.
3. SIGN SHALL BE BLACK TEXT, BORDER AND SYMBOL ON YELLOW BACKGROUND.
4. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION.



BICYCLE SHARROW THE ROAD SIGNAGE

SCALE: NTS

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 PUBLIC WORKS DIRECTOR/CITY ENGINEER



Public Works Department

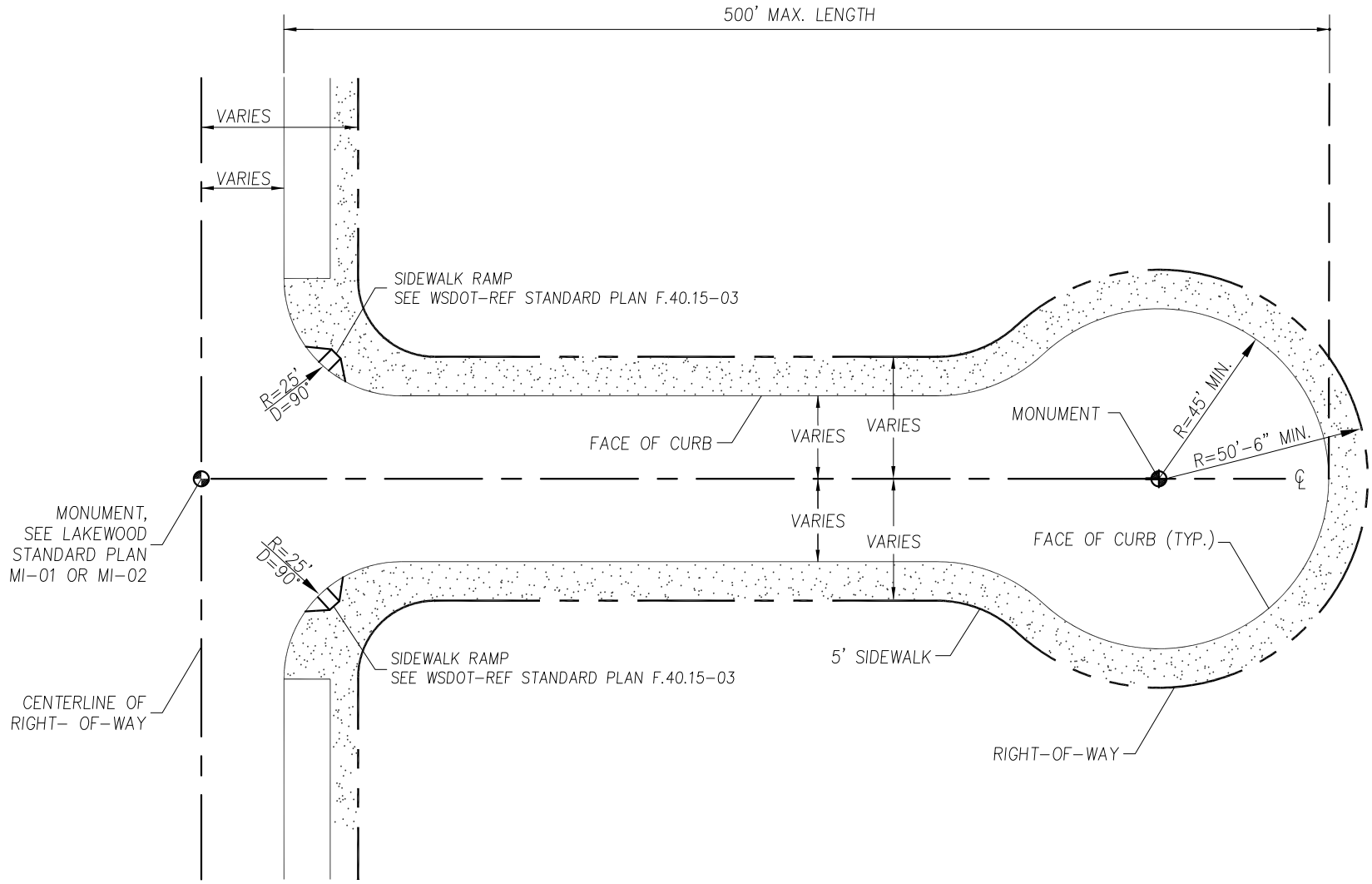
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NOT TO SCALE

**Bicycle Sharrow
 Signage and Road
 Symbol Layout**

PS-06



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 Paul A. Bucich, P.E.
 PUBLIC WORKS DIRECTOR/CITY ENGINEER
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6000 Main Street SW 98499

NOT TO SCALE

Residential Cul-De-Sac

RW-01

GENERAL NOTES:

1. THE 12" GUTTER IS INCLUDED IN THE CURB LANE.
2. ADD 12' TO STANDARD CROSS SECTION AND RIGHT-OF-WAY WHEN DUAL LEFT TURN LANES ARE REQUIRED.
3. ADD 4' TO EACH SIDE OF THE PAVEMENT SECTION AND RIGHT-OF-WAY WHEN BIKE LANES ARE REQUIRED OR 5' BIKE LANE WHEN NEXT TO 11' OUTSIDE LANE.
4. PAVEMENT SECTIONS SHOWN ARE MINIMUM ALLOWED AND SHALL BE SUPPORTED BY ENGINEERED PAVEMENT DESIGN.
5. SEE PROJECT LANDSCAPE PLANS FOR FOR PLANTERS STRIP DEDTAILS.
6. 10' SIDEWALK WIDTH AT TRANSIT STOP LOCATIONS.

RIGHT-OF-WAY CALCULATION

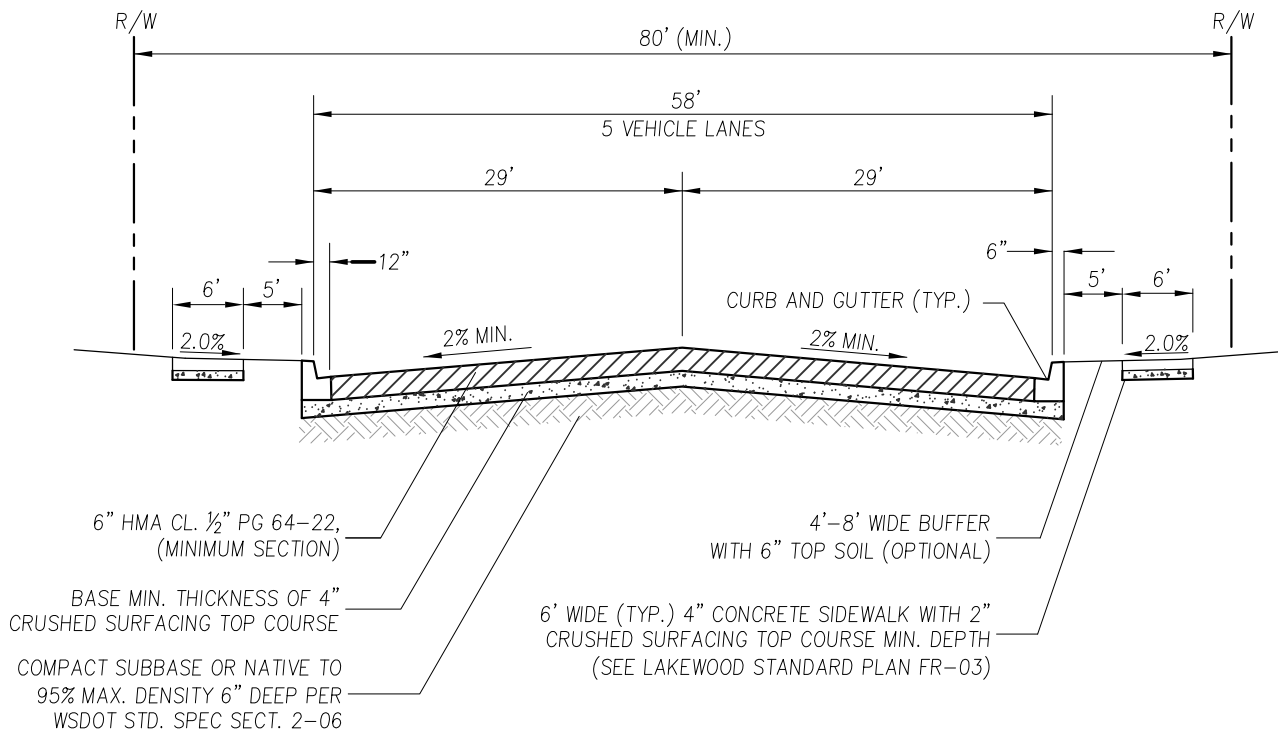
TYPICAL SECTION

2 INSIDE TRAVEL LANES AT 11' = 22'
 2 CURB TRAVEL LANES AT 12' = 24'
 1 TURN LANE AT 12'
 (SEE NOTE 1)

CURB-TO-CURB WIDTH = 58'

2 CURBS AT 0.5' = 1'
 2 PLANTER STRIPS AT 4.5' = 9'
 2 SIDEWALKS AT 6' = 12'

STANDARD RIGHT-OF-WAY WIDTH = 80'



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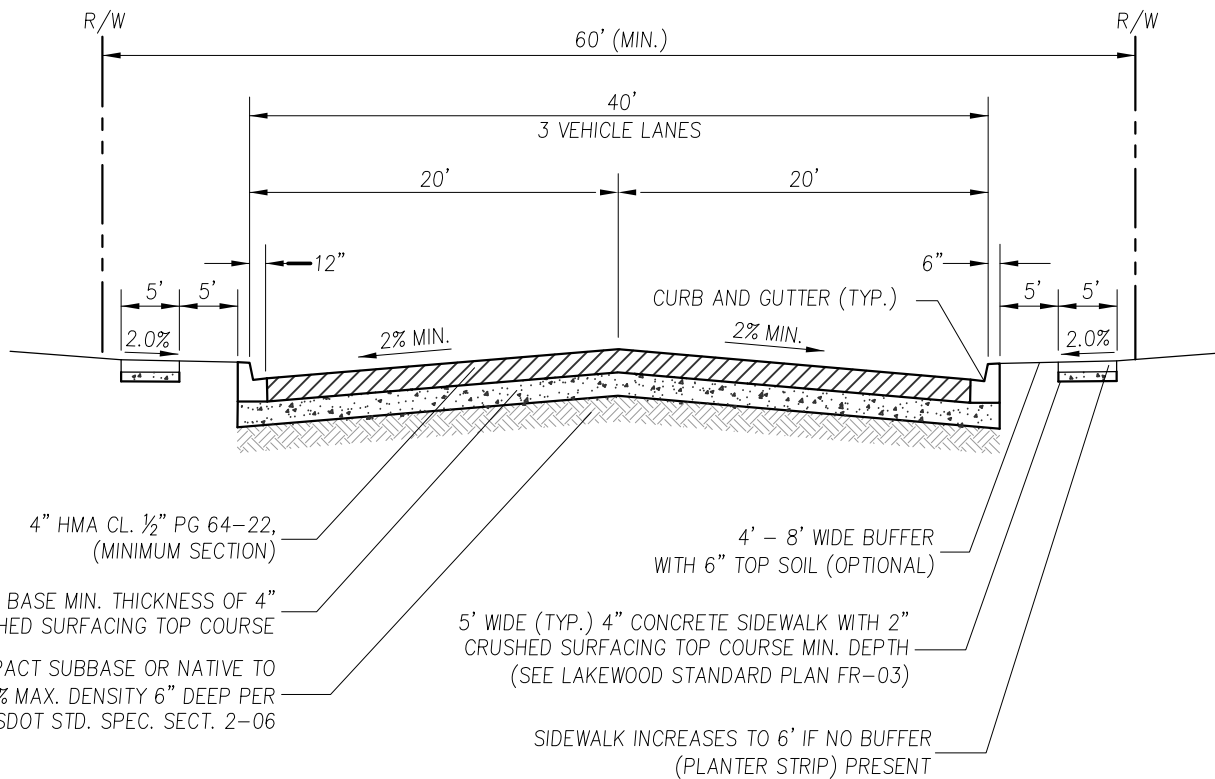
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NOT TO SCALE

Principal/Minor Arterial Street

RW-02



GENERAL NOTES:

1. EXTRA WIDTH MAY BE REQUIRED FOR BICYCLE FACILITIES.
2. THIS TYPICAL STREET CROSS SECTION DOES NOT PROVIDE FOR ON STREET PARKING.
3. PAVEMENT SECTIONS SHOWN ARE MINIMUM ALLOWED AND SHALL BE SUPPORTED BY ENGINEERED PAVEMENT DESIGN.
4. SEE PROJECT LANDSCAPE PLANS FOR PLANTERS STIP DETAILS.
5. 10' SIDEWALK WIDTH AT TRANSIT STOP LOCATIONS.

RIGHT-OF-WAY CALCULATION

TYPICAL SECTION

2 CURB LANES AT 14' = 28'
 1 TURN LANE AT 12'
 (SEE NOTE 2)

CURB-TO-CURB WIDTH = 40'

2 CURBS AT 0.5' = 1'
 2 PLANTER STRIPS AT 4.5' = 9'
 2 SIDEWALKS AT 5' = 10'

STANDARD RIGHT-OF-WAY WIDTH = 60'

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Paul A. Bucich
 Paul A. Bucich, P.E.
 PUBLIC WORKS DIRECTOR/CITY ENGINEER

01/10/20
 DATE



Public Works Department

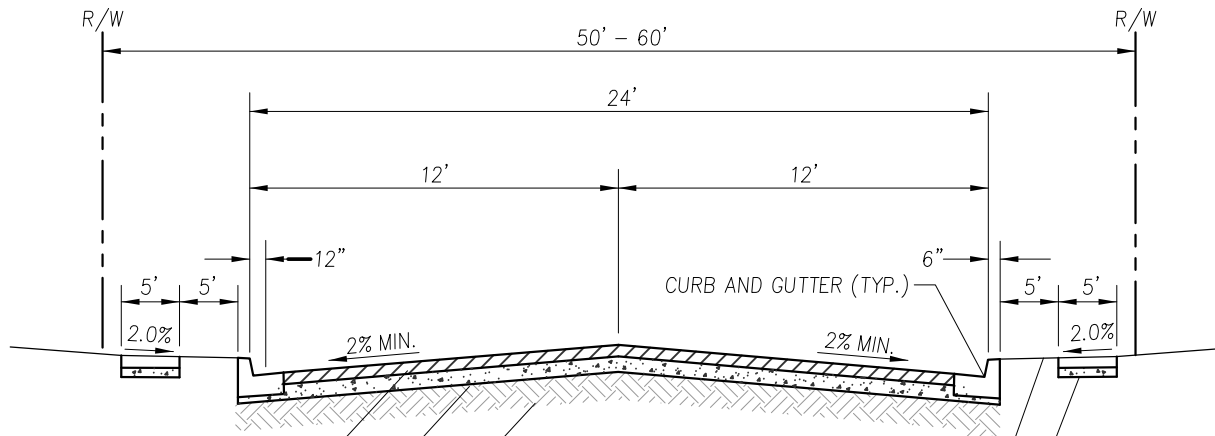
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6000 Main Street SW 98499

NOT TO SCALE

**Collector
 Arterial Street**

RW-03



3" HMA CL. 1/2" PG 64-22,
(MINIMUM SECTION)

BASE MIN. THICKNESS OF 4"
CRUSHED SURFACING TOP COURSE

COMPACT SUBBASE OR NATIVE TO
95% MAX. DENSITY 6" DEEP PER
WSDOT STD. SPEC. SECT. 2-06

4' - 6' WIDE BUFFER WITH 6"
TOPSOIL (OPTIONAL)

5' WIDE (TYP.) 4" CONCRETE SIDEWALK WITH 2"
CRUSHED SURFACING TOP COURSE MIN. DEPTH
(SEE LAKEWOOD STANDARD PLAN FR-03)

GENERAL NOTES:

1. THE TRAVEL LANES ACCOMMODATE BICYCLES AND MOTORIZED VEHICLES.
2. 10' SIDEWALK WIDTH AT TRANSIT STOP LOCATIONS.
3. RIGHT OF WAY WIDTH 50 FEET WITH UNDERGROUND UTILITY; 60 FEET WITH SURFACE UTILITIES.

RIGHT-OF-WAY CALCULATION

TYPICAL SECTION

2 TRAVEL LANES AT 12' = 24'

CURB-TO-CURB WIDTH = 24'

2 CURBS AT 0.5' = 1'

2 PLANTER STRIPS AT 5' = 10'

2 SIDEWALKS AT 5' = 10'

STANDARD RIGHT-OF-WAY
WIDTH = 60'

APPROVED FOR PUBLICATION

Paul A. Bucich 01/10/20
DATE
Paul A. Bucich, P.E.
PUBLIC WORKS DIRECTOR/CITY ENGINEER



Public Works Department

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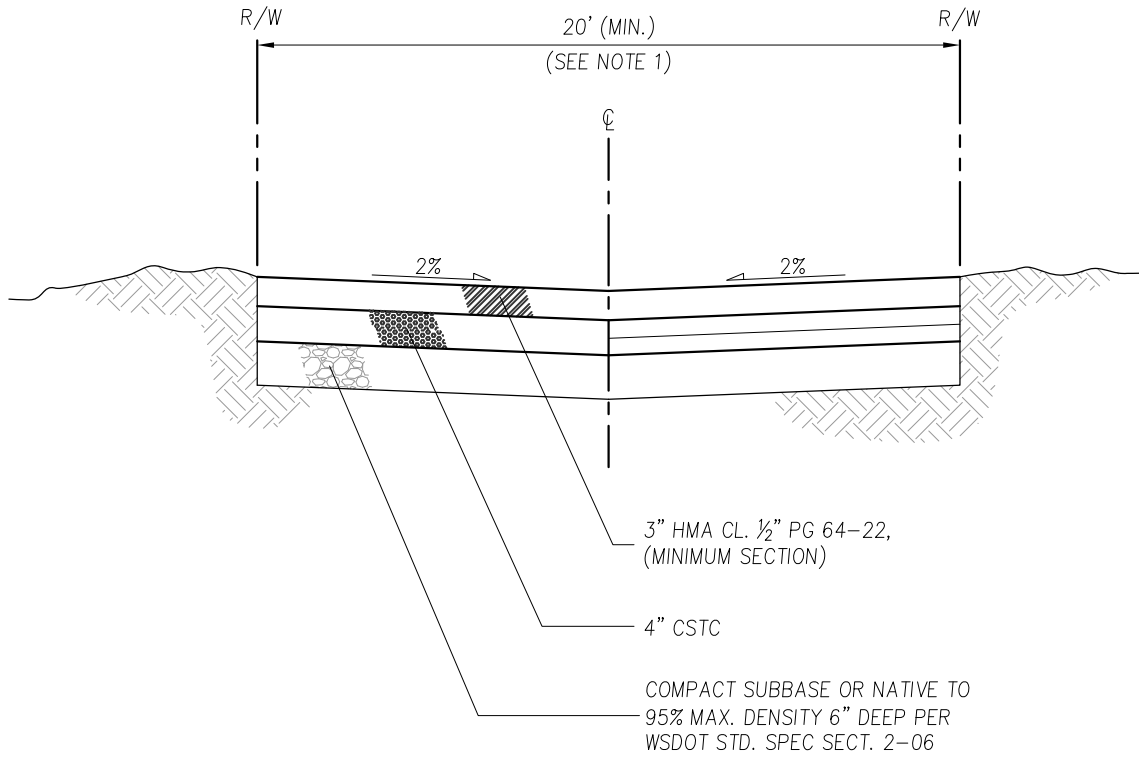
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**Local Access
Street**

RW-04

GENERAL NOTES:

1. ALL NEW ALLEYS SHALL HAVE A MINIMUM WIDTH OF 20'. ALLEY RIGHT-OF-WAYS MAY VARY. SEE LAKEWOOD ENGINEERING STANDARDS MANUAL SECTION 4.10.
2. COMPACTION TESTS ON HMA SHALL BE A MIN. OF 92% OF MAXIMUM DENSITY VALUE.
3. COMPACTION TESTS ON SUBGRADE AND TOP OF ROCK WILL BE REQUIRED. THE NUMBER OF TESTS SHALL BE AT THE DISCRETION OF THE DIRECTOR. ALL TESTING SHALL BE THROUGH A LICENSED LABORATORY. THE MINIMUM COMPACTION SHALL BE 95% OF MAXIMUM DRY DENSITY OF BOTH SUBGRADE AND TOP OF ROCK.
4. ADJUST ALL UTILITIES TO FINISH GRADE.



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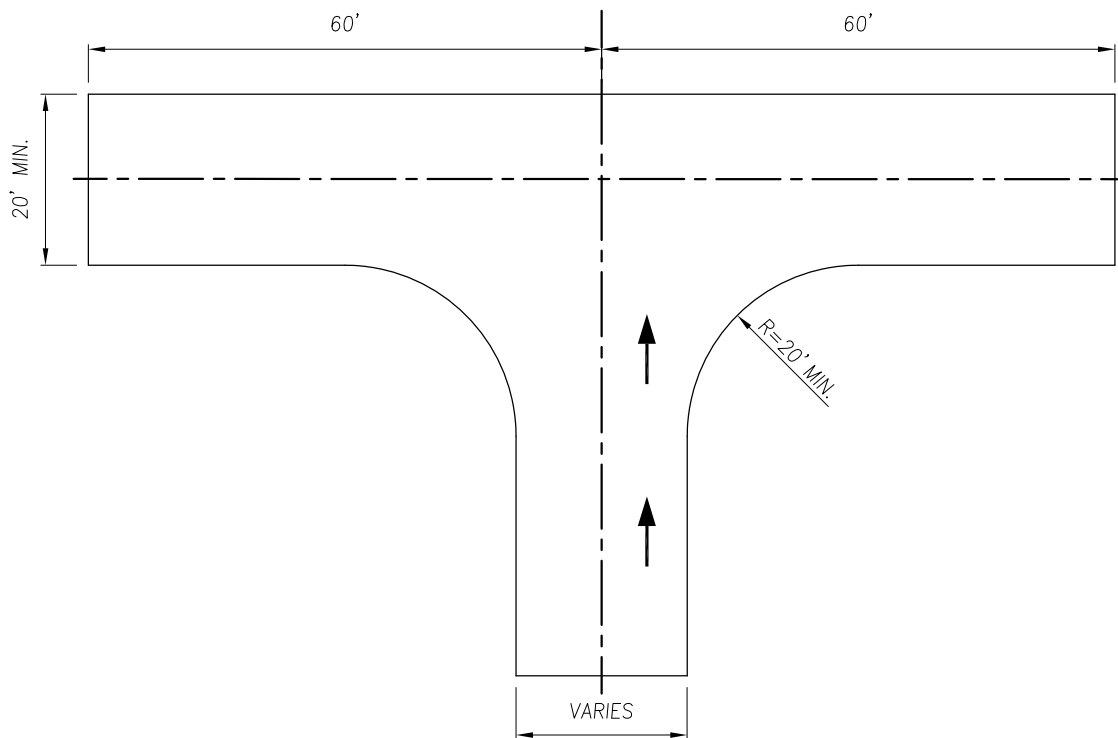
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NOT TO SCALE

Alley

RW-05



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01/10/20
 DATE



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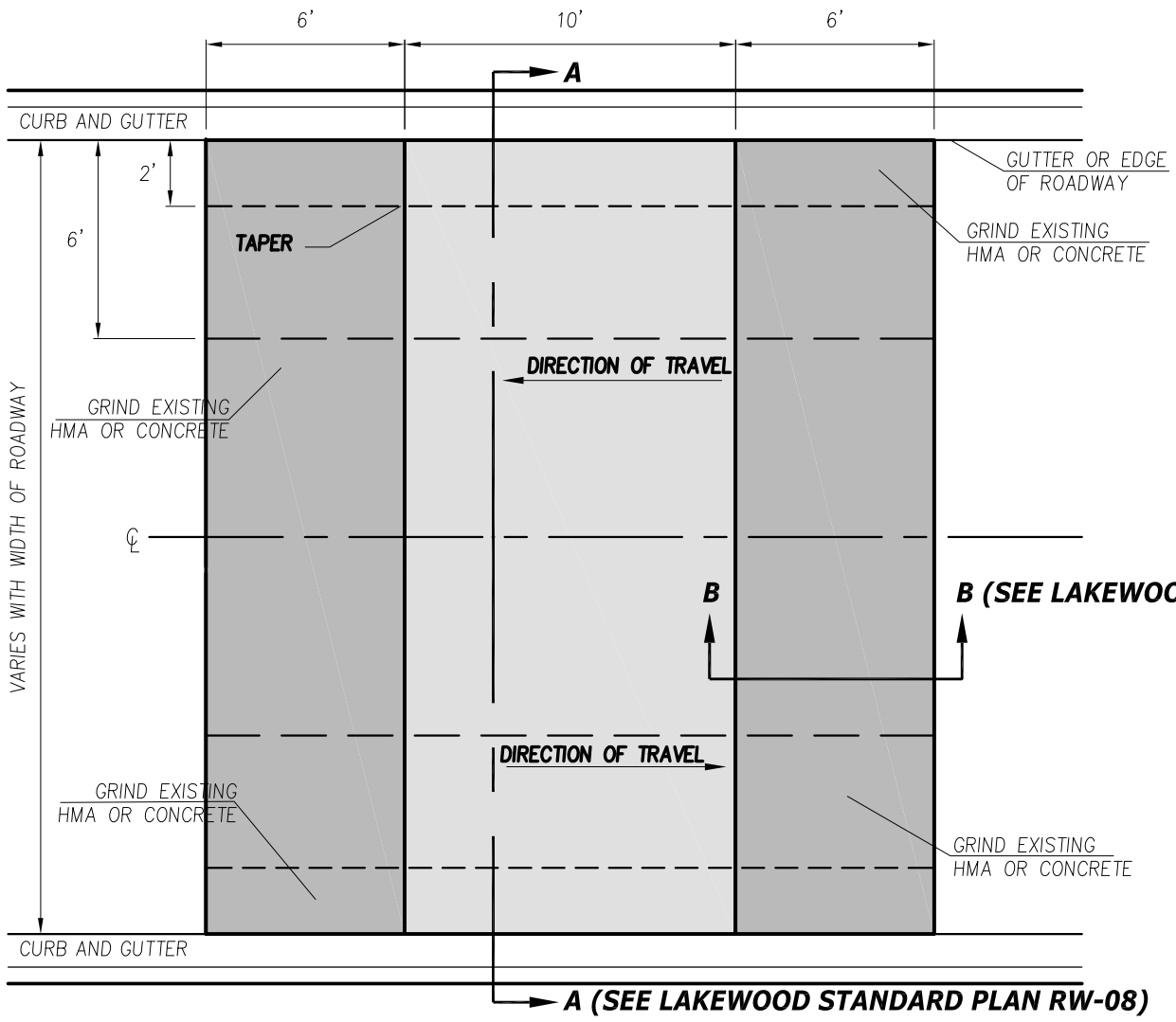
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6000 Main Street SW 98499

NOT TO SCALE

**Dead-End
 Hammerhead**

RW-06



GENERAL NOTES:

1. MATERIALS AND CONSTRUCTION REQUIREMENTS SHALL BE PER LATEST EDITION OF WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION UNLESS OTHERWISE NOTED.
2. EXACT LOCATIONS OF SPEED TABLE TO BE DETERMINED IN THE FIELD BY THE PROJECT ENGINEER.
3. TAPER SPEED TABLE TO TWO INCHES ABOVE EXISTING SHOULDER GRADE IF THERE IS NO CURB AND GUTTER.
4. SEE LAKEWOOD STANDARD PLAN RW-08 FOR TYPICAL SECTION "A-A" A NORMAL CROWN SECTION DETAIL. EXISTING ROADWAY PAVEMENT PROFILES AND CROWN MAY VARY FROM THE TYPICAL. IN ALL CASES A 3" DEPTH HMA TABLE SHALL BE CONSTRUCTED WITH 2" GRINDING AND HMA DEPTH AT THE MEET LINES.
5. SEE LAKEWOOD STANDARD PLAN RW-09 FOR PAVEMENT MARKINGS AND SIGNAGE.

SPEED TABLE - PLAN

APPROVED FOR PUBLICATION

Paul A. Bucich
 Paul A. Bucich, P.E.
 PUBLIC WORKS DIRECTOR/CITY ENGINEER
 DATE 01/10/20



Public Works Department

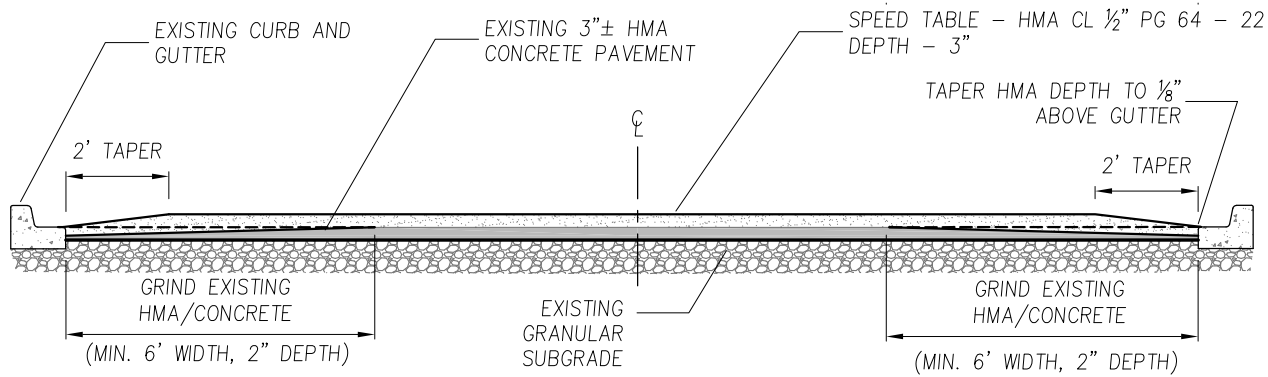
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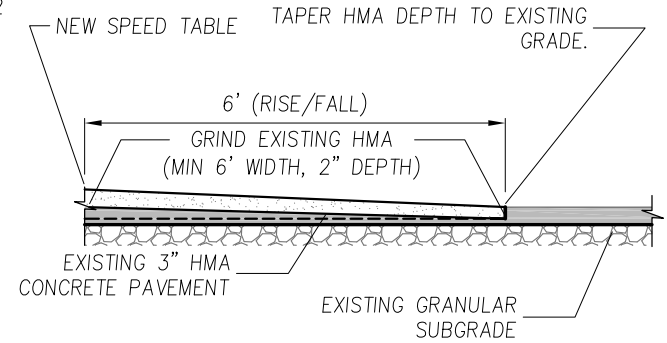
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Speed Table Construction

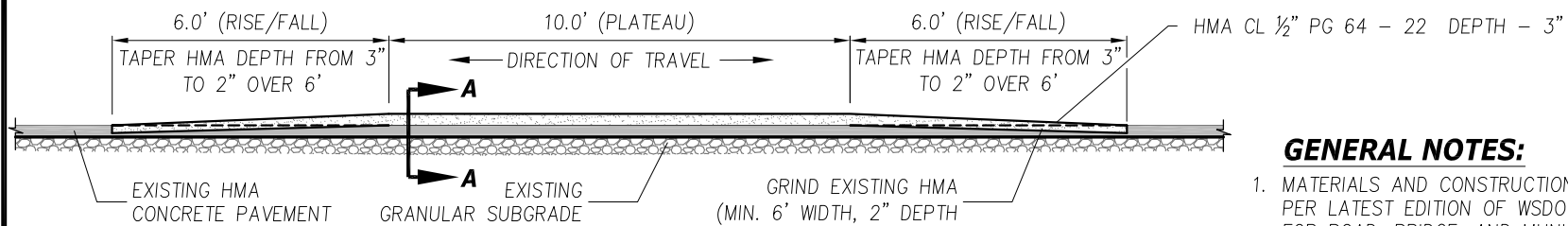
RW-07



SPEED TABLE SECTION A-A



SPEED TABLE SECTION B-B




SPEED TABLE CENTER PROFILE

GENERAL NOTES:

1. MATERIALS AND CONSTRUCTION REQUIREMENTS SHALL BE PER LATEST EDITION OF WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION UNLESS OTHERWISE NOTED.
2. EXACT LOCATION OF SPEED TABLES TO BE DETERMINED IN THE FIELD BY THE PROJECT ENGINEER.
3. IF CURB AND GUTTER DOES NOT EXIST, TAPER SPEED TABLE TO TWO INCHES ABOVE EXISTING SHOULDER GRADE.

APPROVED FOR PUBLICATION



Paul A. Bucich, P.E.
PUBLIC WORKS DIRECTOR/CITY ENGINEER

01/10/20
DATE



CITY OF LAKEWOOD, WA
 1996

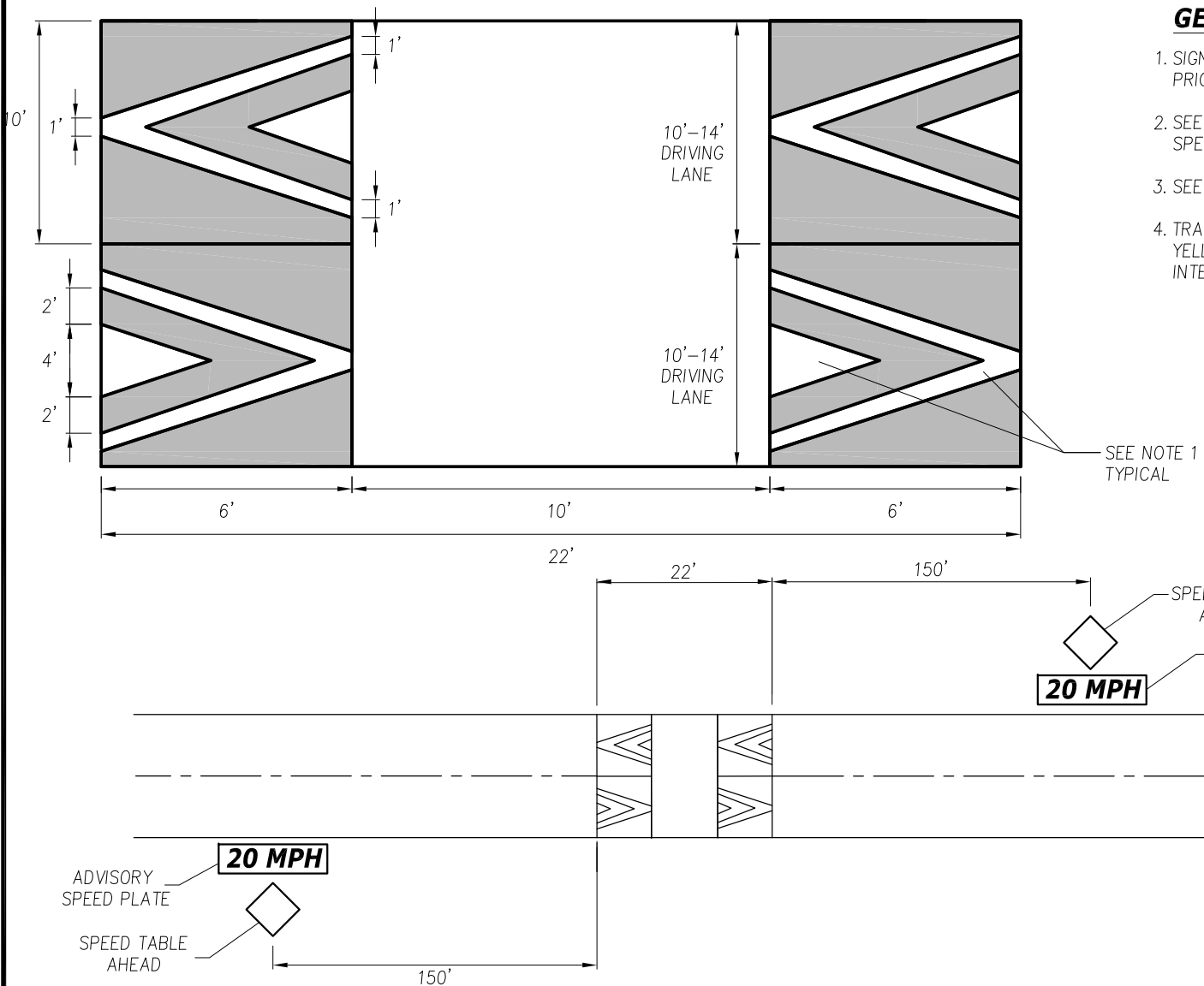
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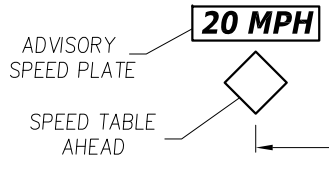
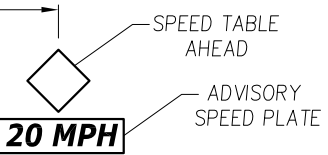
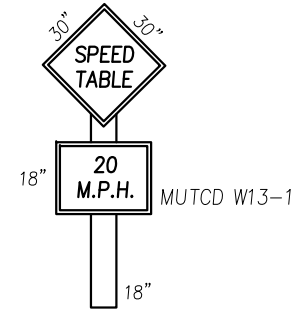
**Speed Table
 Details**

RW-08



GENERAL NOTES:

1. SIGNS AND MARKINGS SHALL BE VERIFIED BY THE ENGINEER PRIOR TO INSTALLATION.
2. SEE LAKEWOOD STANDARD PLAN RW-07 AND RW-08 FOR SPEED TABLE CONSTRUCTION DETAILS.
3. SEE MUTCD FIGURE 3B-30 FOR PAVEMENT MARKING DETAILS.
4. TRAFFIC SIGNS SHALL HAVE BLACK BORDER AND TEXT ON YELLOW BACKGROUND. SIGNS SHALL HAVE TYPE FOUR HIGH INTENSITY SHEETINGS.



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 PUBLIC WORKS DIRECTOR/CITY ENGINEER



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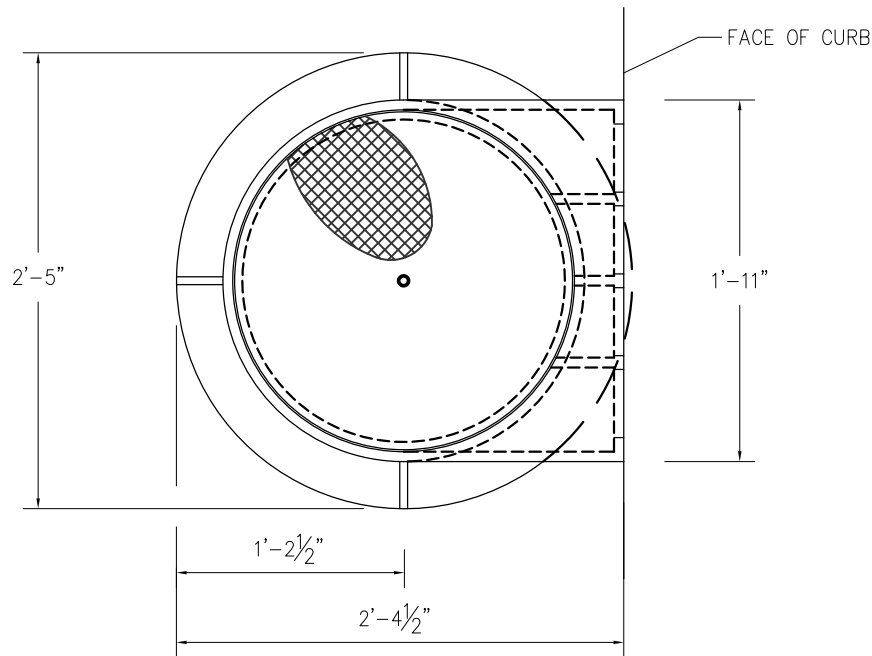
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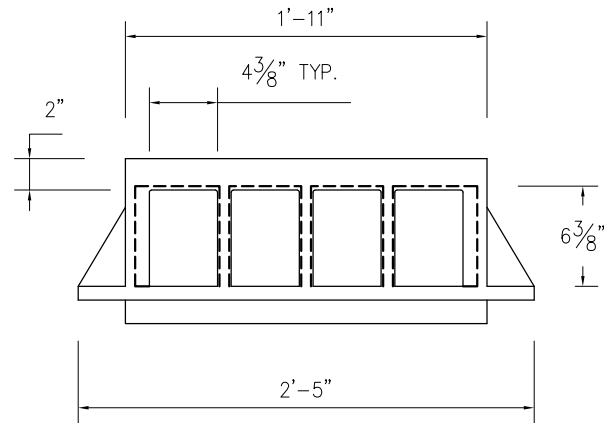
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**Speed Table
 Pavement Markings
 and Signage**

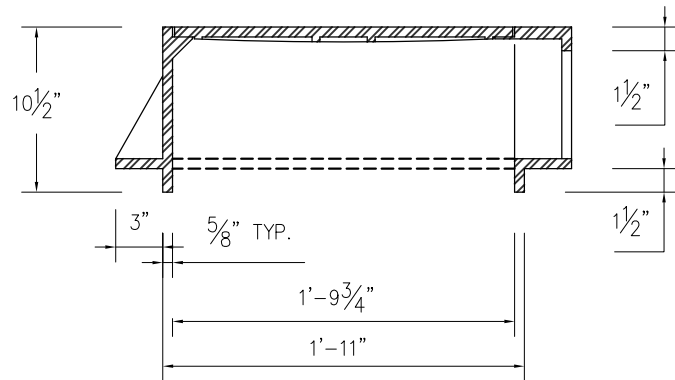
RW-09



PLAN



FRONT ELEVATION



SIDE ELEVATION

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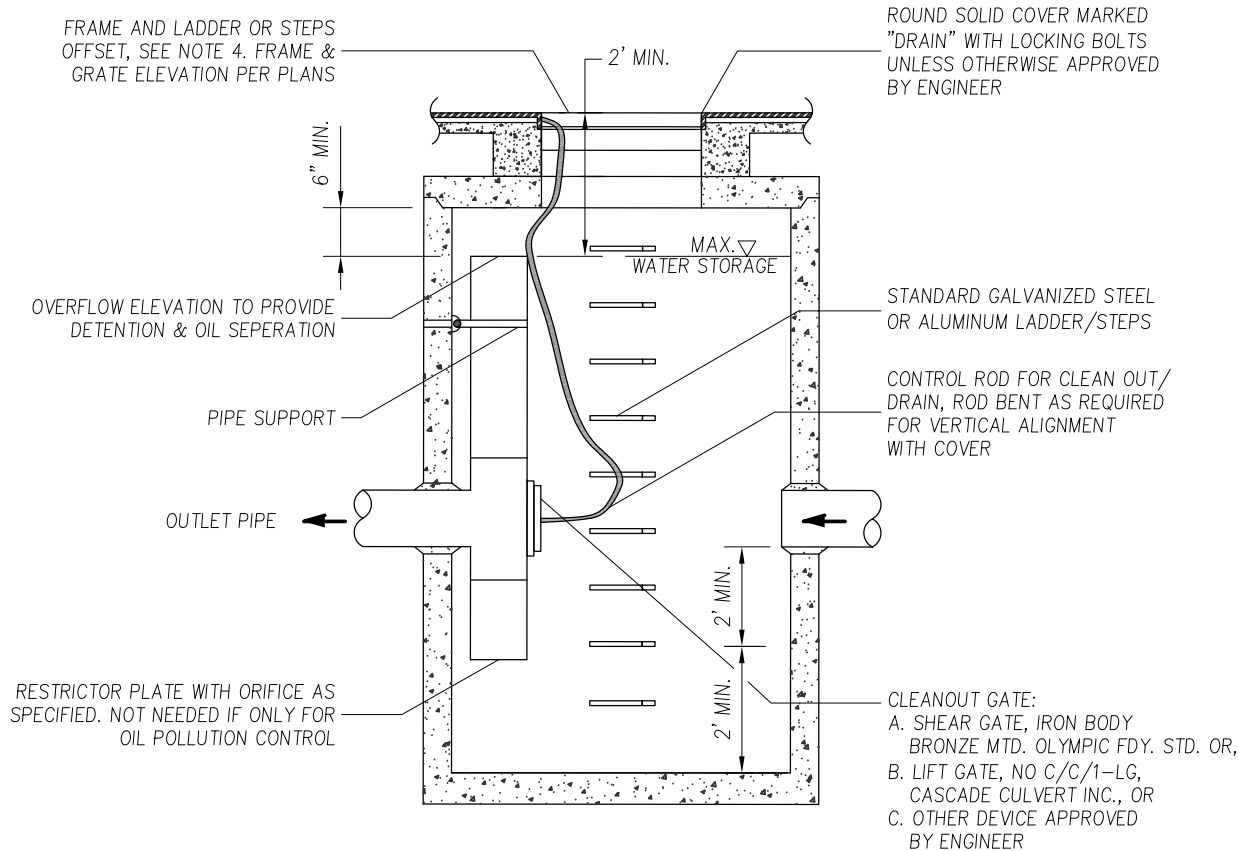
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**Curb Inlet
 Frame and Cover**

SW-01

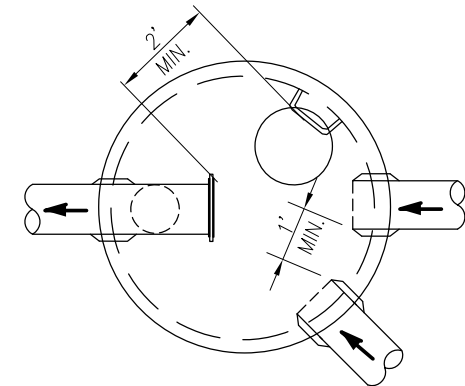
GENERAL NOTES:

1. PIPE SIZES AND SLOPES, PER PLANS.
2. OUTLET CAPACITY NOT LESS THAN COMBINED INLETS.
3. METAL PARTS:
 - A. CORROSION RESISTANT OR GALVANIZED OR ALUMINUM TYPE 2.
 - B. IF GALVANIZED STEEL PIPE, HAVE ASPHALT TREATMENT 1.
4. FRAME AND LADDER OR STEPS OFFSET SO:
 - A. CLEANOUT GATE IS VISIBLE FROM TOP.
 - B. CLIMBDOWN SPACE IS CLEAR OF RISER & CLEANOUT GATE.
 - C. FRAME IS CLEAR OF CURB.
5. STRUCTURE SHALL BE A TYPE 2 CATCH BASIN 54" MINIMUM DIAMETER.



PLAN VIEW

FLOW RESTRICTOR/OIL POLLUTION CONTROL DEVICE



TOP VIEW

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 Paul A. Bucich, P.E.
 PUBLIC WORKS DIRECTOR/CITY ENGINEER

01/10/20
 DATE



Public Works Department

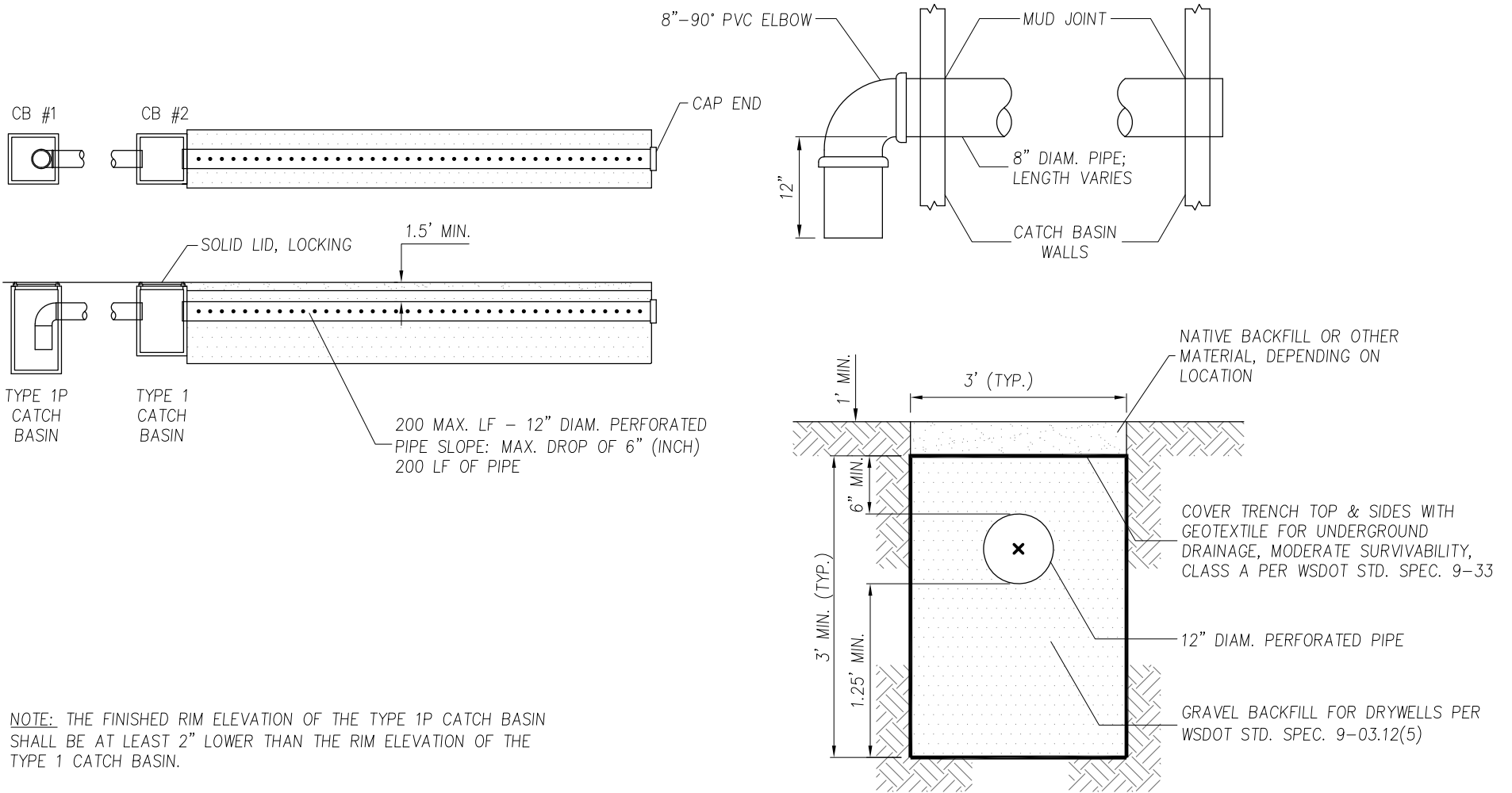
DATE	REVISION DESCRIPTION	BY	APPROVED
11/05/19	ORIGINAL DRAWING	AD/CD	PAB

6000 Main Street SW 98499

NOT TO SCALE

Flow Restrictor and Oil Pollution Control Device

SW-02



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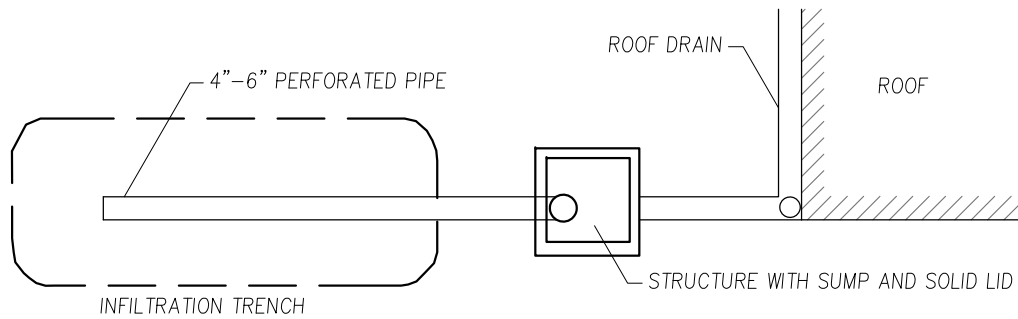
DATE	REVISION DESCRIPTION	BY	APPROVED
12/27/19	ORIGINAL DRAWING	AD/CD	PAB

6000 Main Street SW 98499

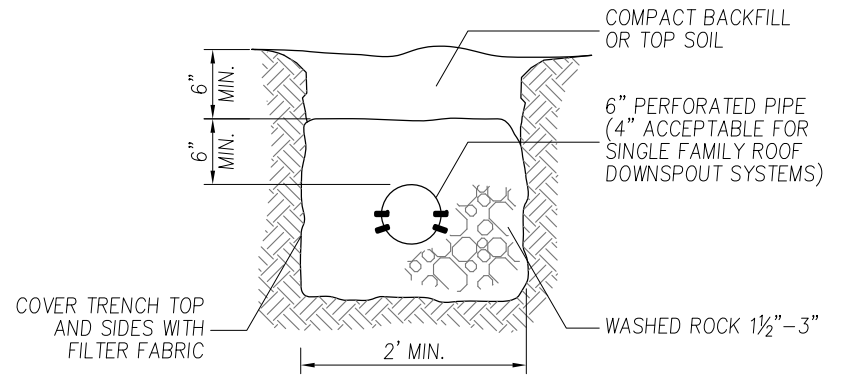
NOT TO SCALE

Infiltration Trench Detail

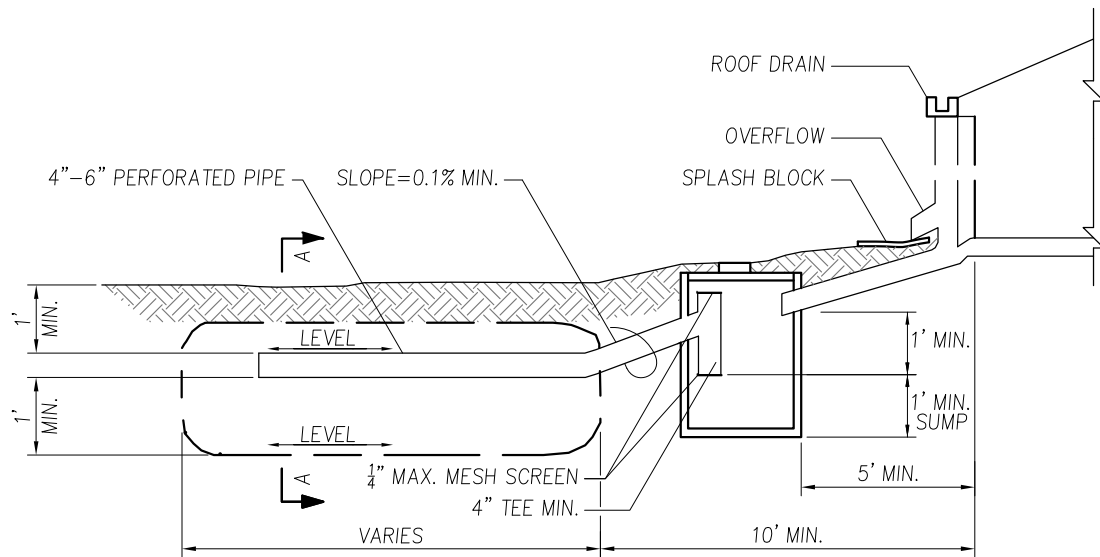
SW-03



PLAN VIEW



**SECTION A-A
INDIVIDUAL ROOF DOWNSPOUT SYSTEM**



PROFILE

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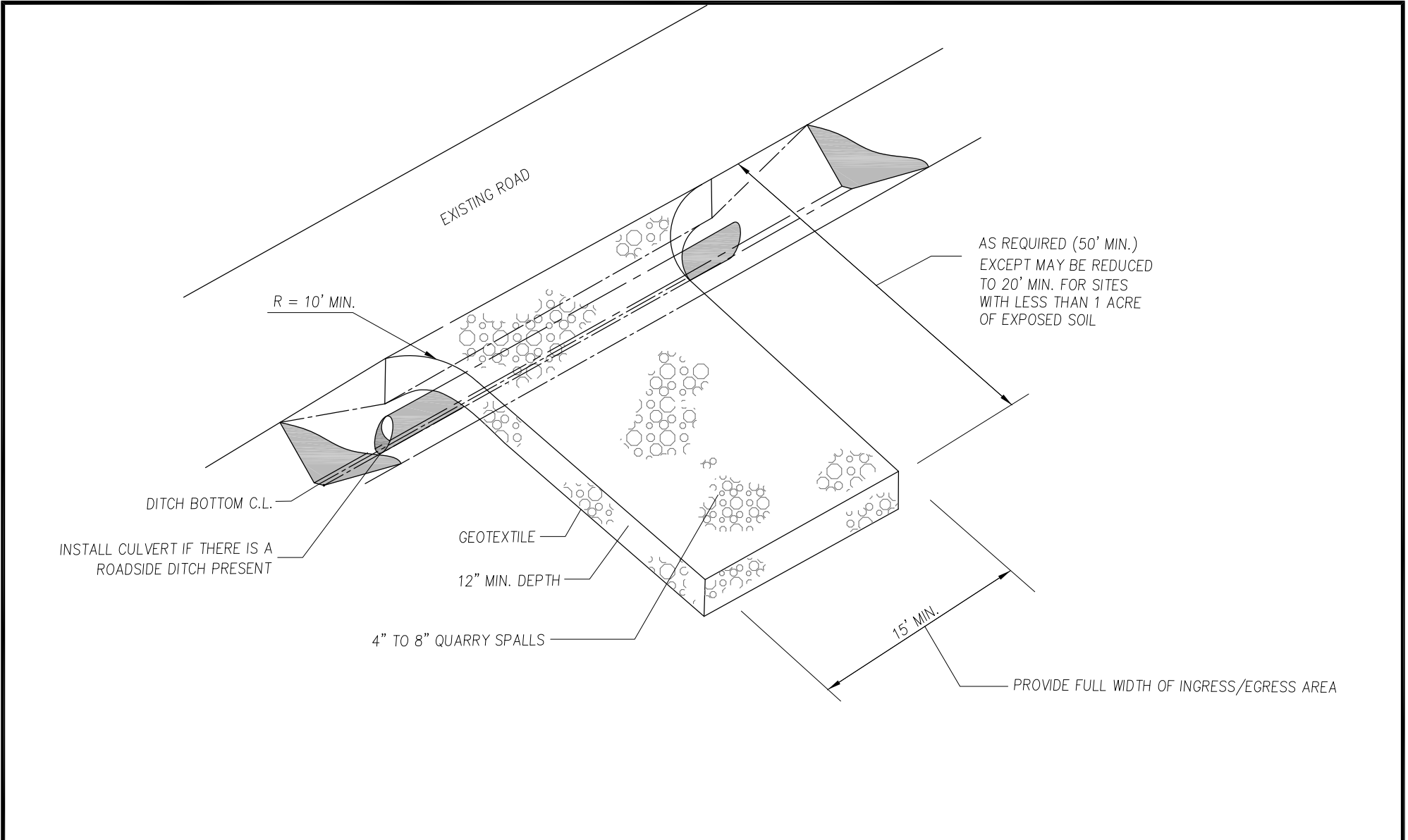
DATE	REVISION DESCRIPTION	BY	APPROVED
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NOT TO SCALE

**Individual Roof
Downspout System**

SW-04



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 DATE 01/10/20



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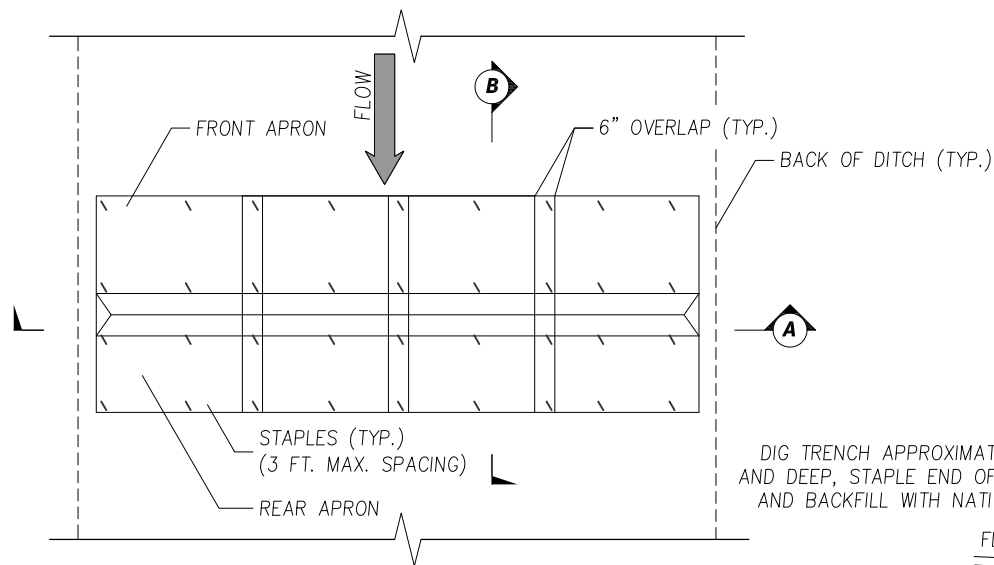
DATE	REVISION DESCRIPTION	BY	APPROVED
12/27/19	ORIGINAL DRAWING	AD/CD	PAB

6000 Main Street SW 98499

NOT TO SCALE

Construction Entrance Rock Pad

SW-05

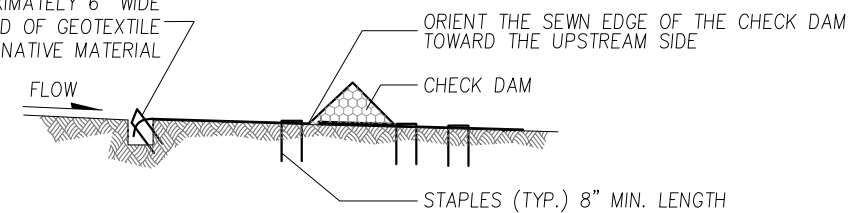


PLAN VIEW

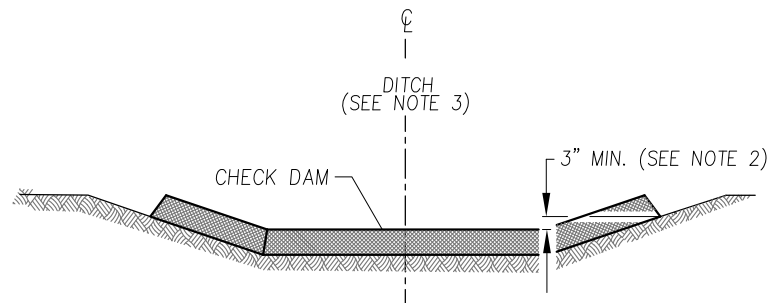
GENERAL NOTES:

1. GEOTEXTILE ENCASED CHECK DAMS SHALL MEET THE REQUIREMENTS OF STANDARD SPECIFICATIONS 8-01.3(6) AND 9-14.5(4).
2. INSTALL THE SLOPED ENDS OF THE CHECK DAM A MINIMUM OF 3" HIGHER THAN THE TOP OF THE CHECK DAM IN THE CHANNEL TO ENSURE THAT WATER FLOWS OVER THE DAM AND NOT AROUND IT.
3. FLAT BOTTOM DITCH DESIGN SHOWN, CHECK DAM INSTALLATION DETAILS ARE SIMILAR FOR "V" BOTTOM DITCHES.
4. PERFORM MAINTENANCE IN ACCORDANCE WITH STANDARD SPECIFICATION 8-01.3(15).

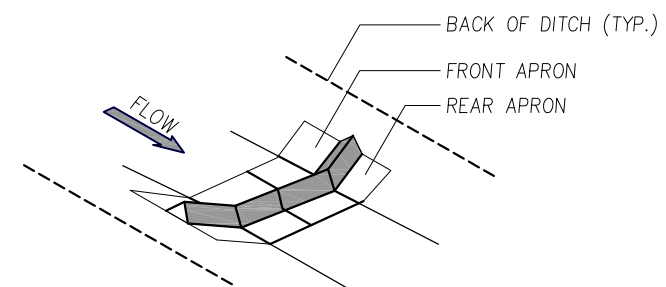
DIG TRENCH APPROXIMATELY 6" WIDE AND DEEP, STAPLE END OF GEOTEXTILE AND BACKFILL WITH NATIVE MATERIAL



SECTION B



SECTION A



ISOMETRIC VIEW

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01/10/20
 DATE



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DATE	REVISION DESCRIPTION	BY	APPROVED
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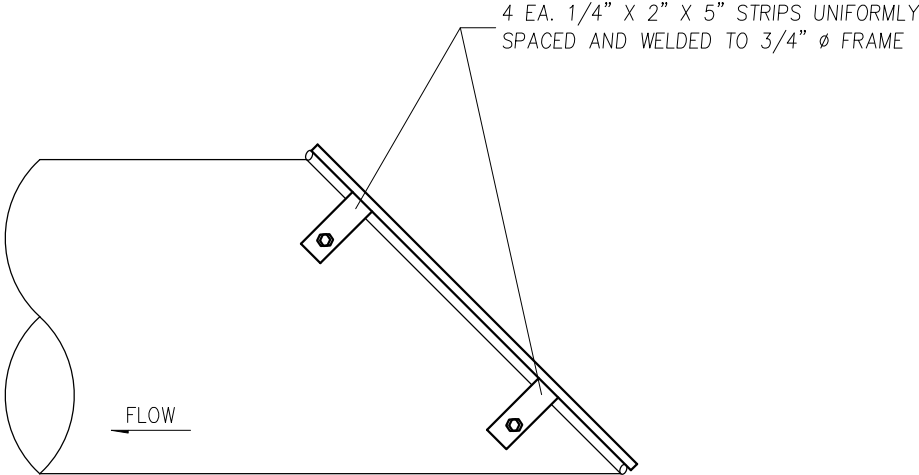
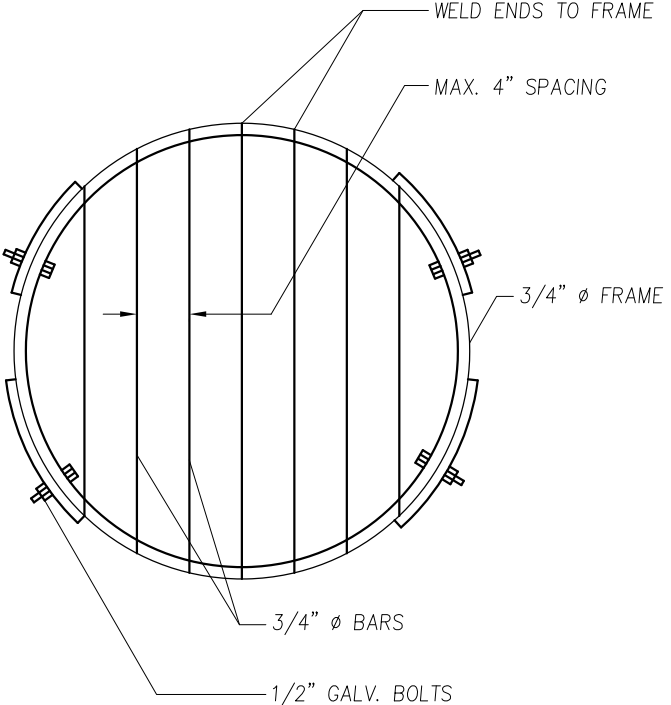
NOT TO SCALE

**Geotextile Encased
 Check Dam
 Installation**

SW-06

GENERAL NOTES:

- 1. ALL STEEL PARTS TO BE GALVANIZED AND ASPHALT COATED (TREATMENT 1 OR BETTER).



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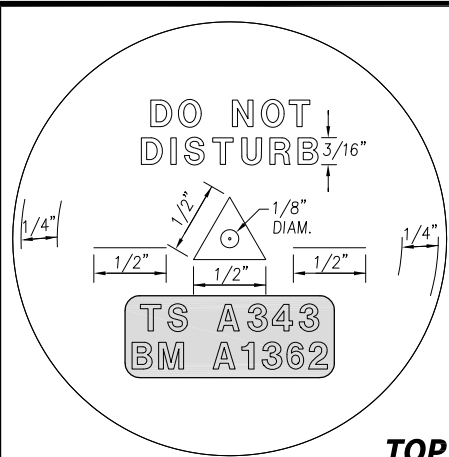
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12/27/19	ORIGINAL DRAWING	AD/CD	PAB

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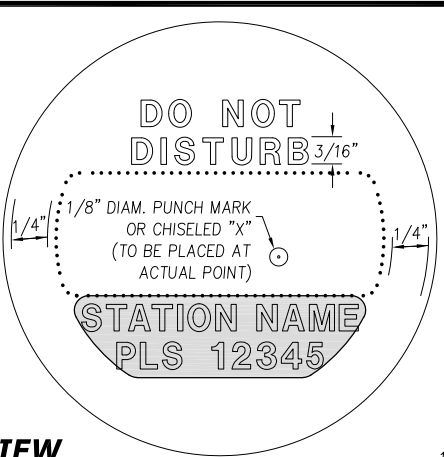
NOT TO SCALE

**Trash Rack
Detail**

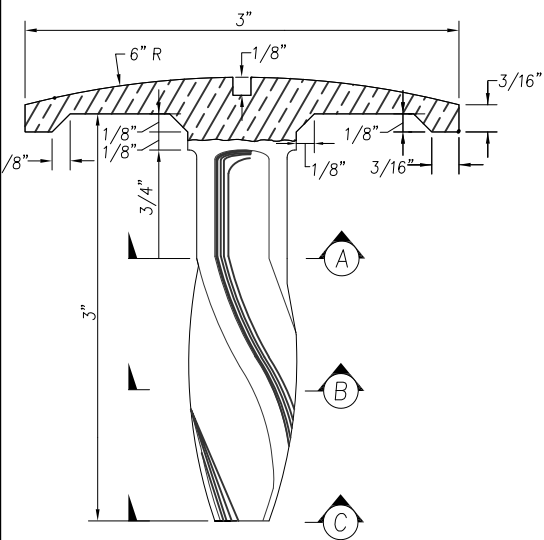
SW-07



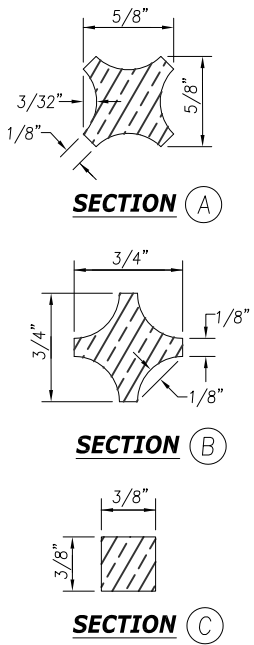
TOP VIEW
TYPE 1
BRASS DISC



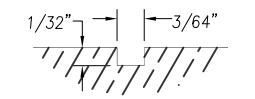
TYPE 2



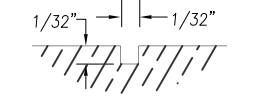
SIDE VIEW



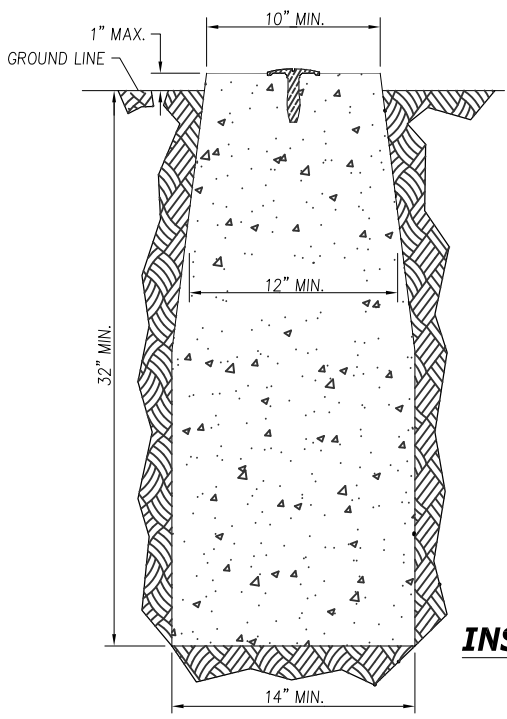
SECTION (A)
SECTION (B)
SECTION (C)



SECTION OF GROOVE
FOR 1/4" LETTERS



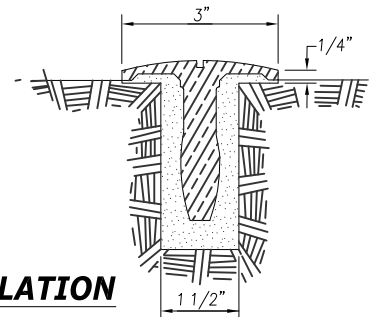
SECTION OF GROOVE
FOR 3/16" LETTERS



SECTION VIEW OF GENERAL
INSTALLATION

GENERAL NOTES:

1. THE TEXT IN THE SHADED AREA (SEE "TOP VIEW") SHALL BE 3/16" HIGH AND WILL BE STAMPED BY WSDOT PERSONNEL PRIOR TO SETTING THE CAP. ONLY THE ASSIGNED IDENTIFICATION LETTERS AND NUMBERS ARE TO BE PLACED ON THE BRASS DISC.
2. THE HOLE SHALL BE 32" MINIMUM IN DEPTH OR 6" BELOW THE DEEPEST RECORDED FROST LINE. ALL LOOSE MATERIAL SHALL BE REMOVED FROM THE BOTTOM OF THE HOLE SO THAT THE CONCRETE IS PLACED ON FIRM UNDISTURBED EARTH.
3. THE TOP OF THE CONCRETE SHALL BE TROWELED SMOOTH AND THE BRASS DISC SET IN THE CENTER WITH TOP FLUSH AND LEVEL. WHEN THE CONCRETE IS SET, COVER THE ENTIRE MONUMENT WITH MOIST EARTH AND LEAVE FOR THREE DAYS.
4. THE TOP OF THE MONUMENT MAY BE RECESSED OR PROTRUDING, DEPENDING ON CONDITIONS.
5. TO REPLACE A GENERAL LAND OFFICE (GLO) CORNER, CONSULT A LICENSED PROFESSIONAL LAND SURVEYOR (PLS).



SECTION VIEW OF
LEDGE ROCK, CONCRETE
OR ASPHALT INSTALLATION

APPROVED FOR PUBLICATION

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DATE
Paul A. Bucich, P.E.
PUBLIC WORKS DIRECTOR/CITY ENGINEER



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DATE	REVISION DESCRIPTION	BY	APPROVED
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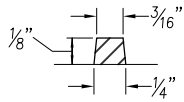
6000 Main Street SW 98499

NOT TO SCALE

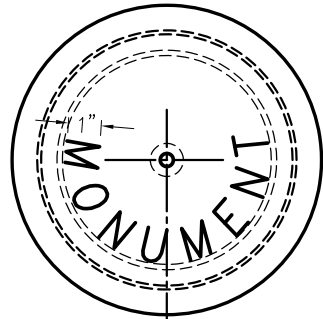
Survey Monument
Type 1 and Type 2

MI-01

MONUMENT COVER



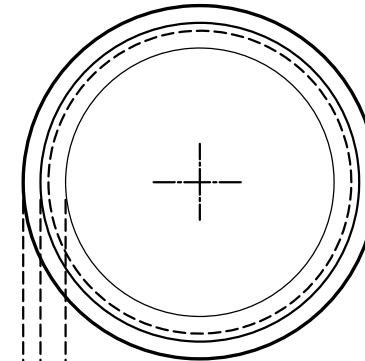
SECTION OF LETTER



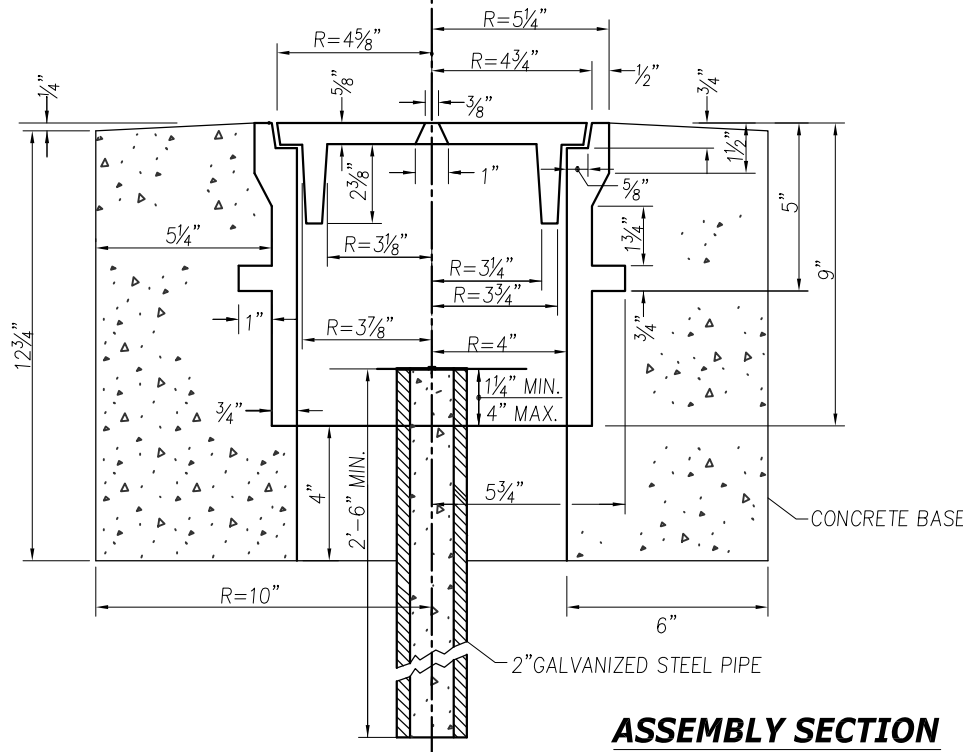
APPROXIMATE WEIGHTS

CASE	60 LBS
COVER	19 LBS
TOTAL	79 LBS

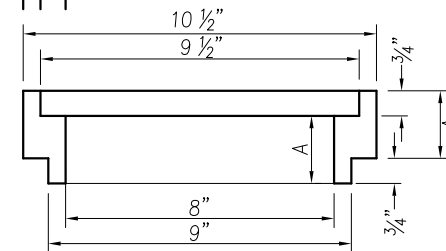
RISER RING DIMENSIONS			
A(SIZE)	1 1/2"	2"	3"



PLAN RISER RING



ASSEMBLY SECTION



SECTION RISER RING

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 DATE



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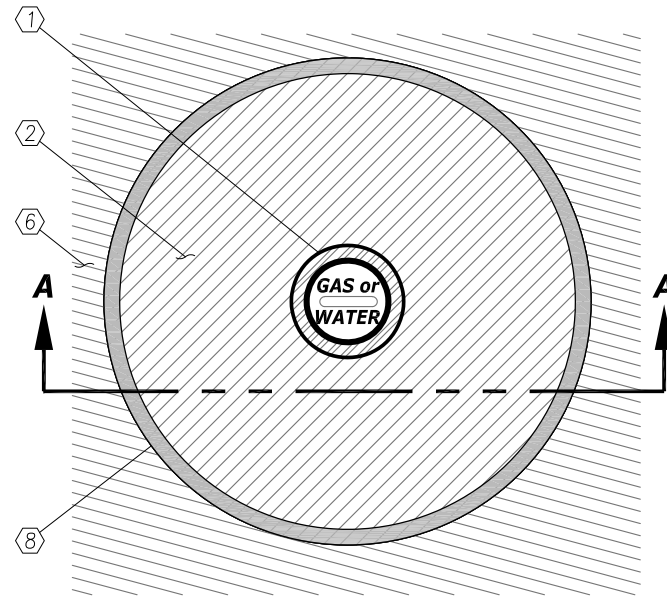
DATE	REVISION DESCRIPTION	BY	APPROVED
11/05/19	ORIGINAL DRAWING	AD/CD	PAB

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NOT TO SCALE

Monument Case and Cover

MI-02



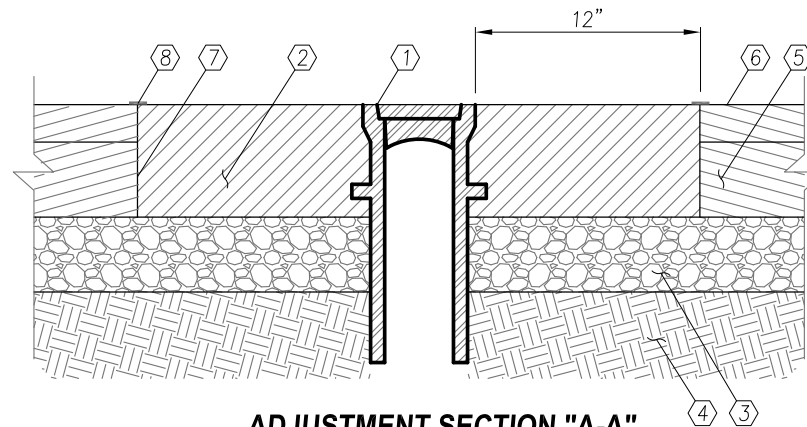
RESTORATION PLAN

CONSTRUCTION NOTES:

- ① NEW OR EXISTING FRAME AND GRATE OR SOLID LID
- ② 6" HMA (2) 3" LIFTS
- ③ 4" CSTC
- ④ COMPACTED SUBGRADE
- ⑤ EXISTING HMA
- ⑥ NEW 2" HMA OVERLAY OR HMA PATCH
- ⑦ TACK COAT
- ⑧ JOINT SEAL

GENERAL NOTES:

- 1. MATERIALS AND CONSTRUCTION REQUIREMENTS SHALL BE PER LATEST EDITION OF WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION UNLESS OTHERWISE NOTED.
- 2. NEW CASTING MAY BE PROVIDED BY UTILITY.



ADJUSTMENT SECTION "A-A"

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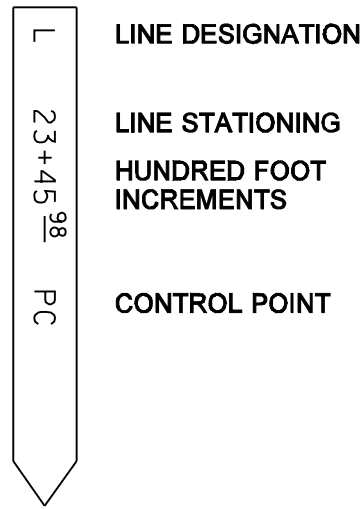
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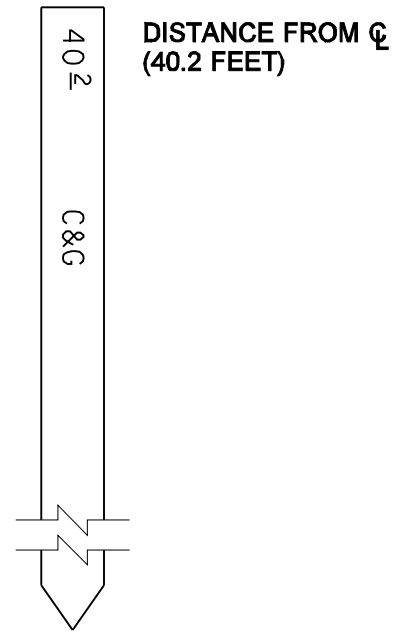
NOT TO SCALE

**Valve Casing
 Adjustment and Restoration**

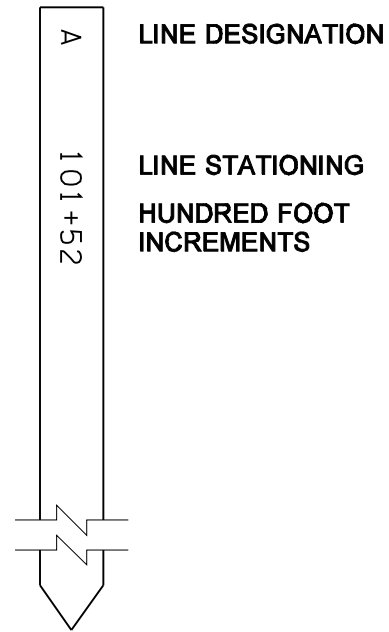
MI-03



ALIGNMENT STAKE
STAKE EVERY 100 FEET ON TANGENTS,
EVERY 25 FEET ON CURVES

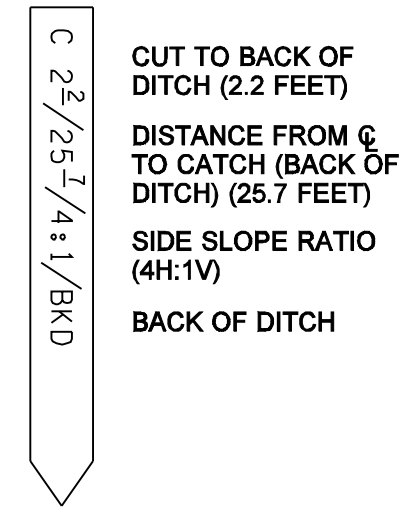


FRONT

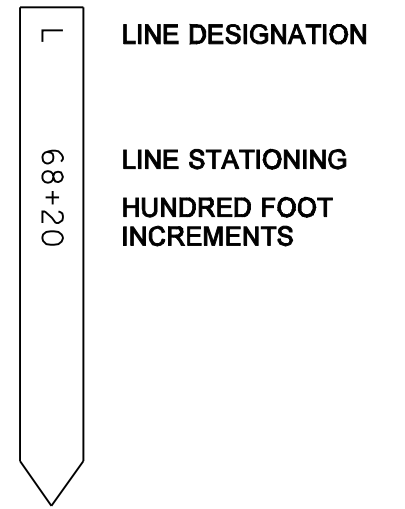


BACK

CLEARING/GRUBBING (C&G) LATH
STAKE AT EACH FULL STATION,
100 FEET ON TANGENTS,
EVERY 25 FEET ON CURVES.
NO HUB NECESSARY.

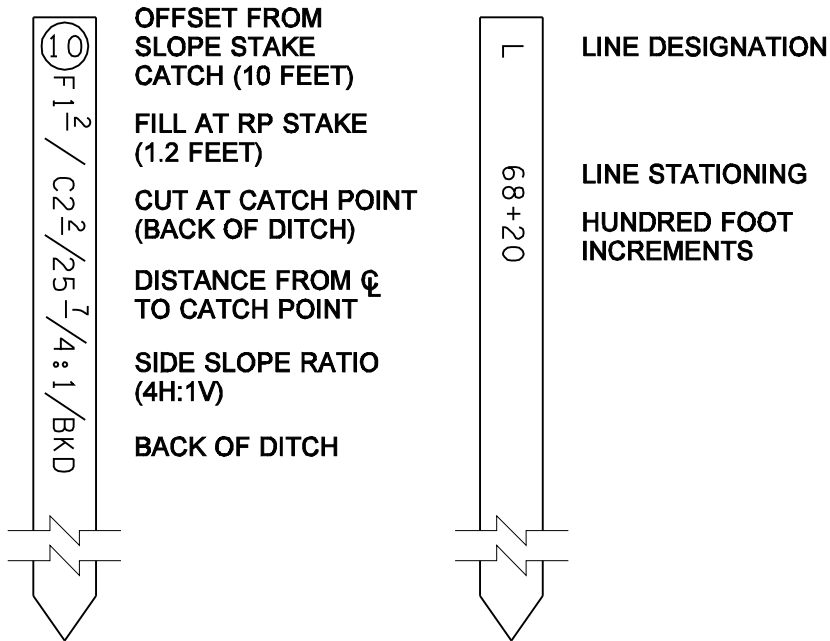


FRONT



BACK

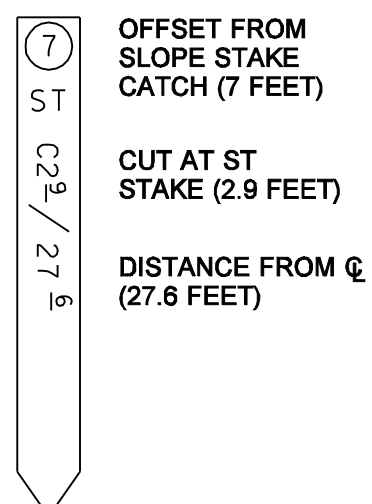
SLOPE STAKE



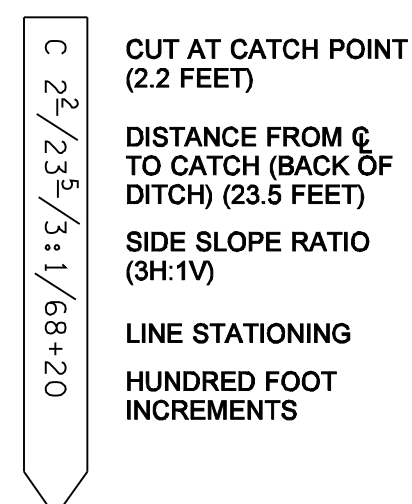
FRONT

BACK

LATH FOR SLOPE REFERENCES

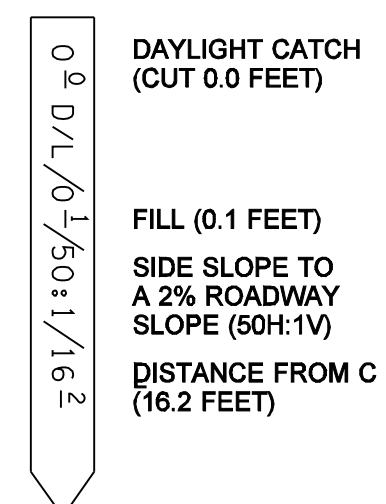


FRONT

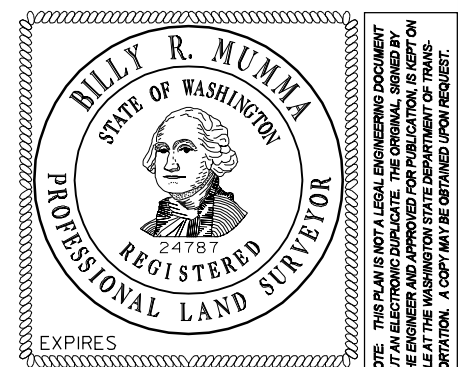


BACK

**SLOPE TREATMENT (ST) STAKE
FOR CUT SECTIONS**



DAYLIGHT (D/L) STAKE



SURVEY STAKES

STANDARD PLAN A-10.10-00

SHEET 1 OF 2 SHEETS

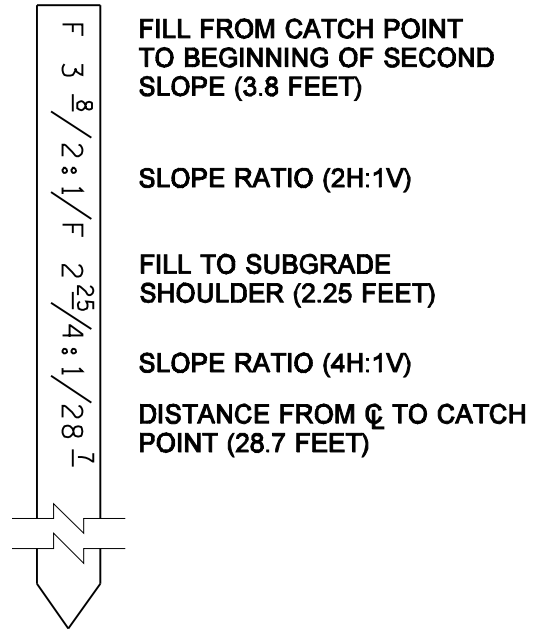
APPROVED FOR PUBLICATION

Pasco Bakotich III 08-07-07

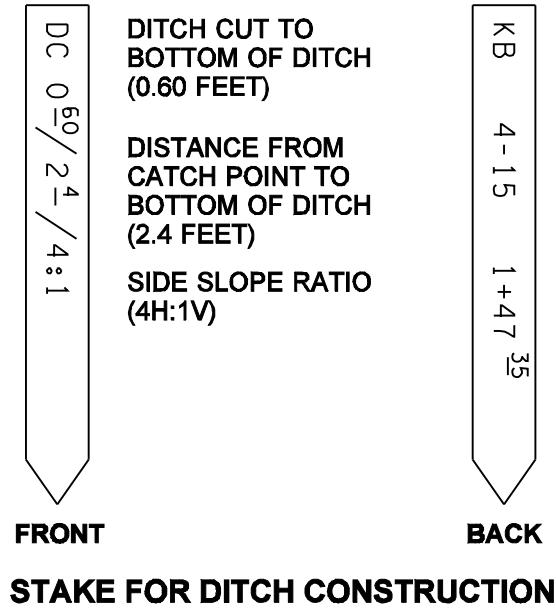
STATE DESIGN ENGINEER DATE



Washington State Department of Transportation



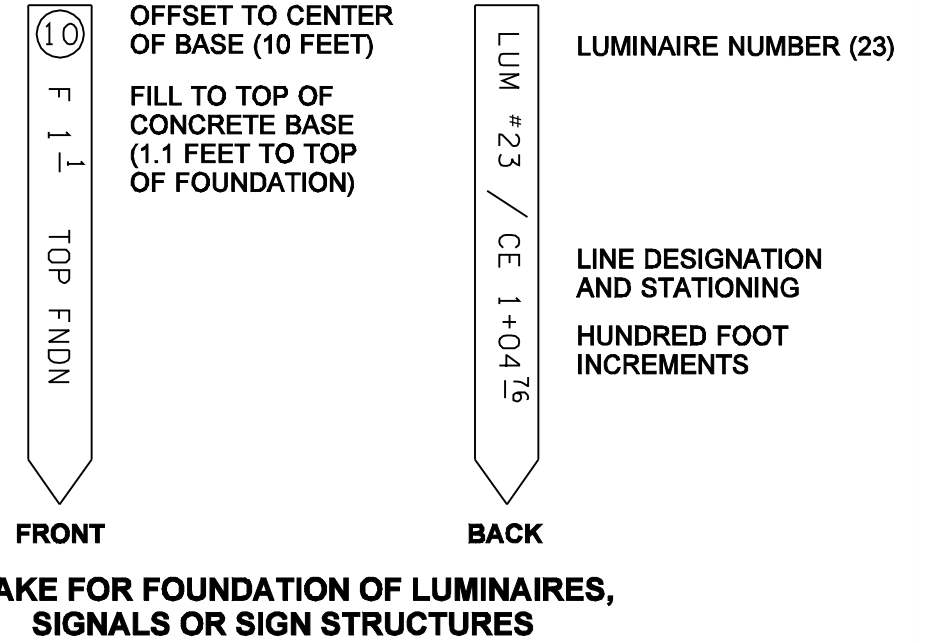
FILL FROM CATCH POINT TO BEGINNING OF SECOND SLOPE (3.8 FEET)
 SLOPE RATIO (2H:1V)
 FILL TO SUBGRADE SHOULDER (2.25 FEET)
 SLOPE RATIO (4H:1V)
 DISTANCE FROM ϕ TO CATCH POINT (28.7 FEET)



DITCH CUT TO BOTTOM OF DITCH (0.60 FEET)
 DISTANCE FROM CATCH POINT TO BOTTOM OF DITCH (2.4 FEET)
 SIDE SLOPE RATIO (4H:1V)
 STRUCTURE NOTE REFERENCE
 PLAN SHEET NUMBER (4)
 STRUCTURE NOTE NUMBER (15)
 DITCH SECTION ALIGNMENT STATIONING

FRONT BACK

STAKE FOR DITCH CONSTRUCTION

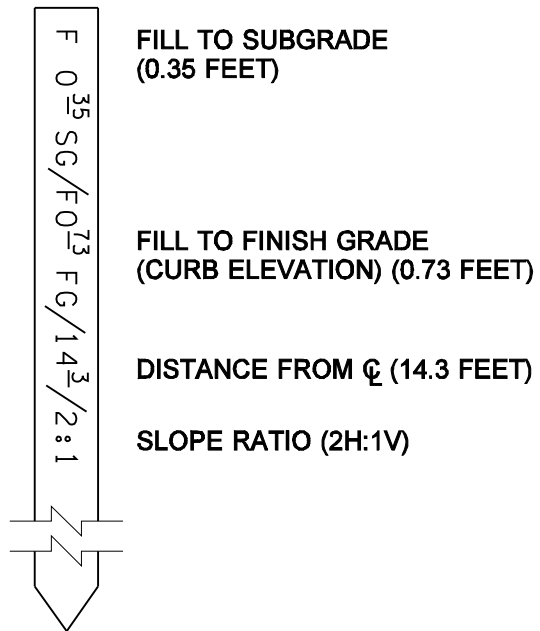


OFFSET TO CENTER OF BASE (10 FEET)
 FILL TO TOP OF CONCRETE BASE (1.1 FEET TO TOP OF FOUNDATION)
 STRUCTURE NOTE REFERENCE
 PLAN SHEET NUMBER (4)
 STRUCTURE NOTE NUMBER (15)
 DITCH SECTION ALIGNMENT STATIONING
 LUMINAIRE NUMBER (23)
 LINE DESIGNATION AND STATIONING
 HUNDRED FOOT INCREMENTS

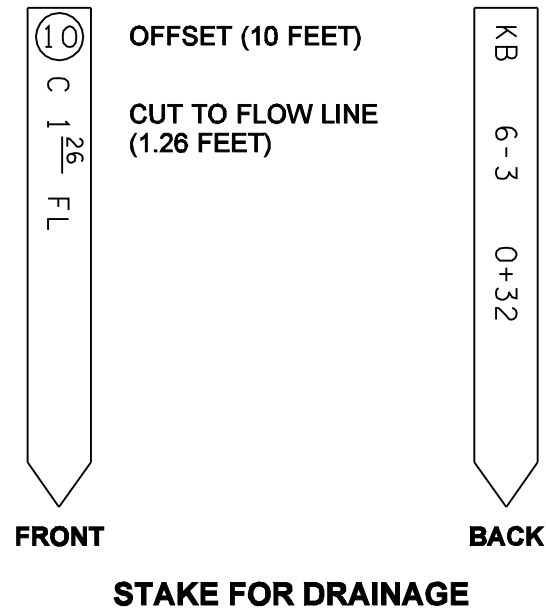
FRONT BACK

STAKE FOR FOUNDATION OF LUMINAIRES, SIGNALS OR SIGN STRUCTURES

COMPOUND SLOPE LATH



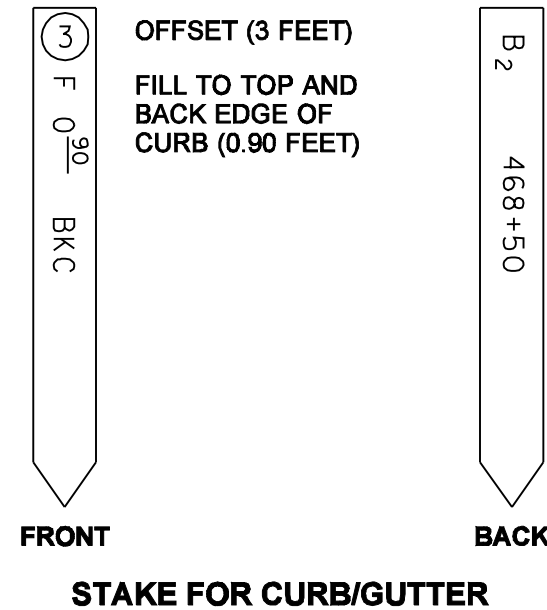
FILL TO SUBGRADE (0.35 FEET)
 FILL TO FINISH GRADE (CURB ELEVATION) (0.73 FEET)
 DISTANCE FROM ϕ (14.3 FEET)
 SLOPE RATIO (2H:1V)



OFFSET (10 FEET)
 CUT TO FLOW LINE (1.26 FEET)
 STRUCTURE NOTE REFERENCE
 PLAN SHEET NUMBER (6)
 STRUCTURE NOTE NUMBER (3)
 DRAINAGE ALIGNMENT STATIONING
 25' INCREMENTS

FRONT BACK

STAKE FOR DRAINAGE

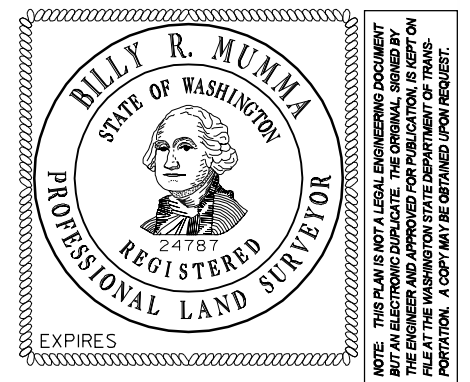


OFFSET (3 FEET)
 FILL TO TOP AND BACK EDGE OF CURB (0.90 FEET)
 LINE DESIGNATION
 LINE STATIONING
 HUNDRED FOOT INCREMENTS

FRONT BACK

STAKE FOR CURB/GUTTER

SLOPE LATH FOR CURB SECTION



SURVEY STAKES

STANDARD PLAN A-10.10-00

SHEET 2 OF 2 SHEETS

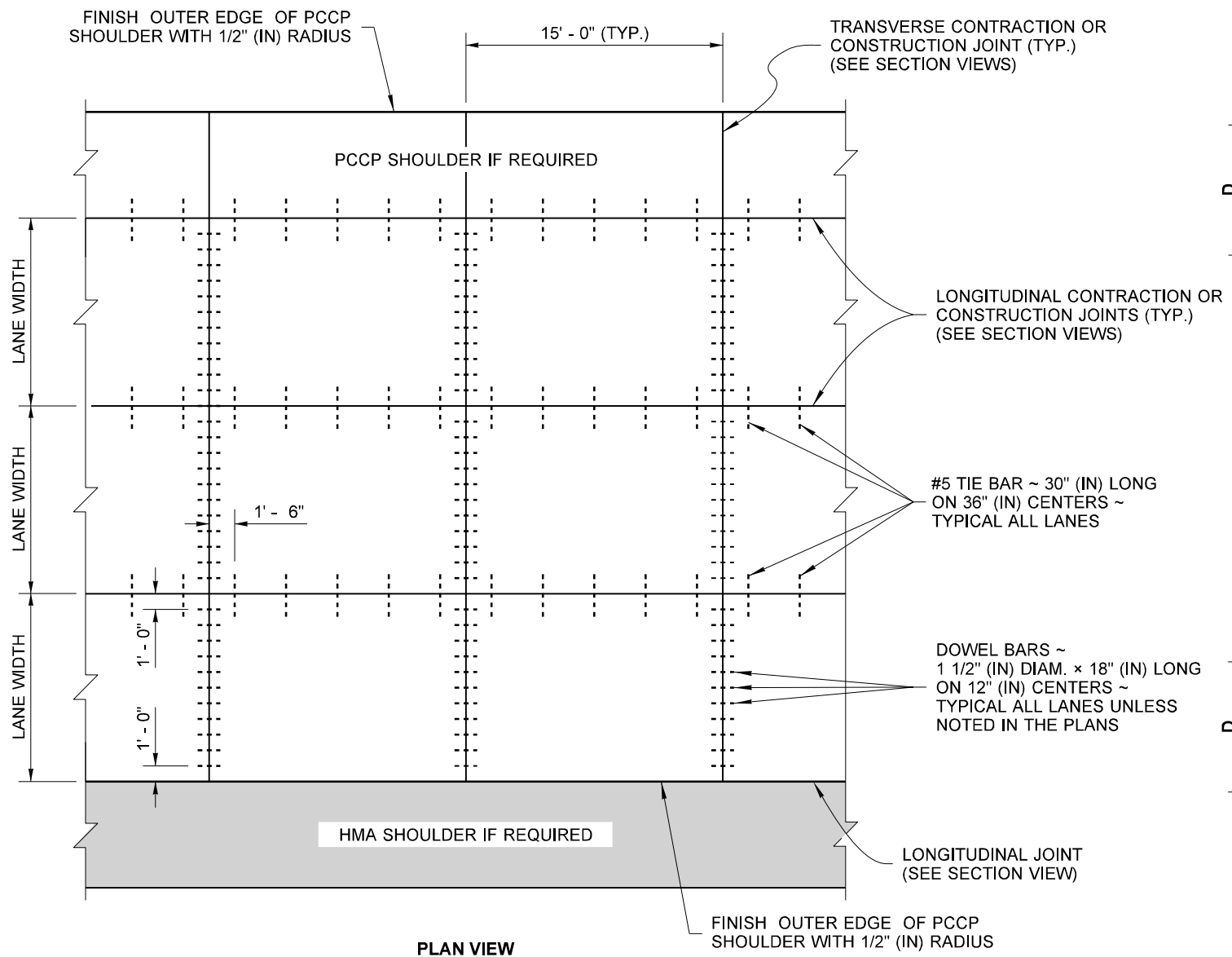
APPROVED FOR PUBLICATION

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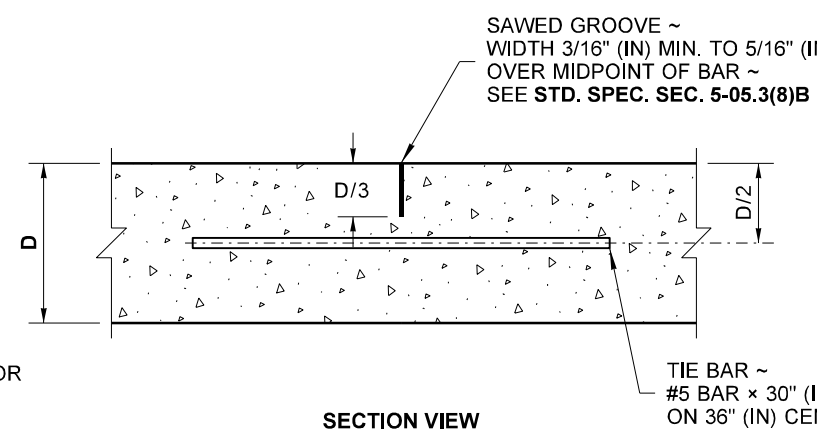
STATE DESIGN ENGINEER DATE



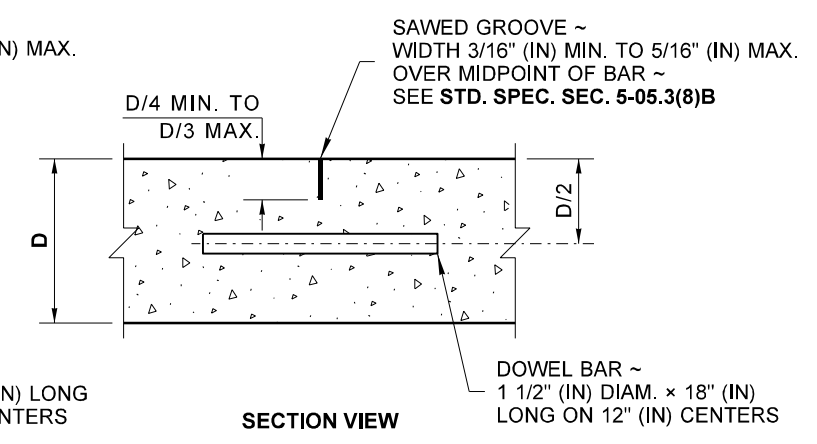
DRAWN BY: FERN LIDDELL



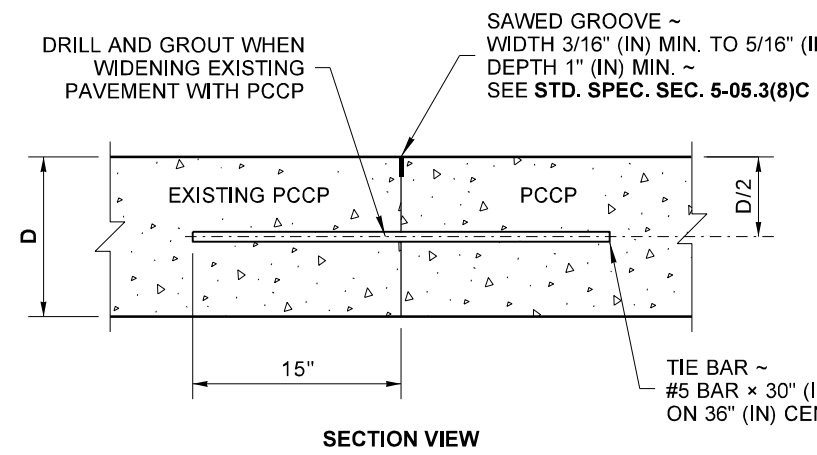
PLAN VIEW



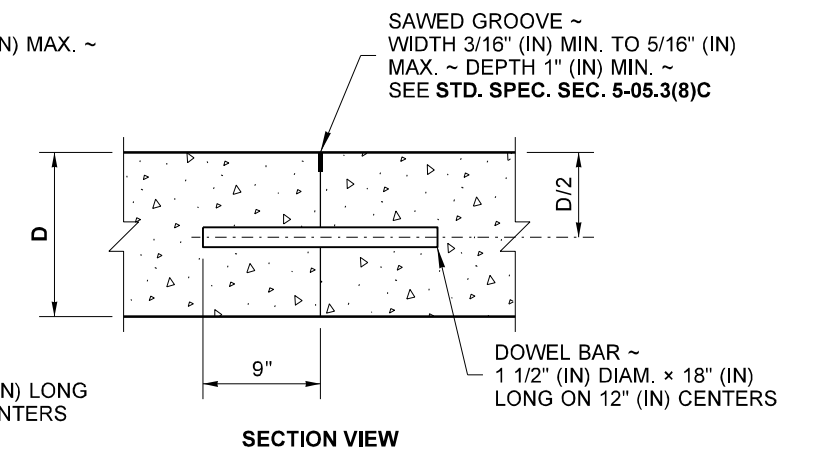
SECTION VIEW
LONGITUDINAL CONTRACTION JOINT



SECTION VIEW
TRANSVERSE CONTRACTION JOINT

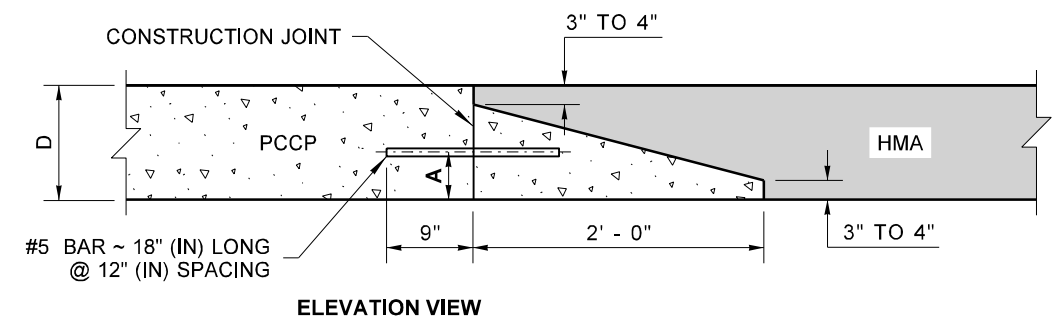


SECTION VIEW
PCCP TO PCCP
LONGITUDINAL CONSTRUCTION JOINT



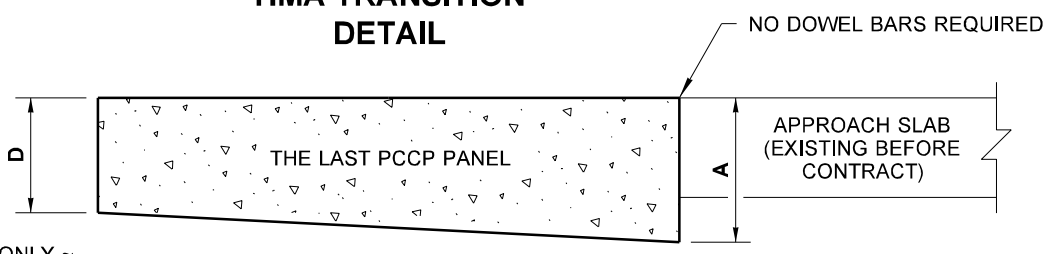
SECTION VIEW
TRANSVERSE CONSTRUCTION JOINT

SLAB THICKNESS (D)	A
12"	5"
D	D/2 - 1"



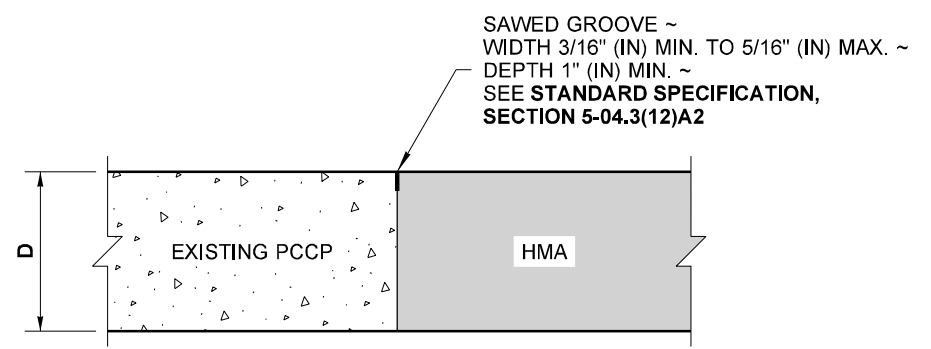
ELEVATION VIEW
HMA TRANSITION
DETAIL

DEPTH OF PCCP (D)	A
12"	15"
D	1.25 x D

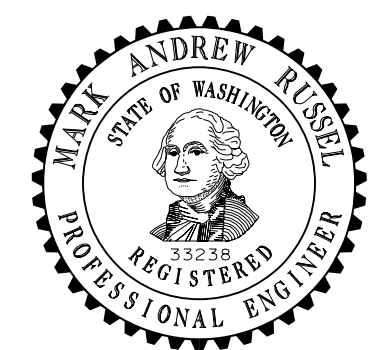


ELEVATION VIEW
EXISTING APPROACH SLAB TRANSITION
DETAIL

USE ON GRANULAR BASES ONLY ~
NO TAPER REQUIRED ON ASPHALT BASES



SECTION VIEW
PCCP TO HMA
LONGITUDINAL JOINT



Russell, Mark A.
Jul 19 2019 11:48 AM

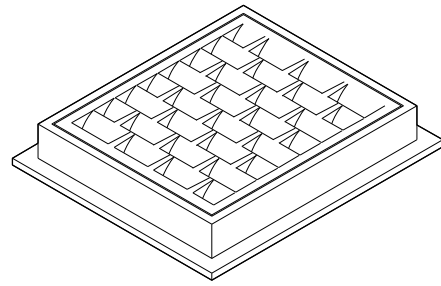
**CEMENT CONCRETE
PAVEMENT JOINTS**

STANDARD PLAN A-40.10-04

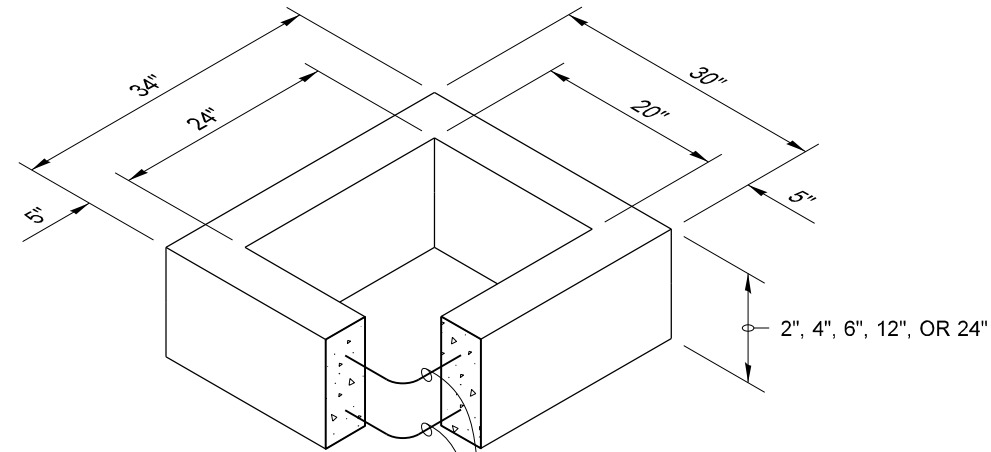
SHEET 1 OF 1 SHEET

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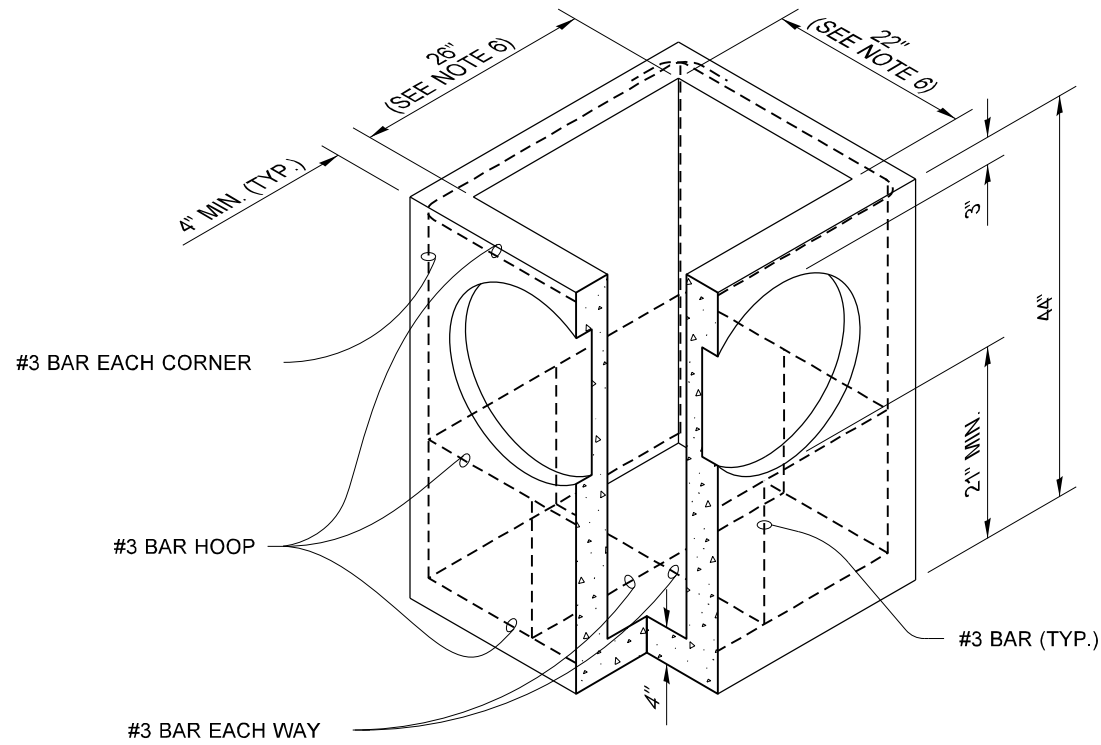
 Rourk, Steve
 Jul 31 2019 12:18 PM
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FRAME AND VANED GRATE



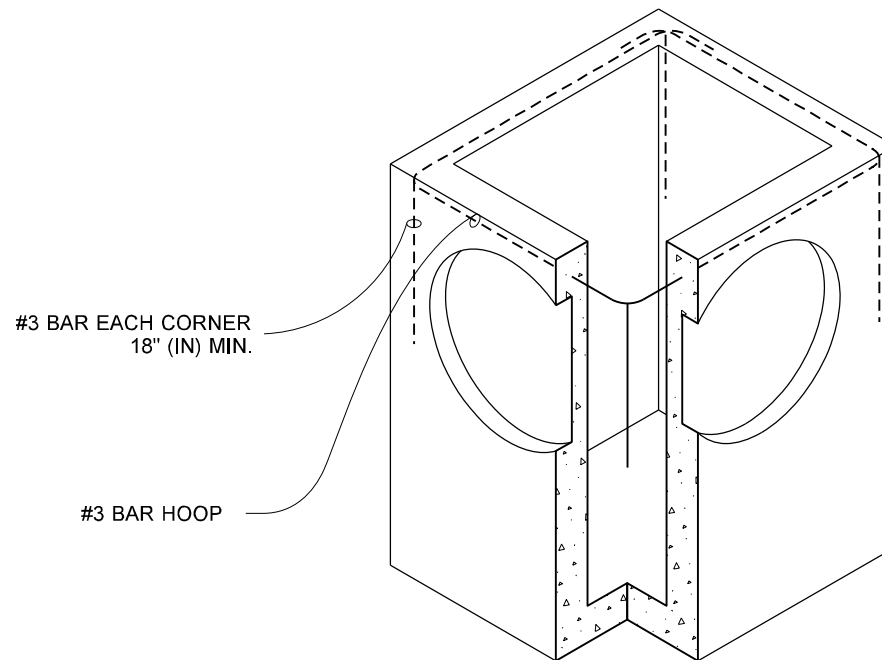
RECTANGULAR ADJUSTMENT SECTION



PRECAST BASE SECTION

PIPE ALLOWANCES	
PIPE MATERIAL	MAXIMUM INSIDE DIAMETER (INCHES)
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CPSSP * (STD. SPEC. SECT. 9-05.20)	12"
SOLID WALL PVC (STD. SPEC. SECT. 9-05.12(1))	15"
PROFILE WALL PVC (STD. SPEC. SECT. 9-05.12(2))	15"

* CORRUGATED POLYETHYLENE STORM SEWER PIPE



(SEE NOTE 1)

ALTERNATIVE PRECAST BASE SECTION

NOTES

- As acceptable alternatives to the rebar shown in the **PRECAST BASE SECTION**, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot shall be used with the minimum required rebar shown in the **ALTERNATIVE PRECAST BASE SECTION**. Wire mesh shall not be placed in the knockouts.
- The knockout diameter shall not be greater than 20" (in). Knockouts shall have a wall thickness of 2" (in) minimum to 2.5" (in) maximum. Provide a 1.5" (in) minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with **Standard Specification Section 9-04.3**.
- The maximum depth from the finished grade to the lowest pipe invert shall be 5' (ft).
- The frame and grate may be installed with the flange down, or integrally cast into the adjustment section with flange up.
- The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1 : 24 or steeper.
- The opening shall be measured at the top of the **Precast Base Section**.
- All pickup holes shall be grouted full after the basin has been placed.



Heilman, Julie
Jan 25 2017 2:53 PM

CATCH BASIN TYPE 1

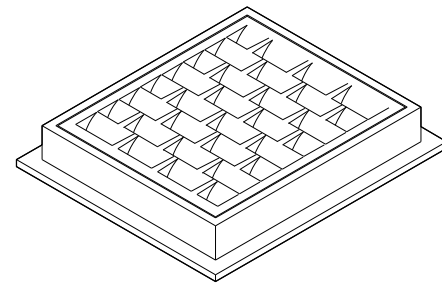
STANDARD PLAN B-5.20-02

SHEET 1 OF 1 SHEET

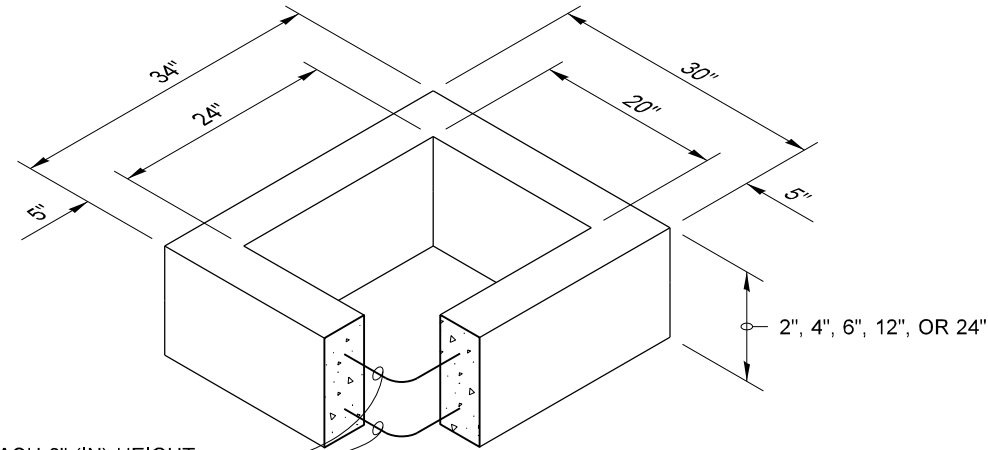
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Carpenter, Jeff
Jan 26 2017 6:48 AM

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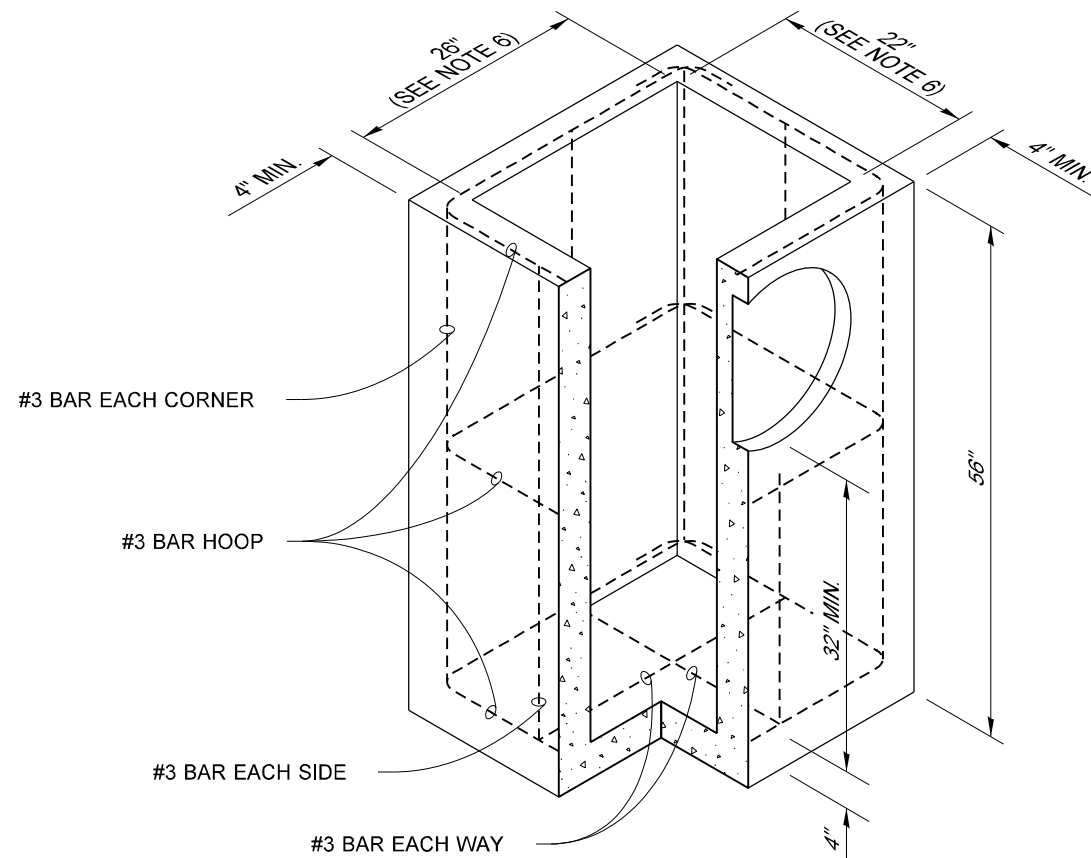


FRAME AND VANED GRATE

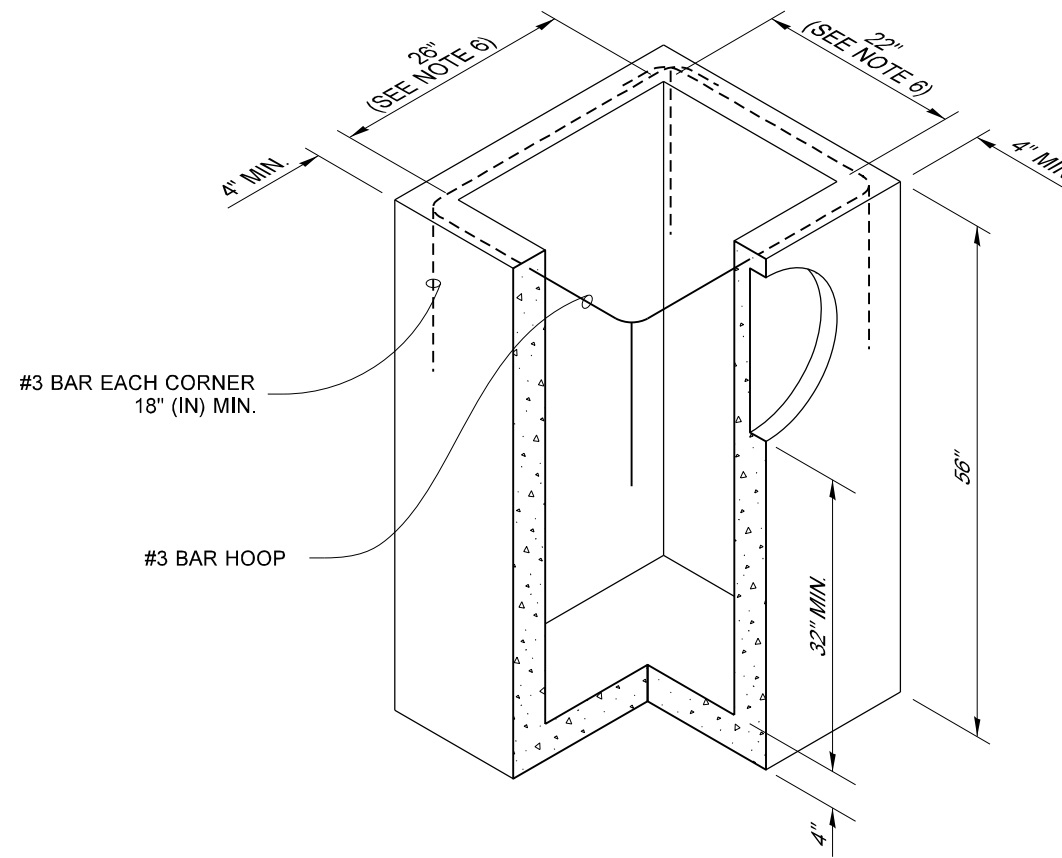


ONE #3 BAR FOR EACH 6" (IN) HEIGHT INCREMENT, SPACED EQUALLY

RECTANGULAR ADJUSTMENT SECTION



PRECAST BASE SECTION



(SEE NOTE 1)

ALTERNATIVE PRECAST BASE SECTION

NOTES

1. As acceptable alternatives to the rebar shown in the **PRECAST BASE SECTION**, fibers (placed according to the Standard Specifications), or wire mesh having a minimum area of 0.12 square inches per foot, shall be used with the minimum required rebar shown in the **ALTERNATIVE PRECAST BASE SECTION**. Wire mesh shall not be placed in the knockouts.
2. The knockout diameter shall not be greater than 18" (in). Knockouts shall have a wall thickness of 2" (in) minimum to 2.5" (in) maximum. Provide a 1.5" (in) minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with **Standard Specification Section 9-04.3**.
3. The maximum depth from the finished grade to the lowest pipe invert shall be 5' (ft).
4. The frame and grate may be installed with the flange down, or integrally cast into the adjustment section with flange up.
5. The Precast Base Section may have a rounded floor, and the walls may be sloped at a rate of 1 : 24 or steeper.
6. The opening shall be measured at the top of the Precast Base Section.
7. All pickup holes shall be grouted full after the basin has been placed.



Heilman, Julie
Jan 25 2017 2:56 PM

**CATCH BASIN TYPE 1P
(FOR PARKING LOT)**

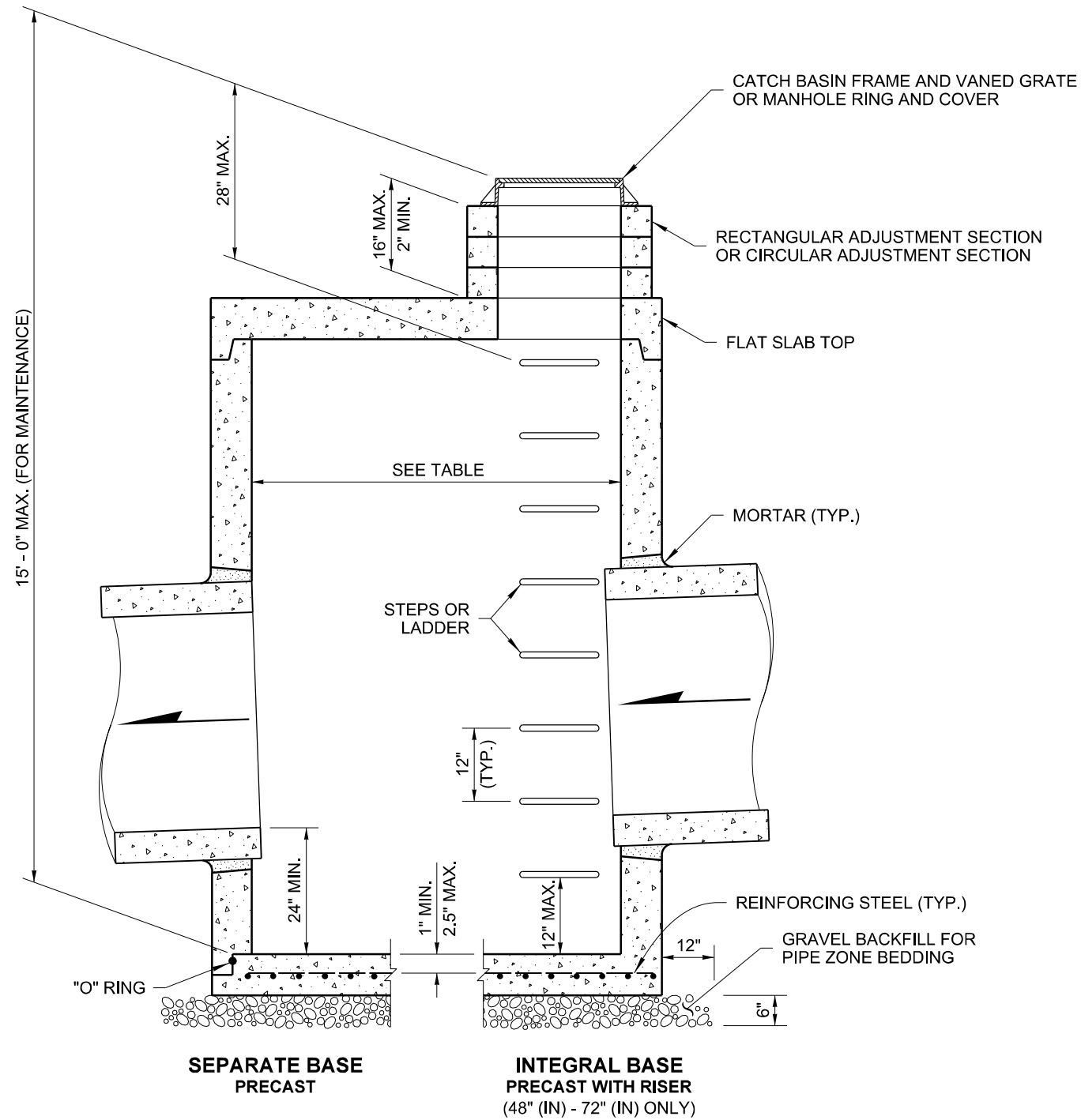
STANDARD PLAN B-5.60-02

SHEET 1 OF 1 SHEET

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Jan 26 2017 6:49 AM

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NOTES

1. No steps are required when height is 4' or less.
2. The bottom of the precast catch basin may be sloped to facilitate cleaning.
3. The rectangular frame and grate may be installed with the flange up or down. The frame may be cast into the adjustment section.
4. Knockouts shall have a wall thickness of 2" (in) minimum to 2.5" (in) maximum. Provide a 1.5" (in) minimum gap between the knockout wall and the outside of the pipe. After the pipe is installed, fill the gap with joint mortar in accordance with **Standard Specification Section 9-04.3**.

CATCH BASIN DIMENSIONS

CATCH BASIN DIAMETER	MIN. WALL THICKNESS	MIN. BASE THICKNESS	MAXIMUM KNOCKOUT SIZE	MINIMUM DISTANCE BETWEEN KNOCKOUTS
48"	4"	6"	36"	8"
54"	4.5"	8"	42"	8"
60"	5"	8"	48"	8"
72"	6"	8"	60"	12"
84"	8"	12"	72"	12"
96"	8"	12"	84"	12"
120"	10"	12"	96"	12"
144"	12"	12"	108"	12"

PIPE ALLOWANCES

CATCH BASIN DIAMETER	PIPE MATERIAL WITH MAXIMUM INSIDE DIAMETER				
	CONCRETE	ALL METAL	CPSSP ① PP ④	SOLID WALL PVC ②	PROFILE WALL PVC ③
48"	24"	30"	24"	30"	30"
54"	30"	36"	30"	36"	36"
60"	36"	42"	36"	42"	42"
72"	42"	54"	42"	48"	48"
84"	54"	60"	54"	48"	48"
96"	60"	72"	60"	48"	48"
120"	66"	84"	60"	48"	48"
144"	78"	96"	60"	48"	48"

- ① Corrugated Polyethylene Storm Sewer Pipe (See **Standard Specification Section 9-05.20**)
- ② (See **Standard Specification Section 9-05.12(1)**)
- ③ (See **Standard Specification Section 9-05.12(2)**)
- ④ Polypropylene Pipe (See **Standard Specification Section 9-05.24**)



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cosign

CATCH BASIN TYPE 2

STANDARD PLAN B-10.20-02

SHEET 1 OF 1 SHEET

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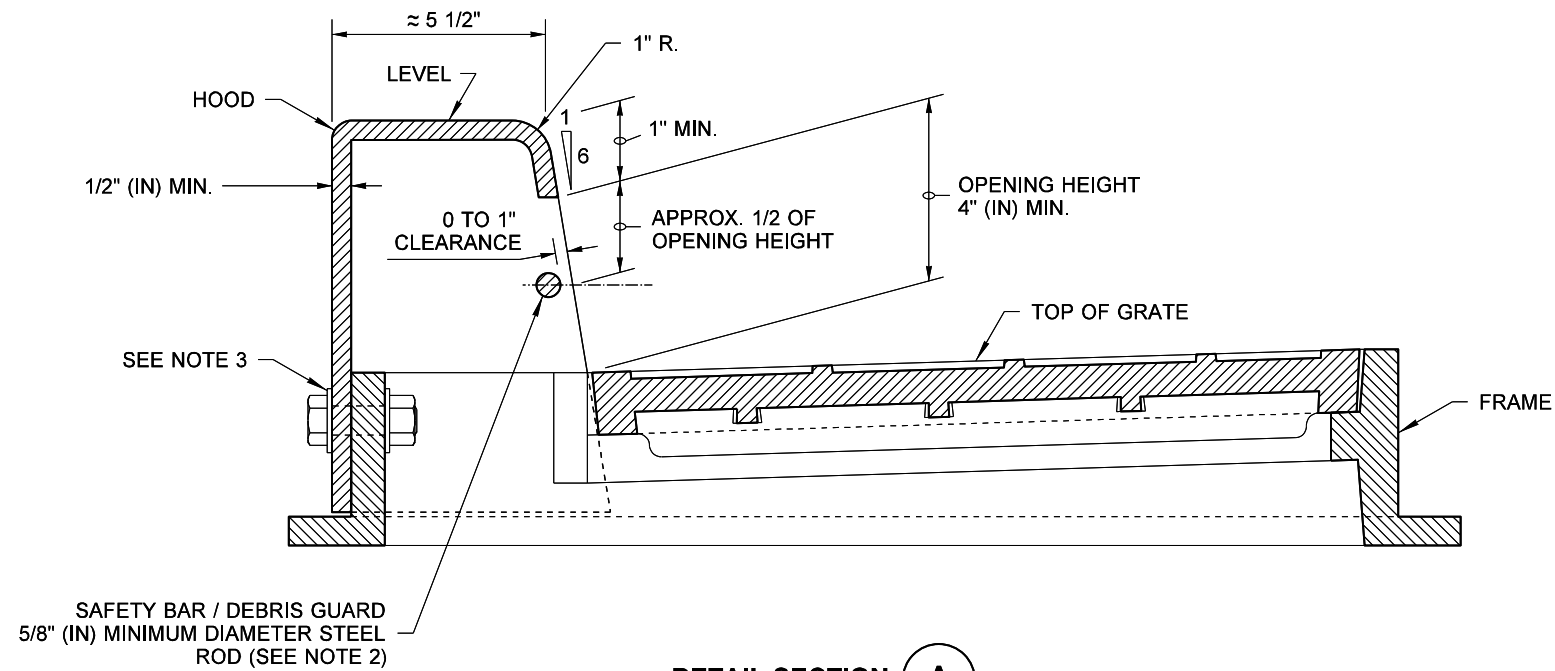
Carpenter, Jeff
Mar 2 2018 10:01 AM
cosign

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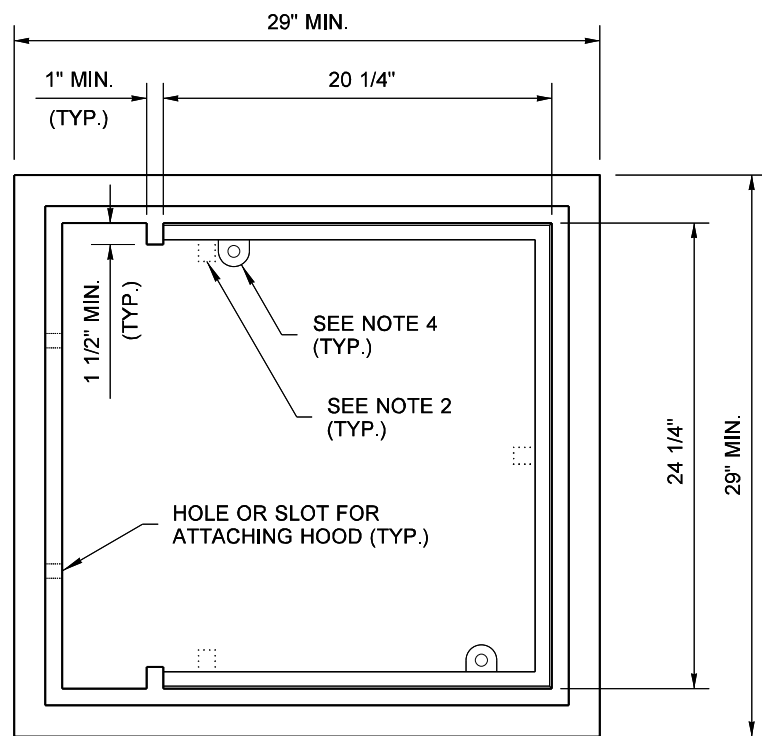
DRAWN BY: FERN LIDDELL



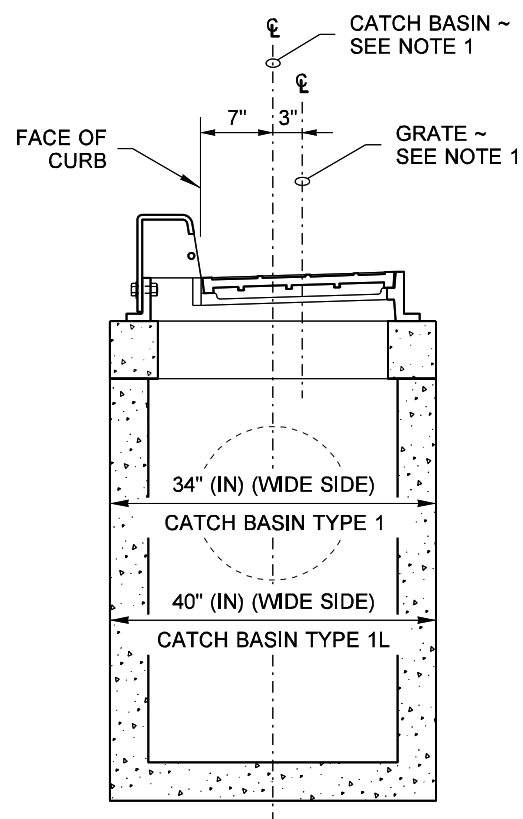
DETAIL SECTION A

NOTES

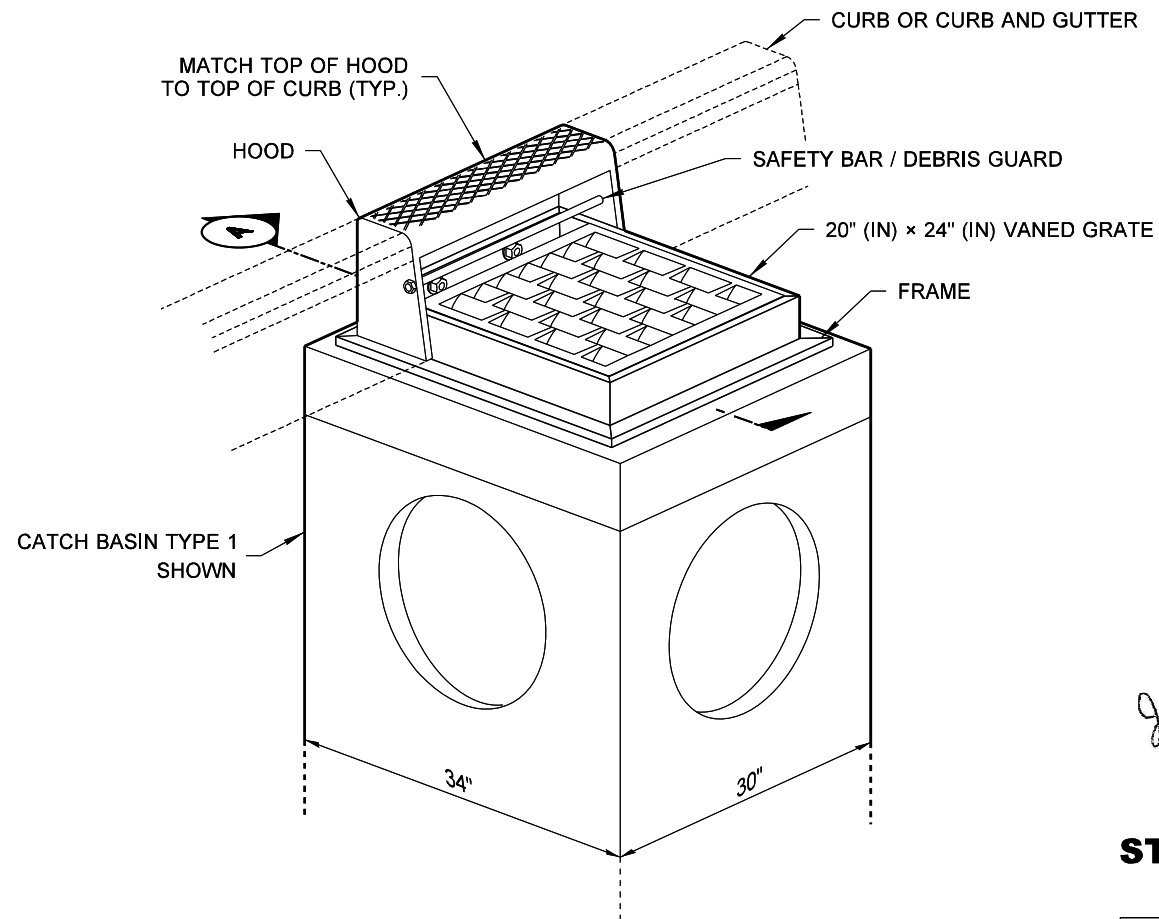
1. This inlet requires the precast catch basin unit to be rotated 90 degrees so that the narrow side is parallel to the curb line. When calculating offsets from curb to centerline (CL) of the precast catch basin, please note that the CL of the grate is not the CL of the precast catch basin. See **Section A**.
2. The dimensions of the frame and hood may vary slightly among different manufacturers. The Frame may have cast features intended to support a debris guard. Hood units may be mounted inside or outside of the frame. The methods for fastening the safety bar / debris guard rod to the hood may vary. The hood may include casting lugs. The top of the hood may be cast with a pattern.
3. Attach the hood to the frame with two 3/4" (in) x 2" (in) hex head bolts, nuts, and oversize washers. The washers shall have diameters adequate to ensure full bearing across the slots.
4. Bolt-down capability is required on all frames, grates and covers, unless specified otherwise in the Contract. Provide two holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (in) - 11 NC x 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer. See **BOLT-DOWN DETAIL, Standard Plan B-30.10**.
5. Only ductile iron Vaned Grates shall be used. See **Standard Plans B-30.30 and B-30.40** for grate details. Refer to **Standard Specification Section 9-05.15(2)** for additional requirements.
6. This plan is intended to show the installation details of a manufactured product. This plan is not intended to show the specific details necessary to fabricate the castings depicted in this drawing.



**TOP VIEW
FRAME DETAIL**



SECTION A



**ISOMETRIC VIEW
COMBINATION INLET
FRAME, HOOD, AND VANED GRATE**



Julie Heilman
Heilman, Julie
Feb 20 2018 12:51 PM

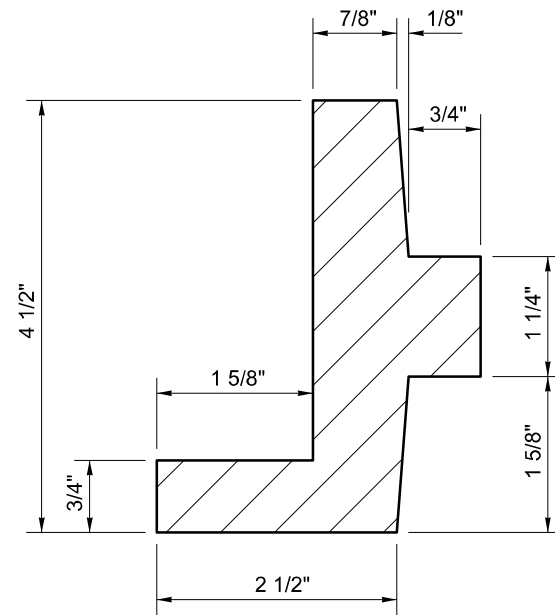
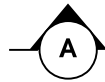
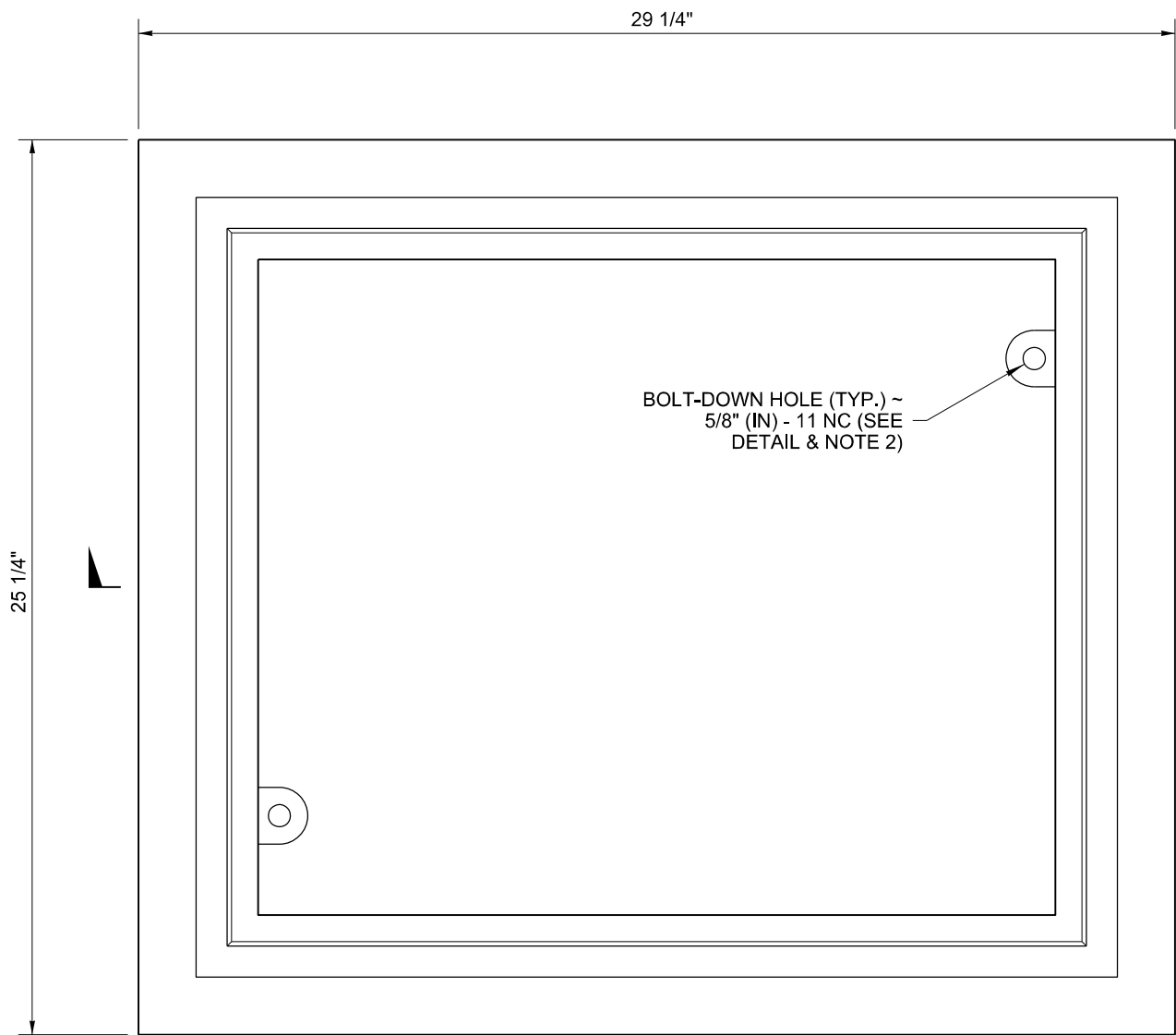
COMBINATION INLET

STANDARD PLAN B-25.20-02

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

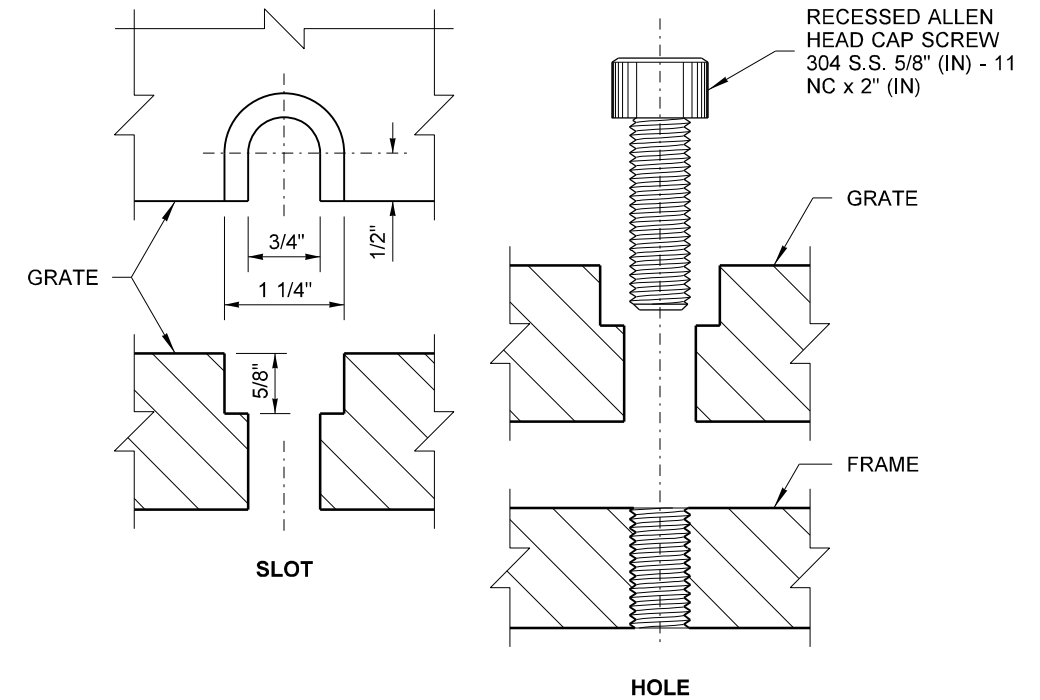
 Carpenter, Jeff
 Feb 27 2018 7:43 AM
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DETAIL B

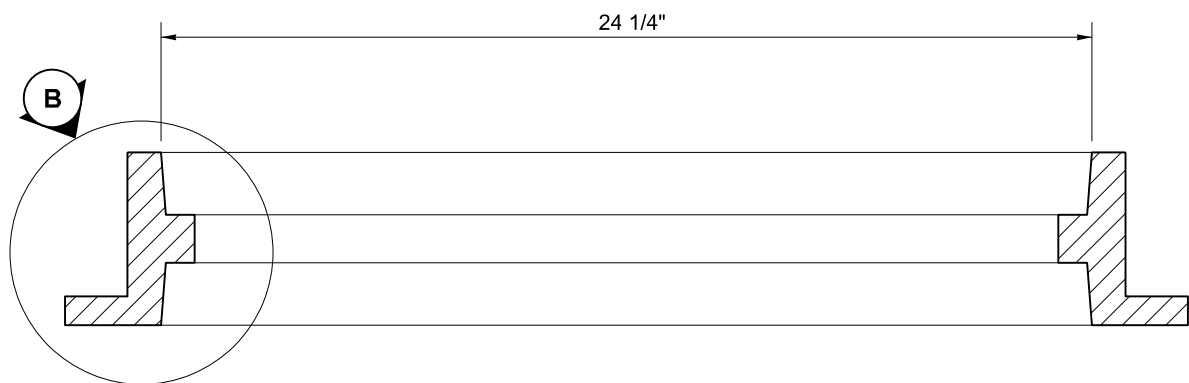
NOTES

1. This frame is designed to accommodate 20" (in) x 24" (in) grates or covers as shown on **Standard Plans B-30.20, B-30.30, B-30.40, and B-30.50**.
2. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (in) - 11 NC x 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.
3. Refer to **Standard Specification Section 9-05.15 and 9-05.15(2)** for additional requirements.



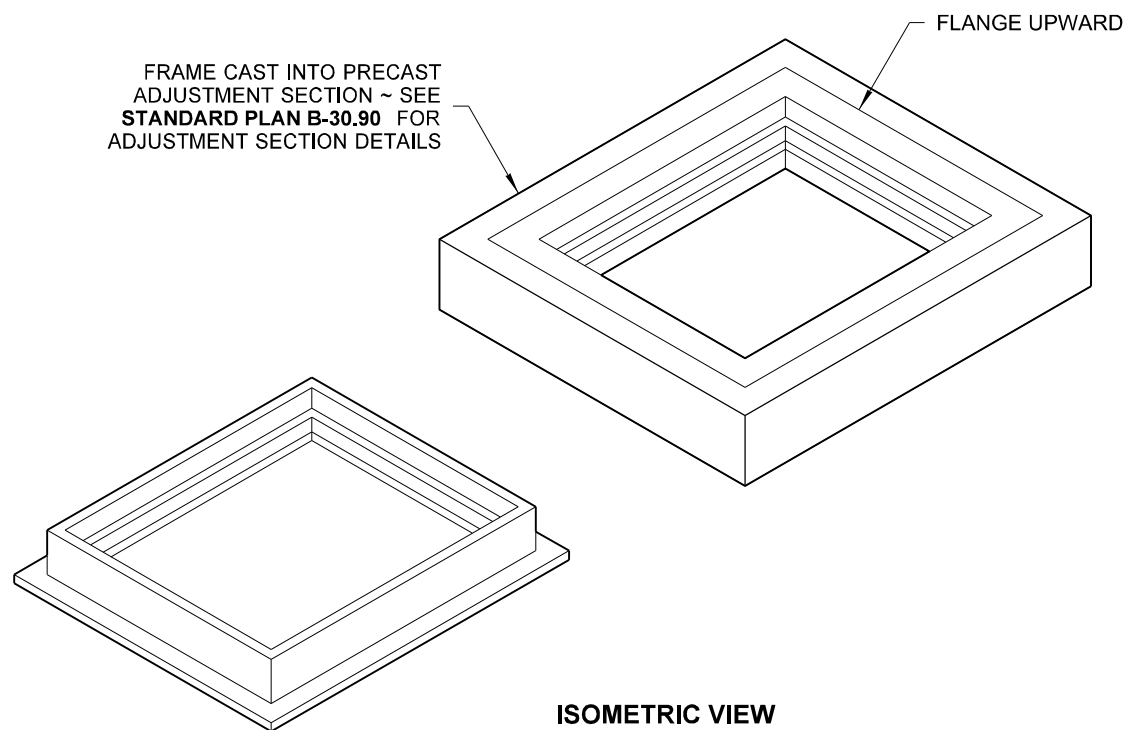
BOLT-DOWN DETAILS
SEE NOTE 2

TOP



SECTION A

FRAME CAST INTO PRECAST ADJUSTMENT SECTION ~ SEE STANDARD PLAN B-30.90 FOR ADJUSTMENT SECTION DETAILS



ISOMETRIC VIEW
SHOWING THE VARIATIONS



Julie Heilman
Heilman, Julie
Feb 20 2018 12:52 PM

**RECTANGULAR FRAME
(REVERSIBLE)**

STANDARD PLAN B-30.10-03

SHEET 1 OF 1 SHEET

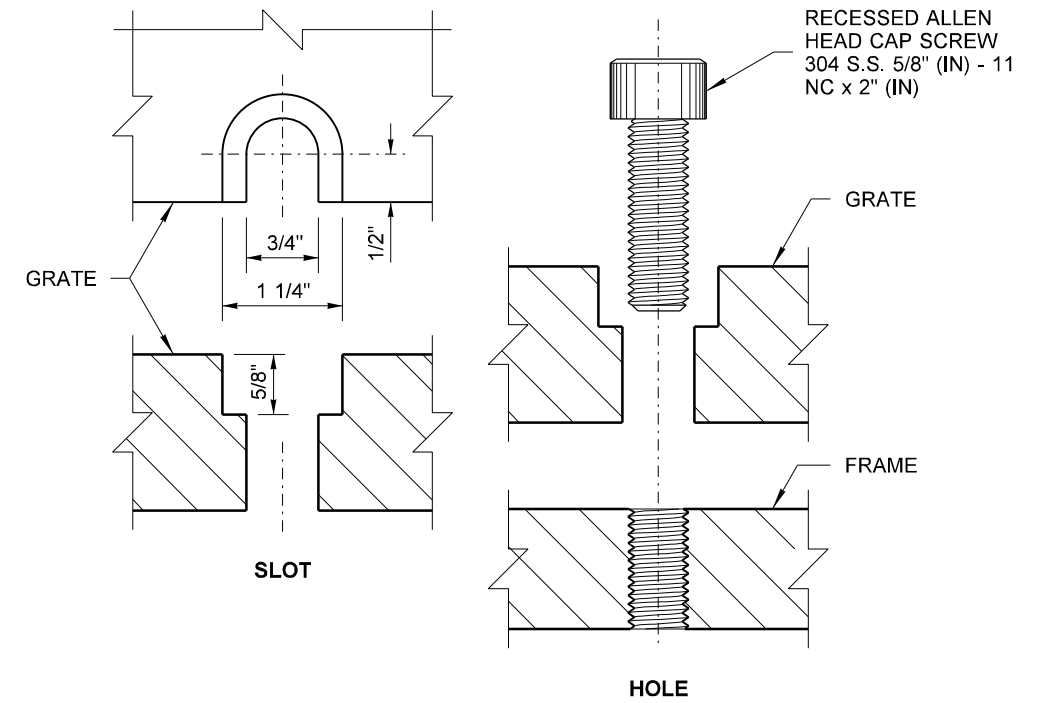
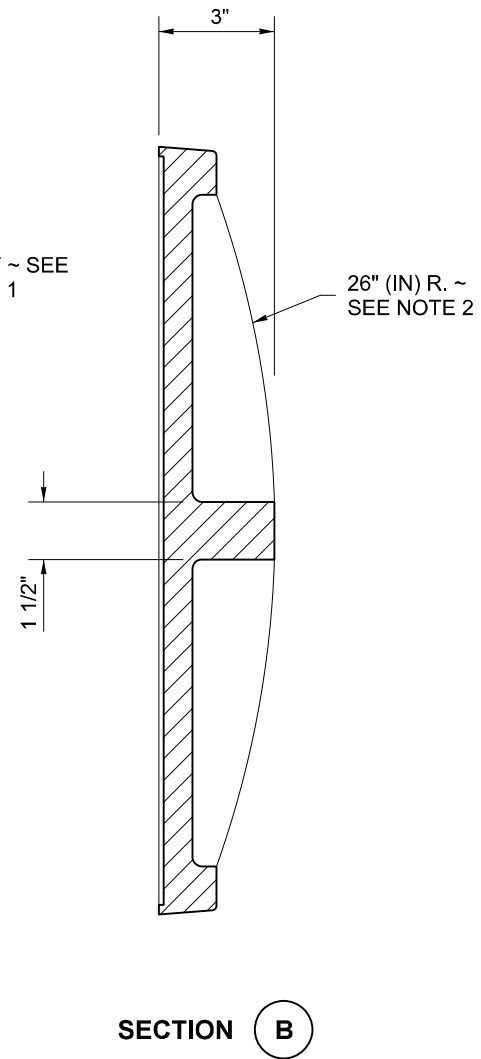
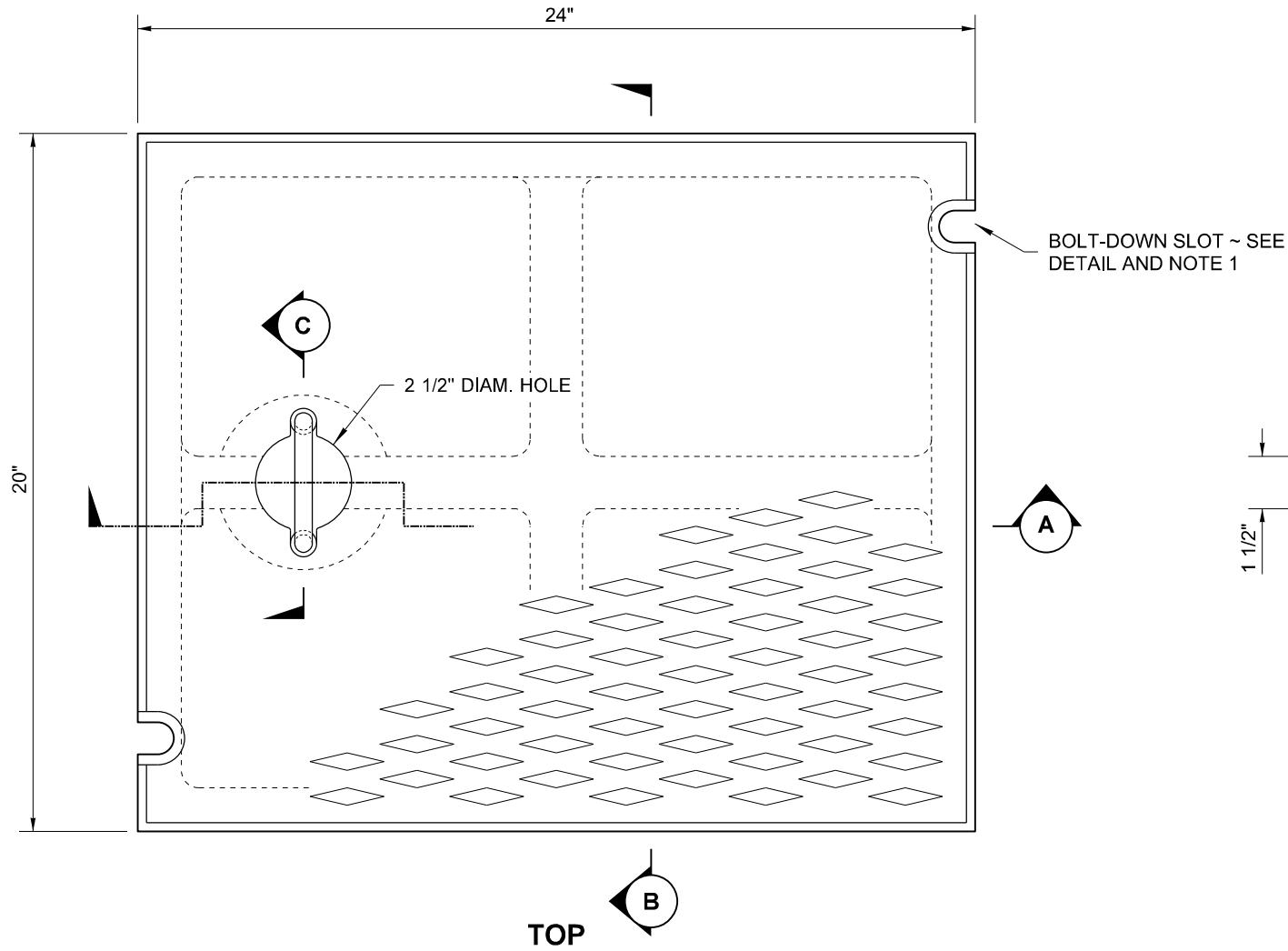
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Feb 27 2018 7:55 AM

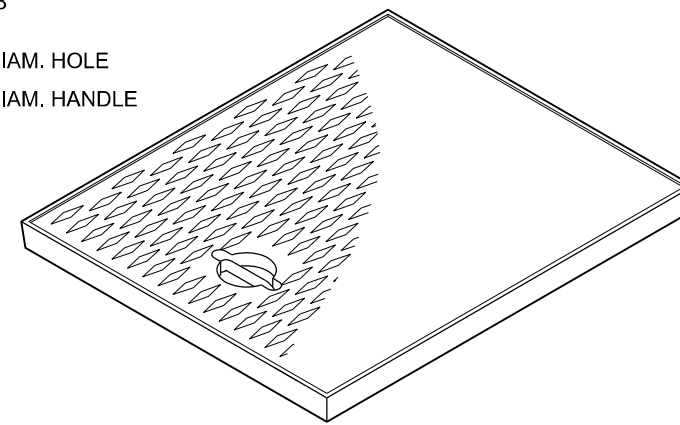
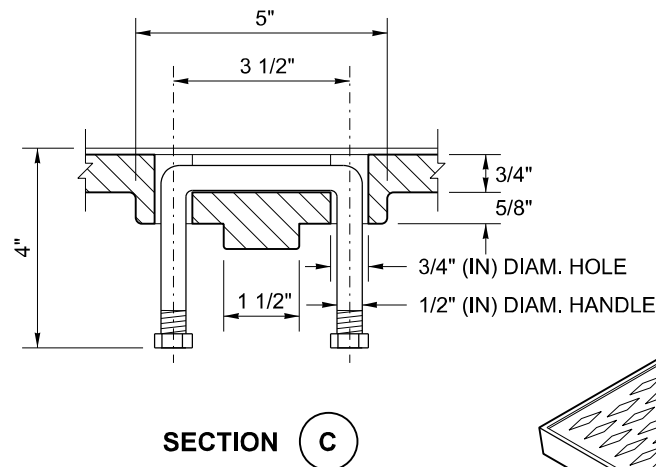
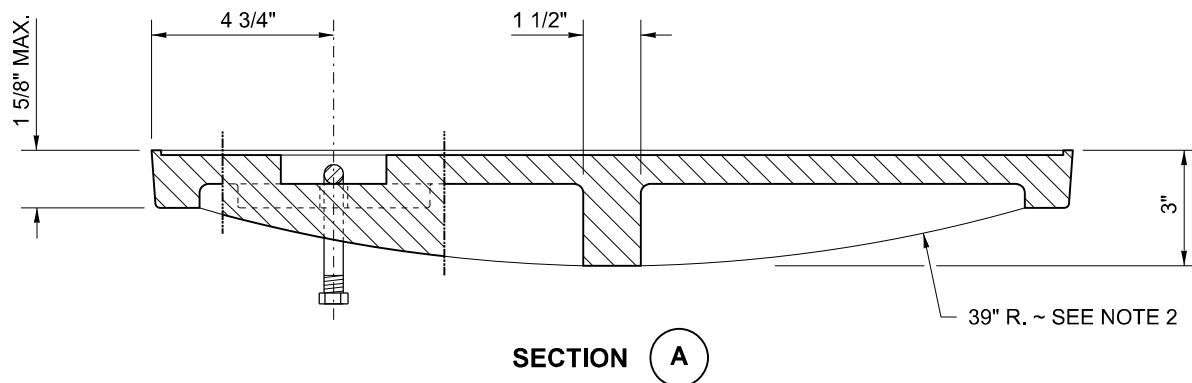
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BOLT-DOWN DETAILS
SEE NOTE 1



NOTES

1. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (in) - 11 NC x 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.
2. Alternative reinforcing designs are acceptable in lieu of the rib design.
3. Refer to **Standard Specification Section 9-05.15** and **9-05.15(2)** for additional requirements.
4. For frame details, see **Standard Plan B-30.10**.



Julie Heilman
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RECTANGULAR SOLID METAL COVER

STANDARD PLAN B-30.20-04

SHEET 1 OF 1 SHEET

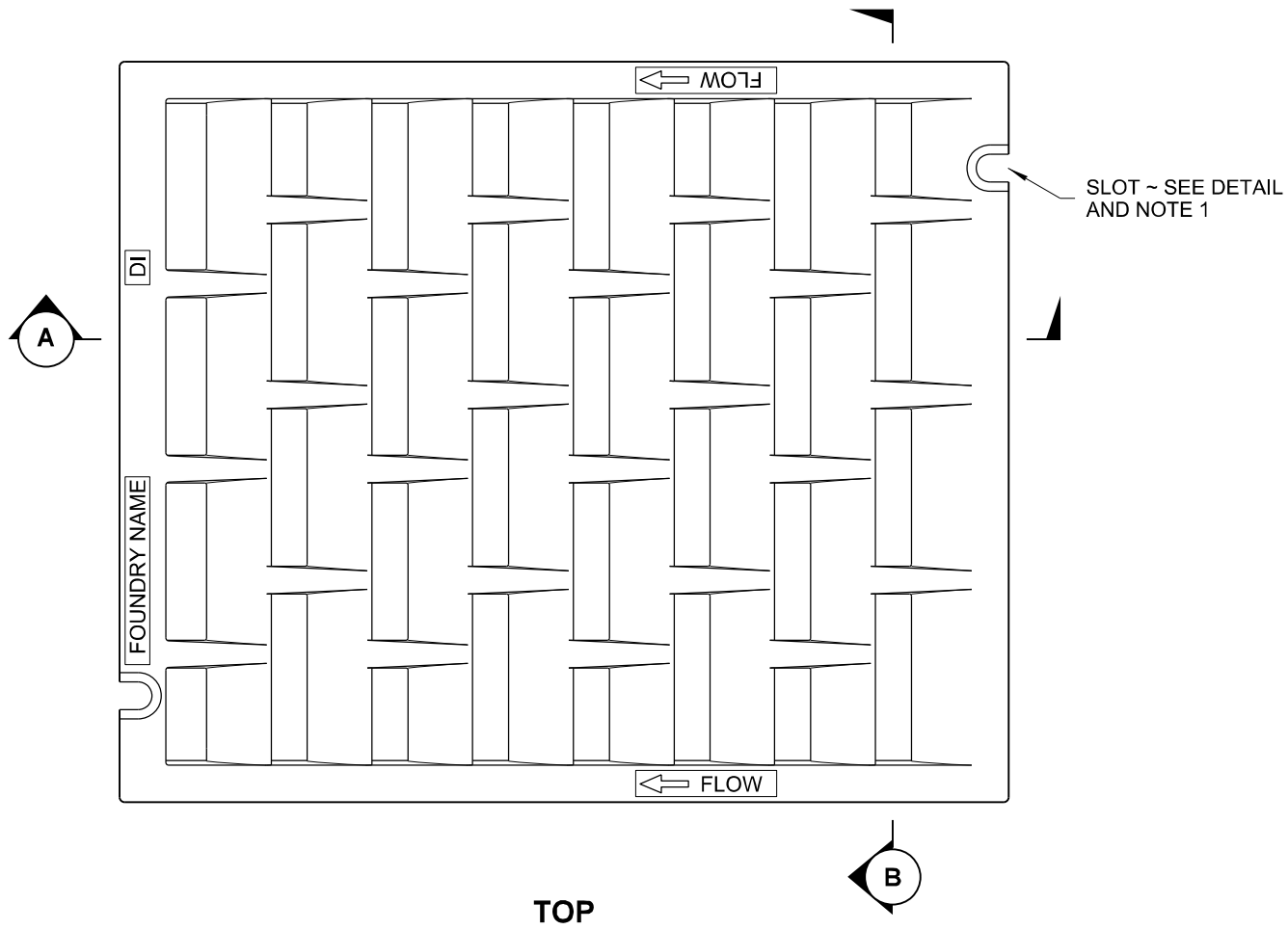
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Feb 27 2018 7:57 AM

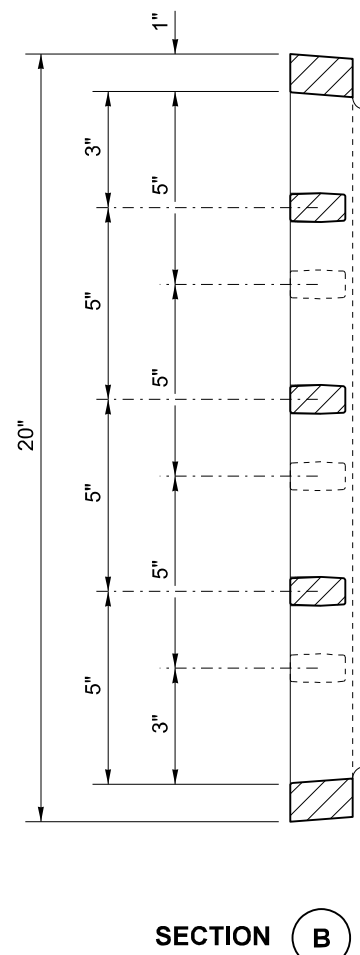
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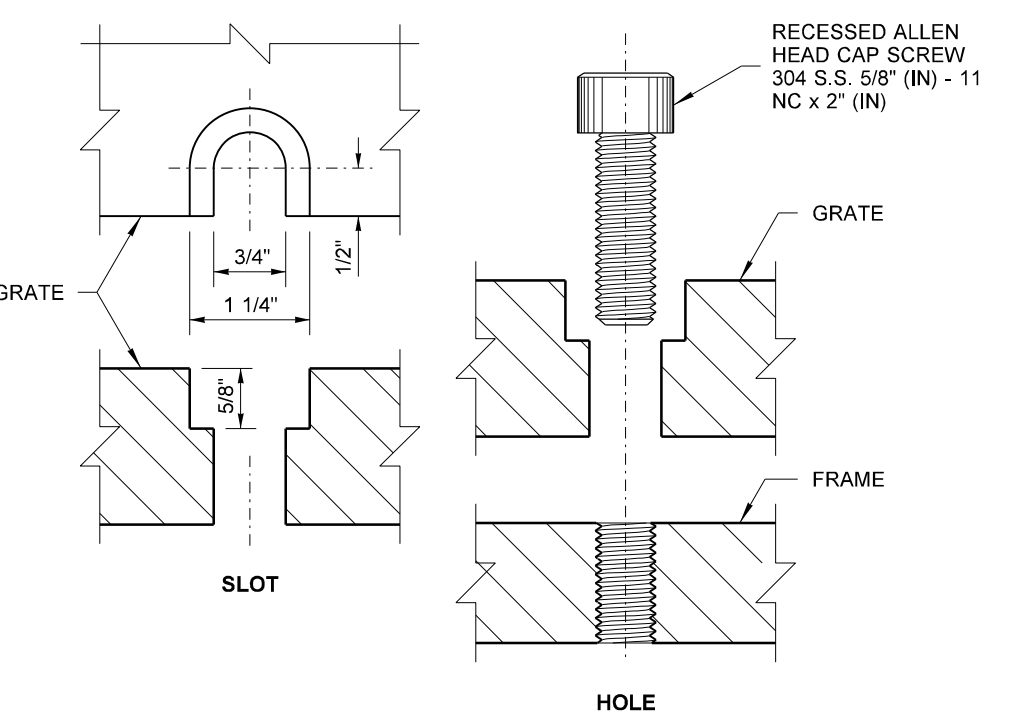
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TOP



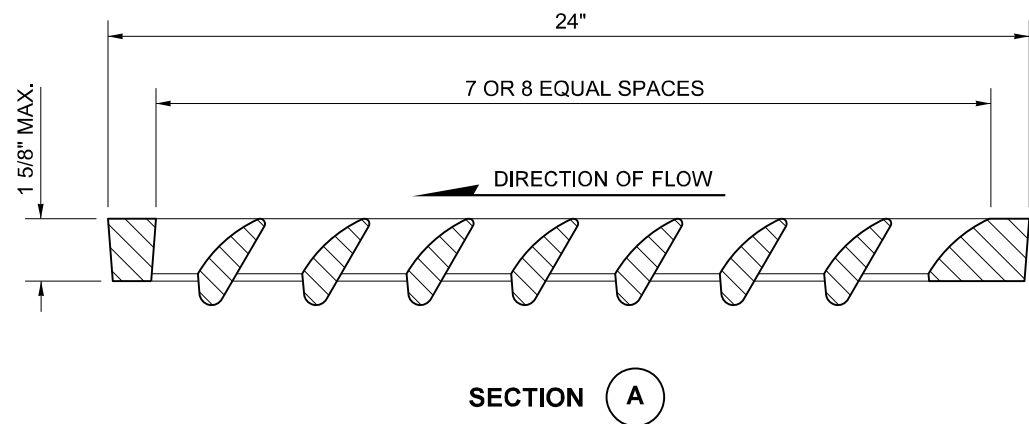
SECTION B



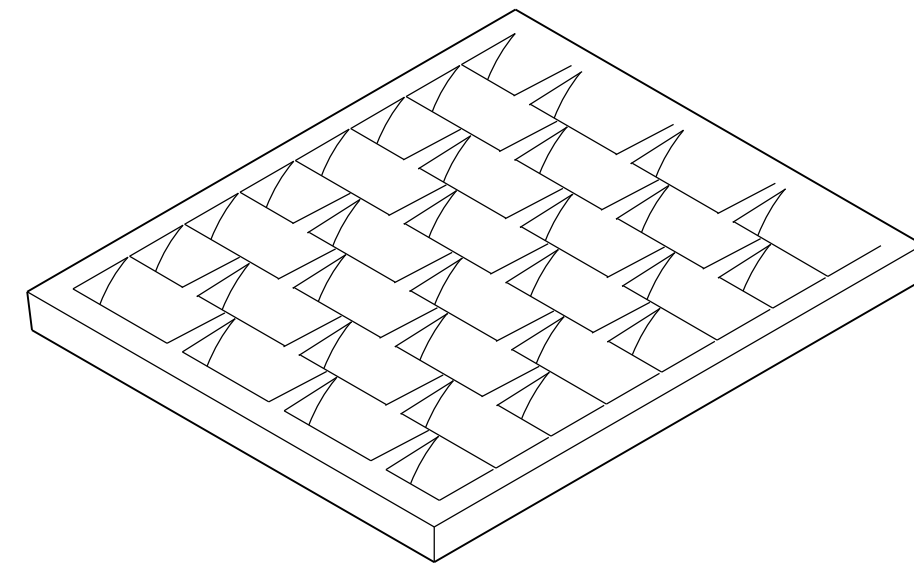
BOLT-DOWN DETAILS
SEE NOTE 1

NOTES

1. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (in) - 11 NC x 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.
2. Refer to **Standard Specification Section 9-05.15** and **9-05.15(2)** for additional requirements.
3. For frame details, see **Standard Plan B-30.10**.



SECTION A



ISOMETRIC



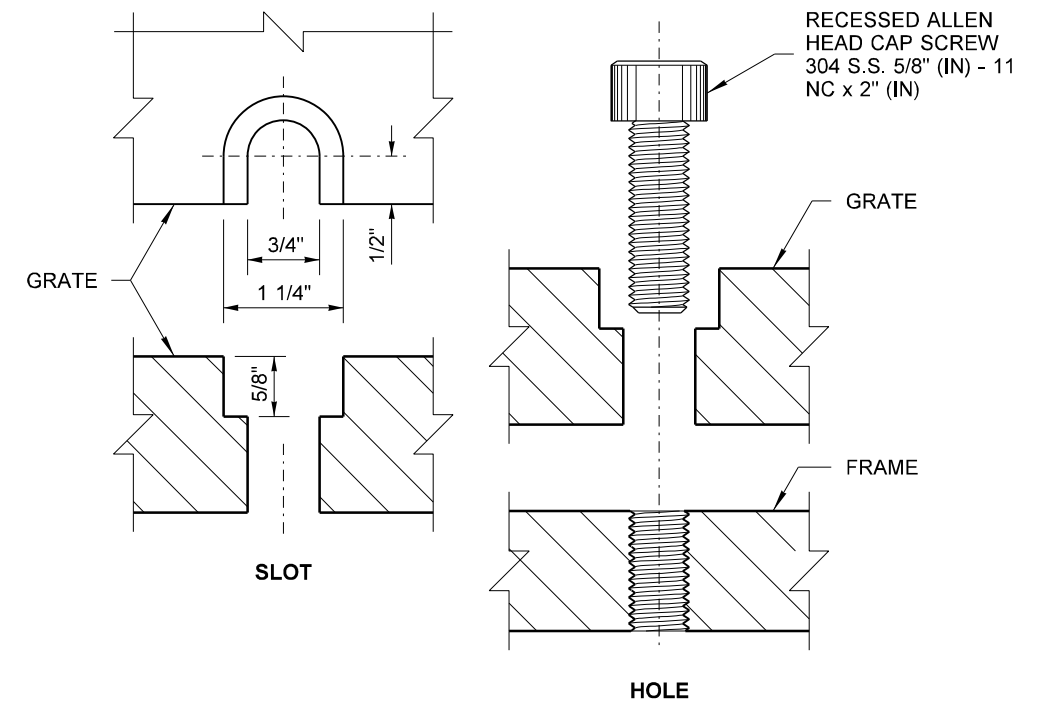
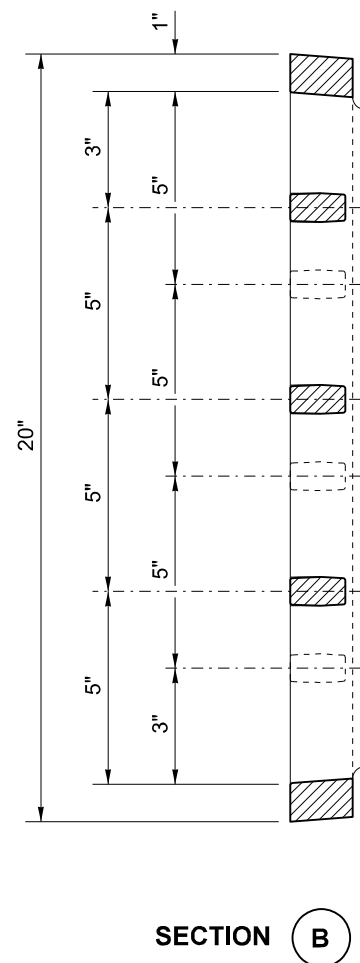
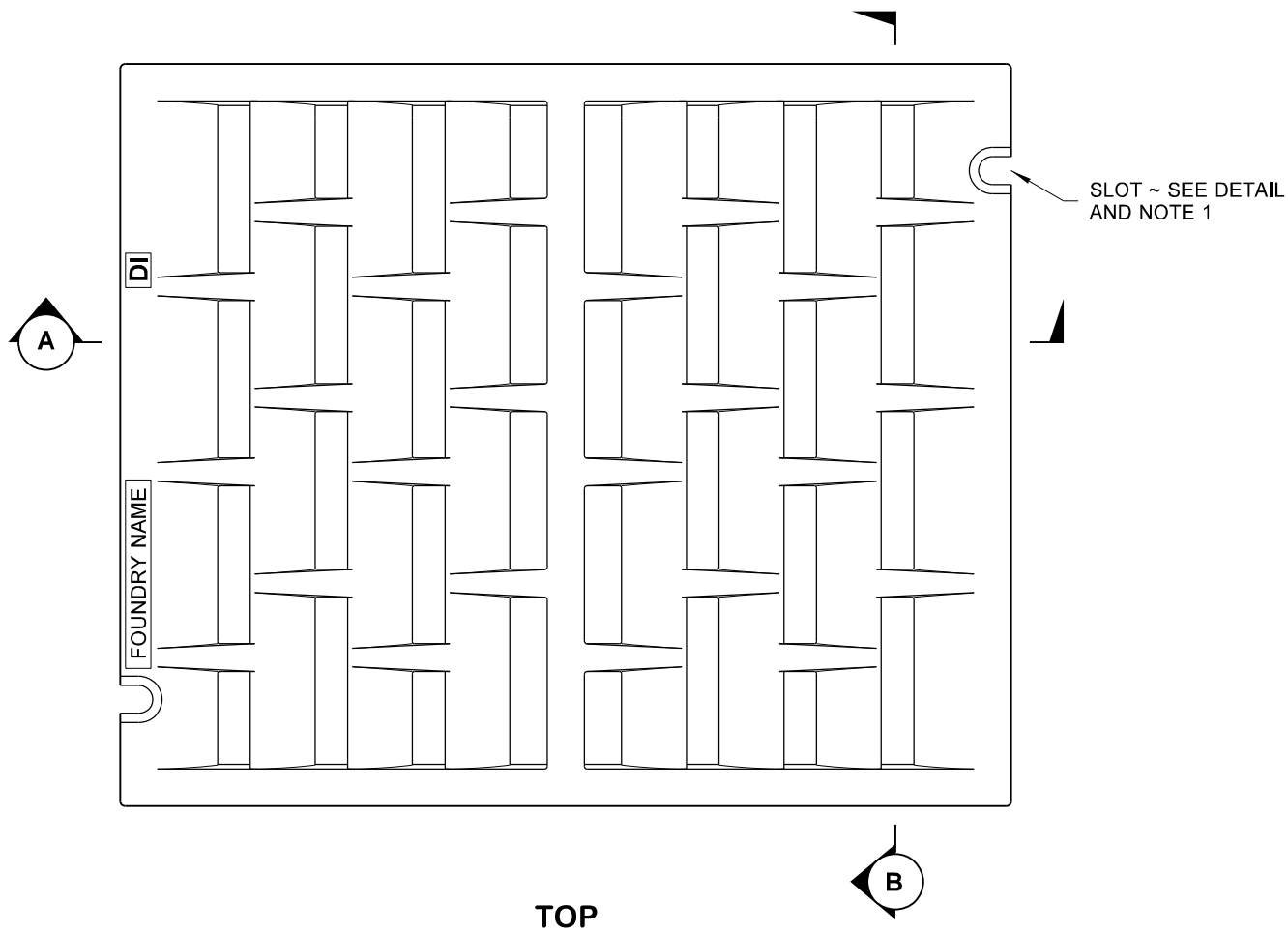
Heilman, Julie
Feb 20 2018 12:54 PM

RECTANGULAR VANED GRATE
STANDARD PLAN B-30.30-03

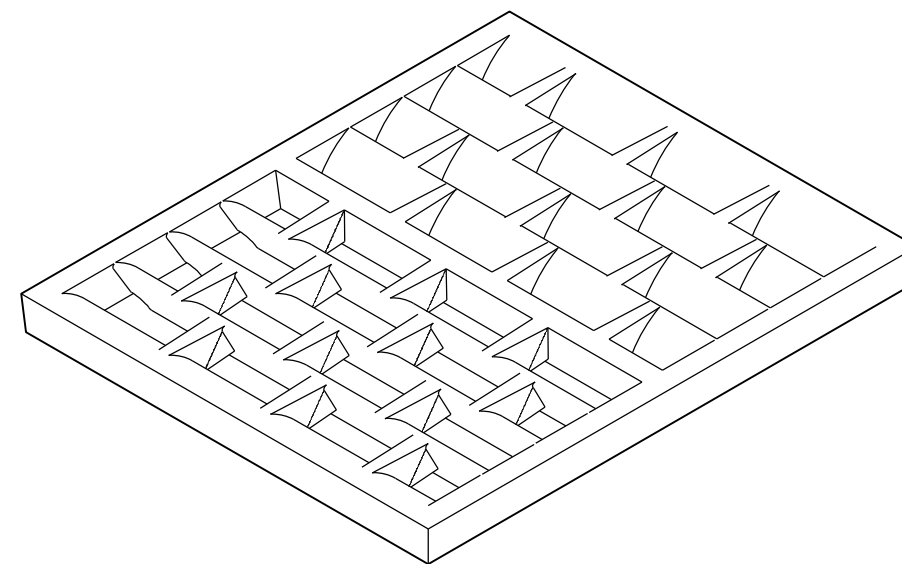
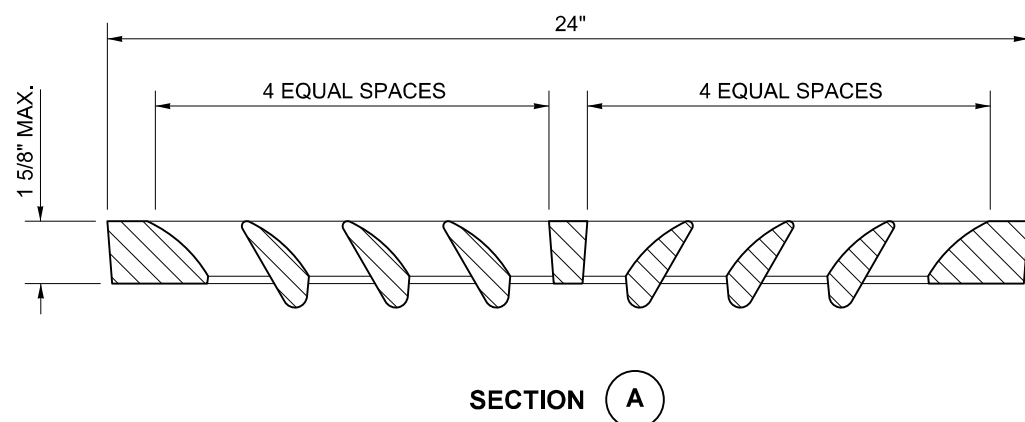
SHEET 1 OF 1 SHEET

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Washington State Department of Transportation

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BOLT-DOWN DETAILS
SEE NOTE 1



NOTES

1. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 2 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S.) 5/8" (in) - 11 NC x 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt-down holes varies by manufacturer.
2. Refer to **Standard Specification Section 9-05.15**, and **9-05.15(2)** for additional requirements.
3. For frame details, see **Standard Plan B-30.10**.



Heilman, Julie
Feb 20 2018 12:54 PM

**RECTANGULAR
BI-DIRECTIONAL
VANED GRATE**
STANDARD PLAN B-30.40-03

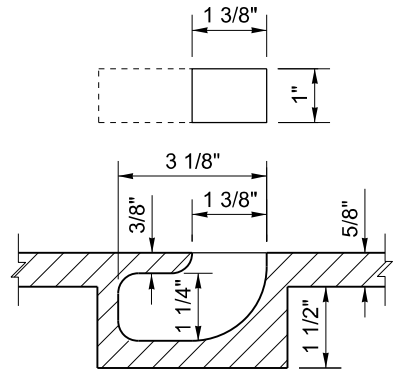
SHEET 1 OF 1 SHEET

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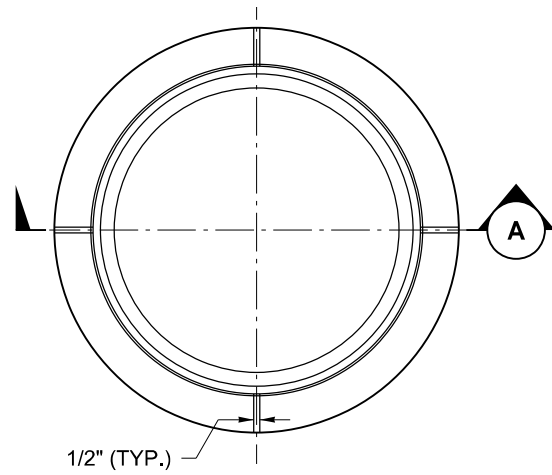
Jeff Carpenter
Carpenter, Jeff
Feb 27 2018 7:58 AM

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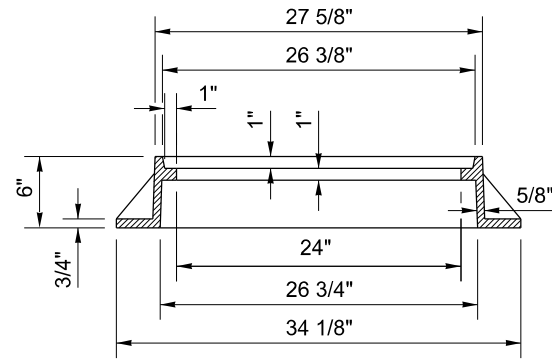
Washington State Department of Transportation



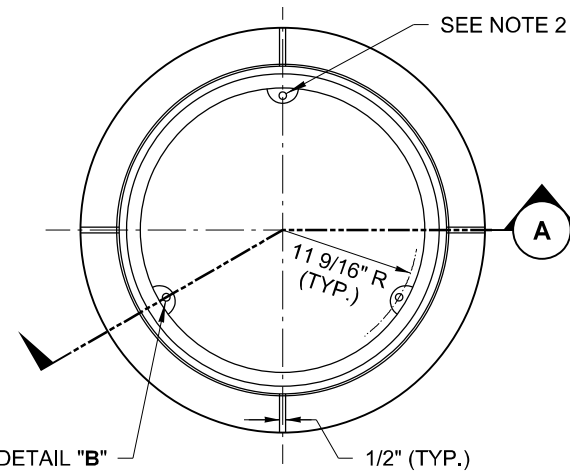
BLIND PICK NOTCH
DETAIL "A"



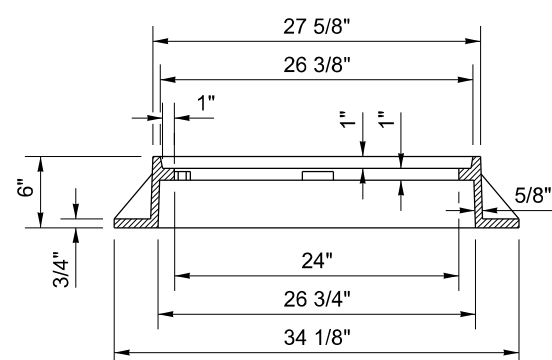
RING PLAN



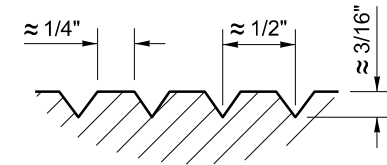
RING SECTION A



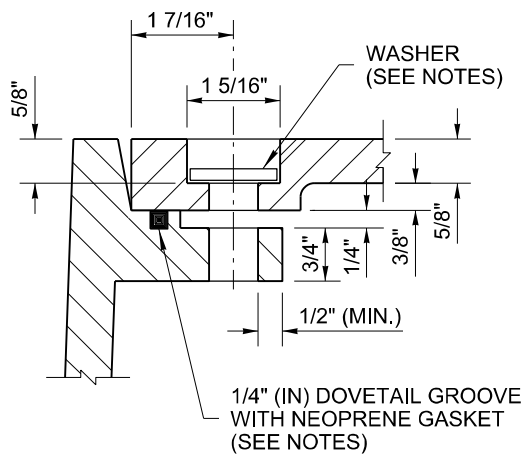
RING PLAN



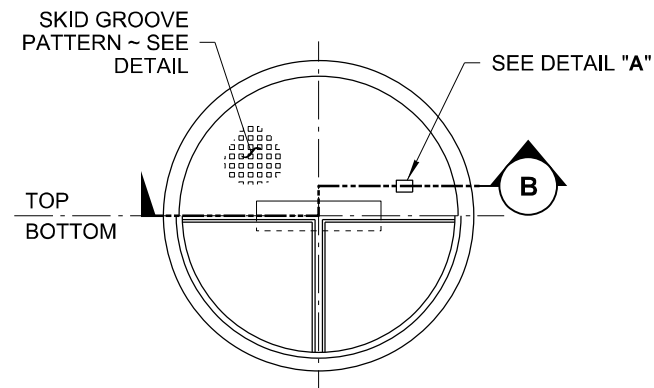
RING SECTION A



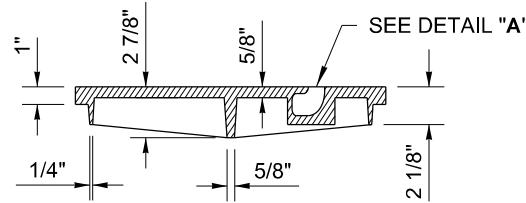
SKID GROOVE PATTERN
DETAIL



BOLT-DOWN / WATERTIGHT
DETAIL "B"

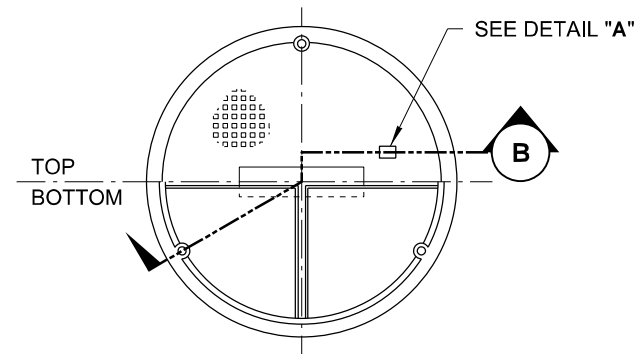


COVER PLAN

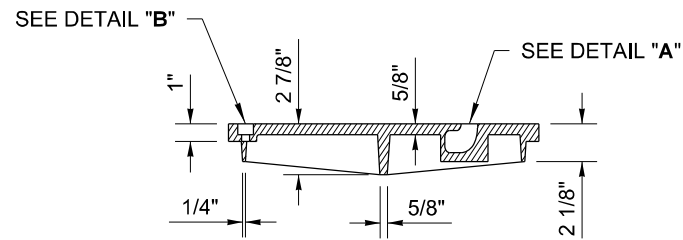


COVER SECTION B
(SEE NOTE 7)

STANDARD
TYPE 1

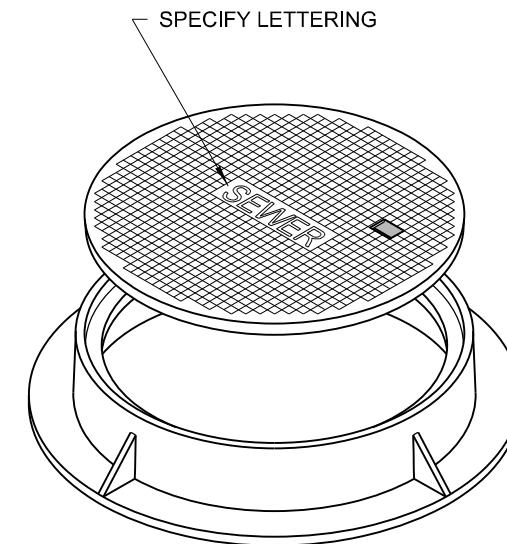


COVER PLAN



COVER SECTION B
(SEE NOTE 7)

BOLT-DOWN / WATERTIGHT
TYPE 2



ISOMETRIC VIEW

NOTES

1. The gasket and groove may be in the seat (frame) or in the underside of the cover. The gasket may be "T" shaped in section. The groove may be cast or machined.
2. Bolt-down capability is required on all frames, grates, and covers, unless specified otherwise in the Contract. Provide 3 holes in the frame that are vertically aligned with the grate or cover slots. The frame shall accept the 304 Stainless Steel (S.S) 5/8" - 11 NC x 2" (in) allen head cap screw by being tapped, or other approved mechanism. Location of bolt down holes varies by manufacturer.
3. For bolt-down manhole ring and covers that are not designated "Watertight," the neoprene gasket, groove, and washer are not required.
4. Washer shall be neoprene (Detail "B").
5. In lieu of blind pick notch for manhole covers, a single 1" (in) pick hole is acceptable. Hole location and number of holes may vary by manufacturer.
6. Alternative reinforcing designs are acceptable in lieu of the rib design.
7. For clarity, the vertical scale of the Cover Section has been exaggerated, it is 1.5 times the horizontal scale (1H:1.5V).



Julie Heilman
Heilman, Julie
Feb 20 2018 12:55 PM
**CIRCULAR FRAME (RING)
AND COVER**

STANDARD PLAN B-30.70-04

SHEET 1 OF 1 SHEET

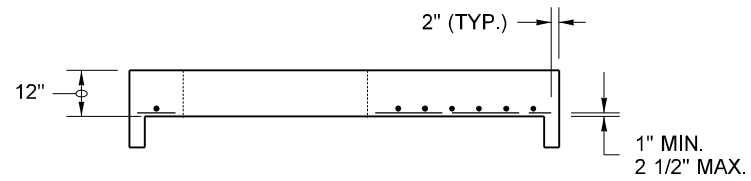
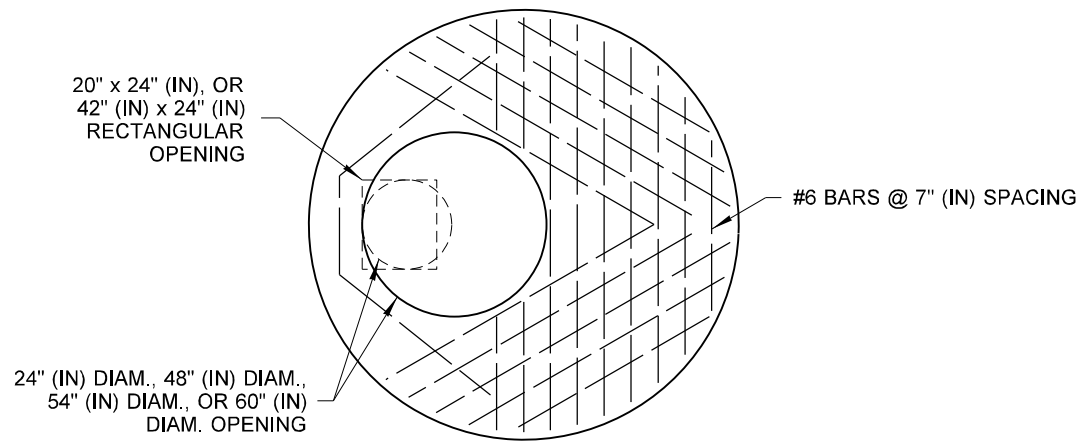
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Carpenter, Jeff
Feb 27 2018 7:59 AM

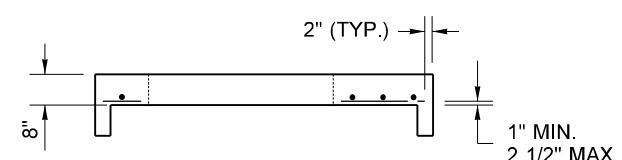
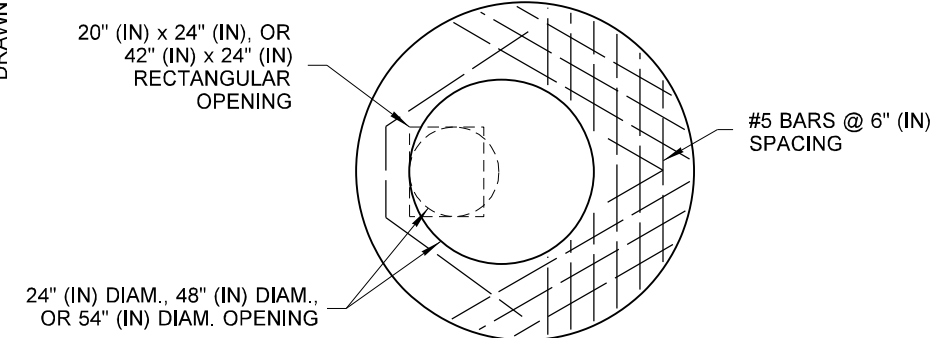
STATE DESIGN ENGINEER

Washington State Department of Transportation

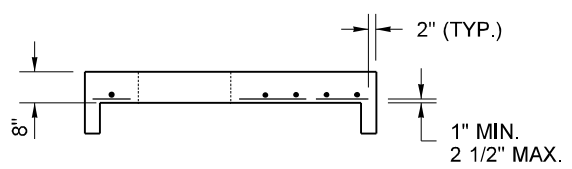
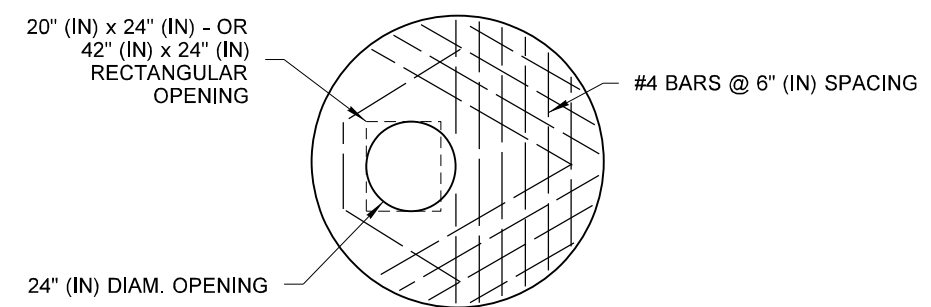
DRAWN BY: FERN LIDDELL



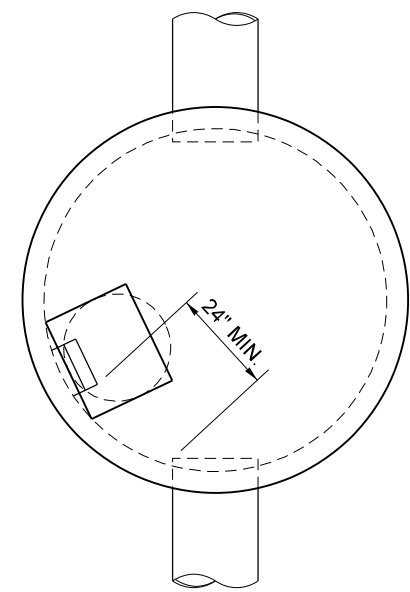
84" (IN) or 96" (IN) FLAT SLAB TOP



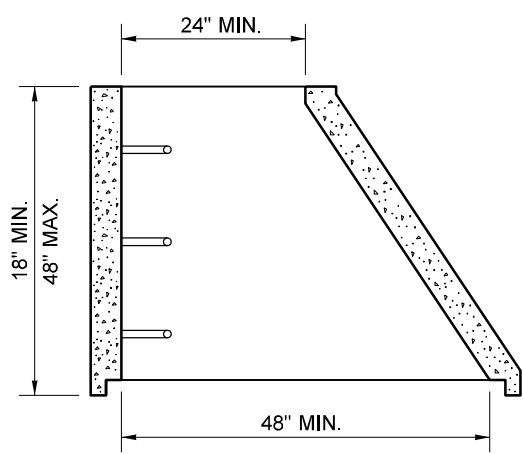
72" (IN) FLAT SLAB TOP



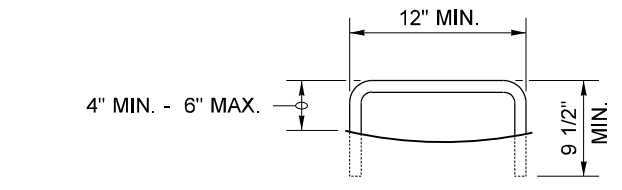
48" (IN), 54", or 60" (IN) FLAT SLAB TOP



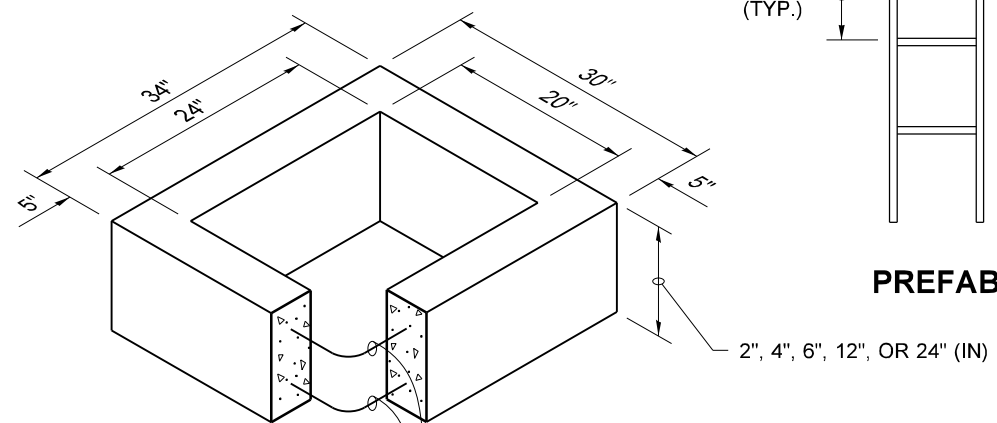
TYPICAL ORIENTATION FOR ACCESS AND STEPS



ECCENTRIC CONE SECTION



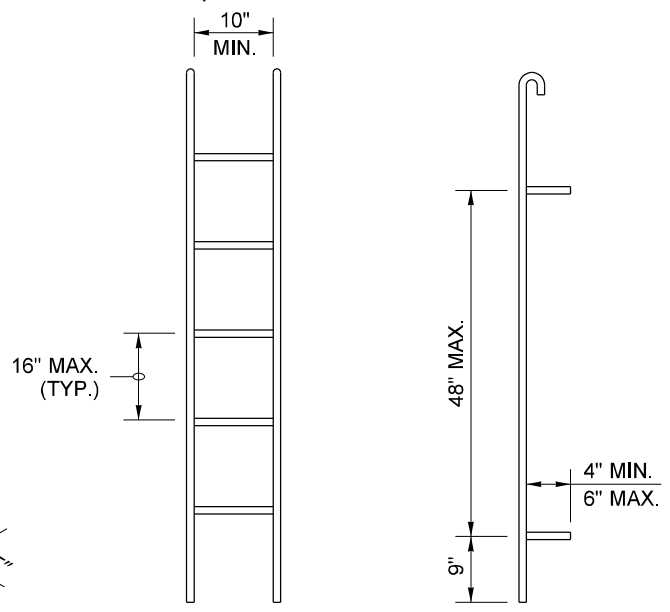
STEP



- 1 ONE #3 BAR HOOP FOR 2", 4", OR 6" (IN)
- 2 TWO #3 BAR HOOPS FOR 12" (IN)
- FOUR #3 BAR HOOPS FOR 24" (IN)

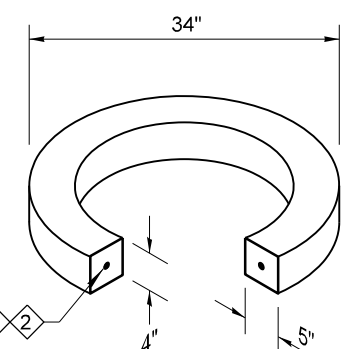
PREFABRICATED LADDER

NOTE
1. Ladder rungs for manholes and catch basins shall meet the requirements of **AASHTO M 199**.



RECTANGULAR ADJUSTMENT SECTION

- 1 As an acceptable alternative to rebar, wire mesh having a minimum area of 0.12 square inches per foot may be used for adjustment sections.
- 2 As an acceptable alternative to conventional steel reinforcement, manufacturers shall use Synthetic Structural Fibers meeting the requirements of **Standard Specification Section 9-05.50(10)**.



- 1 ONE #3 BAR HOOP FOR 2", 4", OR 6" (IN)
- 2 TWO #3 BAR HOOPS FOR 12" (IN)

CIRCULAR ADJUSTMENT SECTION

For rectangular and circular adjustment sections, approved alternate material compositions are acceptable in lieu of precast concrete designs



Julie Heilman
Heilman, Julie
Jan 25 2017 3:01 PM

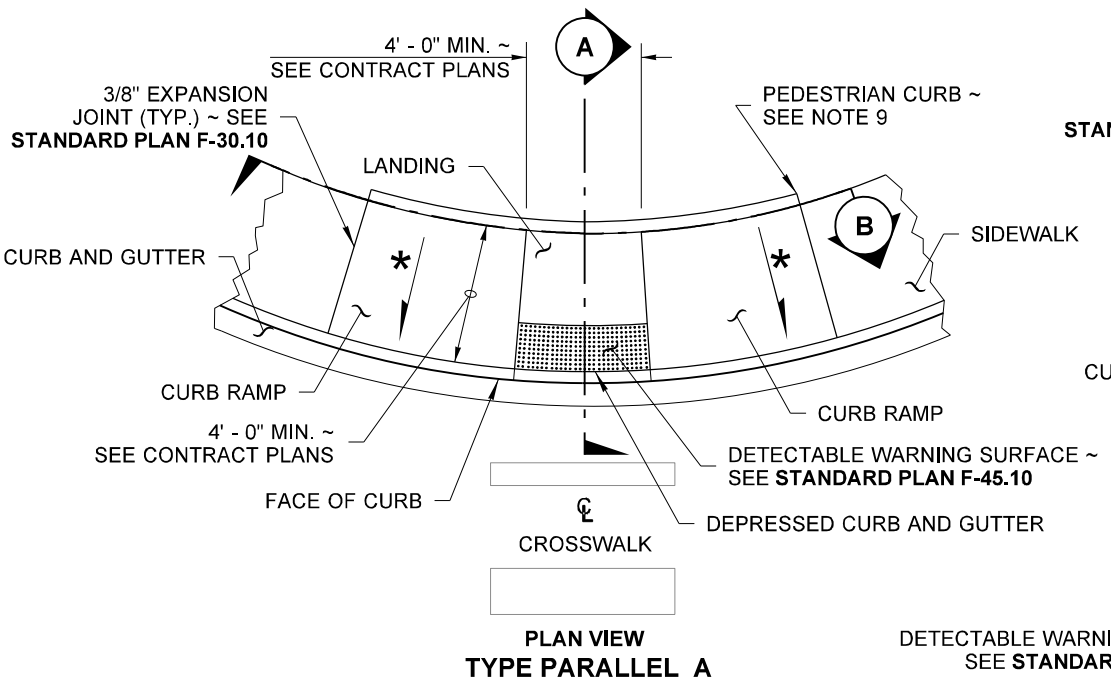
MISCELLANEOUS DETAILS FOR DRAINAGE STRUCTURES STANDARD PLAN B-30.90-02

SHEET 1 OF 1 SHEET

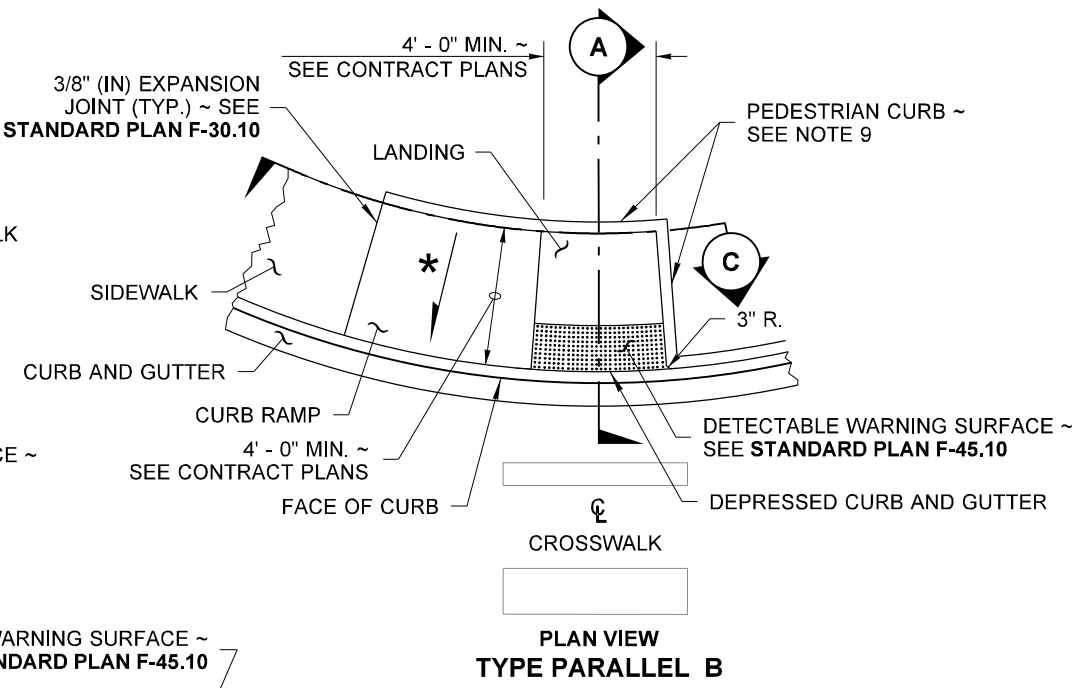
APPROVED FOR PUBLICATION
Carpenter, Jeff
Jan 26 2017 6:52 AM

STATE DESIGN ENGINEER
Washington State Department of Transportation

DRAWN BY: FERN LIDDELL

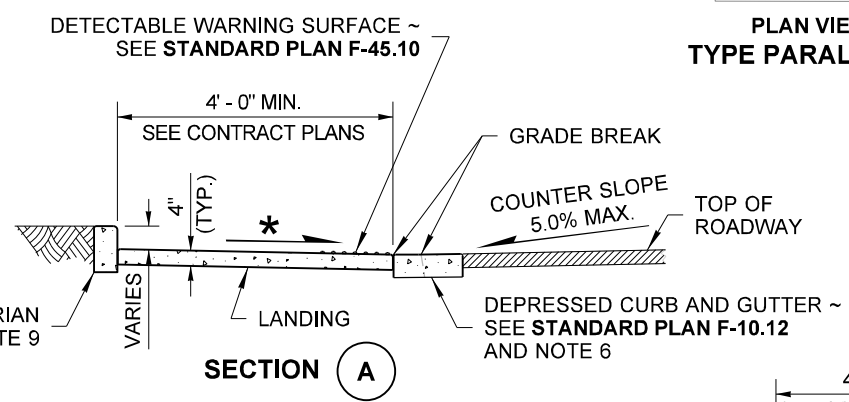


**PLAN VIEW
TYPE PARALLEL A**

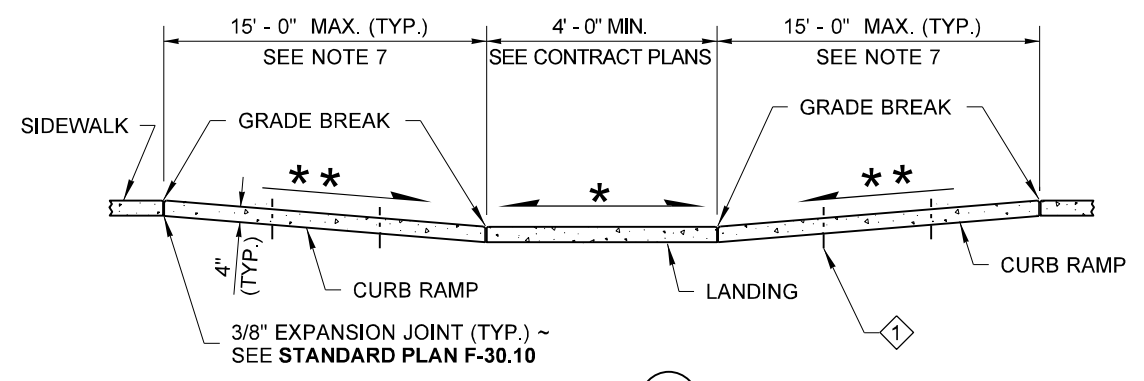


**PLAN VIEW
TYPE PARALLEL B**

1 CONTRACTION JOINT (TYP.) ~ SEE **STANDARD PLAN F-30.1**
FOR CURB RAMP LENGTHS GREATER THAN 8' - 0" PROVIDE
CONTRACTION JOINT EQUALLY SPACED 4' - 0" MIN. OC.



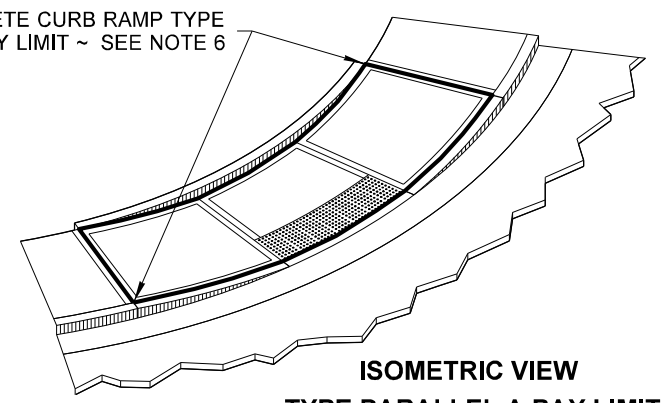
SECTION A



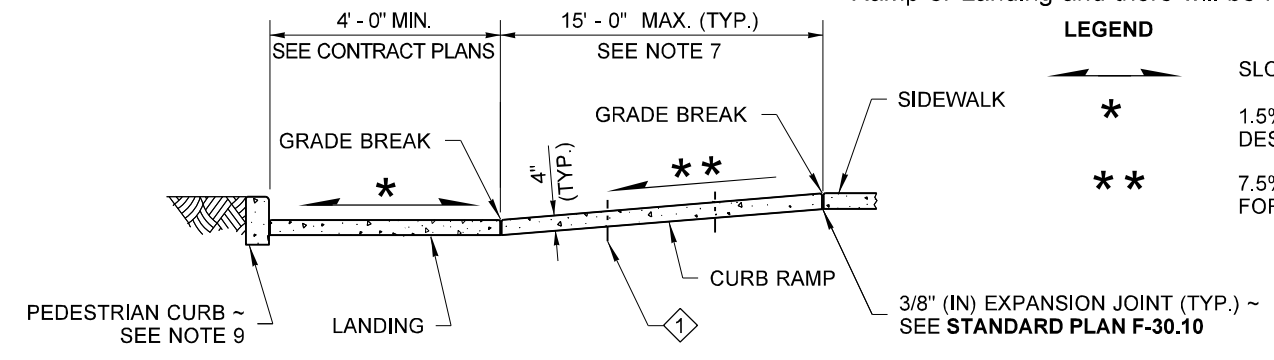
SECTION B

(ALONG INSIDE RADIUS AT BACK OF WALKWAY)

"CEMENT CONCRETE CURB RAMP TYPE
PARALLEL A" PAY LIMIT ~ SEE NOTE 6



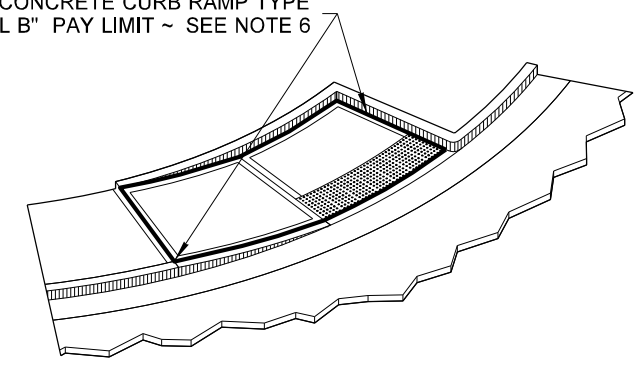
**ISOMETRIC VIEW
TYPE PARALLEL A PAY LIMIT**



SECTION C

(ALONG INSIDE RADIUS AT BACK OF WALKWAY)

"CEMENT CONCRETE CURB RAMP TYPE
PARALLEL B" PAY LIMIT ~ SEE NOTE 6



**ISOMETRIC VIEW
TYPE PARALLEL B PAY LIMIT**

NOTES

1. At marked crosswalks, the connection between the landing and the roadway must be contained within the width of the crosswalk markings.
2. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
3. Do not place Gratings, Junction Boxes, Access Covers, or other appurtenances on any part of the Curb Ramp or Landing, or in the Depressed Curb and Gutter where the Landing connects to the roadway.
4. See Contract Plans for the curb design specified. See **Standard Plan F-10.12** for Curb, Curb and Gutter, Depressed Curb and Gutter, and Pedestrian Curb details.
5. See **Standard Plan F-30.10** for Cement Concrete Sidewalk Details. See Contract Plans for width and placement of sidewalk.
6. The Bid Item "Cement Concrete Curb Ramp Type ___" does not include the adjacent Curb, Curb and Gutter, Depressed Curb and Gutter, Pedestrian Curb, or Sidewalks.
7. The Curb Ramp length is not required to exceed 15 feet (unless otherwise shown in the Contract Plans). When applying the 15-foot max. length, the running slope of the curb ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the sidewalk over a horizontal distance of 15 feet. Do not include abutting landing(s) in the 15-foot max. measurement. When a ramp is constructed on a radius, the 15-foot max. length is measured on the inside radius along the back of the walkway.
8. Curb Ramps and Landings shall receive a broom finish. See **Standard Specifications 8-14**.
9. Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or Landing will be at the same elevation as the Curb Ramp or Landing and there will be no material to retain.

LEGEND

- SLOPE IN EITHER DIRECTION
- 1.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX.)
- 7.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (8.3% MAX.) ~ SEE NOTE 7



Zeller, Scott
Zeller, Scott
Jun 24 2016 7:19 AM

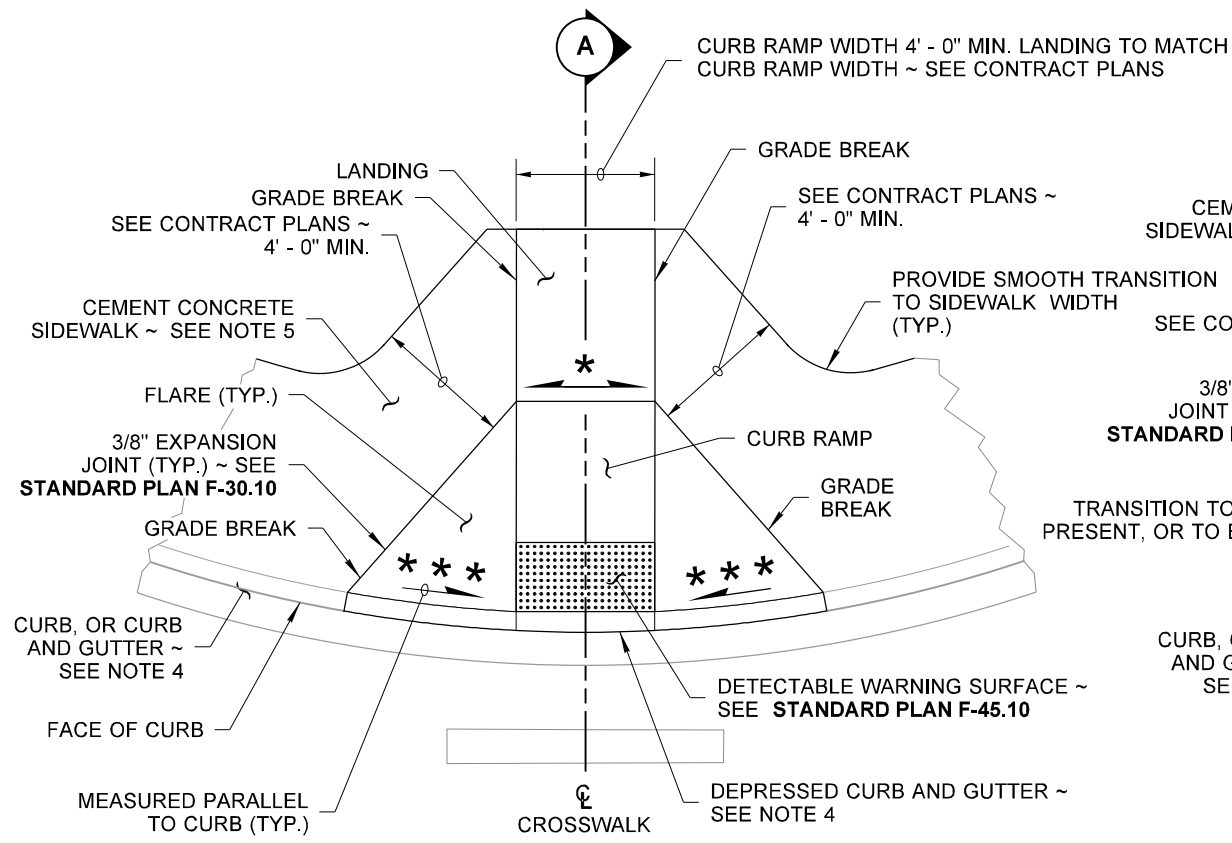
PARALLEL CURB RAMP

STANDARD PLAN F-40.12-03

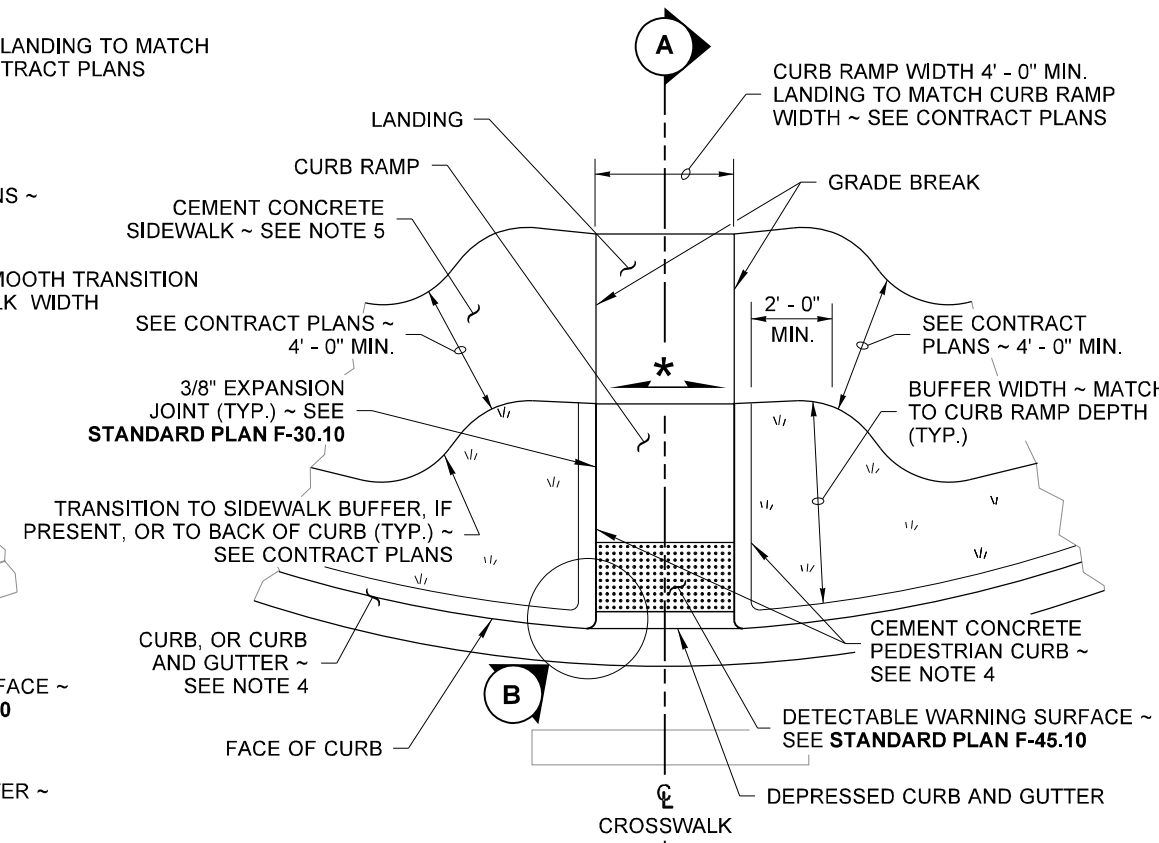
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Carpenter, Jeff
 Carpenter, Jeff
 Jun 29 2016 2:27 PM
 STATE DESIGN ENGINEER
 Washington State Department of Transportation

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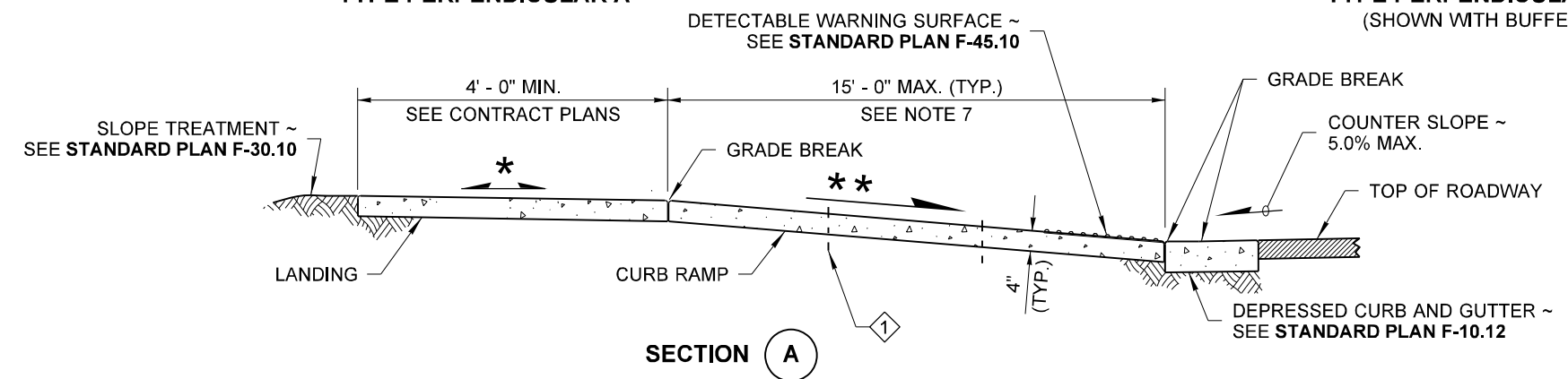


PLAN VIEW
TYPE PERPENDICULAR A

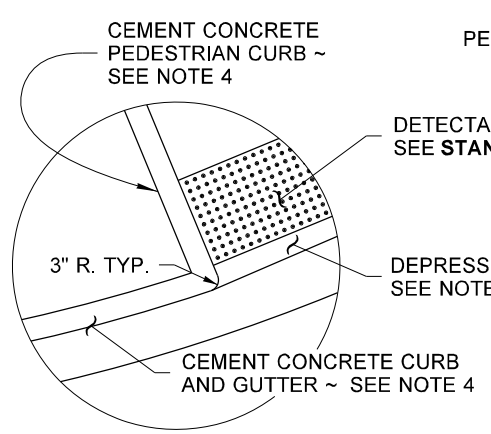


PLAN VIEW
TYPE PERPENDICULAR B
(SHOWN WITH BUFFER)

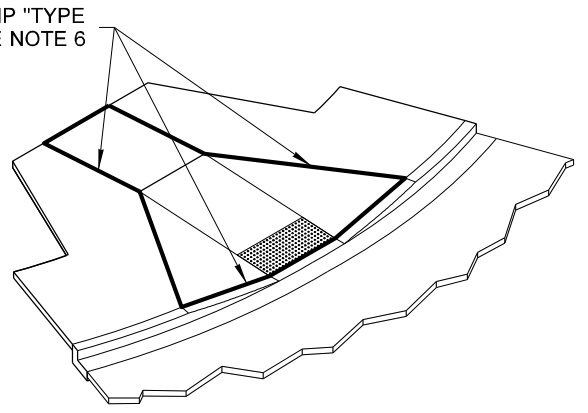
① CONTRACTION JOINT (TYP.) ~ SEE STANDARD PLAN F-30.10 FOR CURB RAMP LENGTHS GREATER THAN 8' - 0" PROVIDE CONTRACTION JOINT EQUALLY SPACED 4' - 0" MIN. OC.



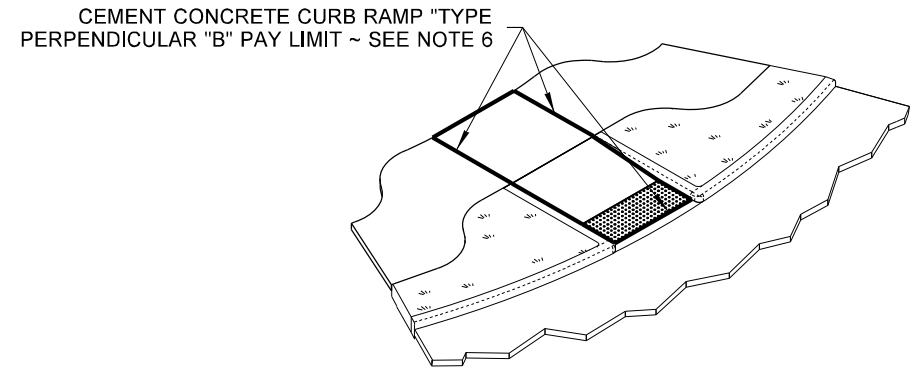
SECTION A



CURB RADIUS DETAIL (B)



ISOMETRIC VIEW
TYPE PERPENDICULAR A PAY LIMIT



ISOMETRIC VIEW
TYPE PERPENDICULAR B PAY LIMIT

NOTES

1. At marked crosswalks, the connection between the curb ramp and the roadway must be contained within the width of the crosswalk markings.
2. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
3. Do not place Gratings, Junction Boxes, Access Covers, or other appurtenances on any part of the Curb Ramp or Landing, or in front of the Curb Ramp where it connects to the roadway.
4. See Contract Plans for the curb design specified. See **Standard Plan F-10.12** for Curb, Curb and Gutter, Depressed Curb and Gutter, and Pedestrian Curb details.
5. See **Standard Plan F-30.10** for Cement Concrete Sidewalk Details. See Contract Plans for width and placement of sidewalk.
6. The Bid Item "Cement Concrete Curb Ramp Type ___" does not include the adjacent Curb, Curb and Gutter, Depressed Curb and Gutter, Pedestrian Curb, or Sidewalks.
7. The Curb Ramp length is not required to exceed 15 feet (unless shown otherwise in the Contract Plans). When applying the 15-foot max. length, the running slope of the Curb Ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the landing over a horizontal distance of 15 feet. Do not include the abutting landing in the 15-foot max. measurement.
8. Curb Ramps and Landings shall receive a broom finish. See **Standard Specifications 8-14**.
9. Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or Landing will be at the same elevation as the Curb Ramp or Landing and there will not be material to retain.

LEGEND

- ↔ SLOPE IN EITHER DIRECTION
- * 1.5 OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX.)
- ** 7.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (8.3% MAX.)
- *** 9.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (10% MAX.)



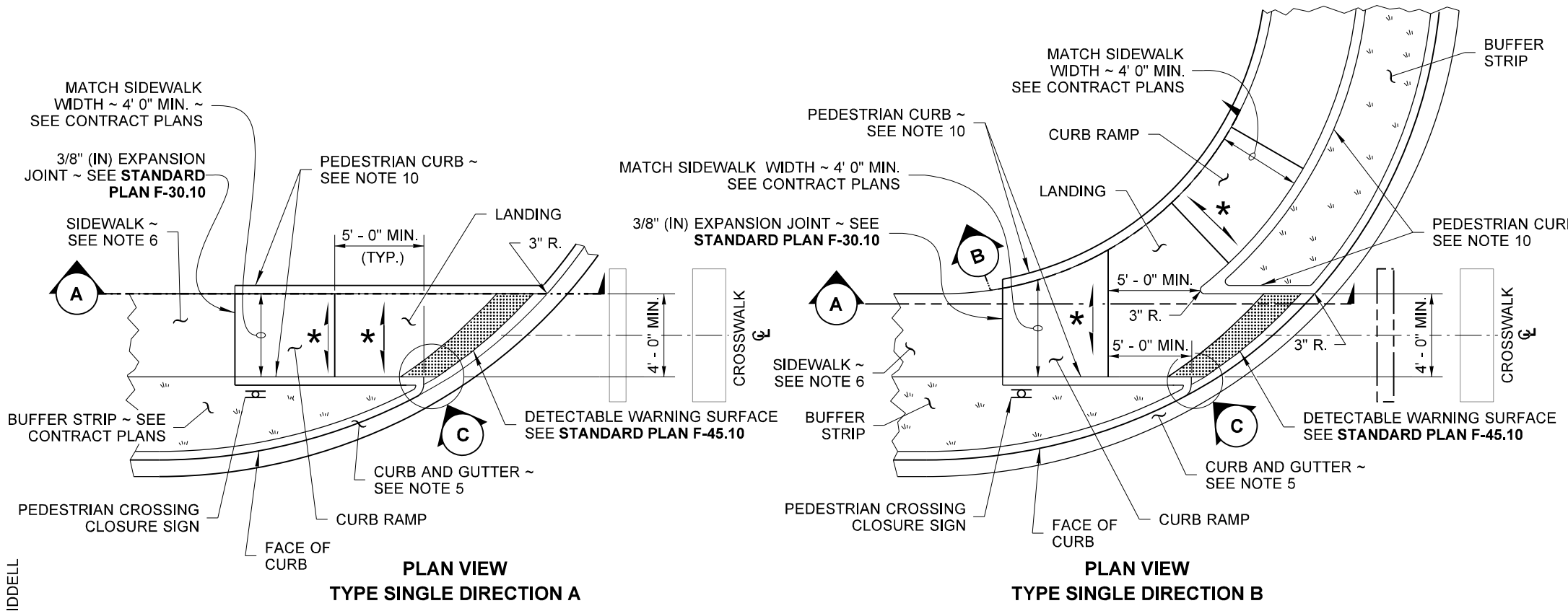
Zeller, Scott
Jun 24 2016 7:20 AM

PERPENDICULAR CURB RAMP
STANDARD PLAN F-40.15-03

SHEET 1 OF 1 SHEET

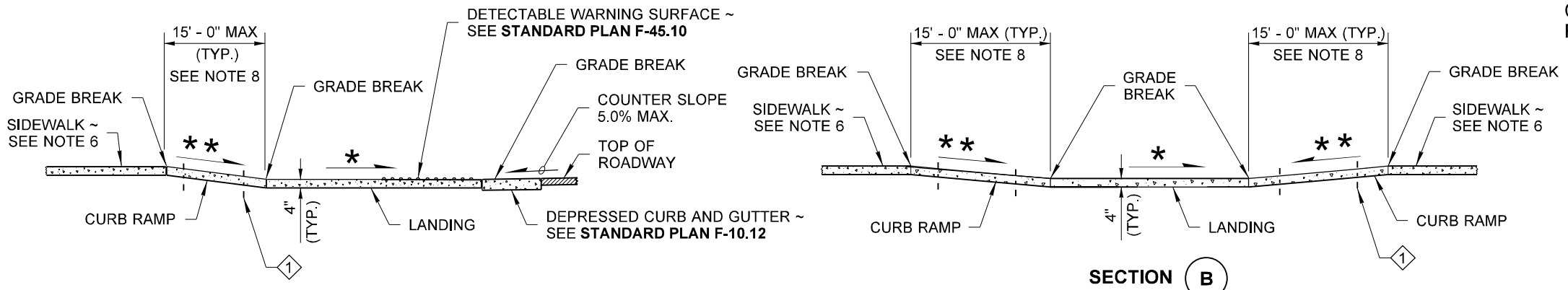
APPROVED FOR PUBLICATION
Carpenter, Jeff Carpenter, Jeff
 Jun 29 2016 2:28 PM
 STATE DESIGN ENGINEER
 Washington State Department of Transportation

DRAWN BY: FERN LIDDELL



**PLAN VIEW
TYPE SINGLE DIRECTION A**

**PLAN VIEW
TYPE SINGLE DIRECTION B**



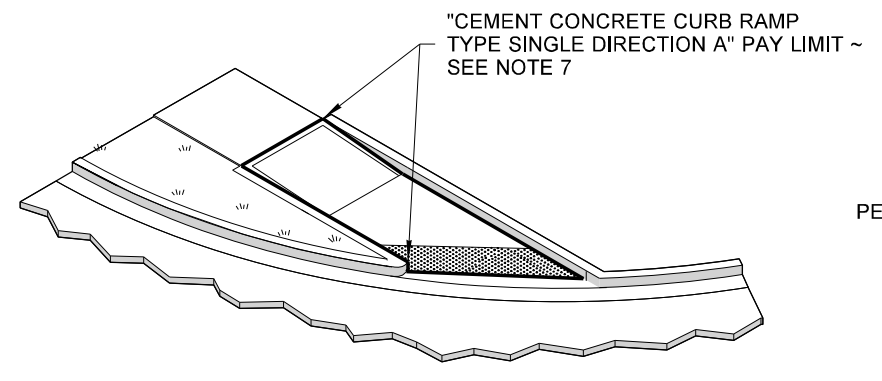
SECTION A

SECTION B

⚡ CONTRACTION JOINT (TYP.) ~ SEE STANDARD PLAN F-30.10 FOR CURB RAMP LENGTHS GREATER THAN 8' - 0" PROVIDE CONTRACTION JOINT EQUALLY SPACED 4' - 0" MIN. OC.

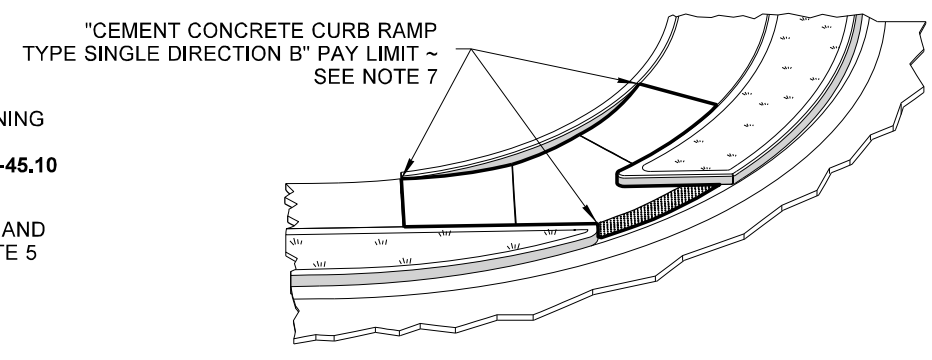
LEGEND

- SLOPE IN EITHER DIRECTION
- 1.5 OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX.)
- 7.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (8.3% MAX.) SEE NOTE 7



**ISOMETRIC VIEW
TYPE SINGLE DIRECTION A
PAY LIMIT**

DETAIL C



**ISOMETRIC VIEW
TYPE SINGLE DIRECTION B
PAY LIMIT**

NOTES

1. This plan is to be used where pedestrian crossing in one direction is not permitted.
2. At marked crosswalks, the connection between the Landing and the roadway must be contained within the width of the crosswalk markings.
3. Where "GRADE BREAK" is called out, the entire length of the grade break between the two adjacent surface planes shall be flush.
4. Do not place Gratings, Junction Boxes, Access Covers, or other appurtenances on any part of the Curb Ramp or Landing or in the Depressed Curb and Gutter where the Landing connects to the roadway.
5. See Contract Plans for the curb design specified. See **Standard Plan F-10.12** for Curb, Curb and Gutter, Depressed Curb, Gutter and Pedestrian Curb details.
6. See **Standard Plan F-30.10** for Cement Concrete Sidewalk Details. See Contract Plans for width and placement of sidewalk.
7. The Bid Item "Cement Concrete Curb Ramp Type ___" does not include the adjacent Curb, Curb and Gutter, Depressed Curb and Gutter, Pedestrian Curb, or Sidewalks.
8. The Curb Ramp length is not required to exceed 15 feet (unless shown otherwise in the Contract Plans). When applying the 15-foot max. length (measured from back of sidewalk) the running slope of the curb ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the sidewalk over a horizontal distance of 15 feet.
9. Curb Ramps and Landings shall receive a broom finish. See **Standard Specifications 8-14**.
10. Pedestrian Curb may be omitted if the ground surface at the back of the Curb Ramp and/or Landing will be at the same elevation as the Curb Ramp or Landing and there will not be material to retain.



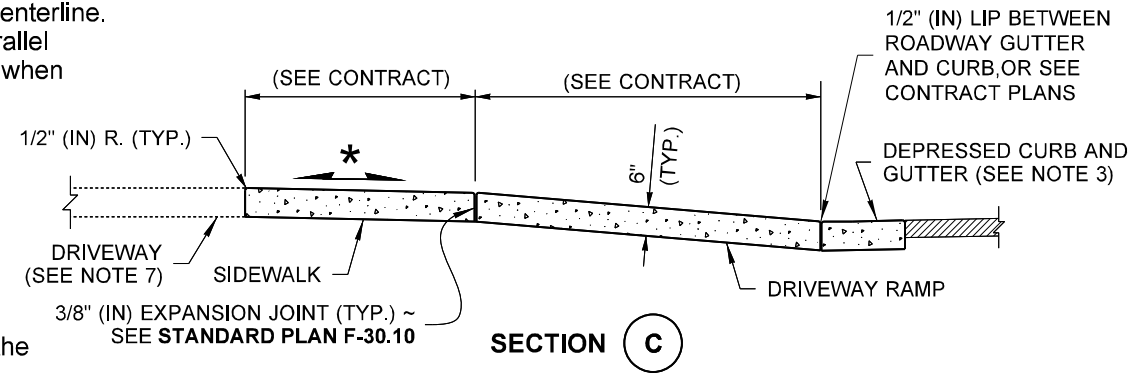
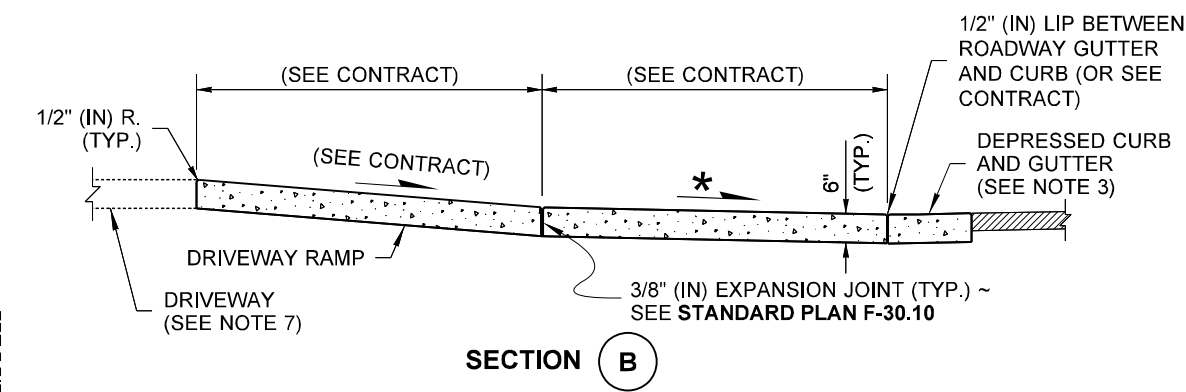
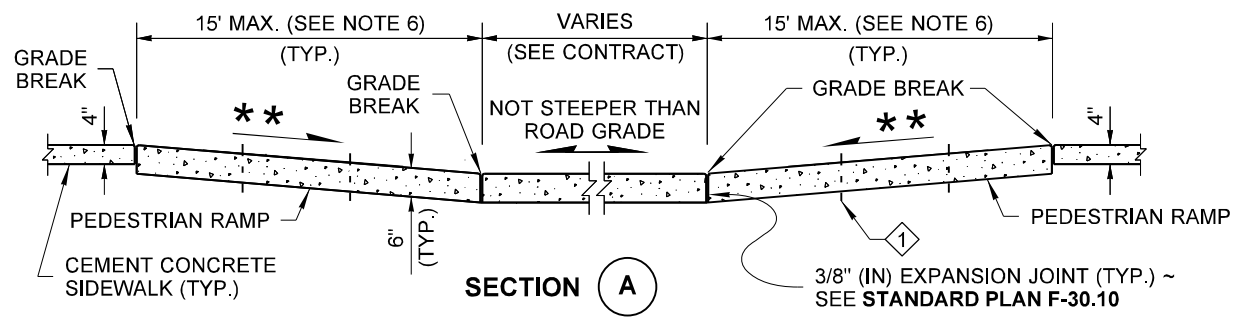
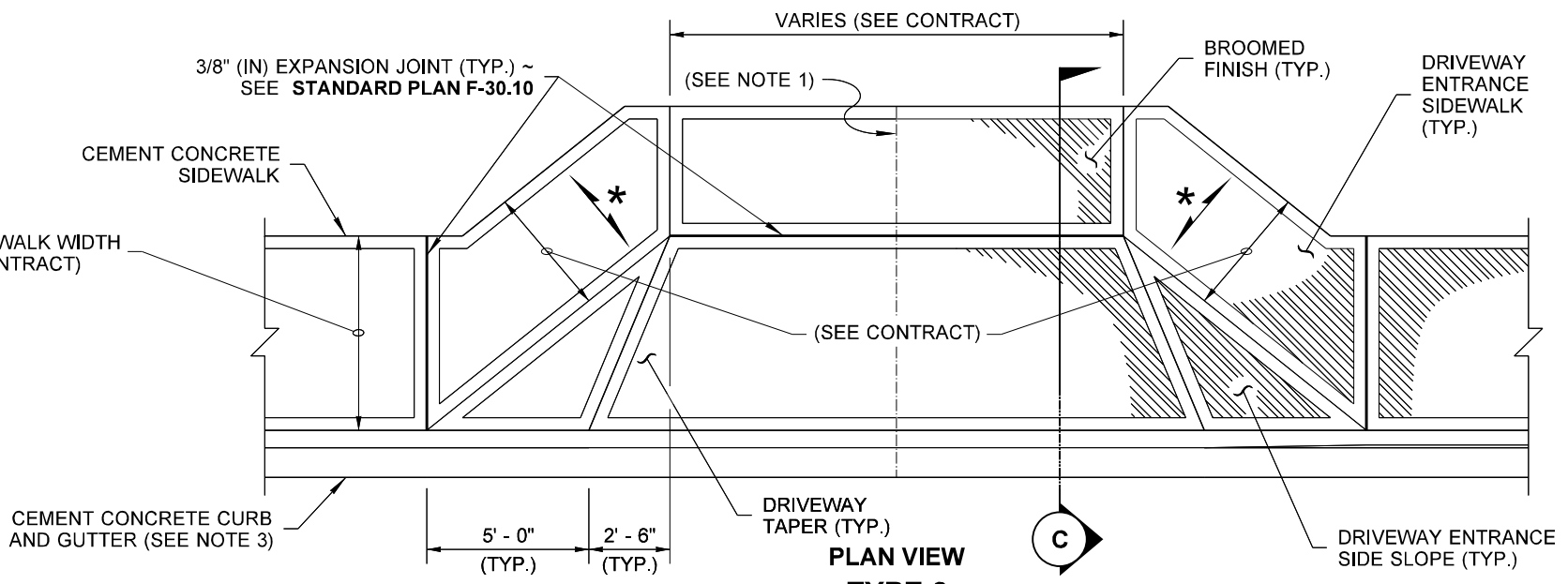
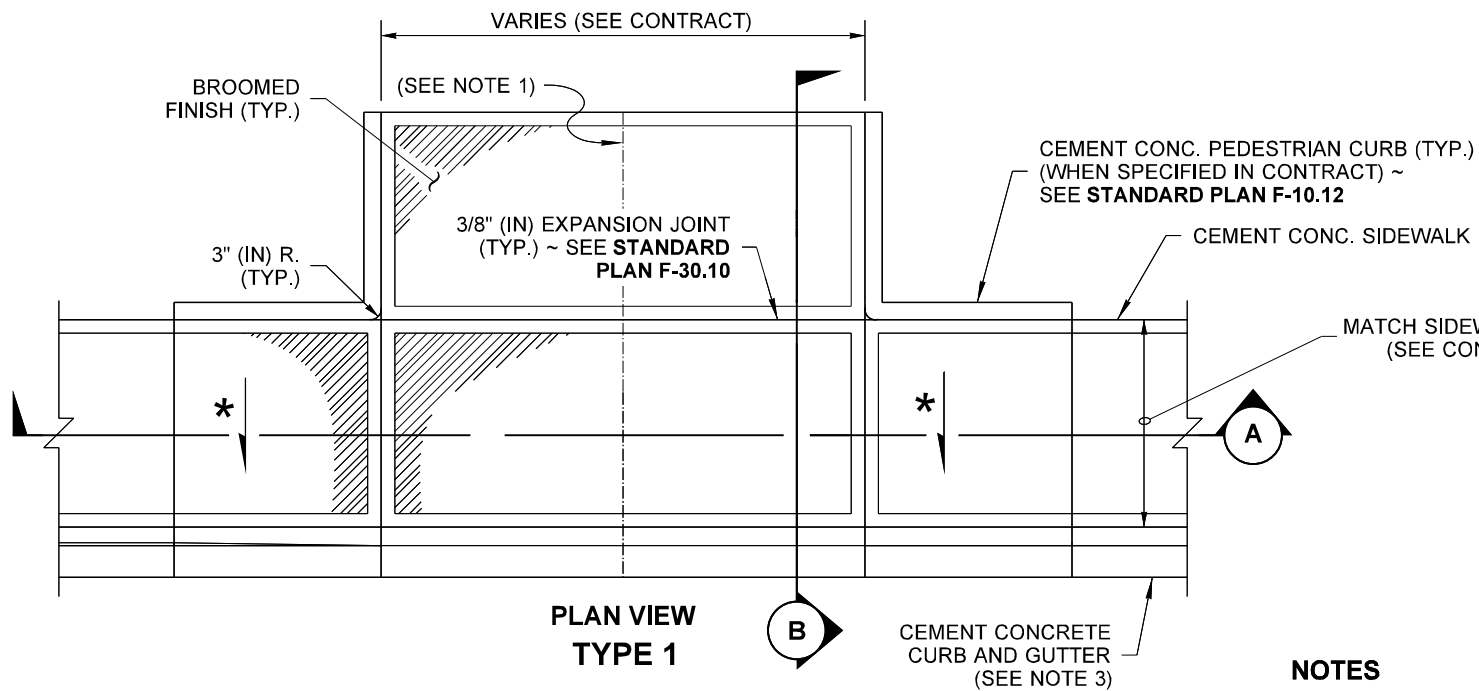
Zeller, Scott
Jun 24 2016 7:21 AM

**SINGLE DIRECTION
CURB RAMP
STANDARD PLAN F-40.16-03**

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

 Carpenter, Jeff
 Jun 29 2016 2:29 PM
 STATE DESIGN ENGINEER
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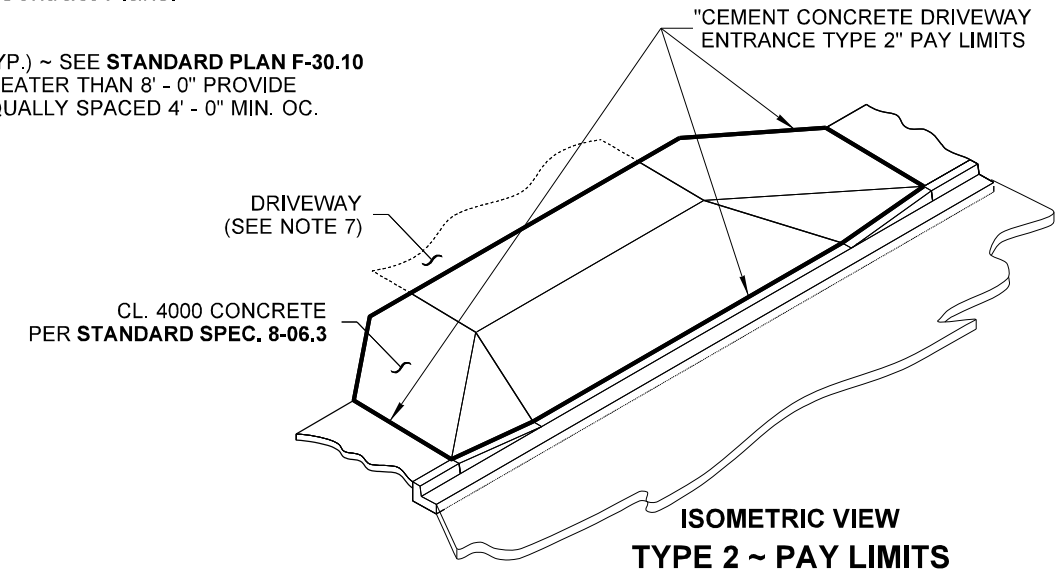
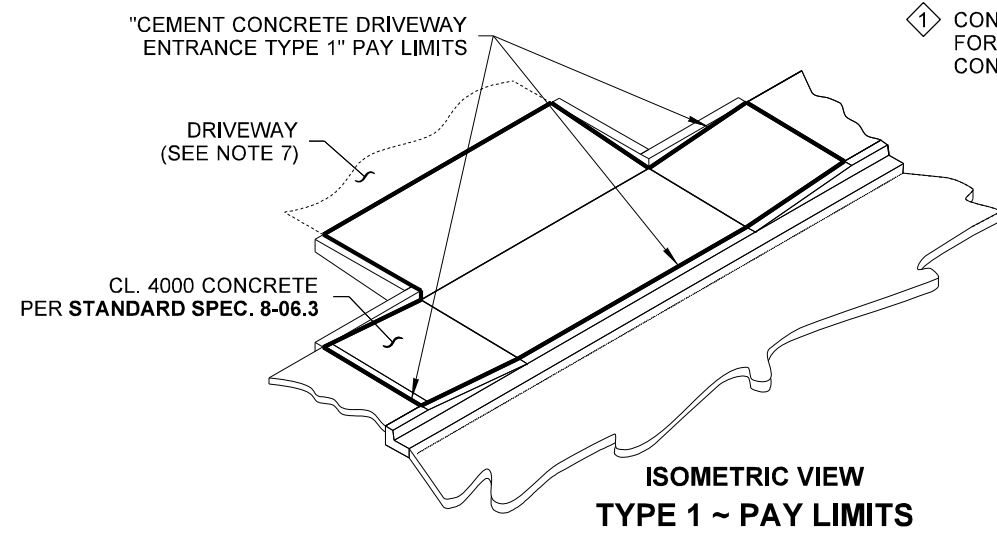
NOTES

1. When the driveway width exceeds 15' (ft), construct a full depth expansion joint with 3/8" (in) joint filler along the driveway centerline. See **Standard Plan F-30.10**. Construct expansion joints parallel with the centerline as required at 15' (ft) maximum spacing when driveway widths exceed 30' (ft).
2. See **Standard Plan F-30.10** for sidewalk details.
3. Curb and Gutter shown; see the Contract Plans for the curb design specified. See **Standard Plan F-10.12** for Curb Details.
4. Avoid placing drainage structures, junction boxes or other obstructions in front of driveway entrances.
5. Where "GRADE BREAK" is called out, the entire length of the line between the two adjacent surface planes shall be flush.
6. The Pedestrian Ramp length is not required to exceed 15 feet (unless otherwise shown in the Contract Plans). When applying the 15-foot max. length (measured from back of sidewalk) the running slope of the pedestrian ramp is allowed to exceed 8.3%. Use a single constant slope from bottom of ramp to top of ramp to match into the sidewalk over a horizontal distance of 15 feet.
7. Beyond limits shown. Pay item does not include driveway. See Contract Plans.

LEGEND

- SLOPE IN EITHER DIRECTION
- * 1.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (2% MAX.)
- ** 7.5% OR FLATTER RECOMMENDED FOR DESIGN/FORMWORK (8.3% MAX.) (SEE NOTE 6)

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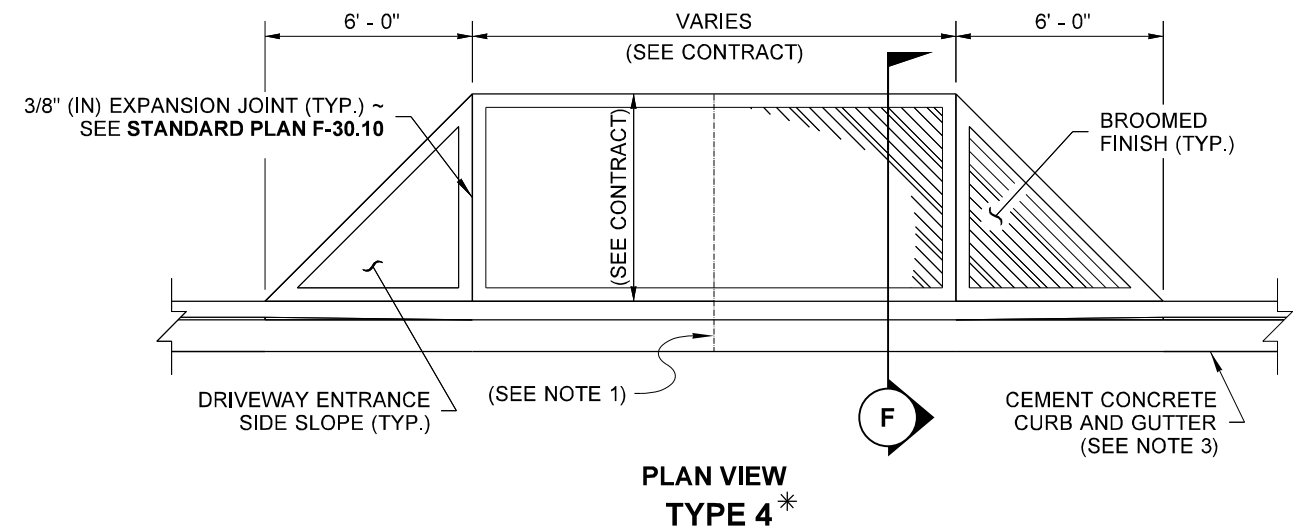
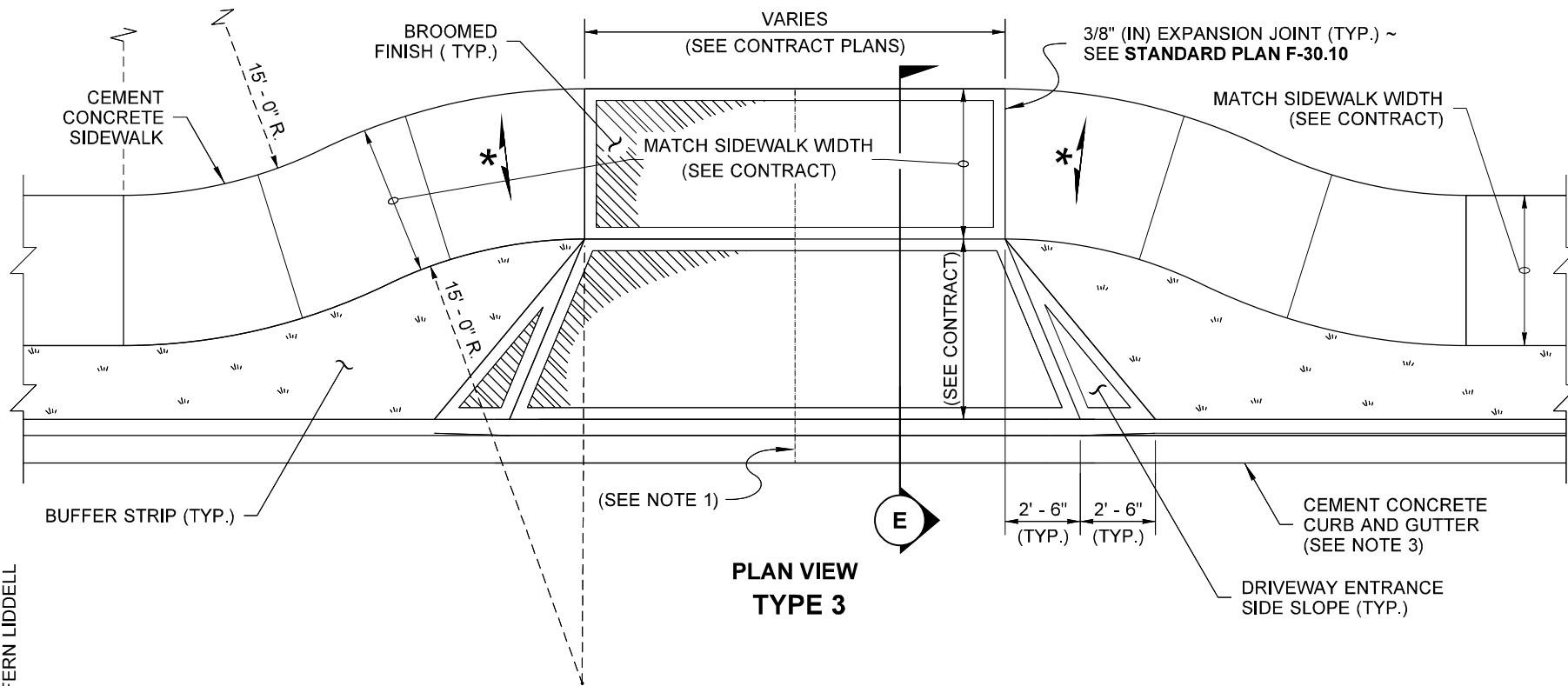


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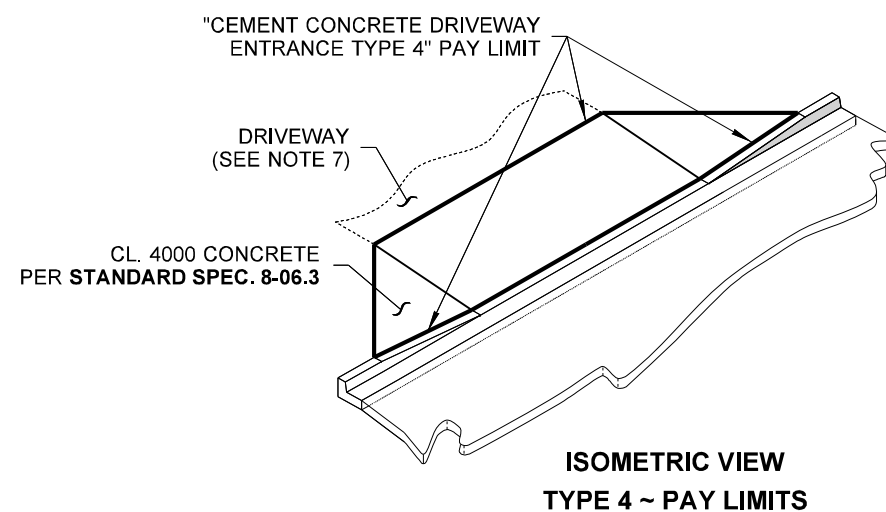
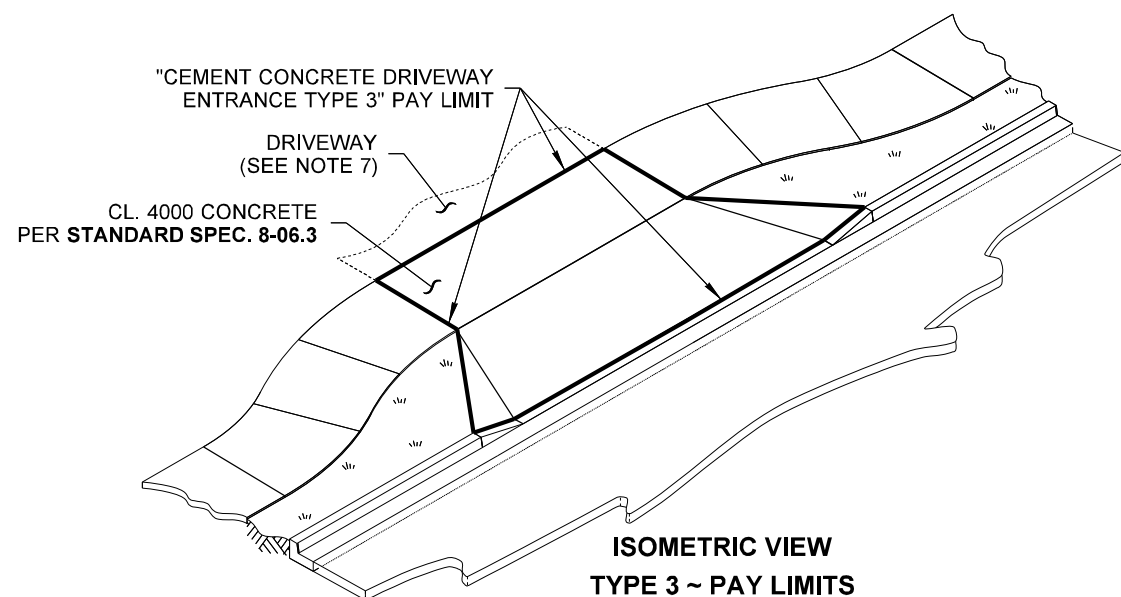
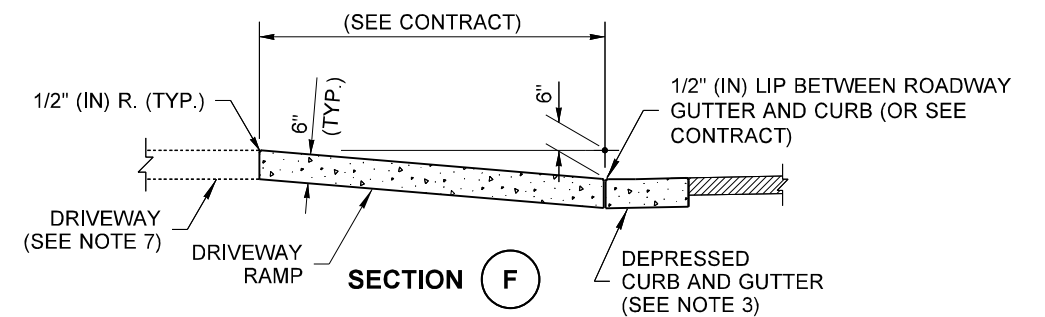
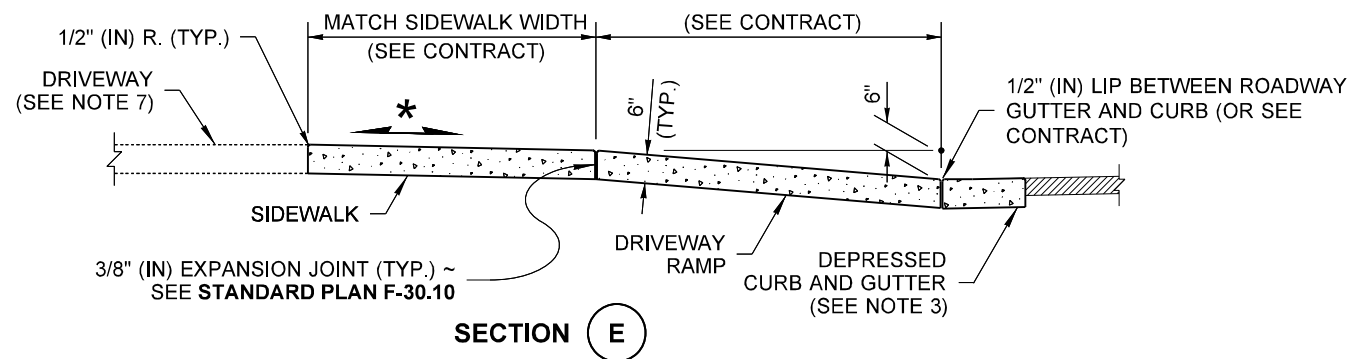
CEMENT CONCRETE DRIVEWAY ENTRANCE TYPES 1, 2, 3, & 4
STANDARD PLAN F-80.10-04
SHEET 1 OF 2 SHEETS

APPROVED FOR PUBLICATION
Carpenter, Jeff
 Carpenter, Jeff
 Jul 15 2016 2:27 PM
 STATE DESIGN ENGINEER
 Washington State Department of Transportation

DRAWN BY: FERN LIDDELL



* THIS ENTRANCE TYPE SHALL NOT BE USED ALONG A PEDESTRIAN ROUTE



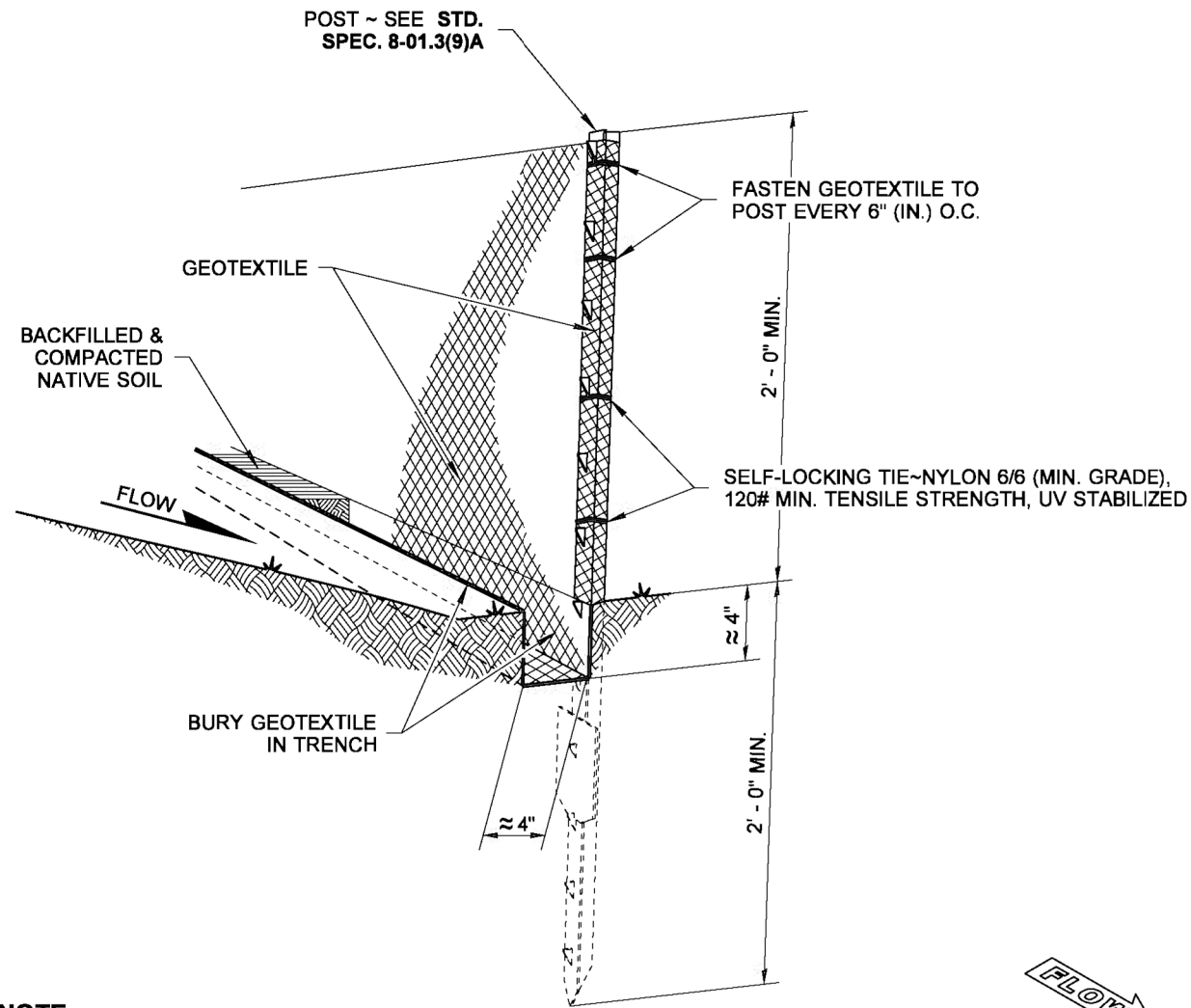
Zeller, Scott
Jul 18 2016 7:07 AM

CEMENT CONCRETE DRIVEWAY ENTRANCE TYPES 1, 2, 3, & 4
STANDARD PLAN F-80.10-04
 SHEET 2 OF 2 SHEETS

APPROVED FOR PUBLICATION
Carpenter, Jeff
 STATE DESIGN ENGINEER
 Washington State Department of Transportation

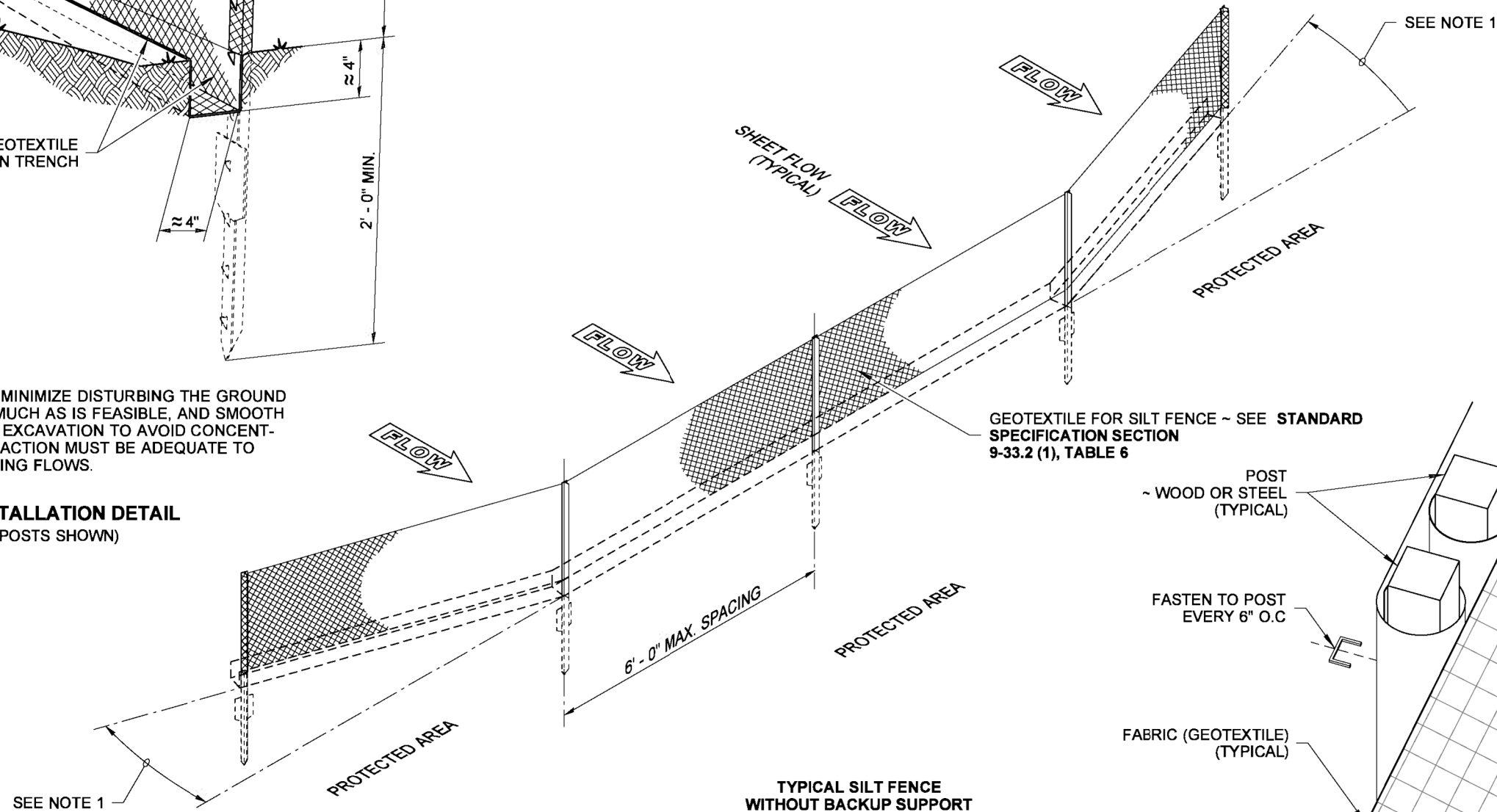
Carpenter, Jeff
 Jul 18 2016 12:22 PM

DRAWN BY: BILL BERENS

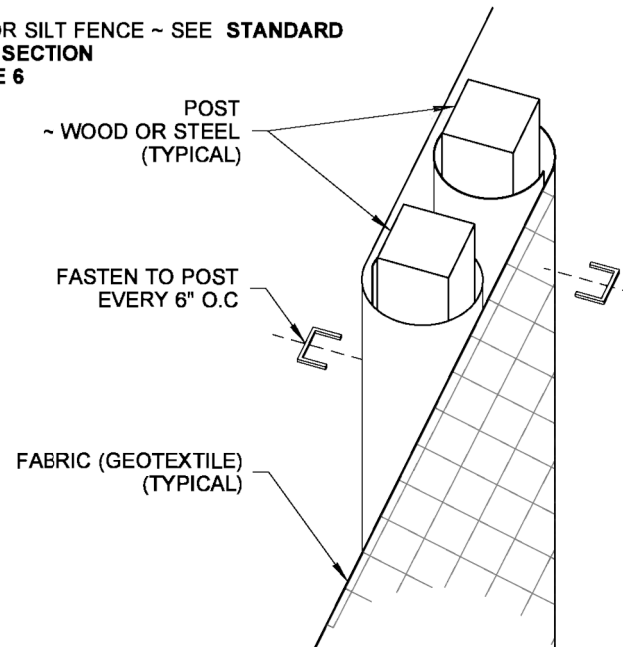


NOTE
 DURING EXCAVATION, MINIMIZE DISTURBING THE GROUND AROUND TRENCH AS MUCH AS IS FEASIBLE, AND SMOOTH SURFACE FOLLOWING EXCAVATION TO AVOID CONCENTRATING FLOWS. COMPACTION MUST BE ADEQUATE TO PREVENT UNDERCUTTING FLOWS.

TYPICAL INSTALLATION DETAIL
 (STEEL POSTS SHOWN)



TYPICAL SILT FENCE WITHOUT BACKUP SUPPORT ISOMETRIC
 (STEEL POSTS SHOWN)



SPLICED FENCE SECTIONS SHALL BE CLOSE ENOUGH TOGETHER TO PREVENT SILT LADEN WATER FROM ESCAPING THROUGH THE FENCE AT THE OVERLAP.

SPLICE DETAIL
 (WOOD POSTS SHOWN)

NOTES

1. Install the ends of the silt fence to point slightly upslope to prevent sediment from flowing around the ends of the fence.
2. Perform maintenance in accordance with **Standard Specifications 8-01.3(9)A and 8-01.3(15)**.
3. Splices shall never be placed in low spots or sump locations. If splices are located in low or sump areas, the fence may need to be reinstalled unless the Project Engineer approves the installation.
4. Install silt fencing parallel to mapped contour lines.



STATE OF WASHINGTON
 REGISTERED
 LANDSCAPE ARCHITECT

SANDRA L. SALISBURY
 CERTIFICATE NO. 000860

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

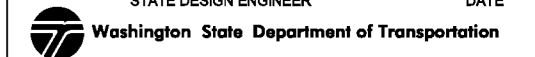
SILT FENCE

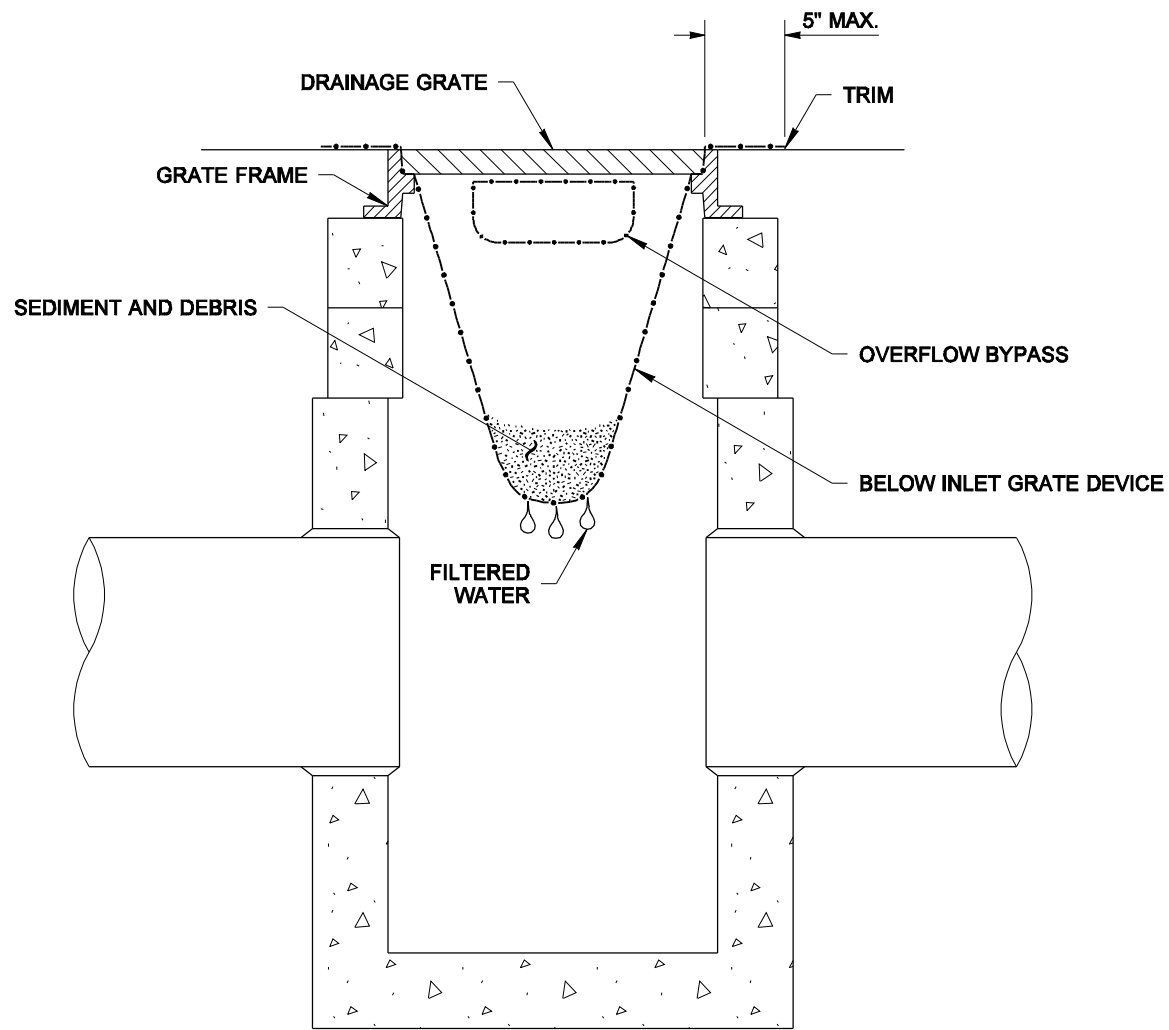
STANDARD PLAN I-30.15-02

SHEET 1 OF 1 SHEET

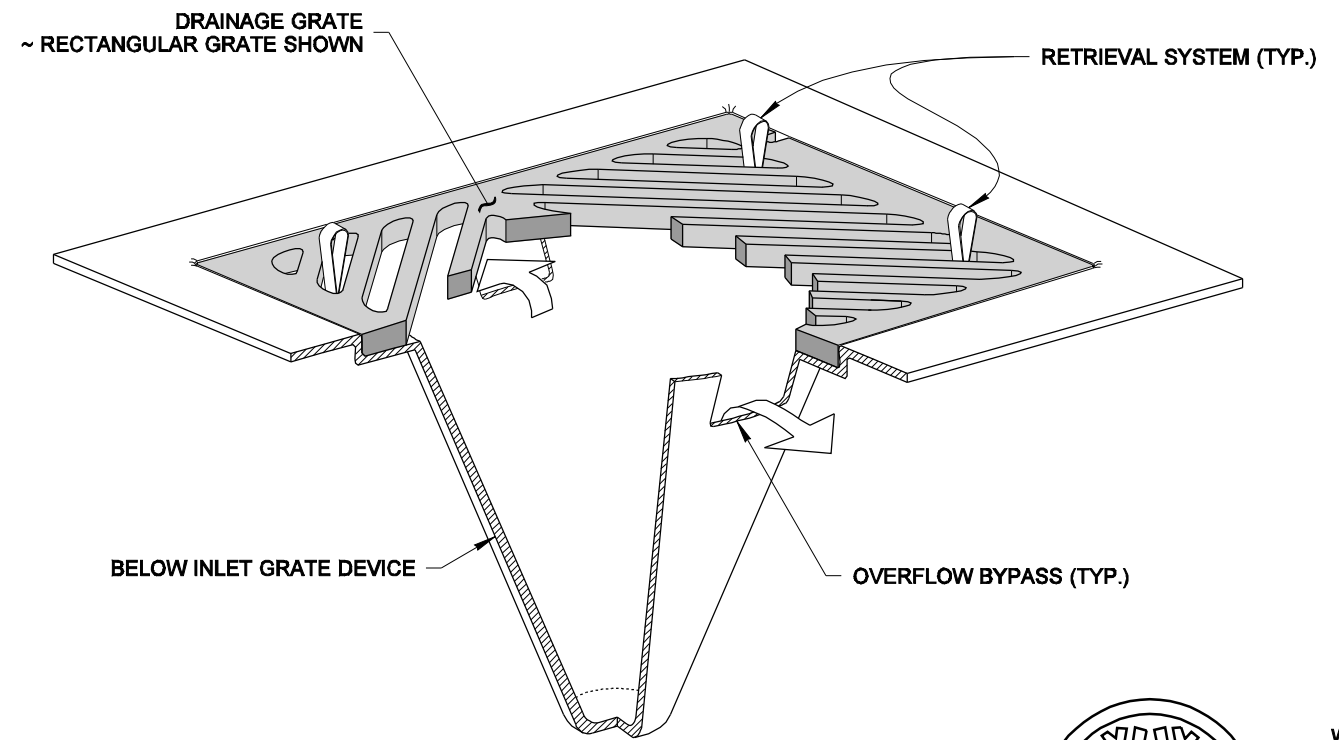
APPROVED FOR PUBLICATION

Pasco Bakotich III **3/22/13**
 STATE DESIGN ENGINEER DATE





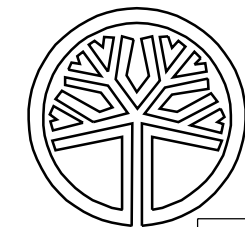
SECTION VIEW
NOT TO SCALE



ISOMETRIC VIEW

NOTES

1. Size the Below Inlet Grate Device (BIGD) for the storm water structure it will service.
2. The BIGD shall have a built-in high-flow relief system (overflow bypass).
3. The retrieval system must allow removal of the BIGD without spilling the collected material.
4. Perform maintenance in accordance with Standard Specification 8-01.3(15).



STATE OF WASHINGTON
REGISTERED
LANDSCAPE ARCHITECT

MARK W. MAURER
CERTIFICATE NO. 000598

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE ORIGINAL, SIGNED BY THE ENGINEER AND APPROVED FOR PUBLICATION, IS KEPT ON FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

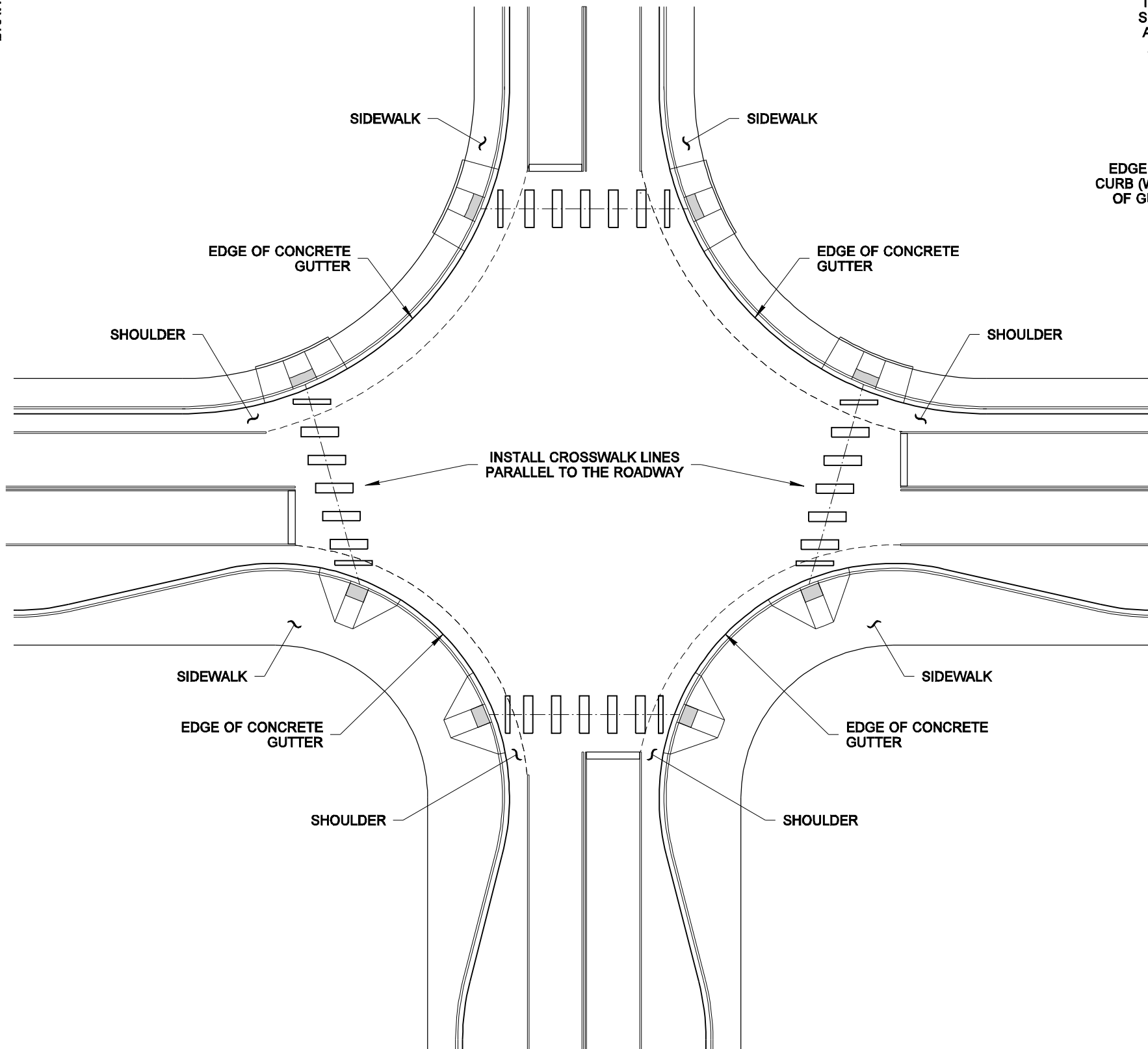
**STORM DRAIN
INLET PROTECTION
STANDARD PLAN I-40.20-00**

SHEET 1 OF 1 SHEET

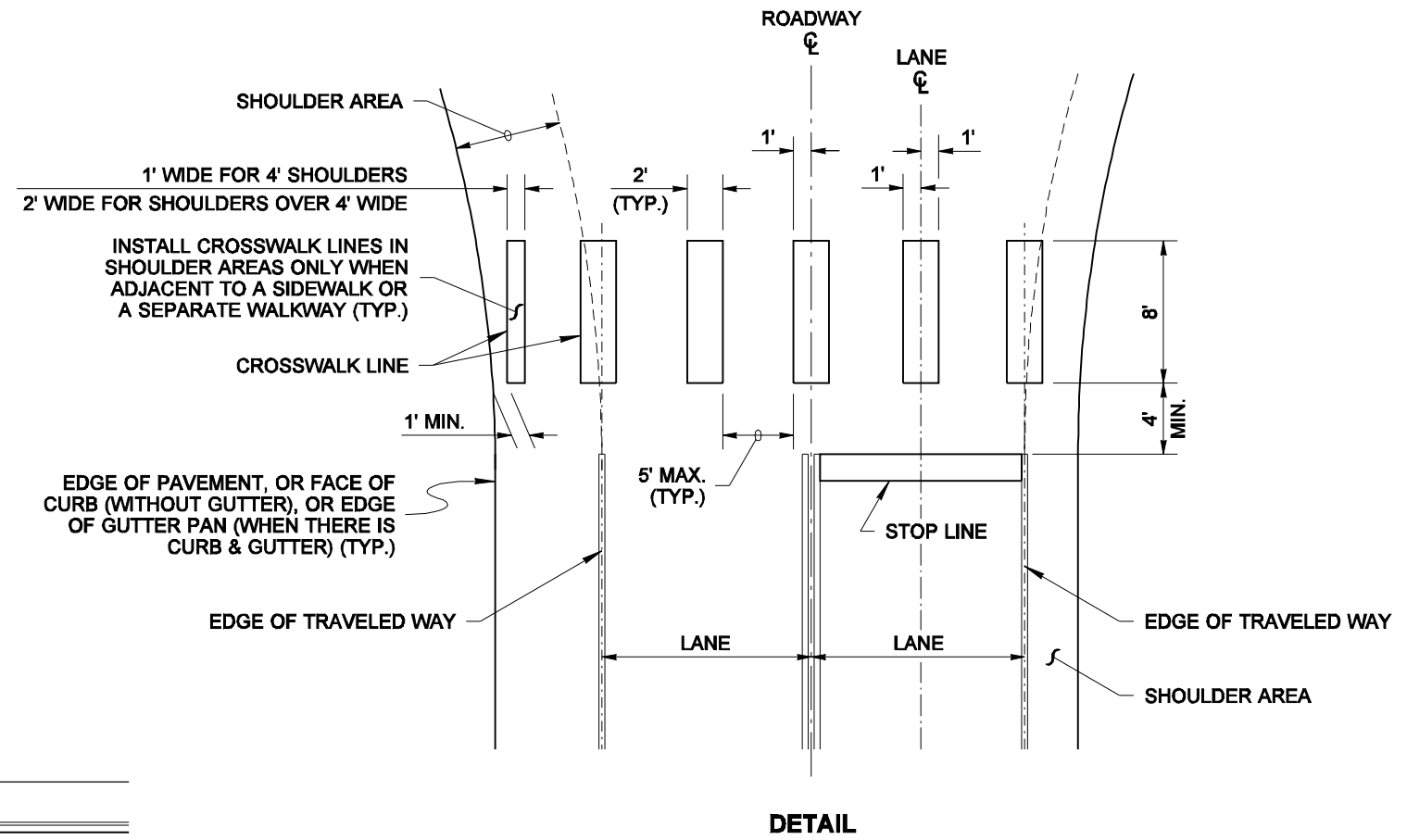
APPROVED FOR PUBLICATION

Pasco Bakotich III 09-20-07
STATE DESIGN ENGINEER DATE



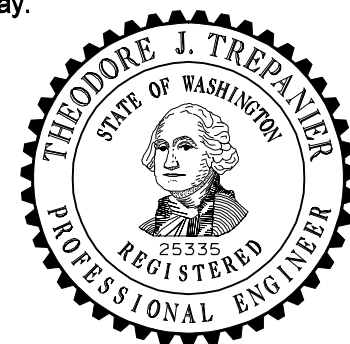


TYPICAL APPLICATIONS



NOTES

1. See the Contract Plans for locations of crosswalk centerlines.
2. To the maximum extent possible, curb ramp centerline should be perpendicular to the crosswalk centerline.
3. To the maximum extent possible, crosswalks should be perpendicular to the centerline of the traveled way.



EXPIRES AUGUST 9, 2007

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT UNTIL AN ELECTRONIC SIGNATURE IS APPLIED TO THE ORIGINAL. THE ORIGINAL MUST BE FILED AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

CROSSWALK LAYOUT

STANDARD PLAN M-15.10-01

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Ken L. Smith

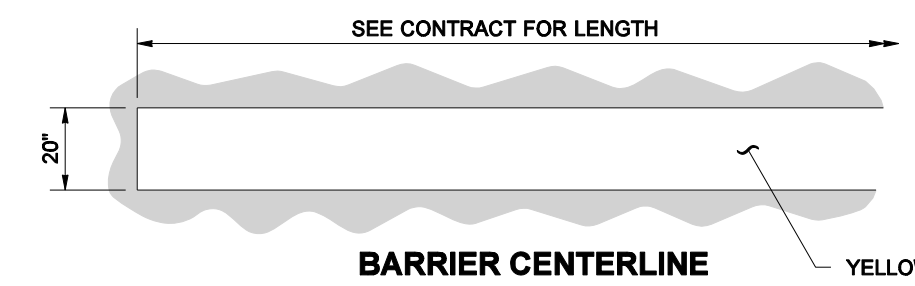
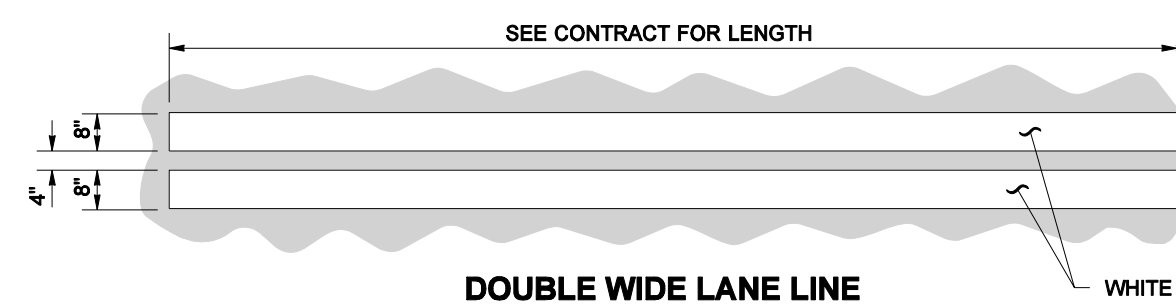
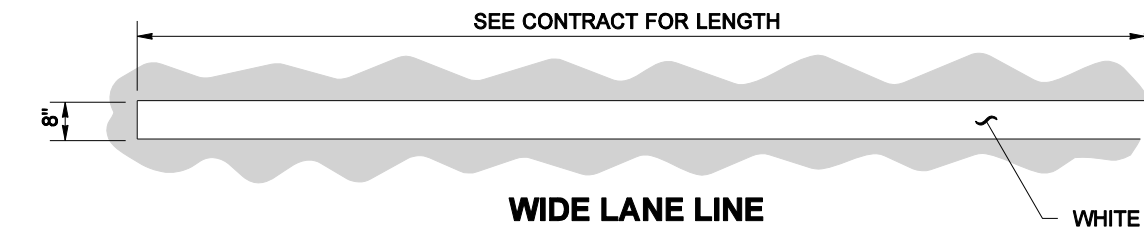
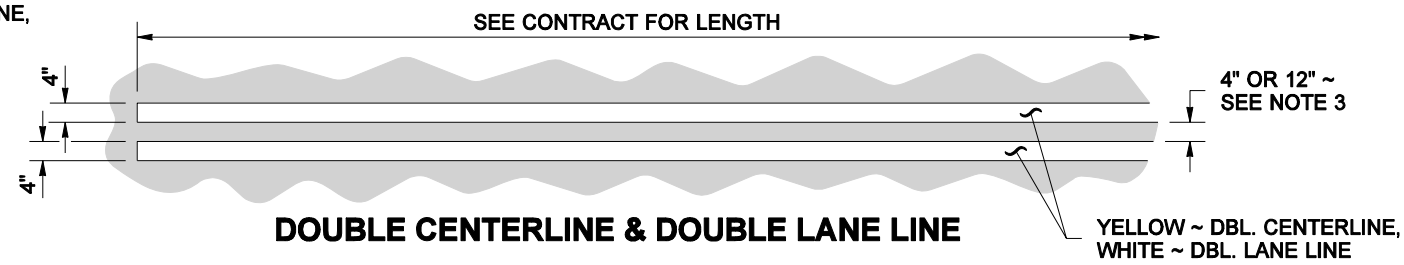
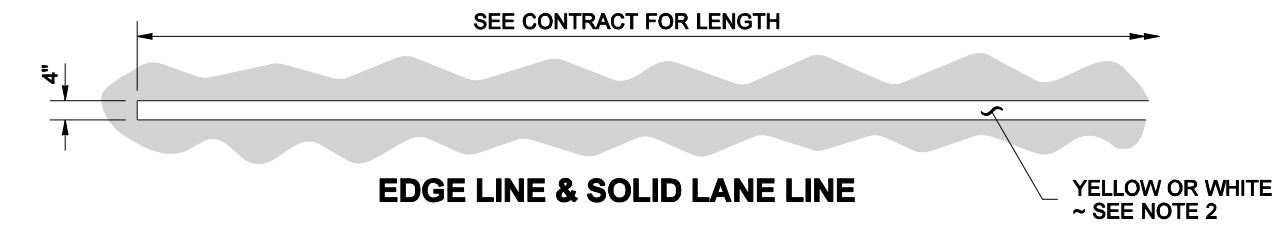
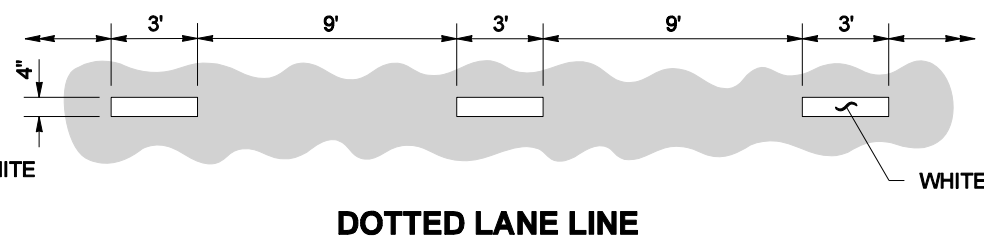
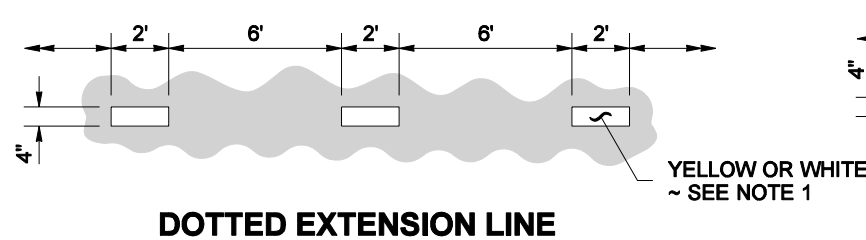
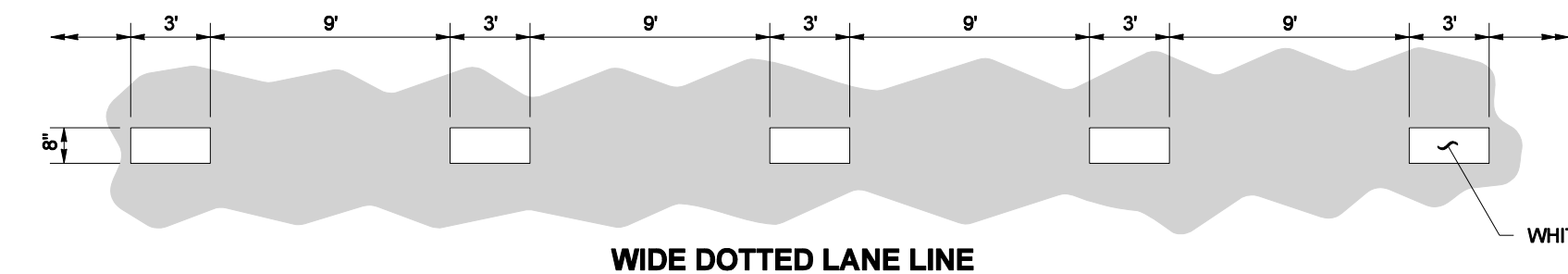
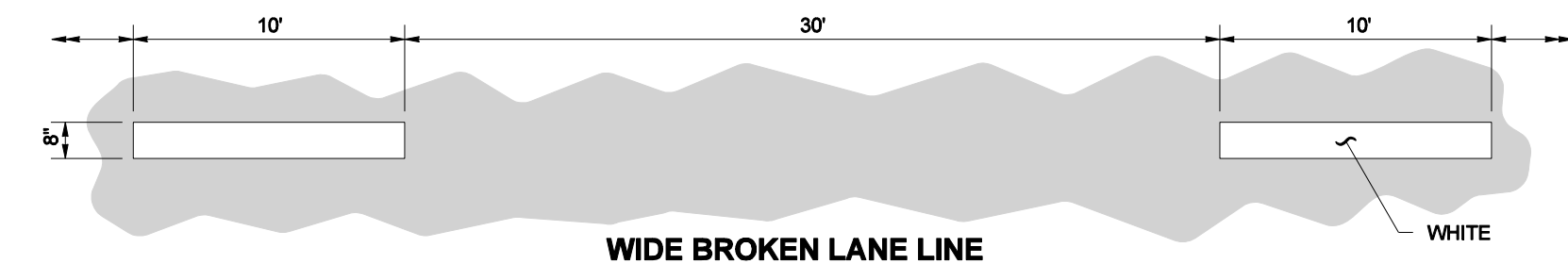
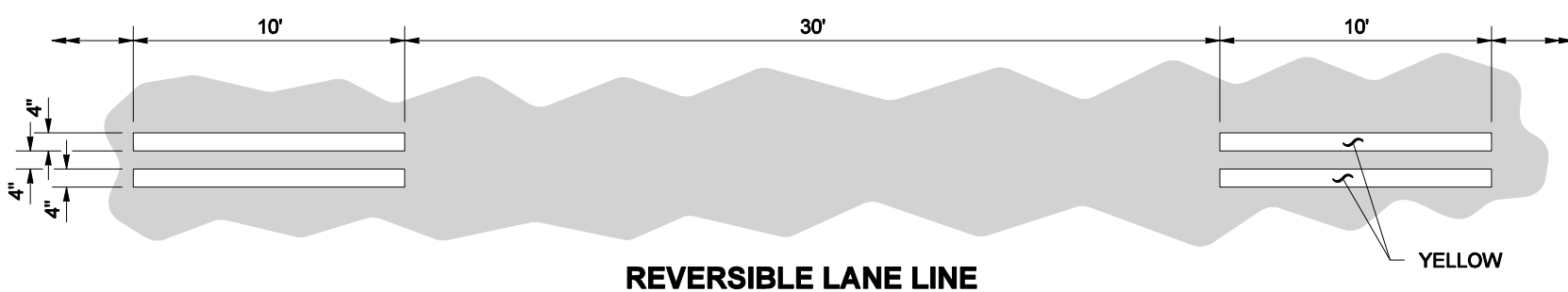
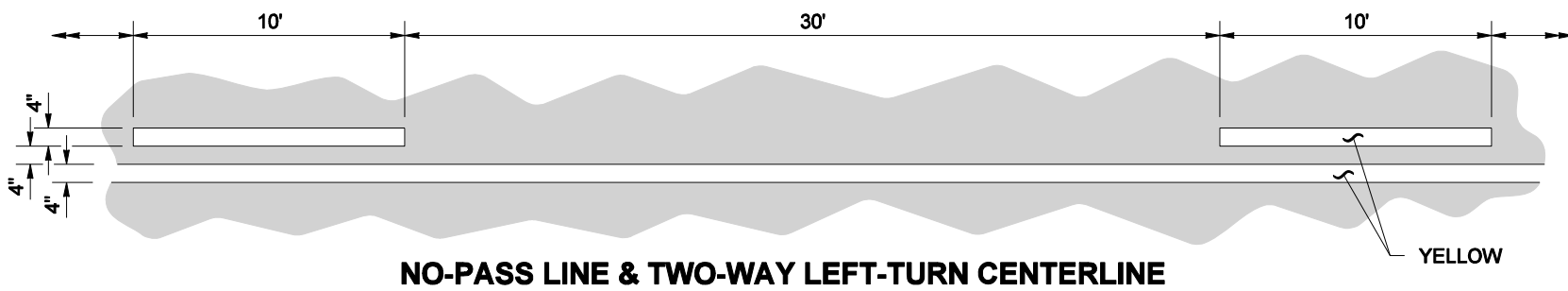
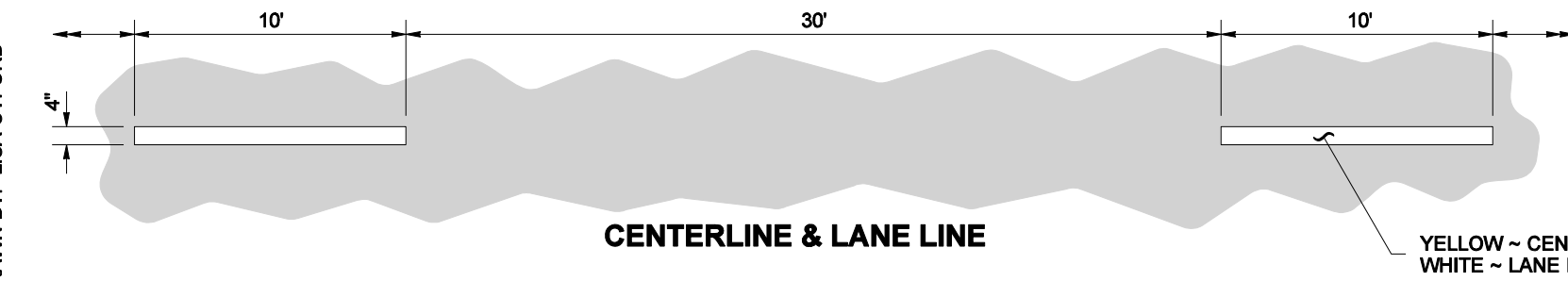
02-06-07

STATE DESIGN ENGINEER

DATE



Washington State Department of Transportation



NOTES

1. Dotted Extension Line shall be the same color as the line it is extending.
2. Edge Line shall be white on the right edge of traveled way, and yellow on the left edge of traveled way (on one-way roadways). Solid Lane Line shall be white.
3. The distance between the lines of the Double Centerline shall be 12" everywhere, except 4" for left-turn channelization and narrow roadways with lane widths of 10 feet or less. Local Agencies (on non-state routes) may specify a 4" distance for all locations. The distance between the lines of the Double Lane Line shall be 4".



NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT AND IS SUBJECT TO THE CONTRACT. SEE CONTRACT FOR THE ENGINEERING PROJECT'S ORIGINATING AGENCY'S FILE AT THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION. A COPY MAY BE OBTAINED UPON REQUEST.

LONGITUDINAL MARKING PATTERNS

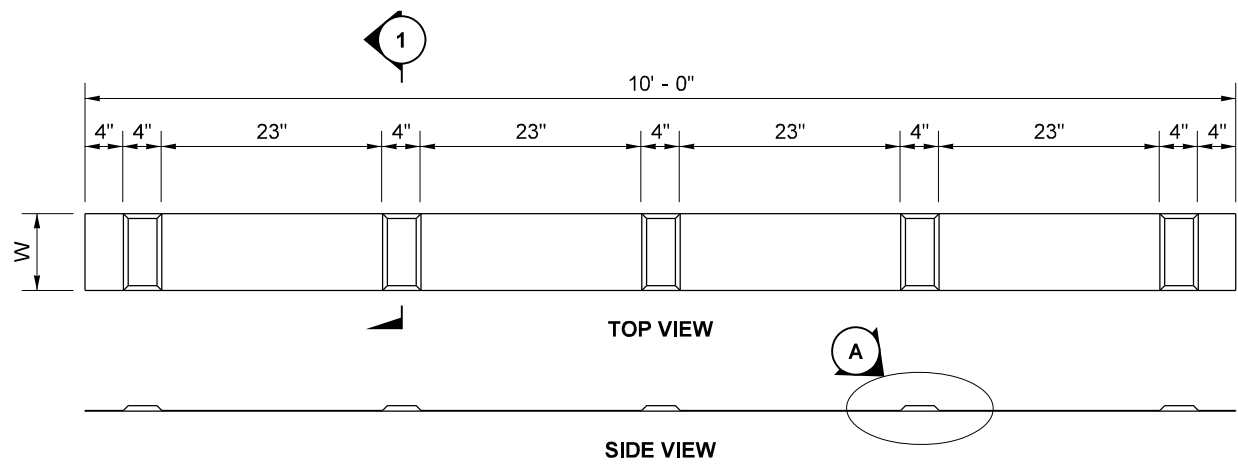
STANDARD PLAN M-20.10-02

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Pasco Bakotich III 06-03-11
STATE DESIGN ENGINEER DATE

Washington State Department of Transportation

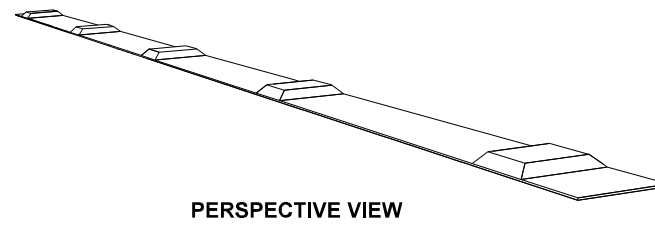


PROFILED PLASTIC
(BROKEN LINE)

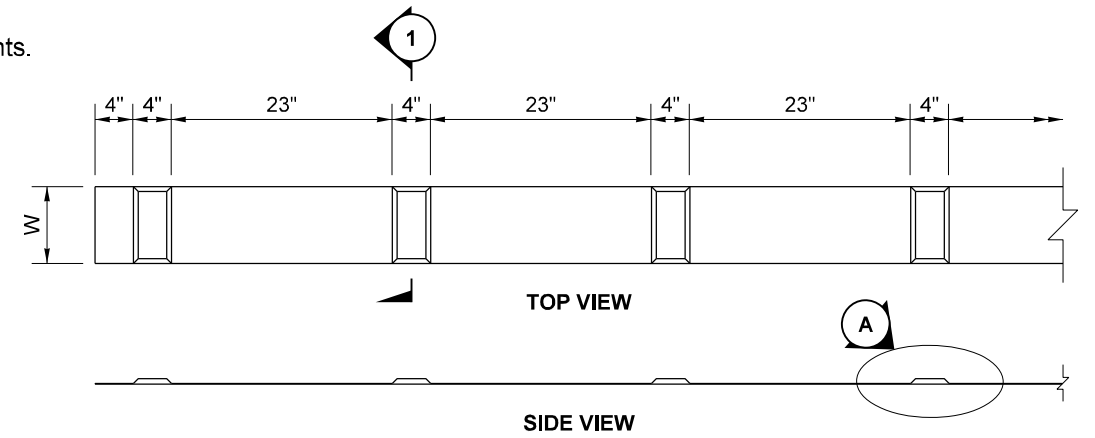
FOR: CENTERLINE & LANE LINE ~ W = 4"
NO-PASS LINE & TWO-WAY LEFT-TURN CENTERLINE ~ W = 4"
REVERSIBLE LANE LINE ~ W = 4"
WIDE BROKEN LANE LINE ~ W = 8"

GENERAL NOTE

See Standard Plan M-20.10 for pattern and color requirements.

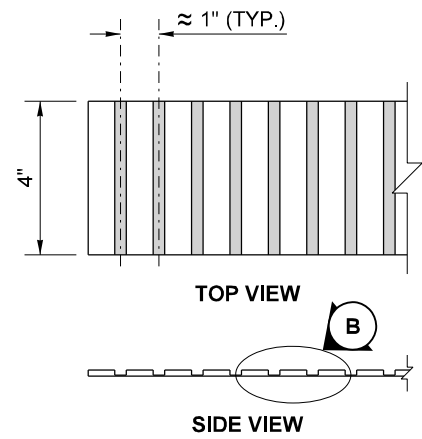


PERSPECTIVE VIEW



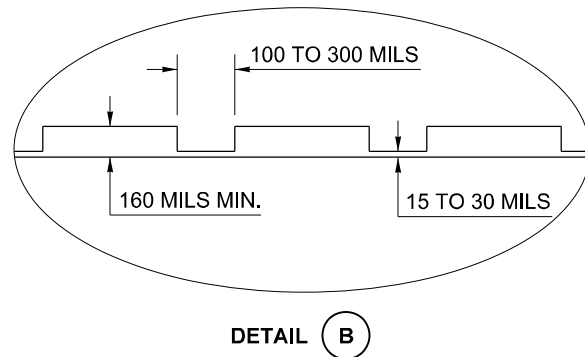
PROFILED PLASTIC
(SOLID LINE)

FOR: NO-PASS LINE ~ W = 4"
TWO-WAY LEFT-TURN CENTERLINE ~ W = 4"
DOUBLE CENTERLINE & DOUBLE LANE LINE ~ W = 4"
EDGE LINE & SOLID LANE LINE ~ W = 4"
WIDE LANE LINE & WIDE LINE ~ W = 8"
DOUBLE WIDE LANE LINE ~ W = 8"
BARRIER CENTERLINE ~ W = 20"

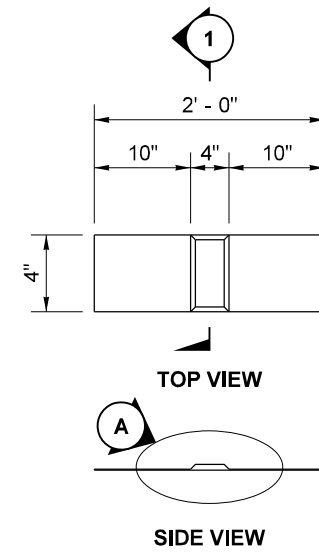


EMBOSSSED PLASTIC
(SOLID OR BROKEN LINE)

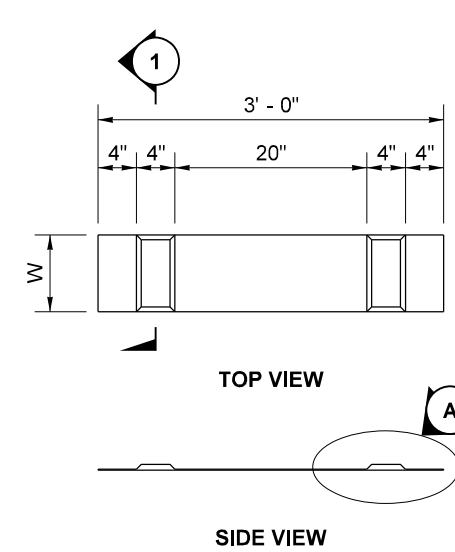
FOR: CENTERLINE & LANE LINE
NO-PASS LINE & TWO-WAY LEFT-TURN CENTERLINE
REVERSIBLE LANE LINE
DOUBLE CENTERLINE & DOUBLE LANE LINE
EDGE LINE & SOLID LANE LINE



DETAIL B

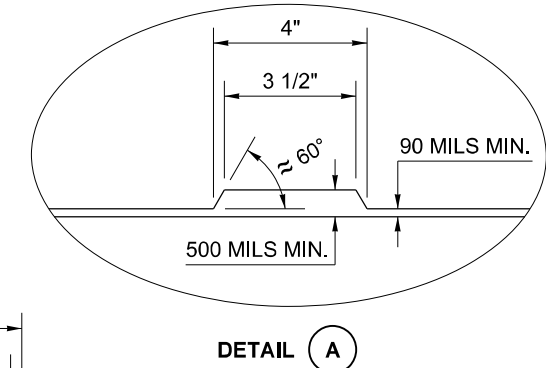


DOTTED EXTENSION LINE

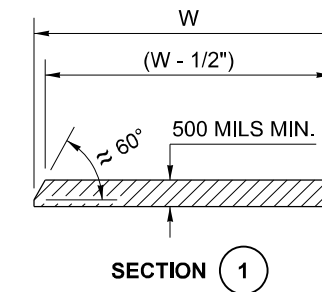


DOTTED LANE LINE ~ W = 4"
WIDE DOTTED LANE LINE ~ W = 8"

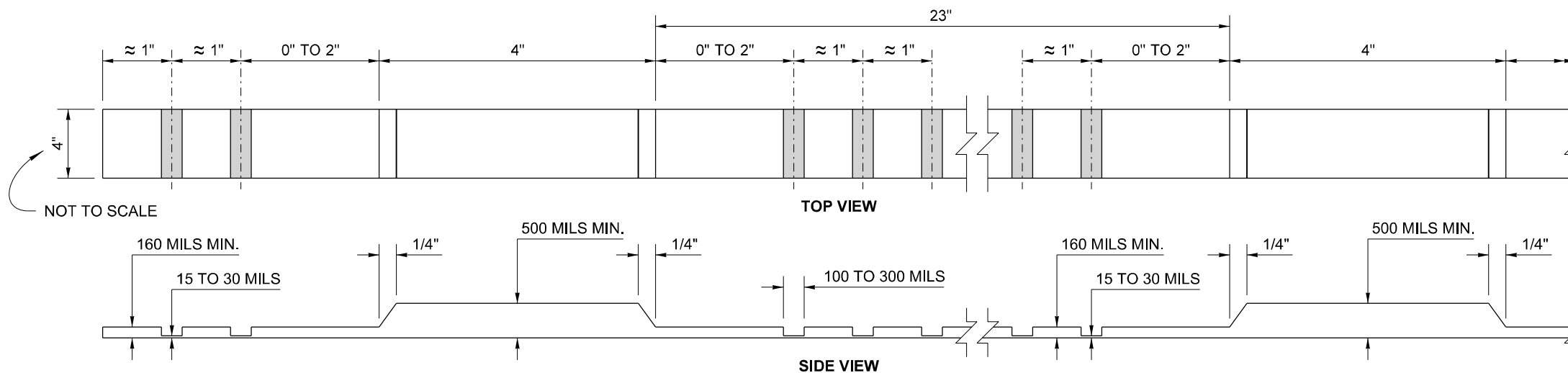
PROFILED PLASTIC
(BROKEN LINE)



DETAIL A



SECTION 1



PROFILED EMBOSSSED PLASTIC
(SOLID OR BROKEN LINE)

FOR: CENTERLINE & LANE LINE
NO-PASS LINE
TWO-WAY LEFT-TURN CENTERLINE
REVERSIBLE LANE LINE
DOUBLE CENTERLINE & DOUBLE LANE LINE
EDGE LINE & SOLID LANE LINE



Walsh, Brian
Apr 16 2015 2:27 PM

PROFILED AND EMBOSSSED PLASTIC LINES

STANDARD PLAN M-20.20-02

SHEET 1 OF 1 SHEET

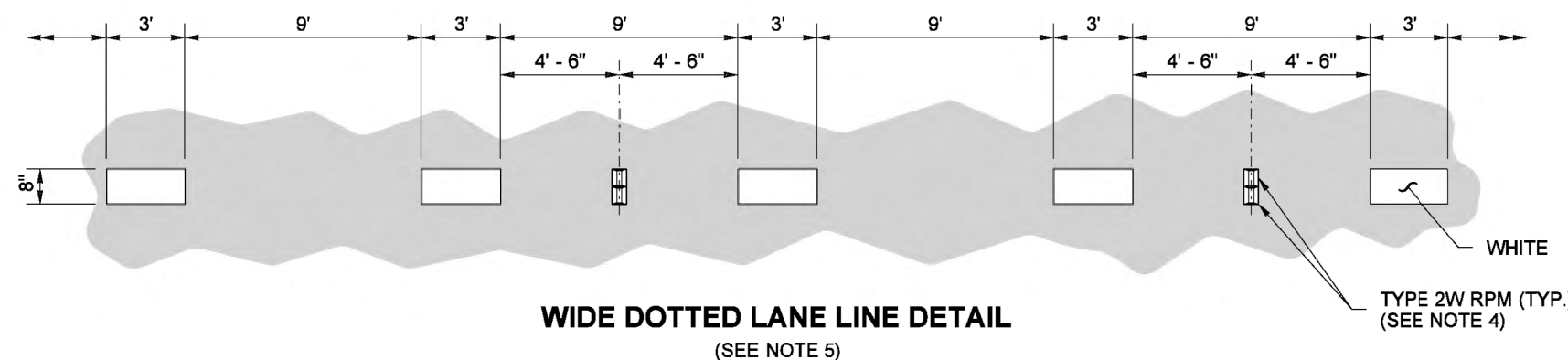
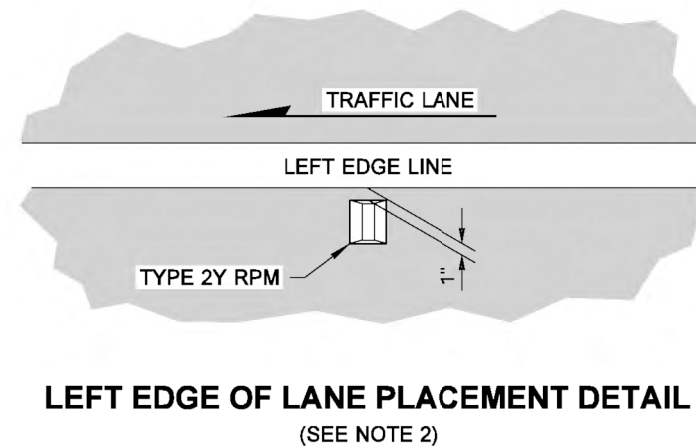
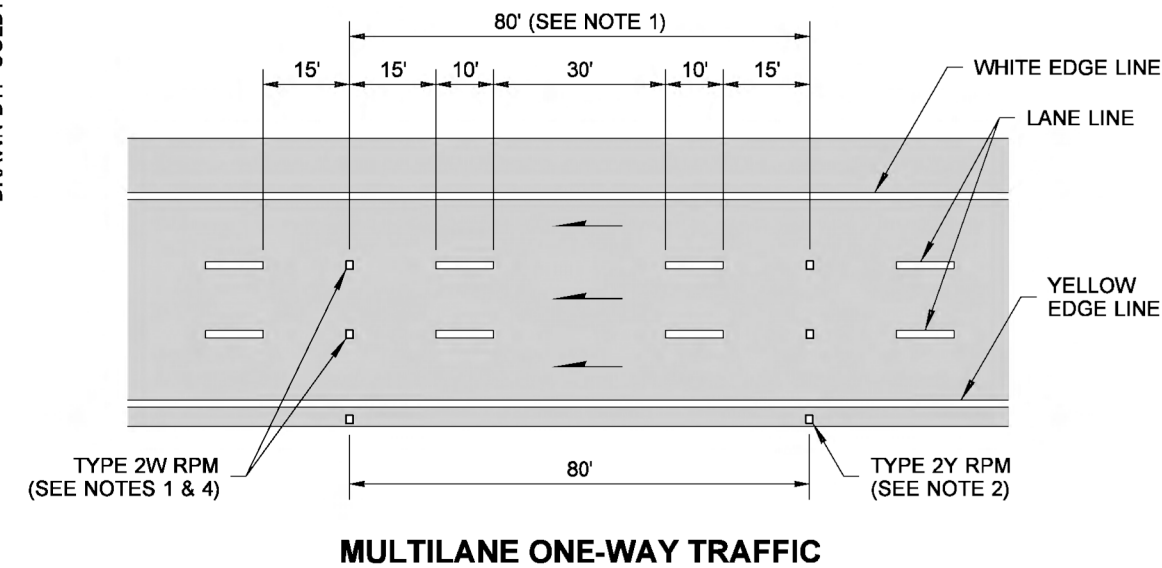
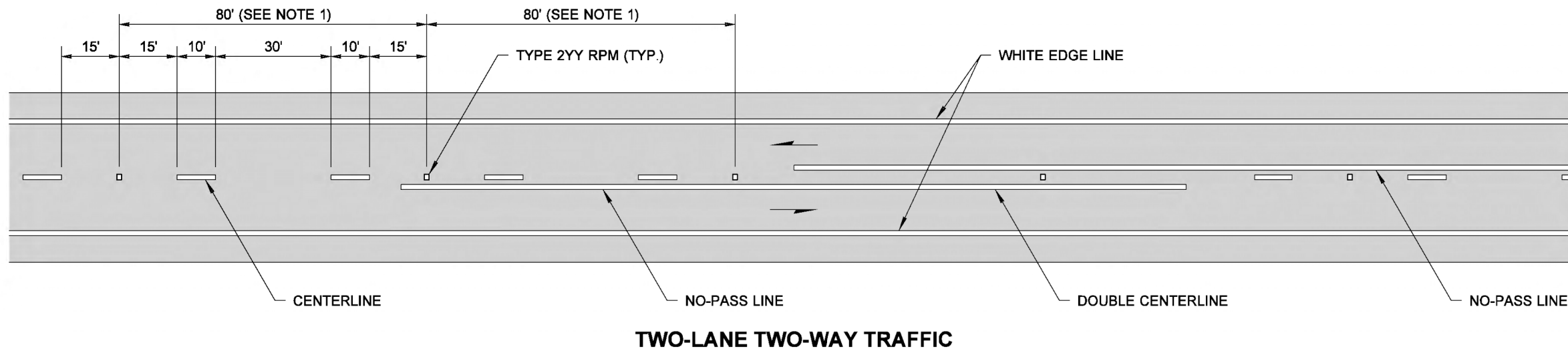
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Apr 20 2015 10:07 AM

STATE DESIGN ENGINEER

Washington State Department of Transportation

DRAWN BY: COLBY FLETCHER



NOTES

1. Raised Pavement Markers Types 2YY and 2W shall be spaced at 80' (ft) intervals on tangents and on horizontal curves with a radius of 1500' (ft) or more, and at 40' (ft) intervals on horizontal curves having radii of less than 1500' (ft). Center the RPMs in the gaps between the pavement marking lines.
2. Type 2Y RPMs, when specified, shall be placed outside the left Edge Line at 80' (ft) intervals. See "LEFT EDGE OF LANE PLACEMENT DETAIL."
3. Recessed pavement markers, when specified, shall be installed at the locations shown for Type 2W RPMs on multilane one-way roadways, and Type 2YY RPMs on two-lane two-way roadways.
4. The Type 2W RPMs placed on multilane one-way roadways and all RPMs set in recesses shall have an abrasion-resistant coating.
5. Do not recess side-to-side RPMs on Wide Dotted Lane Lines.

TYPE 2 RPM RAISED FACE COLORS	
TYPE 2YY	YELLOW AND YELLOW
TYPE 2W	WHITE ~ ONE SIDE ONLY
TYPE 2Y	YELLOW ~ ONE SIDE ONLY

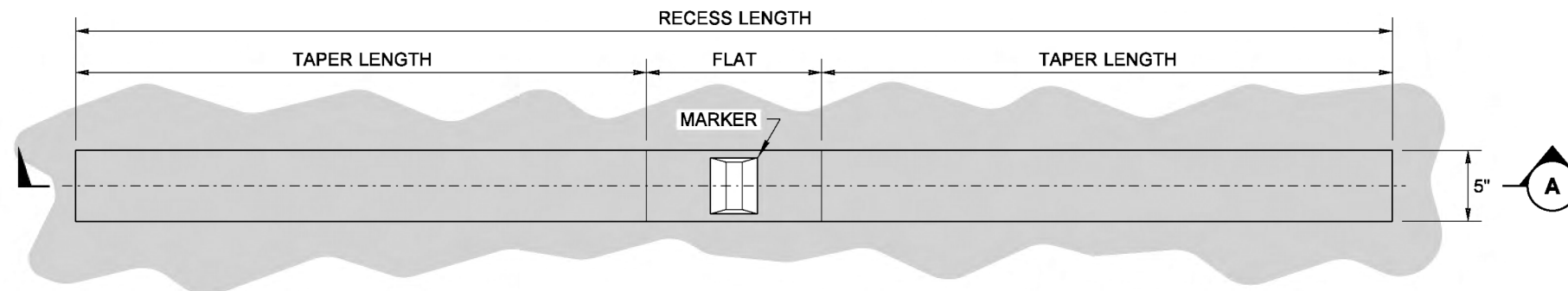


Walsh, Brian
Feb 29 2016 10:18 AM
**LONGITUDINAL MARKING
SUPPLEMENT WITH RAISED
PAVEMENT MARKERS
STANDARD PLAN M-20.30-04**

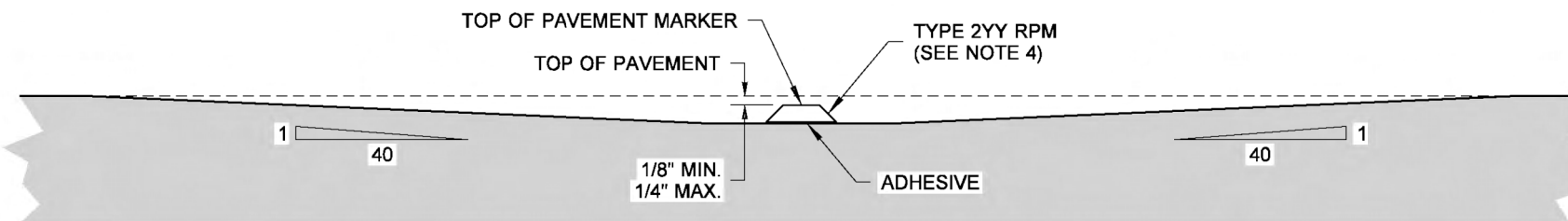
SHEET 1 OF 2 SHEETS

APPROVED FOR PUBLICATION
Carpenter, Jeff
Feb 29 2016 12:39 PM
STATE DESIGN ENGINEER
Washington State Department of Transportation

DRAWN BY: COLBY FLETCHER



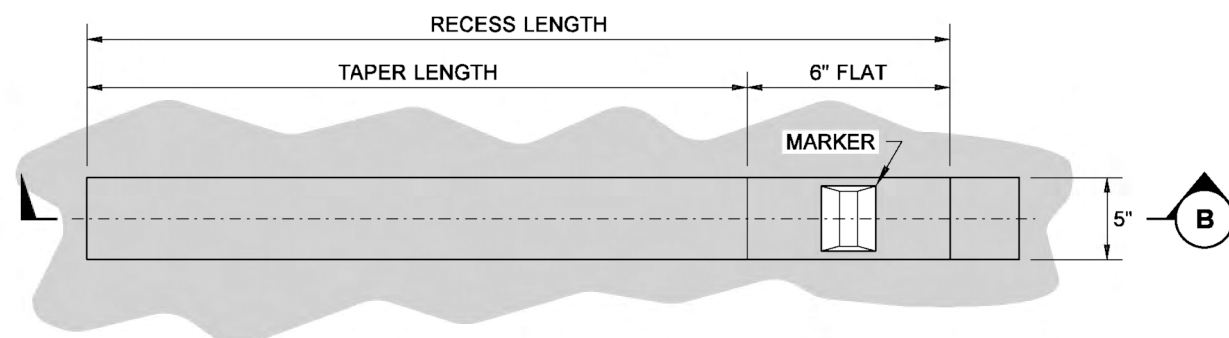
PLAN VIEW



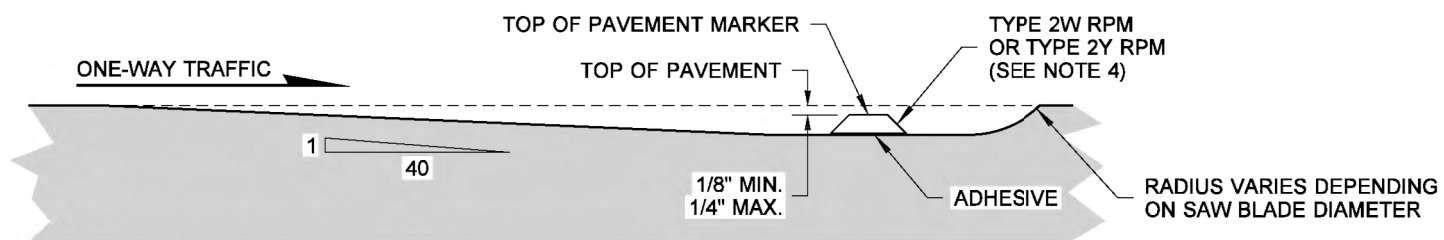
SECTION A

TWO-WAY ROADWAY RECESSED PAVEMENT MARKER DETAILS

FOR USE WHERE SPECIFIED IN CONTRACT



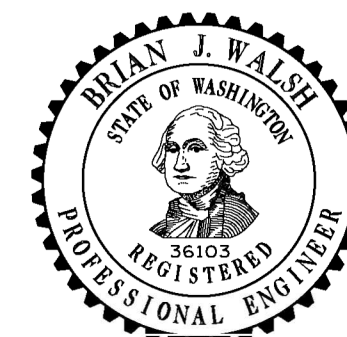
PLAN VIEW



SECTION B

ONE-WAY ROADWAY RECESSED PAVEMENT MARKER DETAILS

FOR USE WHERE SPECIFIED IN CONTRACT



Walsh, Brian Feb 29 2016 10:20 AM
**LONGITUDINAL MARKING
 SUPPLEMENT WITH RAISED
 PAVEMENT MARKERS
 STANDARD PLAN M-20.30-04**

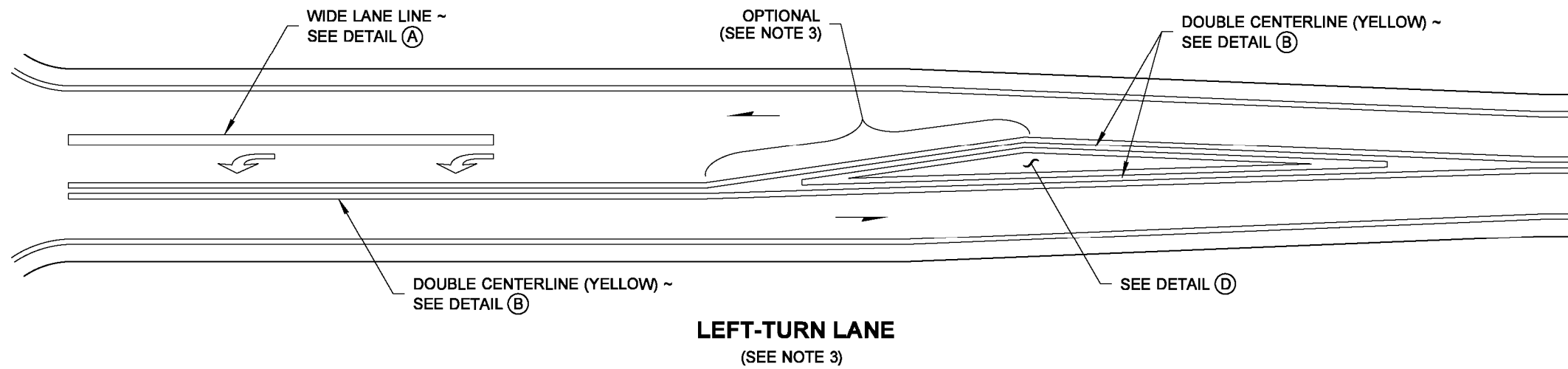
SHEET 2 OF 2 SHEETS

APPROVED FOR PUBLICATION

Carpenter, Jeff Carpenter, Jeff
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 STATE DESIGN ENGINEER



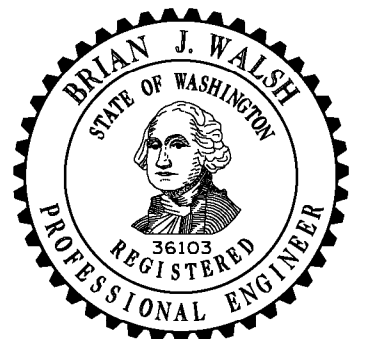
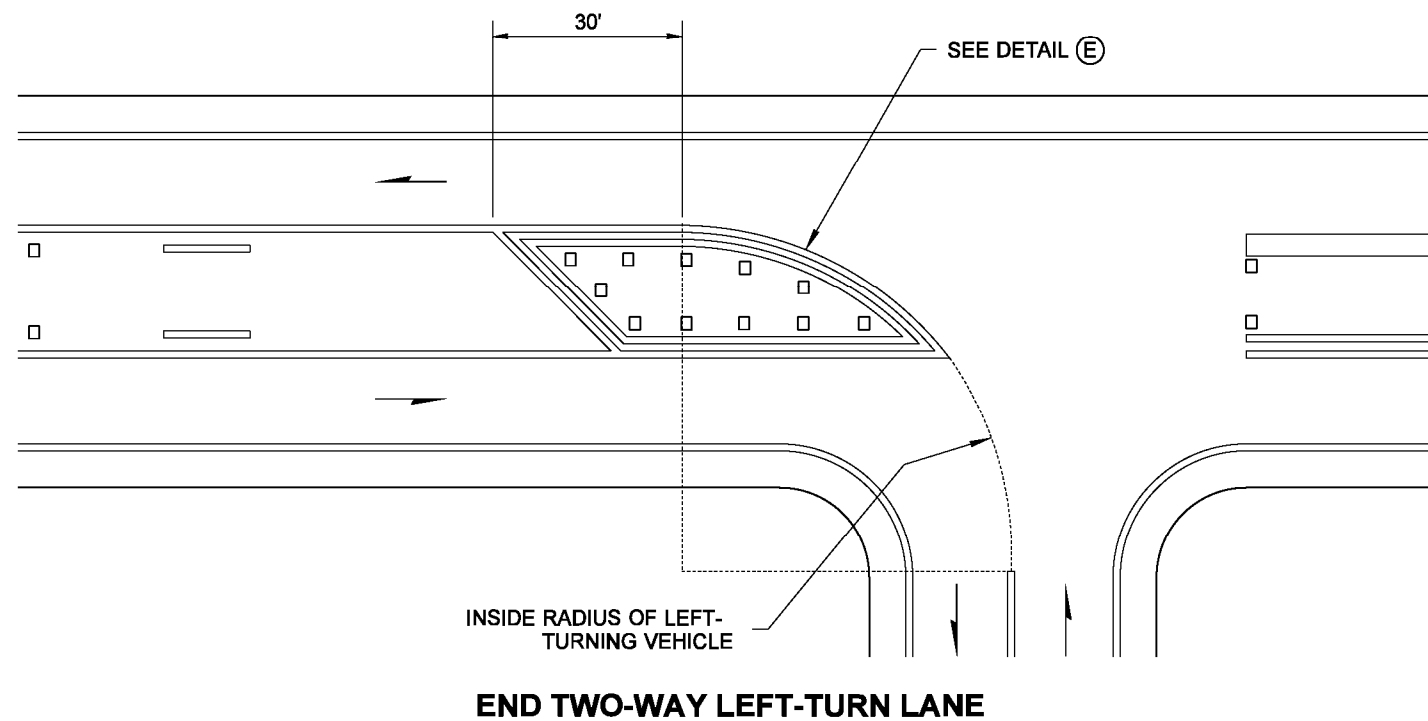
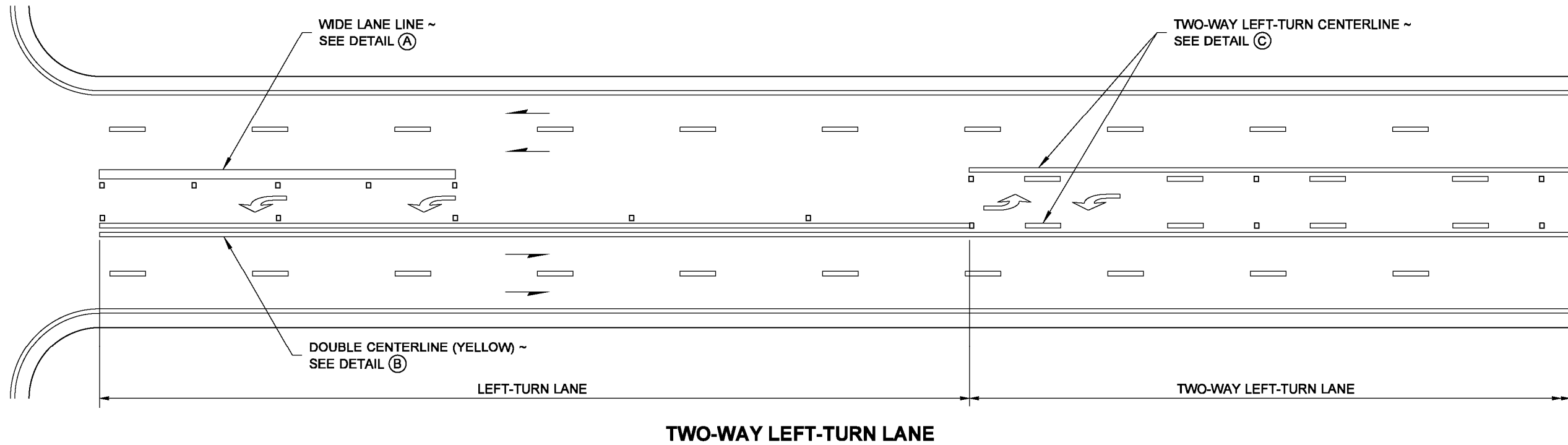
DRAWN BY: LISA CYFORD



NOTES

1. Raised pavement markers shall be installed only when specified in the Contract Plans.
2. See the Standard Plans for marker designation.
3. The portion labeled "OPTIONAL" is used only when the Optional Marked Deceleration Taper (see **Standard Plans M-3.10 and M-3.20**) is specified in the Contract Plans.

Type 2L (SL) Traffic Arrow



Walsh, Brian
Jun 24 2014 2:33 PM

**LONGITUDINAL MARKING
SUPPLEMENT WITH RPMs ~
TURN LANES
STANDARD PLAN M-20.40-03**

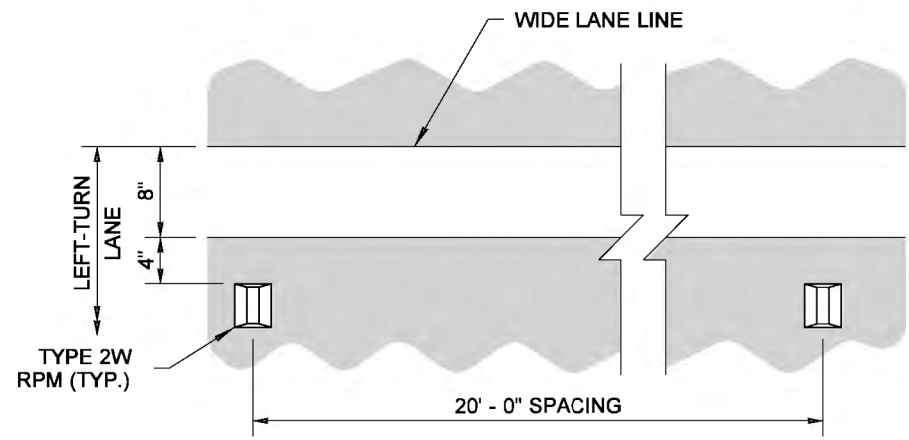
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APPROVED FOR PUBLICATION
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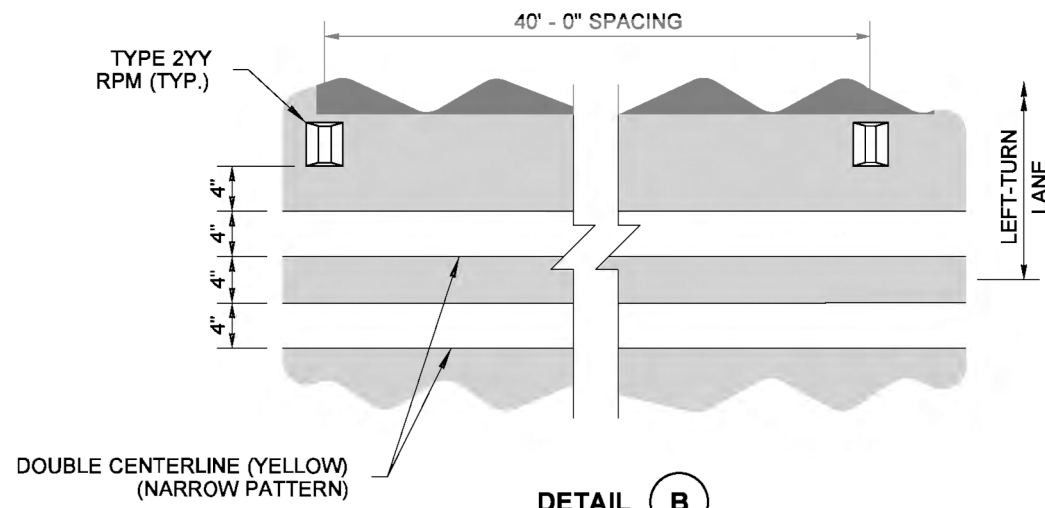
STATE DESIGN ENGINEER

Washington State Department of Transportation

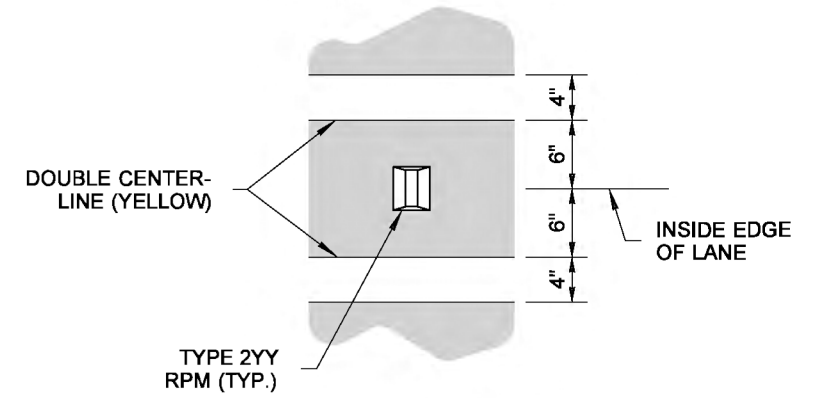
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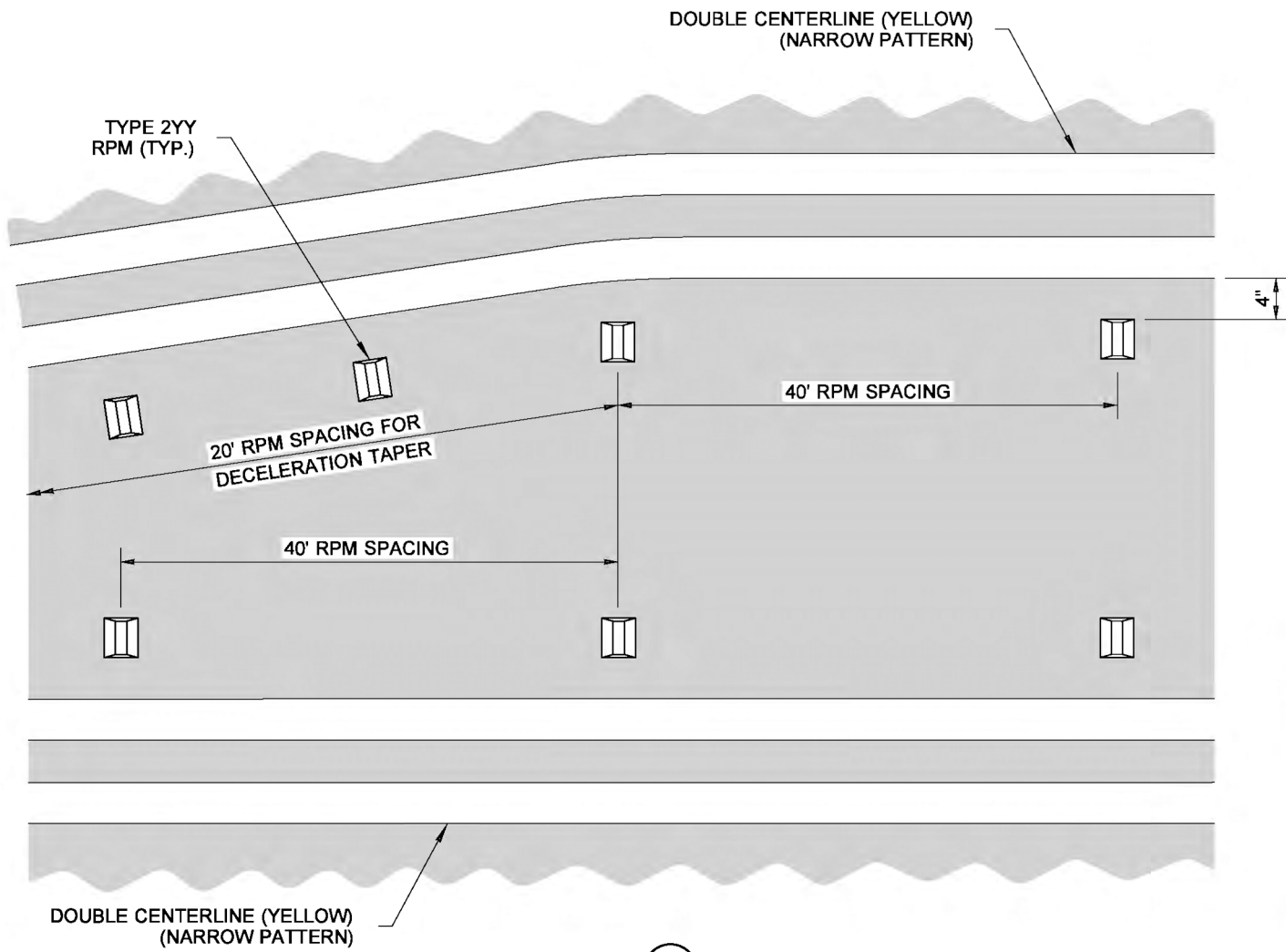
DETAIL A



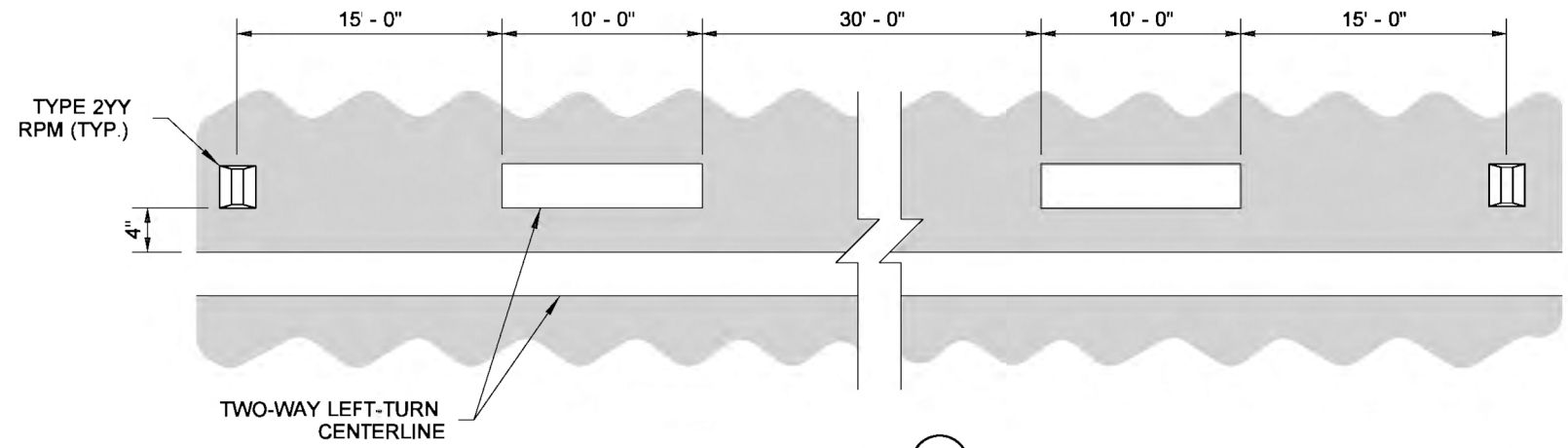
DETAIL B



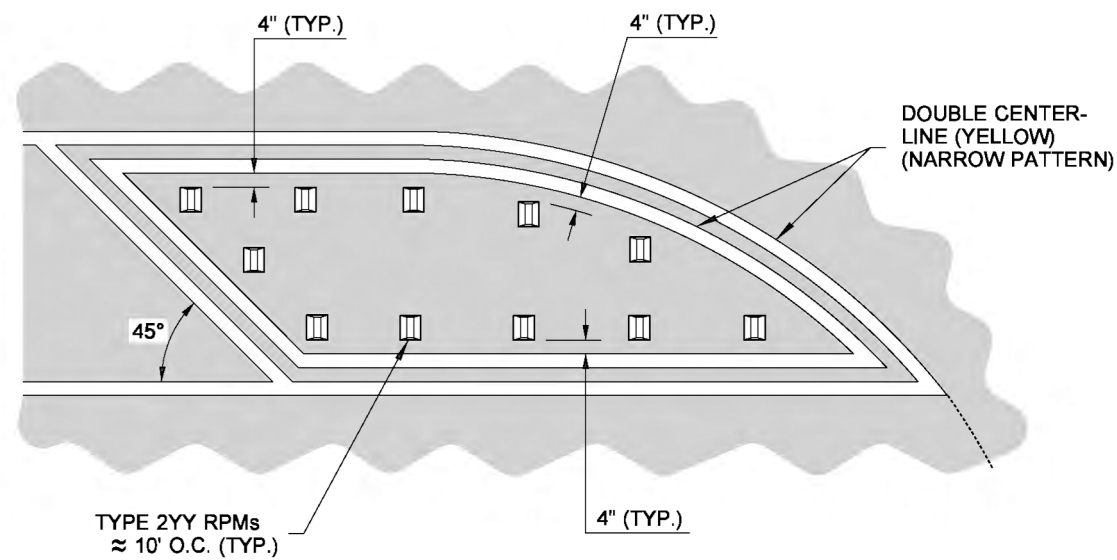
ALTERNATIVE LINE DETAIL



DETAIL D



DETAIL C



DETAIL E



Walsh, Brian
Jun 24 2014 2:33 PM

**LONGITUDINAL MARKING
SUPPLEMENT WITH RPMs ~
TURN LANES
STANDARD PLAN M-20.40-03**

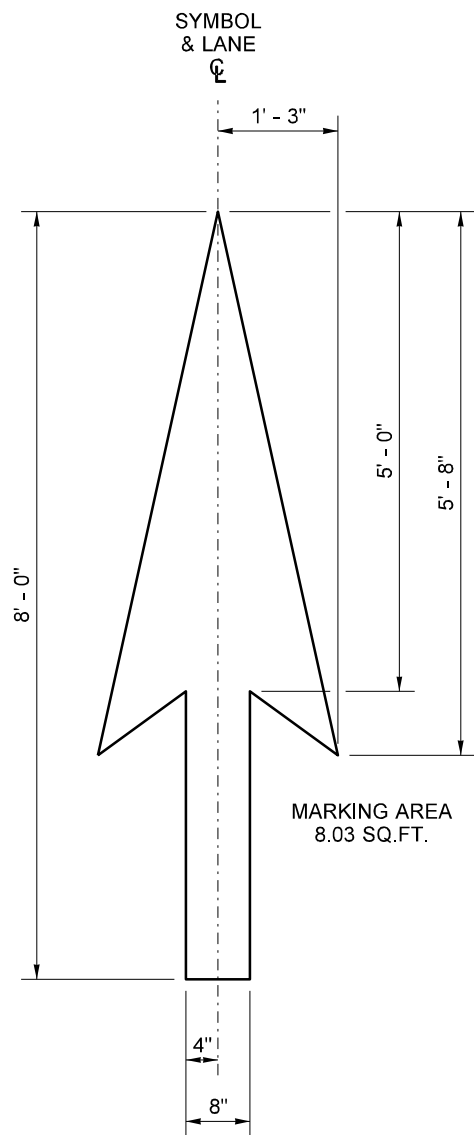
SHEET 2 OF 2 SHEETS

APPROVED FOR PUBLICATION

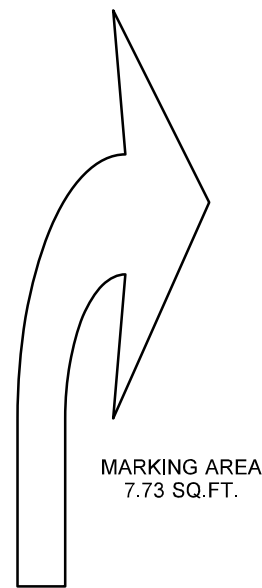
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STATE DESIGN ENGINEER

Washington State Department of Transportation

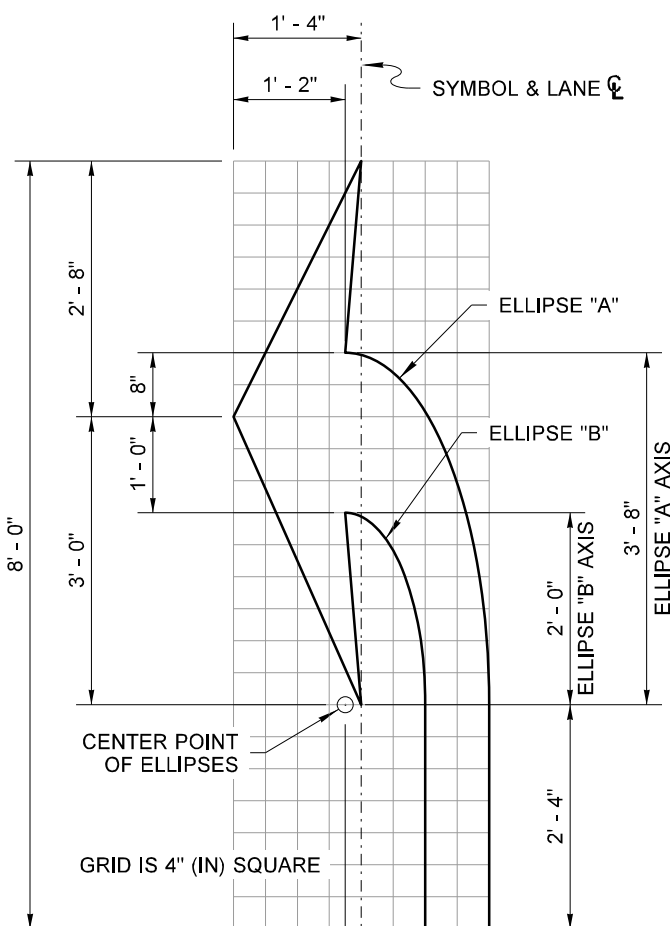


**TYPE 1S
TRAFFIC ARROW**



**TYPE 2SR (RIGHT)
TRAFFIC ARROW**

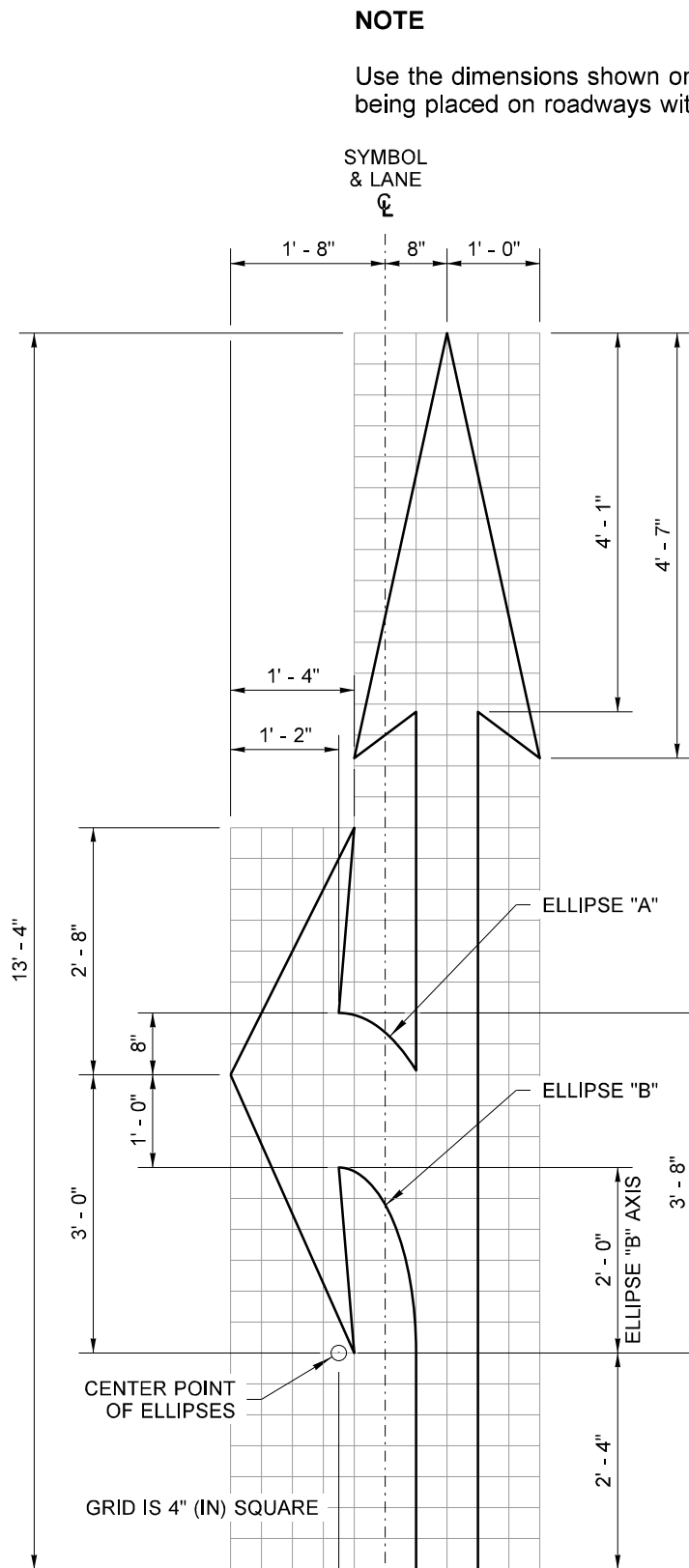
MIRROR IMAGE OF
TYPE 2SL TRAFFIC ARROW
(SHOWN AT REDUCED SCALE)



MARKING AREA
7.73 SQ.FT.

10" ~ ELLIPSE "B" AXIS

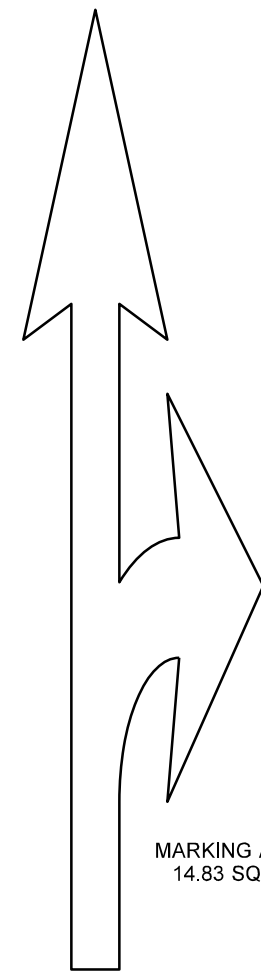
TYPE 2SL (LEFT) TRAFFIC ARROW



MARKING AREA
14.83 SQ.FT.

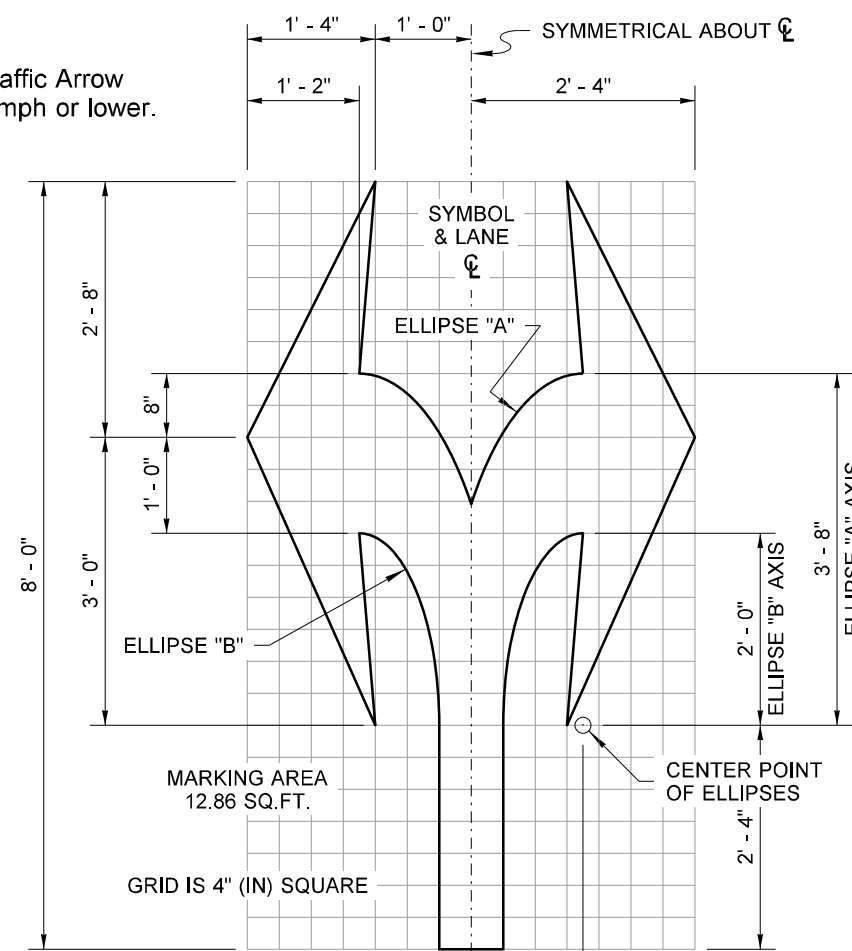
10" ~ ELLIPSE "B" AXIS

TYPE 3SL (LEFT) TRAFFIC ARROW

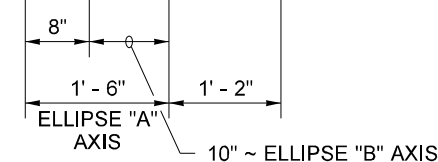


**TYPE 3SR (RIGHT)
TRAFFIC ARROW**

MIRROR IMAGE OF
TYPE 3SL TRAFFIC ARROW
(SHOWN AT REDUCED SCALE)



**TYPE 4S
TRAFFIC ARROW**



Walsh, Brian
Apr 16 2015 2:21 PM

**SYMBOL MARKINGS ~
TRAFFIC ARROWS FOR
LOW-SPEED ROADWAYS
STANDARD PLAN M-24.40-02**

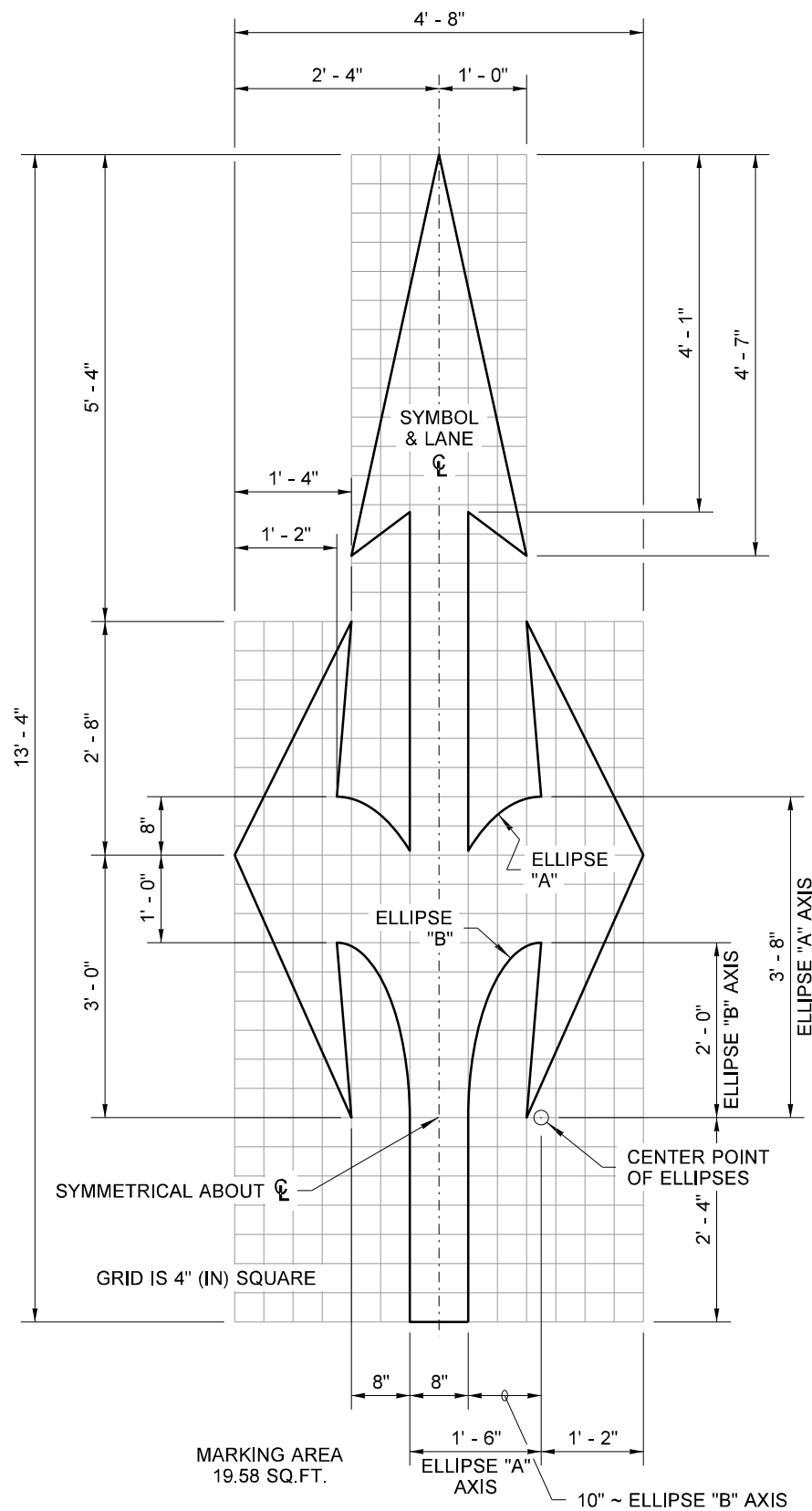
SHEET 1 OF 2 SHEETS

APPROVED FOR PUBLICATION

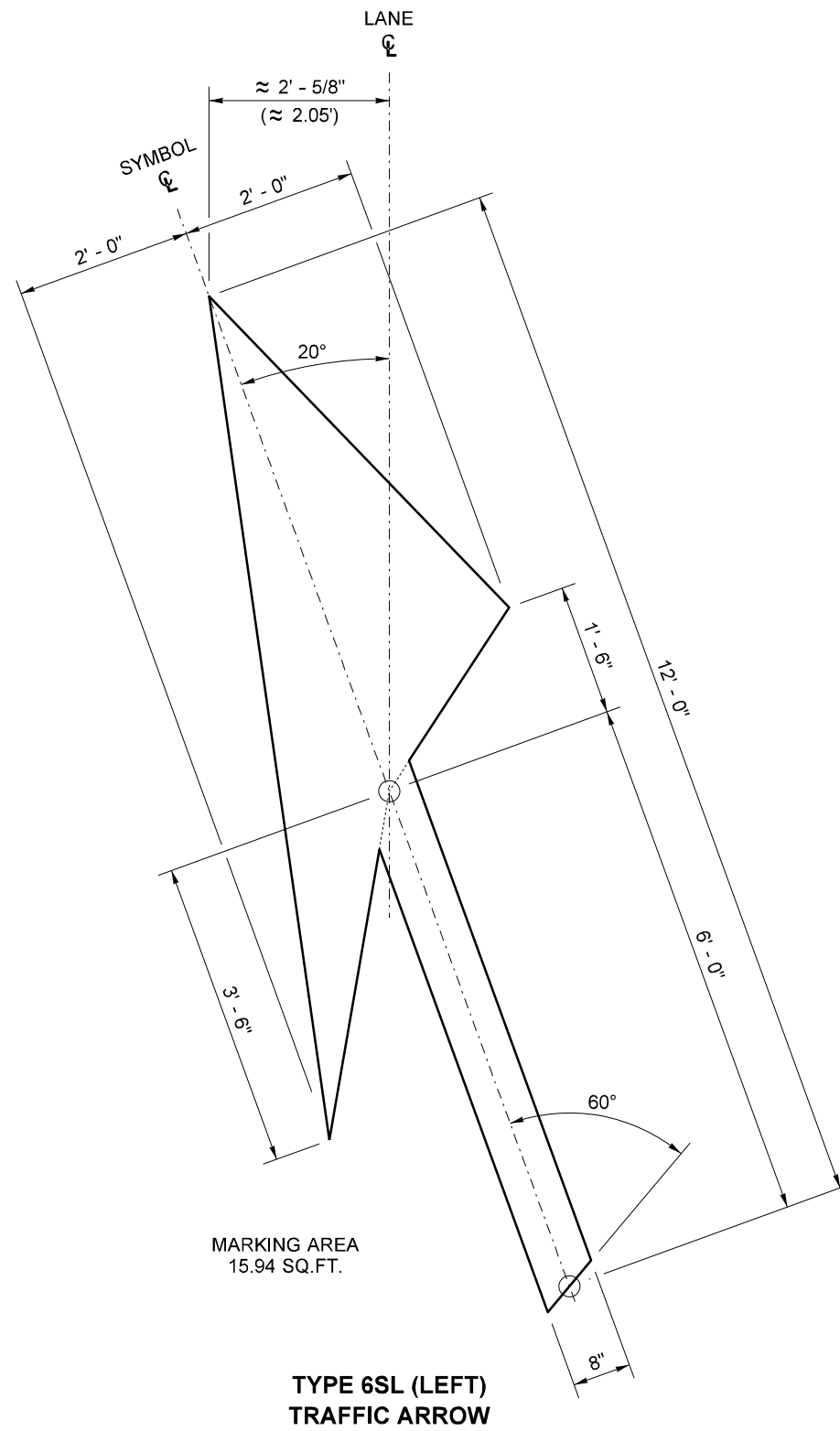
Bakotic, Pasco
Apr 20 2015 10:11 AM

STATE DESIGN ENGINEER

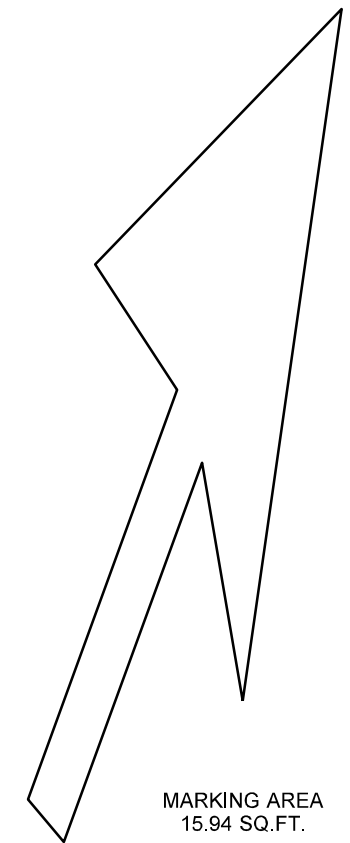
Washington State Department of Transportation



TYPE 7S TRAFFIC ARROW



TYPE 6SL (LEFT) TRAFFIC ARROW



TYPE 6SR (RIGHT) TRAFFIC ARROW

MIRROR IMAGE OF TYPE 6SL
(MIRRORED ABOUT LANE CENTERLINE)
(SHOWN AT REDUCED SCALE)



Walsh, Brian
Apr 16 2015 2:21 PM

**SYMBOL MARKINGS ~
TRAFFIC ARROWS FOR
LOW-SPEED ROADWAYS
STANDARD PLAN M-24.40-02**

SHEET 2 OF 2 SHEETS

APPROVED FOR PUBLICATION

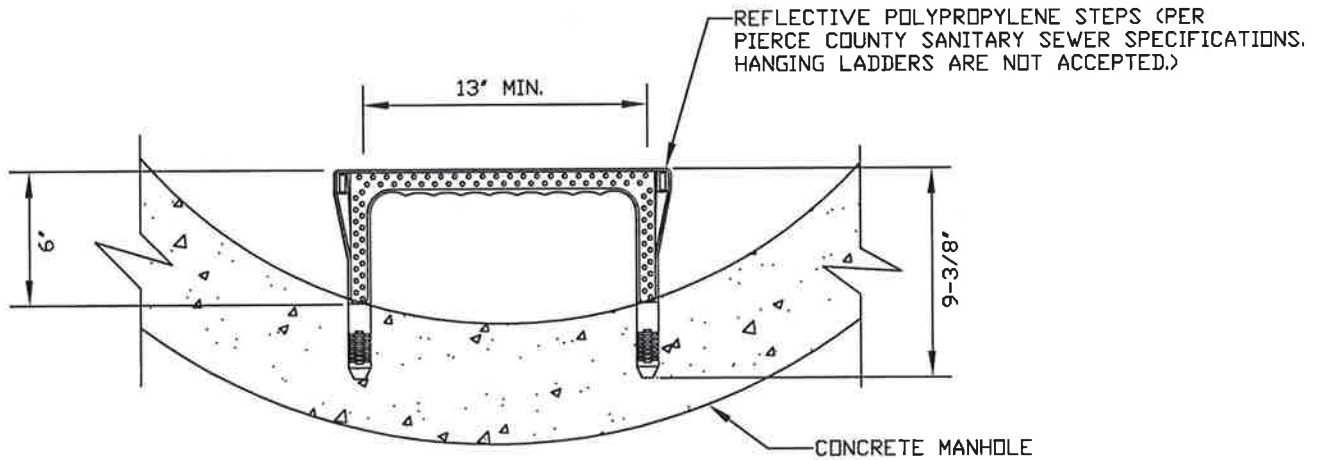
Pasco Byfollon
Pasco, Pasco
Apr 20 2015 10:11 AM

STATE DESIGN ENGINEER



ABBREVIATIONS

PVC	POLYVINYL CHLORIDE
DIP	DUCTILE IRON PIPE
HDPE	HIGH DENSITY POLYETHYLENE
SS	STAINLESS STEEL
CL	CLASS
CL	CENTERLINE
CONC	CONCRETE
TYP	TYPICAL
I.D.	INSIDE DIAMETER
O.D.	OUTSIDE DIAMETER
NOM	NOMINAL
ø, DIA, DIAM	DIAMETER
SCH	SCHEDULE
MH	MANHOLE
GFP	GLASS FIBER SUPPORTED PLASTIC
C/C	ON CENTER
IPF	INDUSTRIAL PIPE FITTINGS, INC.
O.C.	ON CENTER
GU	"GU" IS PRODUCT NAME OF SEALCON INTERNATIONAL
R/W	RIGHT-OF-WAY
I.E.	INVERT ELEVATION
H-20	"H-20" IS A LOADING SPECIFICATION
P/L	PROPERTY LINE
NPT	NATIONAL PIPE THREAD
FL	FLANGED
A.R.I.	BRAND NAME



NOTES:

1. LEGS MAY BE PARALLEL OR APPROXIMATELY RADIAL AT OPTION OF MANUFACTURER EXCEPT THAT ALL STEPS IN ANY MANHOLE SHALL BE IDENTICAL.
2. LAST STEP SHALL BE NO MORE THAN 18" FROM BOTTOM OF MANHOLE.
3. FIRST STEP SHALL BE NO MORE THAN 24" FROM RIM/FINISH GRADE.
4. STEPS SHALL NOT INTERFERE WITH CHIMNEY SEAL (SEE DETAIL 1002).



PIERCE COUNTY PUBLIC WORKS & UTILITIES DEPARTMENT
 SEWER UTILITY DIVISION
 9850 64TH STREET WEST
 UNIVERSITY PLACE, WASHINGTON 98467-1078
 (253) 798-4050

STANDARD DETAILS

DATE
05/01/2011

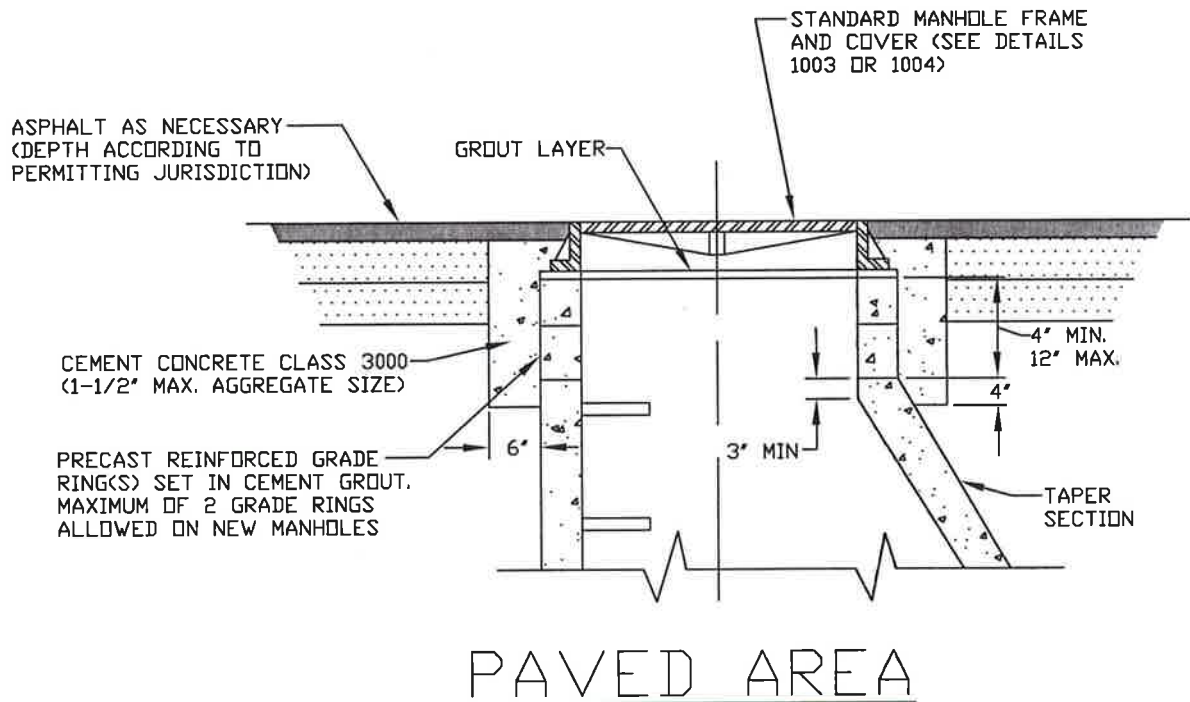
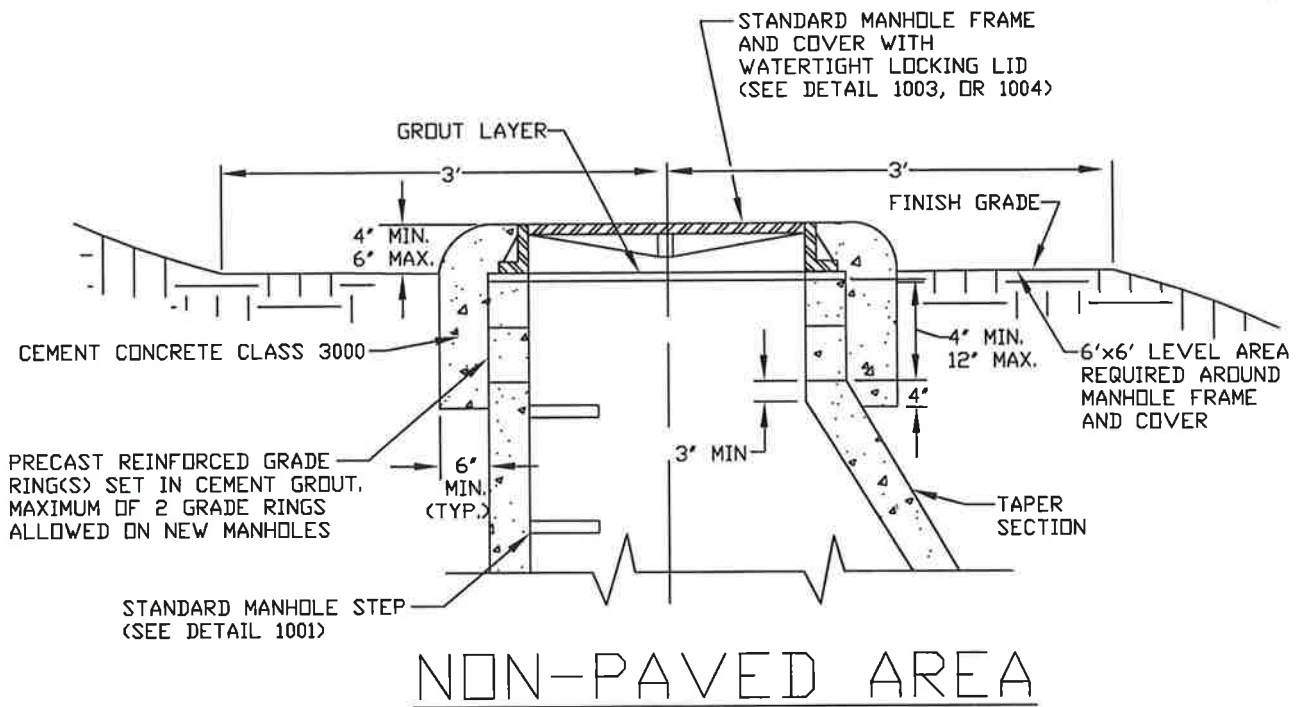
SCALE
NTS

CONCRETE MANHOLE STEP

STANDARD DETAIL NO.

1001

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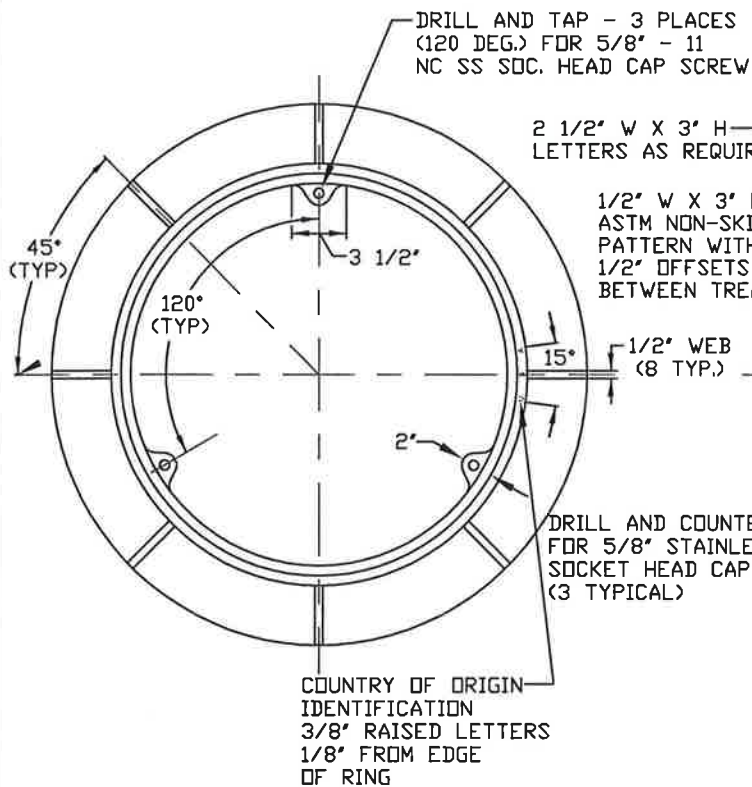
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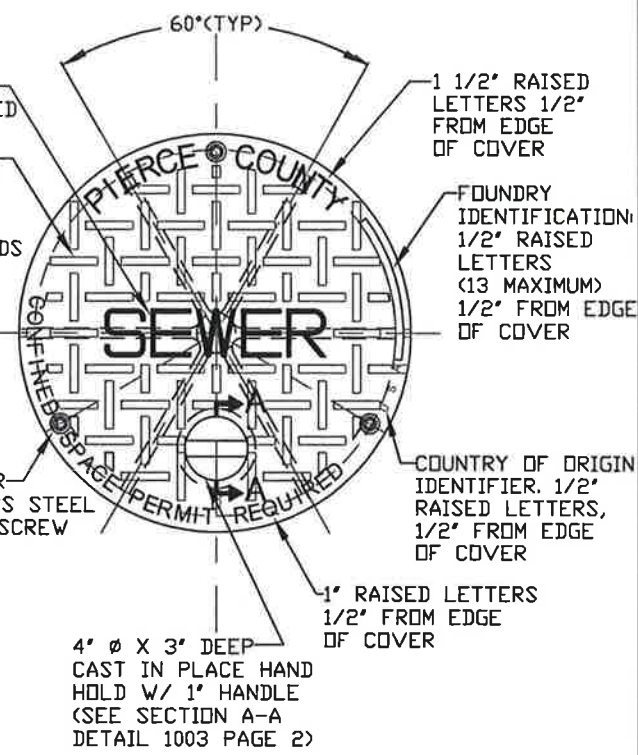
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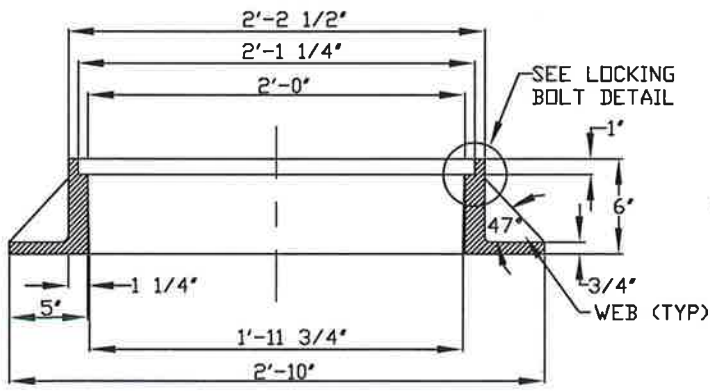
STANDARD DETAIL NO.
1002
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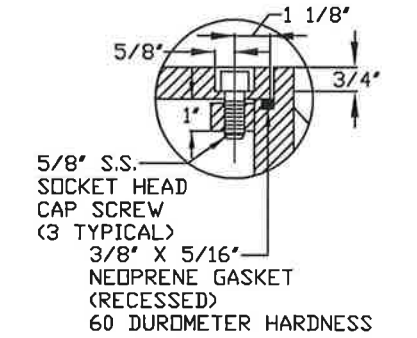
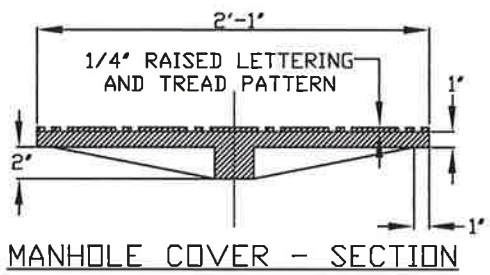
MANHOLE RING - PLAN



MANHOLE COVER - PLAN



MANHOLE RING - SECTION



LOCKING BOLT - DETAIL
NTS



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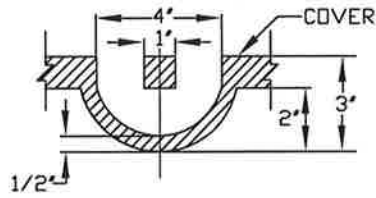
STANDARD DETAILS

DATE
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SCALE
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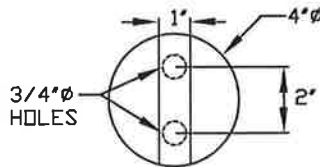
**PUBLIC MANHOLE FRAME
AND LOCKING LID**

STANDARD DETAIL NO.
1003
PAGE 1 OF 2

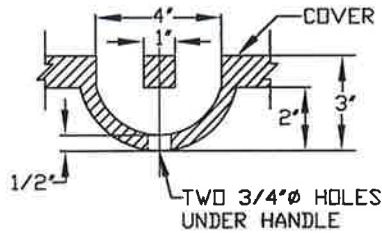


SECTION A-A FROM 1003 PAGE 1 OF 2
NTS

WATERTIGHT LID HAND HOLD



TOP VIEW



SECTION A-A FROM 1003 PAGE 1 OF 2
NTS

VENTED LID HAND HOLD



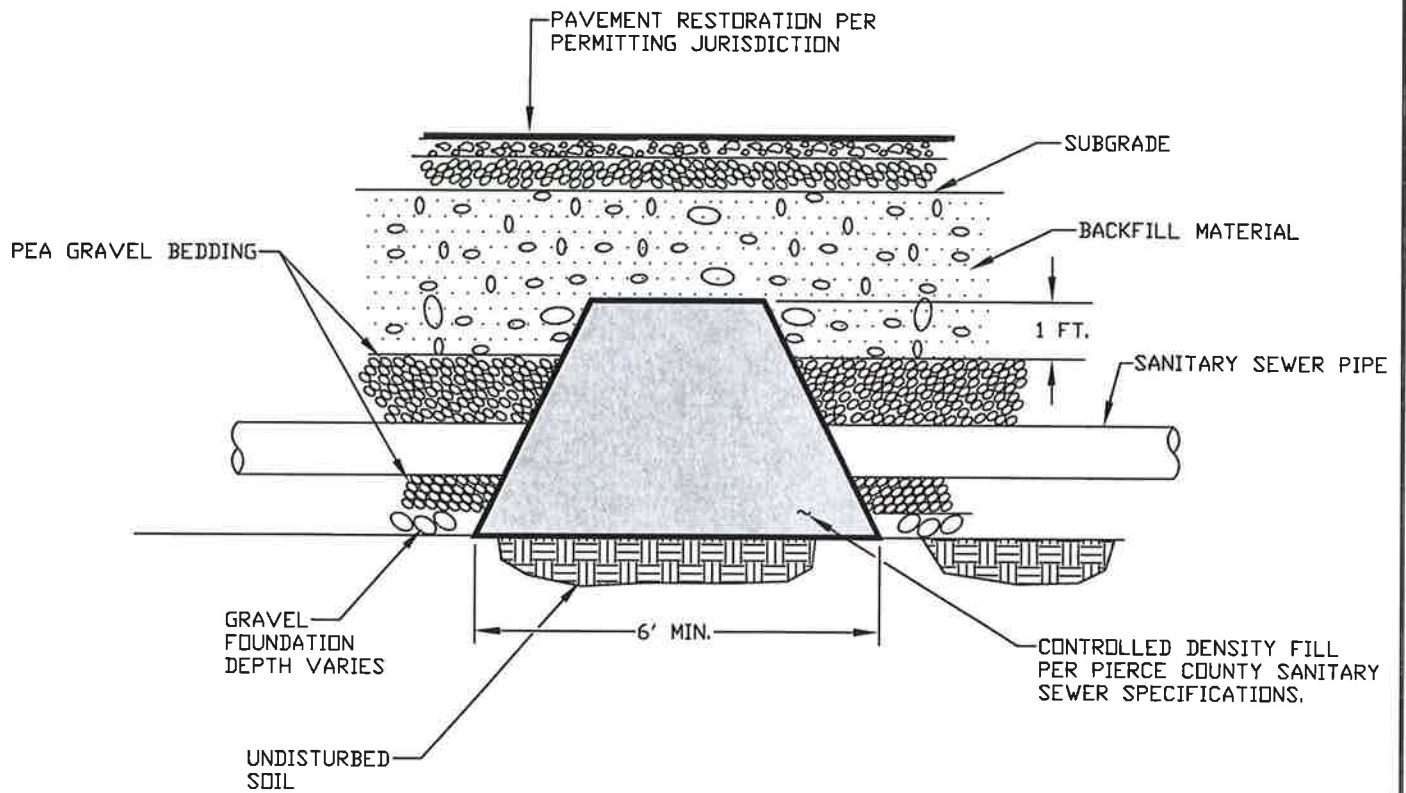
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PUBLIC MANHOLE FRAME
AND LOCKING LID
HAND HOLD DETAIL

STANDARD DETAIL NO.
1003
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TRENCH DAM

STANDARD DETAIL NO.
1005
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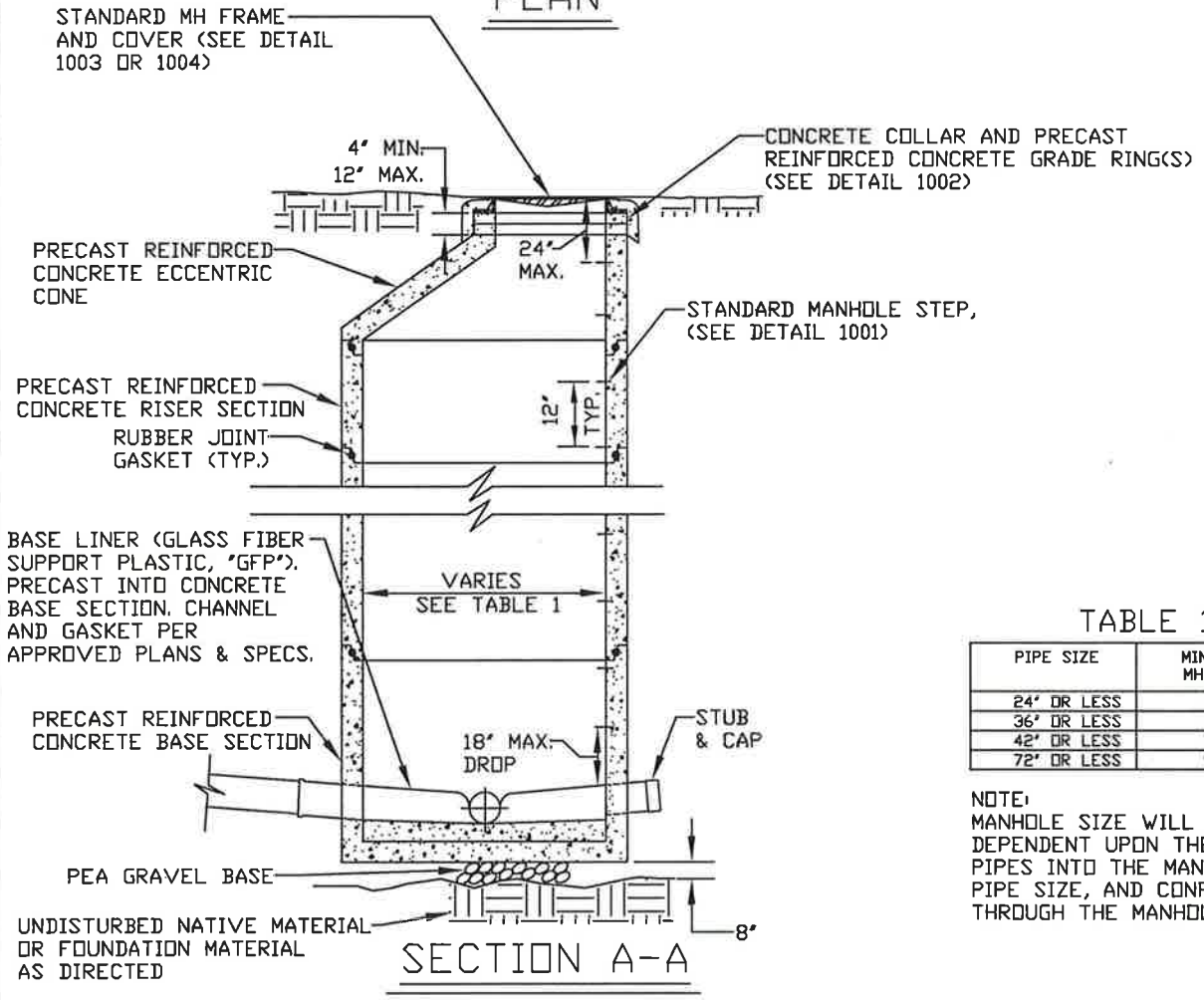
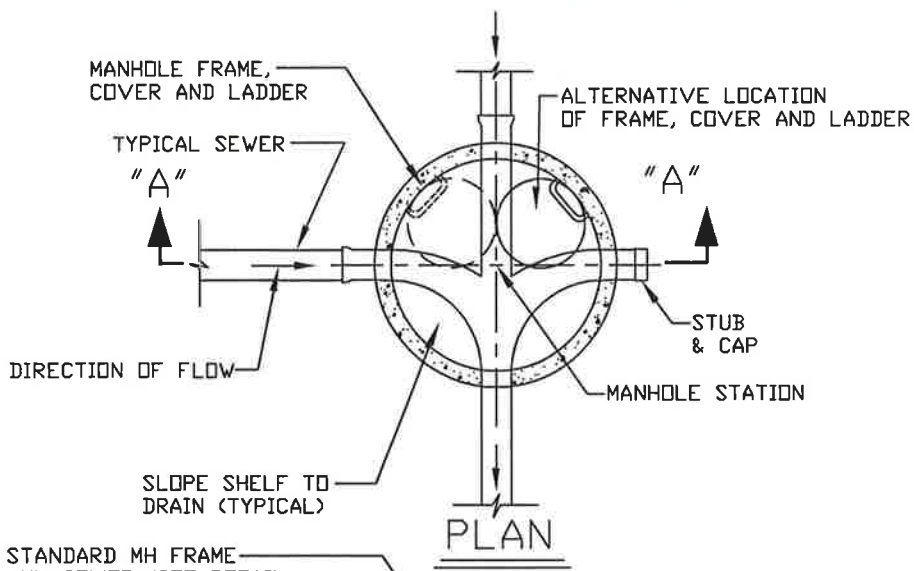


TABLE 1

PIPE SIZE	MINIMUM MH DIA.
24" DR LESS	48"
36" DR LESS	60"
42" DR LESS	72"
72" DR LESS	96"

NOTE:
MANHOLE SIZE WILL BE DEPENDENT UPON THE NUMBER OF PIPES INTO THE MANHOLE, PIPE SIZE, AND CONFIGURATION THROUGH THE MANHOLE.



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CONCRETE MANHOLE

STANDARD DETAIL NO.
2001
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1. ALL NEWLY CONSTRUCTED MANHOLES SHALL HAVE PREDL LINERS WITH GU-MANHOLE PIPE CONNECTORS. LINER SYSTEM SHALL BE MANUFACTURED BY PREDL SYSTEMS NORTH AMERICA, INC.
2. ALL MANHOLE RISER JOINTS SHALL HAVE BOTH BUTYL RUBBER GASKETS AND PREFORMED (ROPE TYPE) JOINT SEALANT, PER PIERCE COUNTY SPECIFICATIONS.
3. THE INTERIOR WALLS OF ALL MANHOLES WITH PIPES 15" NOMINAL INSIDE DIAMETER OR LARGER AND/OR WITH FORCE MAIN CONNECTIONS SHALL BE COATED PER PIERCE COUNTY SANITARY SEWER SPECIFICATIONS.
4. ALL MANHOLES LOCATED IN NON-PAVED AREAS SHALL HAVE WATERTIGHT LIDS AND CONCRETE COLLARS (SEE DETAILS 1002, 1003, AND 1004)
5. NO MORE THAN 5 SIDE SEWERS CAN BE INSTALLED AT A TERMINAL MANHOLE. THE SIDE SEWERS MUST BE INSTALLED AT 90° OR GREATER FROM THE OUTLET MAIN.
6. EXTERIOR OF ALL CONCRETE MANHOLES SHALL BE COATED WITH BITUMINOUS COAL TAR EPOXY AT A MIN. DRY THICKNESS OF 30 MILS.
7. MANHOLES SHALL BE VACUUM TESTED PER PIERCE COUNTY SPECIFICATIONS.
8. PRECAST MANHOLE SECTIONS SHALL BE CONSTRUCTED PER ASTM C478.
9. MANHOLES WITH 72" OR GREATER DIAMETER MAY USE A REINFORCED CONCRETE TOP SLAB TO TRANSITION TO A 48" RISER. BASE SECTIONS MUST PROVIDE A MINIMUM OF 8 FEET FROM MANHOLE BENCH TO TOP SLAB.



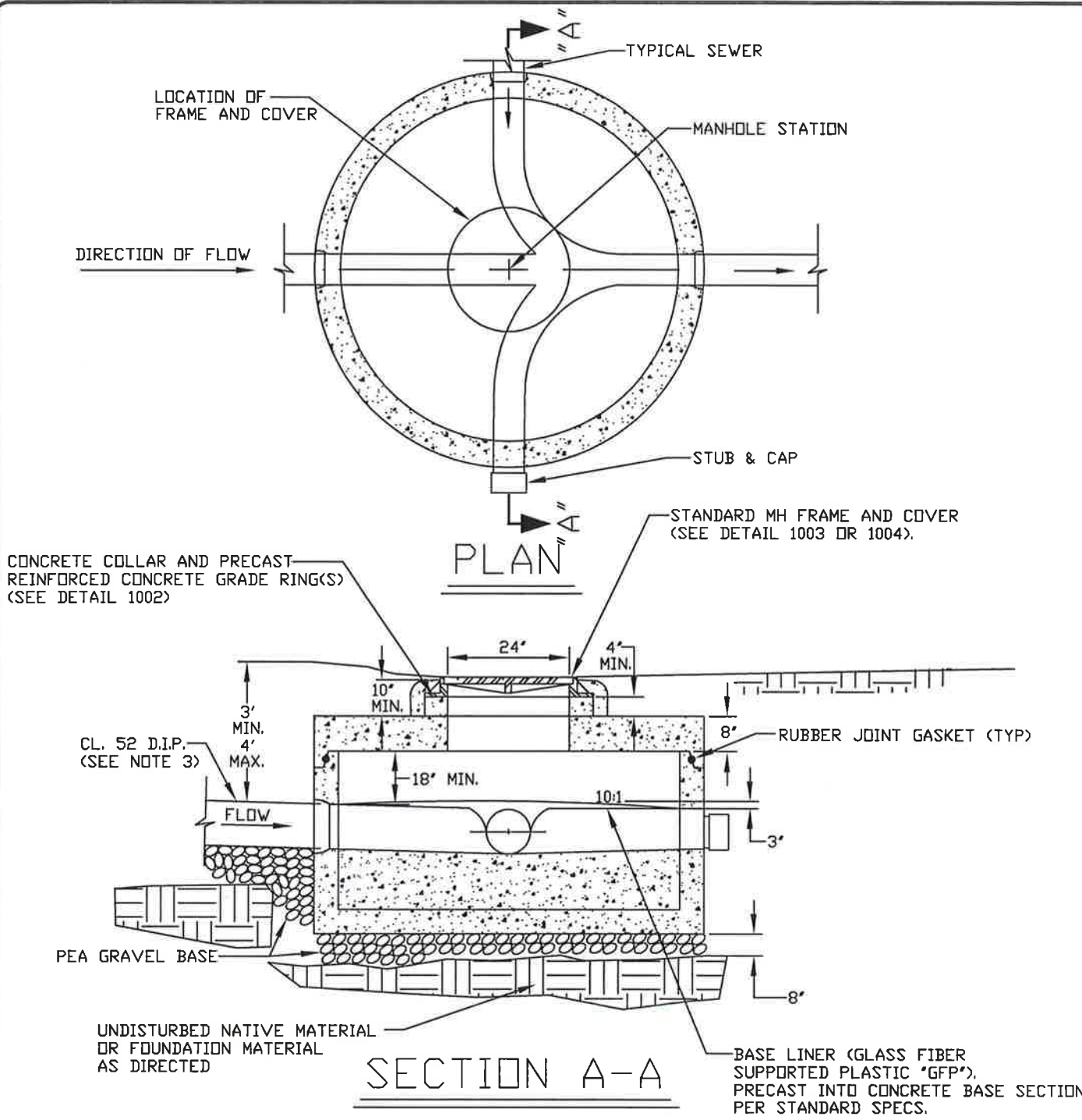
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CONCRETE MANHOLE NOTES

STANDARD DETAIL NO.
2001
PAGE 2 OF 2



NOTE: 1.) ALL NOTES ON 2001 PAGES 1 AND 2 APPLY ON SHALLOW MANHOLE INSTALLATION.
 2.) THE MINIMUM COVER OVER A PVC PIPE SHALL BE 5 FEET UNDER DRIVING SURFACES AND 3 FEET IN NON-PAVED AREAS. THE MINIMUM COVER OVER CLASS 52 DUCTILE IRON PIPE SHALL BE 3 FEET UNDER DRIVING SURFACES AND NON-PAVED AREAS.



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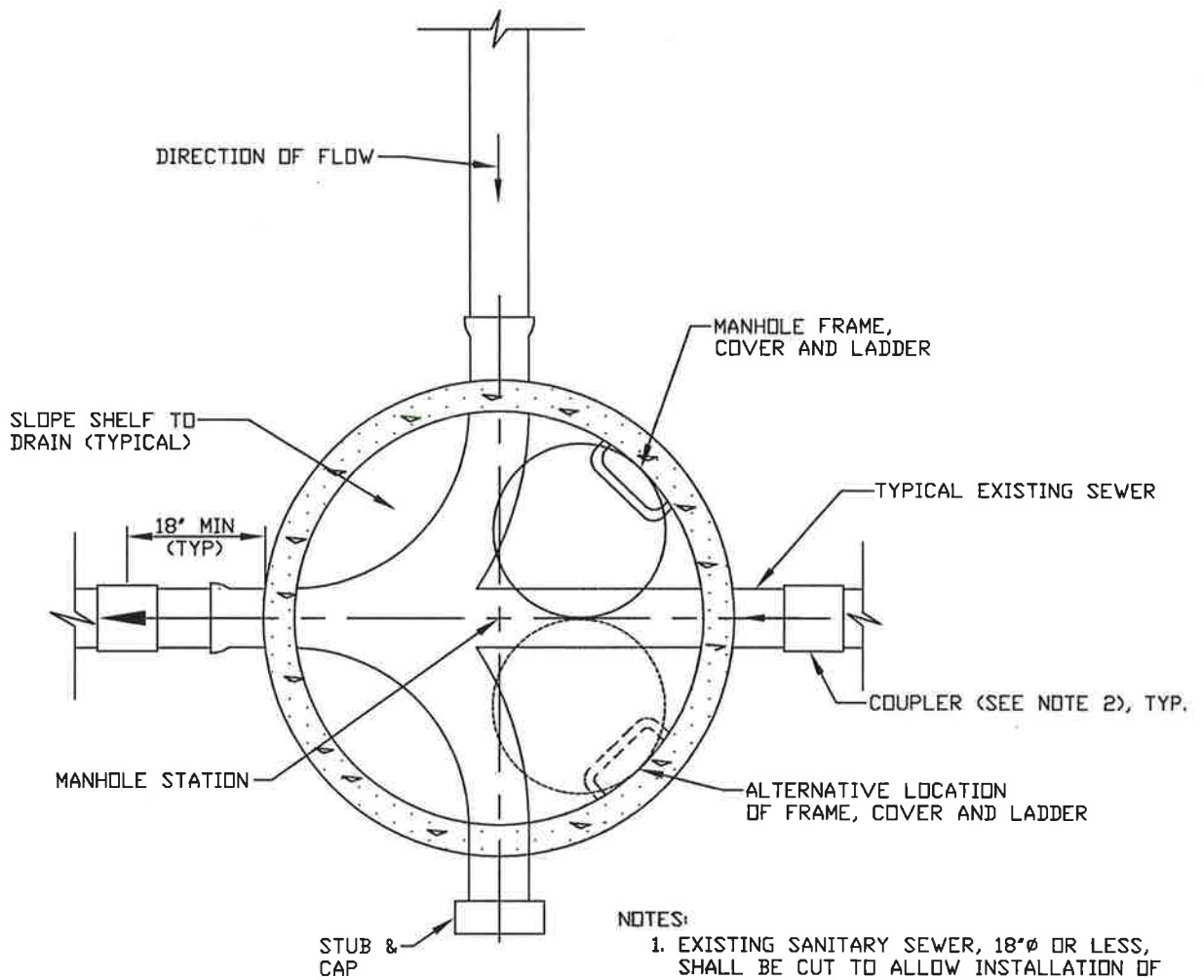
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SHALLOW CONCRETE MANHOLE

STANDARD DETAIL NO.
2002

PAGE 1 OF 1



PLAN

NOTES:

1. EXISTING SANITARY SEWER, 18"Ø OR LESS, SHALL BE CUT TO ALLOW INSTALLATION OF NEW MANHOLE.
2. COUPLERS FOR JOINING DISSIMILAR PIPE TYPES SHALL BE MANUFACTURED BY SPECIFIED FITTINGS. ALL OTHERS SHALL BE ROMAC OR APPROVED EQUAL.
3. ALL NOTES ON DETAIL 2001 PAGES 1 AND 2 SHALL APPLY.
4. SLOPE OF MANHOLE CHANNEL SHALL MATCH EXISTING PIPE SLOPE.
5. MANHOLE SIZE WILL BE DEPENDENT UPON THE NUMBER OF PIPES INTO THE MANHOLE, PIPE SIZE, AND CONFIGURATION THROUGH THE MANHOLE.



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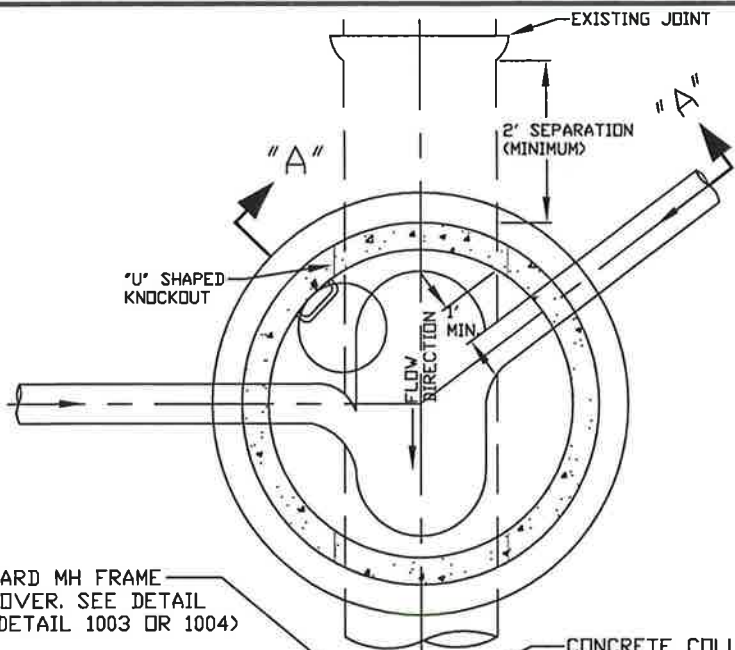
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NEW CONCRETE MANHOLE
 CUT INTO EXISTING MAIN

STANDARD DETAIL NO.

2003

PAGE 1 OF 1



NOTES:

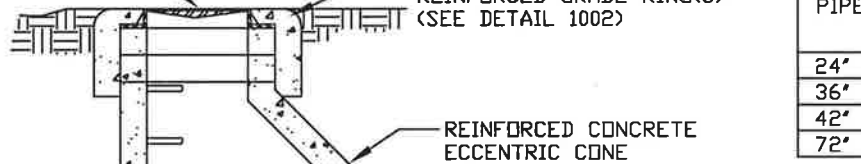
1. MANHOLE SIZE WILL BE DEPENDENT UPON THE NUMBER OF PIPES INTO THE THE MANHOLE, PIPE SIZE, AND CONFIGURATION THROUGH THE MANHOLE.
2. ALL MANHOLE RISER JOINTS SHALL HAVE BOTH BUTYL RUBBER GASKETS AND PREFORMED (ROPE TYPE) JOINT SEALANT, PER PIERCE COUNTY SANITARY SEWER SPECIFICATIONS.

TABLE 1

PIPE SIZE	MINIMUM MH DIA.
24" OR LESS	48"
36" OR LESS	60"
42" OR LESS	72"
72" OR LESS	96"

STANDARD MH FRAME AND COVER. SEE DETAIL (SEE DETAIL 1003 OR 1004)

CONCRETE COLLAR AND PRECAST REINFORCED GRADE RING(S) (SEE DETAIL 1002)



SEC. A-A

CUT AND REMOVE TOP HALF OF EXISTING PIPE. BOTTOM HALF TO REMAIN AS MANHOLE CHANNEL. SLOPE BENCH 1:10

DO NOT SET OVER EXISTING JOINT.

CONCRETE SLAB MAY BE PRECAST OR CAST IN PLACE

8' PEA GRAVEL BASE

UNDISTURBED NATIVE MATERIAL

REINFORCED CONCRETE ECCENTRIC CONE

REINFORCED CONCRETE RISER SECTION, IF NECESSARY

IF DIAMETER OF LOWER SECTION REQUIRES 72"Ø OR GREATER, THE CONTRACTOR MAY USE REINFORCED CONCRETE TOP FLAT SLAB WITH OFFSET HOLE FOR RISER SECTION.

COAT INTERIOR/EXTERIOR OF MANHOLE, INCLUDING BENCH, PER PIERCE COUNTY STANDARD SPECIFICATIONS.

PRECAST REINFORCED CONCRETE SECTION

CORE DRILL AND LINK SEAL OR KOR-N-SEAL BOOT

"U" SHAPED MANHOLE KNOCKOUT TO INSTALL MANHOLE OVER EXISTING PIPE. PROVIDE 2" CLEARANCE (MIN.) AROUND PIPE AND GROUT.

FORM CONCRETE BASE AND CHANNEL IN FIELD.

PRECAST SECTION TO BE PLACED OVER MAIN AFTER REINFORCED CONCRETE SLAB HAS BEEN POURED AND MUST HAVE MINIMUM 2" EMBEDMENT IN CONCRETE SLAB.

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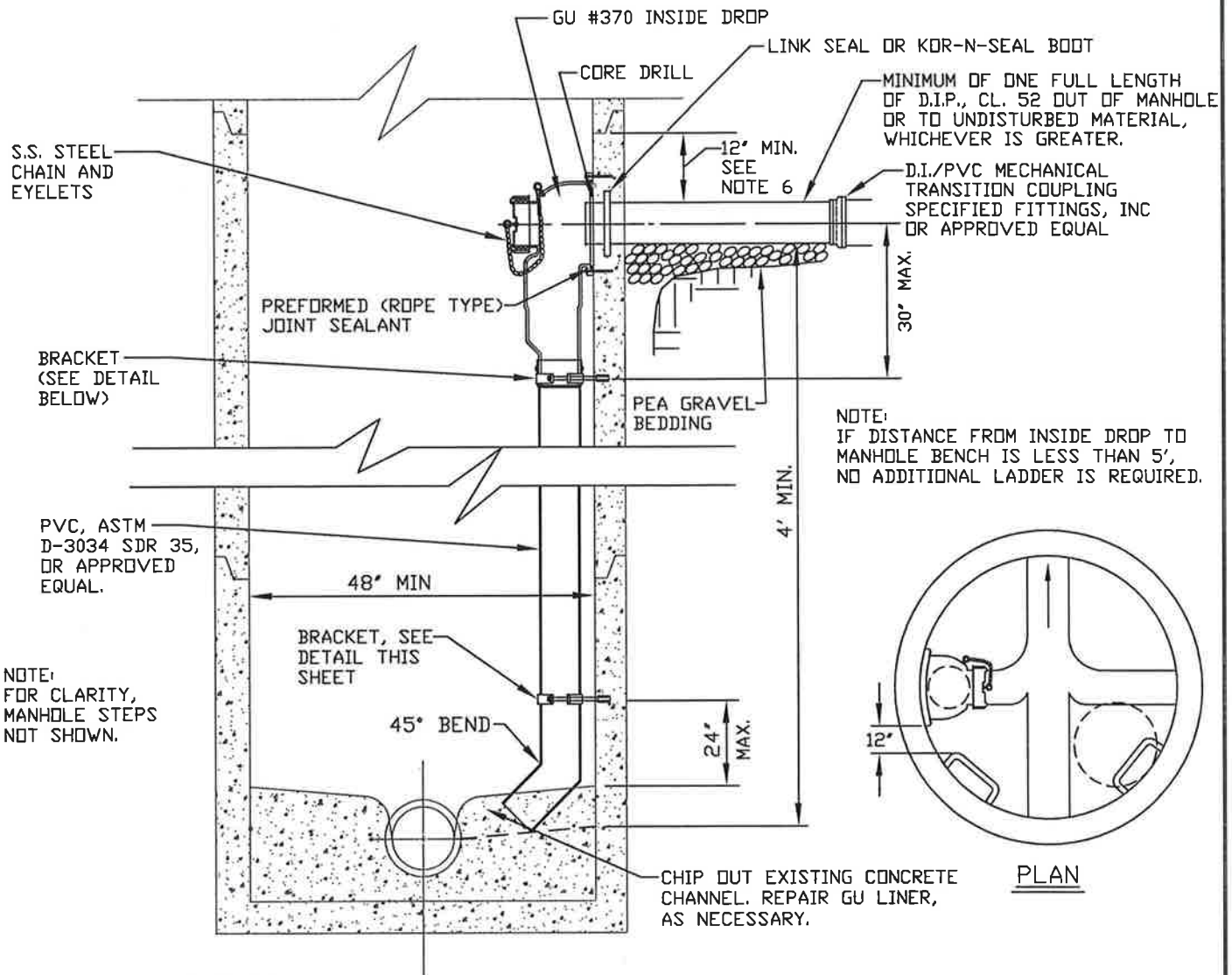
CONCRETE SADDLE MANHOLE

STANDARD DETAIL NO.

2004

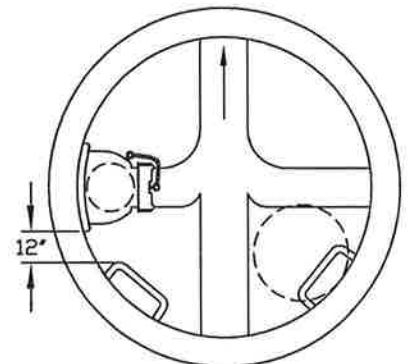
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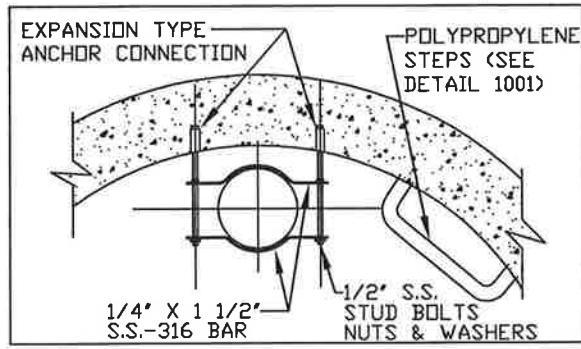


NOTE:
FOR CLARITY,
MANHOLE STEPS
NOT SHOWN.

NOTE:
IF DISTANCE FROM INSIDE DROP TO
MANHOLE BENCH IS LESS THAN 5',
NO ADDITIONAL LADDER IS REQUIRED.



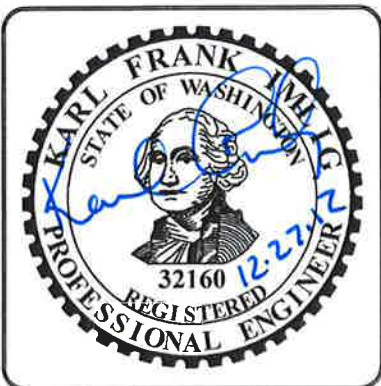
PLAN



BRACKET

NOTES

1. MINIMUM OF TWO (2) BRACKETS SHALL BE PLACED A MAXIMUM OF 10' APART VERTICAL, DROP SHALL BE 8" DIA. MIN. FOR MAIN LINES & 6" DIA. FOR SIDE SEWERS.
2. MANHOLE BASE TO BE RECHANNELED AS REQUIRED.
3. USE DEAD-END CHANNEL FOR MANHOLES WITH INVERT LINERS.
4. ONLY ONE INSIDE DROP STRUCTURE PER 48"Ø MANHOLE, UNLESS WRITTEN PERMISSION IS GIVEN BY THE COUNTY.
5. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE COATED PER PIERCE COUNTY SANITARY SEWER SPECIFICATIONS.
6. CORE DRILL TO BE 1 FOOT ABOVE OR BELOW MANHOLE JOINT.
7. ADAPTER BY GU REQUIRED FOR MANHOLES 72" DIA. AND LARGER.



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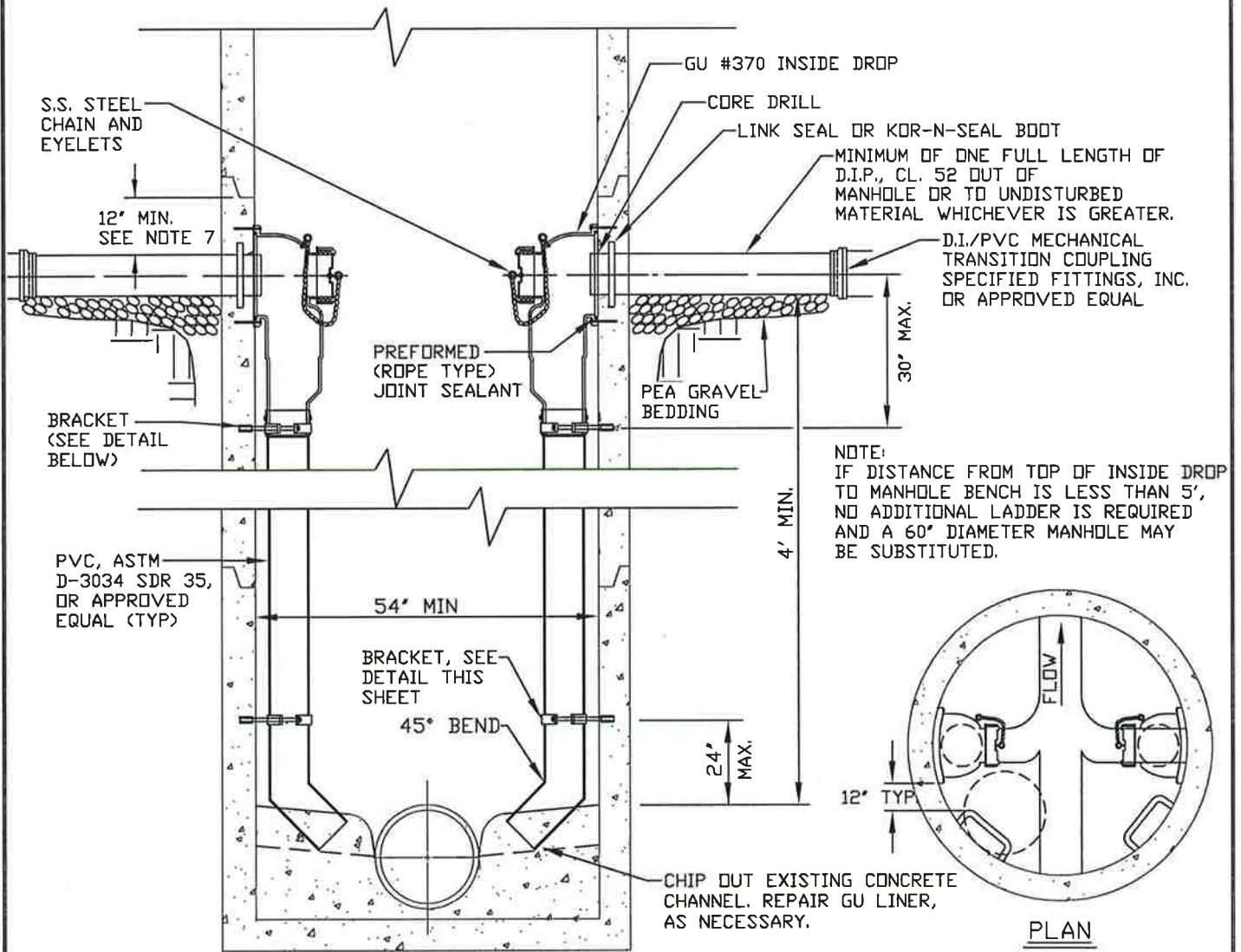
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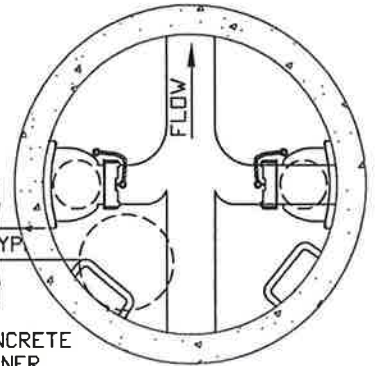
**CONCRETE MANHOLE WITH
SINGLE INSIDE DROP STRUCTURE
FOR GRAVITY CONNECTION**

STANDARD DETAIL NO.
2006
PAGE 1 OF 1

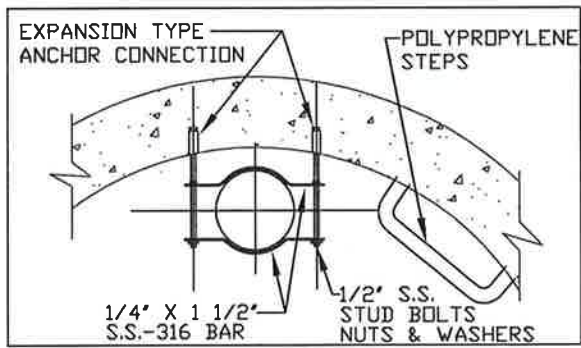
NOTE: FOR CLARITY, MANHOLE STEPS NOT SHOWN.



NOTE: IF DISTANCE FROM TOP OF INSIDE DROP TO MANHOLE BENCH IS LESS THAN 5', NO ADDITIONAL LADDER IS REQUIRED AND A 60" DIAMETER MANHOLE MAY BE SUBSTITUTED.



PLAN



BRACKET

NOTES

1. MINIMUM OF TWO (2) BRACKETS SHALL BE PLACED A MAXIMUM OF 10' APART VERTICAL, DROP SHALL BE 8" DIA. MIN. FOR MAIN LINES & 6" DIA. FOR SIDE SEWERS.
2. MANHOLE BASE TO BE RECHANNELED AS REQUIRED.
3. USE DEAD-END CHANNEL FOR MANHOLES WITH INVERT LINERS.
4. TWO INSIDE DROP STRUCTURES REQUIRE A 54"Ø MANHOLE, UNLESS WRITTEN PERMISSION IS GIVEN BY THE COUNTY.
5. ADDITIONAL LADDER MUST BE INSTALLED ONE FOOT FROM THE DROP STRUCTURE (MEASURED EDGE TO EDGE) AND BUILT FROM THE MANHOLE SHELF UP TO THE GU370 DROP.
6. ALL DUCTILE IRON PIPE AND FITTINGS SHALL BE COATED PER PIERCE COUNTY SANITARY SEWER SPECIFICATIONS.
7. CORE DRILL TO BE 1 FOOT ABOVE OR BELOW MANHOLE JOINT.
8. ADAPTER BY GU REQUIRED FOR MANHOLES 72" DIA. AND LARGER.



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SCALE
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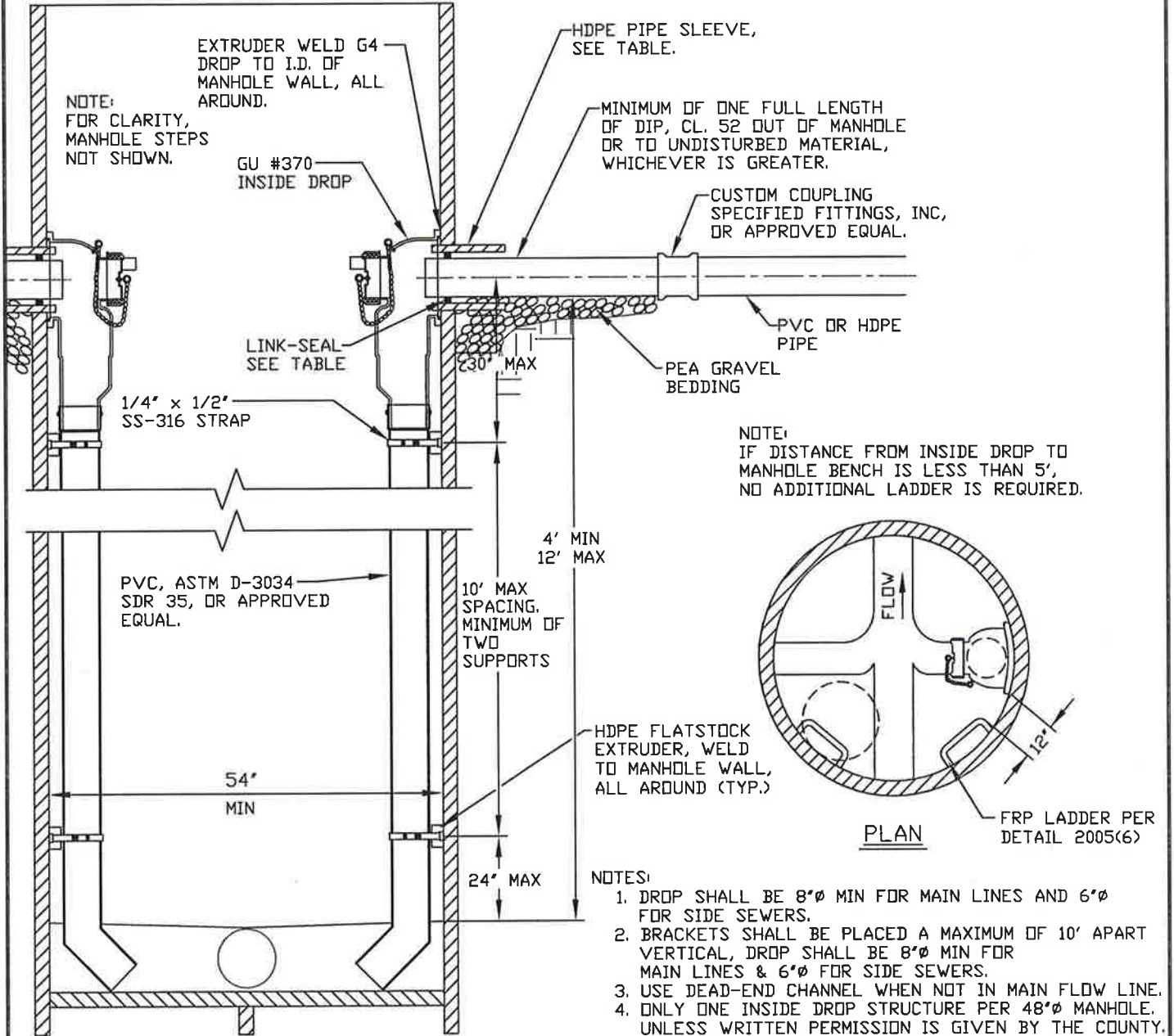
CONCRETE MANHOLE WITH TWO INSIDE DROP STRUCTURES FOR GRAVITY CONNECTION

STANDARD DETAIL NO.
2007
 PAGE 1 OF 1

INLET PIPE	HDPE SLEEVE	LINK-SEAL
6" DIP	12" DR11	LS-400-7
8" DIP	14" DR17	LS-400-9
10" DIP	16" DR17	LS-360-18

ENGINEER SHALL SPECIFY HDPE SLEEVE AND LINK-SEAL SIZING IF INLET PIPE IS OTHER THAN THOSE SHOWN IN TABLE.

TOP NOT SHOWN FOR CLARITY



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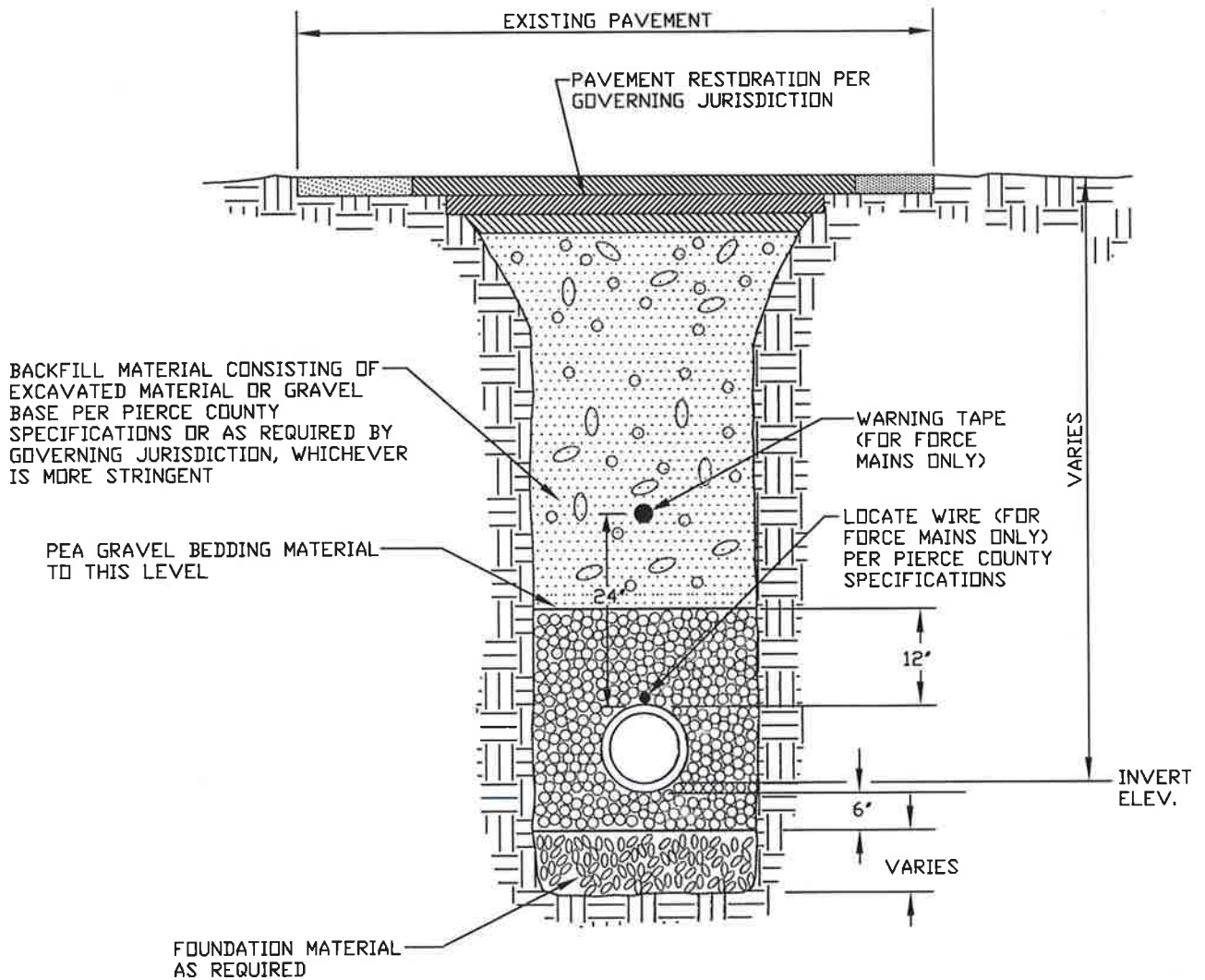
HDPE MANHOLE WITH TWO
INSIDE DROP STRUCTURES
FOR GRAVITY CONNECTION

DATE
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SCALE
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STANDARD DETAIL, NO.

2009

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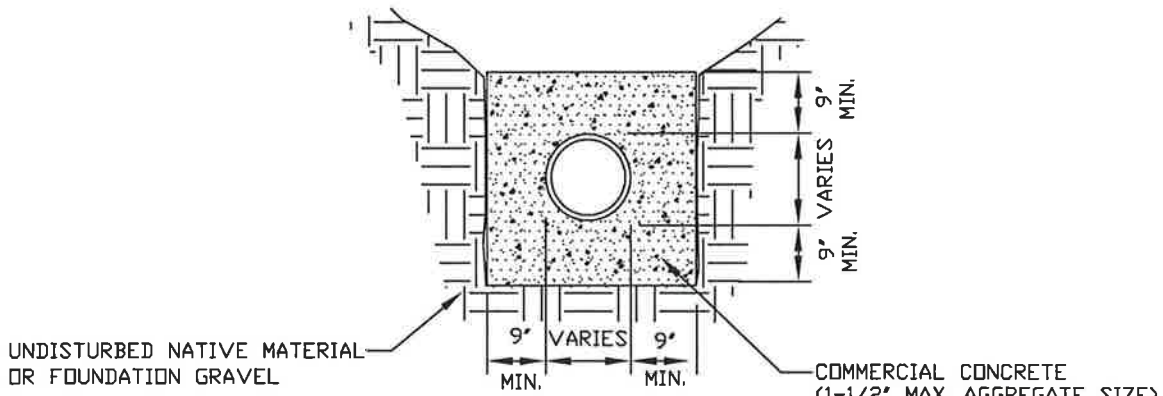
STANDARD DETAILS

TYPICAL TRENCH SECTION

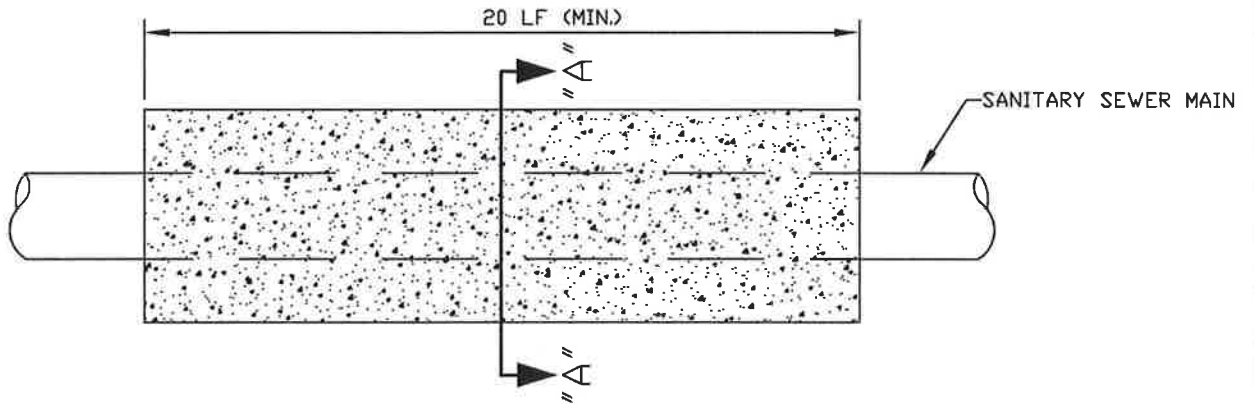
STANDARD DETAIL NO.

3001

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CONCRETE
ENCASEMENT
SECTION A-A



NOTE: CONCRETE ENCASEMENT USED FOR REDUCED VERTICAL SEPARATION FROM OTHER UTILITIES SHALL EXTEND 10' BEYOND EACH SIDE OF THE CROSSING.

PLAN VIEW



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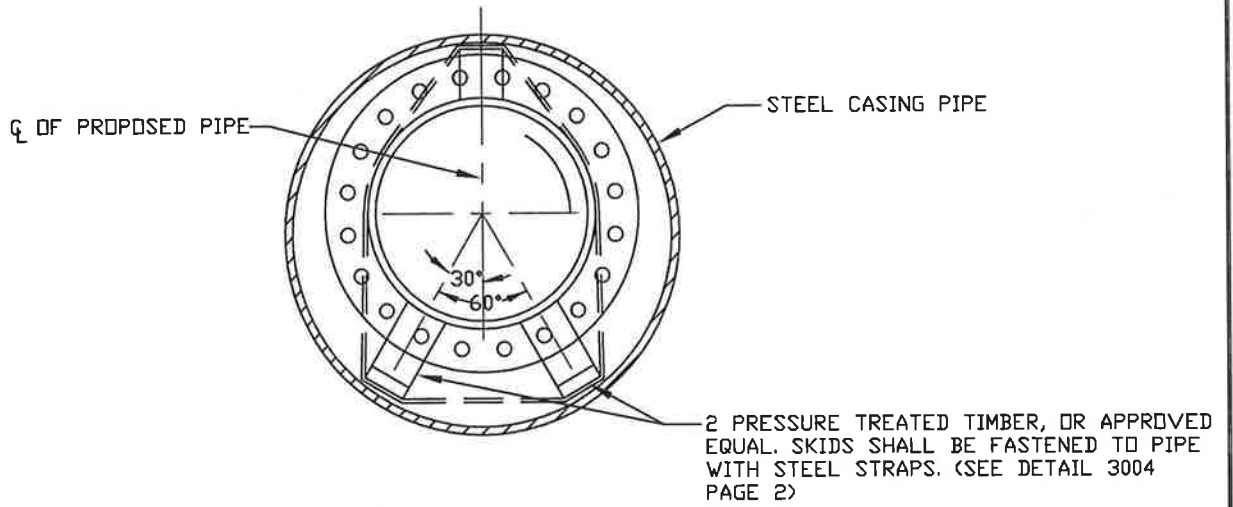
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CONCRETE ENCASEMENT

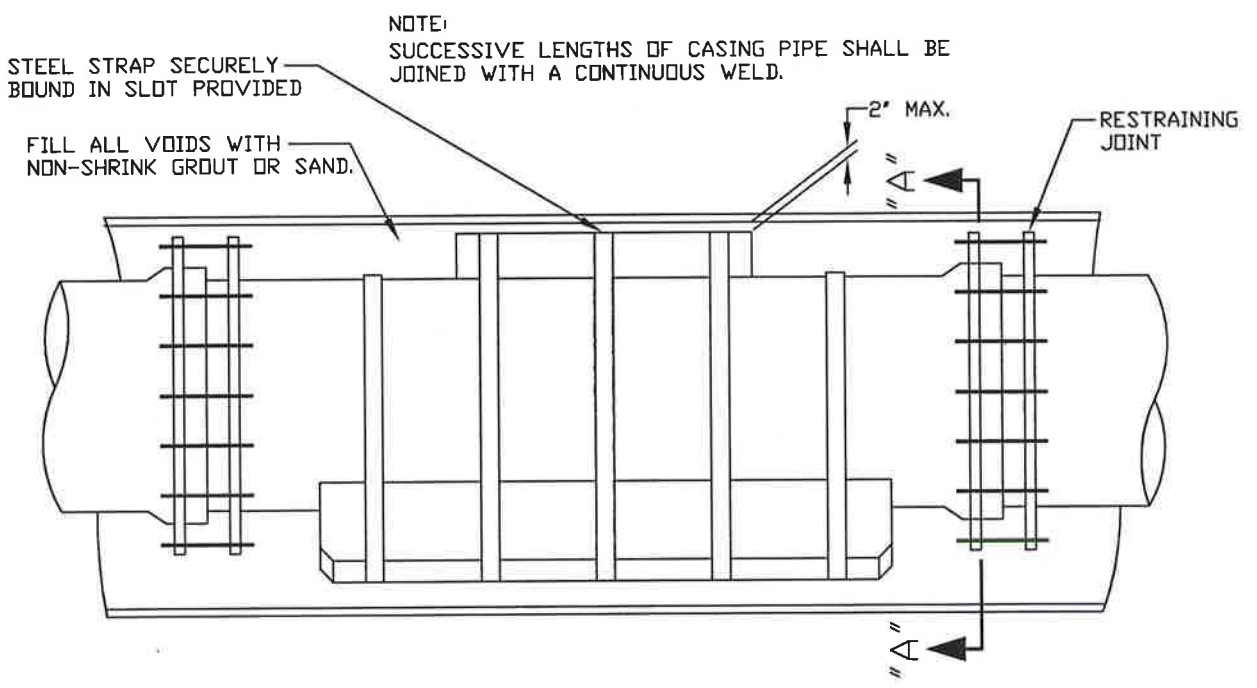
STANDARD DETAIL NO.

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SECTION A-A



SIDE VIEW

NOTE:
USE RESTRAINED JOINTS FOR CARRIER PIPE IF BOTTOM IS AT OR BELOW THE NORMAL GROUND WATER ELEVATION AT THE PARTICULAR INSTALLATION LOCATION.

NOTE:
SEAL END OF CASING PIPE TO SANITARY SEWER PIPE PER PIERCE COUNTY SANITARY SEWER SPECIFICATIONS.

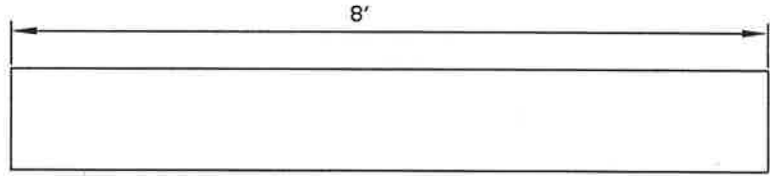
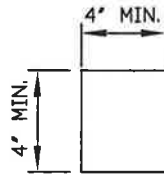


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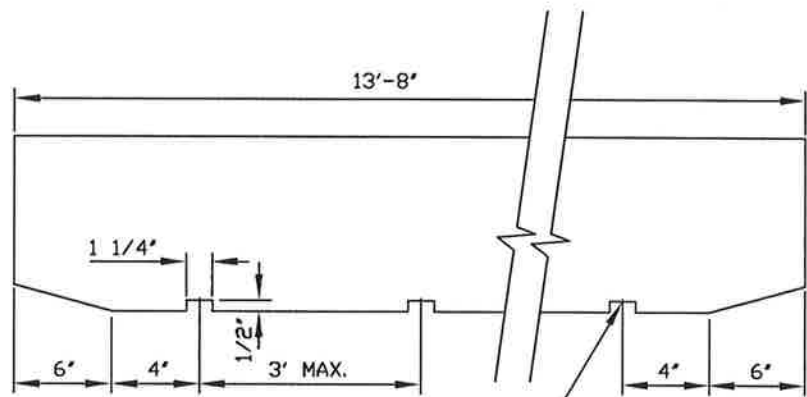
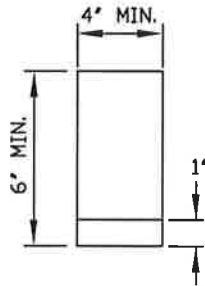
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SUPPORT FOR CARRIER PIPE INSIDE CASING

STANDARD DETAIL NO.
3004
PAGE 1 OF 2



TOP BLOCK DETAIL



STEEL STRAP,
5 PER SKID (TYP.)

SKID DETAIL

NOTE:
SKIDS ARE TO BE THOROUGHLY SEASONED WESTERN RED CEDAR
OR PRESSURE TREATED DOUGLAS/HEMLOCK FIR. PREFABRICATED STEEL
PIPE SUPPORTS MAY BE USED INSTEAD OF TIMBERS.
SEE PIERCE COUNTY SANITARY SEWER SPECIFICATIONS.



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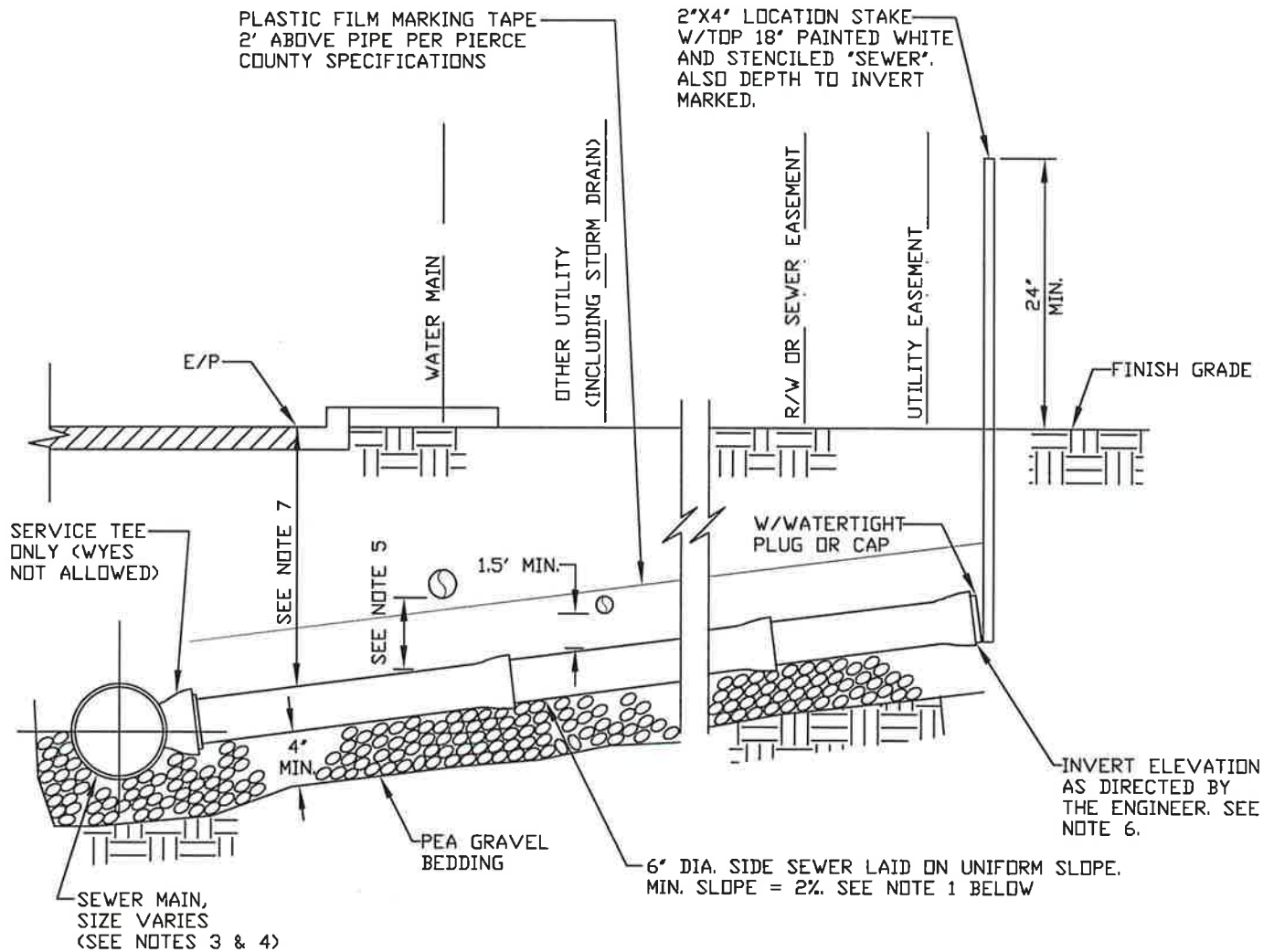
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WOOD BLOCK DETAIL
FOR CARRIER PIPE

STANDARD DETAIL NO.

3004

PAGE 2 OF 2



- NOTES:
1. ACCEPTABLE PIPE TYPES FOR SIDE SEWERS ARE POLYVINYL CHLORIDE ASTM 3034 SDR 35 OR DUCTILE IRON PIPE CL. 52.
 2. BEDDING FOR POLYVINYL CHLORIDE AND CLASS 52 DUCTILE IRON PIPE SHALL BE PEA GRAVEL ONLY.
 3. TEES SHALL BE INSTALLED ON ALL NEW CONSTRUCTION OF SEWER MAINS LESS THAN 18' IN DIAMETER.
 4. NO SIDE SEWER TAPS PERMITTED ON 18-INCH DIAMETER AND GREATER PIPELINES.
 5. THE STANDARD VERTICAL SEPARATION FOR WATER LINES IS 3 FEET ABOVE THE SEWER LINE AND 1.5 FEET FOR ALL OTHER UTILITIES (SEPARATION SHALL BE MEASURED FROM THE OUTER WALL OF THE PIPES). CONCRETE ENCASEMENT WILL BE ALLOWED FOR WATER MAINS CROSSING AT LESS THAN 3 FEET BUT NO CLOSER THAN 1.5 FEET. FOR OTHER UTILITIES A 0.75 FOOT CLEARANCE WILL BE ALLOWED. IF STANDARD CLEARANCES CAN NOT BE OBTAINED, THEN EITHER THE SANITARY SEWER SHALL BE CONCRETE ENCASED OR CLASS 52 DUCTILE IRON PIPE SHALL BE USED.
 6. SIDE SEWER DEPTH AT PROPERTY LINE SHALL NOT EXCEED 8 FEET UNLESS APPROVED BY SEWER UTILITY.
 7. MINIMUM COVER SHALL BE 5' IN R/W, MINIMUM COVER OUTSIDE OF R/W SHALL BE 5' UNDER DRIVING SURFACES AND 3' UNDER NON-DRIVING SURFACES.
 8. NO HORIZONTAL BENDS IN R/W.



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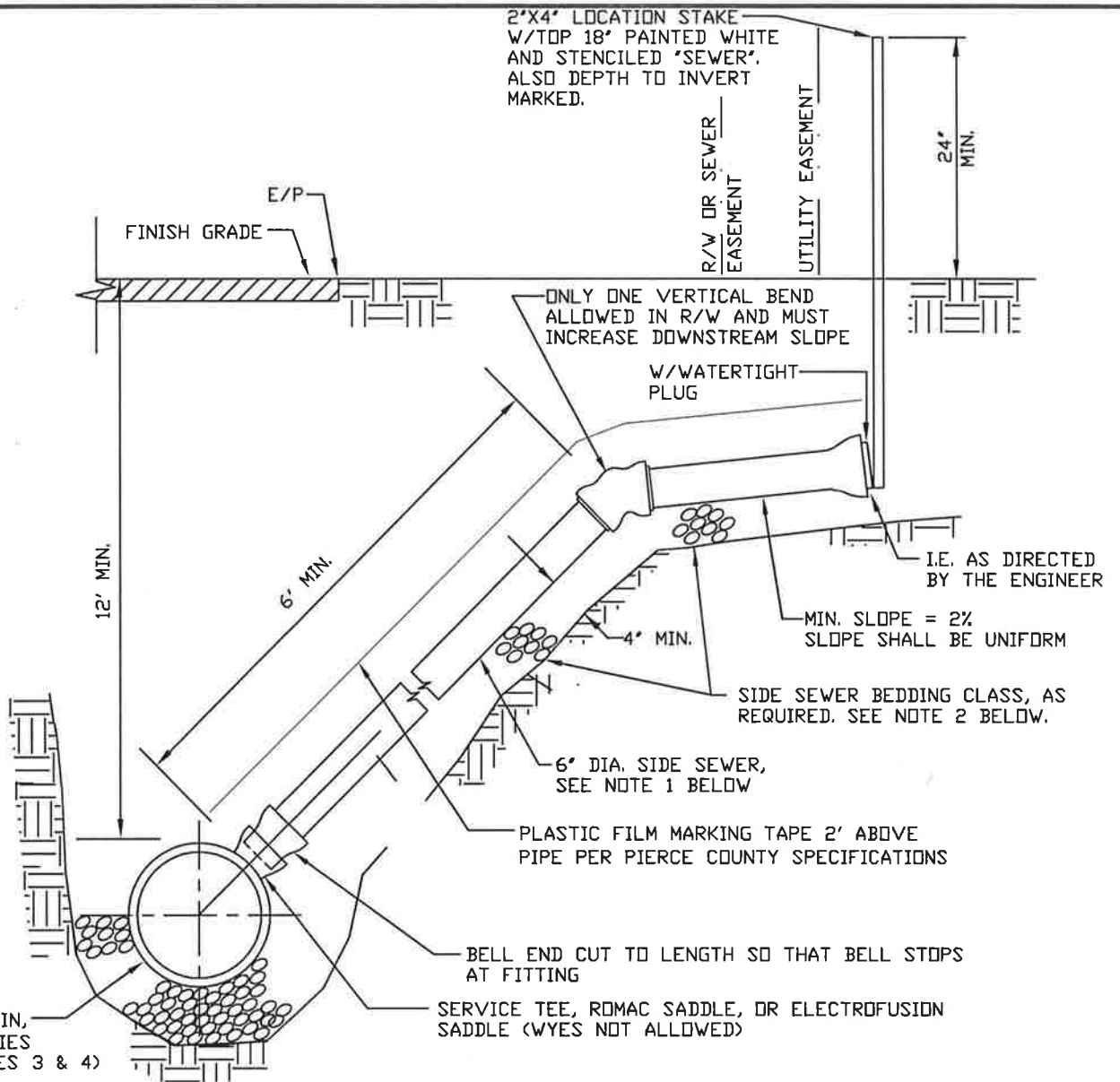
PVC AND DIP SIDE SEWER
STUB INSTALLATION
FOR NEW MAINS

DATE
05/01/2011
SCALE
NTS

STANDARD DETAIL NO.

3005

PAGE 1 OF 1



- NOTES:
1. ACCEPTABLE PIPE TYPES FOR SIDE SEWERS ARE POLYVINYL CHLORIDE ASTM 3034 SDR 35 OR DUCTILE IRON PIPE CL. 52, OR HDPE DR17 MIN.
 2. BEDDING FOR POLYVINYL CHLORIDE, CLASS 52 DUCTILE IRON PIPE, AND HDPE DR17 SHALL BE PEA GRAVEL ONLY.
 3. TEES SHALL BE INSTALLED ON ALL NEW CONSTRUCTION OF SEWER MAINS LESS THAN 18' IN DIAMETER.
 4. NO SIDE SEWER TAPS PERMITTED ON 18-INCH DIAMETER AND GREATER PIPELINES.
 5. TEES SHALL BE DUCTILE IRON WHEN SIDE SEWER IS 45 DEGREES OR GREATER, AND TEE SHALL BE ENCASED IN CONCRETE UP TO BOTTOM OF BELL.
 6. THE STANDARD VERTICAL SEPARATION FOR WATER LINES IS 3 FEET ABOVE THE SEWER LINE AND 1.5 FEET FOR ALL OTHER UTILITIES (SEPARATION SHALL BE MEASURED FROM THE OUTER WALL OF THE PIPES). CONCRETE ENCASEMENT WILL BE ALLOWED FOR WATER MAINS CROSSING AT LESS THAN 3 FEET BUT NO CLOSER THAN 1.5 FEET. FOR OTHER UTILITIES A 0.75 FOOT CLEARANCE WILL BE ALLOWED. IF STANDARD CLEARANCES CAN NOT BE OBTAINED, THEN EITHER THE SANITARY SEWER SHALL BE CONCRETE ENCASED OR CLASS 52 DUCTILE IRON PIPE SHALL BE USED.
 7. SIDE SEWER DEPTH SHALL NOT EXCEED 8 FEET UNLESS APPROVED BY SEWER UTILITY.
 8. MINIMUM COVER SHALL BE 5' IN R/W. MINIMUM COVER OUTSIDE OF R/W SHALL BE 5' UNDER DRIVING SURFACES AND 3' UNDER NON-DRIVING SURFACES.
 9. NO HORIZONTAL BENDS IN R/W.



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 SEWER UTILITY DIVISION
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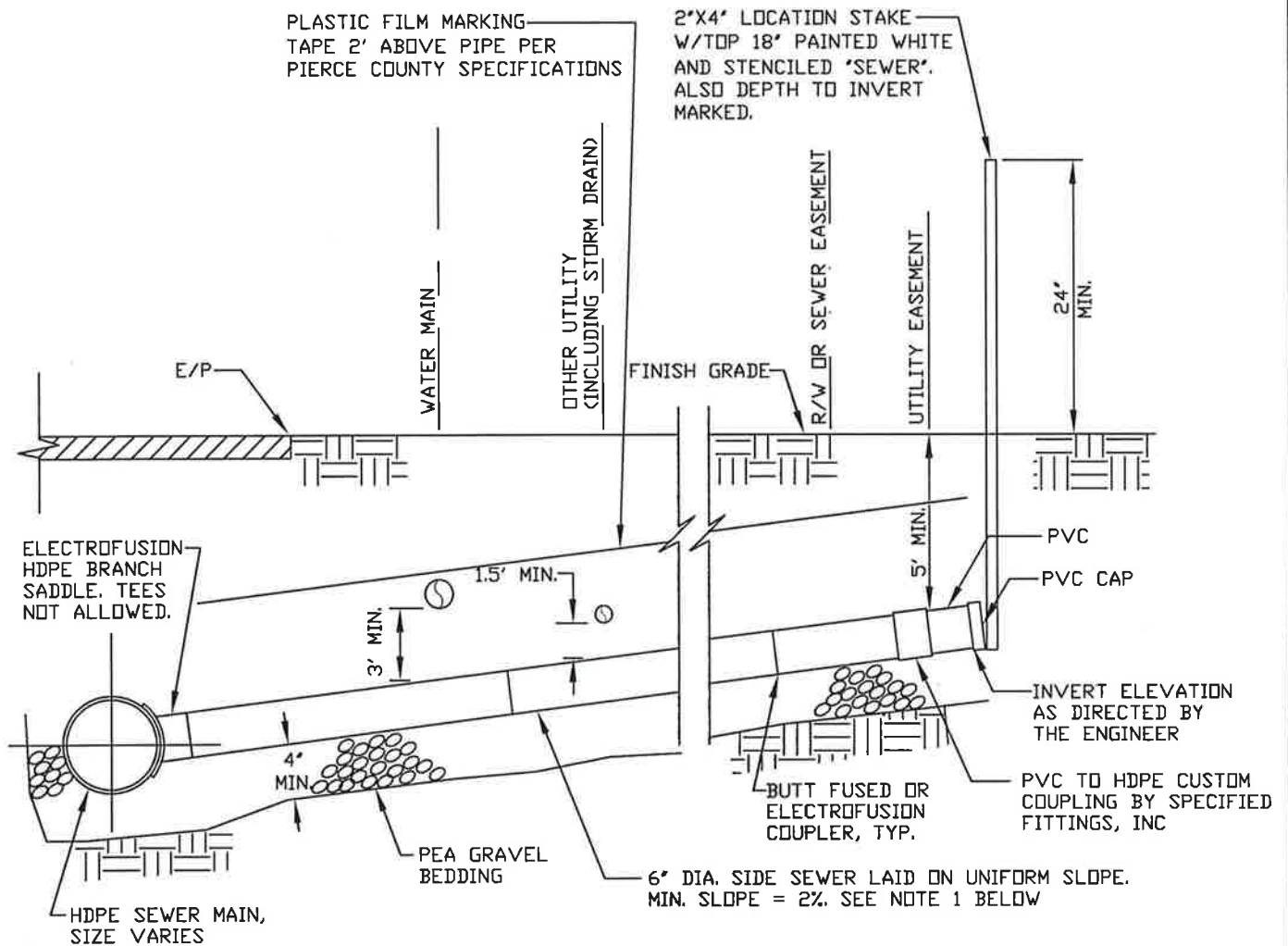
ALTERNATE SIDE SEWER STUB INSTALLATION FOR NEW MAINS

DATE
 05/01/2011
 SCALE
 NTS

STANDARD DETAIL NO.

3006

PAGE 1 OF 1



- NOTES:
1. SIDE SEWERS SHALL BE HDPE DR17 MIN., IPS.
 2. BEDDING SHALL BE PEA GRAVEL ONLY.
 3. MINIMUM COVER SHALL BE 3 FEET IN NON-DRIVING SURFACES.
 4. NO SIDE SEWER TAPS PERMITTED ON 18-INCH DIAMETER AND GREATER PIPELINES.
 5. THE STANDARD VERTICAL SEPARATION FOR WATER LINES IS 3 FEET ABOVE THE SEWER LINE AND 1.5 FEET FOR ALL OTHER UTILITIES (SEPARATION SHALL BE MEASURED FROM THE OUTER WALL OF THE PIPES). CONCRETE ENCASUREMENT WILL BE ALLOWED FOR WATER MAINS CROSSING AT LESS THAN 3 FEET BUT NO CLOSER THAN 1.5 FEET. FOR OTHER UTILITIES A 0.75 FOOT CLEARANCE WILL BE ALLOWED. IF STANDARD CLEARANCES CAN NOT BE OBTAINED, THEN EITHER THE SANITARY SEWER SHALL BE CONCRETE ENCASED OR CLASS 52 DUCTILE IRON PIPE SHALL BE USED.
 6. SIDE SEWER DEPTH SHALL NOT EXCEED 8 FEET UNLESS APPROVED BY SEWER UTILITY.
 7. MINIMUM COVER SHALL BE 5' IN R/W. MINIMUM COVER OUTSIDE OF R/W SHALL BE 5' UNDER DRIVING SURFACES AND 3' UNDER NON-DRIVING SURFACES.
 8. NO HORIZONTAL BENDS IN R/W.



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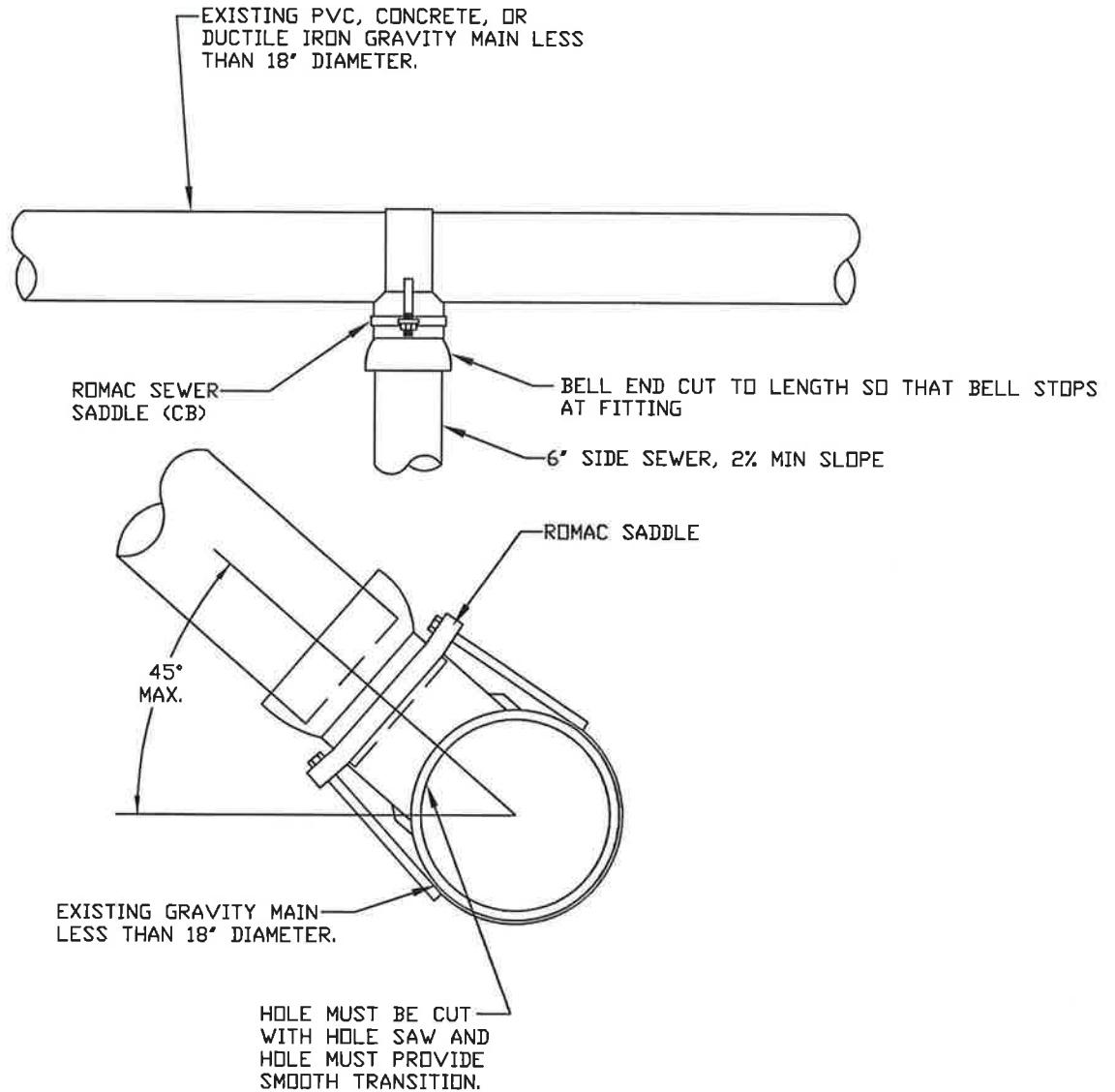
HDPE SIDE SEWER STUB INSTALLATION FOR NEW MAINS

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STANDARD DETAIL NO.

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NOTES:

1. FOR EXISTING PVC, CONCRETE, AND DUCTILE IRON MAINS ONLY.
2. ALL NUTS AND BOLTS SHALL BE STAINLESS STEEL.
3. NO SIDE SEWER TAPS PERMITTED ON 18-INCH DIAMETER AND GREATER PIPELINES.
4. WET TAPS INTO EXISTING HDPE GRAVITY MAINS SHALL USE ELECTROFUSION SADDLES.
5. BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH THE SADDLE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

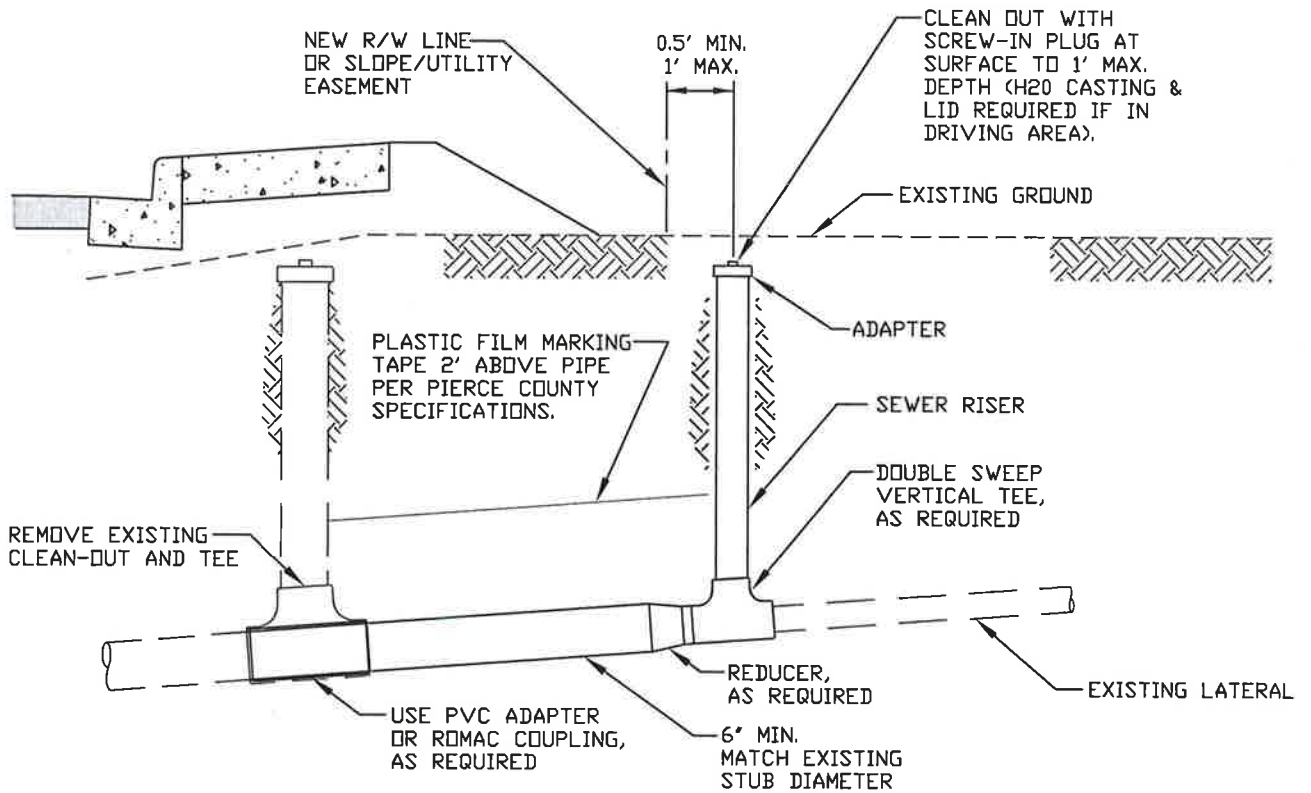


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**WET TAP FOR GRAVITY
 SIDE SEWER STUB**

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**CLEANOUT RELOCATION
 DETAIL**

STANDARD DETAIL NO.
3009

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Appendix C

Geotechnical Report

**GEOTECHNICAL REPORT
Onyx Drive Improvements
Lakewood, Washington**

HWA Project No. 2019-084-21

**Prepared for
BCRA Design, Inc.**

February 3, 2020



GEOSCIENCES INC.

DBE/MWBE

**Geotechnical Engineering
Pavement Engineering
Geoenvironmental
Hydrogeology
Inspection & Testing**



February 3, 2020
HWA Project No. 2019-084-21

BCRA Design, Inc.
2106 Pacific Avenue, Suite 300
Tacoma, Washington 98402

Attention: Ben Dort, P.E.

Subject: **Geotechnical Report**
Onyx Drive Improvements
Lakewood, Washington

Dear Mr. Dort:

As requested, HWA GeoSciences Inc. (HWA) completed a geotechnical engineering study for the proposed improvements to Onyx Drive, in Lakewood, Washington. The objective of our investigation was to evaluate the existing pavement conditions, infiltration capacity of on-site soils, and to provide geotechnical recommendations for roadway improvements and infiltration facilities. Our scope of work included field reconnaissance, Pilot Infiltration Testing (PIT), pavement coring, laboratory testing, engineering analyses, and preparation of the attached geotechnical report summarizing the investigation results and our recommendations.

We appreciate the opportunity to provide geotechnical engineering services on this project. If you have any questions regarding this report or require additional information or services, please contact the undersigned at your convenience.

Sincerely,

HWA GEOSCIENCES INC.

Bryan K. Hawkins, P.E.
Senior Geotechnical Engineer

Shane T. Miller, E.I.T.
Geotechnical Engineer

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Figures 3A & 3B	PIT-1 Water Level Plots
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Figures A-2 – A-6	Logs of Pavement Cores Core-1 through Core-5
Figures A-7 – A-8	Logs of Test Pits TP-1 through TP-2

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Figures B-2 & B-3	Particle-Size Analysis of Soils
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**GEOTECHNICAL REPORT
ONYX DRIVE IMPROVEMENTS
GEOTECHNICAL INVESTIGATION
LAKEWOOD, WASHINGTON**

1. INTRODUCTION

1.1 GENERAL

This report summarizes the results of a geotechnical engineering investigation undertaken by HWA GeoSciences, Inc. (HWA) along two segments of Onyx Drive, from 95th Avenue SW to 87th Avenue SW and from Garnet Lane SW to Phillips Road SW. We understand that the portion of Onyx Drive SW from 87th Avenue SW to Garnet Lane SW already has existing curb, gutter, and sidewalk in place along the south side of the roadway and is not included as part of this project.

Our investigations were performed to assess infiltration potential and to evaluate existing pavement layer thicknesses in order to provide recommendations for design of the proposed improvements.

1.2 PROJECT UNDERSTANDING

We understand that this project will add an 8-foot wide shared-use path on the south side of the road and a 6-foot sidewalk on the north side of the road for the segments mentioned above and will reconstruct the existing pavement between 95th Avenue SW and 87th Avenue SW. In addition, we understand onsite infiltration of stormwater will be included in the design. The project location and site layout are shown on the Vicinity Map, Figure 1 and the Site and Exploration Plans, Figures 2A through 2E.

Authorization for HWA to proceed with this study was provided by BCRA Design, Inc. in Agreement No. C401-2017 on June 20, 2019. Our scope of work included field reconnaissance, Pilot Infiltration Testing (PIT), logging test pit excavations and pavement cores, laboratory testing, engineering analyses and preparation of the attached geotechnical report summarizing the investigation results and our recommendations.

2. FIELD EXPLORATIONS AND LABORATORY TESTING

2.1 PILOT INFILTRATION TESTING

HWA conducted two, small-scale Pilot Infiltration Tests (PITs) between July 17 and July 19, 2019 in general accordance with the *Pierce County Stormwater Management and Site Development Manual – Volume III – Hydrologic Analysis and Flow Control BMPs* (PCSWM, 2015). The excavations for the PITs were made by Kelly's Excavating Inc., of Pacific, Washington, under subcontract to HWA. The tests were conducted in pits roughly 3 feet wide

by 4 feet long and 4 feet deep. HWA measured the bottom of each pit to confirm the 12 square feet required for a small-scale PIT. Specific procedures and observations for each PIT are as follows:

PIT-1: Water was introduced into the excavation with a fire hose and into a 6-inch perforated diffuser pipe with a 5-gallon bucket on the bottom to serve as a splash plate. Using a flow meter to control the flow rate, water was added to the pit at a rate that maintained a water depth of approximately 1-foot for the 6-hour pre-soak period. For the first 3 hours the flow rate that was required to maintain this level was approximately 19 gallons per minute. During the final 3 hours of the pre-soak, the flow rate that was required to maintain this level was approximately 21 gallons per minute.

After the 6-hour presoak period, the constant head test was performed. The stable flow rate that was required to maintain constant head for 1 hour was 21.3 gallons per minute. After the one-hour constant head test, the water was shut off for the falling head test, with stage at 1.0 feet. A datalogging pressure transducer recorded the fall in stage and physical readings were also taken during the test. Water level reached the bottom of the excavation approximately 7.5 minutes after flow was terminated. Short-term hydraulic conductivity, determined using the rates from the constant head portion of the test, was approximately 81.5 inches per hour (in/hr). The water level data for PIT-1 is shown in Figure 3A and the water level data for the falling head test portion of PIT-1 is shown in Figure 3B.

PIT-2: Water was introduced into the excavation with a fire hose and into a 6-inch perforated diffuser pipe with a 5-gallon bucket on the bottom to serve as a splash plate. Using a flow meter to control the flow rate, water was added to the pit at a rate that maintained a water depth of approximately 1-foot for the 6-hour pre-soak period. For the first 2 hours the flow rate that was required to maintain this level was approximately 20 gallons per minute. During the final 4 hours of the pre-soak, the flow rate that was required to maintain this level was approximately 13 gallons per minute.

After the 6-hour presoak period, the constant head test was performed. The stable flow rate that was required to maintain constant head for 1 hour was 10.2 gallons per minute. After the one-hour constant head test, the water was shut off for the falling head test, with stage at 1.0 feet. A datalogging pressure transducer recorded the fall in stage and physical readings were also taken during the test. Water level reached the bottom of the excavation approximately 26 minutes after flow was terminated. Short-term hydraulic conductivity, determined using the rates from the constant head portion of the test, was approximately 22.2 inches per hour (in/hr). The water level data for PIT-2 is shown in Figure 4A and the water level data for the falling head test portion of PIT-2 is shown in Figure 4B.

2.2 SUBSURFACE INVESTIGATION

2.2.1 General

In addition to the two PITs, HWA GeoSciences conducted a subsurface investigation program that consisted of pavement coring in five locations and digging test pits through the PIT excavations in order to evaluate and sample receptor soils. Those efforts are described in the following subsections. A Legend of Terms and Symbols Used on Exploration Logs is presented in Figure A-1, Appendix A. Figures 2A through 2E, Site and Exploration Plans, show the approximate locations of the subsurface investigations, based on pacing and measurements from existing site features.

2.2.2 Pavement Cores

HWA GeoSciences, Inc. performed five, 6-inch diameter pavement cores, designated Core-1 through Core-5, to assess pavement layer thicknesses and shallow subgrade support conditions between 97th Avenue SW and 87th Avenue SW. Shallow subsurface explorations were performed in each core hole using hand augers and hand digging tools. The coring and subsurface explorations were performed by two geologists from HWA GeoSciences, Inc. All core holes were backfilled with compacted Aquaphalt. Pavement core exploration logs are presented in Figures A-2 through A-6, Appendix A. Table 1 summarizes the pavement structures encountered in the pavement core explorations.

Table 1. Thickness of Pavement Layers

Designation	Location	HMA Thickness (in.)	General Notes
Core-1	See Figure 2D	1.75	1 lift of HMA, cracking extends through entire lift.
Core-2	See Figure 2C	1	1 lift of HMA, cracking extends through entire lift.
Core-3	See Figure 2A	2.75	2 lifts of HMA, cracking extends through both lifts.
Core-4	See Figure 2A	1.5	1 lift of HMA, cracking extends through entire lift.
Core-5	See Figure 2C	2	2 lifts of HMA, cracking extends through both lifts.

Pavement distress visible at the surface along this segment of the alignment consisted of medium to high severity alligator cracking, transverse cracking, longitudinal cracking, rutting and potholing. It appears that some crack sealing and pothole patching has been performed in the past.

Based on pavement coring, the existing Hot Mix Asphalt (HMA) thickness varied from 1 to 2.75 inches and consisted of 1 or 2 lifts of HMA. A thin layer of Crushed Surfacing Top Course (CSTC) was observed directly below the HMA in Core-2, Core-3 and Core-4.

2.2.3 Test Pits

After infiltration procedures were completed as described in section 2.1, each PIT was over-excavated and logged as test pits TP-1 and TP-2 to depths of 10 feet and 9 feet, respectively. The purpose of test pitting through the PIT excavations was to determine adequate vertical separation from ground water and to retrieve soil samples of the proposed receptor soils. Both test pits were excavated in the morning the day after the PIT was conducted to allow time for the water added to the pits to drain to the seasonal ground water depth. Ground water seepage was not observed in either test pit excavation the morning the PIT.

The PITs and test pits were excavated by Kelly's Excavating of Pacific, Washington as noted above. An HWA geotechnical engineer monitored the over-excavation of the test pits. Soil samples obtained from the test pits were classified in the field and representative portions were placed in plastic bags and taken to our Bothell, Washington laboratory for further examination and testing.

Test pit exploration logs are presented in Figure A-7 and A-8, Appendix A. It should be noted that the stratigraphic contacts shown on the individual exploration logs represent the approximate boundaries between soil types; actual transitions may be more gradual. The soil and ground water conditions depicted are only for the specific date and locations reported and, therefore, are not necessarily representative of other locations and times.

2.3 LABORATORY TESTING

Laboratory tests were conducted on selected soil samples to characterize engineering properties of the on-site soils. Laboratory tests, as described below, included moisture content determination and grain size distribution.

Moisture Content of Soil: The moisture content (percent by dry mass) of selected soil samples was determined in accordance with ASTM D2216. The results are shown at the sampled intervals on test pit logs in Appendix A.

Particle Size Analysis of Soil: Selected samples were tested to determine the particle size distribution of material in accordance with ASTM D422. The results are summarized on the Summary of Material Properties, Figure B-1, and Particle Size Analysis of Soils reports, Figures B-2 through B-3 in Appendix B, which also provides information regarding the classification of the samples and the moisture content at the time of testing.

2.4 LABORATORY TESTING BY OTHERS

Cation Exchange Capacity (CEC) of Soil: The cation exchange capacity of two selected samples (test pit TP-1, sample S-4 and test pit TP-2, sample S-4) were tested by Soiltest Farm

Consultants of Moses Lake, Washington. The results are summarized on Figures B-4 and B-5 in Appendix B.

Organic Content of Soil: The organic content of two selected samples (test pit TP-1, sample S-4 and test pit TP-2, sample S-4) were tested by Soiltest Farm Consultants of Moses Lake, Washington. The results are summarized on Figures B-4 and B-5 in Appendix B.

3. SITE CONDITIONS

3.1 SITE DESCRIPTIONS

The two project segments of Onyx Drive, from 97th Avenue SW to 87th Avenue SW and from Garnet Lane SW to Phillips Road SW, currently do not have sidewalk, curb, or gutter on either side of the roadway. Both alignments are relatively flat and surrounding land use is residential. Oakbrook Elementary School exists on the south side of Onyx Drive between the two segments and this portion of road already has sidewalk, curb and gutter in place on the south side of the roadway.

Onyx Drive SW, between 97th Avenue SW and 87th Avenue SW, is a two-lane, asphalt-paved roadway with significant pavement distress. The existing asphalt thickness is about 1 to 2.75 inches thick.

Onyx Drive SW, between Garnet Lane SW and Phillips Road SW, is a two-lane roadway surface with chip seal surface. The thickness of asphalt below the chip seal is unknown. Very little pavement distress was observed in this segment, mostly low-severity transverse cracking.

3.2 GENERAL GEOLOGIC CONDITIONS

Geologic information specific to the project area was obtained from the *Geologic Map of the Tacoma 1:100,000-scale Quadrangle, Washington* (Schuster et al., 2015). According to this map, the near-surface deposits near the project area consist of recessional outwash, Steilacoom Gravel, described as pebbles with boulders; local crossbedding; kettles and other ice-contact deposits.

3.3 SUBSURFACE CONDITIONS

Near Onyx Drive and the proposed infiltration facilities, the subsurface explorations typically revealed a shallow thickness of fill and buried topsoil over Steilacoom sand and gravel. Descriptions of each soil unit are as follows:

Fill: Fill was encountered at the surface of both test pit TP-1 and TP-2. The fill varied in density from loose to dense and generally consisted of sand and gravel with varying silt content. The fill encountered in TP-2 appeared to consist of crushed base course over a thin layer of buried topsoil. The thickness of the fill ranged from 0.5 to 1 foot.

Buried Topsoil: This unit was encountered in both test pits as well as beneath gravel fill at the location of Core-3. The presence of buried topsoil is indicative of site grading performed during past road/utility development. The buried topsoil is loose to medium dense, and has varying levels of silt, sand, and gravel. Organics and roots were abundant throughout this unit.

Steilacoom Sand and Gravel: Encountered in both test pits and all pavement cores except Core-1, which was terminated in fill, this unit consists of medium dense to dense, relatively clean sand and gravel. Sand was the major constituent in test pit TP-1 and gravel was the major constituent in test pit TP-2. In both test pit explorations, this unit was extremely clean, containing very little silt. Both test pit excavations were terminated in this unit.

Coarse gravel and cobbles were present in the explorations and should be anticipated during construction excavations on site. Boulders were not encountered during the explorations but are known to be present in some outwash deposits and therefore should also be anticipated during construction excavations on site.

3.4 GROUND WATER CONDITIONS

Ground water seepage was not encountered in any of the explorations. Note that these explorations were performed at the peak of the dry season. Ground water level is expected to vary seasonally with rainfall and other factors. Impermeable soil units were not encountered in the explorations but still may exist in locations not evaluated.

4. CONCLUSIONS AND RECOMMENDATIONS

4.1 GENERAL

Our Pilot Infiltration Testing, and subsequent excavations, indicate that the native, onsite soils are highly granular with very little fines content and are suitable for stormwater infiltration. The pavement coring, performed between 97th Avenue SW and 87th Avenue SW, encountered only 1 inch to 2.75 inches of HMA over little to no crushed aggregate base. We recommend that the pavement be completely reconstructed throughout this portion of the alignment. The pavement on Onyx Drive SW, between Garnet Lane SW and Phillips Road SW, is in relatively good condition with a chip seal surface. We understand that the pavement along this portion of the alignment is proposed to be rehabilitated with a Hot Mix Asphalt (HMA) overlay.

Design recommendations for stormwater infiltration, earthwork, pavement design and utility pipe bedding and backfill are presented in the following sections.

4.2 STORMWATER INFILTRATION

4.2.1 General

We understand that stormwater infiltration will be utilized along the alignment and that design of the proposed infiltration facilities will be performed in accordance with the Pierce County *Stormwater Management and Site Development Manual* (Pierce County, 2015).

4.2.2 Preliminary Design Infiltration Rates

To determine preliminary design infiltration rates, correction factors are applied to the short-term rates determined from the in-situ small scale Pilot Infiltration Tests. Using the PCSWM, the correction factors for an infiltration gallery are applied as follows:

$$I_{\text{design}} = I_{\text{measured}} \times F_{\text{testing}} \times F_{\text{geometry}} \times F_{\text{plugging}}$$

Correction factors were determined as follows from the manual:

$$F_{\text{testing}} = 0.50 \text{ for use of small-scale PIT method;}$$

$F_{\text{geometry}} = 1.0$ based on the assumption that the depth to the water table is great enough that a reduction in the design infiltration rate is unnecessary;

$F_{\text{plugging}} = 0.8$ for fine sands and loamy sands (using finest matrix material in the soil at testing depths);

With these factors, the design rate is calculated for the two locations as follows:

PIT-1

$$I_{\text{design}} = I_{\text{measured}} \times F_{\text{testing}} \times F_{\text{geometry}} \times F_{\text{plugging}}$$

$$I_{\text{design}} = 81.5 \text{ in/hr} \times 0.50 \times 1.0 \times 0.8$$

$$I_{\text{design}} = \del{32.6 \text{ in/hr}} = \mathbf{30.0 \text{ in/hr}} \text{ (in no case may the design infiltration rate exceed 30 in/hr)}$$

PIT-2

$$I_{\text{design}} = I_{\text{measured}} \times F_{\text{testing}} \times F_{\text{geometry}} \times F_{\text{plugging}}$$

$$I_{\text{design}} = 22.2 \text{ in/hr} \times 0.50 \times 1.0 \times 0.8$$

$$I_{\text{design}} = \mathbf{8.9 \text{ in/hr}}$$

4.3 PAVEMENT DESIGN RECOMMENDATIONS

Traffic data was provided by City of Lakewood Engineering Department for Onyx Drive, west of 87th Avenue SW, consisting of an Average Daily Traffic (ADT) volume of 6,183 (both directions) for the year 2018. We assumed a 50 percent split in each direction. We were also provided a heavy truck volume of 4 percent, mainly consisting of single-unit trucks and school buses. We assumed a value of 1 Equivalent Single Axle Load (ESAL) per heavy vehicle. For a

20-year design life and no annual growth rate, this results in a design ESAL value of 902,718. This value was used for design.

Our HMA pavement design is based on the design method given in the 1993 AASHTO Design Guide (AASHTO, 1993), using the following parameters:

- Design Life = 20 years
- Traffic Growth = 0%
- Reliability = 75%
- Initial Serviceability = 4.5
- Terminal Serviceability = 2.0
- Overall Standard Deviation = 0.50
- Subgrade Resilient Modulus = 17,500 psi

This results in a required AASHTO Structural Number (SN) of 2.3. Our design is based on this value and is presented in Table 2.

Table 2. Structure Requirements for New HMA Pavement

Material Description	Minimum Layer Thickness, inches	WSDOT Standard Specification
HMA	4	5-04 & 9-02.1
CSTC	4	9-03.9(3)
Prepared Subgrade/Structural Fill	Proof roll/structural fill as required	9-03.14(1)

HMA: Hot Mix Asphalt

CSTC: Crushed Surfacing Top Course, compacted as specified.

We recommend that the HMA consist of Class ½-inch or Class 3/8-inch.

4.3.1 HMA Design Considerations

The following design considerations should be noted and implemented:

- The pavement will likely require a functional overlay after about 10 to 12 years because of non-structural associated distress caused by environmental factors such as degradation of the asphalt surface and rutting.
- HMA pavements are susceptible to shoving and rutting from heavy vehicles, such as buses and heavy delivery trucks, particularly at intersections. In these areas, more frequent maintenance and even premature reconstruction of the pavement may be required.

4.3.2 HMA Binder Selection

The selection of the optimum asphalt binder type for the prevailing climate is critical to ensure long-term pavement performance. Use of the wrong binder can result in low temperature cracking or permanent deformation at high temperatures.

Based on the climate and WSDOT recommendations, we recommend Superpave Performance Grade binder PG 58H-22 be used.

4.3.3 Placement of HMA

Placement of HMA should be in accordance with Section 5-04 of the WSDOT *Standard Specifications* (WSDOT, 2018). Attention should be paid to the following:

- HMA should not be placed until the engineer has accepted the previously constructed subgrade and/or pavement layers.
- HMA should not be placed on any frozen or wet surface.
- HMA should not be placed when precipitation is anticipated before the pavement can be compacted, or before any other weather conditions which could prevent proper handling and compaction of HMA.
- HMA should not be placed when the average surface temperatures are less than 45° F.
- HMA temperature behind the paver should be more than 240 °F. Compaction should be completed before the mix temperature drops below 180 °F. Comprehensive temperature records should be kept during the HMA placement.
- For cold joints, tack coat should be applied to the edge to be joined and the paver screed should be set to overlap the first mat by 1 to 2 inches.
- Where HMA overlay is to be placed above chip seal surface, we recommend that the pavement be thoroughly cleaned and adequate tack coat be applied to the entire chip seal surface prior to placement of overlay.

4.3.4 Drainage

It is essential to the satisfactory performance of the roadway that good drainage is provided to prevent water ponding on, alongside, or accumulating beneath the pavement. Water ponding can cause saturation of the pavement and subgrade layers and lead to premature failure. The base layers and subgrade surface should be graded to prevent water being trapped within the layer. The surface of the pavement should be sloped to convey water from the pavement to appropriate drainage facilities.

4.3.5 Structural Fill and Compaction

Imported structural fill for pavement base course should consist of Crushed Surfacing Top Course (CSTC), as specified in Section 9-03.9(3) of the WSDOT *Standard Specifications* (WSDOT, 2018).

Structural fill should be placed in loose, horizontal lifts of not more than 8 inches in thickness and compacted to at least 95% of the maximum dry density, as determined used test method ASTM D 1557 (Modified Proctor). At the time of placement, the moisture content of structural fill should be at or near optimum. The procedure required to achieve the specified minimum relative compaction depends on the size and type of compaction equipment, the number of passes, thickness of the layer being compacted, and the soil-moisture density properties.

When the first fill is placed in a given area, and/or anytime the fill material changes, the area should be considered a test section. The test section should be used to establish fill placement and compaction procedures required to achieve proper compaction. The geotechnical consultant should observe placement and compaction of the test section to assist in establishing an appropriate compaction procedure. Once a placement and compaction procedure is established, the contractor's operations should be monitored and periodic density tests performed to verify that proper compaction is being achieved.

4.4 EARTHWORK

4.4.1 Subgrade Preparation

In the proposed roadway reconstruction and shared-use path area, subgrade preparation should begin with the removal of all topsoil, existing fill, organic-rich soils, debris and vegetation. Using a smooth (toothless) bucket, the soils should be excavated to the design elevation and thoroughly compacted. The exposed subgrade soils should be inspected by the Geotechnical Engineer, or their representative. Where over-excavation below the design subgrade elevation is required to remove unsuitable material, the width of the excavation should extend beyond the edge of the footing a distance equal to the depth of the over-excavation required to reach the bearing soils.

4.4.2 Structural Fill Materials and Compaction

Any material used to support the road structure or new pathway should consist of Crushed Surfacing Top Course (CSTC) as specified in Section 9-03.9(3) of the WSDOT *Standard Specifications* (WSDOT, 2018). Structural fill used to raise site grades, or backfill utility trench excavations, should consist of granular materials such as Gravel Borrow, meeting the requirements of Section 9-03.14(1) of the Standard Specifications (WSDOT, 2018). Based on our subsurface explorations, we anticipate some of the on-site soils will be suitable for reuse as structural fill (except in areas where CSTC is required) provided certain requirements are met. Oversize material (greater than 4 inches) should be removed from material to be used as

structural fill as well as any organic or other deleterious materials. Use of onsite materials should be evaluated by the geotechnical engineer. The native soils do not have excessive fines content and are not extremely moisture sensitive, but care should be taken to ensure that they are not too wet or too dry for proper compaction.

A sufficient number of Modified Proctor tests should be performed on the materials to be used as structural fill to properly evaluate the compaction characteristics of the material. To be used as structural fill, the native soils must be within 2% (+/-) of optimum moisture content. A Geotechnical Engineer, or their representative, should perform full-time construction monitoring of all fill placement and compaction operations. If the on-site soils are placed either too wet or too dry of optimum moisture content, or if the soils are inadequately compacted, significant settlement should be anticipated.

Structural fill soils should be moisture conditioned, placed in loose horizontal lifts less than 8-inches thick, and compacted to at least 95% of the maximum dry density (MDD) as determined using test method ASTM D1557 (Modified Proctor). Achievement of proper density of a compacted fill depends on the size and type of compaction equipment, the number of passes, thickness of the layer being compacted and soil moisture-density properties. In areas where limited space restricts the use of heavy equipment, smaller equipment can be used, but the soil must be placed in thin enough layers to achieve the required relative compaction. Generally, loosely compacted soils result from poor construction technique and/or improper moisture content. Soils with high fines contents are particularly susceptible to becoming too wet, and coarse-grained materials easily become too dry for proper compaction.

4.4.3 Temporary Excavations

Any temporary excavations deeper than 4 feet should be sloped or shored in accordance with Part N of the Washington Administrative Code (WAC) 296-155 or shored. The near-surface loose to medium dense topsoil/fill/Steilacoom sand and gravel soils on site classify as Type C soils. Temporary excavations in Type C soils may be no steeper than 1.5H:1V to meet safety requirements for worker access during construction. The recommended maximum allowable temporary slope cut inclinations are applicable to temporary excavations above the water table only. Flatter slopes may be required where groundwater seepage is present.

The contractor should monitor the stability of the temporary cut slopes and adjust the construction schedule and slope inclination accordingly. The contractor should be responsible for control of ground and surface water and should employ sloping, slope protection, ditching, sumps, dewatering, and other measures as necessary to prevent sloughing of soils.

4.4.4 Wet Weather Earthwork

Although the granular soils encountered on site are relatively free draining and are not particularly moisture sensitive, the subgrade may still be difficult to traverse with construction equipment during periods of wet weather. General recommendations relative to earthwork

performed in wet weather or in wet conditions are presented below. These recommendations should be incorporated into the contract specifications.

- Earthwork should be performed in small areas to minimize exposure to wet weather. Excavation or the removal of unsuitable soil should be followed promptly by the placement of concrete or placement and compaction of structural fill material. The size and type of construction equipment used may need to be limited to prevent soil disturbance.
- The ground surface within the construction area should be graded to promote run-off of surface water and to prevent the ponding of water.
- The ground surface within the construction area should be sealed by a smooth drum roller, or equivalent, and under no circumstances should soil be left uncompacted and exposed to moisture infiltration.
- Excavation and placement of fill material should be monitored to determine that the work is being accomplished in accordance with the project specifications and that the weather conditions do not adversely impact the quality of work.

4.5 UTILITY PIPE BEDDING AND BACKFILL

General recommendations relative to pipe bedding and utility trench backfill are presented below:

- Pipe bedding material, placement, compaction and shaping should be in accordance with the project specifications and the pipe manufacturer's recommendations. As a minimum, the pipe bedding should meet the gradation requirements for Gravel Backfill for Pipe Zone Bedding, Section 9.03.12(3) of the WSDOT *Standard Specifications* (WSDOT, 2018).
- Pipe bedding materials should be placed on relatively undisturbed native soils, or compacted fill soils. If the native subgrade soils are disturbed, the disturbed material should be removed and replaced with compacted bedding material.
- Although an improbable condition, in areas where the trench bottom encounters very soft or organic-rich subgrade soils, it will be necessary to over-excavate the unsuitable material and backfill with pipe bedding material. We recommend that 1 1/4-inch minus crushed rock meeting the requirements for Crushed Surfacing, as described in Section 9-03.9(3) of the WSDOT *Standard Specifications* (WSDOT, 2018), be used to backfill the over-excavated portions of the trench.
- Pipe bedding should provide a firm, uniform, cradle for support of the pipe. We recommend that a minimum 4-inch thickness of bedding material beneath the pipe be provided. Greater thicknesses may be necessary to prevent loosening and softening of the natural soils during pipe placement.
- Pipe bedding material and/or backfill around the pipe should be placed in layers and tamped to obtain complete contact with the pipe.

During placement of the initial lifts, the trench backfill material should not be bulldozed into the trench or dropped directly on the pipe. Furthermore, heavy equipment should not be permitted to operate directly over the pipe until a minimum of 2 feet of backfill has been placed. Trench backfill should be placed in 8-inch (maximum) thick lifts and compacted using mechanical equipment to at least 95% of its maximum dry density, as determined by testing in general accordance with ASTM D1557 (Modified Proctor).

5. CONDITIONS AND LIMITATIONS

We have prepared this geotechnical report for the BCRA for use in design and construction of the proposed improvements. Experience has shown that soil and groundwater conditions can vary significantly over small distances. Inconsistent conditions can occur between explorations and may not be detected by a geotechnical study of this scope.

Sufficient geotechnical monitoring, testing, and consultation should be provided during construction to confirm that the conditions encountered are consistent with those assumed in this report; to provide recommendations for design changes should conditions revealed during construction differ from those anticipated; and to verify that geotechnical aspects of construction comply with the contract plans and specifications.

Within the limitations of scope, schedule and budget, HWA attempted to execute these services in accordance with generally accepted professional principles and practices in the fields of geotechnical engineering and engineering geology in the area at the time the report was prepared. No warranty, expressed or implied, is made. Our scope of work did not include environmental assessments or evaluations regarding the presence or absence of wetlands or hazardous substances in the soil, surface water, or ground water at this site.

HWA does not practice or consult in the field of safety engineering. We do not direct the contractor's operations and we cannot be responsible for the safety of personnel other than our own on the site; the safety of others is the responsibility of the contractor. The contractor should notify the owner if any of the recommended actions presented herein are considered unsafe.



February 3, 2020
HWA Project No. 2019-084-21

We appreciate the opportunity to provide geotechnical services for this project. Should you have any questions, or if we may be of further service, please call.

Sincerely,

HWA GEOSCIENCES INC.



Bryan K. Hawkins, P.E.
Senior Geotechnical Engineer

A handwritten signature in blue ink, appearing to read "Shane Miller".

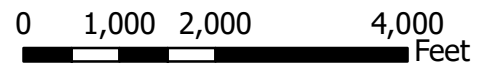
Shane T. Miller, E.I.T.
Geotechnical Engineer

REFERENCES

- Pierce County Surface Water Management, 2015, *Pierce County Stormwater Management and Site Development Manual*, Volume III, Hydrologic Analysis and Flow Control BMPs.
- Schuster, J.E., Cabibbo, A.A., Schilter, F.F., Hubert, I.J., 2015, *Geologic Map of the Tacoma 1:100,000-scale Quadrangle, Washington*, Washington Division of Geology and Earth Resources, Map Series 2015-03.
- WSDOT, 2018, *Standard Specifications for Road, Bridge, and Municipal Construction*, M 41-10.



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community




**ONYX DRIVE IMPROVEMENTS
GEOTECHNICAL INVESTIGATION
LAKEWOOD, WA**

VICINITY MAP

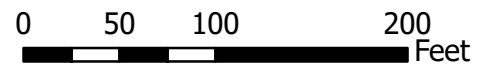
FIGURE # 1
PROJECT # 2019-084-21



Legend

-  Core-3 Pavement Core Designation & Approximate Location
-  PIT-2 Pilot Infiltration Test Designation & Approximate Location

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ONYX DRIVE IMPROVEMENTS
 GEOTECHNICAL INVESTIGATION
 LAKEWOOD, WA

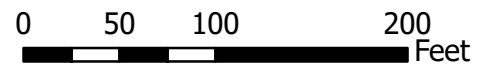
SITE & EXPLORATION PLAN

FIGURE # **2A**
 PROJECT #
 2019-084-21



Legend
 Core-2 Pavement Core Designation & Approximate Location

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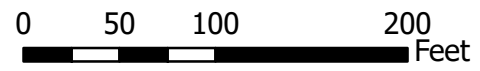
ONYX DRIVE IMPROVEMENTS
 GEOTECHNICAL INVESTIGATION
 LAKEWOOD, WA

SITE & EXPLORATION PLAN

FIGURE # **2B**
 PROJECT #
 2019-084-21



Legend
 Core-2 Pavement Core Designation & Approximate Location



ONYX DRIVE IMPROVEMENTS
 GEOTECHNICAL INVESTIGATION
 LAKEWOOD, WA

SITE & EXPLORATION PLAN

FIGURE # **2C**
 PROJECT # 2019-084-21



Legend
 Core-1 Pavement Core Designation & Approximate Location

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0 50 100 200 Feet

ONYX DRIVE IMPROVEMENTS
 GEOTECHNICAL INVESTIGATION
 LAKEWOOD, WA

SITE & EXPLORATION PLAN

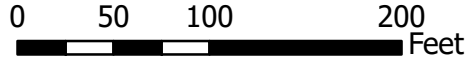
FIGURE # **2D**
 PROJECT # 2019-084-21



Legend
 PIT-1 Pilot Infiltration Test Designation & Approximate Location

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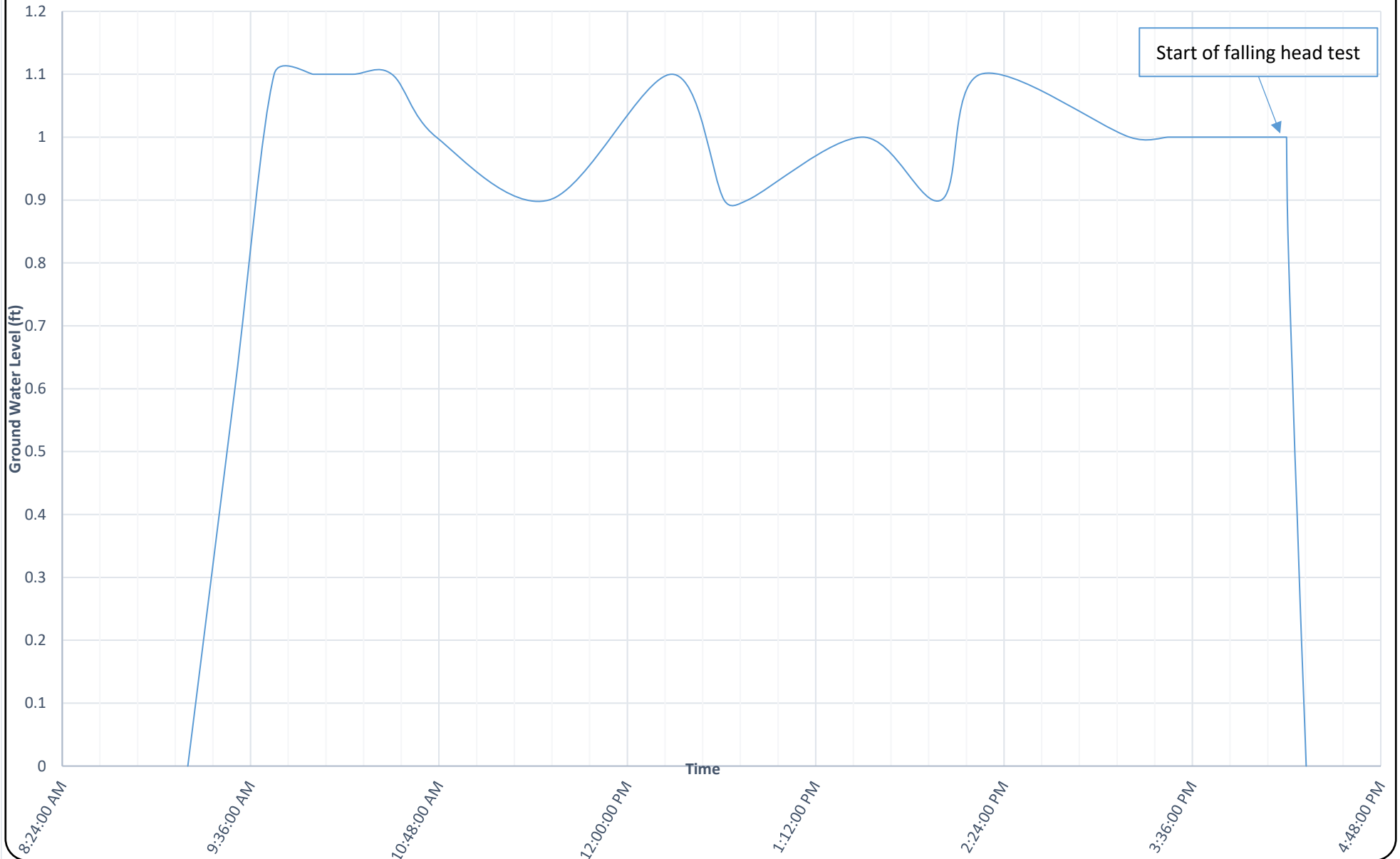


ONYX DRIVE IMPROVEMENTS
 GEOTECHNICAL INVESTIGATION
 LAKEWOOD, WA

SITE & EXPLORATION PLAN

FIGURE # **2E**
 PROJECT # 2019-084-21

PIT-1 WATER LEVEL DATA



PIT-1 WATER LEVEL DATA

ONYX DRIVE IMPROVEMENTS
GEOTECHNICAL SERVICES
LAKEWOOD, WASHINGTON

FIGURE NO.

3A

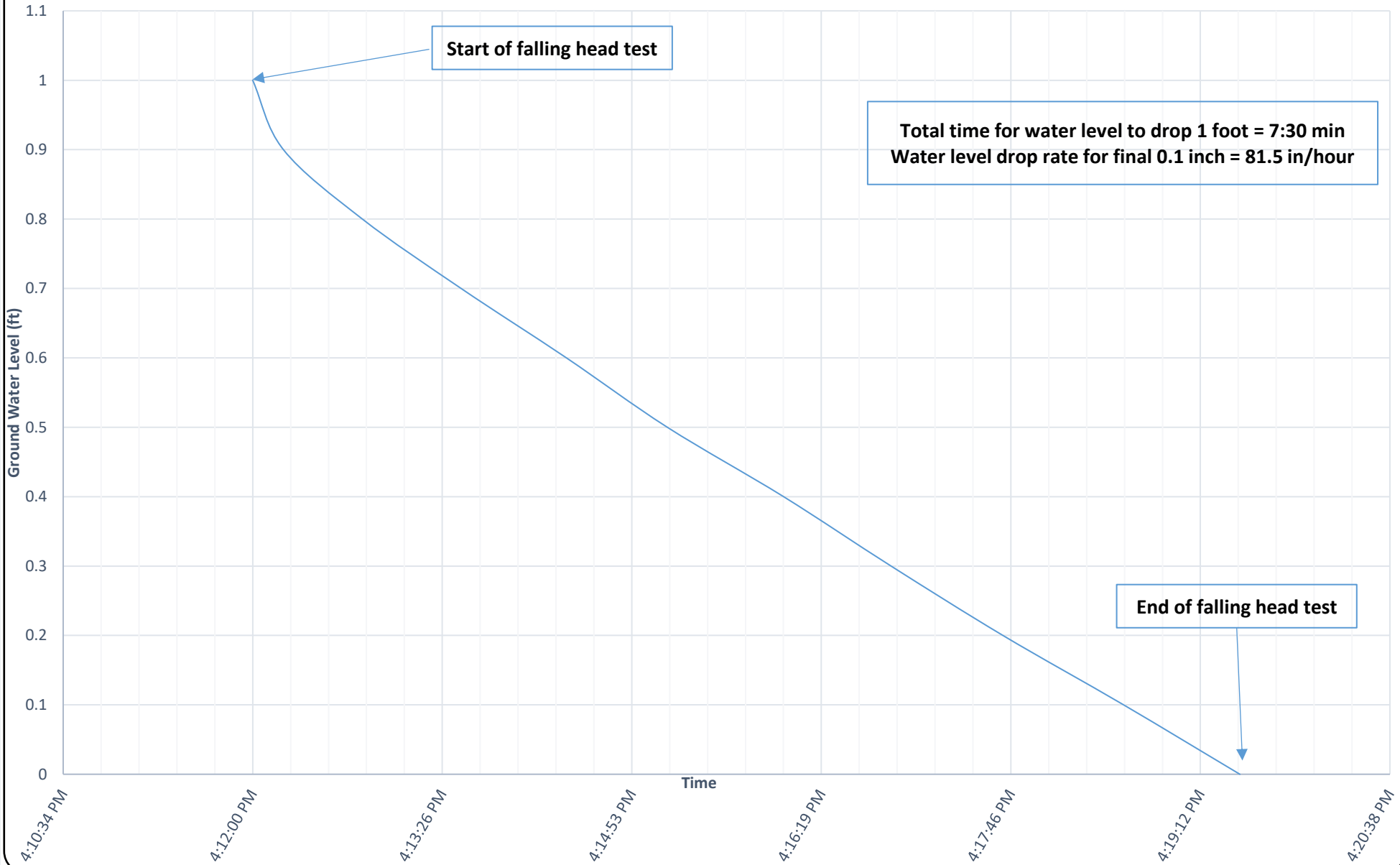
PROJECT NO.

2019-084-21



HWA GEOSCIENCES INC.

PIT-1 FALLING HEAD TEST WATER LEVEL DATA



PIT-1 FALLING HEAD TEST

ONYX DRIVE IMPROVEMENTS
GEOTECHNICAL SERVICES
LAKEWOOD, WASHINGTON

FIGURE NO.

3B

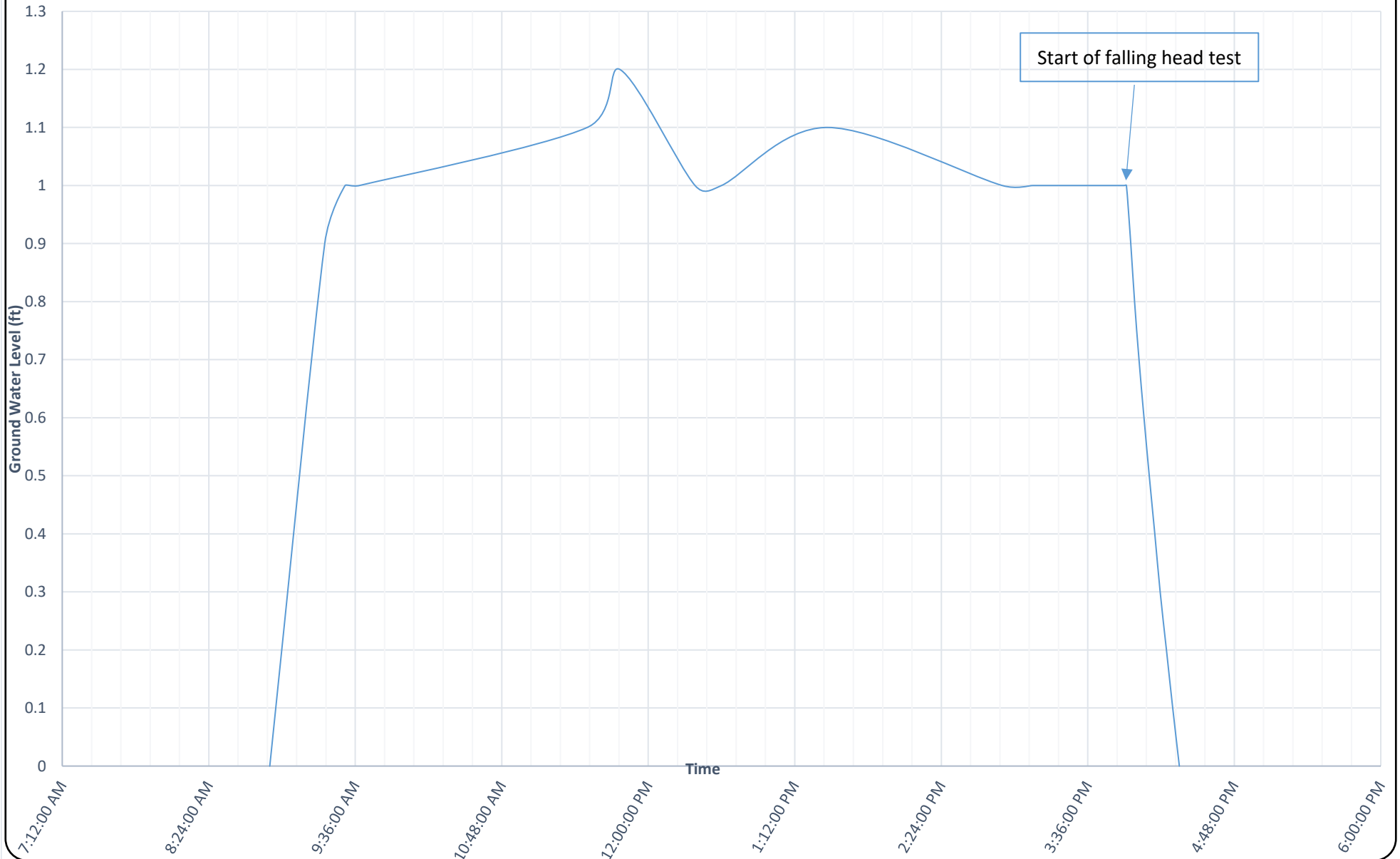
PROJECT NO.

2019-084-21



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PIT-2 WATER LEVEL DATA



PIT-2 WATER LEVEL DATA

ONYX DRIVE IMPROVEMENTS
GEOTECHNICAL SERVICES
LAKEWOOD, WASHINGTON

FIGURE NO.

4A

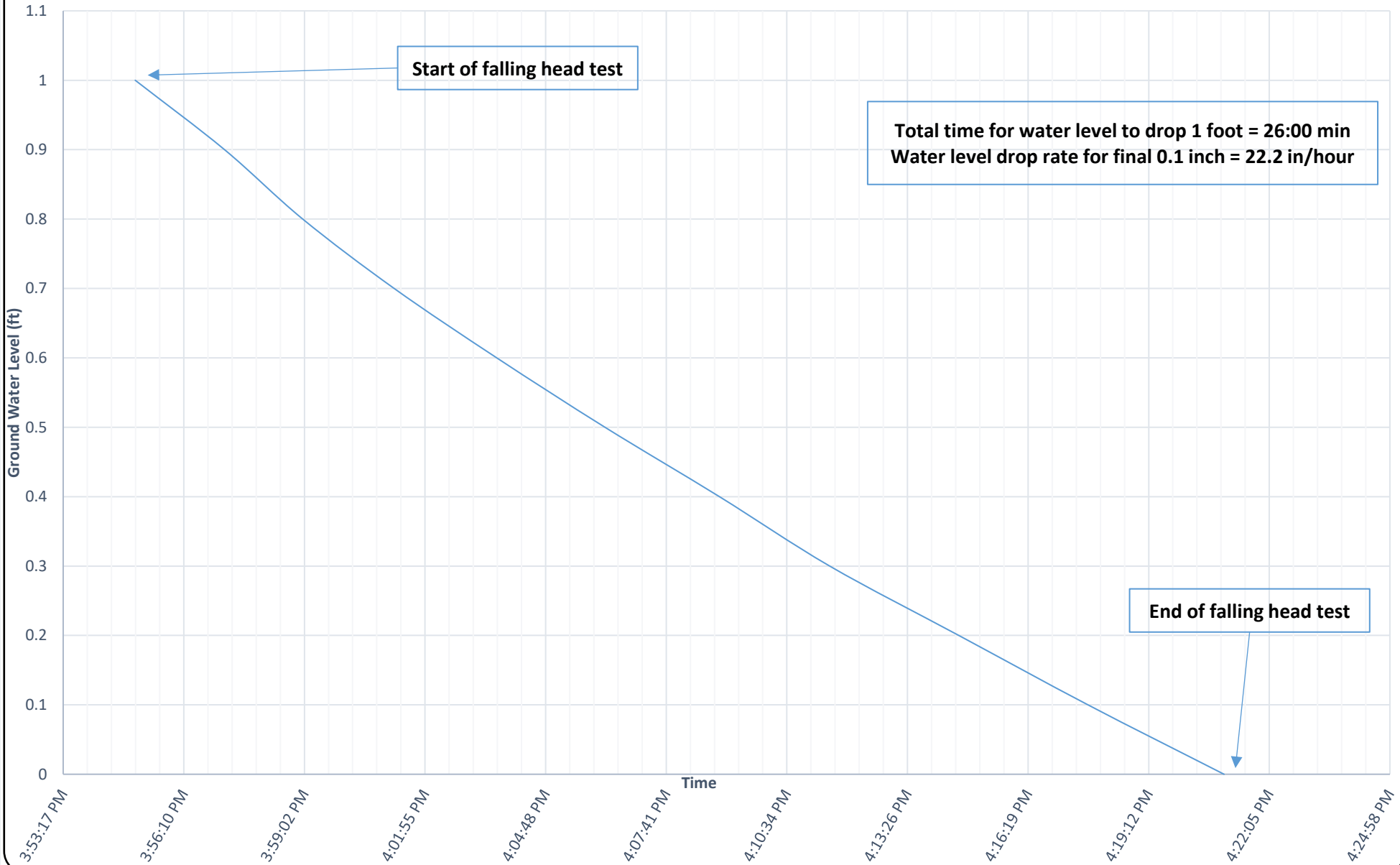
PROJECT NO.

2019-084-21



HWA GEOSCIENCES INC.

PIT-2 FALLING HEAD TEST WATER LEVEL DATA



PIT-2 FALLING HEAD TEST

ONYX DRIVE IMPROVEMENTS
 GEOTECHNICAL SERVICES
 LAKEWOOD, WASHINGTON

FIGURE NO.

4B

PROJECT NO.

2019-084-21



HWA GEOSCIENCES INC.

APPENDIX A
FIELD EXPLORATIONS

RELATIVE DENSITY OR CONSISTENCY VERSUS SPT N-VALUE

COHESIONLESS SOILS			COHESIVE SOILS		
Density	N (blows/ft)	Approximate Relative Density(%)	Consistency	N (blows/ft)	Approximate Undrained Shear Strength (psf)
Very Loose	0 to 4	0 - 15	Very Soft	0 to 2	<250
Loose	4 to 10	15 - 35	Soft	2 to 4	250 - 500
Medium Dense	10 to 30	35 - 65	Medium Stiff	4 to 8	500 - 1000
Dense	30 to 50	65 - 85	Stiff	8 to 15	1000 - 2000
Very Dense	over 50	85 - 100	Very Stiff Hard	15 to 30 over 30	2000 - 4000 >4000

TEST SYMBOLS

%F	Percent Fines
AL	Atterberg Limits: PL = Plastic Limit LL = Liquid Limit
CBR	California Bearing Ratio
CN	Consolidation
DD	Dry Density (pcf)
DS	Direct Shear
GS	Grain Size Distribution
K	Permeability
MD	Moisture/Density Relationship (Proctor)
MR	Resilient Modulus
PID	Photoionization Device Reading
PP	Pocket Penetrometer Approx. Compressive Strength (tsf)
SG	Specific Gravity
TC	Triaxial Compression
TV	Torvane Approx. Shear Strength (tsf)
UC	Unconfined Compression

USCS SOIL CLASSIFICATION SYSTEM

MAJOR DIVISIONS			GROUP DESCRIPTIONS		
Coarse Grained Soils	Gravel and Gravelly Soils	Clean Gravel (little or no fines)		GW Well-graded GRAVEL	
		Gravel with Fines (appreciable amount of fines)		GP Poorly-graded GRAVEL	
	More than 50% Retained on No. 4 Sieve	Sand and Sandy Soils	Clean Sand (little or no fines)		SW Well-graded SAND
			Sand with Fines (appreciable amount of fines)		SP Poorly-graded SAND
50% or More Passing No. 200 Sieve Size	Silt and Clay	Liquid Limit Less than 50%		ML SILT	
		Liquid Limit 50% or More		CL Lean CLAY	
	Highly Organic Soils	Silt and Clay	Liquid Limit Less than 50%		MH Elastic SILT
			Liquid Limit 50% or More		CH Fat CLAY
				OH Organic SILT/Organic CLAY	
				PT PEAT	

SAMPLE TYPE SYMBOLS

	2.0" OD Split Spoon (SPT) (140 lb. hammer with 30 in. drop)
	Shelby Tube
	3-1/4" OD Split Spoon with Brass Rings
	Small Bag Sample
	Large Bag (Bulk) Sample
	Core Run
	Non-standard Penetration Test (3.0" OD split spoon)

GROUNDWATER SYMBOLS

	Groundwater Level (measured at time of drilling)
	Groundwater Level (measured in well or open hole after water level stabilized)

COMPONENT DEFINITIONS

COMPONENT	SIZE RANGE
Boulders	Larger than 12 in
Cobbles	3 in to 12 in
Gravel	3 in to No 4 (4.5mm)
Coarse gravel	3 in to 3/4 in
Fine gravel	3/4 in to No 4 (4.5mm)
Sand	No. 4 (4.5 mm) to No. 200 (0.074 mm)
Coarse sand	No. 4 (4.5 mm) to No. 10 (2.0 mm)
Medium sand	No. 10 (2.0 mm) to No. 40 (0.42 mm)
Fine sand	No. 40 (0.42 mm) to No. 200 (0.074 mm)
Silt and Clay	Smaller than No. 200 (0.074mm)

COMPONENT PROPORTIONS

PROPORTION RANGE	DESCRIPTIVE TERMS
< 5%	Clean
5 - 12%	Slightly (Clayey, Silty, Sandy)
12 - 30%	Clayey, Silty, Sandy, Gravelly
30 - 50%	Very (Clayey, Silty, Sandy, Gravelly)
Components are arranged in order of increasing quantities.	

NOTES: Soil classifications presented on exploration logs are based on visual and laboratory observation. Soil descriptions are presented in the following general order:

Density/consistency, color, modifier (if any) GROUP NAME, additions to group name (if any), moisture content. Proportion, gradation, and angularity of constituents, additional comments.
(GEOLOGIC INTERPRETATION)

Please refer to the discussion in the report text as well as the exploration logs for a more complete description of subsurface conditions.

MOISTURE CONTENT

DRY	Absence of moisture, dusty, dry to the touch.
MOIST	Damp but no visible water.
WET	Visible free water, usually soil is below water table.

EXCAVATION COMPANY: HWA GeoSciences Inc.
 EXCAVATING EQUIPMENT: 6-inch Diameter Core Barrel
 STREET: Onyx Drive SW, WB, 6' from centerline

LOCATION: See Figure 2D
 DATE COMPLETED: 7/11/19
 LOGGED BY: S. Pemble

DEPTH (feet)	SYMBOL	USCS SOIL CLASS.	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	MOISTURE CONTENT(%)	OTHER TESTS
0			1.75-inches Hot Mix Asphalt. 1 lift: 1.75" Cored at edge of rutting in outside wheel path. Cracked through. Poor condition. (HMA)				
	SM		Medium dense, dark brown, organic, silty, gravelly, SAND, moist. (FILL)				
3			Corehole was terminated at 1.5 feet below ground surface. No ground water seepage was observed during the exploration.				

PAVEMENT CORE PHOTO



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

EXCAVATION COMPANY: HWA GeoSciences Inc.
 EXCAVATING EQUIPMENT: 6-inch Diameter Core Barrel
 STREET: Onyx Drive SW, EB, 2.5' from centerline

LOCATION: See Figure 2C
 DATE COMPLETED: 7/11/19
 LOGGED BY: S. Pemble

DEPTH (feet)	SYMBOL	USCS SOIL CLASS.	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	MOISTURE CONTENT(%)	OTHER TESTS
0			1-inch Hot Mix Asphalt. 1 lift: 1" Cored on medium severity alligator cracking. Cracked through. Poor condition. (HMA)				
	GP		1-inch Crushed Surfacing Top Course. Very dense, gray, sandy, crushed, GRAVEL, moist. (CSTC)				
			Dense, brown, organic, sandy, GRAVEL with silt, moist. (STEILACOOM GRAVEL)				
3			Corehole was terminated at 1.5 feet below ground surface. No ground water seepage was observed during the exploration.				

PAVEMENT CORE PHOTO



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

EXCAVATION COMPANY: HWA GeoSciences Inc.
 EXCAVATING EQUIPMENT: 6-inch Diameter Core Barrel
 STREET: Onyx Drive SW, WB, 6' from centerline

LOCATION: See Figure 2A
 DATE COMPLETED: 7/11/19
 LOGGED BY: S. Pemble

DEPTH (feet)	SYMBOL	USCS SOIL CLASS.	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	MOISTURE CONTENT(%)	OTHER TESTS
0			2.75-inches Hot Mix Asphalt. 2 lifts: 1" x 1.75" Cored on high severity alligator cracking in pothole. Cracked through. Poor condition. (HMA)				
	GP		3.25-inches Crushed Surfacing Top Course. Medium dense, dark gray, sandy, crushed GRAVEL, moist. (CSTC)				
			Loose, dark brown, organic, sandy, GRAVEL with organics, moist. (FILL)				
			Loose, dark brown, organic rich, SAND with gravel and roots, mois (TOPSOIL)				
	SP		Medium dense, brown, SAND with gravel and scattered organics, moist. (STEILACOOM GRAVEL)				
3			Corehole was terminated at 3 feet below ground surface. Ground water seepage was observed at 1 foot below ground surface.				

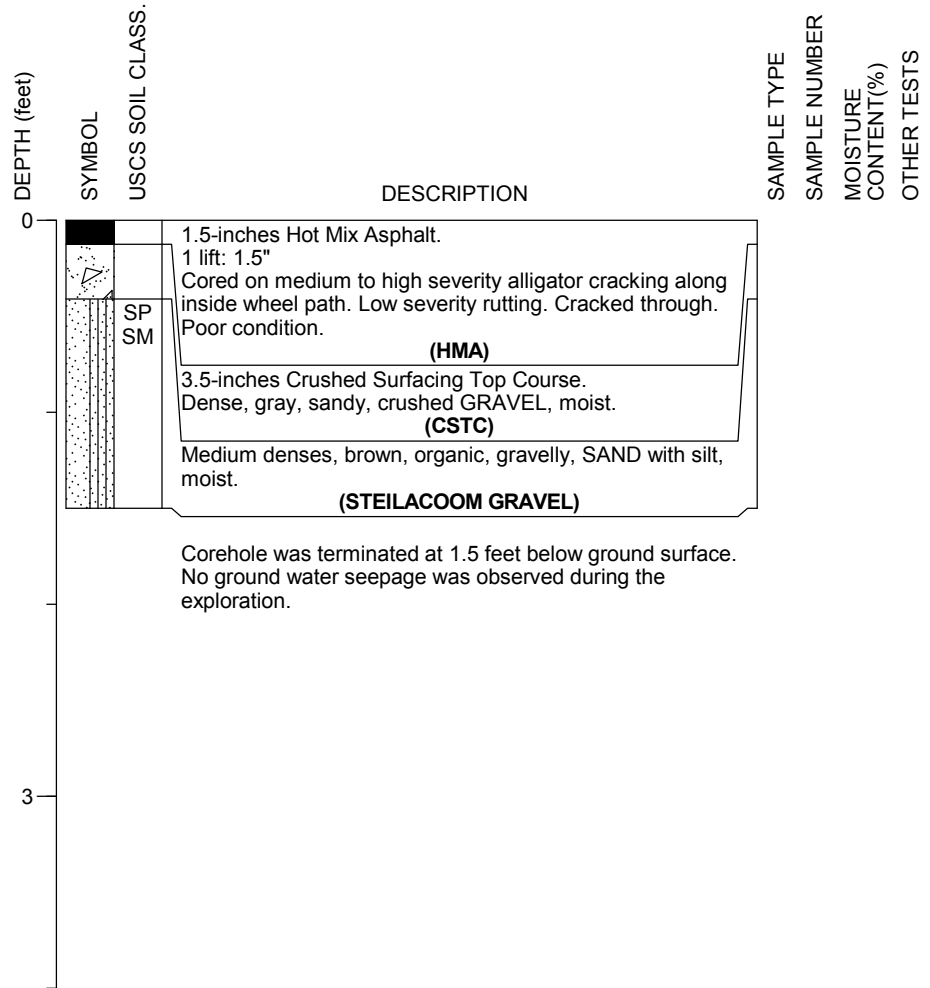
PAVEMENT CORE PHOTO



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

EXCAVATION COMPANY: HWA GeoSciences Inc.
 EXCAVATING EQUIPMENT: 6-inch Diameter Core Barrel
 STREET: Onyx Drive SW, EB, 3' from centerline

LOCATION: See Figure 2A
 DATE COMPLETED: 7/11/19
 LOGGED BY: S. Pemble



PAVEMENT CORE PHOTO



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

EXCAVATION COMPANY: HWA GeoSciences Inc.
 EXCAVATING EQUIPMENT: 6-inch Diameter Core Barrel
 STREET: Onyx Drive SW, EB, 9' from centerline

LOCATION: See Figure 2C
 DATE COMPLETED: 7/11/19
 LOGGED BY: S. Pemble

DEPTH (feet)	SYMBOL	USCS SOIL CLASS.	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	MOISTURE CONTENT(%)	OTHER TESTS
0			2-inches Hot Mix Asphalt. 2 lifts: 1.25" x 0.75" Cored on isolated alligator cracking along outside wheel path. Cracked through. Poor condition. (HMA)				
	GP		Medium dense to dense, brown, clean, sandy, GRAVEL, with scattered wood, moist. (STEILACOOM GRAVEL)				
3			Corehole was terminated at 1.5 feet below ground surface. No ground water seepage was observed during the exploration.				

PAVEMENT CORE PHOTO



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

EXCAVATION COMPANY: Kelly's Excavating
 EXCAVATING EQUIPMENT: Takeuchi TB216H Excavator
 SURFACE ELEVATION: ± Feet

LOCATION: See Figure 2E
 DATE COMPLETED: 7/18/19
 LOGGED BY: S. Miller

DEPTH (feet)	SYMBOL	USCS SOIL CLASS.	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	MOISTURE CONTENT(%)	OTHER TESTS
0	SP SM		Loose to medium dense, olive-brown, slightly silty, very fine to coarse gravelly, fine to coarse SAND, moist. (FILL)	○	S-1		
3	GW GM		Loose to medium dense, dark olive-brown, slightly silty, very fine to coarse sandy, fine to coarse GRAVEL, moist. Organics and roots present. (BURIED TOPSOIL)	○	S-2		
6	SP SP		Medium dense, light yellow-brown, clean, fine gravelly, fine to coarse SAND, moist. (STEILACOOM SAND AND GRAVEL)	○	S-3	3	GS
8			Medium dense, light olive-gray, clean, slightly fine to medium gravelly, fine to coarse SAND, moist.	○	S-4	8	GS CEC pH OC
12			Test pit terminated 10 feet below ground surface (bgs) due to caving. Caving was occurring primarily from 6 to 10 feet bgs. Groundwater seepage not encountered during exploration. Test pit backfilled with native material to grade.				
15							

TEST PIT PHOTO



NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.

EXCAVATION COMPANY: Kelly's Excavating
 EXCAVATING EQUIPMENT: Takeuchi TB216H Excavator
 SURFACE ELEVATION: ± Feet

LOCATION: See Figure 2A
 DATE COMPLETED: 7/19/19
 LOGGED BY: S. Miller

DEPTH (feet)	SYMBOL	USCS SOIL CLASS.	DESCRIPTION	SAMPLE TYPE	SAMPLE NUMBER	MOISTURE CONTENT (%)	OTHER TESTS
0	GP		Medium dense to dense, gray, clean, slightly fine to coarse sandy, fine to medium GRAVEL, moist. (TOP COARSE)	○	S-1		
	GM						
	SW		Medium dense, dark brown, silty, very fine sandy, fine to coarse GRAVEL. Organics and roots present. (BURIED TOPSOIL)	○	S-2		
	SW						
3	GW		Medium dense, light yellow-brown, slightly silty, fine to medium gravelly, fine to coarse SAND, moist. (STEILACOOM SAND AND GRAVEL)	○	S-3	3	GS
	GW						
			Medium dense, light yellow-brown, slightly silty, slightly fine to medium gravelly, fine to coarse SAND, moist.	○	S-4	4	GS CEC pH OC
6			Medium dense to dense, olive-brown, clean, very fine to coarse sandy, fine to coarse GRAVEL, moist.				
9				○	S-5		

TEST PIT PHOTO



Test pit terminated 9 feet below ground surface (bgs) due to caving.
 Caving was occurring primarily from 6 to 9 feet bgs.
 No groundwater seepage encountered during exploration.
 Test pit backfilled with native material to existing grade.

NOTE: This log of subsurface conditions applies only at the specified location and on the date indicated and therefore may not necessarily be indicative of other times and/or locations.



Onyx Drive Improvements
 Geotechnical Investigation
 Lakewood, WA

LOG OF TEST PIT
 TP-2

PAGE: 1 of 1

PROJECT NO.: 2019-084-21 FIGURE: A-8

APPENDIX B

LABORATORY TESTING RESULTS

EXPLORATION DESIGNATION	TOP DEPTH (feet)	BOTTOM DEPTH (feet)	MOISTURE CONTENT (%)	ORGANIC CONTENT (%)	SPECIFIC GRAVITY	ATTERBERG LIMITS (%)			% GRAVEL	% SAND	% FINES	ASTM SOIL CLASSIFICATION	SAMPLE DESCRIPTION
						LL	PL	PI					
TP-1,S-3	3.5	4.0	2.6						28.0	70.3	1.6	SP	Olive-brown, poorly graded SAND with gravel
TP-1,S-4	5.0	5.5	8.3						8.3	89.3	2.4	SP	Olive-brown, poorly graded SAND
TP-2,S-3	3.0	3.5	2.8						66.5	32.0	1.5	GW	Olive-brown, well-graded GRAVEL with sand
TP-2,S-4	5.0	5.5	3.6						65.6	33.1	1.3	GW	Olive-brown, well-graded GRAVEL with sand

Notes: 1. This table summarizes information presented elsewhere in the report and should be used in conjunction with the report test, other graphs and tables, and the exploration logs.
2. The soil classifications in this table are based on ASTM D2487 and D2488 as applicable.



Onyx Drive Improvements
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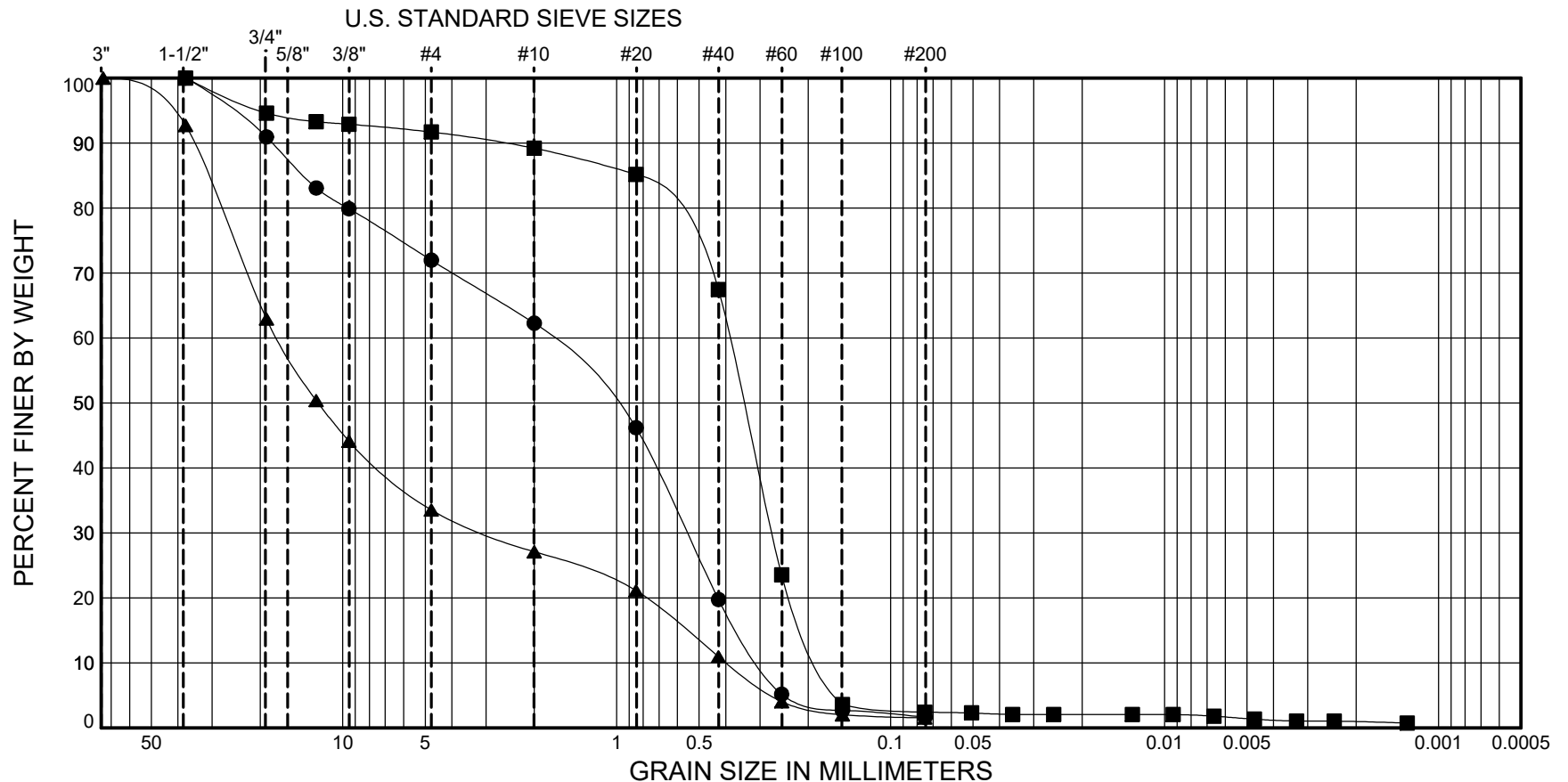
**SUMMARY OF
MATERIAL PROPERTIES**

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PROJECT NO.: 2019-084-21

FIGURE: B-1

GRAVEL		SAND			SILT	CLAY
Coarse	Fine	Coarse	Medium	Fine		



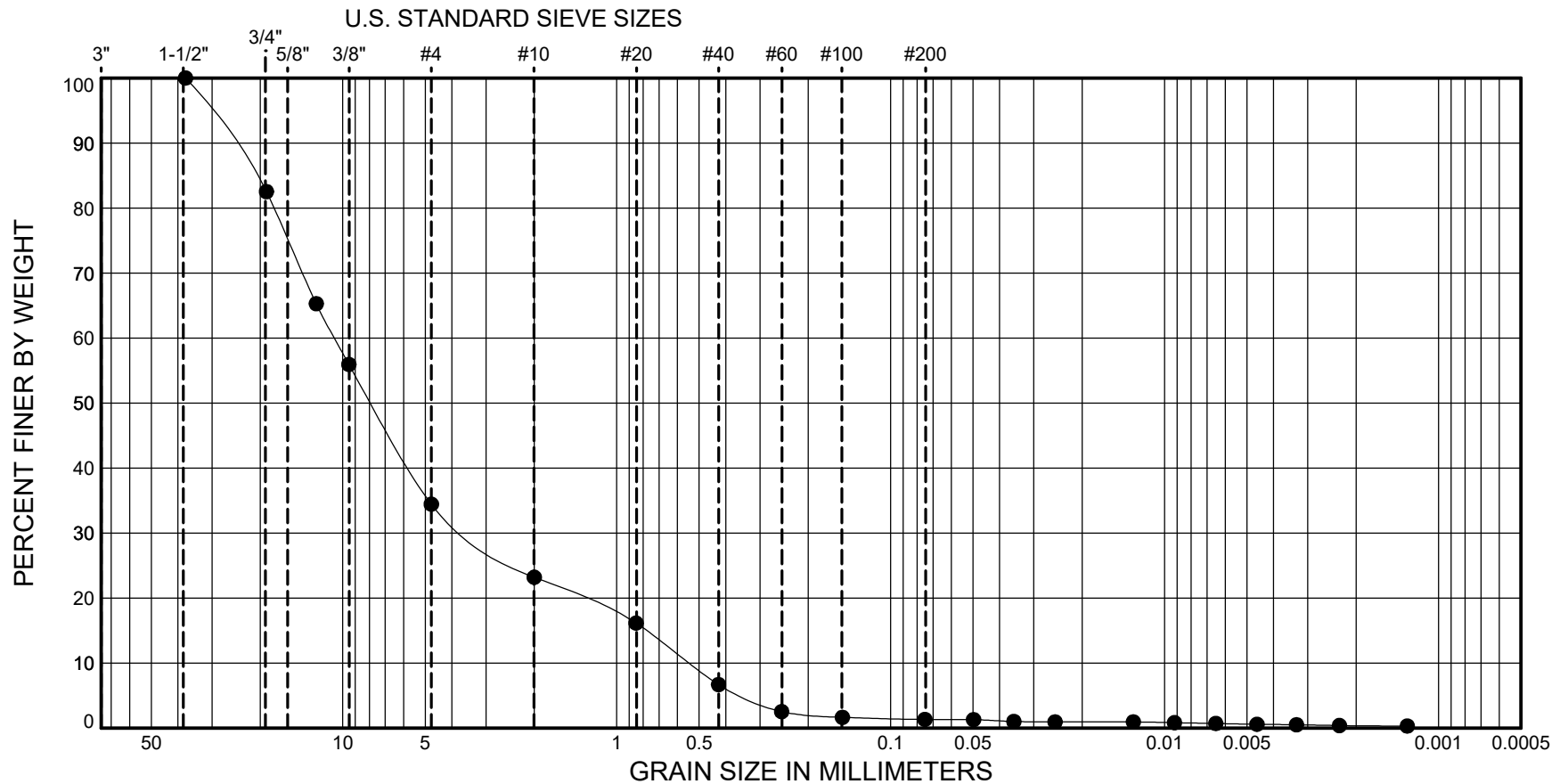
SYMBOL	SAMPLE		DEPTH (ft.)	CLASSIFICATION OF SOIL- ASTM D2487 Group Symbol and Name	% MC	LL	PL	PI	Gravel %	Sand %	Fines %
●	TP-1	S-3	3.5 - 4.0	(SP) Olive-brown, poorly graded SAND with gravel	3				28.0	70.3	1.6
■	TP-1	S-4	5.0 - 5.5	(SP) Olive-brown, poorly graded SAND	8				8.3	89.3	2.4
▲	TP-2	S-3	3.0 - 3.5	(GW) Olive-brown, well-graded GRAVEL with sand	3				66.5	32.0	1.5



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Geotechnical Investigation
Lakewood, WA

PARTICLE-SIZE ANALYSIS
OF SOILS
METHOD ASTM D6913

GRAVEL		SAND			SILT	CLAY
Coarse	Fine	Coarse	Medium	Fine		

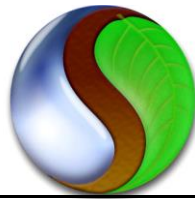


SYMBOL	SAMPLE		DEPTH (ft.)	CLASSIFICATION OF SOIL- ASTM D2487 Group Symbol and Name	% MC	LL	PL	PI	Gravel %	Sand %	Fines %
●	TP-2	S-4	5.0 - 5.5	(GW) Olive-brown, well-graded GRAVEL with sand	4				65.6	33.1	1.3



Onyx Drive Improvements
Geotechnical Investigation
Lakewood, WA

PARTICLE-SIZE ANALYSIS
OF SOILS
METHOD ASTM D6913



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2925 Driggs Dr., Moses Lake, Wa 98837 - www.soiltestlab.com
Office: (509)765-1622 - Fax: (509)765-0314 - (800)764-1622



HWA GEOSCIENCES

21312 30TH DRIVE SE. STE 110

BOTHELL, WA 98021

Laboratory #: S19-10978

Date Received: 7/25/2019

Grower: SHANE MILLER

Sampled By:

Field: 2019-084-21 TP-1 S4

Customer Account #:

Customer Sample ID:

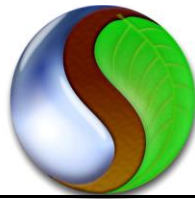
Soil Test Results

Cation Exchange	CEC	meq/100g	3.4	pH 1:1	6.6
				E.C. 1:1	m.mhos/cm
				Est Sat Paste E.C.	m.mhos/cm
				Effervescence	
				Ammonium - N	mg/kg
				Organic Matter W.B.	% 0.2

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

This is your Invoice #: S19-10978 Account # 188200 Reviewed by: KEB List Cost: \$22.00



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HWA GEOSCIENCES

21312 30TH DRIVE SE. STE 110

BOTHELL, WA 98021

Laboratory #: S19-10979

Date Received: 7/25/2019

Grower: SHANE MILLER

Sampled By:

Field: 2019-084-21 TP-2 S4

Customer Account #:

Customer Sample ID:

Soil Test Results

Cation Exchange	CEC	meq/100g	3.7	pH 1:1	6.3
				E.C. 1:1	m.mhos/cm
				Est Sat Paste E.C.	m.mhos/cm
				Effervescence	
				Ammonium - N	mg/kg
				Organic Matter W.B.	% 0.3

Other Tests:

We make every effort to provide an accurate analysis of your sample. For reasonable cause we will repeat tests, but because of factors beyond our control in sampling procedures and the inherent variability of soil, our liability is limited to the price of the tests. Recommendations are to be used as general guides and should be modified for specific field conditions and situations. Note: "u" indicates that the element was analyzed for but not detected

This is your Invoice #: S19-10979 Account # 188200 Reviewed by: KEB List Cost: \$22.00