MASON TRANSIT AUTHORITY

Shelton, Washington

BID DOCUMENTS FOR:

PEAR ORCHARD PARK AND RIDE

Prepared by:

SCJ ALLIANCE

CONSULTING SERVICES

MASON TRANSIT AUTHORITY
PEAR ORCHARD PARK AND RIDE

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SECTIONS

MASON TRANSIT AUTHORITY
PEAR ORCHARD PARK AND RIDE

SECTION I

CALL FOR SEALED BIDS

Mason Transit Authority
Invitation to Bid
Pear Orchard Park and Ride

Mason Transit Authority (MTA), located in Shelton, Washington, requests Project Proposal SEALED BIDS for construction of the:

MASON TRANSIT AUTHORITY
PEAR ORCHARD PARK AND RIDE

The improvement(s) for which Project Proposals will be received is described below:

> *Improvement to the Mason Transit Authority Pear Orchard Park and Ride Facility, which will include new pavement, pavement reconstruction, stormwater facilities, illumination, signing, striping, bus shelter and other work, all in accordance with the Contract Plans, Provisions and Standard Specifications.*

Bid Documents, including Plans and Special Provisions, may be obtained through Builders Exchange of Washington (http://www.bxwa.com) or MTA's Website (http://www.masontransit.org). Inquiries regarding the Project may be directed by contacting Patrick Holm at SCJ Alliance (360-352-1465 or patrick.holm@scjalliance.com). Documents will also be on file for inspection at the Mason Transit Authority Business Office.

Project Proposal SEALED BIDS must be received at the Mason Transit Authority Business Office reception desk located at 790 East Johns Prairie Road, Shelton, WA 98584 by 11:00a.m. on February 22, 2019 and MTA then and there will open and publicly read the bids. Bids may be submitted by mail or hand delivery only.

A pre-bid walkthrough is planned for February 7 at 11:00a.m. at the Pear Orchard Park and Ride site.

Mason Transit Authority reserves the right to reject any and all bids without cause and to waive any informalities or irregularities. MTA reserves the right to award this Contract to the lowest responsive, responsible bidder based on the Bid Proposal.

ADVERTISED IN: Mason Transit Authority Website www.masontransit.org
Builders Exchange of Washington
Seattle Daily Journal of Commerce
Shelton Journal

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PEAR ORCHARD PARK AND RIDE

SECTION II

PROJECT PROPOSAL

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The Project Proposal shall be returned in the order listed above.

BID FORM/SCHEDULE OF VALUES

As part of the overall Base Bid the Bidder shall assign lump costs (including any and all applicable sales taxes) to the line items listed in the following Schedule of Values. At the end of each month of construction the Contractor will submit an estimated percentage complete for the budget of each line item shown in the Schedule of Values. The Contracting Agency will then review and confirm if the Contractor percentage complete listed on the schedule corresponds to the actual work performed, including materials on hand.

1. Mobilization (includes any incidentals/bond/etc.) _____
2. Demolition _____
3. Erosion Control _____
4. Clearing & Grubbing _____
5. Grading _____
6. Stormwater Management Systems _____
7. Surfacing _____
8. Paving _____
9. Illumination System _____
10. Pavement Markings _____
11. Permanent Signing _____
12. Landscaping _____
13. Traffic Control _____
14. Surveying _____
15. Clean-Up _____

Total Base Bid _____

Debarment, Suspension, Ineligibility or Voluntary Exclusion Certification Form

NAME	Doing business as (DBA)	
ADDRESS	WA Uniform Business Identifier (UBI)	Federal Employer Tax Identification #:
This certification is submitted as part of a request to contract.		

This certification is required by regulations implementing Executive Order 12549, Debarment and Suspension. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.

BEFORE COMPLETING CERTIFICATION, READ INSTRUCTIONS ON REVERSE

(1) The prospective lower tier participant certifies, by submission of this proposal or contract, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

(2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this form.

Organization Name | Project Name

Name(s) and Title(s) of Authorized Representative(s)

Signature(s) | Date

Instructions For Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion Lower Tier Covered Transactions

READ CAREFULLY BEFORE SIGNING THE CERTIFICATION. Federal regulations require contractors and bidders to sign and abide by the terms of this certification, without modification, in order to participate in certain transactions directly or indirectly involving federal funds.

1. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
3. The prospective lower tier participant shall provide immediate written notice to the department, institution or office to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or had become erroneous by reason of changed circumstances.
4. The terms covered transaction, debarred, suspended, ineligible, lower tier covered transaction, participant, person, primary covered transaction, principal, proposal, and voluntarily excluded, as used in this clause, have the meaning set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
5. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is proposed for debarment under the applicable CFR, debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
6. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled ``Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction,'' without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not proposed for debarment under applicable CFR, debarred, suspended, ineligible, or voluntarily excluded from covered transactions, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the List of Parties Excluded from Federal Procurement and Non-procurement Programs.
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business activity.
9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is proposed for debarment under applicable CFR, suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

MASON TRANSIT AUTHORITY - PEAR ORCHARD PARK AND RIDE

PROPOSAL SIGNATURE FORM

Date: _____

To: MASON TRANSIT AUTHORITY

The bidder is hereby advised that by signature of this Project Proposal he/she is deemed to have acknowledged all requirements and signed all certificates contained herein.

** Receipt is hereby acknowledged of addendum(s) No.(s _____ ,_____ & _____

SIGNATURE OF AUTHORIZED OFFICAL (S)

_____

_____

FIRM NAME _____

(ADDRESS) _____

_____

_____

Notes:

(1) This Project Proposal form, including all attached forms and certifications, is not transferable and any alteration of the firm's names entered hereon without prior permission from Mason Transit Authority will be cause for considering the proposal irregular and subsequent rejection of the bid.

MASON TRANSIT AUTHORITY
PEAR ORCHARD PARK AND RIDE

SECTION III

1. CONTRACT BOND

2. MASON TRANSIT AUTHORITY SAMPLE CONTRACT

Contract Bond –
Roadway/Site Construction

KNOW ALL MEN BY THESE PRESENTS, That

of _____, as Principal, and _____ as Surety, are jointly and severally held and bound unto Mason Transit Authority, in the penal sum of _____ Dollars ($_____), the payment of which we jointly and severally bind ourselves, our heirs, executors, administrators, and assigns, and successors and assigns, firmly by these presents.

The CONDITION of this bond is such that WHEREAS on the _____ day of _____ A.D., _____, the said _____, Principal, herein, executed a certain contract with Mason Transit Authority, by the terms, conditions and provisions of which contract the said _____, Principal, herein, agree to furnish all material and do certain work, to wit: That will undertake and complete the construction of:

> *Improvement of the Mason Transit Authority Pear Orchard Park and Ride Facility, which will include new pavement, pavement reconstruction, stormwater facilities, illumination, signing, striping, bus shelters and other work, all in accordance with the attached Contract Plans, these Contract Provisions, and the Standard Specifications.*

according to the maps, plans and specifications made a part of said contract, which contract as to executed, is hereunto attached, is now referred to and by reference is incorporated herein and made a part hereof as fully for all purposes as if here set forth at length. This bond shall cover all approved change orders as if they were in the original contract.

NOW THEREFORE, if the Principal herein shall faithfully and truly observe and comply with the terms, conditions, and provisions of said contract in all respects and shall well and truly and fully do and perform all matters and things by them undertaken to be performed under said contract, upon the terms proposed therein, and within the time prescribed therein, and until the same is accepted, and shall pay all laborers, mechanics, subcontractors, and material men, and all persons who shall supply such contractor or subcontractor with provisions and supplies for the carrying on of such work, and shall in all respects, faithfully perform said contract according to law, then this obligation to be void, otherwise to remain in full force and effect.

WITNESS our hands this _____ day of _____, _____

_____

_____

_____
(Principal)

_____

_____

_____
(Attorney-in-fact, Surety)

_____
Name and Address Local Office of Agent

APPROVED:

Mason Transit Authority

General Manager

By: _____

Date: _____

Surety Bond No.

Project

AGREEMENT BETWEEN
OWNER AND CONTRACTOR

The Effective Date of this Contract is:	
<u>The Parties to this Contract are:</u>	
The "Owner"	Mason Transit Authority
The "Contractor"	
Project Name:	
The "Architect" or "Engineer:"	
The "Work:"	See "Scope of Work," Exhibit ___
Alternates included in the Contract Sum:	
Contract Sum for the Work: *(not including sales tax)*	$ _____
Payments: *(check one)*	□ The Owner will make a single payment to the Contractor within thirty (30) days of Final Acceptance. □ See Supplemental Conditions
Date of Substantial Completion of the Work:	
Date of Final Completion of the Work:	_____ days after Substantial Completion
Liquidated Damages:	$___ per day for each calendar day beyond the Contract Time that Substantial Completion is not achieved.
Owner's Permit Responsibilities:	
Unit Prices:	
<u>Minimum Required Insurance:</u>	
Commercial General Liability:	At least $1 million per occurrence and general aggregate.
Automobile Liability:	At least $1 million
Workers' Compensation (industrial insurance):	At least the State statutory amount
Employer's Liability:	At least $1 million
Aircraft Liability:	At least $5 million
Watercraft Liability:	At least $1 million
Property Insurance:	Full insurable value
Boiler and Machinery Insurance:	
Additional Insureds:	Mason Transit Authority

The Owner and Contractor agree as set forth below.

<u>ARTICLE 1:</u> THE WORK. The Contractor shall fully execute and complete the entire Work described in the Contract Documents, including the Alternates listed above.

ARTICLE 2: COMMENCEMENT AND SUBSTANTIAL AND FINAL COMPLETION.

2.1 The date of commencement of the Work is the date of this Agreement. The Contract Time is measured from the date of commencement to the date of Substantial Completion specified above, as it may be adjusted under the Contract Documents.

2.2 The Contractor shall achieve Substantial Completion and Final Completion of the entire Work within the dates specified above, subject to adjustments of the Contract Time as provided in the Contract Documents.

ARTICLE 3: THE CONTRACT SUM. The Owner shall pay the Contractor the Contract Sum for the Contractor's performance of this Contract, subject to additions and deductions as provided in the Contract Documents. Sales tax is not included in the Contract Sum.

ARTICLE 4: PAYMENT. The Owner will pay the Contractor within *thirty (30) days* of receipt of an approved Application for Payment in accordance with this Contract. Retainage will be released in accordance with statutory requirements.

ARTICLE 5: PERMITS AND FEES.

5.1 The Owner will secure and pay for only those governmental permits, approvals, fees, licenses, inspections, governmental charges and inspection fees listed on the cover page.

5.2 The Contractor shall secure and pay for all other governmental permits, approvals, fees, licenses, inspections, governmental charges and inspection fees required for the prosecution of the Work.

ARTICLE 6: ENUMERATION OF CONTRACT DOCUMENTS.

6.1 The Contract Documents form this Contract. This Contract represents the entire and integrated agreement between the parties and supersedes prior negotiations, representations or agreements, either written or oral. The Contract Documents shall not be construed to create a contractual relationship of any kind between the Owner and a Subcontractor of any tier, between any Architect and the Contractor, or between any persons or entities other than the Owner and the Contractor.

6.2 The Contract Documents are enumerated as follows and, in the event of a conflict or discrepancy among or in the Contract Documents, interpretation shall be governed in the following order of priority:

1. Agreement
2. Supplemental Conditions
3. Prevailing wage rates set by L&I as of the bid date for Mason County (available at http://www.lni.wa.gov/TradesLicensing/PrevWage/WageRates/default.asp)
4. General Conditions
5. Scope of Work (See Exhibit __)
6. Drawings and Specifications (See Exhibit __)
7. Site Conditions and Coordination
8. Requirements of Grant Funding

OWNER

By _____
(Signature)

_____
(Printed name and title)

CONTRACTOR

By _____
(Signature)

_____
(Printed name and title)

GENERAL CONDITIONS

ARTICLE 7
THE CONTRACT DOCUMENTS

7.1 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contractor's performance shall be consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results.

7.2 "Work" means the construction and services required by the Contract Documents and includes all labor, materials, equipment and services to be provided by the Contractor to fulfill its obligations.

7.3 If the Contractor finds a conflict, error or discrepancy in the Contract Documents, the Contractor shall report it to the Owner in writing at once. The Contractor shall not proceed with the affected Work until it receives a written interpretation or clarification from the Owner.

ARTICLE 8
ADMINISTRATION OF THE CONTRACT

8.1 The Owner will provide administration of the Contract. If an Architect or Engineer is also involved, its duties beyond those addressed in these General Conditions will be described in an attachment to this Contract.

8.2 **Authority.** The Owner must approve in writing all changes in the Contract Sum or Contract Time as well as all Change Orders, Construction Change Directives, and payments to the Contractor. The Owner will make any modification or release of any requirement of the Contract Documents, or any approval or acceptance of any portion of the Work, whether or not executed in accordance with the Contract Documents, exclusively in writing.

8.3 **Rejection of Work.** The Owner may reject Work that, in its opinion, does not conform to the Contract Documents. If the Contractor fails to correct Work that is not in accordance with the Contract Documents or fails to carry out the Work in accordance with the Contract Documents, the Owner may order the Contractor in writing to stop the Work, or any portion thereof, until the cause for that order has been eliminated; however, the right of the Owner to stop the Work shall not give rise to a duty on the part of the Owner to exercise this right.

8.4 **Site Access.** The Owner shall have access to and may visit the Work site at intervals it considers appropriate to the stage of the Work to become generally familiar with the progress and quality of the completed Work, but the Owner will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work.

8.5 **Submittals.** The Contractor shall review, approve and submit to the Owner with reasonable promptness shop drawings, product data, samples and similar submittals required by the Contract Documents. The Owner will review and approve or take other appropriate action upon the Contractor's submittals for the limited purpose of checking for conformance with information given and the design concept expressed by the Contract Documents. The Work shall be in accordance with approved submittals. The Owner's review and approval does not relieve the Contractor of responsibility for compliance with the Contract Documents. The Contractor shall submit to the Owner any proposed change to or deviation from previously approved documents or submittals.

ARTICLE 9
THE CONTRACTOR

9.1 Using its best skill and attention, the Contractor shall perform, supervise and direct the Work. The Contractor shall be solely responsible for and have control over construction means, methods, techniques, sequences, procedures and personnel, for safety, and for coordinating all portions of the Work under this Contract. The Contractor shall provide and pay for all labor, materials, equipment, tools and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

9.2 **Subcontractors.** A "Subcontractor" is a person or entity that has a direct contract with the Contractor to perform a portion of the Work at the site or to supply materials or equipment. A "Subcontractor of any tier" includes Subcontractors and lower-level subcontractors and suppliers.

9.2.1 Identification. As soon as practicable and no later than *fourteen (14) days* after award of this Contract, the Contractor shall confirm to the Owner in writing the names of the Subcontractors for each portion of the Work.

9.2.2 Subcontracts. Contracts between the Contractor and Subcontractors shall require each Subcontractor to be bound to the Contractor by the terms of the Contract Documents for the Work to be performed by the Subcontractor and to assume toward the Contractor all the obligations and responsibilities that the Contractor, by the Contract Documents, assumes toward the Owner.

9.2.3 Payment. The Contractor shall promptly pay (and secure the discharge of any liens asserted by) all persons properly furnishing labor, equipment, materials or other items in connection with the performance of the Work for which the Owner has paid (including, but not limited to, workers and Subcontractors). The Contractor shall furnish to the Owner releases of liens and claims and other documents that the Owner requests from time to time to evidence such payment (and discharge). Nothing in the Contract Documents shall obligate the Owner to pay or to cause the payment of any moneys due to any Subcontractor of any tier or other person or entity, except as may otherwise be required by law or regulation.

9.3 Workers. The Contractor shall enforce strict discipline and good order among persons carrying out the Work and shall not permit employment of unfit persons or persons not skilled in tasks assigned to them. At no change to the Contract Sum or Contract Time, the Owner may provide written notice requiring the Contractor to remove from the Work any employee or other person carrying out the Work that the Owner considers objectionable.

9.4 Warranty. The Contractor warrants that materials and equipment furnished under this Contract will be of good quality and new, that the Work will be performed in a workmanlike manner, free from defects not inherent in the quality required, and that the Work will conform with the requirements of the Contract Documents.

9.5 Progress Schedule. Within *fourteen (14) days* of execution of this Contract, the Contractor shall submit a schedule of the Work to the Owner ("Progress Schedule"). The Contractor will be responsible for planning, scheduling, managing, and reporting the progress of the Work in accordance with all of the specific methods and submittals described in the Contract Documents. The Contractor shall use the Progress Schedule (as updated) to plan, coordinate, and prosecute the Work in an orderly and expeditious manner.

9.6 Clean-Up. The Contractor shall keep the site and surrounding area free from accumulation of waste materials caused by operations under the Contract.

9.7 Indemnification.

9.7.1 Subject to the following conditions and to the fullest extent permitted by law, the Contractor shall defend, indemnify and hold harmless the Owner and its agents, employees, consultants, successors and assigns (together, the "Indemnified Parties") from and against all claims, damages, losses and expenses, direct and indirect, or consequential, including but not limited to costs, attorneys' fees, and other litigation expenses incurred on such claims and in proving the right to indemnification, arising out of or resulting from the performance of the Work by or any act or omission of the Contractor, its agents, any Subcontractor of any tier, and anyone directly or indirectly employed by them (together, the "Indemnitor").

.1 The Contractor will fully indemnify and defend the Indemnified Parties for the sole negligence of the Indemnitor.

.2 The Contractor will indemnify and defend the Indemnified Parties for the concurrent negligence of the Indemnitor only to the extent of the Indemnitor's negligence. The Contractor agrees to being added by the Owner as a party to any mediation, arbitration or litigation with third parties in which the Owner alleges indemnification or contribution from the Indemnitor. The Contractor agrees that all of its Subcontractors of any tier will similarly stipulate in their subcontracts. To the extent a court or arbitrator strikes any portion of this indemnification provision for any reason, all remaining provisions shall retain their vitality and effect.

9.7.2 After mutual negotiation of the parties, the indemnification obligation shall not be limited by the amount or type of damages, compensation or benefits payable by or for the Contractor or a Subcontractor under workers' compensation acts, disability benefit acts or other employee benefit acts in claims by an employee of the Contractor or a Subcontractor of any tier against any person or entity indemnified under this Paragraph 9.7. For the sole purpose of effecting the indemnification obligations under this Contract and not for the benefit of any third parties unrelated to the Owner, the Contractor specifically and expressly waives any immunity that may be granted it under Title 51 RCW, "Industrial Insurance." IF THE CONTRACTOR DOES NOT AGREE WITH THIS WAIVER, IT MUST PROVIDE A WRITTEN NOTICE TO THE OWNER PRIOR TO THE DATE FOR THE RECEIPT OF BIDS, OR THE CONTRACTOR WILL BE DEEMED TO HAVE NEGOTIATED AND WAIVED THIS IMMUNITY.

9.8 Records. The Contractor shall maintain and preserve books, ledgers, records, estimates, correspondence, logs, schedules, electronic data and other documents relating or pertaining to the costs and/or performance of the Contract ("records"). Within *seven (7) days* of the Owner's request, the Contractor shall make available at the Contractor's office all records for inspection, audit and reproduction (including electronic reproduction) by the Owner's representatives. These requirements apply to each Subcontractor of any tier. The Contractor agrees, on behalf of itself and Subcontractors of any tier, that the invocation of any rights under RCW 42.56 shall initiate an equivalent right to disclosures from the Contractor and Subcontractors of any tier for the benefit of the Owner.

9.9 Compliance with Law. The Contractor, its employees, Subcontractors of any tier and representatives, shall comply with all applicable laws, ordinances, statutes, rules and regulations, federal and state, county and municipal.

9.9.1 Prevailing Wages. The Contractor shall comply with all applicable provisions of RCW 39.12, including but not limited to submission of approved "Statements of Intent to Pay Prevailing Wage," payment of all Labor & Industries' fees, submission and posting of approved "Statements of Intent to Pay Prevailing Wages" and payment of prevailing wages. The State of Washington prevailing wage rates applicable for this public works project, which is located in Mason County, may be found at the following website

address of the L&I: http://www.lni.wa.gov/TradesLicensing/PrevWage/WageRates/default.asp. The Contractor shall keep a paper copy at the Project site.

9.9.2 Hours of Labor. The Contractor shall comply with all applicable provisions of RCW 49.28.

9.9.3 Worker's Right to Know. The Contractor shall comply with RCW 49.70 and WAC 296-62-054 regarding workplace surveys and material safety data sheets for "hazardous" chemicals at the Project site.

ARTICLE 10
CONSTRUCTION BY THE OWNER OR BY SEPARATE CONTRACTORS

10.1 The Owner may perform construction or operations related to the Project with its own forces and may award separate contracts in connection with other portions of the Project or other construction or operations on the site under contractual conditions consistent with those of the Contract Documents.

10.2 The Contractor shall afford the Owner and separate contractors reasonable opportunity for the introduction and storage of their materials and equipment and performance of their activities, and shall connect and coordinate the Contractor's construction and operations.

ARTICLE 11
CHANGES IN THE WORK

11.1 The Owner, without invalidating this Contract, may order changes in the Work consisting of additions, deletions or modifications ("Changes"), and the Contract Sum and Contract Time will be adjusted accordingly. Changes in the Work, in the Contract Sum and/or in the Contract Time shall be authorized only by written Change Order signed by the Owner and the Contractor or by written Construction Change Directive signed by the Owner.

11.1.1 Change Orders. A Change Order is a written instrument signed by the Owner and the Contractor stating their agreement upon a change in the Work, the amount of any adjustment in the Contract Sum, and the extent of any adjustment in the Contract Time.

11.1.2 Construction Change Directives. A Construction Change Directive is a written order prepared and signed by the Owner that directs a change in the Work and states a proposed basis for any adjustment in the Contract Sum and/or Contract Time. It is used in the absence of total agreement on the terms of a Change Order. The Contractor shall promptly proceed with the change in the Work described in the Construction Change Directive. As soon as possible, and within *seven (7) days* of receipt, the Contractor shall advise the Owner in writing of the Contractor's agreement or disagreement with the cost or the method, if any, provided in the Construction Change Directive for determining the proposed adjustment in the Contract Sum or Contract Time.

11.2 Costs of Changes and Claims. If the parties cannot agree on the cost or credit to the Owner from a Construction Change Directive or other Change in the Work, the Contractor and all affected Subcontractors of any tier shall keep and present an itemized accounting with supporting data. The total cost of any Change or Claim shall be limited to the reasonable value of the direct labor costs, material costs, construction equipment usage costs for the actual time equipment appropriate for the Work is used solely on the Change in the Work, the cost of any change in insurance, Subcontractor costs, and a fee for all combined overhead and profit, including impact costs of any kind, limited to twelve percent (12%) of the cost for any materials or work performed by the forces of the Contractor or a Subcontractor and eight percent (8%) of amounts due to Subcontractors.

11.3 Claims for Concealed or Unknown Conditions. If conditions are encountered at the site that are (1) concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found and generally recognized as inherent in activities of the character provided for in the Contract Documents, then the Contractor shall give written notice to the Owner promptly before conditions are disturbed and in no event later than *seven (7) days* after the first observance of the conditions. The Contractor shall make any Claim arising from such condition in accordance with the dispute resolution procedures of Article 19.

ARTICLE 12
TIME

12.1 Delay.

12.1.1 Time. If the Work is delayed by changes ordered in the Work, unanticipated general labor disputes, fire, unusual delay in deliveries, abnormal adverse weather conditions not reasonably anticipatable, unavoidable casualties or any other causes beyond the Contractor's control, then the Contract Time shall be extended by Change Order to the extent the critical path is affected.

12.1.2 Damages. The Contractor and Sub-contractors shall be entitled to damages for delay only where the Owner's actions or inactions were the actual, substantial cause of the delay and where the Contractor could not have reasonably avoided the delay by the exercise of due diligence.

12.1.3 Contractor Delay. If a delay was caused by the Contractor, a Subcontractor of any tier, or anyone acting on behalf of any of them, the Contractor is not entitled to an increase in the Contract Time or in the Contract Sum.

12.2 Completion and Liquidated Damages. The timely completion of the Project is essential to the Owner. The Owner will incur serious and substantial damages if Substantial Completion of the Work does not occur within the Contract Time. The Contractor is responsible for actual damages for delay unless an amount is inserted on the cover page for liquidated damages, in which case the liquidated damage amount shall apply. Liquidated damages shall not be affected by partial completion, occupancy, or beneficial occupancy.

ARTICLE 13
PAYMENTS AND COMPLETION

13.1 Payments. Payment shall be made as provided in this Contract, including any Supplemental Conditions.

13.2 Withheld Payment. The Owner may withhold payment in whole or in part, or it may nullify the whole or part of a payment previously issued, on account of (1) defective Work not remedied, (2) claims or liens filed by third parties, (3) failure of the Contractor to make payments due to Subcontractors or for labor, materials or equipment, (4) damage to the Owner or another contractor, (5) reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum, (6) reasonable evidence that the unpaid balance would not be adequate to cover actual or liquidated damages for delay for which the Contractor is responsible, (7) failure to carry out the Work in accordance with the Contract Documents, or (8) liquidated damages. The Owner will provide the Contractor with written notice of its intent to implement this provision and provide details supporting the Owner's intention. The Contractor will be afforded reasonable time following receipt of such notice to respond to or correct the circumstances provoking this action by the Owner.

13.3 Substantial Completion.

13.3.1 Substantial Completion is the stage in the progress of the Work when the construction is sufficiently complete, in accordance with the Contract Documents, so the Owner can fully utilize the Work (or a designated portion) for its intended use. All Work other than incidental corrective or punchlist work and final cleaning shall have been completed. The Work is not Substantially Complete if all systems and parts affected by the Work are not usable, any required occupancy or use permit has not been issued, or if utilities affected by the Work are not connected and operating normally. The fact that the Owner may use or occupy some or all of the Work does not indicate that the Work is Substantially Complete, nor does it toll or change any liquidated damages due the Owner.

13.3.2 When the Contractor believes that the Work has achieved Substantial Completion, it shall notify the Owner in writing. When the Owner agrees, it will issue a Certificate of Substantial Completion.

13.3.3 Immediately before any occupancy, the Owner will schedule an inspection tour of the area to be occupied. Representatives of the Owner and the Contractor will jointly tour the area and record items still remaining to be finished and/or corrected. The Contractor shall promptly supply and install any such items as well as items missed by the inspection but required or necessary for Final Completion as a part of the Contract Sum.

13.4 Final Completion. After the Contractor has notified the Owner that the Work has been concluded, and the Contractor has submitted the items listed below as may be required at the discretion of the Owner, the Owner will determine in writing that Final Completion has occurred.

.1 A final Application for Payment.

.2 An affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or its property might in any way be responsible or encumbered, have been paid or otherwise satisfied.

.3 Consent of surety to final payment.

.4 A certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect and will not be cancelled or allowed to expire until at least thirty (30) days' prior written notice has been given to the Owner.

.5 A written statement that the Contractor knows of no substantial reason why the insurance will not be renewable to cover the period required by the Contract Documents.

.6 Other data establishing payment or satisfaction of or protection (satisfactory to the Owner) against all obligations, such as receipts, releases and waivers of liens and claims.

.7 Pursuant to RCW 39.12.040, an "Affidavit of Wages Paid" from the Contractor and from each Subcontractor certified by the Industrial Statistician of the Department of Labor and Industries, with the fees paid by the Contractor or Subcontractor.

.8 A certified statement that the Contractor has closed all necessary permits or otherwise met the requirements of all governing jurisdictions related to this Project.

.9 Pursuant to RCW 60.28.020, certificates from the Department of Revenue and the Department of Labor and Industries.

.10 Pursuant to RCW 50.24, a certificate from the Department of Employment Security.

.11 All deliverables required by the Contract Documents.

.12 A certification that the materials in the Work are "lead-free" and "asbestos free."

.13 A legible hard copy of the as-built drawings.

13.5 Final Acceptance and Final Payment.

13.5.1 Pursuant to RCW 60.28, completion of the contract Work shall occur after Final Completion has been achieved and the Owner has formally accepted the Project ("Final Acceptance"). Final Payment shall not become due until after Final Acceptance.

13.5.2 If any Subcontractor of any tier refuses to furnish a release or waiver required by the Owner, the Owner may retain an amount to defray the cost of foreclosing the liens of such claims and to pay attorneys' fees, the total of which shall be no less than one hundred fifty percent (150%) of the claimed amount. If any such lien remains unsatisfied after all payments are made, the Contractor shall refund to the Owner all moneys that the latter may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

13.6 Waivers.

13.6.1 Final Payment by the Owner. The making of final payment constitutes a waiver of claims by the Owner except those arising from (1) liens, claims, security interests, or encumbrances arising out of the Contract and unsettled; (2) failure of the Work to comply with the requirements of the Contract Documents; (3) Work subsequently found to be substandard and/or deficient; or (4) terms of warranties required by the Contract Documents or law.

13.6.2 Final Payment to the Contractor. Acceptance of final payment by the Contractor constitutes a waiver of Claims except those previously made in writing and specifically identified as unsettled on the final Application for Payment.

13.6.3 Change Orders. The execution of a Change Order constitutes a waiver of Claims by the Contractor arising out of the Work to be performed or deleted pursuant to the Change Order, except as specifically described in the Change Order.

13.6.4 Reservation of Rights. If the Contractor adds to a Change Order, a Construction Change Directive, or any other document a reservation of rights that has not been initialed by the Owner, any amounts previously agreed shall be considered disputed and not yet payable unless the costs are re-negotiated or the reservation is withdrawn or changed in a manner satisfactory to and initialed by the Owner.

13.6.5 Failure to Exercise. The Owner's failure to exercise any of its rights under this Contract shall not constitute a waiver of any past, present or future right or remedy. Any waiver by the Owner of any right or remedy under this Contract must be in writing and shall apply only to the right or remedy specified.

13.7 Warranty of Title. The Contractor warrants and guarantees that title to the Work, materials and equipment covered by an Application for Payment, whether or not incorporated in the Project, will pass to the Owner no later than the time of payment, free and clear of liens.

ARTICLE 14
PROTECTION OF PERSONS AND PROPERTY

14.1 The Contractor shall be solely responsible, and the Owner shall not have responsibility, for all aspects of safety related to this Contract or the Work, including initiating, maintaining, and supervising all safety precautions and programs in connection with the performance of the Contract. The Contractor shall take reasonable precautions for the safety of, and shall provide reasonable protection to prevent damage, injury or loss to, persons or property.

14.2 The Contractor shall promptly remedy to the Owner's satisfaction damage or loss to property at the site caused in whole or in part by the Contractor, a Subcontractor of any tier, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable, except for damage or loss attributable to acts or omissions of the Owner or by anyone for whose acts the Owner may be liable that are not attributable to the fault or negligence of the Contractor or a Subcontractor of any tier.

14.3 The Contractor shall not be required to perform without consent any Work relating to asbestos or polychlorinated biphenyl, unless identified as such in the Contract Documents.

ARTICLE 15
INSURANCE AND BONDS

15.1 The Contractor shall, at its own cost, purchase from a company or companies authorized to do business in the State of Washington possessing a Best's policyholder's rating of A- or better and a financial rating of no less than VII, and reasonably acceptable to the Owner, and maintain during the life of this Contract, at least the following insurance. The Contractor shall also cause its Subcontractors of any tier to secure and maintain at least the following insurance. The insurance shall be in force at the time the Work is commenced and shall remain in force until Substantial Completion, unless a later date is specified below.

15.1.1 Contractor's Liability Insurance. The Contractor shall purchase and maintain an occurrence-based Commercial General Liability Insurance Policy and such other insurance as will provide protection from claims set forth below which may arise out of or result from Contractor's operations under the Contract Documents, whether to be performed or furnished by Contractor, by any Subcontractor, by anyone directly or indirectly employed by any of them to perform or furnish any of the Work, or by anyone for whose acts any of them may be liable:

.1 Claims under workers' compensation, disability benefits and other similar employee benefit acts, as required by the laws of the state of Washington, including Contingent Employers Liability (Stop Gap) for all employees of the Contractor and Subcontractors;

.2 If there is an exposure for injury to Contractor's or subcontractors' employees under the United States Longshoremen's and Harbor Workers' Compensation Act, the Jones Act or under laws, regulations or statutes applicable to maritime employees, or any similar laws, regulations or statutes, coverage shall be included for such injuries or claims.

.3 Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees and of any person other than the Contractor's employees;

.4 Claims for damages insured by personal injury liability coverage that are sustained (a) by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or (b) by any other person for any other reason.

.5 Claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom;

.6 Claims arising out of operation of laws or regulations for damages because of bodily injury or death of any person or for damage to property;

.7 Claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle, including coverage for Owned Motor Vehicles, Non Owned Motor Vehicles and Hired or Borrowed Motor Vehicles; and

.8 The comprehensive general liability insurance required by this paragraph must include contractual liability insurance applicable to Contractor's obligations under Paragraph 9.7.

15.1.2 Property Insurance. Unless otherwise provided in the Contract Documents, the Contractor shall purchase and maintain property insurance upon the Work at the site to the full insurable value thereof (subject to any deductible amounts that may be provided in the Contract Documents). This insurance shall include the interest in the Work of the Owner, Contractor, Subcontractors of any tier, any Architect and consultants, all of whom shall be listed as insureds or primary, non-contributing additional insured parties. Additional insured status shall be evidenced by internal policy provision or by separate external endorsement. This insurance shall insure against the perils of fire and extended coverage and shall include "all risk" insurance for physical loss and damage including, without duplication of coverage, theft, vandalism and malicious mischief, collapse, false work and water damage, temporary buildings and debris removal (including demolition occasioned by enforcement of any applicable legal requirements), and such other perils as may be provided in the Contract Documents, and shall include damages, losses and expenses arising out of or resulting from any insured loss or incurred in the repair or replacement of any insured property (including but not limited to fees and charges of engineers, architects, attorneys and other professionals). If not covered under the "all risk" insurance or otherwise provided in the Contract Documents, the Contractor shall purchase and maintain similar property insurance on portions of the Work stored on and off the site or in transit when such portions of the Work are to be included in an Application for Payment. The Owner shall bear no responsibility for such portions of the Work or the consequences of their damage or loss.

15.1.3 Boiler and Machinery Insurance. The Contractor shall purchase and maintain such boiler and machinery insurance for applicable equipment utilized or contained in the Work, which will include the interests in the Work of the Owner, Contractor, Subcontractors, any Architect, and consultants, all of whom shall be listed as insured or additional insured parties.

15.1.4 Aircraft/Watercraft Insurance. If the performance of the Work requires the use of any aircraft that are owned, leased,

rented, or chartered by the Contractor or any of its Subcontractors, the Contractor shall secure and maintain Aircraft Liability Insurance for property damage and bodily injury, including passengers and crew. If the performance of the Work requires the use of any watercraft that are owned, leased, rented or chartered by the Contractor or any of its subcontractors, the Contractor shall secure and maintain Watercraft Liability insurance for property damage and bodily injury.

15.3 The Owner's specification or approval of insurance in this Contract or of its amount shall not relieve, limit or decrease the liability of the Contractor under the Contract Documents or otherwise. Coverages are the minimum to be provided and are not limitations of liability under the Contract, indemnification, or applicable law provisions. The Contractor may, at its expense, purchase larger coverage amounts or additional insurance.

15.4 Waiver of Rights

15.4.1 The Owner and Contractor waive all rights against each other for losses and damages caused by any of the perils covered by the policies of insurance provided in response to Paragraphs 15.1.2 and 15.1.3 and any other property insurance applicable to the Work, and also waive such rights against the Subcontractors, Architect, consultants and other parties named as insureds in such policies for losses and damages so caused. Each subcontract between the Contractor and a Subcontractor will contain similar waiver provisions by the Subcontractor in favor of the Owner, Contractor, Architect, consultants and all other parties named as insureds. None of these waivers shall extend to the rights that any of the insured parties may have to the proceeds of insurance held by the Owner as Trustee or otherwise payable under any policy so issued.

15.4.2 The Owner and Contractor intend that any policies provided in response to Paragraphs 15.1.2 and 15.1.3 shall protect the parties insured and provide primary coverage for losses and damages caused by the perils covered thereby. Accordingly, such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any of the parties named as insureds or additional insureds, and if the insurers require separate waiver forms to be signed by the Architect or its consultant, the Owner will obtain the same, and if such waiver forms are required of any Subcontractor, the Contractor will obtain the same.

15.5 Any insured loss under the policies of insurance required by Paragraphs 15.1.2 and 15.1.3 will be adjusted with the Owner and made payable to the Owner as Trustee for the insureds, as their interests may appear, subject to the requirements of any applicable mortgage clause. The Owner shall deposit in a separate account any money so received, and shall distribute it in accordance with such agreement as the parties in interest may reach. If no agreement is reached, the damaged Work shall be repaired or replaced, the moneys so received applied on account thereof, and the Work and the cost thereof covered by an appropriate Contract Modification or Written Amendment, or be a separate contract, at the Owner's option.

15.6 Endorsements.

15.6.1 The Owner, its officer and employees shall be named as a primary, non-contributing additional insured and coverage shall apply on a primary and non-contributory basis on such policies other than Workers' Compensation. Additional insured status shall be evidenced by internal policy provision or by separate external endorsement. Policies shall contain a provision that the Owner shall be given *thirty (30) days'* written notice by certified mail before cancellation of any insurance or reduction of the amount thereof, or any alteration, modification, restriction or material change thereto. No such cancellation, reduction, alteration, modification, restriction or material change in any policy shall relieve the Contractor of its obligation to maintain coverages in accordance with the Contract Documents.

15.6.2 All insurance policies to be maintained by the Contractor shall provide for Waiver of Subrogation in favor of the Owner.

15.6.3 All insurance policies, except Workers' Compensation, to be maintained by the Contractor shall provide Severability of Interests or Cross Liability Clause and provide that the insurance shall be primary and not excess to or contributing with any insurance or self-insurance maintained by the Owner.

15.7 Certificates evidencing that satisfactory coverage of the type and limits set forth in the Contract Documents shall be furnished to the Owner in a form acceptable to the Owner and shall contain provisions consistent with Paragraph 15.6.

15.8 Irrespective of the requirements of the Contract Documents as to insurance to be carried by the Contractor, insolvency, bankruptcy or failure of any insurance company to pay all claims accruing, shall not be held to relieve the Contractor of any of its obligations.

15.9 The Contractor shall defend, indemnify and hold the Owner harmless from any failure of the Contractor or its Subcontractors of any tier to secure and maintain insurance as required by this Contract.

ARTICLE 16
CORRECTION OF WORK

16.1 The Contractor shall promptly correct Work rejected or failing to conform to the requirements of the Contract Documents at any time through a period of *one (1) year* from the date of Substantial Completion of this Contract or by terms of a longer

manufacturer's warranty or an applicable special warranty required by the Contract Documents.

16.2 If the Contractor fails to carry out or correct Work that is not in accordance with the Contract Documents, the Owner may, by written order, require the Contractor to stop the Work or any portions thereof until the cause for the order has been eliminated, and the Owner may take over and correct some or all of the non- conforming Work at the Contractor's cost.

16.3 Nothing in this Article shall be construed to establish a period of limitation with respect to other obligations that the Contractor might have under the Contract Documents.

ARTICLE 17
MISCELLANEOUS PROVISIONS

17.1 Applicable Law. This Contract shall be governed by the internal law of the State of Washington, without regard to its choice-of-law provisions.

17.2 Compliance with Law. The Contractor shall give notices and comply with applicable laws, rules, regulations and orders of public authorities, including but not limited to RCW 39.06 and RCW 18.27 (Registration), RCW 49.60 (Discrimination), RCW 70.92 (Aged and Handicapped Persons), WAC 296-155 (Safety Standards), RCW 50.24 (Unemployment Compensation), RCW 51 (Industrial Insurance); RCW 82 (State Excise Tax Registration), RCW 39.12.065(3) (prevailing wage violations), Drug-Free Workplace Act of 1988 (Drug-Free Workplace) and RCW 49.26 (any asbestos removal).

17.3 Assignment. The Contractor shall not let, assign or transfer this Contract, or any interest in it or part of it, without the written consent of the Owner.

17.4 The Owner's Site Rules. The Contractor shall comply with the Owner's site and conduct rules.

17.5 Survival of Clauses. The warranty, dispute resolution, and indemnification provisions of this Contract shall survive the termination, cancellation or expiration of this Contract.

17.6 Writing Required. No addition to or modification of this Contract or waiver of any provisions of this Contract shall be binding on either Party unless explicitly made in writing and executed by the Contractor and the Owner.

ARTICLE 18
TERMINATION OF THE CONTRACT

18.1 Termination for Cause by the Contractor. If the Owner fails to make payment of undisputed amounts for a period of *sixty (60) days* through no fault of the Contractor, the Contractor may, upon *seven (7) additional days'* written notice (during which time the Owner has the right to cure), terminate the Contract and recover from the Owner payment for all Work executed in accordance with the Contract Documents.

18.2 Termination for Cause by the Owner. The Owner may, upon *seven (7) days'* written notice to the Contractor, terminate without prejudice the whole or any portion of the Work for cause, including but not limited to the Contractor's material breach of this Contract; failure to prosecute the Work or any portion thereof with sufficient diligence to ensure the Substantial Completion of the Work within the Contract Time; failure to supply a sufficient number of properly skilled workers or proper materials; material disregard of laws, ordinances, rules, regulations or orders of any public authority having jurisdiction; or being adjudged bankrupt, making a general assignment for the benefit of its creditors, or having a receiver appointed on account of the Contractor's insolvency.

18.3 Termination for Convenience by the Owner. The Owner may, at any time upon *seven (7) days'* written notice to the Contractor, terminate (without prejudice to any right or remedy of the Owner) the whole or any portion of the Work for the convenience of the Owner. The Owner shall be liable to Contractor only for the amount reasonably incurred to date and due under Article 13 for the performance of the Work terminated and other pre-approved costs, consistent with the Paragraph 11.2, necessary and reasonably incurred in connection with the termination of the Work.

18.4 Effects of Termination.

18.4.1 The total sum to be paid to the Contractor under this Article 18 shall not exceed the Contract Sum as reduced by the amount of payments otherwise made.

18.4.2 Unless the Owner directs otherwise, after receipt of a notice of termination by the Owner, the Contractor shall promptly stop Work as specified in the notice of termination; place no further orders or subcontracts, except as necessary for completion of non-terminated Work; procure cancellation of all orders and subcontracts to the extent related to the performance of terminated Work; assign to the Owner all of the right, title and interest of the Contractor under all orders and subcontracts; with the Owner's approval, settle outstanding liabilities and claims arising out of such termination of orders and subcontracts not assigned to the Owner; transfer title and deliver to the entity or entities designated by the Owner the fabricated or unfabricated parts, Work in process, partially completed supplies and equipment, materials, parts, tools, dies, jigs and other fixtures, completed Work, supplies

and other material produced as part of, or acquired in connection with the performance of, the Work terminated, and the completed or partially completed plans, drawings, information and other property related to the Work; take such action as may be necessary or as directed by the Owner to preserve and protect the Work and property related to the Project in the possession of the Contractor in which the Owner has an interest; and continue performance only to the extent not terminated.

18.5 Suspension. The Owner may, at its option and at any time, suspend the Contractor's performance of some or all of the Work. The Owner will give the Contractor notice of any such suspension, including the scope of the suspension and the Owner's estimate of the duration of such suspension. During the period of suspension, the Contractor shall use its best efforts to minimize costs associated with such suspension and to protect and maintain the Work. As full compensation for any such suspension, the Contractor will be eligible for an equitable adjustment, which shall not include consequential or indirect damages. Upon receipt of the Owner's notice to resume the suspended performance, the Contractor shall immediately resume performance to the extent required in the notice.

ARTICLE 19
DISPUTE RESOLUTION

19.1 All claims, disputes and other matters in question of the Contractor, direct or indirect, arising out of, or relating to, the Contract Documents or the breach thereof ("Claims") shall be decided exclusively by the following dispute resolution procedure. Failure to comply with the requirements of this Article 19 shall constitute waiver of the Claim.

19.2 Notice of Claim. The Contractor shall submit notice of all Claims to the Owner in writing within *seven (7) days* of the event giving rise to them and shall include a reasonable description of the event and its probable effect.

19.3 Claim Submission. Within *thirty (30) days* of the effective date of submitting the notice in Paragraph 19.2, the Contractor shall provide the Owner with a written Claim that includes a clear description of the Claim, all changes in cost and in time (direct, indirect, impact, consequential, and otherwise) to which the Contractor and Subcontractors of any tier are entitled, and data supporting the Claim. No act, omission, or knowledge, actual or constructive, of the Owner or any Architect shall in any way be deemed to be a waiver of the requirement for a timely written notice and a timely written Claim unless the Owner and the Contractor sign an explicit, unequivocal written waiver.

19.4 Effective Date. Unless otherwise specified in the Contract Documents, the effective date of any notice or request given in connection with this Contract shall be the date on which it is delivered to the Owner.

19.5 Informal Resolution. The Owner will make a determination of the Claim submitted. If the Contractor disagrees with the determination and wishes to pursue the Claim further, the Contractor must, within *fourteen (14) days* of receipt of the determination, provide the Owner with a written request that a representative of the Contractor, any Architect, and the Owner meet, confer, and attempt to resolve the claim. This meeting will then take place at mutually convenient time and place within *fourteen (14) days* of the Contractor's request.

19.6 Mediation. The Contractor may not bring any litigation against the Owner unless the Claim is first subject to mediation under the Construction Industry Mediation Procedures of the American Arbitration Association ("AAA"). This requirement cannot be waived except by an explicit written waiver signed by the Owner and the Contractor. To initiate the mediation process, the Contractor shall submit a written mediation request to the Owner within thirty (30) days after the meeting undertaken in Paragraph 19.5. If the parties are unable to agree to a mediator within *thirty (30) days* after the Owner's receipt of the written request for mediation, either party may submit a request for mediation to the AAA. An officer of the Contractor and the General Manager or designee of the Owner, both having full authority to settle the Claim, must attend the mediation session. To the extent there are other parties in interest, such as Subcontractors and insurers, their representatives, with full authority to settle the Claim, shall also attend the mediation session. All unresolved Claims in the Project shall be considered at a single mediation session that shall occur prior to Final Acceptance by Owner.

19.7 Litigation. The provisions of Paragraphs 19.1, 19.2, 19.5, and 19.6 are each a condition precedent to the Contractor bringing litigation. All unresolved Claims of the Contractor shall be waived and released unless the Contractor has strictly complied with the time limits of the Contract Documents, and litigation is served and filed within *120 days* after the Date of Substantial Completion as designated in writing by the Owner. This requirement cannot be waived except by an explicit written waiver signed by the Owner and the Contractor. The pendency of mediation shall toll this filing requirement.

19.8 Maintenance of Responsibilities. The parties shall diligently carry on their respective obligations and responsibilities and maintain the Progress Schedule during any dispute resolution proceedings, unless otherwise agreed by both parties in writing.

19.9 Waiver. The requirements of this Article 19 cannot be waived except by an explicit written waiver signed by the Owner and the Contractor. The fact that the Owner and the Contractor may continue to discuss or negotiate a Claim that has or may have been defective or untimely under the Contract Documents shall not constitute waiver of the provisions of the Contract Documents unless the Owner and Contractor sign an explicit, unequivocal written waiver approved by the Owner's Board of Commissioners.

Supplemental Conditions

1. **Progress Payments.** Progress payments shall be made monthly for Work that is duly approved and performed during the calendar month preceding the Application for Payment according to the following procedure.

1.1 Schedule of Values. Prior to submitting its first Application for Payment, the Contractor shall submit to the Owner a schedule of values allocating the Contract Sum to the various portions that comprise the Work. The schedule of values shall be prepared in such form and supported by such data as the Owner may require. The schedule of values shall allocate at least three percent (3%) of the original Contract Sum to that portion of the Work between Substantial Completion of the Work and Final Completion, which will be earned upon Final Completion and distributed in the final payment.

1.2 Draft Application. Within the first *seven (7) days* of each month, the Contractor shall submit to the Owner a report on the current status of the Work as compared to the Progress Schedule and a draft, itemized Application for Payment for Work performed through the prior calendar month. This shall not constitute a payment request. The Contractor, the Owner and the Architect or Engineer (if any) shall meet within the next *seven (7) days* and confer regarding the current progress of the Work and the amount of payment to which the Contractor is entitled. The Owner may request the Contractor to provide data substantiating the Contractor's right to payment, such as copies of requisitions or invoices from Subcontractors. The Contractor shall not be entitled to make a payment request, nor is any payment due the Contractor, until such data is furnished.

1.3 Payment Request. Within *seven (7) days* after the Contractor and the Owner have met and conferred regarding the draft Application for Payment and the Contractor has furnished all data requested, the Contractor may submit a payment request in the agreed-upon amount, in the form of a notarized, itemized Application for Payment for Work performed during the prior calendar month on a form supplied or approved by the Owner. Among other things, the Application shall state that prevailing wages have been paid in accordance with the pre-filed statement(s) of intent to pay prevailing wages on file with the Owner and that all payments due Subcontractors from the Owner's prior payments have been made. The Application shall constitute the Contractor's representation that (1) all payments due Subcontractors from the Owner's prior payments have been made and (2) the Work is current on the Progress Schedule, unless otherwise noted on the Application. If the Contractor believes it is entitled to payment for Work performed during the prior calendar month in addition to the agreed-upon amount, the Contractor may, within the same time period, submit to the Owner a separate written payment request specifying the exact additional amount due, the category in the schedule of values in which the payment is due, the specific Work for which the additional amount is due, and why the additional payment is due.

1.4 Payments to Subcontractors. No payment request shall include amounts the Contractor does not intend to pay to a Subcontractor. If, after making a request for payment but before paying a Subcontractor for its performance covered by the payment request, the Contractor discovers that part or all of the payment otherwise due to the Subcontractor is subject to withholding from the Subcontractor for unsatisfactory performance, the Contractor may withhold the amount as allowed under the subcontract, but it shall give the Subcontractor and the Owner written notice of the remedial actions that must be taken as soon as practicable after determining the cause for the withholding but before the due date for the Subcontractor payment, and pay the Subcontractor within *eight (8) working days* after the Subcontractor satisfactorily completes the remedial action identified in the notice.

1.5 Retainage. Pursuant to RCW 60.28, the Owner will reserve five percent (5%) from the moneys the Contractor earns on estimates during the progress of the Work, to be retained as a trust fund for the protection and payment of the claims of any person arising under this Contract and the state with respect to taxes imposed pursuant to Title 82 RCW, which may be due from the Contractor. The moneys reserved will be retained in a fund by the Owner until *forty-five (45) days* following formal acceptance of the Project by the Owner ("Final Acceptance"). The Contractor may retain payment of not more than five percent (5%) from the moneys earned by any Subcontractor.

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Site Conditions and Coordination

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SECTION IV

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INTRODUCTION

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

AMENDMENTS TO THE STANDARD SPECIFICATIONS

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

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

Section 1-01, Definitions and Terms
August 6, 2018

1-01.3 Definitions

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

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

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

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

http://wsdot.wa.gov/forms/pdfForms.html

Section 1-02, Bid Procedures and Conditions
October 30, 2018

1-02.4(1) General

This section is supplemented with the following:

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

The Contracting Agency is responsible for compliance with the CSWGP until the end of day that the Contract is executed. Beginning on the day after the Contract is executed, the Contractor shall assume complete legal responsibility for compliance with the CSWGP

and full implementation of all conditions of the CSWGP as they apply to the Contract Work.

1-02.5 Proposal Forms

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

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

1-02.6 Preparation of Proposal

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

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

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

The following new paragraph is inserted before the last paragraph:

The Bidder shall submit with their Bid a completed Contractor Certification Wage Law Compliance form (WSDOT Form 272-009). 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.

Section 1-03, Award and Execution of Contract
January 2, 2018

1-03.3 Execution of Contract

The first paragraph is revised to read:

Within 20 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, a satisfactory bond as required by law and Section 1-03.4, the Transfer of Coverage form for the Construction Stormwater General Permit with sections I, III, and VIII completed when provided, and shall be registered as a contractor in the state of Washington.

1-03.5 Failure to Execute Contract

The first sentence is revised to read:

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

Section 1-05, Control of Work
August 6, 2018

1-05.5 Vacant
This section, including title, is revised to read:

1-05.5 Tolerances
Geometrical tolerances shall be measured from the points, lines, and surfaces defined in Contract documents.

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

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

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

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

1-05.9 Equipment
The following new paragraph is inserted before the first paragraph:

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

This section is supplemented with the following:

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

Section 1-06, Control of Material
January 7, 2019

1-06.1(3) Aggregate Source Approval (ASA) Database
This section is supplemented with the following:

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

1-06.2(2)D Quality Level Analysis

This section is supplemented with the following new subsection:

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

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

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

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

Where:
x = individual compaction test values for each sublot in the lot.
∑x = summation of individual compaction test values
n = total number test values

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

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

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

3. Compute the lower quality index (Q_L):

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

Where:
LSL = 92.0

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

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

Quality Level = P_L

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

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

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

1-06.2(2)D1 Quality Level Analysis

The following new sentence is inserted after the first sentence:

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

1-06.2(2)D4 Quality Level Calculation

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

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

1-06.6 Recycled Materials

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

The Contractor shall submit a Recycled Material Utilization Plan on WSDOT Form 350-075A within 30 calendar days after the Contract is executed. The plan shall provide the Contractor's anticipated usage of recycled concrete aggregates for meeting the requirements of these Specifications. The quantity of recycled concrete aggregate will be provided in tons and as a percentage of the Plan quantity for eligible material listed in Section 9-03.21(1)E Table on Maximum Allowable percent (By Weight) of Recycled Material.

The last paragraph is revised to read:

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

1-06.6(1)A General

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

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

Section 1-07, Legal Relations and Responsibilities to the Public
August 6, 2018

1-07.5 Environmental Regulations

This section is supplemented with the following new subsections:

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

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

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

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

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

1-07.5(1) General

The first sentence is deleted and replaced with the following:

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

The third paragraph is deleted.

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

This section is revised to read:

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.

5. Clean loose dirt and debris from all materials placed below the ordinary high water line. No materials shall be placed below the ordinary high water line without the Engineer's concurrence.

6. When a violation of the Construction Stormwater General Permit (CSWGP) occurs, immediately notify the Engineer and fill out WSDOT Form 422-011, Contractor ECAP Report, and submit the form to the Engineer within 48 hours of the violation.

7. Once Physical Completion has been given, prepare a Notice of Termination (Ecology Form ECY 020-87) and submit the Notice of Termination electronically to the Engineer in a PDF format a minimum of 7 calendar days prior to submitting the Notice of Termination to Ecology.

8. Transfer the CSWGP coverage to the Contracting Agency when Physical Completion has been given and the Engineer has determined that the project site is not stabilized from erosion.

9. Submit copies of all correspondence with Ecology electronically to the Engineer in a PDF format within four calendar days.

1-07.5(4) Air Quality

This section is revised to read:

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

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

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

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

1-07.7(1) General

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

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

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

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

1-07.9(1) General

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

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

1-07.9(2) Posting Notices

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

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

In items 1 through 10, the revision dates are deleted.

1-07.11(2) Contractual Requirements

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

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

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

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

    a. Persistent conduct that is offensive and unwelcome.

b. Conduct that is considered to be hazing.

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

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

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

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

1-07.11(5) Sanctions

This section is supplemented with the following:

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

1-07.11(6) Incorporation of Provisions

The first sentence is revised to read:

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

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

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

An SPCC Plan template and guidance information is available at http://www.wsdot.wa.gov/environment/technical/disciplines/hazardous-materials/spill-prevent-report.

1-07.18 Public Liability and Property Damage Insurance

Item number 1 is supplemented with the following new sentence:

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

Section 1-08, Prosecution and ProgressJanuary 7, 2019

1-08.1 Subcontracting

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

All Work that is not performed by the Contractor will be considered as subcontracting except: (1) purchase of sand, gravel, crushed stone, crushed slag, batched concrete aggregates, ready-mix concrete, off-site fabricated structural steel, other off-site fabricated items, and any other materials supplied by established and recognized commercial plants; or (2) delivery of these materials to the Work site in vehicles owned

or operated by such plants or by recognized independent or commercial hauling companies hired by those commercial plants.

The following new paragraph is inserted after the seventh paragraph:

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

1-08.5 Time for Completion

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

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).

1-08.7 Maintenance During Suspension

The fifth paragraph is revised to read:

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

Section 1-09, Measurement and Payment
August 6, 2018

1-09.2(1) General Requirements for Weighing Equipment

The last paragraph is supplemented with the following:

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

1-09.2(2) Specific Requirements for Batching Scales

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

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

1-09.10 Payment for Surplus Processed Materials

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

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

Section 2-02, Removal of Structures and Obstructions
April 2, 2018

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

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

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

Section 2-09, Structure Excavation
April 2, 2018

2-09.2 Materials

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

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

2-09.3(3)D Shoring and Cofferdams

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

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

Section 3-01, Production from Quarry and Pit Sites
April 2, 2018

3-01.1 Description

The first paragraph is revised to read:

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

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

4-04.3(5) Shaping and Compaction

This section is supplemented with the following new paragraph:

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

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

5-01.2 Materials
The reference for Concrete Patching Material is revised to read:

Concrete Patching Material, Grout, and Mortar	9-20.1

5-01.3(1)A1 Concrete Patching Materials
In this section, each reference to "9-20" is revised to read "9-20.1".

5-01.3(4) Replace Cement Concrete Panel
This section's content is deleted and replaced with the following new subsections:

5-01.3(4)A General
Curing, cold weather work, concrete pavement construction in adjacent lines, and protection of pavement shall meet the requirements of Section 5-05.3(13) through Section 5-05.3(15). The Contractor, at no cost to the Contracting Agency, shall repair any damage to existing pavement caused by the Contractor's operations.

5-01.3(4)B Sawing and Dimensional Requirements
Concrete slabs to be replaced as shown in the Plans or staked by the Engineer shall be at least 6.0 feet long and full width of an existing pavement panel. The portion of the panel to remain in place shall have a minimum dimension of 6 feet in length and full panel width; otherwise the entire panel shall be removed and replaced. There shall be no new joints closer than 3.0 feet to an existing transverse joint or crack. A vertical full depth saw cut is required along all longitudinal joints and at transverse locations and, unless the Engineer allows otherwise, an additional vertical full depth relief saw cut located 12 to 18 inches from and parallel to the initial longitudinal and transverse saw cut locations is also required. Removal of existing cement concrete pavement shall not cause damage to adjacent slabs that are to remain in place. In areas that will be ground, slab replacements shall be performed prior to pavement grinding.

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

5-01.3(4)C Dowel Bars and Tie Bars
For the half of a dowel bar or tie bar placed in fresh concrete, comply with the requirements of Section 5-05.

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

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

Dowel bars shall be placed at the mid depth of the concrete slab, centered over the transverse joint, and parallel to the centerline and to the roadway surface, within the tolerances in the table below. Dowel bars may be adjusted to avoid contact with existing

dowel bars in the transverse joint at bridge approach slabs or existing panels provided the adjusted dowel bars meet the tolerances below.

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

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

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

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

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

5-01.3(4)D Foundation Preparation

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

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

1. Furnishing and hauling crushed surfacing base course to the project site.

2. Excavating uncompactable material.

3. Furnishing and placing a soil stabilization construction geotextile.

4. Backfilling and compacting crushed surfacing base course.

5. Removing, hauling and restocking any unused crushed surfacing base course.

5-01.3(4)E Concrete Finishing

Grade control shall be the responsibility of the Contractor.

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

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

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

5-01.3(4)F Joints

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

5-01.3(4)G Cracked Panels

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

5-01.3(4)H Opening to Traffic

Opening to traffic shall meet the requirements of Section 5-05.3(17).

5-01.3(5) Partial Depth Spall Repair

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

All sandblasting residue shall be removed.

5-01.3(7) Sealing Existing Concrete Random Cracks

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

Immediately prior to sealing, the cracks shall be clean.

5-01.3(8) Sealing Existing Longitudinal and Transverse Joint

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

Immediately prior to sealing, the cracks shall be clean.

5-01.3(10) Pavement Smoothness

This section is revised to read:

Pavement surface smoothness for cement concrete pavement grinding on this project will include International Roughness Index (IRI) testing. 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.

Smoothness Testing Equipment and Operator Certification

Use an inertial profiler and operator that meet the requirements of Section 5-05.3(3)E.

Surface Smoothness

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

Table 2
Locations Requiring MRI Testing

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

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	

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.

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

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.

Surface smoothness of travel lanes including areas subject to MRI testing shall not vary more than ⅛ inch from the lower edge of a 10-foot straightedge placed on the surface parallel to the centerline.

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 ¼ inch between lanes.

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:

1. Diamond grinding.

2. By other method accepted by the Engineer.

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.

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.

5-01.5 Payment

This section is supplemented with the following:

"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:

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.

Section 5-04, Hot Mix Asphalt
January 7, 2019

5-04.1 Description

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

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

5-04.2 Materials

The reference to "Warm Mix Asphalt Additive" is revised to read "HMA Additive".

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

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

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

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

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

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

3. Changes in modifiers used in the asphalt binder.

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

This section, including title, is revised to read:

5-04.2(2)B Using HMA Additives

The Contractor may, at the Contractor's discretion, 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 in accordance with Section 5-04.3(6) in the production of High RAP/Any RAS mixtures.

- Before using additives, obtain the Engineer's approval using WSDOT Form 350-076 to describe the proposed additive and process.

5-04.3(3)A Mixing Plant

In item number 5 of the first paragraph, "WSDOT T 168" is revised to read "FOP for AASHTO T 168".

5-04.3(4) Preparation of Existing Paved Surfaces

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

Unless otherwise allowed by the Engineer, use cationic emulsified asphalt CSS-1, CSS-1h, or Performance Graded (PG) asphalt for tack coat.

5-04.3(6) Mixing

The first paragraph is revised to read:

The asphalt supplier shall introduce recycling agent and anti-stripping additive, in the amount designated on the QPL for the mix design, into the asphalt binder prior to shipment to the asphalt mixing plant.

The seventh paragraph is revised to read:

Upon discharge from the mixer, ensure that the temperature of the HMA does not exceed the optimum mixing temperature shown on the accepted Mix Design Report by more than 25°F, or as allowed by the Engineer. When an additive is included in the manufacture of HMA, do not heat the additive (at any stage of production including in binder storage

tanks) to a temperature higher than the maximum recommended by the manufacturer of the additive.

5-04.3(7) Spreading and Finishing

The last row of the table is revised to read:

⅜ inch	0.25 feet	0.30 feet

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

The following new paragraph is inserted after the first paragraph:

The Contracting Agency's combined aggregate bulk specific gravity (Gsb) blend as shown on the HMA Mix Design will be used for VMA calculations until the Contractor submits a written request for a Gsb test. The new Gsb will be used in the VMA calculations for HMA from the date the Engineer receives the written request for a Gsb retest. The Contractor may request aggregate specific gravity (Gsb) testing be performed by the Contracting Agency twice per project. The Gsb blend of the combined stockpiles will be used to calculate voids in mineral aggregate (VMA) of any HMA produced after the new Gsb is determined.

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

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

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

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

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

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

Aggregates: Sand Equivalent Uncompacted Void Content Fracture

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

In Table 11, "V_a" is revised to read "VMA and V_a"

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

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

Voids in Mineral Aggregate (VMA)	2

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

The second to last sentence is revised to read:

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

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

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

- For a compaction lot in progress with a compaction CPF less than 0.75 using an LSL = 91.5, a new compaction lot will begin at the Contractor's request after the Engineer is satisfied that material conforming to the Specifications can be produced. See also Section 5-04.3(11)F.

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

In the table, "WSDOT FOP for AASHTO T 355" is revised to read "FOP for AASHTO T 355".

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

In the first paragraph, "WSDOT FOP for AASHTO T 355" is revised to read "FOP for AASHTO T 355".

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

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

The last two paragraphs are revised to read:

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

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

Where
CPA = Compaction Price Adjustment for the compaction lot ($)
CPF = Composite Pay Factor for the compaction lot (maximum is 1.05)
Q = Quantity in the compaction lot (tons)
UP = Unit price of the HMA in the compaction lot ($/ton)

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

The first sentence is revised to read:

For a compaction sublot that has been tested with a nuclear density gauge that did not meet the minimum of 91.5 percent of the theoretical 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, taken at the same location as the nuclear density test, be used for determination of the relative density of the compaction sublot.

5-04.3(13) Surface Smoothness

The second to last paragraph is revised to read:

When concrete pavement is to be placed on HMA, the surface tolerance of the HMA shall be such that no surface elevation lies above the Plan grade minus the specified Plan depth of concrete pavement. Prior to placing the concrete pavement, bring any such irregularities to the required tolerance by grinding or other means allowed by the Engineer.

5-04.5 Payment

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

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

Section 5-05, Cement Concrete Pavement
January 7, 2019

5-05.1 Description

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

5-05.2 Materials

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

Cement 9-01

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

5-05.3(1) Concrete Mix Design for Paving

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

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

5-05.3(3)E Smoothness Testing Equipment

This section is revised to read:

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

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

Equipment or operator certification by other states or a profiler certification facility will be accepted provided the certification meets the requirements of AASHTO R 56. Documentation verifying certification by another state shall be submitted to the Engineer a minimum of 14 calendar days prior to profile measurement. Equipment certification documentation shall include the information required by part 8.5 and 8.6 of AASHTO R 56. Operator documentation shall include a statement from the certifying state that

indicates the operator is certified to operate the inertial profiler to be used on the project. The decision whether another state's certification meets the requirements of AASHTO R 56 shall be vested entirely in the Engineer.

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:

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 ⅛ 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 ¼ 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. The completed surface shall be of uniform texture, smooth, uniform as to crown and grade, and free from defects of all kinds.

2. The completed surface shall not vary more than ⅛ inch from the lower edge of a 10-foot straightedge placed on the surface parallel to the centerline.

3. The completed surface shall vary not more than ¼ inch in 10 feet from the rate of transverse slope shown in the Plans.

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

1. Diamond grinding; repairs shall not reduce pavement thickness by more than ¼ inch less than the thickness shown in the Plans. When required by the Engineer, the Contractor shall verify the thickness of the concrete pavement by coring. Thickness reduction due to corrective work will not be included in thickness measurements for calculating the Thickness Deficiency in Section 5-05.5(1)A.

2. Removal and replacement of the cement concrete pavement.

3. By other method allowed by the Engineer.

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

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 5-05.5. The credit will be in addition to the price adjustment for MRI. 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.

5-05.3(22) Repair of Defective Pavement Slabs

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

All sandblasting residue shall be removed.

5-05.4 Measurement

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

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

The third paragraph is revised to read:

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

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

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

“Cement Concrete Compliance Adjustment”, by calculation.

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

5-05.5(1) Pavement Thickness

This section is revised to read:

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.	

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.

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:

5-05.5(1)A Vacant

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

This section, including title, is revised to read:

5-05.5(1)B Vacant

Section 6-01, General Requirements for Structures
January 7, 2019

This section is supplemented with the following new subsections:

6-01.16 Repair of Defective Work

6-01.16(1) General

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

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

Pre-approved repair procedures shall consist of the following:

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

All Working Drawings for repair procedures shall include:

- A description of the defective Work including location, extent and pictures
- Materials to be used in the repair. Repairs using manufactured products shall include written manufacturer recommendations for intended uses of the product, surface preparation, mixing, aggregate extension (if applicable), ambient and surface temperature limits, placement methods, finishing and curing.
- Construction procedures

- Plan details of the area to be repaired

- Calculations for Type 2E Working Drawings

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

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

6-01.16(2) Pre-Approved Repair Procedures

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

This repair shall be limited to the following areas:

- Areas that are not on top Roadway surfaces (with or without an overlay) including but not limited to concrete bridge decks, bridge approach slabs or cement concrete pavement

- Areas that are not underwater

- Areas that are not on precast barrier, except for the bottom 4 inches (but not to exceed 1 inch above blockouts)

- Areas that do not affect structural adequacy as determined by the Engineer.

The repair procedure is as follows:

1. Remove all loose and unsound concrete. Impact breakers shall not exceed 15 pounds in weight when removing concrete adjacent to reinforcement or other embedments and shall not exceed 30 pounds in weight otherwise. Operate impact breakers at angles less than 45 degrees as measured from the surface of the concrete to the tool and moving away from the edge of the defective Work. Concrete shall be completely removed from exposed surfaces of existing steel reinforcing bars. If half or more of the circumference of any steel reinforcing bar is exposed, if the reinforcing bar is loose or if the bond to existing concrete is poor then concrete shall be removed at least ¾ inch behind the reinforcing bar. Do not damage any existing reinforcement. Stop work and allow the Engineer to inspect the repair area after removing all loose and unsound concrete. Submit a modified repair procedure when required by the Engineer.

2. Square the edges of the repair area by cutting an edge perpendicular to the concrete surface around the repair area. The geometry of the repair perimeter shall minimize the edge length and shall be rectangular with perpendicular edges, avoiding reentrant corners. The depth of the cut shall be a minimum of ¾ inch, but shall be reduced if necessary to avoid damaging any reinforcement. For repairs on vertical

surfaces, the top edge shall slope up toward the front at a 1-vertical-to-3-horizontal slope.

3. Remove concrete within the repair area to a depth at least matching the cut depth at the edges. Large variations in the depth of removal within short distances shall be avoided. Roughen the concrete surface. The concrete surface should be roughened to at least Concrete Surface Profile (CSP) 5 in accordance with ICRI Guideline 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.

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.

Section 6-02, Concrete Structures
January 7, 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

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).

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.

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

Item number 5 of the first paragraph is deleted.

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

6-02.3(2)B Commercial Concrete

The second paragraph is revised to read:

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

6-02.3(4) Ready-Mix Concrete

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

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

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

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

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

6-02.3(5)C Conformance to Mix Design

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

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

6-02.3(6)A1 Hot Weather Protection

The first paragraph is revised to read:

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

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

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

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 ±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:

The finishing machine shall be self-propelled and be capable of forward and reverse movement under positive control. The finishing machine shall be equipped with augers and a rotating cylindrical single or double drum screed. The finishing machine shall have the necessary adjustments to produce the required cross section, line, and grade. The

finishing machine shall be capable of raising the screeds, augers, and any other parts of the finishing mechanical operation to clear the screeded surface, and returning to the specified grade under positive control. Unless otherwise allowed by the Engineer, a finishing machine manufacturer technical representative shall be on site to assist the first use of the machine on the Contract.

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

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

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

This section, including title, is revised to read:

6-02.3(10)D4 Vacant

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

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

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

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

The second to last paragraph is revised to read:

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

The last paragraph is deleted.

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

In item number 3 of the third paragraph, “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

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

The first paragraph is revised to read:

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

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

This section is supplemented with the following new paragraph:

Pigmented Sealer Materials shall be a product listed in the current WSDOT Qualified Products List (QPL). If the pigmented sealer material 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 9-08.3.

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

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

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

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

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

The fifth paragraph is deleted.

6-02.3(23) Opening to Traffic

This section is supplemented with the following new paragraph:

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

6-02.3(24)C Placing and Fastening

This section is revised to read:

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

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

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

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

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

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

1. Have a bearing surface measuring not greater than 2 inches in either dimension, and

2. Have a compressive strength equal to or greater than that of the concrete in which they are embedded.

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

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

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

1. Hot-dip galvanized after fabrication in keeping with AASHTO M232 Class D;

2. Coated with plastic firmly bonded to the metal. This plastic shall be at least 3⁄32 inch thick where it touches the form and shall not react chemically with the concrete when tested in the State Materials Laboratory. The plastic shall not shatter or crack at or above -5°F and shall not deform enough to expose the metal at or below 200°F; or

3. Stainless steel that meet the requirements of ASTM A493, Type 302. Stainless steel chair supports are not required to be galvanized or plastic coated.

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

1. Metal supports coated entirely with a dielectric material such as epoxy or plastic,

2. Other epoxy-coated reinforcing bars, or

3. All-plastic supports.

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

All-plastic supports shall be lightweight, non-porous, and chemically inert in concrete. All-plastic supports shall have rounded seatings, shall not deform under load during normal

temperatures, and shall not shatter or crack under impact loading in cold weather. All-plastic supports shall be placed at spacings greater than 1 foot along the bar and shall have at least 25 percent of their gross place area perforated to compensate for the difference in the coefficient of thermal expansion between plastic and concrete. The shape and configuration of all-plastic supports shall permit complete concrete consolidation in and around the support.

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

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

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

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

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

1½ inches to a concrete barrier or curb surface.

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

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

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

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

Reinforcing bar location for bars placed at equal spacing within a plane: the greater of either ±1 inch or ±1 bar diameter within the plane. The total number of bars shall not be fewer than that specified.

The clearance between reinforcement shall not be less than the greater of the bar diameter or 1 inch for unbundled bars. For bundled bars, the clearance between bundles shall not be less than the greater of 1 inch or a bar diameter derived from the equivalent total area of all bars in the bundle.

Longitudinal location of bends and ends of bars: ±1 inch

Embedded length of bars and length of bar lap splices:

No. 3 through No. 11: -1 inch

No. 14 through No. 18: -2 inches

Concrete cover measured perpendicular to concrete surface (except for the top surface of bridge decks, bridge approach slabs and other roadway surfaces): ±0.25 inch

Concrete cover measured perpendicular to concrete surface for the top surface of bridge decks, bridge approach slabs and other roadway surfaces: +0.25 inch, -0 inch

Before placing any concrete, the Contractor shall:

1. Clean all mortar from reinforcement, and

2. Obtain the Engineer's permission to place concrete after the Engineer has inspected the placement of the reinforcing steel. (Any concrete placed without the Engineer's permission shall be rejected and removed.)

6-02.3(25)H Finishing

The last paragraph is revised to read:

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

6-02.3(25)I Fabrication Tolerances

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

12. Stirrup Projection from Top of Girder:

    Wide flange thin deck and slab girders: ± ½ inch

    All other girders: ± ¾ inch

6-02.3(27) Concrete for Precast Units

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

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

6-02.3(28)B Casting

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

6-02.3(28)D Contractors Control Strength

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

6-02.3(28)E Finishing

This section is supplemented with the following:

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

Section 6-05, Piling
January 2, 2018

6-05.3(9)A Pile Driving Equipment Approval

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

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

Section 6-07, Painting
January 7, 2019

6-07.1 Description

The first sentence is revised to read:

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

6-07.2 Materials

The material reference for Paint is revised to read:

Paint and Related Materials	9-08

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

This section is supplemented with the following new sentence:

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

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

The first two paragraphs are revised to read:

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

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

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

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

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

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

6-07.3(2) Submittals

The first paragraph is supplemented with the following:

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

6-07.3(2)B Contractor's Quality Control Program Submittal Component

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

1. Description of the inspection procedures, tools, techniques and the acceptance criteria for all phases of work.

2. Procedure for implementation of corrective action for non-conformance work.

3. The paint system manufacturer's recommended methods of preventing defects.

4. The Contractor's frequency of quality control inspection for each phase of work.

5. Example of each completed form(s) of the daily quality control report used to document the inspection work and tests performed by the Contractor's quality control personnel.

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

Item number 1 is revised to read:

1. Product data sheets and Safety Data Sheets (SDS) on the paint materials, paint preparation, and paint application, as specified by the paint manufacturer, including:

    a. All application instructions, including the mixing and thinning directions.

    b. Recommended spray nozzles and pressures.

    c. Minimum and maximum drying time between coats.

    d. Restrictions on temperature and humidity.

    e. Repair procedures for shop and field applied coatings.

    f. Maximum dry film thickness for each coat.

    g. Minimum wet film thickness for each coat to achieve the specified minimum dry film thickness.

6-07.3(2)D Hazardous Waste Containment, Collection, Testing, and Disposal Submittal Component

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

The hazardous waste containment, collection, testing, and disposal shall meet all Federal and State requirements, and the submittal component of the painting plan shall include the following:

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

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

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

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).

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:

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

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

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

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

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

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

6-07.3(9)D Coating Thickness

This section is revised to read:

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

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

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

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

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

Film thickness, wet and dry, will be measured by gages conforming to Section 6-07.3(8)A.

Wet measurements will be taken immediately after the paint is applied in accordance with ASTM D4414. Dry measurements will be taken after the coating is dry and hard in accordance with SSPC Paint Application Specification No. 2.

Each painter shall be equipped with wet film thickness gages and shall be responsible for performing frequent checks of the paint film thickness throughout application.

Coating thickness measurements may be made by the Engineer after the application of each coat and before the application of the succeeding coat. In addition, the Engineer may inspect for uniform and complete coverage and appearance. One hundred percent of all thickness measurements shall meet or exceed the minimum wet film thickness. In areas where wet film thickness measurements are impractical, dry film thickness measurements may be made. If a question arises about an individual coat's thickness or coverage, it may be verified by the use of a Tooke gage in accordance with ASTM D4138.

If the specified number of coats does not produce a combined dry film thickness of at least the sum of the thicknesses required per coat, if an individual coat does not meet the minimum thickness, or if visual inspection shows incomplete coverage, the coating system will be rejected and the Contractor shall discontinue painting and surface preparation operations and shall submit a Type 2 Working Drawing of the repair proposal. The repair proposal shall include documentation demonstrating the cause of the less-than-minimum thickness, along with physical test results, as necessary, and modifications to Work methods to prevent similar results. The Contractor shall not resume painting or surface preparation operations until receiving the Engineer's acceptance of the completed repair.

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

This section, including title, is revised to read:

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

Paint shall be applied only during periods when:

1. Air and steel temperatures are in accordance with the paint manufacturer's recommendations but in no case less than 35°F nor greater than 115°F.

2. Steel surface temperature is a minimum of 5°F above the dew point.

3. Steel surface is not wet.

4. Relative humidity is within the manufacturer's recommended range.

5. The anticipated ambient temperature will remain above 35°F or the manufacturer's minimum temperature, whichever is greater, during the paint drying and curing period.

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

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

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

The last sentence is revised to read:

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

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

The first paragraph is supplemented with the following:

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

6-07.3(9)H Containment for Field Coating

This section is revised to read:

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

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

6-07.3(9)I Application of Field Coatings

This section is revised to read:

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

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

Upon completion of erection Work, welds for steel column jackets may be prepared in accordance with SSPC-SP 15, Commercial Grade Power Tool Cleaning.

The minimum drying time between coats shall be as shown in the product data sheets, but not less than 12 hours. The Contractor shall determine whether the paint has cured sufficiently for proper application of succeeding coats.

The maximum time between intermediate and top coats shall be in accordance with the manufacturer's written recommendations. If the maximum time between coats is exceeded, all newly coated surfaces shall be prepared to SSPC-SP 7, *Brush-off Blast Cleaning*, and shall be repainted with the same paint that was cleaned, at no additional cost to the Contracting Agency.

Each coat shall be applied in a uniform layer, completely covering the preceding coat. The Contractor shall correct runs, sags, skips, or other deficiencies before application of succeeding coats. Such corrective work may require re-cleaning, application of additional paint, or other means as determined by the Engineer, at no additional cost to the Contracting Agency.

Dry film thickness measurements will be made in accordance with Section 6-07.3(9)D.

All paint damage that occurs shall be repaired in accordance with the manufacturer's written recommendations. On bare areas or areas of insufficient primer thickness, the repair shall include field-applied zinc-rich primer and the final coats of paint selected from the approved component or performance based paint system in accordance with Section 6-07.3(10)H. On areas where the primer is at least equal to the minimum required dry film thickness, the repair shall include the application of the final two coats of the paint system. All paint repair operations shall be performed by the Contractor at no additional cost or time to the Contracting Agency.

6-07.3(10)A Containment

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

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

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

The first paragraph is revised to read:

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

The second paragraph is revised to read:

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

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

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 1/16 to 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 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
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 system):

Primer Coat – Zinc-rich Epoxy	9-08.1(2)N
Primer Stripe Coat – Epoxy	9-08.1(2)N
Intermediate Coat – Epoxy	9-08.1(2)N
Intermediate Stripe Coat – Epoxy	9-08.1(2)N
Top Coat – Polyurethane	9-08.1(2)N

The following new paragraph is inserted after the first paragraph:

Paints and related materials shall be a product 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 "B" as listed on the WSDOT QPL in Section 9-08.1(2)N. If the paint and related material 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(10)J Mixing and Thinning Paint

This section is revised to read:

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

6-07.3(10)K Coating Thickness

This section is revised to read:

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

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

This section is revised to read:

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

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

The third paragraph is revised to read:

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

6-07.3(10)N Field Coating Application Methods

The third sentence is revised to read:

The Contractor may apply stripe coat paint using spray or brush but shall follow spray application using a brush to ensure complete coverage around structural geometric irregularities and to push the paint into gaps between existing steel surfaces and around rivets and bolts.

6-07.3(10)O Applying Field Coatings

The second to last paragraph is revised to read:

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

6-07.3(10)P Field Coating Repair

The second sentence is revised to read:

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

6-07.3(11)A Painting of Galvanized Surfaces

This section is revised to read:

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

6-07.3(11)A2 Paint Coat Materials

This section is revised to read:

The Contractor shall paint the dry surface as follows:

1. The first coat over a galvanized surface shall be an epoxy polyamide conforming to Section 9-08.1(2)E . In the case of galvanized bolts used for replacement of

deteriorated existing rivets and for small surface areas less than or equal to one square foot, an intermediate moisture cured polyurethane conforming to Section 9-08.1(2)G may be used as a first coat. In both cases the first coat shall be compatible with galvanizing and as recommended by the top coat manufacturer.

2. The second coat shall be a top coat moisture cured aliphatic polyurethane conforming to Section 9-08.1(2)H or a top coat polyurethane conforming to Section 6-07.3(10)H Option 2 NEPCOAT performance based paint specification compatible with the first coat as recommended by the manufacturer.

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

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

This section is revised to read:

Powder coating of galvanized surfaces shall consist of the following coats:

1. The first coat shall be an epoxy powder primer coat conforming to Section 9-08.2.

2. The second coat shall be a polyester finish coat conforming to Section 9-08.2.

6-07.3(11)B3 Galvanized Surface Cleaning and Preparation

The first three paragraphs are revised to read:

Galvanized surfaces receiving the powder coating shall be cleaned and prepared for coating in accordance with ASTM D 7803, and the project-specific powder coating plan.

Assemblies conforming to the ASTM D 7803 definition for newly galvanized steel shall receive surface smoothing and surface cleaning in accordance with ASTM D 7803, Section 5, and surface preparation in accordance with ASTM D 7803, Section 5.1.3.

Assemblies conforming to the ASTM D 7803 definition for partially weathered galvanized steel shall be checked and prepared in accordance with ASTM D 7803, Section 6, before then receiving surface smoothing and surface cleaning in accordance with ASTM D 7803, Section 5, and surface preparation in accordance with ASTM D 7803, Section 5.1.3.

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

Assemblies conforming to the ASTM D 7803 definition for weathered galvanized steel shall be prepared in accordance with ASTM D 7803, Section 7 before then receiving surface smoothing and surface cleaning in accordance with ASTM D 7803, Section 5, and surface preparation in accordance with ASTM D 7803, Section 5.3 except as follows:

6-07.3(11)B5 Testing

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

4. Adhesion testing in accordance with ASTM D 4541 for 600 psi minimum adhesion for the complete two-component system.

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

Rejected assemblies shall be repaired or recoated by the Contractor, at no additional expense to the Contracting Agency, in accordance with the powder coating manufacturer's recommendation as detailed in the project-specific powder coating plan, until the assemblies satisfy the acceptance testing requirements.

6-07.3(12) Painting Ferry Terminal Structures

This section is revised to read:

Painting of ferry terminal Structures shall be in accordance with Section 6-07.3 as supplemented below.

This section is supplemented with the following new subsections:

6-07.3(12)A Painting New Steel Ferry Terminal Structures

Painting of new steel Structures shall be in accordance with Section 6-07.3(9) except that all coatings (primer, intermediate, intermediate stripe, and top) shall be applied in the shop with the following exceptions:

1. Steel surfaces to be field welded.

2. Steel surfaces to be greased.

3. The length of piles designated in the Plans not requiring painting.

The minimum drying time between coats shall be as shown in the product data sheets, but not less than 12 hours. The Contractor shall determine whether the paint has cured sufficiently for proper application of succeeding coats.

6-07.3(12)A1 Paint Systems

Paint systems for Structural Steel, which includes vehicle transfer spans and towers, pedestrian overhead loading structures and towers, upland structural steel and other elements as designated in the Special Provisions shall be as specified in Section 6-07.3(9)A.

Paint systems for Piling, Landing Aids and Life Ladders shall be as specified in the Special Provisions.

6-07.3(12)A2 Paint Color

Paint colors shall be as specified in the Special Provisions.

6-07.3(12)A3 Coating Thickness

Coating thicknesses shall be as specified in the Special Provisions.

6-07.3(12)A4 Application of Field Coatings

An on-site supervisor shall be present for each work shift at the project site.

Upon completion of erection Work, all uncoated or damaged areas remaining, including bolts, nuts, washers, splice plates, and field welds shall be prepared in accordance with SSPC-SP 1, Solvent Cleaning, followed by SSPC-SP 11, *Power Tool Cleaning to Bare Metal*. Surface preparation shall be measured according to SSPC-VIS 3. SSPC-SP 11 shall be performed for a minimum distance of 1 inch from

the uncoated or damaged area. In addition, intact shop-applied coating surrounding the 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 field coatings. All sanding dust and contamination shall be removed prior to application of field coatings.

Field applied paint for Structural Steel shall conform to Section 6-07.3(10)H, as applicable. Field applied paint for Piling, Landing Aids and Life Ladders shall be as specified in the Special Provisions.

For areas above the tidal zone, the minimum drying time between coats shall be as shown in the product data sheets, but not less than 12 hours. For areas within the tidal zone, the minimum drying time between coats shall be as recommended by the paint system manufacturer. The Contractor shall determine whether the paint has cured sufficiently for proper application of succeeding coats.

The maximum time between intermediate and top coats shall be in accordance with the manufacturer's written recommendations. If the maximum time between coats is exceeded, all newly coated surfaces shall be prepared to SSPC-SP 3, *Power Tool Cleaning*, and shall be repainted with the same paint that was cleaned, at no additional cost to the Contracting Agency.

Each coat shall be applied in a uniform layer, completely covering the preceding coat. The Contractor shall correct runs, sags, skips, or other deficiencies before application of succeeding coats. Such corrective work may require re-cleaning, application of additional paint, or other means as determined by the Engineer, at no additional cost to the Contracting Agency.

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 to meet the requirements of the manufacturer. Paint for underwater applications shall be as specified in the Special Provisions and shall be applied in accordance with the manufacturer's recommendations.

6-07.3(12)B Painting Existing Steel Ferry Terminal Structures

Painting of existing steel structures shall be in accordance with Section 6-07.3(10) as supplemented by the following.

6-07.3(12)B1 Containment

Containment for full removal shall be in accordance with Section 6-07.3(10)A. Containment for overcoat systems shall be in accordance with all applicable Permits as required in the Special Provisions.

Prior to cleaning the Contractor shall enclose all exposed electrical and mechanical equipment to seal out dust, water, and paint. Non-metallic surfaces shall not be abrasive blasted or painted. Unless otherwise specified, the following metallic surfaces shall not be painted and shall be protected from abrasive blasting and painting:

1. Galvanized and stainless steel surfaces not previously painted,

2. Non-skid surfaces,

3. Unpainted intentionally greased surfaces,

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, infilled 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 repaired in accordance with ASTM A 780, with the preferred method of repair using paints containing zinc dust.

6-07.3(12)B3 Paint Systems

Paints systems for Structural Steel, which includes vehicle transfer spans and towers, pedestrian overhead loading structures and towers, upland structural steel and other elements as designated in the Special Provisions shall be as specified in Section 6-07.3(10)H.

Paint systems for Piling, Landing Aids, Life Ladders, underside of vehicle transfer span bridge decks, non-skid surface treated areas, and anti-graffiti coatings shall be as specified in the Special Provisions.

6-07.3(12)B4 Paint Color

Paint colors shall be as specified in the Special Provisions.

6-07.3(12)B5 Coating Thickness

Coating thicknesses shall be as specified in the Special Provisions.

6-07.3(12)B6 Application of Field Coatings

Application of field coatings shall be in accordance with Section 6-07.3(10)O and Section 6-07.3(12)A2 except for the following:

1. All coatings applied in the field shall be applied using a brush or roller. Spray application methods may be used if allowed by the Engineer.

2. Applied coatings shall not be immersed until the coating has been cured as required by the coating manufacturer.

3. Non-skid surface treatment products shall be applied in accordance with the manufacturer's recommendations.

4. Anti-graffiti coatings shall be applied in one coat following application of the top coat, where specified in the Plans.

6-07.3(14)B Reference Standards

The second standard reference (to SSPC CS 23.00), and its accompanying title, is revised to read:

SSPC CS 23.00	Specification for the Application of Thermal Spray Coatings (Metallizing) of Aluminum, Zinc, and Their Alloys and Composites for the Corrosion Protection of Steel

Section 6-08, Bituminous Surfacing on Structure Decks
January 7, 2019

6-08.3(7)A Concrete Deck Preparation

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

The Contractor, with the Engineer, shall inspect the exposed concrete deck to establish the extent of bridge deck repair in accordance with Section 6-09.3(6).

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.

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:

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:

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 ¾ 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:

Where existing steel reinforcing bars inside deck repair areas show deterioration greater than 20-percent section loss, the Contractor shall furnish and place steel reinforcing bars

alongside the deteriorated bars in accordance with the details shown in the Standard Plans.

The last paragraph is deleted.

6-09.3(7) Surface Preparation for Concrete Overlay

The first seven paragraphs are deleted and replaced with the following:

Following the completion of any required further deck preparation the entire lane or strip being overlaid shall be cleaned to be free from oil and grease, rust and other foreign material that may still be present. These materials shall be removed by detergent-cleaning or other method accepted by the Engineer followed by sandblasting.

After detergent cleaning and sandblasting is completed, the entire lane or strip being overlaid shall be cleaned in final preparation for placing concrete.

Hand tool chipping, sandblasting and cleaning in areas adjacent to a lane or strip being cleaned in final preparation for placing concrete shall be discontinued when final preparation is begun. Scarifying and hand tool chipping shall remain suspended until the concrete has been placed and the requirement for curing time has been satisfied. Sandblasting and cleaning shall remain suspended for the first 24 hours of curing time after the completion of concrete placing.

Scarification, and removal of the upper layer of concrete overlay when present, may proceed during the final cleaning and overlay placement phases of the Work on adjacent portions of the Structure so long as the scarification and concrete overlay removal operations are confined to areas which are a minimum of 100 feet away from the defined limits of the final cleaning or overlay placement in progress. If the scarification and concrete overlay removal impedes or interferes in any way with the final cleaning or overlay placement as determined by the Engineer, the scarification and concrete overlay removal Work shall be terminated immediately and the scarification and concrete overlay removal equipment removed sufficiently away from the area being prepared or overlaid to eliminate the conflict. If the grade is such that water and contaminants from the scarification and concrete overlay removal operation will flow into the area being prepared or overlaid, the scarification and concrete overlay removal operation shall be terminated and shall remain suspended for the first 24 hours of curing time after the completion of concrete placement.

6-09.3(11) Placing Concrete Overlay

The first sentence of item number 3 in the fourth paragraph is revised to read:

Concrete shall not be placed when the temperature of the concrete surface is less than 45°F or greater than 75°F, and wind velocity at the construction site is in excess of 10 mph.

6-09.3(12) Finishing Concrete Overlay

The third paragraph is deleted.

The last paragraph is deleted.

6-09.3(13) Curing Concrete Overlay

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

As the finishing operation progresses, the concrete shall be immediately covered with a single layer of clean, new or used, wet burlap.

The last sentence of the second paragraph is deleted.

The following two new paragraphs are inserted after the second paragraph:

As an alternative to the application of burlap and fog spraying described above, the Contractor may propose a curing system using proprietary curing blankets specifically manufactured for bridge deck curing. The Contractor shall submit a Type 2 Working Drawing consisting of details of the proprietary curing blanket system, including product literature and details of how the system is to be installed and maintained.

The wet curing regimen as described shall remain in place for a minimum of 42-hours.

The last paragraph is deleted.

6-09.3(14) Checking for Bond

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

After the requirements for curing have been met, the entire overlaid surface shall be sounded by the Contractor, in a manner accepted by and in the presence of the Engineer, to ensure total bond of the concrete to the bridge deck.

The last sentence of the first paragraph is deleted.

The second paragraph is deleted.

Section 6-10, Concrete Barrier
August 6, 2018

6-10.2 Materials

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

Cement 9-01

6-10.3(6) Placing Concrete Barrier

The first two sentences of the first paragraph are revised to read:

Precast concrete barriers Type 2, Type 4, Type F, precast single slope barrier, and transitions shall rest on a paved foundation shaped to a uniform grade and section. The foundation surface for precast concrete barriers Type 2, Type 4, Type F, precast single slope barrier, and transitions shall meet this test for uniformity: When a 10-foot straightedge is placed on the surface parallel to the centerline for the barrier, the surface shall not vary more than ¼ inch from the lower edge of the straightedge.

Section 6-11, Reinforced Concrete Walls
April 2, 2018

6-11.2 Materials
In the first paragraph, the reference to "Aggregates for Portland Cement Concrete" is revised to read:

Aggregates for Concrete 9-03.1

Section 6-12, Noise Barrier Walls
August 6, 2018

6-12.2 Materials
In the first paragraph, the reference to "Aggregates for Portland Cement Concrete" is revised to read:

Aggregates for Concrete 9-03.1

The first paragraph is supplemented with the following new material reference:

Noise Barrier Wall Access Door 9-06.17

6-12.3(9) Access Doors and Concrete Landing Pads
The second paragraph is deleted and replaced with the following:

All frame and door surfaces, except stainless steel surfaces, shall be painted in accordance with Section 6-07.3(9). Primer shall be applied to all non-stainless steel surfaces. All primer coated exposed metal surfaces shall be field painted with the remaining Section 6-07.3(9)A paint system coats. The top coat, when dry, shall match the color specified in the Plans or Special Provisions.

This section is supplemented with the following:

Access door deadbolt locks shall be capable of accepting a Best CX series core. The Contractor shall furnish and install a spring-loaded construction core lock with each lock. The Engineer will furnish the permanent Best CX series core for the Contractor to install at the conclusion of the project.

Section 6-13, Structural Earth Walls
August 6, 2018

6-13.2 Materials
In the first paragraph, the reference to "Aggregates for Portland Cement Concrete" is revised to read:

Aggregates for Concrete 9-03.1

6-13.3(4) Precast Concrete Facing Panel and Concrete Block Fabrication
Item number 1 of the sixth paragraph is revised to read:

1. Vertical dimensions shall be ± 1/16 inch of the Plan dimension, and the rear height shall not exceed the front height.

Item number 3 of the sixth paragraph is revised to read:

3. All other dimensions shall be ± ¼ inch of the Plan dimension.

Section 6-14, Geosynthetic Retaining Walls
April 2, 2018

6-14.2 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

Section 6-16, Soldier Pile and Soldier Pile Tieback Walls
April 2, 2018

6-16.2 Materials
In the first paragraph, the reference to "Aggregates for Portland Cement Concrete" is revised to read:

Aggregates for Concrete	9-03.1

Section 6-18, Shotcrete Facing
January 2, 2018

6-18.3(3) Testing
In the last sentence of the first paragraph, "AASHTO T 24" is revised to read "ASTM C1604".

6-18.3(3)B Production Testing
In the last sentence, "AASHTO T 24" is revised to read "ASTM C1604".

6-18.3(4) Qualifications of Contractor's Personnel
In the last sentence of the second paragraph, "AASHTO T 24" is revised to read "ASTM C1604".

Section 6-19, Shafts
January 7, 2019

6-19.2 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

6-19.3(1)A Shaft Construction Tolerances
The last paragraph is supplemented with the following:

The elevation of the top of the reinforcing cage for drilled shafts shall be within +6 inches and -3 inches from the elevation shown in the Plans.

6-19.3(2)D Nondestructive QA Testing Organization and Personnel

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

4. Personnel preparing test reports shall be a Professional Engineer, licensed under Title 18 RCW, State of Washington, and shall seal the report in accordance with WAC 196-23-020.

6-19.3(3)C Conduct of Shaft Casing Installation and Removal and Shaft Excavation Operations

The first paragraph is supplemented with the following:

In no case shall shaft excavation and casing placement extend below the bottom of shaft excavation as shown in the Plans.

6-19.3(6)E Thermal Wire and Thermal Access Point (TAPS)

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

The thermal wire shall extend from the bottom of the reinforcement cage to the top of the shaft, with a minimum of 5-feet of slack wire provided above the top of shaft.

The following new sentence is inserted after the third sentence of the third paragraph:

All thermal wires in a shaft shall be equal lengths.

6-19.3(9)D Nondestructive QA Testing Results Submittal

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

Results shall be a Type 2E Working Drawing presented in a written report.

Section 7-02, Culverts
April 2, 2018

7-02.2 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

7-02.3(6)A4 Excavation and Bedding Preparation

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

The bedding course shall be a 6-inch minimum thickness layer of culvert bedding material, defined as granular material either conforming to Section 9-03.12(3) or to AASHTO Grading No. 57 as specified in Section 9-03.1(4)C.

Section 7-05, Manholes, Inlets, Catch Basins, and Drywells
August 6, 2018

7-05.3 Construction Requirements
The fourth sentence of the third paragraph is deleted.

Section 7-08, General Pipe Installation Requirements
April 2, 2018

7-08.3(3) Backfilling
The fifth sentence of the fourth paragraph is revised to read:

> All compaction shall be in accordance with the Compaction Control Test of Section 2-03.3(14)D except in the case that 100% Recycled Concrete Aggregate is used.

The following new sentences are inserted after the fifth sentence of the fourth paragraph:

> When 100% Recycled Concrete Aggregate is used, the Contractor may submit a written request to use a test point evaluation for compaction acceptance. Test Point evaluation shall be performed in accordance with SOP 738.

Section 8-01, Erosion Control and Water Pollution Control
April 2, 2018

8-01.1 Description
This section is revised to read:

> This Work consists of furnishing, installing, maintaining, removing and disposing of best management practices (BMPs), as defined in the Washington Administrative Code (WAC) 173-201A, to manage erosion and water quality in accordance with these Specifications and as shown in the Plans or as designated by the Engineer.
>
> The Contracting Agency may have a National Pollution Discharge Elimination System Construction Stormwater General Permit (CSWGP) as identified in the Contract Special Provisions. The Contracting Agency may or may not transfer coverage of the CSWGP to the Contractor when a CSWGP has been obtained. The Contracting Agency may not have a CSWGP for the project but may have another water quality related permit as identified in the Contract Special Provisions or the Contracting Agency may not have water quality related permits but the project is subject to applicable laws for the Work. Section 8-01 covers all of these conditions.

8-01.2 Materials
The first paragraph is revised to read:

> Materials shall meet the requirements of the following sections:
>
> | | |
> |---|---|
> | Corrugated Polyethylene Drain Pipe | 9-05.1(6) |
> | Quarry Spalls | 9-13 |
> | Erosion Control and Roadside Planting | 9-14 |
> | Construction Geotextile | 9-33 |

8-01.3(1) General

This section is revised to read:

Adaptive management shall be employed throughout the duration of the project for the implementation of erosion and water pollution control permit requirements for the current condition of the project site. The adaptive management includes the selection and utilization of BMPs, scheduling of activities, prohibiting unacceptable practices, implementing maintenance procedures, and other managerial practices that when used singularly or in combination, prevent or reduce the release of pollutants to waters of the State. The adaptive management shall use the means and methods identified in this section and means and methods identified in the Washington State Department of Transportation's Temporary Erosion and Sediment Control Manual or the Washington State Department of Ecology's Stormwater Management Manuals for construction stormwater.

The Contractor shall install a high visibility fence along the site preservation lines shown in the Plans or as instructed by the Engineer.

Throughout the life of the project, the Contractor shall preserve and protect the delineated preservation area, acting immediately to repair or restore any fencing damaged or removed.

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 the ground 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. Temporary 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 temporary Work with permanent drainage and erosion control 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)	
May 1 through September 30	17 Acres
October 1 through April 30	5 Acres

Eastern Washington (East of the Cascade Mountain Crest)	
April 1 through October 31	17 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 (West of the Cascade Mountain Crest)	
October 1 through April 30	2 days maximum
May 1 to September 30	7 days maximum

Eastern Washington (East of the Cascade Mountain Crest)	
October 1 through June 30	5 days maximum
November 1 through March 31	10 days maximum

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.

Nothing in this Section shall relieve the Contractor from complying with other Contract requirements.

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

A Temporary Erosion and Sediment Control (TESC) plan consists 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. Abbreviated TESC plans are not required to include plan sheets and are used on small projects that disturb soil and have the potential to discharge but are not covered by the CSWGP. The contract uses the term "TESC plan" to describe both TESC plans and abbreviated TESC plans. When the Contracting Agency has developed a TESC plan for a Contract, the narrative is included in the appendix to the Special Provisions and the TESC plan sheets, when

required, are included in the Contract Plans. The Contracting Agency TESC plan will not include off-site areas used to directly support construction activity.

The Contractor shall either adopt the TESC Plan in the Contract or develop a new TESC Plan. If the Contractor adopts the Contracting Agency TESC Plan, the Contractor shall modify the TESC Plan to meet the Contractor's schedule, method of construction, and to include off-site areas that will be used to directly support construction activity such as equipment staging yards, material storage areas, or borrow areas. Contractor TESC Plans shall include all high visibility fence delineation shown on the Contracting Agency Contract 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 as needed throughout construction based on site inspections and discharge samples to maintain compliance with the CSWGP. 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) and implementation schedule 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:

The Contractor shall identify the ESC Lead at the preconstruction discussions and in the TESC Plan. The ESC Lead shall have, for the life of the Contract, a current Certificate of Training in Construction Site Erosion and Sediment Control from a course approved by the Washington State Department of Ecology. The ESC Lead must be onsite or on call at all times throughout construction. The ESC Lead shall be listed on the Emergency Contact List required under Section 1-05.13(1).

The ESC Lead shall implement the TESC Plan. Implementation shall include, but is not limited to:

1. Installing, adaptively managing, and maintaining temporary erosion and sediment control BMPs to assure continued performance of their intended function. Damaged or inadequate BMPs shall be corrected immediately.

2. Updating the TESC Plan to reflect current field conditions.

3. Discharge sampling and submitting Discharge Monitoring Reports (DMRs) to the Washington State Department of Ecology in accordance with the CSWGP.

4. Develop and maintain the Site Log Book as defined in the CSWGP. When the Site Log Book or portion thereof is electronically developed, the electronic documentation must be accessible onsite. As a part of the Site Log Book, the Contractor shall develop and maintain a tracking table to show that identified TESC compliance issues are fully resolved within 10 calendar days. The table shall include the date an issue was identified, a description of how it was resolved, and the date the issue was fully resolved.

The ESC Lead shall also inspect all areas disturbed by construction activities, all on-site erosion and sediment control BMPs, and all stormwater discharge points at least once

every calendar week and within 24-hours of runoff events in which stormwater discharges from the site. Inspections of temporarily stabilized, inactive sites may be reduced to once every calendar month. The Washington State Department of Ecology's Erosion and Sediment Control Site Inspection Form, located at https://ecology.wa.gov/Regulations-Permits/Permits-certifications/Stormwater-general-permits/Construction-stormwater-permit, shall be completed for each inspection and a copy shall be submitted to the Engineer no later than the end of the next working day following the inspection.

8-01.3(1)C Water Management

This section is supplemented with the following new subsections:

8-01.3(1)C5 Water Management for In-Water Work Below Ordinary High Water Mark (OHWM)

Work over surface waters of the state (defined in WAC 173-201A-010) or below the OHWM (defined in RCW 90.58.030) must comply with water quality standards for surface waters of the state of Washington.

8-01.3(1)C6 Environmentally Acceptable Hydraulic Fluid

All equipment containing hydraulic fluid that extends from a bridge deck over surface waters of the state or below the OHWM, shall be equipped with an environmentally acceptable hydraulic fluid. The fluid shall meet specific requirements for biodegradability, aquatic toxicity, and bioaccumulation in accordance with the United States Environmental Protection Agency (EPA) publication EPA800-R-11-002. Acceptance shall be in accordance with Section 1-06.3, Manufacturer's Certification of Compliance.

The designation of environmentally acceptable hydraulic fluid does not mean fluid spills are acceptable. The Contractor shall respond to spills to land or water in accordance with the Contract.

8-01.3(1)C7 Turbidity Curtain

All Work for the turbidity curtain shall be in accordance with the manufacturer's recommendations for the site conditions. Removal procedures shall be developed and used to minimize silt release and disturbance of silt. The Contractor shall submit a Type 2 Working Drawing, detailing product information, installation and removal procedures, equipment and workforce needs, maintenance plans, and emergency repair/replacement plans.

Turbidity curtain materials, installation, and maintenance shall be sufficient to comply with water quality standards.

The Contractor shall notify the Engineer 10 days in advance of removing the turbidity curtain. All components of the turbidity curtain shall be removed from the project.

8-01.3(1)C1 Disposal of Dewatering Water

This section is revised to read:

When uncontaminated groundwater is encountered in an excavation on a project it may be infiltrated within vegetated areas of the right of way not designated as Sensitive Areas or incorporated into an existing stormwater conveyance system at a rate that will not cause erosion or flooding in any receiving surface water.

Alternatively, the Contractor may pursue independent disposal and treatment alternatives that do not use the stormwater conveyance system provided it is in compliance with the applicable WACs and permits.

8-01.3(1)C2 Process Wastewater

This section is revised to read:

Wastewater generated on-site as a byproduct of a construction process shall not be discharged to surface waters of the State. Some sources of process wastewater may be infiltrated in accordance with the CSWGP with concurrence from the Engineer. Some sources of process wastewater may be disposed via independent disposal and treatment alternatives in compliance with the applicable WACs and permits.

8-01.3(1)C3 Shaft Drilling Slurry Wastewater

This section is revised to read:

Wastewater generated on-site during shaft drilling activity shall be managed and disposed of in accordance with the requirements below. No shaft drilling slurry wastewater shall be discharged to surface waters of the State. Neither the sediment nor liquid portions of the shaft drilling slurry wastewater shall be contaminated, as detectable by visible or olfactory indication (e.g., chemical sheen or smell).

1. Water-only shaft drilling slurry or water slurry with accepted flocculants may be infiltrated on-site. Flocculants used shall meet the requirements of Section 9-14.5(1) or shall be chitosan products listed as General Use Level Designation (GULD) on the Washington State Department of Ecology's stormwater treatment technologies webpage for construction treatment. Infiltration is permitted if the following requirements are met:

    a. Wastewater shall have a pH of 6.5 – 8.5 prior to discharge.

    b. The amount of flocculant added to the slurry shall be kept to the minimum needed to adequately settle out solids. The flocculant shall be thoroughly mixed into the slurry.

    c. The slurry removed from the shaft shall be contained in a leak proof cell or tank for a minimum of 3 hours.

    d. The infiltration rate shall be reduced if needed to prevent wastewater from leaving the infiltration location. The infiltration site shall be monitored regularly during infiltration activity. All wastewater discharged to the ground shall fully infiltrate and discharges shall stop before the end of each work day.

    e. Drilling spoils and settled sediments remaining in the containment cell or tank shall be disposed of in accordance with Section 6-19.3(4)F.

    f. Infiltration locations shall be in upland areas at least 150 feet away from surface waters, wells, on-site sewage systems, aquifer sensitive recharge areas, sole source aquifers, well head protection areas, and shall be marked on the plan sheets before the infiltration activity begins.

g. Prior to infiltration, the Contractor shall submit a Shaft Drilling Slurry Wastewater Management and Infiltration Plan as a Type 2 Working Drawing. This Plan shall be kept on-site, adapted if needed to meet the construction requirements, and updated to reflect what is being done in the field. The Working Drawing shall include, at a minimum, the following information:

i. Plan sheet showing the proposed infiltration location and all surface waters, wells, on-site sewage systems, aquifer-sensitive recharge areas, sole source aquifers, and well-head protection areas within 150 feet.

ii. The proposed elevation of soil surface receiving the wastewater for infiltration and the anticipated phreatic surface (i.e., saturated soil).

iii. The source of the water used to produce the slurry.

iv. The estimated total volume of wastewater to be infiltrated.

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:

Whether 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)F Dates for Application of Final Seed, Fertilizer, and Mulch

In the table, the second column heading is revised to read:

Eastern Washington[1]
(East of the Cascade Mountain Crest)

Footnote 1 in the table is revised to read:

Seeding may be allowed outside these dates when allowed or directed by the Engineer.

8-01.3(5) Plastic Covering

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

Erosion Control – Plastic coverings used to temporarily cover stockpiled materials, slopes or bare soils shall be installed and maintained in a way that prevents water from intruding under the plastic and prevents the plastic cover from being damaged by wind.

8-01.3(7) Stabilized Construction Entrance

The first paragraph is revised to read:

Temporary stabilized construction entrance shall be constructed in accordance with the *Standard Plans*, prior to construction vehicles entering the roadway from locations that generate sediment track out on the roadway. Material used for stabilized construction entrance shall be free of extraneous materials that may cause or contribute to track out.

8-01.3(8) Street Cleaning

This section is revised to read:

Self-propelled pickup street sweepers shall be used to remove and collect dirt and other debris from the Roadway. The street sweeper shall effectively collect these materials and prevent them from being washed or blown off the Roadway or into waters of the State. Street sweepers shall not generate fugitive dust and shall be designed and operated in compliance with applicable air quality standards. Material collected by the street sweeper shall be disposed of in accordance with Section 2-03.3(7)C.

When allowed by the Engineer, power broom sweepers may be used in non-environmentally sensitive areas. The broom sweeper shall sweep dirt and other debris from the roadway into the work area. The swept material shall be prevented from entering or washing into waters of the State.

Street washing with water will require the concurrence of the Engineer.

8-01.3(12) Compost Socks

The first two sentences of the first paragraph are revised to read:

Compost socks are used to disperse flow and sediment. Compost socks shall be installed as soon as construction will allow but before flow conditions create erosive flows or discharges from the site. Compost socks shall be installed prior to any mulching or compost placement.

8-01.3(13) Temporary Curb

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

Temporary curbs shall be a minimum of 4 inches in height.

8-01.3(14) Temporary Pipe Slope Drain

The third and fourth paragraphs are revised to read:

The pipe fittings shall be water tight and the pipe secured to the slope with metal posts, wood stakes, sand bags, or as allowed by the Engineer.

The water shall be discharged to a stabilized conveyance, sediment trap, stormwater pond, rock splash pad, or vegetated strip, in a manner to prevent erosion and maintain water quality compliance.

The last paragraph is deleted.

8-01.3(15) Maintenance

This section is revised to read:

Erosion and sediment control BMPs shall be maintained or adaptively managed as required by the CSWGP until the Engineer determines they are no longer needed. When deficiencies in functional performance are identified, the deficiencies shall be rectified immediately.

The BMPs shall be inspected on the schedule outlined in Section 8-01.3(1)B for damage and sediment deposits. Damage to or undercutting of BMPs shall be repaired immediately.

In areas where the Contractor's activities have compromised the erosion control functions of the existing grasses, the Contractor shall overseed at no additional cost to the Contracting Agency.

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 ⅓ 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:

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.

Biodegradable 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.

Outlet protections will be measured per each initial installation at an outlet location.

Tackifiers will be measure by the acre by ground slope measurement.

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.

Mulching will be measured by the acre by ground slope surface area covered and accepted.

Seeding, fertilizing, liming, mulching, and mowing, will be measured by the acre by ground slope measurement.

Seeding and fertilizing by hand will be measured by the square yard by ground slope measurement. No adjustment in area size will be made for the vegetation free zone around each plant.

Fencing 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.

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.

8-01.5(2) Item Bids

"ESC Lead", per day.

"Turbidity Curtain", per linear foot.

"Biodegradable Erosion Control Blanket", per square yard.

"Plastic Covering", per square yard.

"Check Dam", per linear foot.

"Inlet Protection", per each.

"Gravel Filter Berm", per linear foot.

"Stabilized Construction Entrance", per square yard.

"Street Cleaning", per hour.

"Silt Fence", per linear foot.

"Wood Chip Berm", per linear foot.

"Compost Berm", per linear foot.

"Wattle", per linear foot.

"Compost Sock", per linear foot.

"Coir Log", per linear foot.

"Temporary Curb", per linear foot.

"Temporary Pipe Slope Drain", per linear foot.

"Temporary Seeding", per acre.

"Outlet Protection", per each.

"Tackifier", per acre.

"Erosion/Water Pollution Control", by force account as provided in Section 1-09.6.

Maintenance and removal of erosion and water pollution control devices including removal and disposal of sediment, stabilization and rehabilitation of soil disturbed by these activities, and any additional Work deemed necessary by the Engineer to control erosion and water pollution will be paid by force account in accordance with Section 1-09.6.

To provide a common Proposal for all Bidders, the Contracting Agency has entered an amount in the Proposal to become a part of the Contractor's total Bid.

8-01.5(3) Reinstating Unit Items with Lump Sum Erosion Control and Water Pollution Prevention

The Contract may establish the project as lump sum, in accordance with Section 8-01.4(1) and also reinstate the measurement of one or more of the items described in Section 8-01.4(2), except for Erosion/Water Pollution Control, by force account. When that occurs, the corresponding payment provision in Section 8-01.5(2) is not deleted and the Work under that item will be paid as specified.

8-01.5(4) Items not included with Lump Sum Erosion Control and Water Pollution Prevention

Payment will be made for each of the following Bid items when they are included in the Proposal:

"Compost Blanket", per square yard.

"Mulching", per acre

"Mulching with PAM", per acre

"Mulching with Short-Term Mulch", per acre.

"Mulching with Moderate-Term Mulch", per acre.

"Mulching with Long-Term Mulch", per acre.

"Seeding, Fertilizing and Mulching", per acre.

"Seeding and Fertilizing", per acre.

"Seeding and Fertilizing by Hand", per square yard.

"Second Application of Fertilizer", per acre.

"Liming", per acre.

"Mowing", per acre.

"Seeding and Mulching", per acre.

"High Visibility Fence", per linear foot.

Section 8-02, Roadside Restoration
January 2, 2018

8-02.2 Materials

The reference to the material "Soil" is revised to read "Topsoil".

8-02.5 Payment

The following new paragraph is inserted following the Bid item "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.

The paragraph following the Bid item "PSIPE ___", per each is revised to read:

The unit Contract price for "PSIPE ___", per each, shall be full pay for all Work to perform the work 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.

Section 8-04, Curbs, Gutters, and Spillways
April 2, 2018

8-04.2 Materials

In the first paragraph, the reference to "Portland Cement" is revised to read:

Cement 9-01

8-04.3(1) Cement Concrete Curbs, Gutters, and Spillways

The first paragraph is supplemented with the following:

Roundabout truck apron cement concrete curb and gutter shall be constructed with air entrained concrete Class 4000 conforming to the requirements of Section 6-02.

Section 8-06, Cement Concrete Driveway Entrances
April 2, 2018

8-06.2 Materials

In the first paragraph, the reference to "Portland Cement" is revised to read:

Cement 9-01

8-06.3 Construction Requirements

The first paragraph is revised to read:

Cement concrete driveway approaches shall be constructed with air entrained concrete Class 4000 conforming to the requirements of Section 6-02 or Portland Cement or Blended Hydraulic Cement Concrete Pavement conforming to the requirements of Section 5-05.

Section 8-07, Precast Traffic Curb
April 2, 2018

8-07.3(1) Installing Curbs

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

The curb shall be firmly bedded for its entire length and breadth on a mortar bed conforming to Section 9-20.4(3) composed of one part Portland cement or blended hydraulic cement and two parts sand.

The fourth paragraph is revised to read:

All joints between adjacent pieces of curb except joints for expansion and/or drainage as designated by the Engineer shall be filled with mortar composed of one part Portland cement or blended hydraulic cement and two parts sand.

Section 8-11, Guardrail
August 6, 2018

8-11.3(1)C Terminal and Anchor Installation

The first paragraph is revised to read:

All excavation and backfilling required for installation of anchors shall be performed in accordance with Section 2-09, except that the costs thereof shall be included in the unit Contract price for the anchor installed.

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

Assembly and installation of Beam Guardrail Non-flared Terminals for Type 31 guardrail shall be supervised at all times by a manufacturer's representative, or an installer who has been trained and certified by the manufacturer.

The last paragraph is revised to read:

Beam Guardrail Non-flared Terminals for Type 31 guardrail shall meet the crash test and evaluation criteria in the Manual for Assessing Safety Hardware (MASH).

8-11.4 Measurement

The third paragraph is revised to read:

Measurement of beam guardrail _____ terminal will be per each for the completed terminal.

The fourth paragraph is revised to read:

Measurement of beam guardrail Type 31 buried terminal Type 2 will be per linear foot for the completed terminal.

The sixth paragraph is revised to read:

Measurement of beam guardrail anchor Type 10 will be per each for the completed anchor, including the attachment of the anchor to the guardrail.

8-11.5 Payment

The Bid item "Beam Guardrail Anchor Type ___", per each is revised to read "Beam Guardrail Anchor Type 10", per each.

The Bid item "Beam Guardrail Buried Terminal Type 1", per each is deleted from this section.

The Bid item “Beam Guardrail Buried Terminal Type 2”, per linear foot and the following paragraph are revised to read:

“Beam Guardrail Type 31 Buried Terminal Type 2”, per linear foot.

The unit Contract price per linear foot for “Beam Guardrail Type 31 Buried Terminal Type 2” shall be full payment for all costs to obtain and provide materials and perform the Work as described in Section 8-11.3(1)C.

Section 8-14, Cement Concrete Sidewalks
April 2, 2018

8-14.2 Materials
In the first paragraph, the reference to “Portland Cement” is revised to read:

Cement	9-01

In the second paragraph, each reference to “Federal Standard 595” is revised to read “SAE AMS Standard 595”.

Section 8-16, Concrete Slope Protection
April 2, 2018

8-16.2 Materials
In the first paragraph, the last two material references are revised to read:

Poured Portland Cement or Blended Hydraulic Cement Concrete Slope Protection	9-13.5(2)
Pneumatically Placed Portland Cement or Blended Hydraulic Cement Concrete Slope Protection	9-13.5(3)

Section 8-17, Impact Attenuator Systems
January 7, 2019

8-17.3 Construction Requirements
This section is supplemented with the following:

Permanent impact attenuators shall meet the crash test and evaluation criteria of the Manual for Assessing Safety Hardware (MASH), except as otherwise noted in the Plans or Special Provisions.

Section 8-20, Illumination, Traffic Signal Systems, Intelligent Transportation Systems, and Electrical
August 6, 2018

8-20.1(1) Regulations and Code
The last paragraph is revised to read:

Persons performing electrical Work shall be certified in accordance with and supervised as required by RCW 19.28.161. Proof of certification shall be worn at all times in

accordance with WAC 296-46B-942. Persons failing to meet these certification requirements may not perform any electrical work, and shall stop any active electrical work, until their certification is provided and worn in accordance with this Section.

8-20.2(2) Equipment List and Drawings

This section is renumbered:

8-20.2(1) Equipment List and Drawings

8-20.3(4) Foundations

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

Concrete for Type II, III, IV, V, and CCTV signal standards and light standard foundations shall be Class 4000P and does not require air entrainment.

8-20.3(5)A General

The last two sentences of the last paragraph is deleted.

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.

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.

Section 9-02, Bituminous Materials
January 7, 2019

9-02.1 Asphalt Material, General

The second paragraph is revised to read:

The Asphalt Supplier of Performance Graded (PG) asphalt binder and emulsified asphalt shall have a Quality Control Plan (QCP) in accordance with WSDOT QC 2 "Standard Practice for Asphalt Suppliers That Certify Performance Graded and Emulsified Asphalts". The Asphalt Supplier's QCP shall be submitted and receive the acceptance of the WSDOT State Materials Laboratory. Once accepted, any change to the QCP will require a new QCP to be submitted for acceptance. The Asphalt Supplier of PG asphalt binder and emulsified asphalt shall certify through the Bill of Lading that the PG asphalt binder or emulsified asphalt meets the Specification requirements of the Contract.

9-02.1(4) Performance Graded Asphalt Binder (PGAB)

This section's title is revised to read:

Performance Graded (PG) Asphalt Binder

The first paragraph is revised to read:

PG asphalt binder meeting the requirements of AASHTO M 332 Table 1 of the grades specified in the Contract shall be used in the production of HMA. For HMA with greater than 20 percent RAP by total weight of HMA, or any amount of RAS, the new asphalt binder, recycling agent and recovered asphalt (RAP and/or RAS) when blended in the proportions of the mix design shall meet the PG asphalt binder requirements of AASHTO M 332 Table 1 for the grade of asphalt binder specified by the Contract.

The second paragraph, including the table, is revised to read:

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.							

The third paragraph is revised to read:

The RTFO J_{nrdiff} and the PAV direct tension specifications of AASHTO M 332 are not required.

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.

9-02.5 Warm Mix Asphalt (WMA) Additive

This section, including title, is revised to read:

9-02.5 HMA Additive

Additives for HMA shall be accepted by the Engineer.

Section 9-03, Aggregates
January 7, 2019

9-03.1 Aggregates for Portland Cement Concrete

This section's title is revised to read:

Aggregates for Concrete

9-03.1(1) General Requirements

The first two sentences of the first paragraph are revised to read:

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.

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

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:

Aggregate for bituminous surface treatment shall be manufactured from ledge rock, talus, or gravel, in accordance with Section 3-01. Aggregates for Bituminous Surface Treatment shall meet the following test requirements:

9-03.8(1) General Requirements

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

Aggregates for Hot Mix Asphalt shall meet the following test requirements:

9-03.8(2) HMA Test Requirements

The two tables in the second paragraph are replaced with the following three tables:

Mix Criteria	HMA Class							
	⅜ inch		½ inch		¾ 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

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

	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

9-03.8(7) HMA Tolerances and Adjustments

In the table in item number 1, the fifth row is revised to read:

Asphalt binder	-0.4% to 0.5%		±0.7%

In the table in item number 1, the following new row is inserted before the last row:

Voids in Mineral Aggregate, VMA	-1.0%		

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	
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	

1

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	

2

3 For Reclamation Facilities that do not participate in Tier 2 and Tier 3, approval of recycled
4 concrete aggregate will be in accordance with Section 9-03.21(1), and acceptance will be
5 in accordance with Section 3-04.
6

9-03.21(1)E Table on Maximum Allowable percent (By Weight) of Recycled Material

"Portland Cement" is deleted from the first two rows in the table.

The following new row is inserted after the second row:

Coarse Aggregate for Concrete Pavement	9-03.1(4)	0	100	0	0

The first column of the fourth row (after the preceding Amendment is applied) is revised to read:

Coarse Aggregate for Commercial Concrete and Class 3000 Concrete

Section 9-04, Joint and Crack Sealing Materials
January 7, 2019

This section's title is revised to read:

Joint Sealing Materials

9-04.1(2) Premolded Joint Filler for Expansion Joints

In this section, each reference to "AASHTO T 42" is revised to read "ASTM D 545".

9-04.2(1)A1 Hot Poured Sealant for Cement Concrete Pavement

This section is supplemented with the following:

Hot poured sealant for cement concrete pavement is acceptable for installations in joints where cement concrete pavement abuts a bituminous pavement.

9-04.2(1)A2 Hot Poured Sealant for Bituminous Pavement

This section is supplemented with the following:

Hot poured sealant for bituminous pavement is acceptable for installations in joints where cement concrete pavement abuts a bituminous pavement.

9-04.2(1)B Sand Slurry for Bituminous Pavement

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

2. Two percent portland cement or blended hydraulic cement, and

9-04.3 Joint Mortar

The first paragraph is revised to read:

Mortar for hand mortared joints shall conform to Section 9-20.4(3) and consist of one part portland cement or blended hydraulic cement, three parts fine sand, and sufficient water to allow proper workability.

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".

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.

3. Fittings shall be factory welded, injection molded, or PVC.

9-05.24(2) Polypropylene Sanitary Sewer Pipe
This section is revised to read:

Polypropylene sanitary sewer pipe shall conform to the following requirements:

1. For pipe sizes up to 60 inches: ASTM F2764.

2. Fittings shall be factory welded, injection molded, or PVC.

Section 9-06, Structural Steel and Related Materials
January 7, 2019

9-06.5 Bolts
This section's title is revised to read:

Bolts and Rods

9-06.5(4) Anchor Bolts
This section, including title, is revised to read:

9-06.5(4) Anchor Bolts and Anchor Rods

Anchor bolts and anchor rods shall meet the requirements of ASTM F1554 and, unless otherwise specified, shall be Grade 105 and shall conform to Supplemental Requirements S2, S3, and S4.

Nuts for ASTM F1554 Grade 105 black anchor bolts and anchor rods shall conform to ASTM A563, Grade D or DH. Nuts for ASTM F1554 Grade 105 galvanized anchor bolts and anchor rods shall conform to either ASTM A563, Grade DH, or AASHTO M292, Grade 2H, and shall conform to the overtapping, lubrication, and rotational testing requirements in Section 9-06.5(3). Nuts for ASTM F1554 Grade 36 or 55 black or galvanized anchor bolts and anchor rods shall conform to ASTM A563, Grade A or DH. Washers shall conform to ASTM F436.

The bolts and rods shall be tested by the manufacturer in accordance with the requirements of the pertinent Specification and as specified in these Specifications. Anchor bolts, anchor rods, nuts, and washers shall be inspected prior to shipping to the project site. The Contractor shall submit to the Engineer for acceptance a Manufacturer's Certificate of Compliance for the anchor bolts, anchor rods, nuts, and washers, as defined in Section 1-06.3. If the Engineer deems it appropriate, the Contractor shall provide a sample of the anchor bolt, anchor rod, nut, and washer for testing.

All bolts, rods, nuts, and washers shall be marked and identified as required in the pertinent Specification.

9-06.15 Welded Shear Connectors
The third paragraph is revised to read:

Mechanical properties shall be determined in accordance with AASHTO T 244.

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.

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 A1078 Type 2 coating, except that the bars may be cut to length after being coated. Cut ends shall be coated in accordance with ASTM A1078 with a patching material that is compatible with the coating, inert in concrete and recommended by the coating manufacturer. The thickness of the epoxy coating shall be 10 mils plus or minus 2 mils. The Contractor shall furnish a written certification that properly identifies the coating material, the number of each batch of coating material

used, quantity represented, date of manufacture, name and address of manufacturer, and a statement that the supplied coating material meets the requirements of ASTM A1078 Type 2 coating. Patching material, compatible with the coating material and inert in concrete and recommended by the manufacturer shall be supplied with each shipment for field repairs by the Contractor.

2. 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 G40 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.

9-07.5(2) Corrosion Resistant Dowel Bars (for Cement Concrete Pavement and Cement Concrete Pavement Rehabilitation)

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

Corrosion resistant dowel bars 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:

Item number 4 and 5 of the first paragraph are revised to read:

4. Corrosion-resistant, low-carbon, chromium plain steel bars for concrete reinforcement meeting all the requirements of ASTM A 1035 Alloy Type CS Grade 100 or Alloy Type CS Grade 120.

5. Zinc Clad dowel bars shall be 1½ inch solid bars or 1.625 inch outside diameter by 0.120 inch wall tubular bars meeting the chemical and physical properties of AASHTO M 31, Grade 60, or AASHTO M 255, Grade 60. The bars shall have a minimum of 0.035 inches A710 Zinc alloy clad to the plain steel inner bar or tube. A710 Zinc shall be composed of: zinc: 99.5 percent, by weight, minimum; copper: 0.1-0.25 percent, by weight; and iron: 0.0020 percent, by weight, maximum. Each end of tubular bars shall be plugged using a snug-fitting insert to prohibit any intrusion of concrete or other materials.

The numbered list in the first paragraph is supplemented with the following:

6. Multicoated fusion bonded epoxy bars shall consist of an ASTM A615 bar with alternating layers of ASTM A934 coating and an abrasion resistant overcoat (ARO). The ASTM A934 coating shall form the base and there shall be two layers of each coating material. The minimum thickness of the combined layers of the ASTM A934 coating and ARO coating shall be 20 mils. The ARO shall meet the following requirements:

Test	Method	Specification
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

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.

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

9-08.1(2)E Epoxy Polyamide

This section is revised to read:

Epoxy polyamide shall be a two-component system conforming to MIL-DTL-24441 or SSPC Coating Standard No. 42.

9-08.1(2)H Top Coat, Single-Component, Moisture-Cured Polyurethane

This section is revised to read:

Vehicle Type: Moisture-cured aliphatic polyurethane.

Color and Gloss: Meet the SAE AMS Standard 595 Color as specified in the table below.

The Top Coat shall meet the following requirements:

The resin shall be an aliphatic urethane.

Minimum-volume solids 50 percent.

The top coat shall be semi-gloss.

Color	Semi-Gloss
Washington Gray	26357
Mt. Baker Gray	26134
Mt. St. Helens Gray	26306
Cascade Green	24158

9-08.1(2)I Rust-Penetrating Sealer

This section is revised to read:

Rust-penetrating sealer shall be a two-component, chemically-cured, 100 percent solids epoxy.

9-08.1(2)J Black Enamel

This section is revised to read:

The enamel shall conform to Federal Specification MIL PRF 24635E Type II Class 2.

9-08.1(2)K Orange Equipment Enamel

The first paragraph is revised to read:

The enamel shall be an alkyd gloss enamel conforming to Federal Specification MIL-PRF-24635E Type II Class 1. The color, when dry, shall match that of SAE AMS Standard 595, color number 12246.

9-08.1(2)L Exterior Acrylic Latex Paint-White

The first paragraph is revised to read:

This paint shall conform to Federal Specification MIL-PRF-24635E Type II Class 1, 2 or 3.

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 color sample shall be labeled with the product number, batch number, and size of batch. The Contractor shall submit the specified samples and readings to the Engineer at least 14 calendar days prior to the scheduled application of the sealer.

The Contractor shall not begin applying pigmented sealer until receiving the Engineer's written approval of the pigmented sealer color samples.

9-08.3(2) Exposed Aggregate Concrete Coatings and Sealers

9-08.3(2)A Retardant Coating

Retardant coating shall exhibit the following properties:

1. Retards the set of the surface mortar of the concrete without preventing the concrete to reach the specified 28 day compressive strength.

2. Leaves the aggregate with its original color and luster, and firmly embedded in the concrete matrix.

3. Allows the removal of the surface mortar in accordance with the methods specified in Section 6-02.3(14)E without the use of acidic washing compounds.

4. Allows for uniform removal of the surface mortar.

If the Contractor proposes use of a retardant coating that is not listed in the current WSDOT QPL, the Contractor shall submit a Type 2 Working Drawing consisting of a one quart product sample from a current lot along with supporting product information, Safety Data Sheet, and a Manufacturer's Certificate of Compliance stating that the product conforms to the above performance requirements.

9-08.3(2)B Clear Sealer

The sealer for concrete surfaces with exposed aggregate finish shall be a clear, non-gloss, penetrating sealer of either a silane, siloxane, or silicone based formulation.

9-08.3(3) Permeon Treatment

Permeon treatment shall be a product of known consistent performance in producing the SAE AMS Standard 595 Color No. 30219 target color hue established by WSDOT, either selected from the WSDOT Qualified Products List (QPL), or an equivalent product accepted by the Engineer. For acceptance of products not listed in the current WSDOT QPL, the Contractor shall submit Type 3 Working Drawings consisting of a one quart product sample from a current lot, supporting product information and a Safety Data Sheet.

Section 9-13, Riprap, Quarry Spalls, Slope Protection, and Rock for Erosion and Scour Protection and Rock Walls
April 2, 2018

9-13.1(1) General

The last paragraph is revised to read:

Riprap and quarry spalls shall be free from segregation, seams, cracks, and other defects tending to destroy its resistance to weather and shall meet the following test requirements:

9-13.5 Concrete Slope Protection

This section is revised to read:

Concrete slope protection shall consist of reinforced portland cement or blended hydraulic cement concrete poured or pneumatically placed upon the slope with a rustication joint pattern or semi-open concrete masonry units placed upon the slope closely adjoining each other.

9-13.5(2) Poured Portland Cement Concrete Slope Protection

This section's title is revised to read:

Poured Portland Cement or Blended Hydraulic Cement Concrete Slope Protection

9-13.5(3) Pneumatically Placed Portland Cement Concrete Slope Protection

This section's title is revised to read:

Pneumatically Placed Portland Cement or Blended Hydraulic Cement Concrete Slope Protection

The first paragraph is revised to read:

Cement – This material shall be portland cement or blended hydraulic cement as specified in Section 9-01.

9-13.7(1) Rock for Rock Walls and Chinking Material

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

Rock for rock walls and chinking material shall be hard, sound and durable material, free from seams, cracks, and other defects tending to destroy its resistance to weather, and shall meet the following test requirements:

Section 9-14, Erosion Control and Roadside Planting
August 6, 2018

9-14.4(2) Hydraulically Applied Erosion Control Products (HECPs)

In Table 1, the last four rows are deleted.

9-14.4(2)A Long-Term Mulch

The first paragraph is supplemented with the following:

Products containing cellulose fiber produced from paper or paper components will not be accepted.

Table 2 is supplemented with the following new rows:

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

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.

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.

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.

Section 9-20, Concrete Patching Material, Grout, and Mortar
January 7, 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%

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 is revised to read:

Grout Type 3 shall be a prepackaged material that does not include expansive admixtures meeting the following requirements:

- Compressive strength shall be 4000 psi or higher at 28 days in accordance with AASHTO T 22 (ASTM C 39) for grout extended with coarse aggregate or AASHTO T 106 (ASTM C109) otherwise.

- Bond strength shall meet one of the following:

  - 250 psi or higher at 28 days or less in accordance with ASTM C1583.

  - 2000 psi or higher at 28 days or less in accordance with ASTM C882. The following modification to ASTM C882 is acceptable: use Type 3 Grout in lieu of epoxy resin base bonding system and freshly mixed portland-cement mortar in the procedure for testing Type II and V systems.

- Drying shrinkage shall be 0.08 percent (800 microstrain) or lower at 28 days in accordance with AASHTO T 160 (ASTM C157). The following modification to AASHTO T 160 is acceptable: use a standard specimen size of 3 x 3 x 11-¼ inches.

9-20.5 Bridge Deck Repair Material

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

3. Permeability of less than 2,000 coulombs at 28-days or more in accordance with AASHTO T 277.

Section 9-21, Raised Pavement Markers (RPM)
January 2, 2018

9-21.2 Raised Pavement Markers Type 2

This section's content is deleted.

9-21.2(1) Physical Properties

This section, including title, is revised to read:

9-21.2(1) Standard Raised Pavement Markers Type 2

The marker housing shall contain reflective faces as shown in the Plans to reflect incident light from either a single or opposite directions and meet the requirements of ASTM D 4280 including Flexural strength requirements.

9-21.2(2) Optical Requirements

This section, including title, is revised to read:

9-21.2(2) Abrasion Resistant Raised Markers Type 2

Abrasion Resistant Raised Markers Type 2 shall comply with Section 9-21.2(1) and meet the requirements of ASTM D 4280 with the following additional requirement: The coefficient of luminous intensity of the markers shall be measured after subjecting the entire lens surface to the test described in ASTM D 4280 Section 9.5 using a sand drop apparatus. After the exposure described above, retroreflected values shall not be less than 0.5 times a nominal unblemished sample.

9-21.2(3) Strength Requirements

This section is deleted in its entirety.

Section 9-26, Epoxy Resins
January 7, 2019

9-26.1(1) General

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

> For pre-packaged cartridge kits, the epoxy bonding agent shall meet the requirements of ASTM C881 when mixed according to manufacturer instructions, utilizing the manufacturer's mixing nozzle.

9-26.1(2) Packaging and Marking

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

> The components of the epoxy system furnished under these Specifications shall be supplied in separate containers or pre-packaged cartridge kits that are non-reactive with the materials contained.

The second paragraph is revised to read:

> Separate containers shall be marked by permanent marking that identify the formulator, "Component A" (contains the Epoxy Resin) and "Component B" (Contains the Curing Agent), type, grade, class, lot or batch number, mixing instructions and the quantity contained in pounds or gallons as defined by these Specifications.

The following new paragraph is inserted after the second paragraph:

> 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.

Section 9-28, Signing Materials and Fabrication
April 2, 2018

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.

9-28.11 Hardware

The last paragraph is revised to read:

All steel parts shall be galvanized in accordance with AASHTO M111. Steel bolts and related connecting hardware shall be galvanized in accordance with ASTM F 2329.

9-28.14(2) Steel Structures and Posts

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

Anchor rods for sign bridge and cantilever sign structure foundations shall conform to Section 9-06.5(4), including Supplemental Requirement S4 tested at -20°F.

In the second sentence of the fourth paragraph, "AASHTO M232" is revised to read "ASTM F 2329".

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

Except as otherwise noted, steel used for sign structures and posts shall have a controlled silicon content of either 0.00 to 0.06 percent or 0.15 to 0.25 percent.

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

If such modifications are contemplated, the Contractor shall submit a Type 2 Working Drawing of the proposed modifications.

Section 9-29, Illumination, Signal, Electrical
January 7, 2019

9-29.1 Conduit, Innerduct, and Outerduct

This section is supplemented with the following new subsections:

9-29.1(10) Pull Tape

Pull tape shall be pre-lubricated polyester pulling tape. The pull tape shall have a minimum width of ½-inch and a minimum tensile strength of 500 pounds. Pull tape may have measurement marks.

9-29.1(11) Foam Conduit Sealant

Foam conduit sealant shall be self-expanding waterproof foam designed to prevent both water and pest intrusion. The foam shall be designed for use in and around electrical equipment, including both insulated and bare conductors.

9-29.2(1) Junction Boxes

The first paragraph is revised to read:

For the purposes of this Specification concrete is defined as portland cement or blended hydraulic cement concrete and non-concrete is all others.

9-29.2(1)A2 Non-Concrete Junction Boxes

The first paragraph is revised to read:

Material for the non-concrete junction boxes shall be of a quality that will provide for a similar life expectancy as portland cement or blended hydraulic cement concrete in a direct burial application.

9-29.2(2)A Standard Duty Cable Vaults and Pull Boxes

In the table in the last paragraph, the fourth, fifth and sixth rows are revised to read:

Slip Resistant Lid	ASTM A36 steel
Frame	ASTM A36 steel
Slip Resistant Frame	ASTM A36 steel

9-29.3(2)A1 Single Conductor Current Carrying

This second sentence is revised to read:

Insulation shall be XLP (cross-linked polyethylene) or EPR (Ethylene Propylene Rubber), Type USE (Underground Service Entrance) or USE-2, and rated for 600-volts or higher.

9-29.6 Light and Signal Standards

In the first sentence of the third paragraph, “AASHTO M232” is revised to read “ASTM F 2329”.

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

2. The steel light and signal standard fabricator’s shop drawing submittal, including supporting design calculations, submitted as a Type 2E Working Drawing in accordance with Section 8-20.2(1) and the Special Provisions.

9-29.6(1) Steel Light and Signal Standards

In the second paragraph, “AASHTO M232” is revised to read “ASTM F 2329”.

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

Steel used for light and signal standards shall have a controlled silicon content of either 0.00 to 0.06 percent or 0.15 to 0.25 percent.

9-29.6(5) Foundation Hardware

In the last paragraph, “AASHTO M232” is revised to read “ASTM F 2329”.

9-29.10(1) Conventional Roadway Luminaires

This section is revised to read:

All conventional roadway luminaires shall meet 3G vibration requirements as described in ANSI C136.31.

All luminaires shall have housings fabricated from aluminum. The housing shall be painted flat gray, SAE AMS Standard 595 color chip No. 26280, unless otherwise specified in the Contract. Painted housings shall withstand a 1,000 hour salt spray test as specified in ASTM B117.

Each housing shall include a four bolt slip-fitter mount capable of accepting a nominal 2" tenon and adjustable within +/- 5 degrees of the axis of the tenon. The clamping bracket(s) and the cap screws shall not bottom out on the housing bosses when adjusted within the +/- 5 degree range. No part of the slipfitter mounting brackets on the luminaires shall develop a permanent set in excess of 0.2 inch when the cap screws used for mounting are tightened to a torque of 32 foot-pounds. Each luminaire shall include leveling reference points for both transverse and longitudinal adjustment.

All luminaires shall include shorting caps when shipped. The caps shall be removed and provided to the Contracting Agency when an alternate control device is required to be installed in the photocell socket. House side shields shall be included when required by the Contract. Order codes shall be modified to the minimum extent necessary to include the option for house side shields.

This section is supplemented with the following new subsections:

9-29.10(1)A High Pressure Sodium (HPS) Conventional Roadway Luminaires

HPS conventional roadway luminaires shall meet the following requirements:

1. General shape shall be "cobrahead" style, with flat glass lens and full cutoff optics.

2. Light pattern distribution shall be IES Type III.

3. The reflector of all luminaires shall be of a snap-in design or secured with screws. The reflector shall be polished aluminum or prismatic borosilicate glass.

4. Flat lenses shall be formed from heat resistant, high-impact, molded borosilicate or tempered glass.

5. The lens shall be mounted in a doorframe assembly, which shall be hinged to the luminaire and secured in the closed position to the luminaire by means of an automatic latch. The lens and doorframe assembly, when closed, shall exert pressure against a gasket seat. The lens shall not allow any light output above 90 degrees nadir. Gaskets shall be composed of material capable of withstanding the temperatures involved and shall be securely held in place.

6. The ballast shall be mounted on a separate exterior door, which shall be hinged to the luminaire and secured in the closed position to the luminaire housing by

means of an automatic type of latch (a combination hex/slot stainless steel screw fastener may supplement the automatic-type latch).

7. Each luminaire shall be capable of accepting a 150, 200, 250, 310, or 400 watt lamp complete and associated ballast. Lamps shall mount horizontally.

9-29.10(1)B Light Emitting Diode (LED) Conventional Roadway Luminaires

LED Conventional Roadway Luminaires are divided into classes based on their equivalent High Pressure Sodium (HPS) luminaires. Current classes are 200W, 250W, 310W, and 400W. LED luminaires are required to be pre-approved in order to verify their photometric output. To be considered for pre-approval, LED luminaires must meet the requirements of this section.

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.

9-29.12(3)B Molded Splice Enclosure

Molded splice enclosures shall use epoxy resin in a clear rigid plastic mold. The material used shall be compatible with the insulation material of the insulated conductor or cable. The component materials of the resin insulation shall be packaged ready for convenient mixing without removing from the package.

9-29.12(4) Re-Enterable Splice Enclosure

Re-enterable splice enclosures shall use either dielectric grease or a flexible resin contained in a two-piece plastic mold. The mold shall either snap together or use stainless steel hose clamps.

9-29.12(5) Vinyl Electrical Tape for Splices

Vinyl electrical tape in splicing applications shall meet the requirements of MIL-I-24391C.

9-29.12(1) Illumination Circuit Splices

This section is revised to read:

Underground illumination circuit splices shall be solderless crimped connections capable of securely joining the wires, both mechanically and electrically, as defined in Section 8-20.3(8). Aerial illumination splices shall be solderless crimp connectors or split bolt vice-type connectors.

9-29.12(1)A Heat Shrink Splice Enclosure

This section is deleted in its entirety.

9-29.12(1)B Molded Splice Enclosure

This section is deleted in its entirety.

9-29.12(2) Traffic Signal Splice Material

This section is revised to read:

Induction loop splices and magnetometer splices shall use an uninsulated barrel-type crimped connector capable of being soldered.

9-29.13(10)D Cabinets for Type 170E and 2070 Controllers

The first sentence of item number 4 is revised to read:

A disposable paper filter element with dimensions of 12” × 16” × 1” shall be provided in lieu of a metal filter.

Item number 6 is revised to read:

6. LED light strips shall be provided for cabinet lighting, powered from the Equipment breaker on the Power Distribution Assembly. Each LED light strip shall be approximately 12 inches long, have a minimum output of 320 lumens, and have a color temperature of 4100K (cool white) or higher. There shall be three light strips for each rack within the cabinet. Lighting shall be ceiling mounted – rack mounted lighting is not permitted. Light strips shall be installed in the locations shown in the Standard Plans. Lighting shall not interfere with the proper operation of any other ceiling mounted equipment. All lighting fixtures above a rack shall energize automatically when either door to that respective rack is opened. Each door switch shall be labeled “Light”.

Item number 7 is revised to read:

7. Rack mounted equipment shall be as shown in the Standard Plans. The cabinet shall use PDA #2LX and Output File #1LX. Where an Auxiliary Output File is required, Output File #2LX shall also be included.

This section is supplemented with the following new item:

9. The PCB connectors for Field Terminal Blocks FT1 through FT6 on Output Files #1LX and #2LX shall be capable of accepting minimum 14 AWG field wiring, have a pitch of 5.08 mm, and use screw flange type locking to secure the plug and socket connection. The sockets on the Field Terminal Panel shall be secured to the panel such that unplugging a connector will not result in the socket moving or separating from the panel.

9-29.13(11) Cabinets for Type 170E and 2070 Controllers

Item number 2 is revised to read:

2. Rack mounted equipment shall be as shown in the Standard Plans.

Item number 3 is revised to read:

3. PDA #3LX shall be furnished with three Model 200 Load Switches installed. PDA #3LX shall be modified to include a second Model 430 transfer relay, mounted on the rear of the PDA and wired as shown in the Standard Plans.

9-29.13(12) ITS Cabinet

This section’s title is revised to read:

Type 331L ITS Cabinet

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

Basic ITS cabinets shall be Model 331L Cabinets, unless otherwise specified in the Contract. Type 331L Cabinets shall be constructed in accordance with the TEES, with the following modifications:

Item number 6 of the first paragraph is revised to read:

6. LED light strips shall be provided for cabinet lighting, powered from the Equipment breaker on the Power Distribution Assembly. Each LED light strip shall be approximately 12 inches long, have a minimum output of 320 lumens, and have a color temperature of 4100K (cool white) or higher. There shall be three light strips for each rack within the cabinet. Lighting shall be ceiling mounted – rack mounted lighting is not permitted. Light strips shall be installed in the locations shown in the Standard Plans. Lighting shall not interfere with the proper operation of any other ceiling mounted equipment. All lighting fixtures above a rack shall energize automatically when either door to that respective rack is opened. Each door switch shall be labeled “Light”.

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.

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:

If the geosynthetics material is not listed in the current WSDOT QPL, a Manufacturer's Certificate of Compliance including Certified Test Reports of each proposed geosynthetic shall be submitted to the State Materials Laboratory in Tumwater for evaluation.

The last paragraph is revised to read:

Geosynthetics used as reinforcement in permanent geosynthetic retaining walls, reinforced slopes, reinforced embankments, and other geosynthetic reinforcement applications require proof of compliance with the National Transportation Product Evaluation Program (NTPEP) in accordance with AASHTO Standard Practice R 69, Standard Practice for Determination of Long-Term Strength for Geosynthetic Reinforcement.

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

Contractor shall obtain copies of these publications, at Contractor's own expense.

Division 1
General Requirements

DESCRIPTION OF WORK

(March 13, 1995)
This Contract provides for the improvement of *** the Mason Transit Authority Pear Orchard Park and ride, which will include new pavement, pavement reconstruction, stormwater facilities, illumination, signing, striping, bus shelters *** and other work, all in accordance with the attached Contract Plans, these Contract Provisions, and the Standard Specifications.

1-01.3 Definitions

(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

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
(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")	2	Furnished automatically upon award.
Contract Provisions	2	Furnished automatically upon award.
Large plans (e.g., 22" x 34")	1	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.

Examination of Plans, Specifications and Site of Work

1-02.4(1) General
(August 15, 2016 APWA GSP Option A)

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

Any prospective Bidder desiring an explanation or interpretation of the Bid Documents, must request the explanation or interpretation in writing soon enough to allow a written reply to reach all prospective Bidders before the submission of their Bids.

Subsurface Information

Section 1-02.4(2) is supplemented with the following:

(January 2, 2012)
The soils information used for study and design of this project is available for review by the bidder at the following location:

*** Appendix A ***

The soils information includes the following:

*** Summary of Geotechnical Conditions ***

1-02.5 Proposal Forms

(******)

Delete this section and replace it with the following:

The Contracting Agency will provide a Proposal Form(s) within or as part of an issued Advertisement for Bids.

The Proposal Form will identify the project and its location. It will also list a Schedule of Values. The Bidder shall complete spaces on the Proposal Form that call for but are not limited to: the Schedule of Values, signatures, dates, acknowledgement of Addenda, and the Bidder's address. The required certifications are included as part of the Proposal Form.

1-02.6 Preparation of Proposal

(******)

Revise the second paragraph with the following:

1. A total price for each Schedule on the Proposal,
2. (Not used)
3. The total Contract price (the sum of all the Schedule of Values)

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 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

(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

(May 17, 2018 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

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 24 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.

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.

Public Opening of Proposals

Section 1-02.12 is supplemented with the following:

(August 3, 2015)
Date of Opening Bids
The bid opening date for this project is *** February 22, 2019 ***. Bids received will be publicly opened and read after 11:00 A. M. Pacific Time on this date.

(******)
Bids received will be publicly opened and read after 11:00 a.m. on this date. The official time shall be based on the time clock located at the Mason Transit Authority office reception desk.

1-02.13 Irregular Proposals

(June 20, 2017 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 Bid Proposal does not constitute a definite and unqualified offer to meet the material terms of the Bid invitation; or

l. 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

(May 17, 2018 APWA GSP, Option A)

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.

The Contracting Agency will verify that the Bidder meets the mandatory bidder responsibility criteria in RCW 39.04.350(1). To assess bidder responsibility, the Contracting Agency reserves the right to request documentation as needed from the Bidder and third parties concerning the Bidder's compliance with the mandatory bidder responsibility criteria.

If the Contracting Agency determines the Bidder does not meet the mandatory bidder responsibility criteria in RCW 39.04.350(1) 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.

1-02.15 Pre Award Information

(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.

Award and Execution of Contract

1-03.3 Execution of Contract

(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 10 additional calendar days for return of the documents, provided the Contracting Agency deems the circumstances warrant it.

1-03.4 Contract Bond

(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

(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 <u>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</u>.

Scope of the Work

1-04.2 Coordination of Contract Documents, Plans, Special Provisions, Specifications, and Addenda

(*****)

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. Executed Contract,
2. Addenda,
3. Proposal Form,
4. Special Provisions,
5. Contract Plans,
6. Amendments to the Standard Specifications,
7. Standard Specifications,
8. Contracting Agency's Standard Plans or Details (if any), and
9. WSDOT Standard Plans for Road, Bridge, and Municipal Construction.

Control of Work

Working Drawings

Section 1-05.3 is supplemented with the following:

(******)

Shop drawings and/or catalog cuts shall be required for all items indicated in various sections of the Contract Documents and as otherwise may be requested by the Engineer. The Contractor shall submit a minimum of 1 electronic copy in PDF format, or three (3) hard copies of each shop drawing and/or catalog cut sheet to demonstrate Contract compliance. All submittals shall be provided sufficiently in advance by the Contractor so as not to cause delay or slow down performance of the work. The Contracting Agency shall not be responsible for delays associated with the submittal, review and approval of submittals.

Shop drawings and/or catalog cuts shall show the name of the project, the name of the Contractor and, if any, the names of suppliers, manufacturers, and subcontractors. Shop drawings shall be submitted promptly and in orderly sequence so as to cause no delay in prosecution of the Work. Where applicable, all shop drawings or plans developed by the Contractor for use in the project shall be bear the stamp and seal of the professional registered engineer in the State of Washington according to his/her discipline. The Contractor shall also submit any reports, studies, calculations or other supporting documents that may relate to the development of the shop drawings or plans.

The Engineer will review and will return either 1 electronic copy in PDF format, or two (2) copies to the Contractor with the appropriate action(s) to take or any comments noted thereon. If so noted by the Engineer, the Contractor shall correct the submittal and resubmit in the same manner as specified for the original submittals within one week after receipt of the reviewed submittals. The Contractor, in the letter of transmittal accompanying the resubmittals, shall direct special attention to any revisions other than the corrections requested by the Engineer on previous submittals.

Review by the Engineer is only for general conformance with the design concept of the project and general compliance with the Contract Documents, and shall not be construed as relieving the contractor of the full responsibility for: providing materials, equipment and

work required by the Contract; the proper fitting and construction of the Work; the accuracy and completeness of any submittals; selecting fabrication processes and techniques of construction; and performing the Work in a safe manner.

Substitutions or submittals for other materials or equipment than that accepted for use in the Contract shall be the sole responsibility of the Contractor. The Contractor shall provide a letter of transmittal indicating the reason for the substitution or submittal of other materials or equipment and state any cost or time savings in accordance with Section 1-04.4. Any additional expenses incurred by the Contracting Agency in reviewing, commenting or approving substitutions or submittals following acceptance may be deducted from the amount due to the Contractor at the Engineer's discretion.

The Contractor shall keep one hard copy of all submittals for materials and equipment accepted for use in the Contract at the construction site, and made accessible to the Contracting Agency for review upon request.

Conformity With And Deviations From Plans And Stakes

Section 1-05.4 is supplemented with the following:

(******)

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 under the “Schedule of Values”:

"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. Prices shall also include ADA surveying and Record Drawings.

(******)

Contractor Surveying – ADA Features

ADA Feature Staking Requirements

The Contractor shall be responsible for setting, maintaining, and resetting all alignment stakes, and grades necessary for the construction of the ADA features. Calculations, surveying, and measuring required for setting and maintaining the necessary lines and grades shall be the Contractor's responsibility. The Contractor shall build the ADA features within the specifications in the Standard Plans and contract documents.

ADA Feature As-Built Measurements

The Contractor shall be responsible for providing electronic As-Built records of all ADA feature improvements completed in the Contract.

The survey work shall include but not be limited to completing the measurements, recording the required measurements and completing other data fill-ins found on the ADA Measurement Forms, and transmitting the electronic Forms to the Engineer. The ADA Measurement Forms are found at the following website location:

http://www.wsdot.wa.gov/Design/ADAGuidance.htm

In the instance where an ADA Feature does not meet accessibility requirements, all work to replace non-conforming work and then to measure, record the as-built measurements, and transmit the electronic Forms to the Engineer shall be completed at no additional cost to the Contracting Agency, as ordered by the Engineer.

Payment

ADA Features Surveying shall be included in the “Surveying” Value of work.

1-05.7 Removal of Defective and Unauthorized Work

(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

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 therefor.

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.

Add the following new section:

1-05.16 Water and Power

(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.

Add the following new section:

1-05.18 Record Drawings

(******)

The Contractor shall maintain one set of full size plans for Record Drawings, updated with clear and accurate red-lined field revisions on a daily basis, and within 2 business days after receipt of information that a change in Work has occurred. The Contractor shall not conceal any work until the required information is recorded.

This Record Drawing set shall be used for this purpose alone, shall be kept separate from other Plan sheets, and shall be clearly marked as Record Drawings. These Record Drawings shall be kept on site at the Contractor's field office, and shall be available for review by the Contracting Agency at all times. The Contractor shall bring the Record Drawings to each progress meeting for review.

The preparation and upkeep of the Record Drawings is to be the assigned responsibility of a single, experienced, and qualified individual. The quality of the Record Drawings, in terms of accuracy, clarity, and completeness, is to be adequate to allow the Contracting Agency to modify the computer-aided drafting (CAD) Contract Drawings to produce a complete set of Record Drawings for the Contracting Agency without further investigative effort by the Contracting Agency.

The Record Drawing markups shall document all changes in the Work, both concealed and visible. Items that must be shown on the markups include but are not limited to:

- Actual dimensions, arrangement, and materials used when different than shown in the Plans.
- Changes made by Change Order or Field Order.
- Changes made by the Contractor.
- Accurate locations of storm sewer, sanitary sewer, water mains and other water appurtenances, structures, conduits, light standards, vaults, width of roadways, sidewalks, landscaping areas, building footprints, channelization and pavement markings, etc. Include pipe invert elevations, top of castings (manholes, inlets, etc.).

If the Contract calls for the Contracting Agency to do all surveying and staking, the Contracting Agency will provide the elevations at the tolerances the Contracting Agency requires for the Record Drawings.

When the Contract calls for the Contractor to do the surveying/staking, the applicable tolerance limits include, but are not limited to the following:

	Vertical	Horizontal
As-built sanitary & storm invert and grate elevations	± 0.01 foot	± 0.01 foot
As-built monumentation	± 0.001 foot	± 0.001 foot
As-built waterlines, inverts, valves, hydrants	± 0.10 foot	± 0.10 foot
As-built ponds/swales/water features	± 0.10 foot	± 0.10 foot
As-built buildings (fin. Floor elev.)	± 0.01 foot	± 0.10 foot
As-built gas lines, power, TV, Tel, Com	± 0.10 foot	± 0.10 foot
As-built signs, signals, etc.	N/A	± 0.10 foot

Making Entries on the Record Drawings:

- Use erasable colored pencil (not ink) for all markings on the Record Drawings, conforming to the following color code:
- Additions - Red
- Deletions - Green
- Comments - Blue
- Dimensions - Graphite
- Provide the applicable reference for all entries, such as the change order number, the request for information (RFI) number, or the approved shop drawing number.
- Date all entries.
- Clearly identify all items in the entry with notes similar to those in the Contract Drawings (such as pipe symbols, centerline elevations, materials, pipe joint abbreviations, etc.).

The Contractor shall certify on the Record Drawings that said drawings are an accurate depiction of built conditions, and in conformance with the requirements detailed above. The Contractor shall submit final Record Drawings to the Contracting Agency. Contracting Agency acceptance of the Record Drawings is one of the requirements for achieving Physical Completion.

Payment for Record Drawings shall be included in the “Surveying” Value of work.

Legal Relations and Responsibilities to the Public

1-07.1 Laws to be Observed

(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.

1-07.2 State Taxes

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).

Permits and Licenses

Section 1-07.6 is supplemented with the following:

(January 2, 2018)
The Contracting Agency has obtained the below-listed permit(s) for this project. A copy of the permit(s) is attached as an appendix for informational purposes. Copies of these permits, including a copy of the Transfer of Coverage form, when applicable, are required to be onsite at all times.

Contact with the permitting agencies, concerning the below-listed permit(s), shall be made through the Engineer with the exception of when the Construction Stormwater General Permit coverage is transferred to the Contractor, direct communication with the Department of Ecology is allowed. The Contractor shall be responsible for obtaining Ecology's approval for any Work requiring additional approvals (e.g. Request for Chemical Treatment Form). The Contractor shall obtain additional permits as necessary. All costs to obtain and comply with additional permits shall be included in the applicable Bid items for the Work involved.

***

City of Shelton – Shoreline Permit
City of Shelton – Grading Permit

***

Load Limits

Section 1-07.7 is supplemented with the following:

(March 13, 1995)
If the sources of materials provided by the Contractor necessitates hauling over roads other than State Highways, the Contractor shall, at the Contractor's expense, make all arrangements for the use of the haul routes.

Utilities and Similar Facilities

Section 1-07.17 is supplemented with the following:

(April 2, 2007)
Locations and dimensions shown in the Plans for existing facilities are in accordance with available information obtained without uncovering, measuring, or other verification.

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:

***

Water:
City of Shelton
525 W Cota St.
Shelton, WA 98584
Contact:
Scott Whiting (360) 432-5190

Stormwater:
City of Shelton
525 W Cota St.
Shelton, WA 98584
Contact:
Scott Whiting (360) 432-5190

Sanitary Sewer:
City of Shelton
525 W Cota St.
Shelton, WA 98584
Contact:
Scott Whiting (360) 432-5190

Telecom:
CenturyLink
Contact:
Michelle Palmer (360) 956-7692

Fiber Optic:
Hood Canal Communications
Contact:
Spencer Jones (360) 898-2481

Power:
Mason PUD 3
PO Box 2148
Shelton, WA 98584
Contact:
Justin Holzgrove (360) 426-8255 x5323

***

(April 2, 2007)
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:

*** The Contractor will perform all excavation , backfill, and restoration; and will furnish and install power conduits and cabinet per plans. Mason PUD 3 will pull wire through the conduits and set the meter. ***

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 or their Contractors that will be adjusting, relocating, replacing or constructing utilities within the project limits are supplied for the Contractor's use:

***

Power:
Mason PUD 3
PO Box 2148
Shelton, WA 98584
Contact:
Justin Holzgrove (360) 426-8255 x5323
***

1-07.18 Public Liability and Property Damage Insurance

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
- SCJ Alliance and it's officers, employees, agents, and volunteers

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

The Contractor shall cause each Subcontractor of every tier to provide insurance coverage that complies with all applicable requirements of the Contractor-provided insurance as set forth herein, except the Contractor shall have sole responsibility for determining the limits of coverage required to be obtained by Subcontractors.

The Contractor shall ensure that all Subcontractors of every tier add all entities listed in 1-07.18(2) as additional insureds, and provide proof of such on the policies as required by that section as detailed in 1-07.18(2) using an endorsement as least as broad as ISO CG 20 10 10 01 for ongoing operations and CG 20 37 10 01 for completed operations.

Upon request by the Contracting Agency, the Contractor shall forward to the Contracting Agency evidence of insurance and copies of the additional insured endorsements of each Subcontractor of every tier as required in 1-07.18(4) Verification of Coverage.

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 insurance shall provide the minimum coverages and limits set forth below. Contractor's maintenance of insurance, its scope of coverage, and limits as required herein shall not be construed to limit the liability of the Contractor to the coverage provided by such insurance, or otherwise limit the Contracting Agency's recourse to any remedy available at law or in equity.

All deductibles and self-insured retentions must be disclosed and are subject to approval by the Contracting Agency. The cost of any claim payments falling within the deductible or self-insured retention shall be the responsibility of the Contractor. In the event an additional insured incurs a liability subject to any policy's deductibles or self-insured retention, said deductibles or self-insured retention shall be the responsibility of the Contractor.

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

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.

Public Convenience and Safety

Construction Under Traffic

Section 1-07.23(1) is supplemented with the following:

(January 2, 2012)
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

Minimum Work Zone Clear Zone Distance

Prosecution and Progress

Add the following new section:

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.

1-08.4 Prosecution of Work

Delete this section and replace it with the following:

1-08.4 Notice to Proceed and Prosecution of Work

(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.

Time for Completion

Section 1-08.5 is supplemented with the following:

(March 13, 1995)
This project shall be physically completed within *** 75 *** working days.

Measurement and Payment

Measurement of Quantities

This section is supplemented with the following:

(*****)
There is no measurement of quantities for this project. Measurement of quantities will only apply during construction when any changes may occur.

Schedule of Values
The Schedule of Values shall be used as the basis for reviewing and determine each monthly progress payment estimate and as such shall be subject to periodic review by the Contracting Agency to assure that the schedule of values reasonably represents, in the opinion of the Engineer, the actual value of the individual items of work to be performed, or materials delivered to the site.

Payments

Retainage

Section 1-09.9(1) is deleted and replaced with the following:

(*****)

Payments to the Contractor

The Contracting Agency shall retain five percent (5%) of the amount of each payment until Final Completion and acceptance of all Work covered by the Contract Documents. When the Work is substantially complete, and all working days have been counted, the retained amount may be reduced below five (5) percent to only that amount necessary to assure Physical Completion. Upon completion and acceptance of a part of the Work on which the price is stated separately in the Contract Documents, payment may be made in full, including retained percentages less authorized deductions.

No payments will be made that would deplete retainage, place in escrow any funds that are required for retainage, or invest the retainage for the benefit of the Contractor.

Upon receipt by the Contracting Agency of the Contractor's Final Pay Request and Final Completion and acceptance of the Work, the Contracting Agency shall issue a certificate that the Work has been accepted by them under the conditions of the Contract Documents. The entire balance found to be due the Contractor including the retained percentages, but except such sums as may be lawfully retained by the Contracting Agency, shall be paid to the Contractor within thirty (30) days of Final Completion and acceptance of the Work.

Temporary Traffic Control

Traffic Control Management

General

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 12 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

Division 5
Surface Treatments and Pavements

Hot Mix Asphalt

(******)

Delete WSDOT Amended Section 5-04, Hot Mix Asphalt, and replace it with Section 5-04, Hot Mix Asphalt as printed in the Standard Specifications for Road, Bridge and Municipal Construction, 2016 edition.

Construction Requirements

Material Transfer Device/Vehicle
The first paragraph of section 5-04.3(3)A is revised to read:

Additionally, a material transfer device or vehicle (MTD/V) is not required.

Statistical or Nonstatistical Evaluation

Delete section 5-04.3(7)A2 and replace it with the following:

Nonstatistical Evaluation
(January 16, 2014 APWA GSP)

Mix designs for HMA accepted by Nonstatistical evaluation shall;

- Be submitted to the Project Engineer on WSDOT Form 350-042
- 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) and 9-03.8(6).
- Have anti-strip requirements, if any, for the proposed mix design determined in accordance with WSDOT Test Method T 718 or based on historic anti-strip and aggregate source compatibility from WSDOT lab testing. Anti-strip evaluation of HMA mix designs utilized that include RAP will be completed without the inclusion of the RAP.

At or prior to the preconstruction meeting, the contractor shall provide one of the following mix design verification certifications for Contracting Agency review;

- The proposed mix design indicated on a WSDOT mix design/anti-strip report that is within one year of the approval date
- The proposed HMA mix design submittal (Form 350-042) with the seal and certification (stamp & signature) of a valid licensed Washington State Professional Engineer.
- The proposed mix design by a qualified City or County laboratory mix design report that is within one year of the approval date.

The mix design will 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 Material Reference Laboratory (AMRL) program.

At the discretion of the Engineer, agencies may accept mix designs verified beyond the one year verification period with a certification from the Contractor that the materials and sources are the same as those shown on the original mix design.

General

(January 16, 2014 APWA GSP)

Delete section 5-04.3(8)A1and replace it with the following:

Acceptance of HMA shall be as defined under nonstatistical or commercial evaluation.

Nonstatistical evaluation will be used for all HMA not designated as Commercial HMA in the contract documents.

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 Project Engineer and must be made in accordance with Section 9-03.8(7).

Commercial evaluation may 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. Commercial HMA can be accepted by a contractor certificate of compliance letter stating the material meets the HMA requirements defined in the contract.

Definition of Sampling Lot and Sublot

(January 16, 2014 APWA GSP)

Section 5-04.3(8)A4 is supplemented with the following:

For HMA in a structural application, sampling and testing for total project quantities 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:

i. If test results are found to be within specification requirements, additional testing will be at the engineers discretion.
ii. If test results are found not to be within specification requirements, additional testing as needed to determine a CPF shall be performed.

Test Results

(January 16, 2014 APWA GSP)

The first paragraph of section 5-04.3(8)A5 is deleted.

Test Methods
(January 16, 2014 APWA GSP)

Delete section 5-04.3(8)A6 and replace it with the following:

Testing of HMA for compliance of Va will be at the option of the Contracting Agency. If tested, compliance of Va will be use WSDOT Standard Operating Procedure 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 WAQTC FOP for AASHTO T 27/T 11.

Division 8
Miscellaneous Construction

Erosion Control and Water Pollution Control

Construction Requirements

Seeding, Fertilizing and Mulching

Seeding and Fertilizing

Section 8-01.3(2)B is supplemented with the following:

(October 31, 2018)
Seed of the following mix, rate, and analysis shall be applied at the rates shown below on all areas requiring grass seeding within the project:

Seed by Common Name and (Botanical name)	Pounds Pure Live Seed (PLS) Per Acre
45% Creeping Red Fescue (Festuca rubra)	108
45% Perennial Ryegrass (Lolium perenne)	108
10% Highland Colonial Bentgrass (Agrostis tenuis 'Highland')	24
Total	240

The seed shall be certified in accordance with WAC 16-302 and meet the following requirements:

Prohibited Weed	0% max.
Noxious Weed	0% max.
Other Weed	0.20% max.

Other Crop 0.40% max.

(October 31, 2018)
Sufficient quantities of fertilizer shall be applied to supply the following amounts of nutrients:

Total Nitrogen as N - *** 87 *** pounds per acre.

Available Phosphoric Acid as P_2O_5 - *** 87 *** pounds per acre.

Soluble Potash as K_2O - *** 43.5 *** pounds per acre.

*** 43.5 *** pounds of nitrogen applied per acre shall be derived from isobutylidene diurea (IBDU), cyclo-di-urea (CDU), or a time release, polyurethane coated source with a minimum release time of 6 months. The remainder may be derived from any source.

The fertilizer formulation and application rate shall be approved by the Engineer before use.

Mulching

Section 8-01.3(2)D is supplemented with the following:

(October 31, 2018)
*** Seed *** shall be applied at a rate of *** 240 *** pounds per acre with no more than *** 240 *** pounds per acre applied in a single lift.

Roadside Restoration

Materials

Erosion Control and Roadside Planting

Topsoil

(August 7, 2017)
Topsoil Type A shall meet the following requirements:

1. Cation exchange capacity (CEC) of Topsoil Type A shall be a minimum of 5 milliequivalents CEC/100 g dry soil (U.S. EPA Method 9081).

2. Organic content greater than 8-percent but less than 15-percent as measured on a dry weight basis using AASHTO T 267 Determination of Organic Content in Soils by Loss on Ignition.

Topsoil Type A shall be 60-percent to 70-percent *** 60 %*** Loam and 40-percent to 30-percent *** 40% Fine *** Compost by volume. *** 60% *** Loam shall be as defined by the US Department of Agriculture Soil Classification System.

The Contractor shall submit a Particle Size Analysis as a Type 1 Working Drawing from an independent accredited soils testing laboratory indicating the Material source and compliance with all Topsoil Type A specifications. The laboratory analysis shall be with a sample size of no less than 2 pounds.

The *** 40% Fine *** Compost shall conform to the requirements of Section 9-14.4(8).

Construction Requirements

Topsoil

Topsoil Type A

Section 8-02.3(4)A is supplemented with the following:

(******)
Topsoil Type A shall be placed to a non-compacted depth where specified in the Contract Plans. The topsoil shall be thoroughly blended prior to placement.

The Contractor shall submit a Type 1 Working Drawing consisting of independent test results from an accredited laboratory demonstrating the Topsoil Type A meets the requirements of Section 9-14.1(1). The Type 1 Working Drawing shall also include the Request for Approval of Material in accordance with Section 1-06.1(2).

Cement Concrete Sidewalks

Description

Section 8-14.1 is revised to read:

(April 3, 2017)
This Work consists of constructing cement concrete sidewalks, curb ramps, bus stop shelter foundations, masonry sidewalks, and ramp grinding in accordance with details shown in the Plans, Standard Plans, these Specifications, and in conformity to the lines and grades shown in the Plans, Standard Plans, and as established by the Engineer.

Construction Requirements

Section 8-14.3 is supplemented with the following:

(April 3, 2017)
The Contractor shall request a pre-construction meeting with the Engineer to be held two to five working days before any work can start on cement concrete sidewalks, curb ramps or other pedestrian access routes to discuss construction requirements. Those attending shall include:

1. The Contractor and Subcontractor in charge of constructing forms, and placing, and finishing the cement concrete.

2. Engineer (or representative) and Project Inspectors for the cement concrete sidewalk, curb ramp or pedestrian access route Work.

Items to be discussed in this meeting shall include, at a minimum, the following:

1. Slopes shown on the Plans.
2. Inspection
3. Traffic control
4. Pedestrian control, access routes and delineation
5. Accommodating utilities
6. Form work
7. Installation of detectable warning surfaces
8. Contractor ADA survey and ADA Feature as-built requirements
9. Cold Weather Protection

(January 7, 2019)
Layout and Conformance to Grades
Using the information provided in the Contract documents, the Contractor shall lay out, grade, and form each new curb ramp, sidewalk, and curb and gutter.

Illumination, Traffic Signal Systems, Intelligent Transportation Systems, and Electrical

Description

Section 8-20.1 is supplemented with the following:

This Work consists of constructing light standards and luminaires with new conduit, conductors and other work to provide illumination for the MTA park and ride.

Materials

Section 8-20.2 is supplemented with the following:

Light and Signal Standards
Section 8-20.2(9-29.6) is supplemented with the following:

Parking lot light standards and luminaire arm will be *HAPCO* series and black powder coated.

Pedestrian scale light standards shall be Eaton McGraw Edison compatible GAR-080-LED-E1-3-GLOW-CAGE.

Conventional Roadway Luminaires
In Section 8-20.2(9-29.10(1)), Item A is revised to read as follows:

Parking lot luminaires shall be American Electric Lighting LED Autobahn series model ATB2 40BLEDE70 XXXXX XX 3K

Pedestrian scale luminaires shall be Eaton McGraw Edison GAR-080-LED-E1-3-GLOW-CAGE

Construction Requirements

Serving Utility Connection

Section 8-20.3 is supplemented with the following:

(******)

Serving Utility Connection

Service connections are subject to serving utility requirements. The Contractor is responsible for determining the serving utility requirements for all equipment installed from the meter to the point of connection to the utility system, including the meter location. Customer owned equipment installed as part of the service connection shall be code compliant, but is still subject to utility approval. All costs associated with the materials, equipment, and labor required to install a service connection are included in the schedule of value price.

Conduit

General
The fourth paragraph of Section 8-20.3(5)A is revised to read as follows:

For conduits designated as spare or for future use, as soon as the sizing mandrel has been pulled through, a 200-lb minimum tensile strength pull string shall be installed and attached to duct plugs at both ends. Empty or spare conduits for future use do not require a ground conductor.

Empty or spare PVC or HDPE conduits shall include location wire unless otherwise detailed in the plans. Location wire shall extend 12 feet into boxes and vaults. The Contractor shall coil and secure location wire at the entrance and exit points of all boxes and vaults. Splices shall be crimped using a non-insulated butt splice, soldered and covered with moisture-blocking heat shrink. All location wire splices shall be installed in the junction boxes, pull boxes, and cable vaults. Splices shall not be allowed within the conduit runs.

The Contractor shall verify that the location wire can be detected for the entire length of the conduit run using standard utility locating equipment.

Conduit Type
The list in the second paragraph of Section 8-20.3(5)B is supplemented with the following:

3. Vehicle crossings (includes roadways, roadbeds, driveways, and road approaches)
4. Light Standard and Cabinet foundations

Junction Boxes, Cable Vaults, and Pull boxes

The first paragraph of Section 8-20.3(6) is revised to read as follows:

Standard Duty and Heavy-Duty junction boxes, pull boxes, and cable vaults shall be installed at the location specified in the Plans. Locations may be field adjusted to match grade, curb or sidewalk edges, or to avoid obstructions, with the approval of the Project Engineer. Junction boxes shall be located such that no conduit run exceeds 200 feet in length, as measured from outlet to outlet (does not apply to pull boxes or cable vaults). Junction boxes receiving stub conduits from signal poles or light standards shall not be placed more than ten feet from the pole served. The Contractor may install, at no expense to the Contracting Agency, such additional boxes as may be desired to facilitate the Work or to accommodate the requirements of the material used by the Contractor. Junction box installation shall conform to the details in the Standard Plans.

Bonding, Grounding

Section 8-20.3(9) is supplemented with the following:

All system bonding and grounding shall be complete prior to energizing electrical devices or equipment.

Permanent Signing

Materials

Roadside Sign Structures

Section 9-06.16 is supplemented with the following:

(January 3, 2011)
Perforated Steel Square Sign Post System
Where noted in the Plans, steel sign post systems shall be square, pre-punched galvanized steel tubing, that are NCHRP 350 Test Level 3 Certified and FHWA approved. The steel sign post system shall include all anchor sleeves, and other hardware required for a complete sign installation.

System Acceptance
Systems listed in the current QPL will be accepted per the QPL approval code. Systems not listed in the QPL will be accepted based on a Supplier's Certificate of Compliance. The Supplier's Certificate of Compliance will be a contract specific letter from the supplier stating the system is NCHRP 350 Test Level 3 compliant.

Division 9
Materials

Appendices
(January 2, 2012)

The following appendix is attached and made a part of this contract:

***APPENDIX A
Summary of Geotechnical Conditions

APPENDIX B
Project Permit Documents

***

(January 7, 2019)
Standard Plans

The State of Washington Standard Plans for Road, Bridge and Municipal Construction M21-01 transmitted under Publications Transmittal No. PT 16-048, effective August 6, 2018 is made a part of this contract.

The Standard Plans are revised as follows:

A-40.10
Section View, PCCP to HMA Longitudinal Joint, callout, was – "Sawed Groove ~ Width 3/16" (IN) MIN. to 5/16" (IN) MAX. ~ Depth 1" (IN) MIN. ~ see Std. Spec. 5-04.3(12)B" is revised to read; "Sawed Groove ~ Width 3/16" (IN) MIN. to 5/16" (IN) MAX. ~ Depth 1" (IN) MIN. ~ see Std. Spec. Section 5-04.3(12)A2"
Section View, Transverse Contraction Joint, dimension, was – "D/4" is revised to read: "D/3 to D/4"

A-50.10
Sheet 2 of 2, Plan, with Single Slope Barrier, reference C-14a is revised to C-70.10

A-50.20
Sheet 2 of 2, Plan, with Anchored Barrier, reference C-14a is revised to C-70.10

A-50.30
Sheet 2 of 2, Plan (top), reference C-14a is revised to C-70.1

B-10.60
DELETED

B-82.20
DELETED

B-90.40

Valve Detail - DELETED

C-2C

CASE 9A (typical of 2 callouts): The dimensions were “3’-0” MIN. ~ TO FACE OF GUARDRAIL”. are now revised to read “5’-0” MIN ~ TO FACE OF GUARDRAIL”.

C-4b

DELETED

C-4e

DELETED

C-4f

Sheet 1, BULLNOSE GRADING PLAN: Slopes shall be not steeper than 10H:1V for the bullnose guardrail system including slopes into the guardrail face to 1 foot behind the guardrail post.

Sheet 2, POST 1R & 1L, 2R & 2L, 3R TO 8R and 3L TO 8L, 9R TO 12 R and 9L TO 12L elevation view details: Slopes into the guardrail face to 1 foot behind the guardrail post shall not be steeper than 10H:1V.

Sheet 3, SECTION B, callout – was: “THE NUT SHALL BE ASTM A563D STEEL, AND GALVANIZED ACCORDING TO STANDARD SPEC. 9-16.3(3).” Is revised to read: ”THE NUT SHALL BE ASTM A307 STEEL, AND GALVANIZED ACCORDING TO STANDARD SPEC. 9-16.3(3).”

C-20.14

CASE 3-31: The dimension was “5’-0” MIN” from the back of guardrail to the center of railroad signal support is now revised to “5’-0” MIN” from face of guardrail to the front edge of the railroad signal support.

Note 3, was – “The slope from the edge of the shoulder into the face of the guardrail cannot exceed 10H : 1V when the face of the guardrail is less than 12’ – 0” from the edge of the shoulder.” is revised to read: “The slope from the edge of the shoulder into the face of the guardrail cannot be steeper than 10H : 1V when the face of the guardrail is less than 12’ – 0” from the edge of the shoulder. The slope from the edge of the shoulder into the face of the guardrail cannot be steeper than 6H : 1V when the guardrail is 12’ – 0” or more from the edge of the shoulder.”

C-20.18

ALL CASES: The dimensions were “3’-0” MIN” from the face of guardrail to the front edge of the fixed feature are now revised to “5’-0” MIN” from the face of guardrail to the front edge of the fixed feature.

Note 1, was – “The slope from the edge of the shoulder into the face of the guardrail should not exceed 10H : 1V when the guardrail is within 12’ – 0” from the edge of the shoulder.” Is revised to read: “The slope from the edge of the shoulder into the face of the guardrail should not be steeper than 10H : 1V when the guardrail is less than 12’ – 0” from the edge of the shoulder. The slope from the edge of the shoulder into the face of the guardrail should not be steeper than 6H : 1V when the guardrail is 12’ – 0” or more from the edge of shoulder.”

C-22.14
DELETED

C-22.16
Note 3, formula, was: “Elevation G = (Elevation S – D x (0.1) + 31” is revised to read: “Elevation G = (Elevation S – D x (0.1) + 31/12”

C-22.40
PLAN VIEW, MSKT-SP-MGS (TL-3) SHOWN: The dimension was “4’-0” MIN” from the face of the terminal to the edge of the widened embankment is now revised to “4’-0” MIN” from the back of the terminal post to the edge of the widened embankment.

Elevation View, MSKT-SP-MGS (TL-3), dimension, MSKT-SP-MGS (TL-3) SYSTEM LENGTH = 50’ – 0” , dimension is revised to read: 46’ – 101/2”

Elevation View, SOFTSTOP (TL-3), dimension, SOFTSTOP (TL-3) SYSTEM LENGTH = 50’ – 9 1/2”, dimension is revised to read: 50’ – 10 1/2”

Note 6, was – “…a maximum taper of 25.4 : 1 or flatter is allowed over the system length of 50’ – 9 ½” with a maximum…” is revised to read: “…a maximum taper of 25.44 : 1 or flatter is allowed over the system length of 50’ – 10 ½” with a maximum…”

C-22.45
PLAN VIEW, MSKT-SP-MGS (TL-2) SHOWN: The dimension was “4’-0” MIN” from the face of the terminal to the edge of the widened embankment is now revised to “4’-0” MIN” from the back of the terminal post to the edge of the widened embankment.

Elevation View, MSKT-SP-MGS (TL-2), dimension, MSKT-SP-MGS (TL-2) SYSTEM LENGTH = 25’ – 0”, dimension is revised to read 34’ – 4 1/2”

Elevation View, SOFTSTOP (TL-2), dimension, SOFTSTOP (TL-2) SYSTEM LENGTH = 38’ – 3 1/2”, dimension is revised to read 38’ – 4 1/2”

Note 6, was – “…flare of 38.29 : 1 or flatter is allowed over the system length of 38’ – 3 ½” with a maximum…” is revised to read: “…flare of 38.38 : 1 or flatter is allowed over the system length of 38’ – 4 ½” with a maximum…”

C-25.26
Elevation View, TYPE 23: The guardrail height dimension was 2’-8” from the top of the thrie beam to the top of the bridge curb is now revised to 2’-8” from the top of the thrie beam to the top of the ground line.

C-25.80
Plan View, callout, was – “12” (IN) BLOCKOUT” is revised to read; “12” (IN) or 8” (IN) BLOCKOUT (12” (IN) SHOWN)”
Elevation View, add labels to posts (below view); beginning at left side of view – Label Posts as follows; POST 1, POST 2 through POST 6”.
General Notes, add Note 6. Note reads as follows; “6. Post 1 shall use an 8 inch blockout, and posts 2 through post 6 shall use 12 inch or 8 inch blockouts.”

C-40.14

DELETED

C-90.10
DELETED

D-10.10
Wall Type 1 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed in accordance with the current WSDOT Bridge Design Manual (BDM) and the revisions stated in the 11/3/15 Bridge Design memorandum.

D-10.15
Wall Type 2 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed in accordance with the current WSDOT BDM and the revisions stated in the 11/3/15 Bridge Design memorandum.

D-10.20
Wall Type 3 may be used in all cases. The last sentence of Note 6 on Wall Type 3 shall be revised to read: The seismic design of these walls has been completed using a site adjusted (effective) peak ground acceleration of 0.32g.

D-10.25
Wall Type 4 may be used in all cases. The last sentence of Note 6 on Wall Type 4 shall be revised to read: The seismic design of these walls has been completed using a site adjusted (effective) peak ground acceleration of 0.32g.

D-10.30
Wall Type 5 may be used in all cases.

D-10.35
Wall Type 6 may be used in all cases.

D-10.40
Wall Type 7 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed in accordance with the current WSDOT BDM and the revisions stated in the 11/3/15 Bridge Design memorandum.

D-10.45
Wall Type 8 may be used if no traffic barrier is attached on top of the wall. Walls with traffic barriers attached on top of the wall are considered non-standard and shall be designed in accordance with the current WSDOT BDM and the revisions stated in the revisions stated in the 11/3/15 Bridge Design memorandum.

D-15.10
STD Plans D-15 series “Traffic Barrier Details for Reinforced Concrete Retaining Walls” are withdrawn. Special designs in accordance with the current WSDOT BDM are required in place of these STD Plans.

D-15.20

STD Plans D-15 series “Traffic Barrier Details for Reinforced Concrete Retaining Walls” are withdrawn. Special designs in accordance with the current WSDOT BDM are required in place of these STD Plans.

D-15.30

STD Plans D-15 series “Traffic Barrier Details for Reinforced Concrete Retaining Walls” are withdrawn. Special designs in accordance with the current WSDOT BDM are required in place of these STD Plans.

F-10.12

Section Title, was – “Depressed Curb Section” is revised to read: “Depressed Curb and Gutter Section”

F-10.40

“EXTRUDED CURB AT CUT SLOPE”, Section detail - Deleted

F-10.42

DELETE – “Extruded Curb at Cut Slope” View

H-70.20

Sheet 2, Spacing Detail, Mailbox Support Type 1, reference to Standard Plan I-70.10 is revised to H-70.10

I-30.30

8” Diameter Wattle Spacing Table, lower left corner, was –“Slope:1H : 1V, Maximum Spacing:10’ – 0”” is revised to read: “Slope:1H : 1V, Maximum Spacing:8’ – 0””.

J-10.21

Note 18, was – “When service cabinet is installed within right of way fence, see Standard Plan J-10.22 for details.” Is revised to read; “When service cabinet is installed within right of way fence, or the meter base is mounted on the exterior of the cabinet, see Standard Plan J-10.22 for details.”

J-10.22

Key Note 1, was – “Meter base per serving utility requirements~ as a minimum, the meter base shall be safety socket box with factory-installed test bypass facility that meets the requirements of EUSERC drawing 305.” Is revised to read; “Meter base per serving utility requirements~ as a minimum, the meter base shall be safety socket box with factory-installed test bypass facility that meets the requirements of EUSERC drawing 305. When the utility requires meter base to be mounted on the side or back of the service cabinet, the meter base enclosure shall be fabricated from type 304 stainless steel.”

Key Note 4, “Test with (SPDT Snap Action, Positive close 15 Amp – 120/277 volt “T” rated). Is revised to read: “Test Switch (SPDT snap action, positive close 15 amp – 120/277 volt “T” rated).”

Key Note 14, was – “Hinged dead front with ¼ turn fasteners or slide latch.” Is revised to read; “Hinged dead front with ¼ turn fasteners or slide latch. ~ Dead front panel bolts shall not extend into the vertical limits of the breaker array(s).”

Key Note 15, was – “Cabinet Main Bonding Jumper. Buss shall be 4 lug tinned copper. See Cabinet Main bonding Jumper detail, Standard Plan J-3b.“ is revised to read; “Cabinet Main Bonding Jumper Assembly ~ Buss shall be 4 lug tinned copper ~ See Standard Plan J-10.20 for Cabinet Main Bonding Jumper Assembly details.”

Note 1, was – "…socket box mounting detail, see Standard Plan J-3b." is revised to read to read: "…socket box mounting detail, see Standard Plan J-10.20."
Note 6, was – "…See door hinge detail, Standard Plan J-3b." is revised to read: "…See door hinge detail, Standard Plan J-10.20."

J-20.10
Add Note 5, "5. One accessible pedestrian signal assembly per pedestrian pushbutton post."

J-20.11
Sheet 2, Foundation Detail, Elevation, callout – "Type 1 Signal Pole" is revised to read: "Type PS or Type 1 Signal Pole"
Sheet 2, Foundation Detail, Elevation, add note below Title, "(Type 1 Signal Pole Shown)"
Add Note 6, "6. One accessible pedestrian signal assembly per pedestrian pushbutton post."

J-20.26
Add Note 1, "1. One accessible pedestrian pushbutton station per pedestrian pushbutton post."

J-20.16
View A, callout, was – LOCK NIPPLE, is revised to read; CHASE NIPPLE

J-21.10
Sheet 1, Elevation View, Round Concrete Foundation Detail, callout – "ANCHOR BOLTS ~ ¾" (IN) x 30" (IN) FULL THREAD ~ THREE REQ'D. PER ASSEMBLY" IS REVISED TO READ: "ANCHOR BOLTS ~ ¾" (IN) x 30" (IN) FULL THREAD ~ FOUR REQ'D. PER ASSEMBLY"
Sheet 1 of 2, Elevation view (Round), add dimension depicting the distance from the top of the foundation to find 2 #4 reinforcing bar shown, to read; 3" CLR.. Delete "(TYP.)" from the 2 ½" CLR. dimension, depicting the distance from the bottom of the foundation to find 2 # 4 reinf. Bar.
Sheet 1 of 2, Elevation view (Square), add dimension depicting the distance from the top of the foundation to find 1 #4 reinforcing bar shown, to read; 3" CLR. Delete "(TYP.)" from the 2 ½" CLR. dimension, depicting the distance from the bottom of the foundation to find 1 # 4 reinf. Bar.
Sheet 2 of 2, Elevation view (Round), add dimension depicting the distance from the top of the foundation to find 2 #4 reinforcing bar shown, to read; 3" CLR. Delete "(TYP.)" from the 2 ½" CLR. dimension, depicting the distance from the bottom of the foundation to find 2 # 4 reinf. Bar.
Sheet 2 of 2, Elevation view (Square), add dimension depicting the distance from the top of the foundation to find 1 #4 reinforcing bar shown, to read; 3" CLR. Delete "(TYP.)" from the 2 ½" CLR. dimension, depicting the distance from the bottom of the foundation to find 1 # 4 reinf. Bar.
Detail F, callout, "Heavy Hex Clamping Bolt (TYP.) ~ 3/4" (IN) Diam. Torque Clamping Bolts (see Note 3)" is revised to read; "Heavy Hex Clamping Bolt (TYP.) ~ 3/4" (IN) Diam. Torque Clamping Bolts (see Note 1)"
Detail F, callout, "3/4" (IN) x 2' – 6" Anchor Bolt (TYP.) ~ Four Required (See Note 4)" is revised to read; "3/4" (IN) x 2' – 6" Anchor Bolt (TYP.) ~ Three Required (See Note 2)"

J-21.15

Partial View, callout, was – LOCK NIPPLE ~ 1 ½" DIAM., is revised to read; CHASE NIPPLE ~ 1 ½" (IN) DIAM.

J-21.16

Detail A, callout, was – LOCKNIPPLE, is revised to read; CHASE NIPPLE

J-22.15

Ramp Meter Signal Standard, elevation, dimension 4' - 6" is revised to read; 6'-0"

(2x) Detail A, callout, was – LOCK NIPPLE ~ 1 ½" DIAM. is revised to read; CHASE NIPPLE ~ 1 ½" (IN) DIAM.

J-40.10

Sheet 2 of 2, Detail F, callout, "12 – 13 x 1 ½" S.S. PENTA HEAD BOLT AND 12" S. S. FLAT WASHER" is revised to read; "12 – 13 x 1 ½" S.S. PENTA HEAD BOLT AND 1/2" (IN) S. S. FLAT WASHER"

J-60.14

All references to J-16b (6x) are revised to read; J-60.11

K-80.30

In the NARROW BASE, END view, the reference to Std. Plan C-8e is revised to Std. Plan K-80.35

Plan Title, was "ALTERNATIVE TEMPORARY CONC. BARRIER (F-SHAPE)" is revised to read: "CONCRETE BARRIER TYPE F"

The following are the Standard Plan numbers applicable at the time this project was advertised. The date shown with each plan number is the publication approval date shown in the lower right-hand corner of that plan. Standard Plans showing different dates shall not be used in this contract.

A-10.10-00.....8/7/07
A-10.20-00.....10/5/07
A-10.30-00.....10/5/07
A-20.10-00.....8/31/07
A-30.10-00.....11/8/07
A-30.30-01.....6/16/11
A-30.35-00.....10/12/07
A-40.00-00.....8/11/09
A-40.10-03.....12/23/14
A-40.15-00.....8/11/09
A-40.20-04.....1/18/17
A-40.50-02.....12/23/14
A-50.10-00…....11/17/08
A-50.20-01…....9/22/09
A-50.30-00…....11/17/08
A-50.40-00…....11/17/08
A-60.10-03.....12/23/14
A-60.20-03.....12/23/14
A-60.30-01.....6/28/18
A-60.40-00.....8/31/07

B-5.20-02.....1/26/17
B-5.40-02.....1/26/17
B-5.60-02.....1/26/17
B-10.20-02.....3/2/18
B-10.40-01.....1/26/17
B-10.70-00……1/26/17
B-15.20-01.....2/7/12
B-15.40-01.....2/7/12
B-15.60-02.....1/26/17
B-20.20-02.....3/16/12
B-20.40-04.....2/27/18
B-20.60-03.....3/15/12
B-25.20-02.....2/27/18
B-25.60-02.....2/27/18
B-30.50-03.....2/27/18
B-30.70-04.....2/27/18
B-30.80-01.....2/27/18
B-30.90-02.....1/26/17
B-35.20-00.....6/8/06
B-35.40-00.....6/8/06
B-40.20-00.....6/1/06
B-40.40-02.....1/26/17
B-45.20-01.....7/11/17
B-45.40-01.....7/21/17
B-50.20-00.....6/1/06
B-55.20-02.....2/27/18
B-60.20-01.....6/28/18
B-60.40-01.....2/27/18
B-75.20-02.....2/27/18
B-75.50-01.....6/10/08
B-75.60-00.....6/8/06
B-80.20-00.....6/8/06
B-80.40-00.....6/1/06
B-85.10-01.....6/10/08
B-85.20-00.....6/1/06
B-85.30-00.....6/1/06
B-85.40-00.....6/8/06
B-85.50-01.....6/10/08
B-90.10-00…....6/8/06
B-90.20-00.....6/8/06
B-90.30-00.....6/8/06
B-90.40-01.....1/26/17

B-30.10-03.....2/27/18
B-30.15-00……..2/27/18
B-30.20-04.....2/27/18
B-30.30-03.....2/27/18
B-30.40-03.....2/27/18
B-65.20-01.....4/26/12
B-65.40-00.....6/1/06
B-70.20-00.....6/1/06
B-70.60-01.....1/26/17
B-90.50-00.....6/8/06
B-95.20-01.....2/3/09
B-95.40-01.....6/28/18

1

C-1.....6/28/18
C-1a.....7/14/15
C-1b.....7/14/15
C-1d.....10/31/03
C-2c.....6/21/06
C-4f.....7/2/12
C-6a.....10/14/09
C-7.....6/16/11
C-7a.....6/16/11
C-8.....2/10/09
C-8a.....7/25/97
C-8b.....2/29/16
C-8e.....2/21/07
C-8f.....6/30/04
C-16a.....7/21/17
C-20.10-04.....7/21/17
C-20.11-00……..7/21/17
C-20.14-03.....6/11/14
C-20.15-02.....6/11/14
C-20.18-02.....6/11/14
C-20.19-02.....6/11/14
C-20.40-06.....7/21/17
C-20.41-01.....7/14/15
C-20.42-05.....7/14/15
C-20.45.01.....7/2/12
C-22.16-06.....7/21/17
C-22.40-06.....7/21/17
C-22.45-03.....7/21/17
C-23.60-04.....7/21/17
C.24.10-01.....6/11/14
C-25.20-06.....7/14/15
C-25.22-05.....7/14/15
C-25.26-03.....7/14/15
C-25.30-00…….6/28/18
C-25.80-04.....7/15/16
C-40.16-02.....7/2/12
C-40.18-03.....7/21/17
C-70.10-01.....6/17/14
C-75.10-01.....6/11/14
C-75.20-01.....6/11/14
C-75.30-01.....6/11/14
C-80.10-01.....6/11/14
C-80.20-01.....6/11/14
C-80.30-01.....6/11/14
C-80.40-01.....6/11/14
C-80.50-00.....4/8/12
C-85.10-00.....4/8/12
C-85.11-00.....4/8/12
C-85.14-01.....6/11/14
C-85.15-01.....6/30/14
C-85.16-01.....6/17/14
C-85-18-01.....6/11/14
C-85.20-01.....6/11/14

2

D-2.04-00.....11/10/05
D-2.06-01.....1/6/09
D-2.08-00.....11/10/05
D-2.14-00.....11/10/05
D-2.16-00.....11/10/05
D-2.18-00.....11/10/05
D-2.20-00.....11/10/05
D-2.32-00.....11/10/05
D-2.34-01.....1/6/09
D-2.36-03.....6/11/14
D-2.42-00.....11/10/05
D-2.44-00.....11/10/05
D-2.60-00.....11/10/05
D-2.62-00.....11/10/05
D-2.46-01.....6/11/14
D-2.48-00.....11/10/05
D-2.64-01.....1/6/09
D-2.66-00.....11/10/05
D-2.68-00.....11/10/05
D-2.80-00.....11/10/05
D-2.82-00.....11/10/05
D-2.84-00.....11/10/05
D-2.86-00.....11/10/05
D-2.88-00.....11/10/05
D-2.92-00.....11/10/05
D-3.09-00.....5/17/12
D-3.10-01……5/29/13
D-3.11-03……6/11/14
D-3.15-02……6/10/13
D-3.16-02……5/29/13
D-3.17-02……5/9/16
D-4.....12/11/98
D-6.....6/19/98
D-10.10-01.....12/2/08
D-10.15-01.....12/2/08
D-10.20-00.....7/8/08
D-10.25-00.....7/8/08
D-10.30-00.....7/8/08
D-10.35-00.....7/8/08
D-10.40-01.....12/2/08
D-10.45-01.....12/2/08
D-15.10-01.....12/2/08
D-15.20-03.....5/9/16
D-15.30-01.....12/02/08

3

E-1.....2/21/07
E-2.....5/29/98
E-4.....8/27/03
E-4a.....8/27/03

4

F-10.12-03.....6/11/14
F-10.16-00.....12/20/06
F-10.18-01.....7/11/17
F-10.40-03.....6/29/16
F-10.42-00.....1/23/07
F-10.62-02.....4/22/14
F-10.64-03.....4/22/14
F-30.10-03.....6/11/14
F-40.12-03.....6/29/16
F-40.14-03.....6/29/16
F-40.15-03.....6/29/16
F-40.16-03.....6/29/16
F-45.10-02.....7/15/16
F-80.10-04.....7/15/16

5

G-10.10-00.....9/20/07
G-20.10-02.....6/23/15
G-25.10-04.....6/10/13
G-30.10-04.....6/23/15
G-90.10-03……7/11/17
G-90.11-00……4/28/16

G-22.10-04.....6/28/18
G-24.10-00.....11/8/07
G-24.20-01.....2/7/12
G-24.30-02.....6/28/18
G-24.40-07.....6/28/18
G-24.50-04.....7/11/17
G-24.60-05.....6/28/18
G-50.10-03.....6/28/18
G-60.10-04.....6/28/18
G-60.20-02.....6/18/15
G-60.30-02.....6/18/15
G-70.10-03.....6/18/15
G-70.20-04.....7/21/17
G-70.30-04.....7/21/17
G-90.20-05……7/11/17
G-90.30-04……7/11/17
G-90.40-02……4/28/16
G-95.10-02.....6/28/18
G-95.20-03.....6/28/18
G-95.30-03.....6/28/18

1

H-10.10-00.....7/3/08
H-10.15-00.....7/3/08
H-30.10-00.....10/12/07
H-32.10-00.....9/20/07
H-60.10-01.....7/3/08
H-60.20-01.....7/3/08
H-70.10-01.....2/7/12
H-70.20-01.....2/16/12
H-70.30-02.....2/7/12

2

I-10.10-01.....8/11/09
I-30.10-02.....3/22/13
I-30.15-02.....3/22/13
I-30.16-00.....3/22/13
I-30.17-00.....3/22/13
I-30.20-00.....9/20/07
I-30.30-01.....6/10/13
I-30.40-01.....6/10/13
I-30.60-01.....3/7/18
I-40.10-00.....9/20/07
I-40.20-00.....9/20/07
I-50.20-01.....6/10/13
I-60.10-01.....6/10/13
I-60.20-01.....6/10/13
I-80.10-02.....7/15/16

3

J-10.....7/18/97
J-10.10-03……6/3/15
J-10.15-01.....6/11/14
J-10.16-00……6/3/15
J-10.17-00……6/3/15
J-10.18-00……6/3/15
J-10.20-01……6/1/16
J-10.21-00……6/3/15
J-10.22-00.....5/29/13
J-10.25-00……7/11/17
J-12.15-00……6/28/18
J-12.16-00……6/28/18
J-15.10-01.....6/11/14
J-15.15-02……7/10/15
J-20.10-03.....6/30/14
J-20.11-02.....6/30/14
J-20.15-03.....6/30/14
J-20.16-02.....6/30/14
J-20.20-02.....5/20/13
J-20.26-01.....7/12/12
J-21.10-04.....6/30/14
J-21.15-01.....6/10/13
J-21.16-01.....6/10/13
J-21.17-01.....6/10/13
J-21.20-01.....6/10/13
J-22.15-02.....7/10/15
J-22.16-03.....7/10/15
J-26.10-03…..7/21/16
J-26.15-01…..5/17/12
J-26.20-01…..6/28/18
J-27.10-01…..7/21/16
J-27.15-00…..3/15/12
J-28.10-01.....5/11/11
J-28.22-00.....8/07/07
J-28.24-01.....6/3/15
J-28.26-01.....12/02/08
J-28.30-03.....6/11/14
J-28.40-02.....6/11/14
J-28.42-01.....6/11/14
J-28.43-01.....6/28/18
J-28.45-03.....7/21/16
J-28.50-03.....7/21/16
J-28.60-02.....7/21/16
J-28.70-03.....7/21/17
J-29.10-01.....7/21/16
J-29.15-01.....7/21/16
J-29.16-02.....7/21/16
J-30.10-00…...6/18/15
J-40.05-00……7/21/16
J-40.10-04…...4/28/16
J-40.20-03…...4/28/16
J-40.30-04……4/28/16
J-40.35-01……5/29/13
J-40.36-02……7/21/17
J-40.37-02……7/21/17
J-40.38-01.....5/20/13
J-40.39-00……5/20/13
J-40.40-01……4/28/16
J-45.36-00……7/21/17
J-50.05-00……7/21/17
J-50.10-00…….6/3/11
J-50.11-01…….7/21/17
J-50.12-01…….7/21/17
J-50.15-01…….7/21/17
J-50.16-01…….3/22/13
J-50.20-00…….6/3/11
J-50.25-00…….6/3/11
J-50.30-00…….6/3/11
J-60.05-01…….7/21/16
J-60.11-00…....5/20/13
J-60.12-00…....5/20/13
J-60.13-00…....6/16/10
J-60.14-00……6/16/10
J-75.10-02……7/10/15
J-75.20-01……7/10/15
J-75.30-02…….7/10/15
J-75.40-02……6/1/16
J-75.41-01……6/29/16
J-75.45-02……6/1/16
J-80.10-00……6/28/18
J-80.15-00……6/28/18
J-81.10-00……6/28/18
J-86.10-00……6/28/18
J-90.10-03…….6/28/18
J-90.20-03…….6/28/18
J-90.21-02……6/28/18
J-90.50-00……6/28/18

1

K-70.20-01.....6/1/16
K-80.10-01.....6/1/16
K-80.20-00.....12/20/06
K-80.30-00.....2/21/07
K-80.35-00.....2/21/07
K-80.37-00.....2/21/07

2

L-10.10-02.....6/21/12
L-20.10-03.....7/14/15
L-30.10-02.....6/11/14
L-40.10-02.....6/21/12
L-40.15-01.....6/16/11
L-40.20-02.....6/21/12
L-70.10-01.....5/21/08
L-70.20-01.....5/21/08

3

M-1.20-03.....6/24/14
M-1.40-02.....6/3/11
M-1.60-02.....6/3/11
M-1.80-03.....6/3/11
M-2.20-03.....7/10/15
M-2.21-00……7/10/15
M-3.10-03.....6/3/11
M-3.20-02.....6/3/11
M-3.30-03.....6/3/11
M-3.40-03.....6/3/11
M-3.50-02.....6/3/11
M-5.10-02.....6/3/11
M-7.50-01.....1/30/07
M-9.50-02.....6/24/14
M-9.60-00……..2/10/09
M-11.10-02.....7/11/17
M-12.10-01……6/28/18
M-15.10-01.....2/6/07
M-17.10-02.....7/3/08
M-20.10-02.....6/3/11
M-20.20-02.....4/20/15
M-20.30-04.....2/29/16
M-20.40-03.....6/24/14
M-20.50-02.....6/3/11
M-24.20-02.....4/20/15
M-24.40-02.....4/20/15
M-24.50-00.....6/16/11
M-24.60-04.....6/24/14
M-24.65-00……7/11/17
M-24.66-00……7/11/17
M-40.10-03.....6/24/14
M-40.20-00...10/12/07
M-40.30-01.....7/11/17
M-40.40-00.....9/20/07
M-40.50-00.....9/20/07
M-40.60-00.....9/20/07
M-60.10-01.....6/3/11
M-60.20-02.....6/27/11
M-65.10-02.....5/11/11
M-80.10-01.....6/3/11
M-80.20-00.....6/10/08
M-80.30-00.....6/10/08

4

5

MASON TRANSIT AUTHORITY
PEAR ORCHARD PARK AND RIDE

SECTION V

CONTRACT DRAWINGS

T. 20 N., R. 03 W., S 20, W.M.

PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

SHELTON, WASHINGTON
MASON COUNTY

BUS SHELTER WILL PART OF SEPARATE DEFERRED SUBMITTAL

OWNER/APPLICANT

MASON TRANSIT AUTHORITY
601 WEST FRANKLIN ST
SHELTON, WA 98584
(360) 426-9434
CONTACT: DANETTE BRANNIN, GENERAL MANAGER

CONSULTANTS

SCJ ALLIANCE
8730 TALLON LANE NE. STE 200
LACEY, WA 98516
(360) 352-1465
CONTACT: PATRICK HOLM, P.E.

SURVEY:
MTN2COAST, LLC
1506 FAIRVIEW ST SE
OLYMPIA, WA 98501
(360) 239-1497
CONTACT: BLAIR PRIGGE, PL.S., E.I.T.

UTILITIES

POWER:
PUD3
(360) 426-8255 EXT. 5323
CONTACT: JUSTIN HOLZGROVE

PHONE:
CENTURYLINK
(360) 956-7692
CONTACT: MICHELLE PALMER

STORMWATER:
CITY OF SHELTON
525 W COTA ST.
SHELTON, WA 98584
CONTACT: SCOTT WHITING 360-432-5190

DATUM

HORIZONTAL – WASHINGTON STATE PLANE COORDINATES, SOUTH ZONE, NAD 83/91 BASED ON TIES TO WSDOT MONUMENTS GP23003-20 NO. 2224 AND GP23003-33 NO. 8044.

VERTICAL – NAVD 88 BASED ON TIES TO WSDOT MONUMENTS GP23003-20 NO. 2224, ELEVATION=47.58.

SURVEY NOTES

1. INSTRUMENT USED: SOKKIA SRX 3 TOTAL STATION AND TOPCON GR5 GPS.
2. SURVEY COMPLETED 10/2/2016

UTILITIES SHOWN HEREON ARE FROM MAPPING VISIBLE SURFACE APPURTENANCES, REFERRING TO AS-BUILT RECORDS AND MAPPING UTILITY PAINT MARKS FROM A UTILITY LOCATING SERVICE. BURIED UTILITIES ARE ONLY SHOWN AS APPROXIMATE AND SHOULD BE VERIFIED BEFORE CONSTRUCTION.

SITE DATA

SITE ADDRESS (APPROX.): 376 EAST PINE STREET, SHELTON WA, 98585
PARCEL NUMBER: 32020-21-60010

SHEET INDEX

SHEET NUMBER	SHEET TITLE	SHEET DESCRIPTION
1	CV	COVER
2	GEN-1	GENERAL NOTES
3	EC-1	REMOVAL AND TESC PLAN
4	EC-2	REMOVAL AND TESC DETAILS
5	SP-1	SITE PLAN & HORIZONTAL CONTROL PLAN
6	SP-2	SITE PLAN & HORIZONTAL CONTROL PLAN
7	SP-3	SITE PLAN DETAILS
8	SD-1	GRADING AND DRAINAGE PLAN
9	SD-2	GRADING AND DRAINAGE PLAN
10	SD-3	RAMP GRADING DETAILS
11	SD-4	DRAINAGE DETAILS
12	UT-1	UTILITY PLAN
13	UT-2	UTILITY DETAILS
14	IL-1	LIGHTING AND SECURITY PLAN
15	IL-2	LIGHTING AND SECURITY DETAILS
16	LS-1	LANDSCAPE PLAN
17	LS-2	LANDSCAPE PLAN
18	LS-3	PLANTING SCHEDULE, NOTES, & DETAILS
19	LS-4	IRRIGATION
20	LS-5	IRRIGATION
21	LS-6	IRRIGATION, NOTES, & DETAILS
22	TC-1	TRAFFIC CONTROL PLAN

NOTES

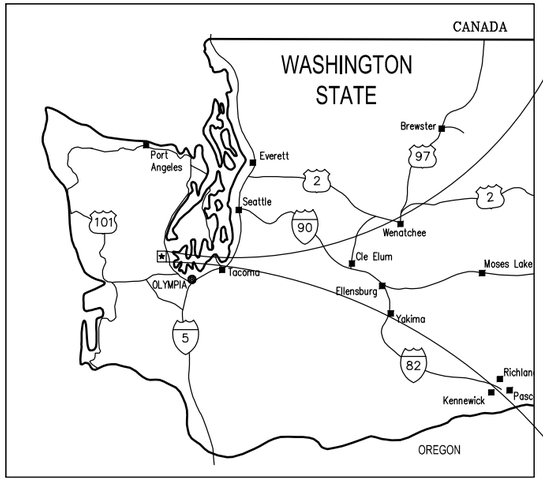
1. WORK FOR THIS PROJECT SHALL MEET OR EXCEED THE PROJECT SPECIFICATIONS AND THE 2018 WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION WHICH ARE HEREBY REFERENCED AS A PART OF THESE PLANS.

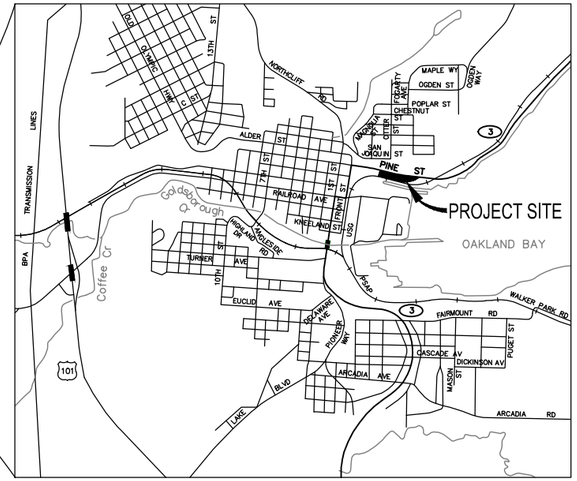
2. ALL SITE WORK MUST COMPLY WITH INTERNATIONAL BUILDING CODE, APPENDIX J AND SHELTON MUNICIPAL CODE, TITLE 13 AND CITY OF SHELTON DESIGN AND CONSTRUCTION AND DEVELOPMENT STANDARDS.

3. THE DESIGN SHOWN IS BASED UPON THE ENGINEER'S UNDERSTANDING OF THE EXISTING CONDITIONS. THE EXISTING CONDITIONS SHOWN ON THIS PLAN SET ARE BASED UPON SURVEY, PREPARED BY MTN 2 COAST LLC. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING FIELD CONDITIONS PRIOR TO BIDDING THE PROPOSED WORK IMPROVEMENTS. IF CONFLICTS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE OWNER OR ENGINEER PRIOR TO INSTALLATION OF ANY PORTION OF THE WORK WHICH WOULD BE AFFECTED.

CAUTION – NOTICE TO CONTRACTOR

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON THE PROJECT SURVEY AND OTHER RECORDS OF UTILITIES. THE INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL CALL 1-800-424-5555 (OR 811) 48 HOURS PRIOR TO PLANNED EXCAVATION.
TO REQUEST UTILITY LOCATES, CALL 1-800-424-5555 (OR 811).





NTS

△	REVISIONS	DATE	BY
1	SHORELINE APPLICATION	12/12/17	SCJ
2	GRADING PERMIT	04/06/18	SCJ
3	GRADING PERMIT-COVER SHEET RESUBMITTAL	07/18/18	SCJ
4	WSDOT PERMIT	01/22/18	SCJ

DESIGNED BY: P. HOLM
DRAWN BY: N.MAYFIELD
CHECKED BY: S. SAWYER
ISSUE DATE: APRIL 2018
JOB No.: 0738.05
DRAWING FILE No.: 0738.5-CV-1-PO

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

PATRICK HOLM – STATE OF WASHINGTON – 40800 – REGISTERED PROFESSIONAL ENGINEER

SCJ ALLIANCE
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PROJECT NAME:

MTA

MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

COVER

DRAWING No.: CV
SHEET No.: 1 OF 22

Jan 23, 2019 - 3:34:53pm — User: patrick.holm
N:\PROJECTS\0738 MASON TRANSIT AUTHORITY\0738.05 MTA PARK AND RIDE DEVELOPMENT\CAD\PEAR ORCHARD\0738.5--CV-1-PO.DWG

T. 20 N., R. 03 W., S 20, W.M.

ABBREVIATIONS

&	AND
Ð	ANGLE
±	APPROXIMATELY
@	AT
℄	CENTERLINE
°	DEGREE
=	EQUALS
'	FOOT
>	GREATER THAN
"	INCH
#	NUMBER
%	PERCENT
AC	ASPHALTIC CONCRETE
ADD'L	ADDITIONAL
ADJT	ADJACENT
AFF	ABOVE FINISH FLOOR
AP	ANGLE POINT
APPROX	APPROXIMATE
ARCH	ARCHITECT
ATB	ASPHALT TREATED BASE COURSE
AVE	AVENUE
BC	BOTTOM OF CURB ELEVATION
BCR	BEGIN CURB RETURN
BFV	BUTTERFLY VALVE
BGS	BELOW GROUND SURFACE
BLK	BLOCK(S)
BLDG	BUILDING
BM	BENCHMARK
BVC	BEGIN VERTICAL CURB
BW	BOTTOM OF WALL ELEVATION
C	CONDUIT
CB	CATCH BASIN
CF	CUBIC FEET
CIRC	CIRCUIT, CIRCULA(R, TION)
CIP	CAST-IN-PLACE
CIP MON	CAST-IN-PLACE MONUMENT
CJ	CENTER JOINT
℄	CENTER LINE
CL	CROWNLINE
CLR	CLEAR
CO	CLEANOUT
COMM	COMMUNICATION
COMPT	COMPACTED
CONC	CONCRETE
CONST	CONSTRUCT
CONT	CONTINU(E, ED, OUS, ATION)
COORD	COORDINATE
CSBC	CRUSHED SURFACING BASE COURSE
CSTC	CRUSHED SURFACING TOP COURSE
CULV	CULVERT
CU YD	CUBIC YARD
D/W	DRIVEWAY
DEF	DEFLECTION
DEG	DEGREE
DEMO	DEMOLISH/DEMOLITION
DIA	DIAMETER
DIM	DIMENSION(S)
DIP	DUCTILE IRON PIPE
DR	DRIVE
DWG(S)	DRAWING(S)
E	EAST OR ELECTRICAL
EA	EACH
ECR	END CURB RETURN
EHH	ELECTRICAL HANDHOLE
EL, ELEV	ELEVATION
ELEC	ELECTRIC(AL)
ENGR	ENGINEER
EOP	EDGE OF PAVEMENT
EQ	EQUAL(LY)
EQUIP	EQUIPMENT
ESMT	EASEMENT
EVC	END VERTICAL CURVE
EX, EXIST	EXISTING
EXP	EXPANSION
FDC	FIRE DEPARTMENT CONNECTION
FDN	FOUNDATION
FES	FLARED END SECTION
FF	FINISH FLOOR
FG	FINISH GRADE ELEVATION
FH	FIRE HYDRANT
FIN	FINISH(ED)
FL	FIRE LINE/FLANGE
FT	FOOT/FEET
G	GAS
GALV	GALVANIZED
GB	GRADE BREAK
GRND	GROUND
GV	GATE VALVE
HH	HANDHOLE
HP	HIGH POINT ELEVATION
HORIZ	HORIZONTAL
HT	HEIGHT
IE	INVERT ELEVATION
IN	INCH
JB, J-BOX	JUNCTION BOX
JT	JOINT TRENCH
kV	KILOVOTS
kW	KILOWATT
KWH	KILOWATT HOURS
L	LENGTH
TELE	TELEPHONE
TEMP	TEMPORARY
TW	TOP OF WALL ELEVATION
TP, T/P	TOP OF PIPE
TYP	TYPICAL
LB(S)	POUND(S)
LF	LINEAR FEET
LP	LOW POINT ELEVATION
LT	LEFT
MAX	MAXIMUM
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM, MINUTE
MISC	MISCELLANEOUS
MON	MONUMENT IN CASE
N	NORTH, NORTHING
N/A	NOT APPLICABLE
NE	NORTHEAST
NEMA	NATIONAL ELECTRICAL MANUFACTURES ASSOCIATION
NIC	NOT IN CONTRACT
NO, No	NUMBER
NTS	NOT TO SCALE
NW	NORTHWEST
OC, oc	ON CENTER
OD	OUTSIDE DIAMETER
OSHA	OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION
P	POWER, POWER VAULT
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVE
PED	PEDESTAL
PI	POINT OF INTERSECTION
ℙ	PROPERTY LINE
POC	POINT OF CONNECTION
PP	POWER POLE
PRC	POINT OF REVERSE CURVATURE
PROP	PROPERTY
PSE	PUGET SOUND ENERGY
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PVC	POINT OF VERTICAL CURVE
PVI	POINT OF VERTICAL INTERSECTION
PVT	POINT OF VERTICAL TANGENT
PVMT	PAVEMENT
PWR	POWER
QTY	QUANTITY
R	RADIUS
RD	ROAD, ROADWAY
REF	REFERENCE
REINF	REINFORC(E, ED, ING, MENT)
REQ'D	REQUIRED
REV	REVISION
RIM	STRUCTURE RIM ELEVATION
RT	RIGHT
R/W, ROW	RIGHT OF WAY
S	SOUTH OR SLOPE
SCHED	SCHEDULE
SD, SDMH	STORM DRAIN, STORM DRAIN MANHOLE
SE	SOUTHEAST
SECT	SECTION(S)
SHT	SHEET
SP	SPRINKLER
SQ	SQUARE
SQ FT	SQUARE FEET
SQ IN	SQUARE INCH
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
ST	STREET
STA	STATION
STD	STANDARD
STRUCT	STRUCTURE(E, AL)
SW	SOUTHWEST
SYS	SYSTEM
T	TELEPHONE OR TELEPHONE VAULT
TBD	TO BE DETERMINED
TBM	TEMPORARY BENCH MARK
TC	TOP OF CURB ELEVATION
UDG	UNDERGROUND
VAP	VERTICAL ANGLE POINT
VC	VERTICAL CURVE
VERT	VERTICAL
VOL	VOLUME
W	WEST, WIDTH, WIDE OR WATER
W/	WITH
W/O	WITHOUT
WM	WATER MAIN OR WILLAMETTE MERIDIAN
WSDOT	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
WV	WATER VALVE
XFMR	TRANSFORMER

GENERAL NOTES: STREET CONSTRUCTION

IN ADDITION TO THE GENERAL NOTES IN CHAPTER ONE, THE ENGINEER SHALL INCLUDE THE FOLLOWING NOTES ON ANY PLANS DEALING WITH THE CONSTRUCTION OR ALTERATIONS, EXTENSIONS OR CONNECTIONS TO THE TRANSPORTATION SYSTEMS.

1. PRIOR TO WORKING WITHIN THE CITY RIGHT-OF-WAY OR ON CITY PROPERTY, THE CONTRACTOR MUST OBTAIN A CITY OF SHELTON RIGHT-OF-WAY PERMIT. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF RIGHT-OF-WAY.
2. ALL CURB AND GUTTER, STREET GRADES, SIDEWALK GRADES, AND ANY OTHER VERTICAL AND/OR HORIZONTAL ALIGNMENT SHALL BE STAKED BY A LICENSED ENGINEERING OR SURVEYING FIRM CAPABLE OF PERFORMING SUCH WORK.
3. WHERE NEW ASPHALT JOINS EXISTING ASPHALT, THE EXISTING ASPHALT SHALL BE CUT TO A NEAT VERTICAL EDGE AND TACKED WITH ASPHALT EMULSION TYPE CSS-1 PER SECTION 9-02.1(6) OF THE WSDOT/APWA STANDARD SPECIFICATIONS. TACK COAT SHALL BE APPLIED PER SECTION 5-04.3(5)A. THE NEW ASPHALT SHALL BE FEATHERED BACK OVER EXISTING TO PROVIDE FOR A SEAL AT THE SAW CUT LOCATION AND THE JOINT SEALED IN ACCORDANCE WITH SECTION 5-04.3(5)C OF THE WSDOT/APWA STANDARD SPECIFICATIONS.
4. COMPACTION OF SUBGRADE, ROCK AND ASPHALT SHALL BE IN ACCORDANCE WITH THE MOST CURRENT ADOPTED VERSION OF THE WSDOT/APWA STANDARD SPECIFICATIONS.
5. FORM AND SUBGRADE INSPECTION BY THE CITY IS REQUIRED BEFORE PLACING ASPHALT OR CONCRETE. 24-HOUR NOTICE IS REQUIRED FOR FORM INSPECTION.
6. TESTING AND SAMPLING FREQUENCIES WILL BE AS DESCRIBED IN THE CITY OF SHELTON DESIGN AND CONSTRUCTION STANDARDS.
7. THE CONTRACTOR/DEVELOPER PROVIDES AND INSTALLS STREET NAME AND REGULATORY SIGNS AT THEIR EXPENSE.
8. ALL CURB AND GUTTER, STREET GRADES, SIDEWALK GRADES, AND ANY OTHER VERTICAL AND/OR HORIZONTAL ALIGNMENT SHALL BE STAKED BY A LICENSED ENGINEERING OR SURVEYING FIRM CAPABLE OF PERFORMING SUCH WORK.
9. COMPACTION OF SUBGRADE, SUB-BASE, BASE, SURFACING, PAVEMENT, OR LAYERS OF SIMILAR MATERIAL SHALL BE IN TRANSPORTATION FEBRUARY 2017 2 – 52 ACCORDANCE WITH SECTION 2-06 AND SECTION 4.04.3(5) OF THE WSDOT/APWA STANDARD SPECIFICATIONS.
10. FILL SHALL BE PROVIDED IN 6-INCH MAXIMUM LIFTS UNLESS OTHERWISE APPROVED BY THE CITY, AND SHALL BE COMPACTED TO 95 PERCENT OF ITS MAXIMUM RELATIVE DENSITY.
11. INSPECTION BY THE CITY IS REQUIRED DURING ALL PHASES OF CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE CITY OF HIS/HER SCHEDULE. INSPECTION BY CITY PERSONNEL SHALL BE REQUIRED DURING CITY WORK HOURS. CITY WORK HOURS ARE 8:00 AM TO 3:30 PM MONDAY THROUGH FRIDAY, EXCEPT HOLIDAYS. A MINIMUM 24 HOUR NOTICE IS REQUIRED FOR INSPECTION OF ANY WORK.

△	REVISIONS	DATE	BY
1	SHORELINE APPLICATION	12/12/17	SCJ
2	GRADING PERMIT	04/06/18	SCJ
3	WSDOT PERMIT	01/22/18	SCJ

DESIGNED BY: P. HOLM
DRAWN BY: N.MAYFIELD
CHECKED BY: S. SAWYER
ISSUE DATE: APRIL 2018
JOB No.: 0738.05
DRAWING FILE No.: 0738.5-GEN-PO

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

PATRICK HOLM — STATE OF WASHINGTON — 43992 — REGISTERED PROFESSIONAL ENGINEER

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SCJALLIANCE.COM

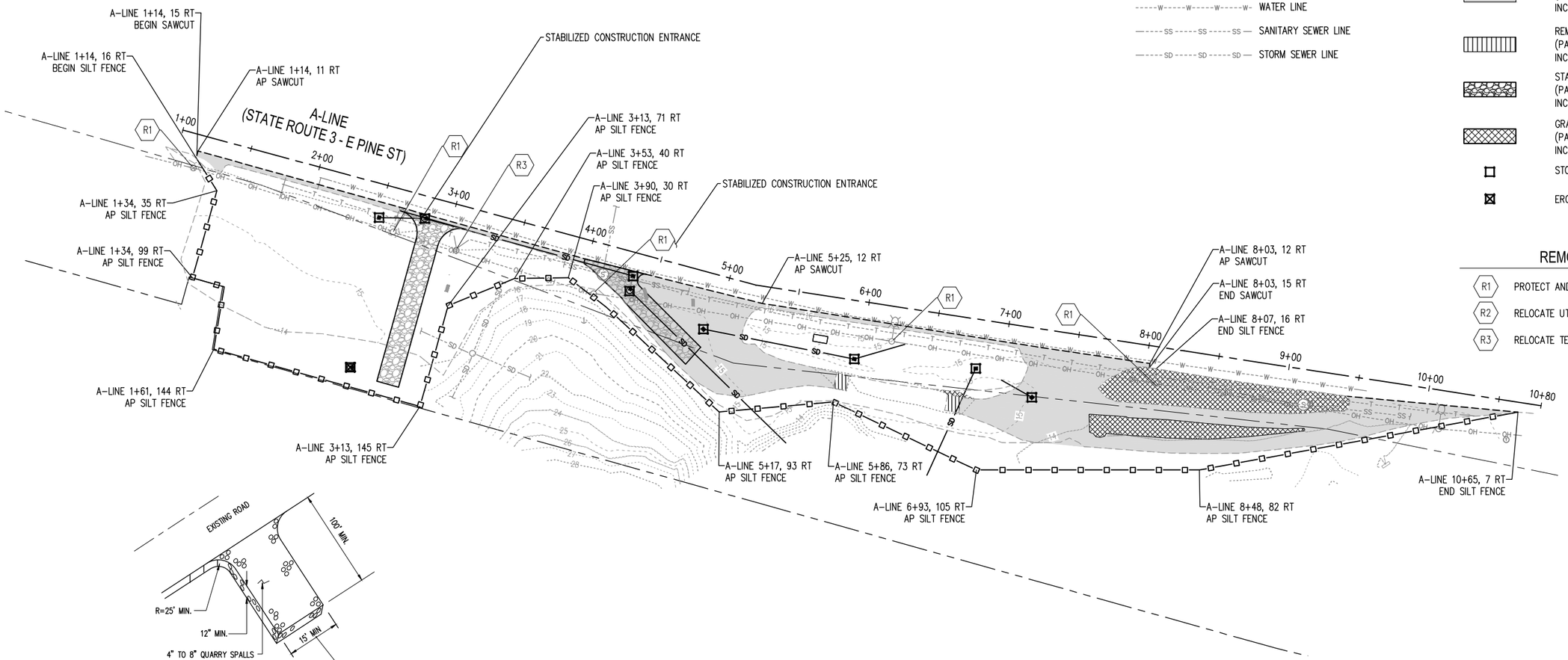
PROJECT NAME:

MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

GENERAL NOTES

DRAWING No.: GEN-1
SHEET No.: 2 OF 22

T. 20 N., R. 03 W., S 20, W.M.



CONSTRUCTION ENTRANCE
NTS

EXISTING UTILITY LEGEND

- TELEPHONE PEDESTAL
- POWER POLE
- POWER POLE WITH TRANSFORMER
- POWER POLE WITH LUMINAIRE
- GUY ANCHOR
- SANITARY SEWER MANHOLE
- UNDERGROUND TELEPHONE LINE
- OVERHEAD POWER LINE
- WATER LINE
- SANITARY SEWER LINE
- STORM SEWER LINE

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPERTY LINE
- SILT FENCE (SEE DETAIL ON SHEET EC-2)
- SAWCUT LINE
- SCHEDULE A STORM SEWER PIPE 12 IN. DIAM.
- ASPHALT CONC. REMOVAL (PAID FOR AS ROADWAY EXCAVATION INCL. HAUL)
- REMOVE CEMENT CONC. PAVEMENT (PAID FOR AS ROADWAY EXCAVATION INCL. HAUL)
- STABILIZED CONSTRUCTION ENTRANCE (PAID FOR AS ROADWAY EXCAVATION INCL. HAUL)
- GRAVEL REMOVAL (PAID FOR AS ROADWAY EXCAVATION INCL. HAUL)
- STORM DRAIN INLET PROTECTION
- EROSION CONTROL AT CULVERT ENDS

REMOVAL KEY NOTES

- R1 PROTECT AND PRESERVE UTILITY POLE
- R2 RELOCATE UTILITY POLE
- R3 RELOCATE TELEPHONE PEDESTAL

N

0 40 80
SCALE IN FEET

	REVISIONS	DATE	BY
1	SHORELINE APPLICATION	12/12/17	SCJ
2	GRADING PERMIT	04/06/18	SCJ
3	WSDOT PERMIT	01/22/18	SCJ
4			

DESIGNED BY: P. HOLM
DRAWN BY: N.MAYFIELD
CHECKED BY: S. SAWYER
ISSUE DATE: APRIL 2018
JOB No.: 0738.05
DRAWING FILE No.: 0738.5-EC-1-PO

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

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PROJECT NAME:

MTA

MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

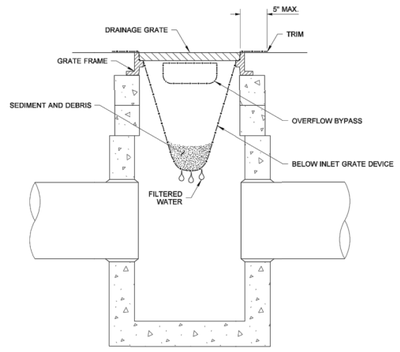
REMOVAL AND TESC PLAN

DRAWING No.: EC-1
SHEET No.: 3 OF 22

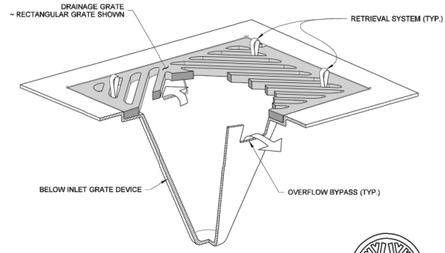
DRAWN BY: LISA CYFORD

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).



SECTION VIEW
NOT TO SCALE



ISOMETRIC VIEW

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 STATE DESIGN ENGINEER — *09-20-07* DATE

Washington State Department of Transportation

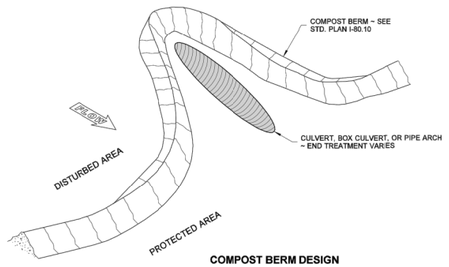
DRAWN BY: LISA CYFORD

NOTE

Perform maintenance in accordance with Standard Specification 8-01.3(9)A and 8-01.3(15).

SILT FENCE DESIGN

SECTION (A)



COMPOST BERM DESIGN

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.

EROSION CONTROL AT CULVERT ENDS

STANDARD PLAN I-30.20-00

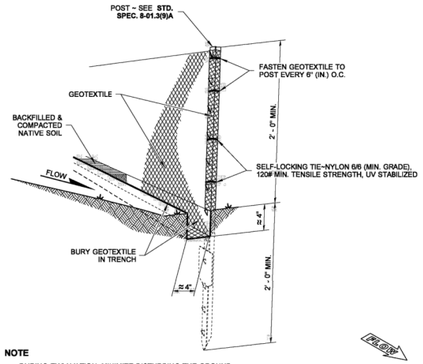
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Pasco Bakotich III STATE DESIGN ENGINEER — *09-20-07* DATE

Washington State Department of Transportation

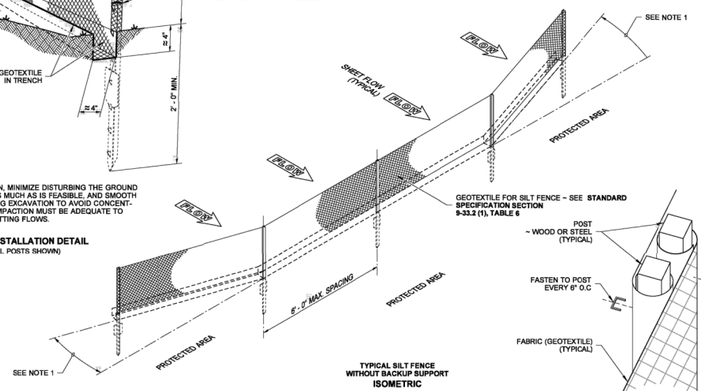
DRAWN BY: BILL BERGENS



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 STATE DESIGN ENGINEER — *3/22/13* DATE

Washington State Department of Transportation

	REVISIONS	DATE	BY
1	SHORELINE APPLICATION	12/12/17	SCJ
2	GRADING PERMIT	04/06/18	SCJ
3	WSDOT PERMIT	01/22/18	SCJ

DESIGNED BY: P. HOLM
DRAWN BY: N.MAYFIELD
CHECKED BY: S. SAWYER

ISSUE DATE: APRIL 2018
JOB No.: 0738.05
DRAWING FILE No.: 0738,5-EC-2-PO

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

PATRICK HOLM — STATE OF WASHINGTON — 49870 — REGISTERED PROFESSIONAL ENGINEER

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PROJECT NAME:

MTA

MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

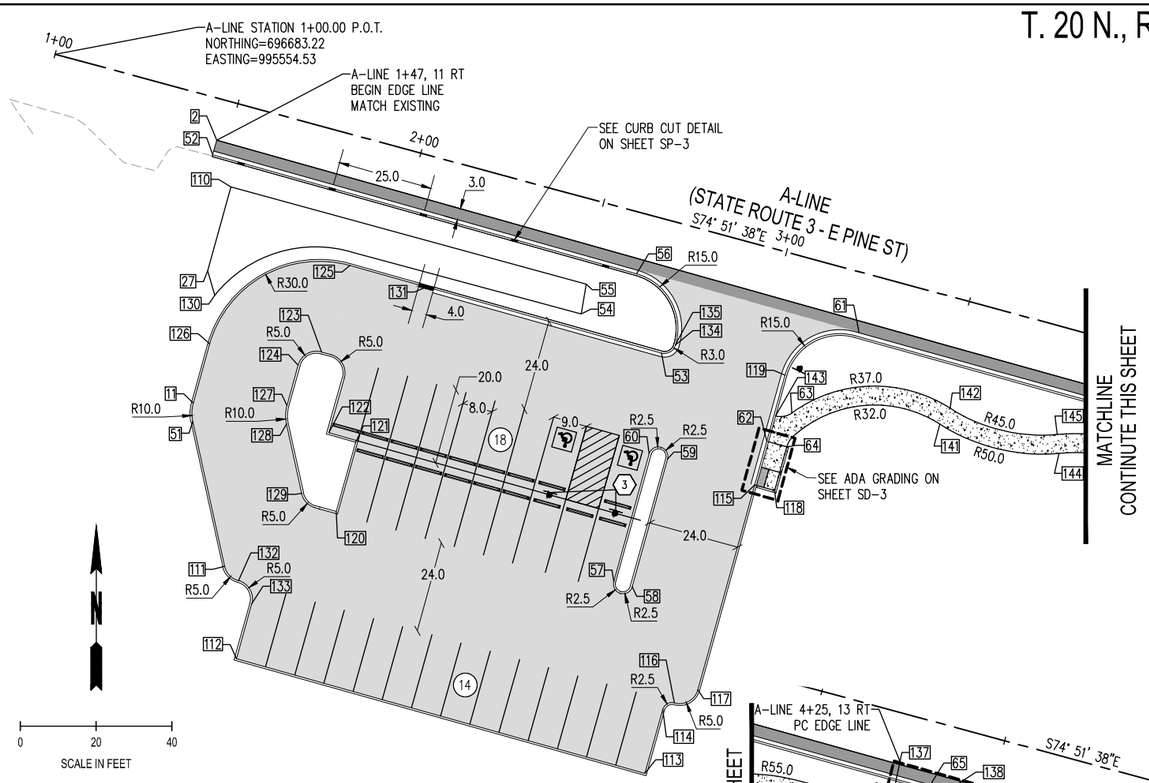
REMOVAL AND TESC DETAILS

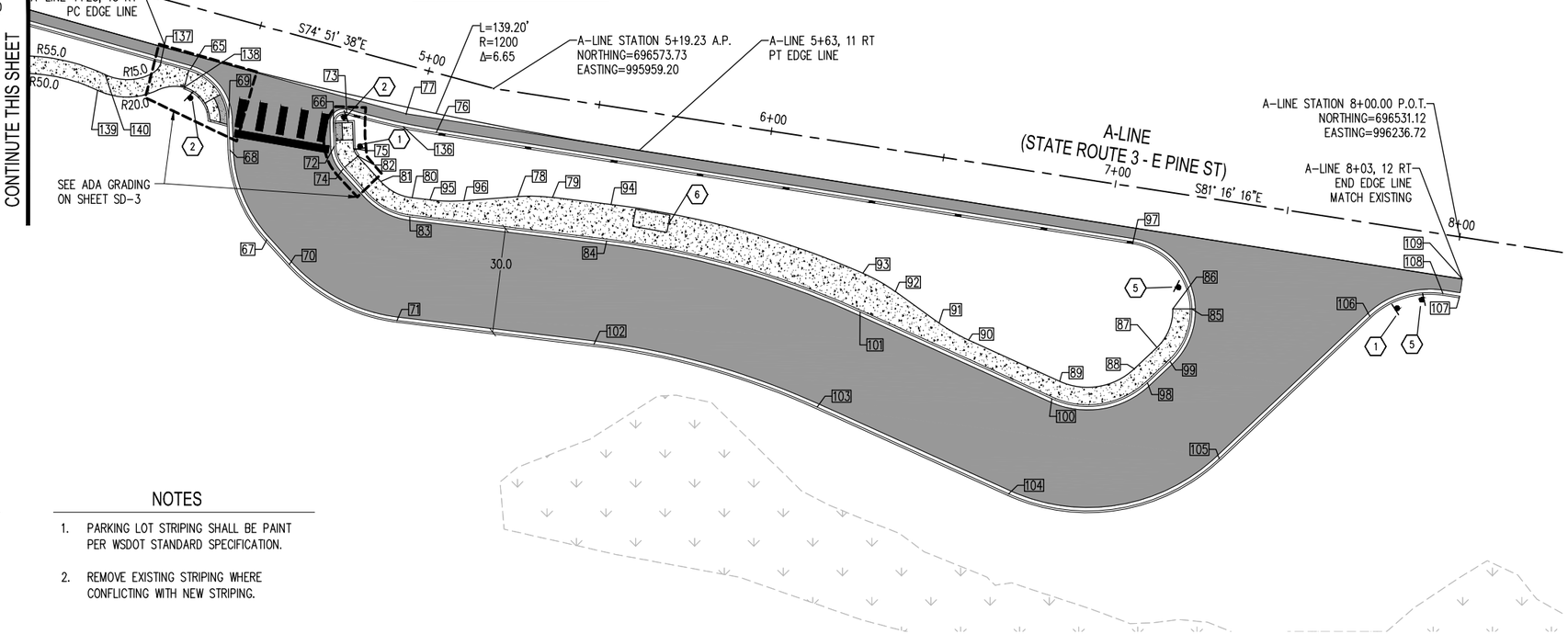
DRAWING No.: EC-2

SHEET No.: 4 OF 22

Jan 22, 2019 - 2:56:58pm — User: mike.johnson
N:\PROJECTS\0738 MASON TRANSIT AUTHORITY\0738.05 MTA PARK AND RIDE DEVELOPMENT\CADD\PEAR ORCHARD\0738.5--EC--2--PO.DWG

T. 20 N., R. 03 W., S 20, W.M.





POINT TABLE		
POINT #	NORTHING	EASTING
2	696660.51	995597.15
11	696591.11	995590.98
27	696626.09	995594.77
51	696586.29	995590.85
52	696656.69	995596.09
53	696604.36	995714.55
54	696614.65	995693.35
55	696622.51	995694.71
56	696625.26	995707.96
57	696544.00	995702.00
58	696542.67	995706.81
59	696576.40	995716.16
60	696577.73	995711.34
61	696609.71	995766.70
62	696581.08	995742.35
63	696588.55	995749.01
64	696579.61	995747.65
65	696579.30	995872.19
66	696561.10	995913.32
67	696530.27	995894.08

POINT TABLE		
POINT #	NORTHING	EASTING
68	696556.08	995883.47
69	696565.35	995883.16
70	696523.14	995900.55
71	696507.11	995931.51
72	696557.09	995913.46
73	696566.82	995917.03
74	696550.71	995916.05
75	696556.45	995918.98
76	696561.05	995942.74
77	696566.45	995934.07
78	696542.68	995966.24
79	696542.45	995976.19
80	696542.35	995935.82
81	696547.00	995926.84
82	696554.41	995920.12
83	696536.89	995935.15
84	696529.97	995991.69
85	696510.39	996159.78
86	696510.39	996154.28
87	696499.35	996149.74

POINT TABLE		
POINT #	NORTHING	EASTING
88	696493.21	996143.25
89	696489.62	996121.80
90	696501.48	996095.64
91	696506.36	996087.20
92	696515.38	996074.63
93	696520.67	996065.33
94	696540.39	995992.97
95	696541.72	995940.94
96	696541.50	995950.69
97	696529.65	996142.88
98	696489.22	996147.03
99	696495.36	996153.52
100	696484.61	996119.54
101	696509.54	996064.52
102	696500.19	995988.05
103	696482.21	996052.14
104	696457.29	996107.15
105	696467.41	996167.63
106	696508.30	996210.89
107	696514.09	996236.70

POINT TABLE		
POINT #	NORTHING	EASTING
108	696514.83	996231.89
109	696519.03	996237.43
110	696648.21	995600.91
111	696548.08	995599.25
112	696523.69	995602.36
113	696493.41	995710.19
114	696510.26	995714.92
115	696569.51	995739.15
116	696511.99	995718.00
117	696515.47	995724.17
118	696568.04	995744.45
119	696598.51	995747.19
120	696562.51	995628.71
121	696580.80	995633.85
122	696583.31	995626.76
123	696604.63	995624.84
124	696601.15	995618.67
125	696627.46	995632.30
126	696606.76	995595.33
127	696590.44	995615.70

POINT TABLE		
POINT #	NORTHING	EASTING
128	696585.62	995615.57
129	696567.30	995619.60
130	696619.60	995596.66
131	696621.79	995652.49
132	696544.30	995602.95
133	696538.13	995606.41
134	696606.44	995718.25
135	696606.81	995718.36
136	696562.76	995933.31
137	696581.16	995863.65
138	696574.10	995870.36
139	696573.22	995845.47
140	696577.74	995847.62
141	696585.58	995788.05
142	696589.79	995790.75
143	696587.78	995744.73
144	696577.87	995819.51
145	696582.85	995819.06

LEGEND

- PROPERTY LINE
- ACCESSIBLE PARKING (SEE DETAIL ON SHEET SP-3)
- WHEEL STOP PER DETAIL (SEE DETAIL ON SHEET SP-2)
- CEMENT CONCRETE TYPE C-1 CURB (SEE DETAIL ON SHEET SP-2)
- CURB CUT
- (X) STALL COUNT
- CONCRETE SIDEWALK (SEE DETAIL ON SHEET SP-2)
- ASPHALT PAVING (SEE DETAIL ON SHEET SP-2)
- HEAVY DUTY ASPHALT PAVING (SEE DETAIL ON SHEET SP-2)
- CROSSWALK LAYOUT (SEE DETAIL ON SHEET SP-3)
- PAINTED EDGE LINE (PER WSDOT STD. PLAN M-20.10)

CONSTRUCTION NOTES

1. INSTALL STOP SIGN (SEE DETAIL ON SHEET SP-3)
2. INSTALL DO NOT ENTER SIGN AND TRANSIT ONLY SIGN (SEE DETAIL ON SHEET SP-3)
3. INSTALL ACCESSIBLE PARKING SIGN AND VAN ACCESSIBLE SIGN (SEE DETAIL ON SHEET SP-3)
4. INSTALL ACCESSIBLE PARKING SIGN (SEE DETAIL ON SHEET SP-3)
5. INSTALL TRANSIT ONLY SIGN (SEE DETAIL ON SHEET SP-3)
6. HANDI HUT MODEL #4-2R BUS SHELTER. CONTRACTOR SHALL COORDINATE SHELTER ORDER WITH MTA AND PERMIT WITH CITY OF SHELTON. CONTRACTOR TO INSTALL.

STALL COUNT SUMMARY

PEAR ORCHARD PARKING LOT

EXISTING:	AVERAGES 12 CARS PER DAY
PROPOSED STALLS:	32 STALLS TO BE CONSTRUCTED

NOTES

1. PARKING LOT STRIPING SHALL BE PAINT PER WSDOT STANDARD SPECIFICATION.
2. REMOVE EXISTING STRIPING WHERE CONFLICTING WITH NEW STRIPING.

△	REVISIONS	DATE	BY
1	SHORELINE APPLICATION	12/12/17	SCJ
2	GRADING PERMIT	04/06/18	SCJ
3	WSDOT PERMIT	01/22/18	SCJ
4			

DESIGNED BY: P. HOLM
DRAWN BY: N.MAYFIELD
CHECKED BY: S. SAWYER
ISSUE DATE: APRIL 2018
JOB No.: 0738.05
DRAWING FILE No.: 0738.5-SP-1-PO

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

PATRICK HOLM — STATE OF WASHINGTON — 49801 — REGISTERED PROFESSIONAL ENGINEER

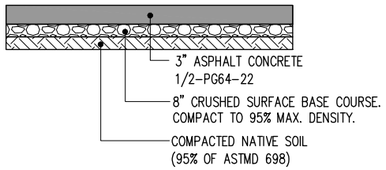
SCJ ALLIANCE
CONSULTING SERVICES
8730 TALLON LANE NE, SUITE 200, LACEY, WASHINGTON 98516
P: 360-352-1465 F: 360-352-1509
SCJALLIANCE.COM

PROJECT NAME:

MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

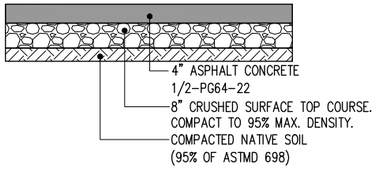
SITE PLAN & HORIZONTAL CONTROL PLAN

DRAWING No.: SP-1
SHEET No.: 5 OF 22



ASPHALT PAVING

NTS

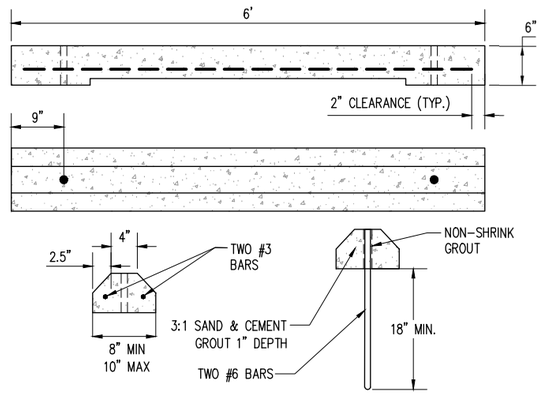


HEAVY DUTY ASPHALT PAVING

NTS

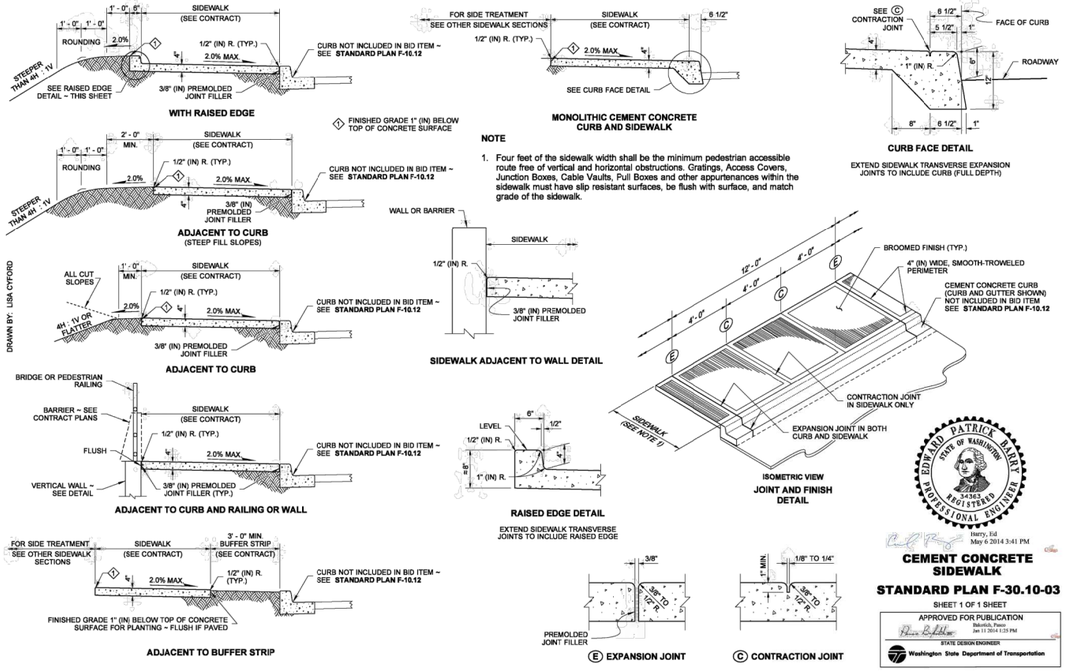
NOTES:

1. MATERIAL COMPACTION SHALL BE PER WSDOT STANDARD SPECIFICATIONS.
2. STRUCTURAL FILL SHALL BE PER INSIGHT GEOLOGIC GEOTTECHNICAL INVESTIGATION REPORT.
3. SUBGRADE PREPARATION SHALL BE PER INSIGHT GEOLOGIC GEOTECHNICAL INVESTIGATION REPORT.
4. THE CONTRACTOR SHALL BE AWARE THAT SOME OF THE NEAR SURFACE SOILS CONTAIN SIGNIFICANT FINES. WHEN THE MOISTURE CONTENT OF THE SOIL IS MORE THAN A FEW PERCENT ABOVE THE OPTIMUM MOISTURE CONTENT, THE SOIL WILL BECOME UNSTABLE AND IT MAY BECOME DIFFICULT OR IMPOSSIBLE TO MEET THE REQUIRED COMPACTION CRITERIA. DISTURBANCE OF NEAR SURFACE SOILS SHOULD BE EXPECTED IF EARTHWORK IS COMPLETED DURING PERIODS OF WET WEATHER. THE CONTRACTOR SHALL REVIEW INSIGHT GEOLOGIC GEOTECHINAL INVESTIGATION REPORT FOR ADDITIONAL INFORMATION.



PRECAST CEMENT CONCRETE (RAISED) WHEELSTOP

NTS



DRAWN BY: LISA CYFORD

EDWARD PATRICK BARRY — STATE OF WASHINGTON — 34363 — REGISTERED PROFESSIONAL ENGINEER

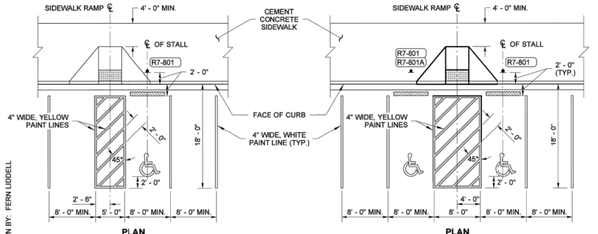
Barry, Ed
May 6 2014 3:41 PM

CEMENT CONCRETE SIDEWALK

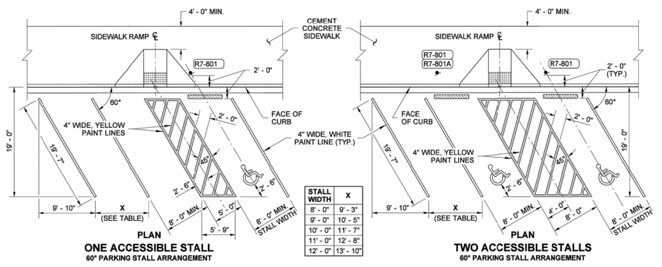
STANDARD PLAN F-30.10-03

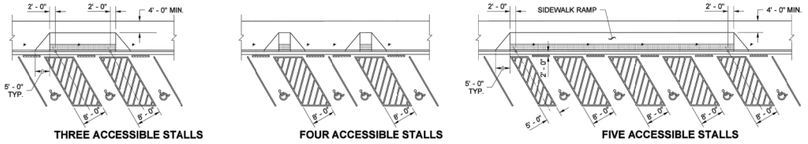
SHEET 1 OF 1 SHEET

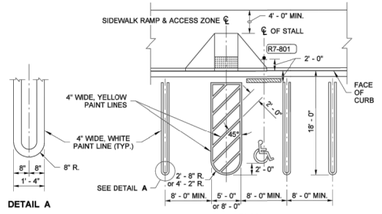
APPROVED FOR PUBLICATION
Melotich, Penny
Jan 11 2014 1:25 PM
STATE DESIGN ENGINEER
Washington State Department of Transportation



DRAWN BY: FERN LIDDELL







NOTES

1. Three, four and five accessible stall arrangements may be either 60° (angled) or 90° (perpendicular) parking arrangements. See Contract.
2. An Access Parking Space Symbol is required for each accessible parking stall. A blue background and white border are required when the symbol is installed on a cement concrete surface.
3. All accessible stalls shall have wheel stops. Place wheel stops in other stalls when specified in the contract. Wheel stops shall be approximately 6" high and a minimum of 6' long.
4. Refer to the Standard Plans for sidewalk ramp, detectable warning pattern, and curb details.

LEGEND

- R7-801 Reserved Parking Sign and post with R7-801A Plaque, if indicated (See Sign Fabrication Manual)
- Access Parking Space Symbol
- Manufactured wheel stop
- Detectable Warning Pattern

THEODORE J. TREPANIER — STATE OF WASHINGTON — 25326 — REGISTERED PROFESSIONAL ENGINEER — EXPIRES AUGUST 9, 2009

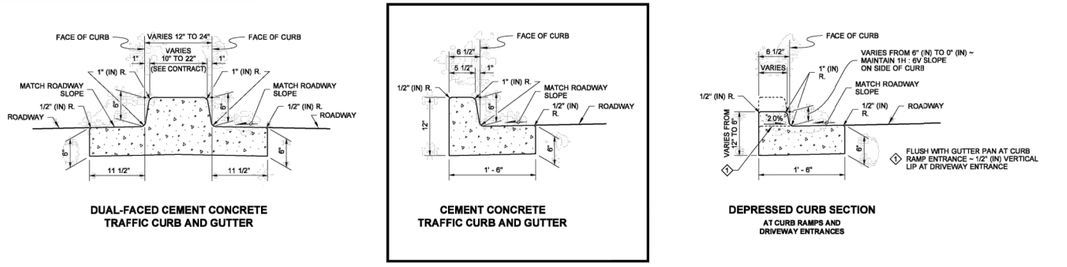
NOTE: THIS PLAN SHEET IS AN ELECTRONIC DOCUMENT CONSISTING OF GRAPHICS AND TEXT. ANY MODIFICATIONS MADE TO THIS PLAN SHEET BY ANY PARTY OTHER THAN THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) SHALL CONSTITUTE A REVISED DOCUMENT. WSDOT DISCLAIMS RESPONSIBILITY FOR ANY CONTENT, LAYOUT OR APPEARANCE OF ANY REVISED DOCUMENT.

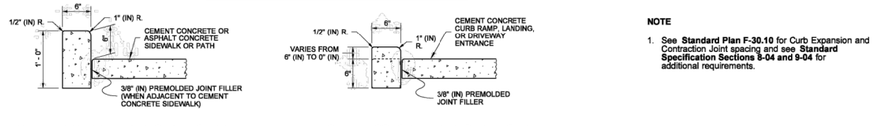
PARKING SPACE LAYOUTS

STANDARD PLAN M-17.10-02

SHEET 1 OF 1 SHEET

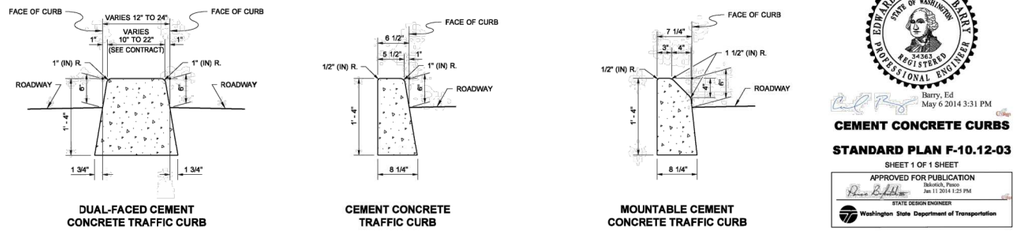
APPROVED FOR PUBLICATION
Pasco Bakotich III 07-03-08
STATE DESIGN ENGINEER — DATE
Washington State Department of Transportation





NOTE

1. **See Standard Plan F-30.10** for Curb Expansion and Contraction Joint spacing and **see Standard Specification Sections 8-04 and 9-04** for additional requirements.



DRAWN BY: FERN LIDDELL

EDWARD PATRICK BARRY — STATE OF WASHINGTON — 34363 — REGISTERED PROFESSIONAL ENGINEER

Barry, Ed
May 6 2014 3:31 PM

CEMENT CONCRETE CURBS

STANDARD PLAN F-10.12-03

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Melotich, Penny
Jan 11 2014 1:25 PM
STATE DESIGN ENGINEER
Washington State Department of Transportation

△	REVISIONS	DATE	BY
1	SHORELINE APPLICATION	12/12/17	SCJ
2	GRADING PERMIT	04/06/18	SCJ
4	WSDOT PERMIT	01/22/18	SCJ

DESIGNED BY: P. HOLM
DRAWN BY: N.MAYFIELD
CHECKED BY: S. SAWYER
ISSUE DATE: APRIL 2018
JOB No.: 0738.05
DRAWING FILE No.: 0738,5-SP-2-PO

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

PATRICK HOLM — STATE OF WASHINGTON — 39801 — REGISTERED PROFESSIONAL ENGINEER

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CONSULTING SERVICES
8730 TALLON LANE NE, SUITE 200, LACEY, WASHINGTON 98516
P: 360-352-1465 F: 360-352-1509
SCJALLIANCE.COM

PROJECT NAME:

MTA

MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

SITE PLAN & HORIZONTAL CONTROL PLAN

DRAWING No.: SP-2

SHEET No.: 6 OF 22

Jan 22, 2019 3:00:22pm - User: mike.johnson
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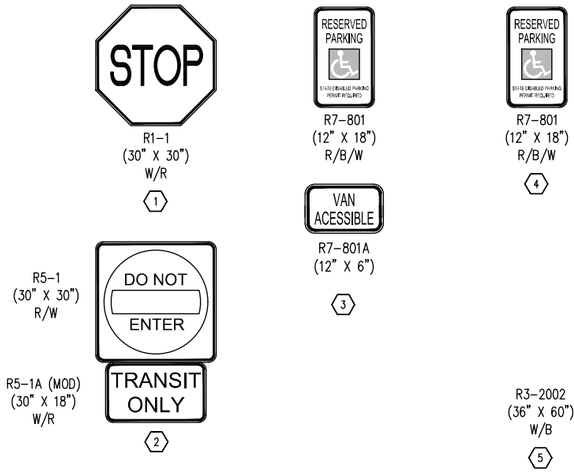
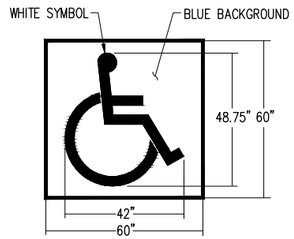


SIGNING DETAIL
NTS

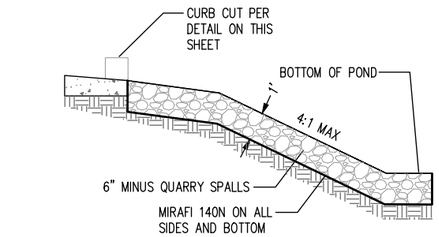
SIGN NOTE:
ALL SIGNS SHALL BE 2" SOLID GROUTED STEEL AND MANUFACTURED AND INSTALLED PER 2018 WSDOT STANDARD SPECIFICATIONS IN ACCORDANCE WITH THE STATE OF WASHINGTON SIGN FABRICATION MANUAL AND/OR THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, 2009 EDITION. ALL SIGN SUPPORTS SHALL BE PER WSDOT STANDARD PLAN G-24.50.

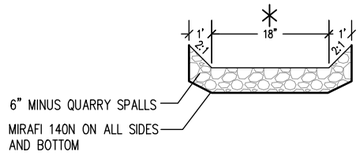


ACCESSIBLE PARKING SYMBOL
LOCATE AT EDGE OF PARKING SPACE

NOTES:
1. SEE SITE PLAN FOR COMPLETE LAYOUT.
2. THESE DETAILS ARE FOR REFERENCE AND DIMENSION CONTROL ONLY.
3. ALL DIMENSIONS ARE TO CENTER OF STRIPE UNLESS OTHERWISE INDICATED.

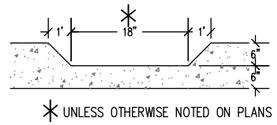
STRIPING AND SYMBOL (PAINT)
NTS





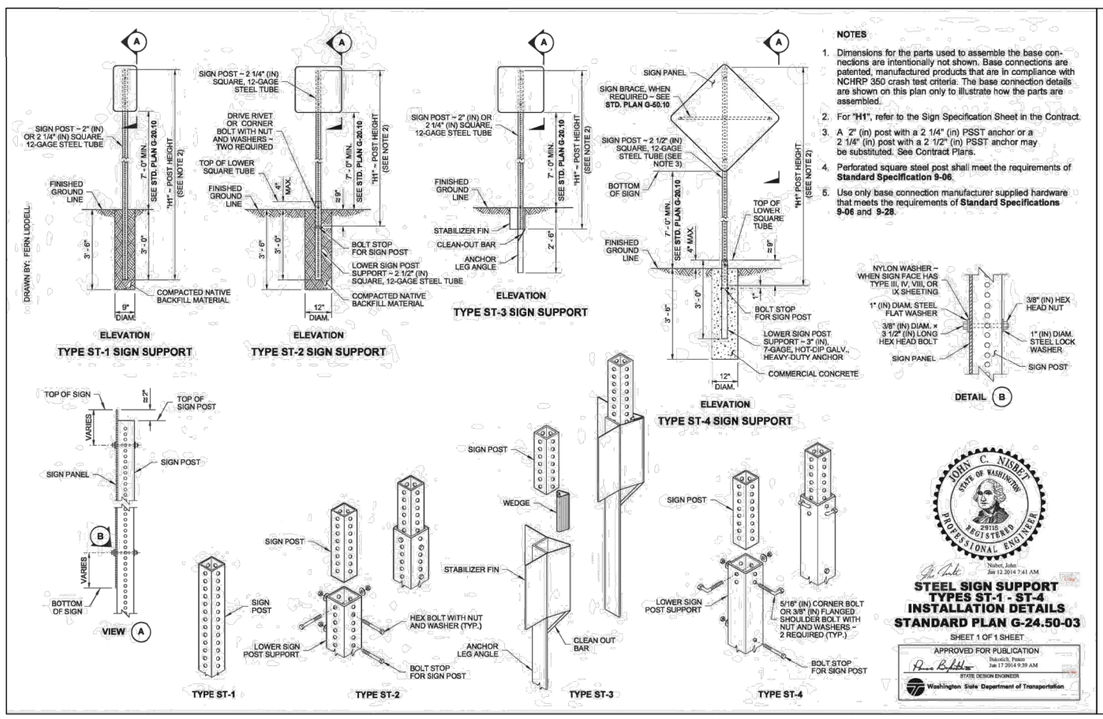
✳ UNLESS OTHERWISE NOTED ON PLANS

QUARRY SPALL SPILLWAY
NTS



✳ UNLESS OTHERWISE NOTED ON PLANS

CURB CUT
NTS



NOTES

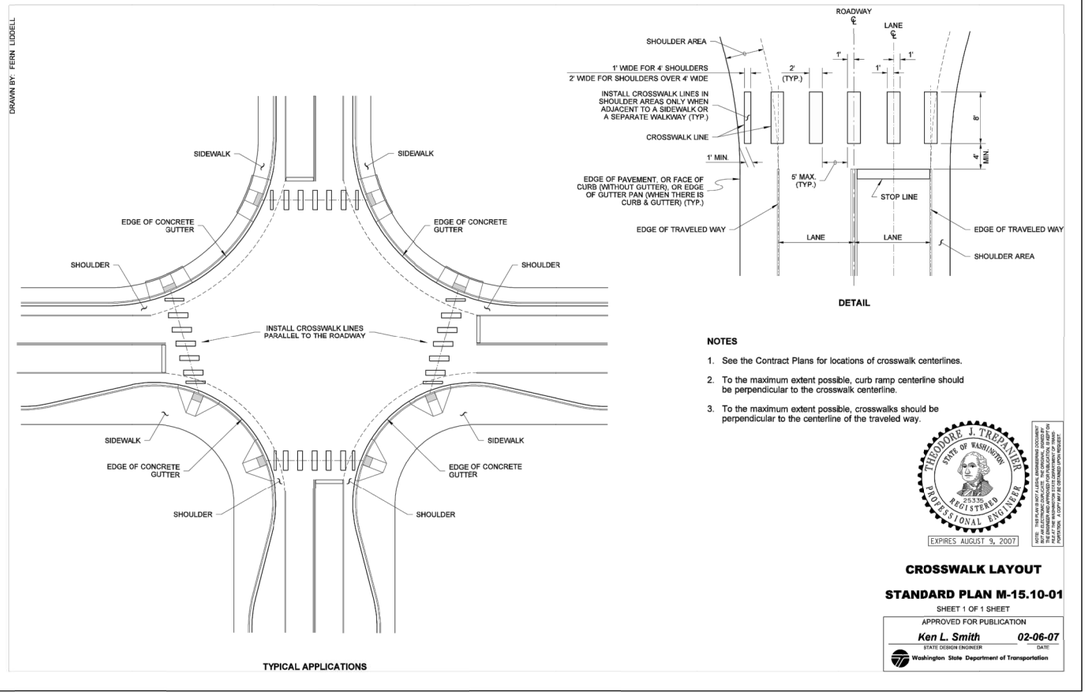
1. Dimensions for the parts used to assemble the base connections are intentionally not shown. Base connections are patented, manufactured products that are in compliance with NCHRP 350 crash test criteria. The base connection details are shown on this plan only to illustrate how the parts are assembled.
2. For "H1", refer to the Sign Specification Sheet in the Contract.
3. A 2" (in) post with a 2 1/4" (in) PSST anchor or a 2 1/4" (in) post with a 2 1/2" (in) PSST anchor may be substituted. See Contract Plans.
4. Perforated square steel post shall meet the requirements of **Standard Specification 9-06**.
5. Use only base connection manufacturer supplied hardware that meets the requirements of **Standard Specifications 9-06** and **9-28**.

John C. Nisbet, State of Washington, 23112, Registered Professional Engineer
Nisbet, John
Jan 12 2014 7:41 AM

STEEL SIGN SUPPORT TYPES ST-1 - ST-4 INSTALLATION DETAILS
STANDARD PLAN G-24.50-03
SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION
Tukovich, Tonia
Jan 17 2014 9:39 AM
STATE DESIGN ENGINEER
Washington State Department of Transportation

DRAWN BY: FERN LIDDELL



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.

Theodore J. Trepanier, State of Washington, 29336, Registered Professional Engineer
EXPIRES AUGUST 9, 2007

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

	REVISIONS	DATE	BY
1	SHORELINE APPLICATION	12/12/17	SCJ
2	GRADING PERMIT	04/06/18	SCJ
3	WSDOT PERMIT	01/22/18	SCJ

DESIGNED BY: P. HOLM
DRAWN BY: N.MAYFIELD
CHECKED BY: S. SAWYER
ISSUE DATE: APRIL 2018
JOB No.: 0738.05
DRAWING FILE No.: 0738,5-SP-3-PO

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

Patrick Holm, State of Washington, 40902, Registered Professional Engineer

SCJ ALLIANCE
CONSULTING SERVICES
8730 TALLON LANE NE, SUITE 200, LACEY, WASHINGTON 98516
P: 360-352-1465 F: 360-352-1509
SCJALLIANCE.COM

PROJECT NAME:
MTA

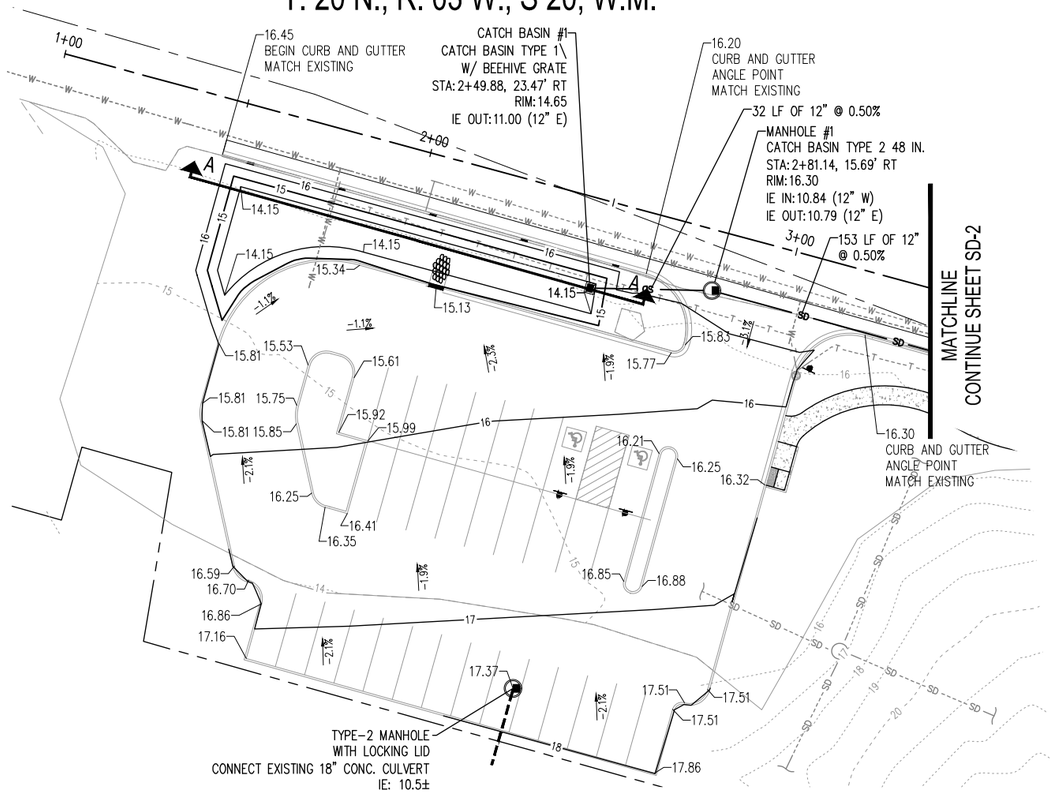
MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

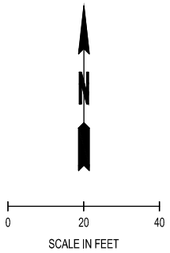
SITE PLAN DETAILS

DRAWING No.: SP-3
SHEET No.: 7 OF 22

Jan 22, 2019 - 3:09:36pm – User: mike.johnson
N:\PROJECTS\0738 MASON TRANSIT AUTHORITY\0738.05 MTA PARK AND RIDE DEVELOPMENT\CADD\PEAR ORCHARD\0738,5--SP--3--PO.DWG

T. 20 N., R. 03 W., S 20, W.M.





CUT/FILL DATA

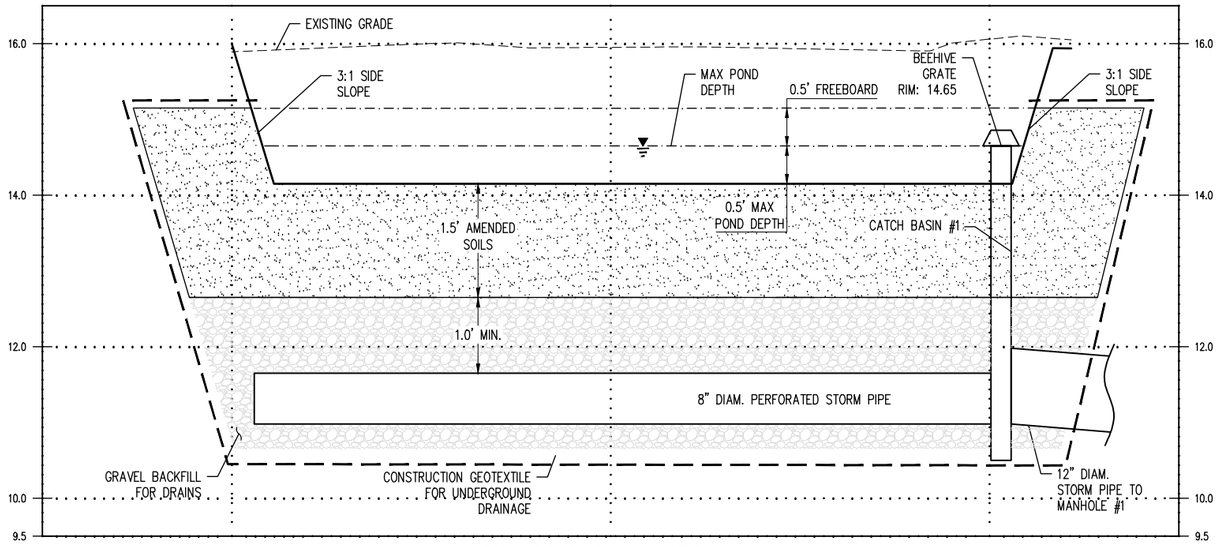
PEAR ORCHARD PARKING LOT
TOTAL CUT: 290 CUBIC YARDS
TOTAL FILL: 895 CUBIC YARDS
NET: 605 CUBIC YARDS (FILL)

LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED UTILITY EASEMENT (WATER, SEWER, STORM)
- SD — SCHEDULE A STORM SEWER PIPE 12 IN. DIAM.
- XXX.XX — SPOT ELEVATION
- 0.00% — SLOPE LABEL
- CATCH BASIN TYPE 1
- CATCH BASIN TYPE 2
- 5'x6'x1' DEEP HAND PLACED RIPRAP
- CURB CUT

NOTE:

1. SPOT ELEVATIONS ARE TO FLOWLINE NOT TOP OF CURB UNLESS NOTED OTHERWISE.
2. CONTRACTOR SHALL FIELD VERIFY ALL CATCH BASIN RIM AND INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. CONTRACTOR SHALL CONTACT CIVIL ENGINEER IF THE ELEVATIONS ARE DIFFERENT THAN THOSE INDICATED ON THIS SHEET.



TYPICAL POND CROSS SECTION (A-A)
NTS

	REVISIONS	DATE	BY
1	SHORELINE APPLICATION	12/12/17	SCJ
2	GRADING PERMIT	04/06/18	SCJ
3	WSDOT PERMIT	01/22/18	SCJ

DESIGNED BY: P. HOLM
DRAWN BY: N.MAYFIELD
CHECKED BY: S. SAWYER
ISSUE DATE: APRIL 2018
JOB No.: 0738.05
DRAWING FILE No.: 0738.5-SD-1-PO

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

PATRICK HOLM — STATE OF WASHINGTON — 19941 — REGISTERED PROFESSIONAL ENGINEER

SCJ ALLIANCE
CONSULTING SERVICES
8730 TALLON LANE NE, SUITE 200, LACEY, WASHINGTON 98516
P: 360-352-1465 F: 360-352-1509
SCJALLIANCE.COM

PROJECT NAME:

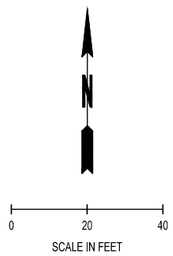
MTA

MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

GRADING AND DRAINAGE PLAN

DRAWING No.: SD-1
SHEET No.: 8 OF 22

T. 20 N., R. 03 W., S 20, W.M.



CUT/FILL DATA

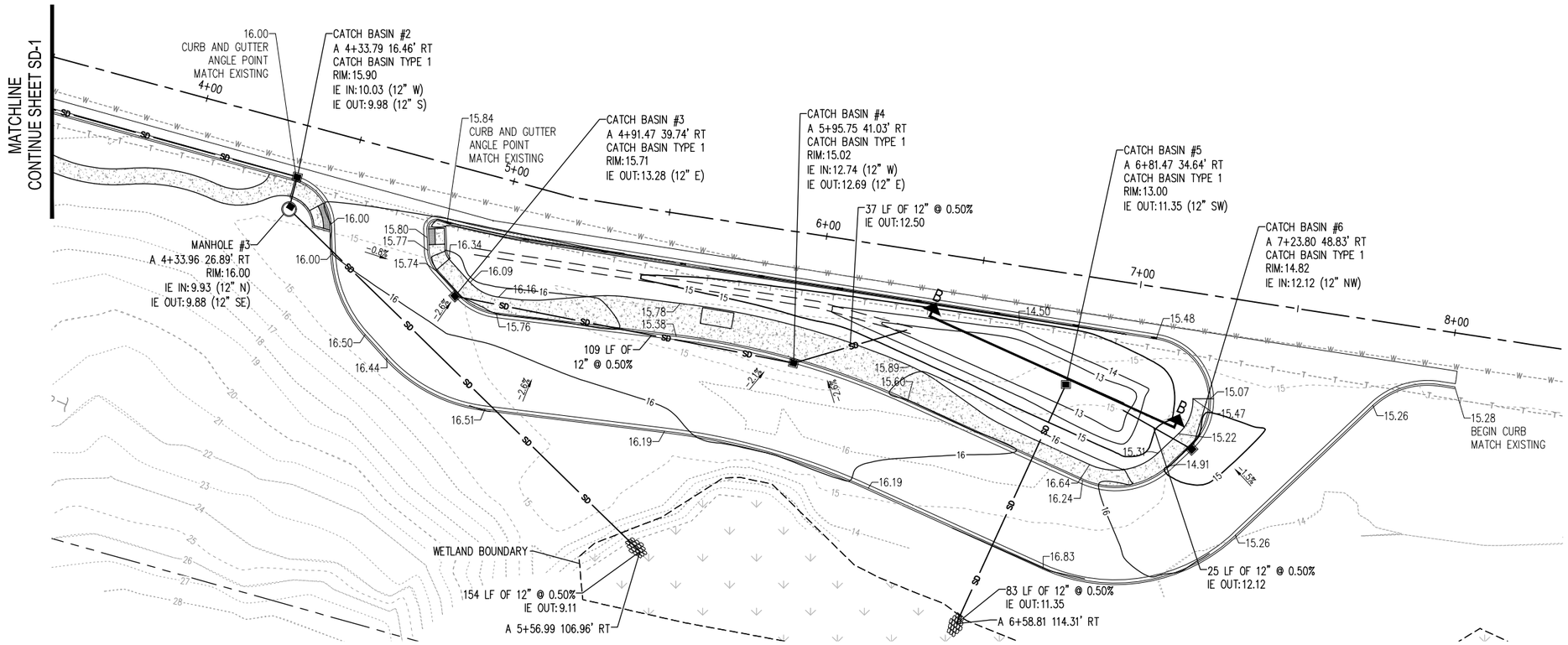
PEAR ORCHARD PARKING LOT
TOTAL CUT: 290 CUBIC YARDS
TOTAL FILL: 895 CUBIC YARDS
NET: 605 CUBIC YARDS (FILL)

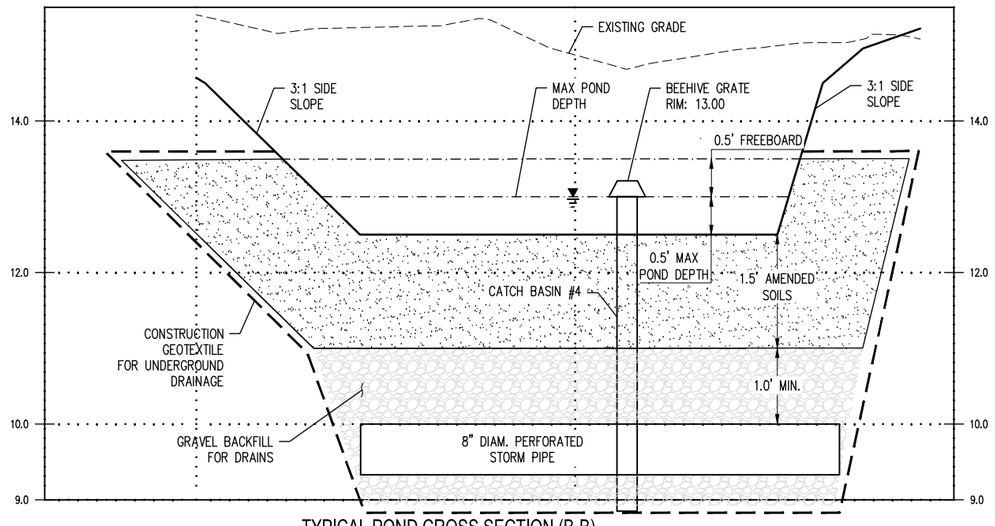
LEGEND

- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED UTILITY EASEMENT (WATER, SEWER, STORM)
- SD — SCHEDULE A STORM SEWER PIPE 12 IN. DIAM.
- XXX.XX — SPOT ELEVATION
- 0.00% — SLOPE LABEL
- CATCH BASIN TYPE 1
- CATCH BASIN TYPE 2
- 5'x6'x1' DEEP HAND PLACED RIPRAP
- CURB CUT

NOTE:

1. SPOT ELEVATIONS ARE TO FLOWLINE NOT TOP OF CURB UNLESS NOTED OTHERWISE.
2. CONTRACTOR SHALL FIELD VERIFY ALL CATCH BASIN RIM AND INVERT ELEVATIONS PRIOR TO COMMENCEMENT OF CONSTRUCTION. CONTRACTOR SHALL CONTACT CIVIL ENGINEER IF THE ELEVATIONS ARE DIFFERENT THAN THOSE INDICATED ON THIS SHEET.





TYPICAL POND CROSS SECTION (B-B)
NTS

	REVISIONS	DATE	BY
1	SHORELINE APPLICATION	12/12/17	SCJ
2	GRADING PERMIT	04/06/18	SCJ
3	WSDOT PERMIT	01/22/18	SCJ

DESIGNED BY: P. HOLM
DRAWN BY: N.MAYFIELD
CHECKED BY: S. SAWYER
ISSUE DATE: APRIL 2018
JOB No.: 0738.05
DRAWING FILE No.: 0738.5-SD-2-PO

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

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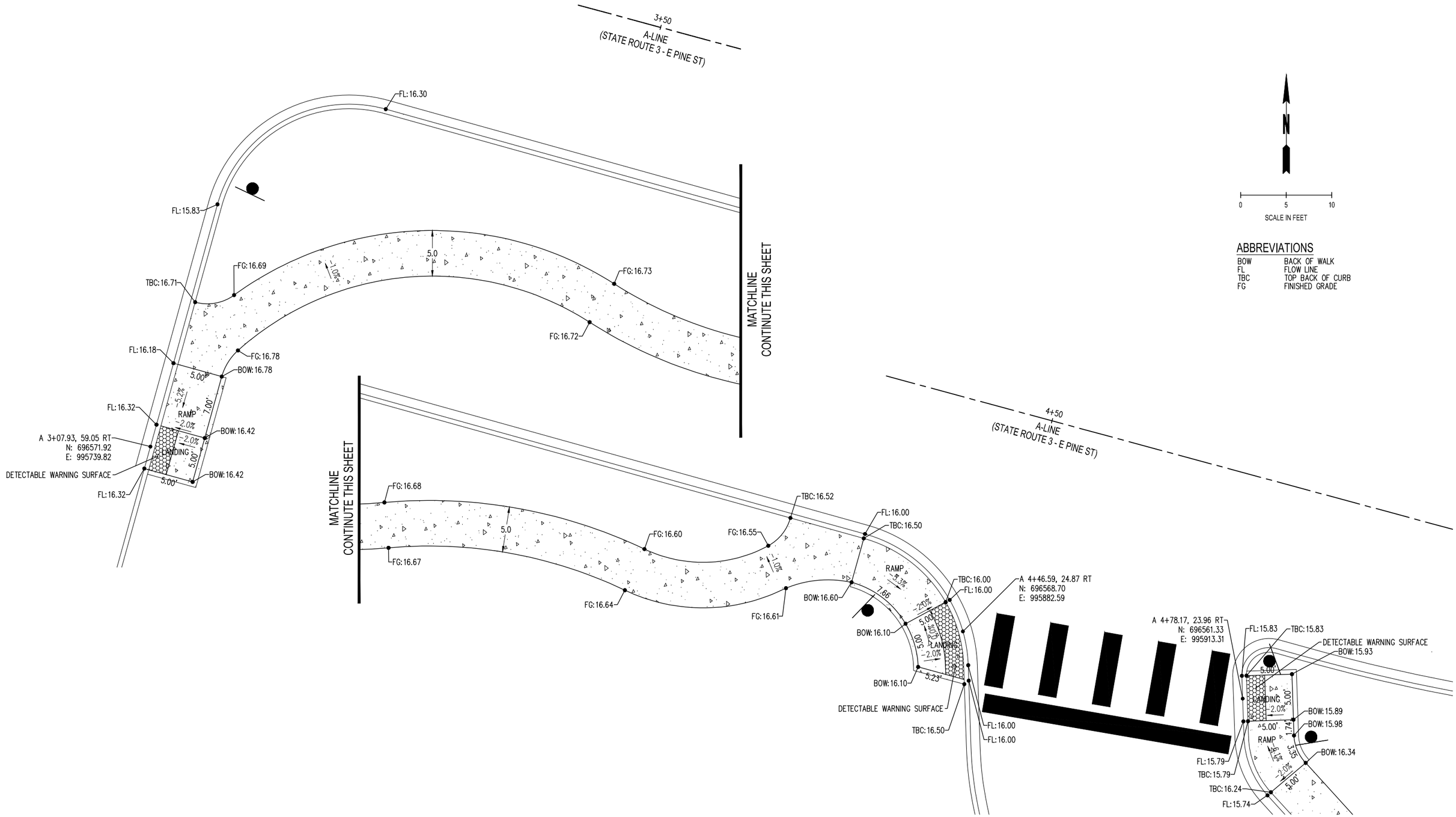
PROJECT NAME:

MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

GRADING AND DRAINAGE PLAN

DRAWING No.: SD-2
SHEET No.: 9 OF 22

T. 20 N., R. 03 W., S 20, W.M.



ABBREVIATIONS

BOW	BACK OF WALK
FL	FLOW LINE
TBC	TOP BACK OF CURB
FG	FINISHED GRADE

	REVISIONS	DATE	BY
1	SHORELINE APPLICATION	12/12/17	SCJ
2	GRADING PERMIT	04/06/18	SCJ
3	WSDOT PERMIT	01/22/18	SCJ
4			

DESIGNED BY: P. HOLM
DRAWN BY: N.MAYFIELD
CHECKED BY: S. SAWYER
ISSUE DATE: APRIL 2018
JOB No.: 0738.05
DRAWING FILE No.: 0738.5-SD-3-PO

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PROJECT NAME:

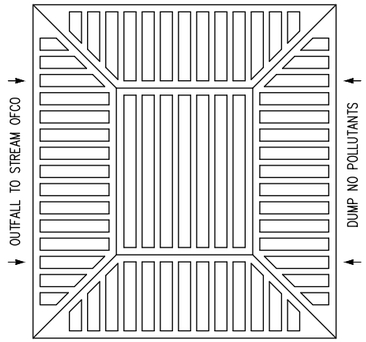
MTA

MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

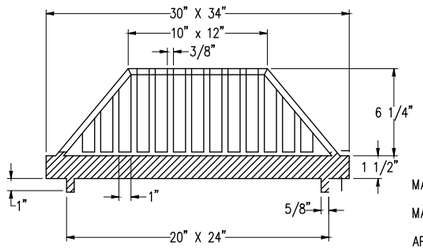
RAMP GRADING DETAILS

DRAWING No.: SD-3

SHEET No.: 10 OF 22



PLAN VIEW



SECTION VIEW

SPECIFICATIONS

MANUFACTURER: OLYMPIC FOUNDARY INC.

MATERIAL: DUCTILE IRON ASTM A536, CL 80-55-06

APPROXIMATE WEIGHT: 100 LBS.

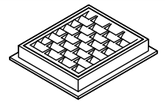
RATING: H-20

PART NO. SM60BH

BEEHIVE GRATE FOR USE WITH SM60 30"X34" REV FRAME

NTS

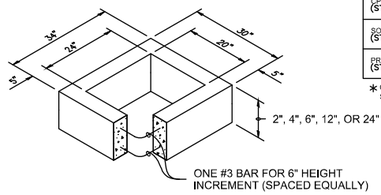
DRAWN BY: LISA CYFORD



FRAME AND VANED GRATE

PIPE ALLOWANCES	
PIPE MATERIAL	**MAXIMUM INSIDE DIAMETER**
REINFORCED OR PLAIN CONCRETE	12"
ALL METAL PIPE	15"
CPSSP * **(STD. SPEC. 9-05.20)**	12"
SOLID WALL PVC **(STD. SPEC. 9-05.12(1))**	15"
PROFILE WALL PVC **(STD. SPEC. 9-05.12(2))**	15"

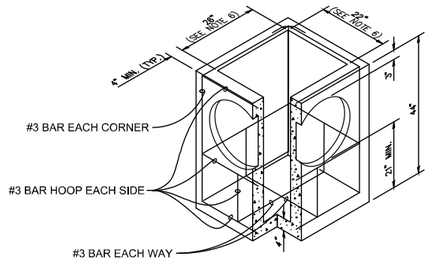
* CORRUGATED POLYETHYLENE STORM SEWER PIPE



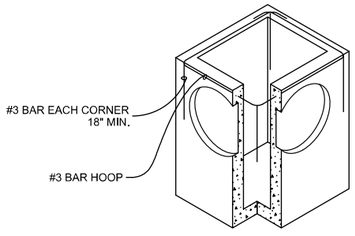
RECTANGULAR ADJUSTMENT SECTION

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 20". Knockouts shall have a wall thickness of 2" minimum to 2.5" maximum. Provide a 1.5" 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 9-04.3.
3. The maximum depth from the finished grade to the lowest pipe invert shall be 5'.
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.



PRECAST BASE SECTION



(SEE NOTE 1)

ALTERNATIVE PRECAST BASE SECTION

CATCH BASIN TYPE 1

SHEET 1 OF 1 SHEET

06-16-11

	REVISIONS	DATE	BY
1	SHORELINE APPLICATION	12/12/17	SCJ
2	GRADING PERMIT	04/06/18	SCJ
4	WSDOT PERMIT	01/22/18	SCJ

DESIGNED BY: P. HOLM
DRAWN BY: N.MAYFIELD
CHECKED BY: S. SAWYER
ISSUE DATE: APRIL 2018
JOB No.: 0738.05
DRAWING FILE No.: 0738.5-SD-4-PO

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PROJECT NAME:

MTA

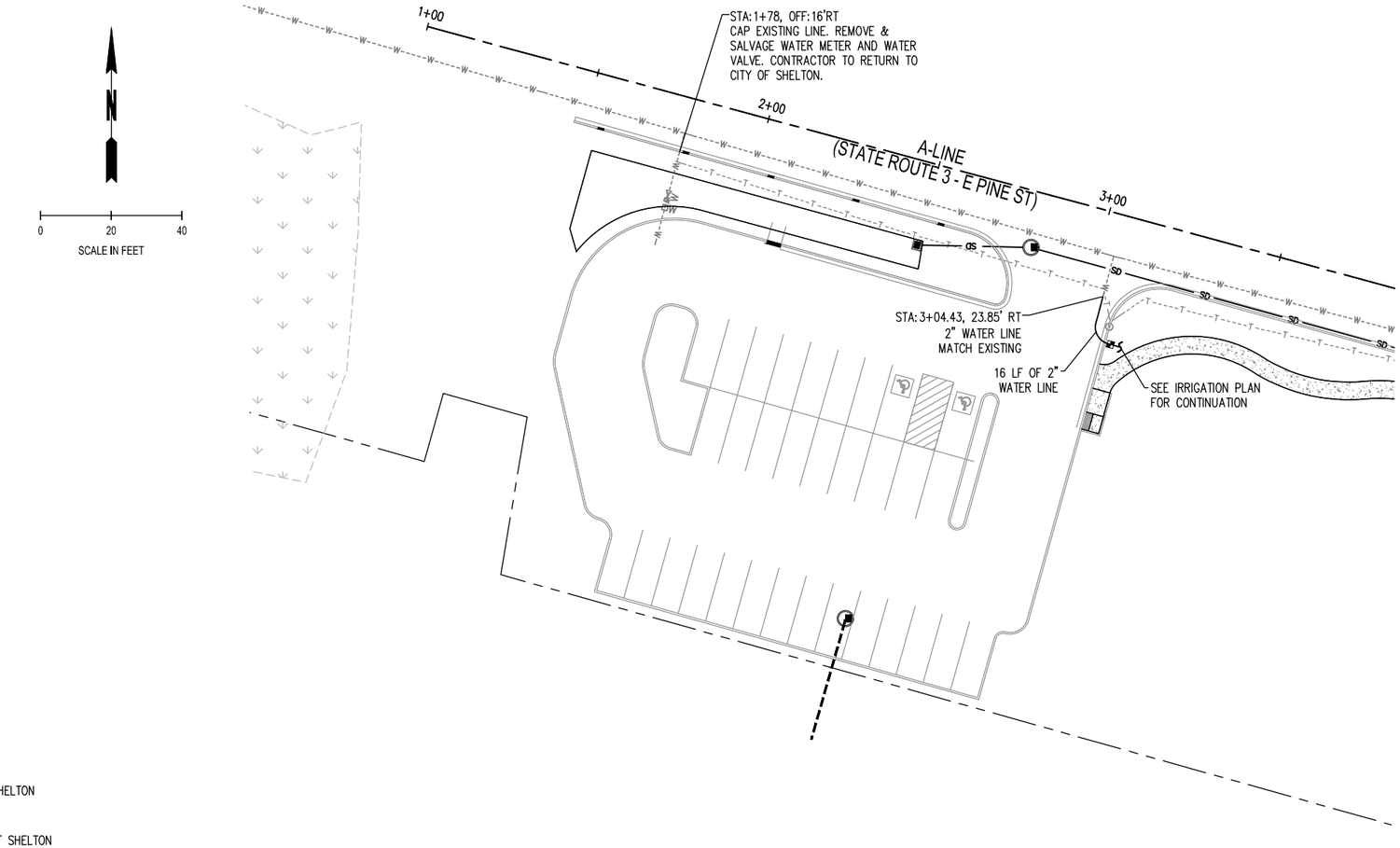
MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

DRAINAGE DETAILS

DRAWING No.: SD-4

SHEET No.: 11 OF 22

T. 20 N., R. 03 W., S 20, W.M.



LEGEND:

- EXISTING WATER LINE
- EXISTING FIRE HYDRANT
- PROPOSED WATERLINE PER CITY OF SHELTON DETAIL W-03
- PROPOSED WATER METER PER CITY OF SHELTON DETAIL W-03

	REVISIONS	DATE	BY
1	SHORELINE APPLICATION	12/12/17	SCJ
2	GRADING PERMIT	04/06/18	SCJ
3	WSDOT PERMIT	01/22/18	SCJ

DESIGNED BY: P. HOLM
DRAWN BY: N.MAYFIELD
CHECKED BY: S. SAWYER
ISSUE DATE: APRIL 2018
JOB No.: 0738.05
DRAWING FILE No.: 0738.5-UT-1-PO

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PROJECT NAME:

MTA

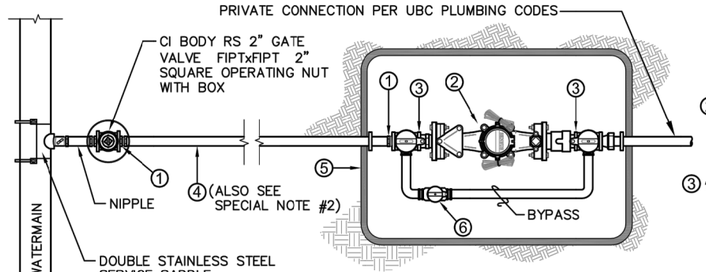
MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

UTILITY PLAN

DRAWING No.: UT-1

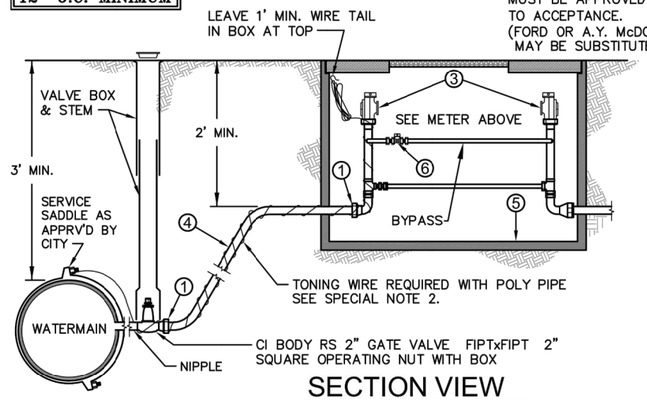
SHEET No.: 12 OF 22

T. 20 N., R. 03 W., S 20, W.M.



PLAN VIEW
NTS

ALL TAPS: 12" O.C. MINIMUM



SECTION VIEW
NTS

KEYNOTES

① 2"–MIPT x 110 COMPRESSION 2" ADAPTER MUELLER #15428

②* 1–1/2" OR 2" WATER METER SENSUS OMNI C2 CUBIC FT. READ.

③** MUELLER 2" COPPER METER YOKE W/ ELEVATED BYPASS #B–2423–2–99000 MINIMUM SIZE OF 12" TALL MAXIMUM OF 27" FIPTxFIPT

④ 2"ø TYPE K COPPER PIPE OR APPROVED PLASTIC (200 PSI POLYETHYLENE COPPER TUBING O.D.)

⑤ METER BOX TO BE: MID STATES BOX #BCF173012B LID #BCF1730RL

⑥ BYPASS SHUTOFF VALVE

NOTE:
PRECAST CONCRETE ENCLOSURE WITH STEEL ACCESS HATCH (AS MANUFACTURED BY UTILITY VAULT CO. OR AN APPROVED EQUAL.

*ALL OTHER FITTINGS TO REMAIN 2"

**OTHER CONFIGURATIONS MAY BE USED TO BEST FIT YOUR NEEDS. HOWEVER, THEY MUST BE APPROVED BY THE CITY PRIOR TO ACCEPTANCE. (FORD OR A.Y. McDONALD FITTINGS MAY BE SUBSTITUTED.)

APPROVED METER BOXES:

MID STATES PLASTICS, INC. BCF SERIES BOX W/ CAST IRON READER STYLE LID PART # MSBCF1324–18

SPECIAL NOTES:

1. MINIMUM 15 FT. SEPARATION TO ADJACENT SERVICES.
2. 14 GAUGE BLUE COATED TONING WIRE MUST BE WRAPPED AROUND PIPE WHEN POLY PIPE IS USED. CONNECT TO SADDLE OR MECHANICALLY BOND TO EX. WIRE ON MAIN.

"Building A Stronger Community TOGETHER"

1½" - 2" WATER SERVICE INSTALLATION

APPROVED:

CITY ENGINEER DATE

DATE: 07/29/14 BY: SW DWG# W-03

	REVISIONS	DATE	BY
1	SHORELINE APPLICATION	12/12/17	SCJ
2	GRADING PERMIT	04/06/18	SCJ
3	WSDOT PERMIT	01/22/18	SCJ
4			

DESIGNED BY: P. HOLM
DRAWN BY: N.MAYFIELD
CHECKED BY: S. SAWYER
ISSUE DATE: APRIL 2018
JOB No.: 0738.05
DRAWING FILE No.: 0738,5-UT-2-PO

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PROJECT NAME:

MTA

MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

UTILITY DETAILS

DRAWING No.: UT-2
SHEET No.: 13 OF 22

Jan 22, 2019 - 9:01:41am - User: mike.johnson
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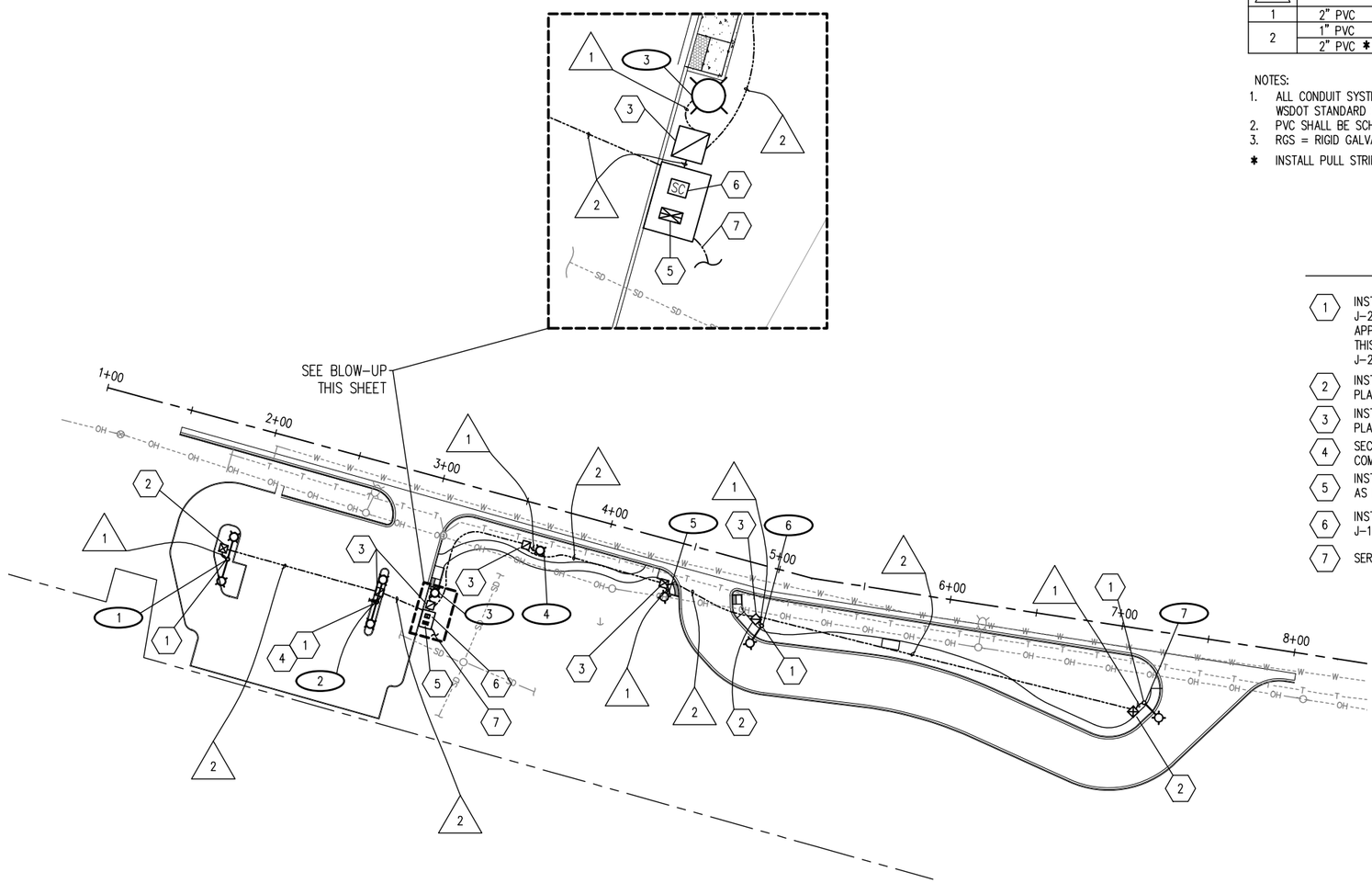
T. 20 N., R. 03 W., S 20, W.M.

LEGEND

EXISTING	NEW	
	⊠	TYPE 1 JUNCTION BOX, J-40.10
	⊠	TYPE 2 JUNCTION BOX, J-40.10
	SC	SECURITY CAMERA EQUIPMENT CABINET
	⊠	ILLUMINATION SERVICE CABINET
		SECURITY CAMERA
		ILLUMINATION CONDUIT
		SECURITY CAMERA CONDUIT
----OH----		OVERHEAD POWER
----P----		UNDERGROUND POWER
----T----		UNDERGROUND TELEPHONE
----W----		WATER LINE
----SS----		SANITARY SEWER LINE
		POWER POLE
		POLE TOP LIGHT STANDARD
		SINGLE ARM LIGHT STANDARD
		DOUBLE ARM LIGHT STANDARD
	X	WIRE NOTE
	X	CONSTRUCTION NOTE
	X	LUMINAIRE NUMBER



WIRING SCHEDULE

RUN NO. △	CONDUIT SIZE	WIRE/CABLE #2 AWG	#6 AWG	#8 AWG GRND.	#8 AWG	CAM COAX/ 5C	REMARKS
1	2" PVC			1	2		ILLUMINATION
2	1" PVC			1	2		ILLUMINATION
	2" PVC ✱						SECURITY CAMERA SYSTEM

NOTES:
1. ALL CONDUIT SYSTEMS SHALL HAVE CONTINUOUS GREEN GROUND WIRE PER WSDOT STANDARD SPECIFICATIONS. SEE ALSO WSDOT STANDARD PLAN J-60.05.
2. PVC SHALL BE SCHEDULE 80.
3. RGS = RIGID GALVANIZED STEEL

✱ INSTALL PULL STRING FOR FUTURE USE PER WSDOT STANDARD SPECIFICATION 8-20.3(5)A

CONSTRUCTION NOTES

1. INSTALL TYPE B FOUNDATION (METHOD 2) PER WSDOT STANDARD PLAN J-28.30. INSTALL NEW LIGHT STANDARD AND ASSOCIATED HARDWARE PER APPLICABLE WSDOT J-SERIES STANDARD PLANS. SEE LIGHTING SCHEDULE THIS SHEET. LIGHT STANDARD PLACEMENT CASE L PER STD. PLAN J-28.26.
2. INSTALL TYPE 1 JUNCTION BOX WITH LOCKING LID PER WSDOT STANDARD PLAN J-40.10.
3. INSTALL TYPE 2 JUNCTION BOX WITH LOCKING LID PER WSDOT STANDARD PLAN J-40.10.
4. SECURITY CAMERA AND CABLE TO BE INSTALLED BY HOOD CANAL COMMUNICATIONS.
5. INSTALL SERVICE CABINET PER WSDOT STANDARD PLAN J-10.20 AS DIRECTED BY MASON COUNTY PUD 3.
6. INSTALL SECURITY CAMERA EQUIPMENT PER WSDOT STANDARD PLAN J-10.20 AS DIRECTED BY HOOD CANAL COMMUNICATIONS.
7. SERVICE CONNECTION TO BE INSTALLED BY MASON COUNTY PUD 3.

LIGHTING SCHEDULE

LUM NO.	SERVICE NO.	CIRCUIT NO.	TYPE-DISTRIBUTION-WATTAGE	MTG. HT. (H1)	MAST ARM LENGTH(FT)	MAST ARM TYPE	BASE STYLE	LOCATION
1	1	A	LED-V-72✱	25	12	DOUBLE - 1	FIXED	1+75.3, 69.2 RT
2	1	A	LED-V-72✱	25	12	DOUBLE - 1	FIXED	2+71.1, 80.3 RT
3	1	A	LED-MC III-80✱	12	--	PEDESTRIAN	FIXED	3+09.0, 55.9 RT
4	1	A	LED-MC III-80✱	12	--	PEDESTRIAN	SLIP	3+64.4, 23.4 RT
5	1	A	LED-MC III-80✱	12	--	PEDESTRIAN	SLIP	4+486.0, 29.9 RT
6	1	A	LED-MC III-72✱	25	12	SINGLE - 1	SLIP	5+00.5, 34.9 RT
7	1	A	LED-MC III-72✱	25	12	SINGLE - 1	SLIP	7+19.0, 41.7 RT

✱SEE SPECIAL PROVISIONS

N

0 40 80
SCALE IN FEET

△	REVISIONS	DATE	BY
1	SHORELINE APPLICATION	12/12/17	SCJ
2	GRADING PERMIT	04/06/18	SCJ
3	WSDOT PERMIT	01/22/18	SCJ

DESIGNED BY: P. HOLM
DRAWN BY: N.MAYFIELD
CHECKED BY: S. SAWYER
ISSUE DATE: APRIL 2018
JOB No.: 0738.05
DRAWING FILE No.: 0738.5-IL-1-PO

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PROJECT NAME:

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MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

LIGHTING AND SECURITY PLAN

DRAWING No.: IL-1
SHEET No.: 14 OF 22

Jan 22, 2019 - 3:01:52pm -- User: mike.johnson
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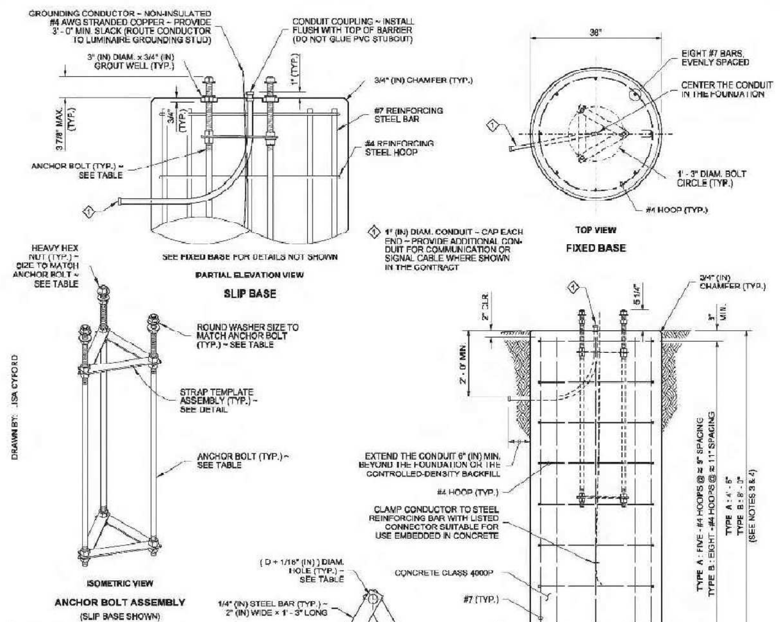
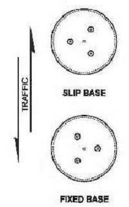


ANCHOR BOLT TABLE			
LUMINAIRE HEIGHT (FT) (H1)	MAST ARM TYPE	MAST ARM LENGTH (FT)	ANCHOR BOLT DIAMETER (IN) "D"
20' TO 50'	SINGLE	6' TO 16'	1"
20' TO 50'	DOUBLE	6' TO 8'	1"
20' TO 45'	DOUBLE	10' TO 16'	1"
46' TO 50'	DOUBLE	10' TO 16'	1 1/8"

NOTES

1. See **Standard Plan J-28.40** for Luminaire Pole base mounting details.
2. The Strap Templates shall be held in place by nuts, 6" (in) from the top of the foundation and 3" (in) from the bottom of the anchor bolts. Eighteen heavy duty hex nuts and six round washers are required for a slip base assembly. Eighteen heavy duty hex nuts and six plate washers are required for a fixed base assembly.
3. Use Steel Light Standard Foundation **Type A** on level ground or slopes not exceeding 4H : 1V. Use **Type B** for slopes steeper than 4H : 1V, but not exceeding 2H : 1V. Slopes steeper than 2H : 1V shall require a special design.
4. These foundations are designed for a minimum of 2000 PSF **(TYPE A)** or 1500 PSF **(TYPE B)** allowable lateral bearing pressure for the soil. A special foundation shall be required for soil with allowable lateral bearing pressure lower than 1500 PSF.
5. The Luminaire Pole height shall not exceed 50' (ft) (H1).
6. Slip bases shall not be installed on 50' (ft) (H1) poles with Double Mast Arms, nor on poles weighing more than 1000 lbs.
7. Slip bases are required on poles installed inside the Design Clear Zone, and on poles installed behind traffic barrier that are within the traffic barrier deflection zone.
8. Foundations constructed within Media Filter Drains shall be increased in depth by the depth of the Media Filter Drain.
9. Exposed portions of the foundation shall be formed to create a Class 2 surface finish. All forming shall be removed upon completion of foundation construction.
10. For excavation, concrete placement, and backfill options, see METHOD 1 and METHOD 2 on Sheet 2 of 2.
11. The anchor bolts shall be high strength steel, manufactured from ASTM F1554 Grade 105, with heavy hex nuts and hardened washers. Galvanize the anchor bolts according to ASTM F2329.
12. The foundation shall be grounded in accordance with the requirements of **Standard Specification 8-20.3(4).**
13. See **Standard Plans C-8b and C-85.14** for steel light standards on traffic barrier.



ANCHOR BOLT LAYOUT

STEEL LIGHT STANDARD FOUNDATION TYPES A & B

STANDARD PLAN J-28.30-03

SHEET 1 OF 2 SHEETS

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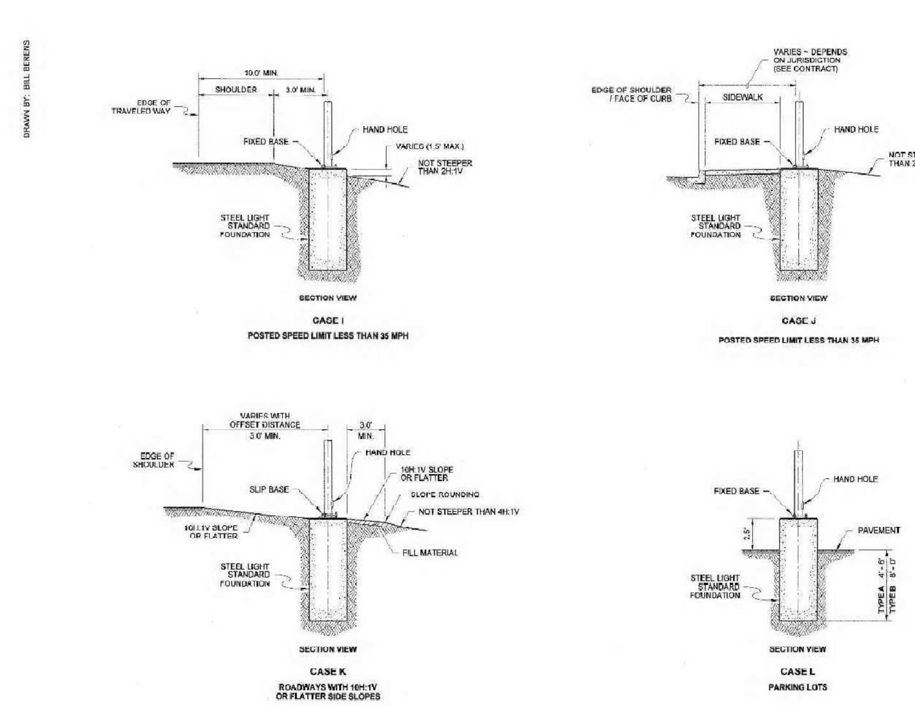
STATE DESIGN ENGINEER

Washington State Department of Transportation



NOTES

1. See Standard Plan J-28.30 for foundation details and construction methods.
2. See Standard Plan J-28.50 for pole base and hand hole details.

STEEL LIGHT STANDARD PLACEMENT MISCELLANEOUS

STANDARD PLAN J-28.26-01

SHEET 1 OF 1 SHEET

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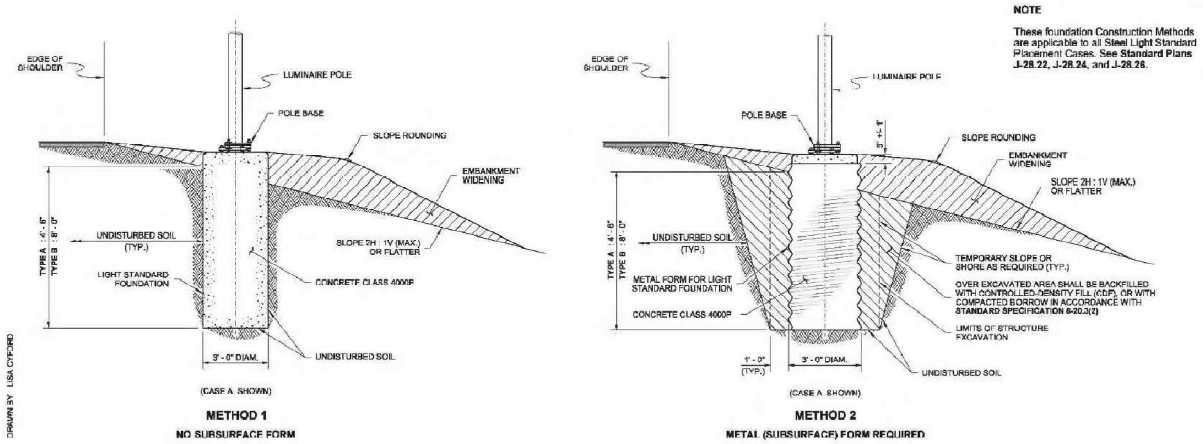
NOTE

These foundation Construction Methods are applicable to all Steel Light Standard Placement Cases. See **Standard Plans J-28.22, J-28.24, and J-28.26.**



METHOD 1

NO SUBSURFACE FORM

This option is used only when the existing soil in the hole will remain standing and the cement concrete can be placed without causing the soil to collapse. Concrete shall be cast directly against undisturbed soil.

Auger the hole for the foundation. Use a paper or cardboard form to achieve a smooth finish on the final exposed cement concrete. Support the form as necessary to remain plumb.

See **Standard Plans J-28.24** and **J-28.26** for maximum heights of exposed foundation when no embankment widening is to be installed.

Place the concrete foundation.

After concrete has cured, remove the paper or cardboard form portion.

Construct the embankment widening (if required).

METHOD 2

METAL (SUBSURFACE) FORM REQUIRED

When the existing soil will not retain a vertical face, over-excavate the foundation area and install a 36" (in) diameter corrugated metal (pipe) form. The corrugated metal form shall not extend more than 5" (in) +/- 1" (in) below any portion of the foundation that will remain exposed upon final grading. Continue forming to full height using a paper or cardboard form to achieve a smooth finish on final exposed cement concrete. Support the form as necessary to remain plumb.

See **Standard Plans J-28.24** and **J-28.26** for maximum heights of exposed foundation when no embankment widening is to be installed.

Place the concrete foundation.

After concrete has cured, remove the paper or cardboard form portion.

Backfill with controlled-density fill or compacted borrow in accordance with **Standard Specification 8-20.3(2).**

Construct the embankment widening (if required).

CONSTRUCTION METHODS

Zeldenrust, Richard Jun 10 2014 10:38 AM

STEEL LIGHT STANDARD FOUNDATION TYPES A & B

STANDARD PLAN J-28.30-03

SHEET 2 OF 2 SHEETS

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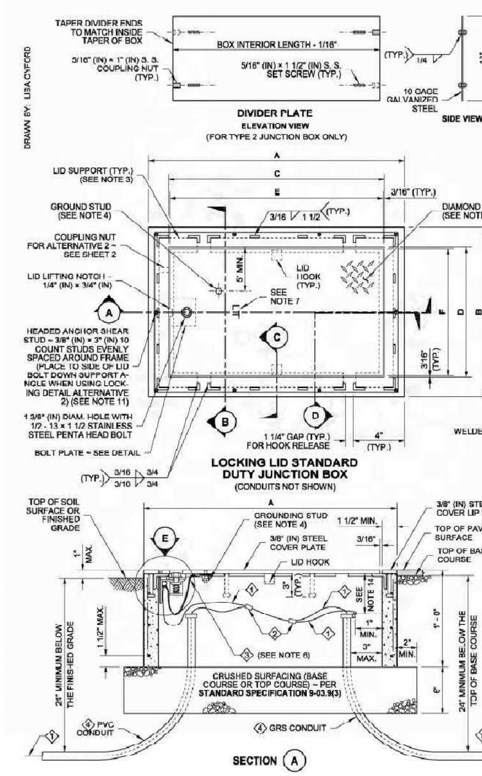
Bakotich, Pasco Jun 11 2014 1:33 PM

STATE DESIGN ENGINEER

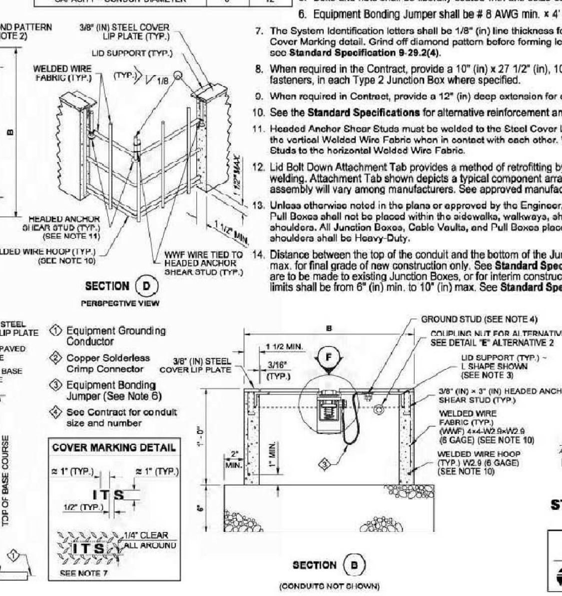
Washington State Department of Transportation



JUNCTION BOX DIMENSION TABLE			
MARK	ITEM	BOX TYPE	
		TYPE 1	TYPE 2
A	OUTSIDE LENGTH OF JUNCTION BOX	22"	33"
B	OUTSIDE WIDTH OF JUNCTION BOX	17"	22 1/2"
C	INSIDE LENGTH OF JUNCTION BOX	18" – 19"	28" – 29"
D	INSIDE WIDTH OF JUNCTION BOX	13" – 14"	17" – 18"
E	LID LENGTH	17 5/8"	28 5/8"
F	LID WIDTH	12 5/8"	18 1/8"
	CAPACITY – CONDUIT DIAMETER	6"	12"

NOTES

1. All box dimensions are approximate. Exact configurations vary among manufacturers.
2. Minimum lid thickness shown. Junction Boxes installed in sidewalks, walkways, and shared-use paths shall have a slip-resistant coating on the lid and lip cover plate, and shall be installed with the surface flush with and matched to the grade of the sidewalk, walkway, or shared-use path. The non-slip lid shall be identified with permanent markings on the underside, indicating the type of surface treatment (see Contract Documents for details) and the year of manufacture. The permanent marking shall be 1/8" (in) line thickness formed with a mild steel weld bead and shall be placed prior to hot-dip galvanizing.
3. Lid support members shall be 3/16" (in) minimum thick steel C, L, or T shape, welded to the frame.
4. A 1/4-20 NC × 3/4" (in) stainless steel ground stud shall be welded to the bottom of the lid; include (2) stainless steel nuts and (2) stainless steel flat washers.
5. Bolts and nuts shall be liberally coated with anti-seize compound.
6. Equipment Bonding Jumper shall be # 8 AWG min. × 4' (ft) of tinned braided copper.
7. The System Identification letters shall be 1/8" (in) line thickness formed with a mild steel weld bead. See Cover Marking detail. Grind off diamond pattern before forming letters. For System Identification details, see **Standard Specification 9-29.2(4).**
8. When required in the Contract, provide a 10" (in) x 27 1/2" (in), 10 gage divider plate, complete, with fasteners, in each Type 2 Junction Box where specified.
9. When required in Contract, provide a 12" (in) deep extension for each Type 2 Junction Box where specified.
10. See the **Standard Specifications** for alternative reinforcement and class of concrete.
11. Headed Anchor Shear Studs must be welded to the Steel Cover Lip Plate and wire tied in two places to the vertical Welded Wire Fabric when in contact with each other. Wire tie all other Headed Anchor Shear Studs to the horizontal Welded Wire Fabric.
12. Lid Bolt Down Attachment Tab provides a method of retrofitting by using a mechanical process in lieu of welding. Attachment Tab shown depicts a typical component arrangement; actual configurations of assembly will vary among manufacturers. See approved manufacturers' shop drawings for specifics.
13. Unless otherwise noted in the plans or approved by the Engineer, Junction Boxes, Cable Vaults, and Pull Boxes shall not be placed within the sidewalks, walkways, shared use paths, traveled ways or paved shoulders. All Junction Boxes, Cable Vaults, and Pull Boxes placed within the traveled way or paved shoulders shall be Heavy-Duty.
14. Distance between the top of the conduit and the bottom of the Junction Box lid shall be 6" (in) min. to 8" (in) max. for final grade of new construction only. See **Standard Specification 8-20.3(5).** Where adjustments are to be made to existing Junction Boxes, or for interim construction stages during the contract, the limits shall be from 6" (in) min. to 10" (in) max. See **Standard Specification 8-20.3(6).**



LOCKING LID STANDARD DUTY JUNCTION BOX TYPES 1 & 2

STANDARD PLAN J-40.10-04

SHEET 1 OF 2 SHEETS

APPROVED FOR PUBLICATION

Washington State Department of Transportation

REVISIONS	DATE	BY
SHORELINE APPLICATION	12/12/17	SCJ
GRADING PERMIT	04/06/18	SCJ
WSDOT PERMIT	01/22/18	SCJ

DESIGNED BY: P. HOLM	ISSUE DATE: APRIL 2018	
DRAWN BY: N.MAYFIELD	JOB No.: 0738.05	
CHECKED BY: S. SAWYER	DRAWING FILE No.: 0738.5-IL-2-PO	

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

PATRICK HOLM, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER

SCJ ALLIANCE CONSULTING SERVICES
8730 TALLON LANE NE, SUITE 200, LACEY, WASHINGTON 98516
P: 360-352-1465 F: 360-352-1509
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PROJECT NAME:

MTA

MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

LIGHTING AND SECURITY DETAILS

DRAWING No.: IL-2

SHEET No.: 15 OF 22

Jan 22, 2019 3:01:57pm – User mike.johnson
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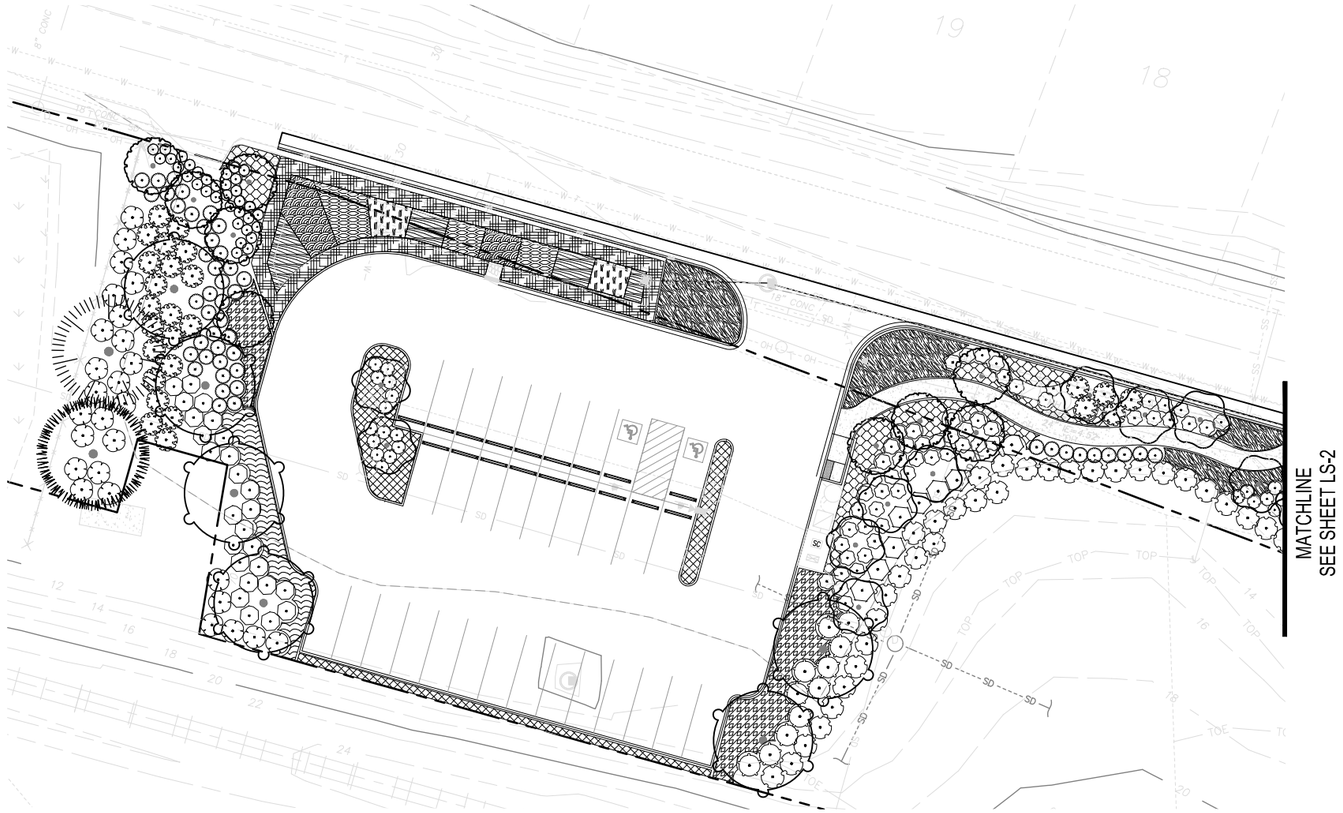

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SCALE IN FEET

	REVISIONS	DATE	BY
1	SHORELINE APPLICATION	12/12/17	SCJ
2	GRADING PERMIT	04/06/18	SCJ
3	WSDOT PERMIT	01/22/18	SCJ

DESIGNED BY: P. HOLM
DRAWN BY: K. JANKOVSKY
CHECKED BY: S. SAWYER
ISSUE DATE: APRIL 2018
JOB No.: 0738.05
DRAWING FILE No.: 0738.5-LS-1-3-PO

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

STATE OF WASHINGTON · MARK S. GARFF · NO. 888 EXP. 02/12/19 · LICENSED LANDSCAPE ARCHITECT

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MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

LANDSCAPE PLAN

DRAWING No.: LS-1
SHEET No.: 16 OF 22

Jan 22, 2019 - 9:00:09am - User: mike.johnson
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T. 20 N., R. 03 W., S 20, W.M.

MATCHLINE
SEE SHEET LS-1

PINE STREET (SR3)

BLOCK 1

12 11 10 9 8

Δ= 24°05'36"
R= 412.96
L= 175.21

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SCALE IN FEET

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	REVISIONS	DATE	BY
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PARK AND RIDE DEVELOPMENT

LANDSCAPE PLAN

DRAWING No.: LS-2

SHEET No.: 17 OF 22

Jan 22, 2020 3:42:16pm – User: mike.johnson
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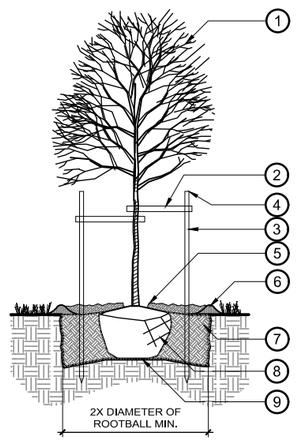
T. 20 N., R. 03 W., S 20, W.M.

GENERAL LANDSCAPE NOTES:

1. THE LANDSCAPE ARCHITECTURAL PLANS ARE TO BE USED IN CONJUNCTION WITH THE CIVIL, IRRIGATION, MECHANICAL, ELECTRICAL, AND ARCHITECTURAL SITE PLANS TO FORM COMPLETE INFORMATION REGARDING THE SITE.
2. THE INFORMATION ON THIS SHEET IS INCOMPLETE UNLESS ACCOMPANIED BY THE CORRESPONDING SPECIFICATION SECTION(S) DEVELOPED FOR THIS PROJECT. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
3. LANDSCAPE CONSTRUCTION SHALL CONFORM TO ALL APPLICABLE STATE AND LOCAL CODES AND SPECIFICATIONS.
4. ALL MATERIAL AND WORKMANSHIP SHALL BE MAINTAINED AND GUARANTEED FOR A PERIOD OF 12 MONTHS FOLLOWING THE SUBSTANTIAL COMPLETION DATE.
5. LANDSCAPE CONTRACTOR SHALL EXAMINE THE SITE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED, NOTIFY THE GENERAL CONTRACTOR IN WRITING OF UNSATISFACTORY CONDITIONS. DO NOT PROCEED UNTIL CONDITIONS HAVE BEEN CORRECTED.
6. BEFORE COMMENCING WORK, LANDSCAPE CONTRACTOR SHALL CONTACT APPROPRIATE UTILITY COMPANIES FOR UTILITY LOCATIONS, AND COORDINATE WITH GENERAL CONTRACTOR IN REGARD TO LOCATION OF PROPOSED UTILITIES, IRRIGATION SLEEVES, CONDUITS, ETC.
7. VERIFY THAT SUBGRADE PREPARATION HAS BEEN COMPLETED TO ACCEPTABLE TOLERANCES PRIOR TO BEGINNING ANY WORK.
8. ALL TREE AND SHRUB LOCATIONS ARE TO BE STAKED ON SITE FOR APPROVAL BY OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.
9. ROOT BARRIER SHALL BE INSTALLED ON ALL TREES WITHIN 6' OF A CURB OR SIDEWALK.
10. PLANTING AREAS SHALL BE MULCHED WITH 3 INCHES OF APPROVED DARK FINE MULCH. FINISH GRADE OF MULCH SHALL NOT BE ABOVE OR MORE THAN 1/2 INCH BELOW ADJOINING SURFACE.
11. ALL B&B PLANT MATERIAL SHALL HAVE ALL WIRE, TWINE, OR OTHER CONTAINMENT MATERIAL, EXCEPT FOR 100% HEMP BURLAP, REMOVED FROM THE TRUNK AND ROOT BALL OF THE PLANT PRIOR TO PLANTING. REMOVE THE TOP 2/3 OF THE HEMP BURLAP AFTER PLACING PLANT IN THE PIT.
12. PLANTING SOIL FOR ALL PLANTING AREAS:
    a. SPREADING OF PLANTING SOIL SHALL BE COMPLETED BY THE LANDSCAPE CONTRACTOR AND SUPERVISED BY THE GENERAL CONTRACTOR SO THAT GRADES ARE MET AS NOTED ON THE GRADING PLANS. PLANTING SOIL DEPTH SHALL BE A MINIMUM OF SIX (6) INCHES IN ALL LANDSCAPE BEDS.
    b. ALL PLANTING SOIL SHALL BE EXISTING SITE SOIL AMENDED PER THE SOIL LABORATORY'S RECOMMENDATIONS OR USE IMPORTED TOPSOIL PER SPECIFICATIONS IF EXISTING SITE SOIL CANNOT BE AMENDED.
    c. APPLY 2 INCHES OF APPROVED PLANTING SOIL OVER PREPARED SUBGRADE AND TILL INTO TOP 2-4 INCHES OF SUBSOIL. INSTALL REMAINING PLANTING SOIL TO A MINIMUM OF 4 INCHES SO THE TOTAL MINIMUM DEPTH OF NEW PLANTING SOIL IN NO LESS THAN 6 INCHES. ROLL AND RAKE SMOOTH. ENSURE NO ROCKS OR OTHER DEBRIS EXCEEDING 3 INCHES IN DIAMETER REMAIN.
    d. TOPSOIL SHALL BE PLACED IN ALL PARKING AREA PLANTER ISLANDS TO A DEPTH OF THREE (3) FEET. THE TOP SIX (6) INCHES OF TOPSOIL SHALL BE AMENDED WITH THE ADDITION OF TWO (2) INCHES COMPOST.
13. MULCH ENTIRE LANDSCAPE AREA TO A DEPTH OF 3 INCHES WITH DARK FINE MULCH.
14. ALL LANDSCAPING SHALL BE PLANTED AND MAINTAINED IN A LIVING CONDITION BY THE CONTRACTOR UNTIL FINAL OWNER ACCEPTANCE.
15. ALL LANDSCAPE AREAS TO BE WATERED BY AUTOMATIC IRRIGATION SYSTEM. TO BE DESIGNED
16. PLANT SYMBOLS SHALL DICTATE COUNT.
17. REFER TO PROJECT SPECIFICATIONS FOR MORE DETAILED INSTRUCTIONS.

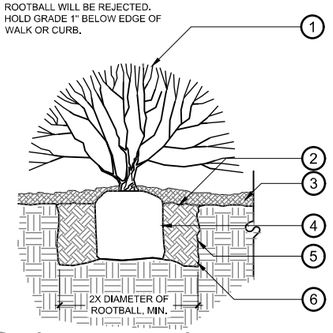


1. PRUNE DAMAGED OR DEAD WOOD. DO NOT CUT CENTER LEADER.
2. FIGURE 8 RUBBER TREE TIE "GRO-STRAIGHT OR APPROVED EQUAL. 2 EACH TREE. ATTACH SO TREE IS ALLOWED SOME MOVEMENT BUT NO RUBBING
3. (2) B.V.C. BRAND POLES OR APPROVED EQUAL- 2" DIA. SIZE STAKES PLACE OUTSIDE OF ROOTBALL 2 STAKES REQ'D FOR ALL TREES OVER 11/2" IN CALIPER.
4. HEIGHT OF STAKE SHALL BE 5' HT. ABOVE FINISHED GRADE
5. 3" DARK FINE MULCH. HOLD BACK 4" FROM TRUNK OF TREE
6. 4" HEIGHT WATER SAUCER
7. PREPARED BACKFILL SOIL MIX
8. REMOVE ALL BURLAP, WIRE, TAPE, AND WOODEN BOXES BEFORE PLANTING
9. SET ROOTBALL ON UNDISTURBED SUBGRADE-DO NOT OVER- EXCAVATE

1 TREE PLANTING DETAIL

NTS PG-MT-01

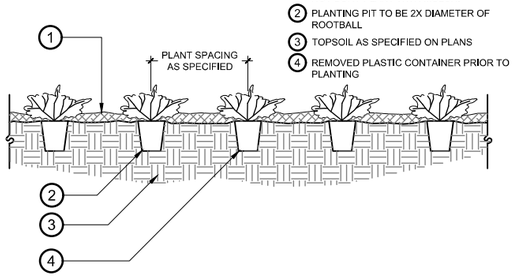
NOTE:
1. ANY BROKEN OR CRUMBLING ROOTBALL WILL BE REJECTED.
2. HOLD GRADE 1" BELOW EDGE OF WALK OR CURB.



1. PRUNE ALL DAMAGED OR DEAD WOOD IMMEDIATELY PRIOR TO PLANTING.
2. DIG PLANT PIT TWICE AS WIDE AS THE CONTAINER OR MORE
3. APPLY MULCH AS SPECIFIED ON PLANS
4. REMOVE CONTAINER
5. ROUGHEN SIDES OF PLANT PIT. SCORE SIDES OF ROOTBALL OF ROOBOUND PLANTS ONLY.
6. FILL PLANT PIT WITH SPECIFIED PREPARED BACKFILL SOIL MIX

2 SHRUB PLANTING DETAIL

NTS PG-MT-06



1. APPLY 3" DEPTH MULCH AS SPECIFIED ON PLANS.NOTE: MULCH DEPTH AROUND PLANT BASE MAY BE THINNER. DO NOT BURY PLANT WITH MULCH.
2. PLANTING PIT TO BE 2X DIAMETER OF ROOTBALL
3. TOPSOIL AS SPECIFIED ON PLANS
4. REMOVED PLASTIC CONTAINER PRIOR TO PLANTING

3 GROUNDCOVER PLANTING DETAIL

NTS PG-MT-03

PLANT SCHEDULE

TREES	QTY	BOTANICAL NAME	CAL
	21	AMELANCHIER X GRANDIFLORA `COLE`S SELECT` SERVICEBERRY	2" CAL
	7	CERCIDIPHYLLUM JAPONICUM KATSURA TREE	2.5" CAL.
	14	CERCIS CANADENSIS EASTERN REDBUD	2" CAL
	5	PSEUDOTSUGA MENZIESII DOUGLAS FIR	15 GAL
	5	THUJA PLICATA WESTERN RED CEDAR	15 GAL

SHRUBS	QTY	BOTANICAL NAME	SIZE
	50	ARCTOSTAPHYLOS COLUMBIANA HAIRY MANZANITA	5 GAL
	18	CEANOTHUS X `PUGET BLUE` CALIFORNIA LILAC	5 GAL
	85	CHOISYA TERNATA `SUNDANCE` GOLDEN MEXICAN MOCK ORANGE	5 GAL
	32	CORNUS SERICEA `BAILEYI` RED TWIG DOGWOOD	2 GAL
	20	DRIMYS LANCEOLATA PEPPER TREE	5 GAL
	68	HOLODISCUS DISCOLOR OCEAN-SPRAY	5 GAL
	95	HYDRANGEA QUERCIFOLIA `PEE WEE` OAKLEAF HYDRANGEA	5 GAL
	64	OSMANTHUS DELAVAYI DELAVAYI OSMANTHUS	5 GAL
	104	RHAPHIOLEPIS INDICA INDIAN HAWTHORN	5 GAL
	53	ROSA NUTKANA NOOTKA ROSE	2 GAL

GROUND COVERS	QTY	BOTANICAL NAME	CONT	SPACING
	261	ARCTOSTAPHYLOS UVA-URSI KINNIKINNICK	4"POT	18" o.c.
	482	CALLUNA VULGARIS `FIREFLY` HEATHER	1 GAL	24" o.c.
	126	GAULTHERIA SHALLON SALAL	1 GAL	30" o.c.
	326	GERANIUM X CANTABRIGIENSE `BIOKOVO` BIOKOVO CRANESBILL	1 GAL	30" o.c.
	9,435 SF	HYDROSEED & TOPSOIL MIX SEE NOTES BELOW	HYDROSEED	
	95	VACCINIUM OVATUM EVERGREEN HUCKLEBERRY	1 GAL	24" o.c.

DETENTION BASIN	QTY	BOTANICAL NAME	CONT	SPACING
	139	CAREX TESTACEA CAREX	2 GAL	24" o.c.
	78	CORNUS SERICEA `FLAVIRAMEA` YELLOW TWIG DOGWOOD	2 GAL	36" o.c.
	531	JUNCUS PATENS `ELK BLUE` SPREADING RUSH	4"POT	18" o.c.
	987	MAHONIA REPENS CREEPING MAHONIA	1 GAL	18" o.c.
	343	SCIRPUS MICROCARPUS SMALL-FRUITED BULRUSH	4"POT	18" o.c.

TOPSOIL NOTES FOR HYDROSEED AREAS ONLY:
- TOPSOIL TO BE 60% SAND AND 40% COMPOST.
- LEVEL EXCAVATED AREAS AS REQUIRED.
- MINIMUM DEPTH TO BE 2"

HYDROSEED TOPSOIL NOTES:
HYDROSEED MIX TO CONSIST OF THE FOLLOWING.
- 45% CREEPING RED FESCUE
- 45% PERENNIAL RYEGRASS
- 10% HIGHLAND COLONIAL BENTGRASS

AVAILABLE FROM DIRECT SEED SALES, (425) 466-1350
WWW.DIRECTSEEDSALES.COM

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PROJECT NAME:

MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

PLANTING SCHEDULE, NOTES, & DETAILS

DRAWING No.: LS-3
SHEET No.: 18 OF 22

Jan 22, 2019 3:02:22pm – User: mike.johnson
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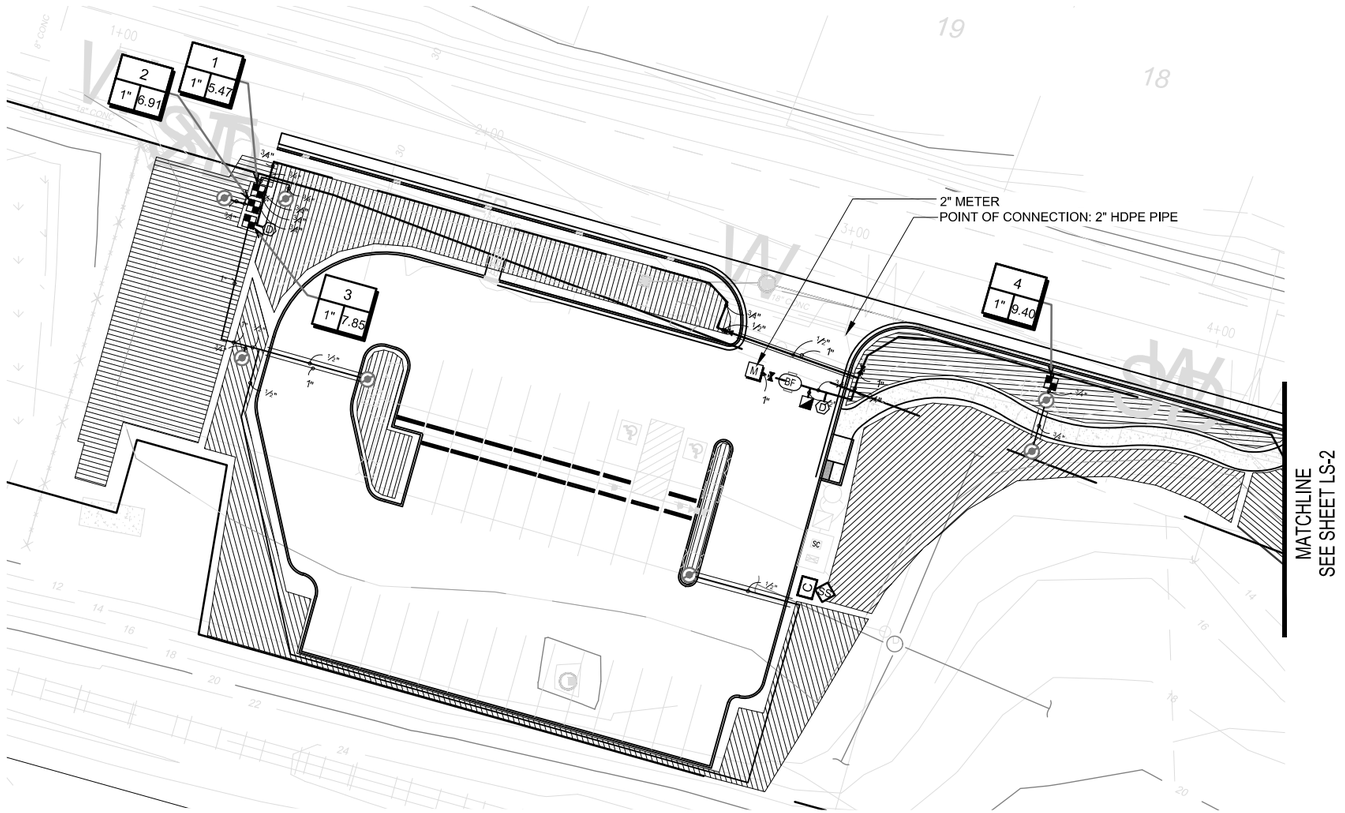
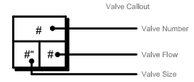


IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	DETAIL
	HUNTER ICZ-101-40 DRIP CONTROL ZONE KIT. 1" ICV GLOBE VALVE WITH 1" HY100 FILTER SYSTEM. PRESSURE REGULATION: 40PSI. FLOW RANGE: 2 GPM TO 20 GPM. 150 MESH STAINLESS STEEL SCREEN.	4	7/LS-6
	TECHLINE START CONNECTION LATERAL TO DRIP ZONE TUBING WITH SWING JOINT ASSEMBLY	7	8/LS-6
	AREA TO RECEIVE DRIPLINE NETAFIM TLDL-04-18 TECHLINE PRESSURE COMPENSATING LANDSCAPE DRIPLINE. 0.4 GPH EMITTERS AT 18" O.C. DRIPLINE LATERALS SPACED AT 18" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. SURFACE AND SUB SURFACE INSTALLATIONS. UV RESISTANT.	6,633 L.F.	10/LS-6

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	DETAIL
	RAIN BIRD 3-RC 3/4" BRASS QUICK-COUPLING VALVE, WITH CORROSION-RESISTANT STAINLESS STEEL SPRING, THERMOPLASTIC RUBBER COVER, AND 1-PIECE BODY.	1	9/LS-6
	MATCO-NORCA 759 BRASS SHUT OFF BALL VALVE, 1/2" TO 4". TWO PIECE BODY, BLOW-OUT PROOF STEM, CHROME PLATED SOLID BRASS BALL, THREADED, WITH PTFE SEATS. SAME SIZE AS MAINLINE PIPE.	3	6/LS-6
D	DRAIN VALVE	2	3/LS-6
BF	FEBCO 850 1" DOUBLE CHECK BACKFLOW PREVENTION, 1/2" TO 2"	1	/
C	HUNTER IC-1200-PP MODULAR CONTROLLER, 12 STATIONS, OUTDOOR MODEL, PLASTIC PEDESTAL. COMMERCIAL USE. WITH ONE ICM-600 MODULE INCLUDED.	1	4/LS-6
SS	HUNTER SOLAR-SYNC SOLAR, RAIN FREEZE SENSOR WITH OUTDOOR INTERFACE, CONNECTS TO HUNTER PCC, PRO-C, AND I-CORE CONTROLLERS, INSTALL AS NOTED. INCLUDES 10 YEAR LITHIUM BATTERY AND RUBBER MODULE COVER, AND GUTTER MOUNT BRACKET. WIRED.	1	2/LS-6
M	WATER METER 2"	1	
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21	404.2 L.F.	
	IRRIGATION MAINLINE: PVC SCHEDULE 40	351.6 L.F.	
	PIPE SLEEVE: PVC CLASS 200 SDR 21 INSTALL AT 24" DEPTH	92.3 L.F.	

Valve Callout



IRRIGATION SHEET NOTES

1. SEE DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. PLAN IS DIAGRAMMATIC. ALL PIPING, LATERALS, AND WIRE TO BE LOCATED IN BED OR LAWN AREAS WHERE APPROPRIATE.
3. PIPE SIZES ARE TO REMAIN CONSTANT BETWEEN PIPE SIZE CALL-OUTS. PIPES ARE LABELED TO SMALLEST PIPE SIZE ONLY (¾").
4. ALL DRIP TUBING SHALL BE INSTALLED BELOW THE FINISH SOIL GRADE UNLESS NOTED OTHERWISE. INSTALL TUBING AT A CONSISTENT DEPTH OF 2" BELOW TOP OF TOPSOIL.
5. ALL PIPES AND SLEEVES UNDER PAVED AREAS SHALL BE 24" DEEP. ALL MAINLINE SHALL BE 18" DEEP IN ALL UNPAVED AREAS, 24" IN PAVED ARES. ALL LATERALS SHALL BE 12" DEEP IN ALL UNPAVED AREAS AND 24" DEEP IN PAVED AREAS.
6. LOCATE ALL MAINLINES WITHIN THE PROJECT LIMITS. INSTALL #14-AWG DIRECT BURIAL LOW VOLTAGE WIRE ALONG MAINLINE; TAPE AND BUNDLE WIRE EVER 20' FT. PROVIDE RED COLOR WIRE FOR SIGNAL AND WHITE COLOR WIRE FOR COMMON. PROVIDE A MINIMUM OF ONE SPARE WIRE FOR EVERY 10 VALVES FOR A MAXIMUM OF FIVE SPARE WIRES.
7. ALL WORK SHALL BE PERFORMED TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT/OWNER.

VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM
1	HUNTER ICZ-101-40	1"	AREA FOR DRIPLINE	5.47
2	HUNTER ICZ-101-40	1"	AREA FOR DRIPLINE	6.91
3	HUNTER ICZ-101-40	1"	AREA FOR DRIPLINE	7.85
4	HUNTER ICZ-101-40	1"	AREA FOR DRIPLINE	9.40
5	HUNTER ICZ-101-40	1"	AREA FOR DRIPLINE	4.37
6	HUNTER ICZ-101-40	1"	AREA FOR DRIPLINE	2.40
7	HUNTER ICZ-101-40	1"	AREA FOR DRIPLINE	8.35
8	HUNTER ICZ-101-40	1"	AREA FOR DRIPLINE	7.68
9	HUNTER ICZ-101-40	1"	AREA FOR DRIPLINE	9.00
10	HUNTER ICZ-101-40	1"	AREA FOR DRIPLINE	7.85

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SCALE IN FEET

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JOB No.: 0738.05
DRAWING FILE No.: 0738.5-LS-4-6-PO

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

STATE OF WASHINGTON · MARK S. GARFF · REGISTERED LANDSCAPE ARCHITECT · NO. 888 EXP. 02/12/19

SCJ ALLIANCE
CONSULTING SERVICES
8730 TALLON LANE NE, SUITE 200, LACEY, WASHINGTON 98516
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PROJECT NAME:

MTA

MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

IRRIGATION PLAN

DRAWING No.: LS-4
SHEET No.: 19 OF 22

Jan 22, 2019 9:02:38am -- User: mike.johnson
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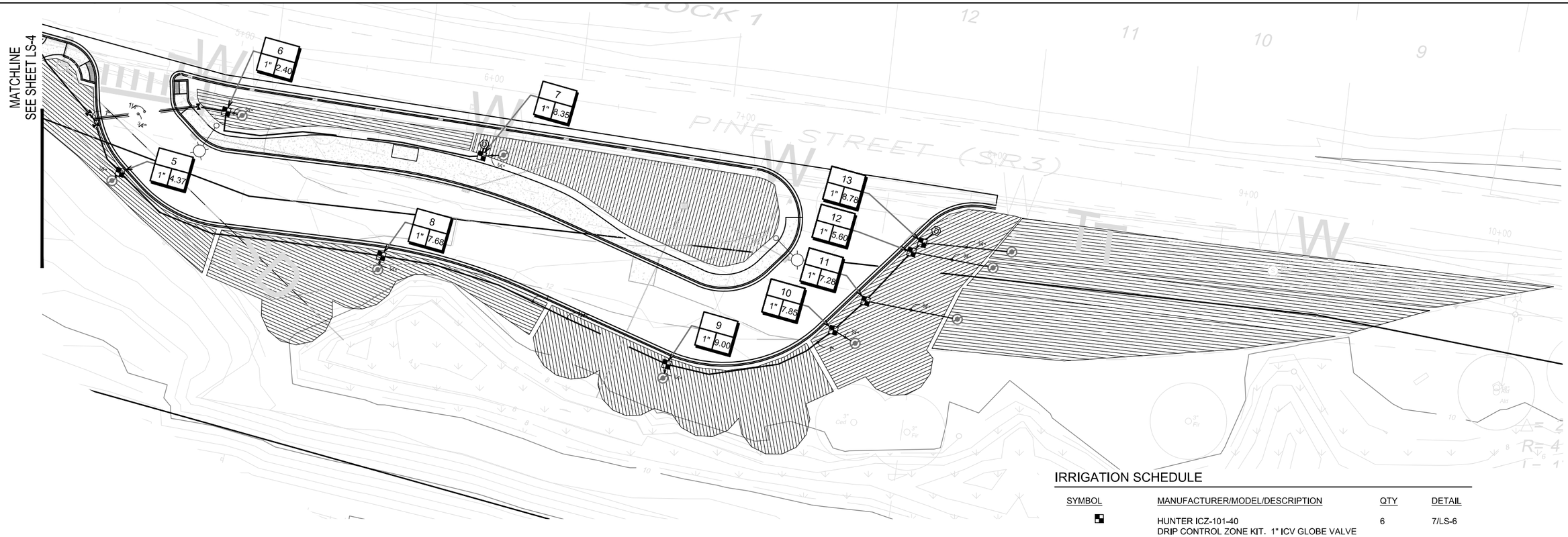
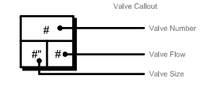
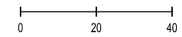


IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	DETAIL
	HUNTER ICZ-101-40 DRIP CONTROL ZONE KIT. 1" ICV GLOBE VALVE WITH 1" HY100 FILTER SYSTEM. PRESSURE REGULATION: 40PSI. FLOW RANGE: 2 GPM TO 20 GPM. 150 MESH STAINLESS STEEL SCREEN.	6	7/LS-6
	TECHLINE START CONNECTION LATERAL TO DRIP ZONE TUBING WITH SWING JOINT ASSEMBLY	6	8/LS-6
	AREA TO RECEIVE DRIPLINE NETAFIM TLDL-04-18 TECHLINE PRESSURE COMPENSATING LANDSCAPE DRIPLINE. 0.4 GPH EMITTERS AT 18" O.C. DRIPLINE LATERALS SPACED AT 18" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. SURFACE AND SUB SURFACE INSTALLATIONS. UV RESISTANT.	10,980 L.F.	10/LS-6

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	DETAIL
	MATCO-NORCA 759 BRASS SHUT OFF BALL VALVE, 1/2" TO 4". TWO PIECE BODY, BLOW-OUT PROOF STEM, CHROME PLATED SOLID BRASS BALL, THREADED, WITH PTFE SEATS. SAME SIZE AS MAINLINE PIPE.	3	6/LS-6
	DRAIN VALVE	2	3/LS-6
	IRRIGATION LATERAL LINE: PVC CLASS 200 SDR 21	37.9 L.F.	
	IRRIGATION MAINLINE: PVC SCHEDULE 40	595.8 L.F.	
	PIPE SLEEVE: PVC CLASS 200 SDR 21 INSTALL AT 24" DEPTH	39.7 L.F.	





IRRIGATION SHEET NOTES

1. SEE DETAILS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. PLAN IS DIAGRAMMATIC. ALL PIPING, LATERALS, AND WIRE TO BE LOCATED IN BED OR LAWN AREAS WHERE APPROPRIATE.
3. PIPE SIZES ARE TO REMAIN CONSTANT BETWEEN PIPE SIZE CALL-OUTS. PIPES ARE LABELED TO SMALLEST PIPE SIZE ONLY (¾").
4. ALL DRIP TUBING SHALL BE INSTALLED BELOW THE FINISH SOIL GRADE UNLESS NOTED OTHERWISE. INSTALL TUBING AT A CONSISTENT DEPTH OF 2" BELOW TOP OF TOPSOIL.
5. ALL PIPES AND SLEEVES UNDER PAVED AREAS SHALL BE 24" DEEP. ALL MAINLINE SHALL BE 18" DEEP IN ALL UNPAVED AREAS, 24" IN PAVED ARES. ALL LATERALS SHALL BE 12" DEEP IN ALL UNPAVED AREAS AND 24" DEEP IN PAVED AREAS.
6. LOCATE ALL MAINLINES WITHIN THE PROJECT LIMITS. INSTALL #14-AWG DIRECT BURIAL LOW VOLTAGE WIRE ALONG MAINLINE; TAPE AND BUNDLE WIRE EVER 20' FT. PROVIDE RED COLOR WIRE FOR SIGNAL AND WHITE COLOR WIRE FOR COMMON. PROVIDE A MINIMUM OF ONE SPARE WIRE FOR EVERY 10 VALVES FOR A MAXIMUM OF FIVE SPARE WIRES.
7. ALL WORK SHALL BE PERFORMED TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT/OWNER.

	REVISIONS	DATE	BY
1	SHORELINE APPLICATION	12/12/17	SCJ
2	GRADING PERMIT	04/06/18	SCJ
3	WSDOT PERMIT	01/22/18	SCJ

DESIGNED BY: P. HOLM
DRAWN BY: K. JANKOVSKY
CHECKED BY: S. SAWYER
ISSUE DATE: APRIL 2018
JOB No.: 0738.05
DRAWING FILE No.: 0738.5-LS-4-6-PO

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STATE OF WASHINGTON · MARK S. GARFF · 22810 · LICENSED LANDSCAPE ARCHITECT · EXP 02/12/19

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PROJECT NAME:

MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

IRRIGATION PLAN

DRAWING No.: LS-5
SHEET No.: 20 OF 22

Jan 22, 2019 3:02:46pm – User: mike.johnson
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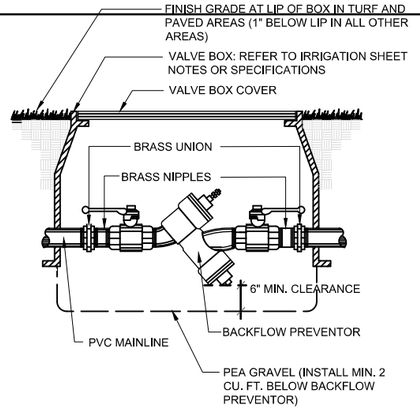
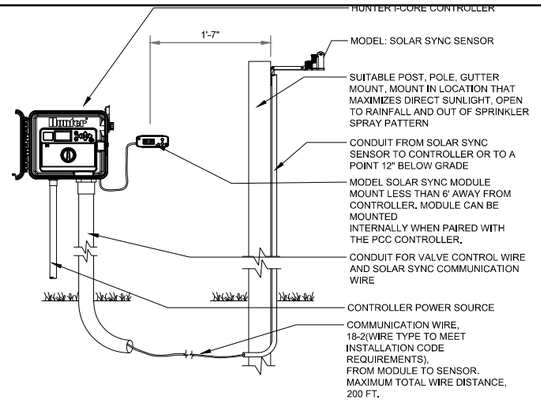


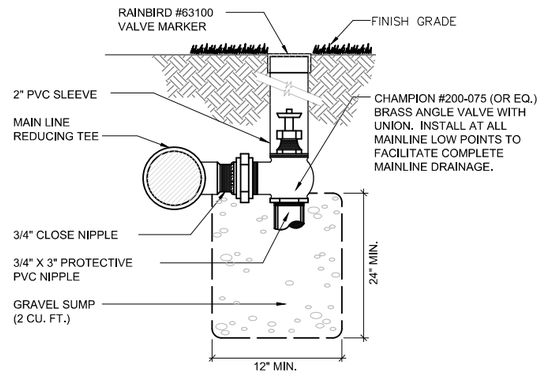
1 DOUBLE CHECK VALVE (DCVA)

NTS PG-MT-18



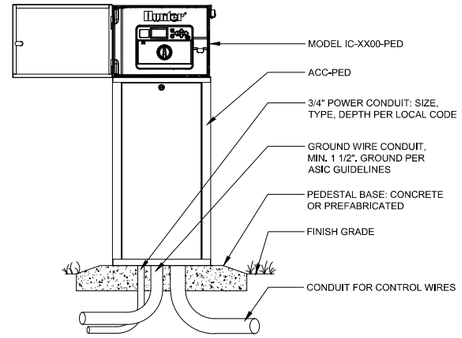
2 SOLAR SYNC SYSTEM WITH I-CORE

1" = 1'-0"



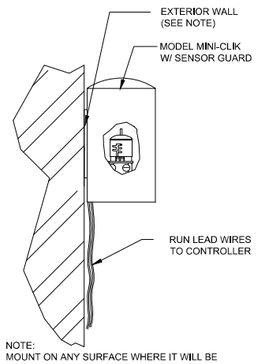
3 MANUAL DRAIN VALVE DETAIL

NTS PG-MT-22



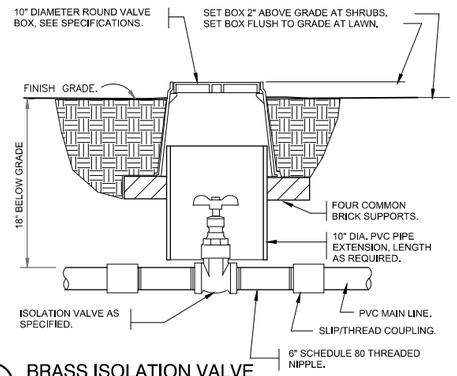
4 I-CORE CONTROLLER METAL PEDESTAL

1" = 1'-0" PG-MT-19



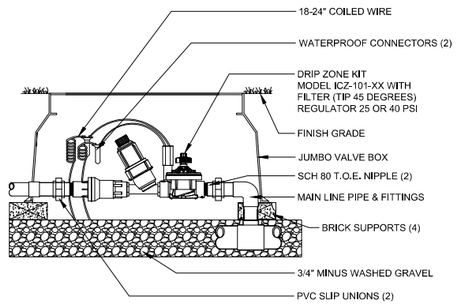
5 MINI-CLIK

3" = 1'-0" PG-MT-14



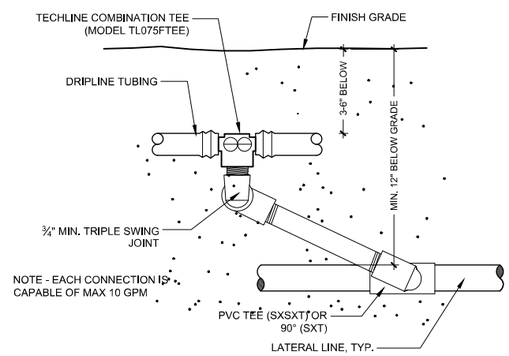
6 BRASS ISOLATION VALVE

1 1/2" = 1'-0" PG-MT-32



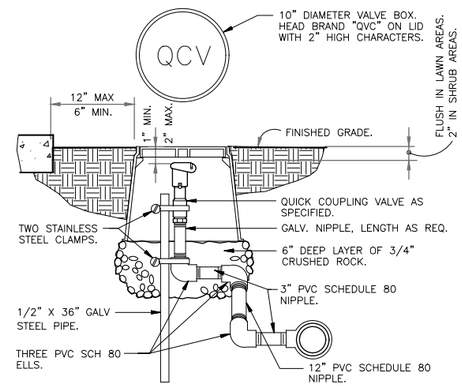
7 ICZ-101 DRIP CONTROL ZONE WITH UNIONS

1 1/2" = 1'-0" PG-MT-17



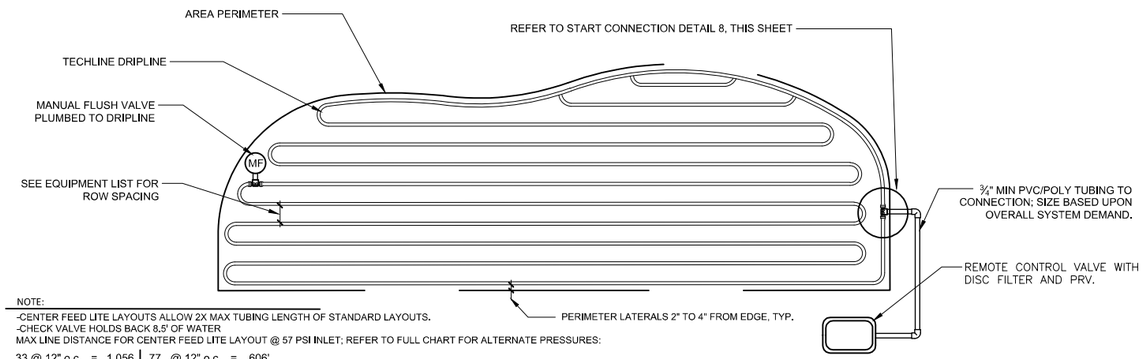
8 TECHLINE START CONNECTION (SWING JOINT RISER)

N.T.S. PG-MT-12



9 QUICK COUPLING VALVE IN BOX

1 1/2" = 1'-0" PG-MT-16



NOTE:
-CENTER FEED LITE LAYOUTS ALLOW 2X MAX TUBING LENGTH OF STANDARD LAYOUTS.
-CHECK VALVE HOLDS BACK 8.5' OF WATER
MAX LINE DISTANCE FOR CENTER FEED LITE LAYOUT @ 57 PSI INLET; REFER TO FULL CHART FOR ALTERNATE PRESSURES:

.33 @ 12" o.c.	= 1,056'	.77 @ 12" o.c.	= 606'
.33 @ 18" o.c.	= 1,504'	.77 @ 18" o.c.	= 864'
.53 @ 12" o.c.	= 774'	1.16 @ 12" o.c.	= 460'
.53 @ 18" o.c.	= 1,104'	1.16 @ 18" o.c.	= 658'

10 TECHLINE HCVXR LITE IRREGULAR AREAS

N.T.S. PG-MT-10

IRRIGATION SPECIFICATIONS

1. THIS PLAN IS DIAGRAMMATIC; ALL PIPING, VALVES, ETC. SHALL BE INSTALLED IN SHRUB BEDS WHERE POSSIBLE AND SHALL FOLLOW THE PLAN AS CLOSE AS IS PRACTICAL.
2. LOCATE ALL MAINLINES WITHIN THE PROJECT LIMITS.
3. PIPE SIZES ARE CONSTANT BETWEEN PIPE SIZE CALL-OUTS. ALL LATERAL PIPES SHALL BE INSTALLED AT 12" DEPTH AND 24" DEPTH UNDER PAVED AREAS. MAINLINE PIPE SHALL BE INSTALLED AT 18" BELOW GRADE AND 24" BELOW PAVED AREAS.
4. REFER TO DETAILS FOR ADDITIONAL INFORMATION.
5. ALL PIPING AND WIRING UNDER PAVED AREAS SHALL BE HOUSED IN CLASS 200 PVC SLEEVES INSTALLED AT A 24" DEPTH. SIZE SLEEVES AS NEEDED TO ACCOMMODATE PIPE AND WIRES, UNLESS OTHERWISE SPECIFIED ON DRAWING.
6. CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS AS NEEDED TO OBTAIN FULL COVERAGE. LANDSCAPE ARCHITECT RESERVES THE RIGHT TO MAKE NOZZLE CHANGES AS NEEDED AT NO ADDITIONAL COST. ADJUST HEAD POSITIONS AND ADD OR DELETE HEADS AS NEEDED DEPENDING ON ACTUAL FIELD CONDITIONS.
7. ALL MANUAL, GATE AND ELECTRICAL VALVES AND OTHER UNDERGROUND EQUIPMENT SHALL BE HOUSED IN NELSON, AMETEK OR EQUAL RECTANGULAR VALVE BOXES.
8. NO IN-LINE WIRE SPLICES ALLOWED. SUPPLY VALVE BOXES AT ALL ELECTRICAL JUNCTIONS. TAPE AND BUNDLE WIRES EVERY 25 LINEAR FEET.
9. CONTRACTOR IS RESPONSIBLE FOR COMPLETE SYSTEM DRAINAGE. INSTALL KING BROS. 1/2" AUTOMATIC DRAIN VALVES AT LATERAL LINE LOW POINT(S). INSTALL MANUAL DRAINS AT ALL MAINLINE LOW POINT(S) AND WHERE INDICATED ON PLAN. CONTRACTOR SHALL PROVIDE ADJUSTABLE CHECK VALVES ON ANY IRRIGATION HEAD THAT EXPERIENCES LOW HEAD DRAINAGE.
10. ALL THREADED PIPE CONNECTIONS SHALL BE MADE USING TEFLON TAPE WRAPPED AT LEAST THREE TIMES AROUND PIPE THREADS.
11. ALL GATE AND ELECTRIC VALVES SHALL BE INSTALLED WITH UNIONS ON THE DOWNSTREAM END OF THE VALVE (REFER TO DETAILS).
12. ALL PIPE SHALL HAVE A FIRM UNIFORM BEARING FOR THE ENTIRE LENGTH OF EACH LINE, FREE OF ROCKS OR DEBRIS. ALL TRENCHES CONTAINING PIPE AND/OR WIRES SHALL BE BACKFILLED WITH CLEAN TOPSOIL, FREE OF ALL LUMBER, RUBBISH AND ROCKS OVER 1" IN SIZE, OR CLEAN SAND IF CLEAN TOPSOIL IS NOT AVAILABLE.
13. CONTRACTOR SHALL PROVIDE OWNER WITH ONE SET OF AS-BUILT RECORD DRAWINGS SHOWING EXACT ACTUAL LOCATIONS OF ALL SPRINKLER EQUIPMENT. CONTRACTOR SHALL ORIENT OWNER WITH COMPLETE SYSTEM AND CONTROLLER OPERATIONS, AND WINTERIZATION PROCEDURES.
14. CONTRACTOR SHALL SUPPLY AND INSTALL ALL EQUIPMENT SHOWN ON THE PLANS AND INDICATED IN THE SPECIFICATIONS TO ACHIEVE PROPER OPERATION OF SAID EQUIPMENT. ALL EQUIPMENT INSTALLATIONS, ELECTRICAL AND PLUMBING CONNECTIONS SHALL BE IN CONFORMANCE WITH ALL APPLICABLE CODES AND ORDINANCES, THESE SPECIFICATIONS, AND THE MANUFACTURERS RECOMMENDATIONS WHETHER INDICATED ON THE DRAWINGS OR NOT.
15. CONTRACTOR SHALL INCLUDE IN HIS BID ONE FALL WINTERIZATION AND ONE SPRING ACTIVATION OF IRRIGATION SYSTEM. THESE ACTIVITIES SHALL BE INCLUDED AS PART OF OWNER ORIENTATION PROCEDURES. ANY DAMAGE TO THE IRRIGATION SYSTEM OR THE LANDSCAPE AS A RESULT OF FAILURE TO COMPLY WITH THESE REQUIREMENTS SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
16. CONTRACTOR SHALL GUARANTEE IN WRITING ON HIS COMPANY LETTERHEAD ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE FULL YEAR FOLLOWING ACCEPTANCE OF SYSTEM INSTALLATION.
17. BACKFLOW PREVENTOR SHALL BE INSPECTED AND TESTED BY A CERTIFIED BACKFLOW DEVICE INSPECTOR. PROVIDE OWNER WITH ONE COPY OF APPROVAL CERTIFICATE.

△	REVISIONS	DATE	BY
1	SHORELINE APPLICATION	12/12/17	SCJ
2	GRADING PERMIT	04/06/18	SCJ
3	WSDOT PERMIT	01/22/18	SCJ
4			

DESIGNED BY: P. HOLM
DRAWN BY: K. JANKOVSKY
CHECKED BY: S. SAWYER
ISSUE DATE: APRIL 2018
JOB No.: 0738.05
DRAWING FILE No.: 0738,5-LS-4-6-PO

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

STATE OF WASHINGTON · MARK S. GARFF · 888 EXP. 02/12/18 · LICENSED LANDSCAPE ARCHITECT

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PROJECT NAME:

MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

IRRIGATION, NOTES, & DETAILS

DRAWING No.: LS-6
SHEET No.: 21 OF 22

T. 20 N., R. 03 W., S 20, W.M.

GENERAL NOTES

1. WHEN USED, THE DEVICE SPACING FOR THE DOWNSTREAM TAPER SHOULD BE 20' O.C.
2. ALL CONFLICTING EXISTING SIGNS SHALL BE COVERED, AS DETERMINED BY THE ENGINEER OR WSDOT INSPECTOR.
3. TYPICAL APPLICATION SHOWN. ADJUST SIGNS AND LOCATIONS TO FIT SITE CONDITIONS.
4. EXTEND CHANNELIZING DEVICE TAPERS ACROSS SHOULDER.
5. EXTEND AND/OR REDUCE SHOULDER CLOSURES AND WORK AREAS AS NECESSARY.
6. NO ENCROACHMENT ON TRAVELED LANE. IF ENCROACHMENT IS NECESSARY, LANE SHALL BE CLOSED AND A TRAFFIC CONTROL PLAN WILL NEED TO BE PREPARED FOR WSDOT APPROVAL.
7. PROTECTIVE VEHICLE REQUIRED – MAY BE A WORK VEHICLE.

BUFFER DATA										
LONGITUDINAL BUFFER SPACE = B										
SPEED (MPH)	25	30	35	40	45	50	55	60	65	70
LENGTH (feet)	155	200	250	305	360	425	495	570	645	730
TRANSPORTABLE ATTENUATOR ROLL AHEAD DISTANCE = R										
MOST VEHICLE WEIGHT 9,900 TO 22,000 LBS.				MOST VEHICLE WEIGHT > 22,000 LBS.						
< 45 MPH	45–55 MPH	> 55 MPH		< 45 MPH	45–55 MPH	> 55 MPH				
100'	123'	172'		74'	100'	150'				
PROTECTIVE VEHICLE (WORK VEHICLE) = R										
NO SPECIFIED DISTANCE REQUIRED										

MINIMUM TAPER LENGTH IN FEET (L)										
SHOULDER WIDTH (FEET)	POSTED SPEED (MPH)									
	25	30	35	40	45	50	55	60	65	70
6	63	90	123	165	270	300	330	360	390	420
8	84	120	162	210	360	405	450	480	525	570
10	105	150	204	270	450	510	555	600	660	705
3 DEVICES MINIMUM SPACED 10' O.C. IN TAPERS FOR SHOULDER WIDTHS LESS THAN 6 FEET										

SIGN SPACING = X (FEET) (1)		
FREEWAYS & EXPRESSWAYS	55/70 MPH	1500'± (OR AS PER MUTCD)
RURAL HIGHWAYS	60/65 MPH	800'±
RURAL ROADS	45/55 MPH	500'±
RURAL ROADS, URBAN ARTERIAL	35/40 MPH	350'±
RURAL ROADS, URBAN ARTERIAL RESIDENTIAL & BUSINESS DISTRICTS	25/30 MPH	200'± (2)
URBAN STREETS	25 MPH OR LESS	100'± (2)
ALL SIGNS ARE 48"x48" BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.		

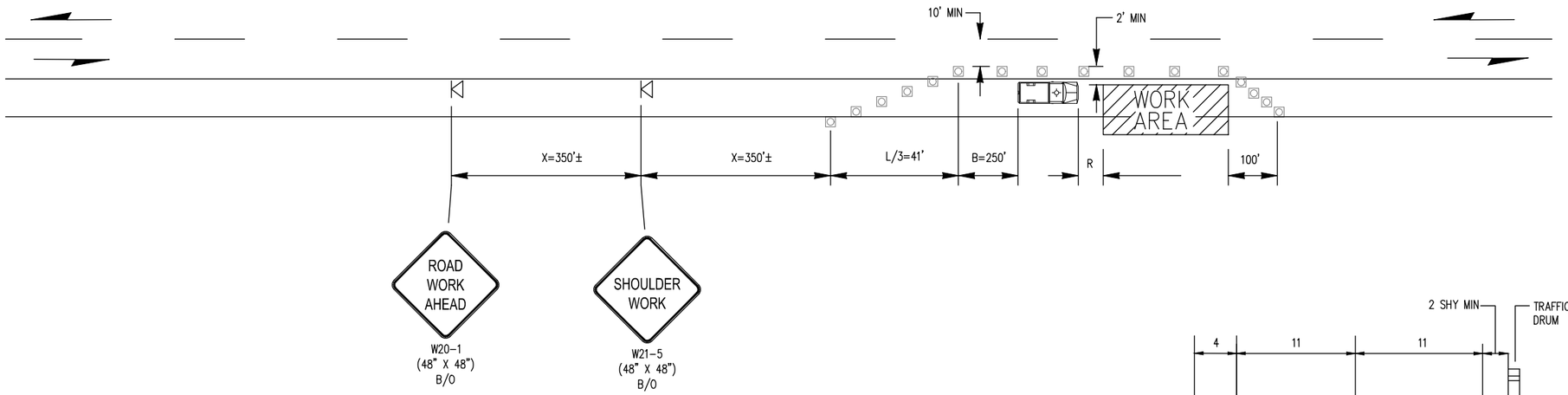
(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE AT–GRADE INTERSECTIONS AND DRIVEWAYS.

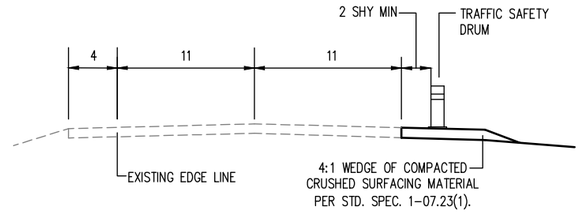
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

N.T.S.

CHANNELIZING DEVICE SPACING (FEET)		
MPH	TAPER	TANGENT
50/70	40	80
45/50	30	60
35/40	30	60
25/30	20	40

A-LINE (STATE ROUTE 3 - E PINE ST)





A–LINE TYPICAL ROADWAY SECTION (NON–WORKING HOURS)NTS

DURING NON–WORKING HOURS THESE SIGNS AND THE SHOULDER CLOSURE TAPERING ARE REQUIRED TO PROTECT THE DROP–OFF.

LEGEND

- SIGN LOCATION – TEMPORARY MOUNT
- TRAFFIC CONES
- PROTECTIVE VEHICLE
- DIRECTION OF TRAVEL

A-LINE (STATE ROUTE 3 - E PINE ST) EASTBOUND LOW-SPEED SHOULDER CLOSURE

	REVISIONS	DATE	BY
1	SHORELINE APPLICATION	12/12/17	SCJ
2	GRADING PERMIT	04/06/18	SCJ
3	WSDOT PERMIT	01/22/18	SCJ

DESIGNED BY: P. HOLM
DRAWN BY: MPJ
CHECKED BY: S. SAWYER
ISSUE DATE: APRIL 2018
JOB No.: 0738.05
DRAWING FILE No.: 0738,5-TC-1-PO

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

PATRICK HOLM — STATE OF WASHINGTON — 49961 — REGISTERED PROFESSIONAL ENGINEER

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P: 360-352-1465 F: 360-352-1509
SCJALLIANCE.COM

PROJECT NAME:

MTA

MASON TRANSIT AUTHORITY
PEAR ORCHARD
PARK AND RIDE DEVELOPMENT

TRAFFIC CONTROL PLAN

DRAWING No.: TC-1
SHEET No.: 22 OF 22

MASON TRANSIT AUTHORITY
PEAR ORCHARD PARK AND RIDE

APPENDIX A

Insight Geologic Soils Report

Draft Geoengineers Geotechnical Report

INSIGHT GEOLOGIC, INC.

Special Materials Testing

Boot Hill Street Sweeping Waste

Prepared For:

City of Shelton

INSIGHT GEOLOGIC, INC.

August 28, 2009

City of Shelton
Department of Public Works
525 West Cota Street
Shelton, Washington 98584

Attention: Mike Michaels

Report
Special Materials Testing
Boot Hill Street Sweeping Waste
Shelton, Washington

INTRODUCTION

Insight Geologic is pleased to provide our report regarding our evaluation of the stockpile of street sweeping waste known locally as "Boot Hill" in Shelton, Washington. The waste stockpile is located on the south side of East Pine Street (State Route 3), approximately 0.2 miles east of the intersection with Front Street in Shelton. The site location is shown relative to surrounding physical features in the Vicinity Map, Figure 1. The general layout of the site is shown in the Site Plan, Figure 2.

Boot Hill, is located adjacent to SR-3, northeast of downtown Shelton. The City has used the site for storage of construction debris and street sweeping waste generated from street sweeping operations within the city. The material consists primarily of sand and silt, but also contains debris including rubbish and wood. Previous sampling and analysis of the soil stockpile in 2000 and 2002 indicated the presence of petroleum hydrocarbons, lead, mercury and polycyclic aromatic hydrocarbons (PAHs) at concentrations exceeding the respective Washington State Department of Ecology (Ecology) Model Toxics Control Act (MTCA) Method A cleanup levels for unrestricted land use. The volume of the stockpile of material is estimated to be approximately 3,500 cubic yards.

Our services were performed in general accordance with our consulting agreement with the City of Shelton dated July 7, 2009 and amended on August 10, 2009.

SCOPE OF SERVICES

The purpose of our proposed services at the Boot Hill site was two fold – 1) to collect and analyze soil samples from the stockpile of street sweeping waste for the presence of petroleum hydrocarbons, heavy metals (specifically lead and mercury), and polycyclic aromatic hydrocarbons (PAHs) to confirm previous detections of these compounds in the 2000 and 2002 sampling events, and 2) to evaluate the suitability of the material for use as fill using appropriate geotechnical testing methods. We conducted the following tasks:

1015 East 4th Avenue, Olympia, Washington 98506
Phone: 360.943-5003 FAX: 360.754.9299

1. Prepare a Health and Safety Plan in accordance with 40 CFR 1920 and Washington Labor and Industries that discusses the field activities to be performed, the contaminants known or suspected to be present at the site and presents the appropriate personal protective equipment to be worn while conducting field activities.
2. Collect representative soil samples from three (3) locations within the soil stockpile for chemical analysis. Samples were collected from the stockpile using a manually advanced soil auger and/or a backhoe and collected into laboratory-supplied containers appropriate for the requested analyses. The soil samples were collected from the upper 5-feet of material. Once collected, standard chain of custody procedures were employed for delivery of the samples to the analytical laboratory.
3. Provide for the analysis of the soil samples for the presence of petroleum hydrocarbons using Washington State Department of Ecology Method NWTPH-HCID, for heavy metals (specifically arsenic, cadmium, chromium, lead and mercury) using EPA 7000 series methodology and for PAHs using EPA Method 8270.
4. Evaluate the laboratory analytical data with respect to current Ecology MTCA Method A cleanup levels for unrestricted land use.
5. Collect representative soil samples from the stockpile for grain-size analysis, moisture-density testing (Modified Proctor) and Atterberg limits in accordance with ASTM methodology. Laboratory testing was conducted by Insight Geologic in their Olympia office.

FINDINGS

GENERAL

Insight Geologic drilled 3 exploratory borings within the stockpile using manually advanced soil augers. The approximate locations of the hand auger borings are shown in the Hand Auger Location Map, Figure 3. Due to the cobbly nature of the soil, we were only able to penetrate about 3 feet into the soil stockpile. A City backhoe was subsequently employed to extend the explorations to depths of about 5 feet. Boring logs for the explorations are contained in Attachment A.

CHEMICAL ANALYSES

Representative soil samples were collected from the borings, placed into laboratory-supplied glass jars and submitted to Libby Environmental Laboratory in Olympia, Washington for analysis. The samples were analyzed for the presence of petroleum hydrocarbons using Washington State Department of Ecology Method NWTPH-HCID, for heavy metals (specifically arsenic, cadmium, chromium, lead and mercury) using EPA 7000 series methodology and for PAHs using EPA Method 8270.

Laboratory results indicated the presence of carcinogenic PAHs in all three soil samples at concentrations that, in total, exceed the MTCA Method A cleanup level of 1.0 milligrams per

kilogram (mg/kg). Total chromium was detected at a concentration that exceeded the MTCA Method A cleanup level for Chromium VI of 19 mg/kg. The sample was subsequently submitted for speciation as Cr VI and the laboratory report indicated that Cr VI was not detected in the sample. Arsenic was detected in all three samples at concentrations less than the MTCA Method A cleanup level of 20 mg/kg. Cadmium lead and mercury were not detected in any of the soil samples analyzed. Petroleum hydrocarbons as gasoline, diesel and heavy oil either were not detected or were detected at concentrations less than the respective MTCA Method A cleanup levels. Laboratory analytical results for the three soil samples are summarized in Tables 1 – 3. Laboratory reports are contained in Attachment B.

GEOTECHNICAL TESTING

Three soil samples were tested for geotechnical properties by Insight Geologic, Inc. in general accordance with ASTM methodology. The samples were tested for grain-size distribution by dry sieving and moisture-density relationships using the Modified Proctor methodology.

The results of our testing indicates that the soil has a maximum dry density of between 135 and 137 pounds per cubic foot at moisture concentrations ranging between 5 and 7 percent. The material is suitable for use as structural fill based on our testing. The results of our laboratory testing are presented in Attachment C.

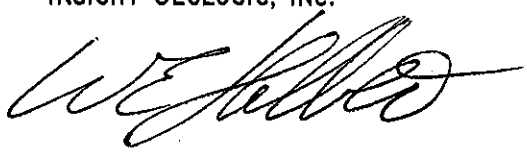
CONCLUSIONS

Based on the results of our testing, it appears that the street sweeping waste contains residual concentrations of PAHs that exceed Ecology's MTCA Method A cleanup level of 1 mg/kg. Previous testing of the soil has indicated concentrations of lead and petroleum hydrocarbons at concentrations exceeding the respective cleanup values. We understand that the City desires to place the material as structural fill in a below grade vault in the adjacent former water treatment building. The vault is the former treatment reservoir and is lined with concrete. The material would be compacted and subsequently covered with asphalt for a parking area.

We recommend that the City consult with Ecology regarding this proposed course of action for the soil. The remediation should be conducted under Ecology's Voluntary Cleanup Program (VCP). The proposed strategy will likely require a deed restriction on the property and long-term, periodic monitoring.

We appreciate the opportunity to be of service to you on this project. Please contact us if you have questions regarding our report, or if you require additional information.

Yours very truly,
INSIGHT GEOLOGIC, INC.



William E. Halbert, L.G., L.E.G.
Principal

Attachments

TABLES

TABLE 1
Chemical Analytical Summary - Soil[1]
Petroleum Hydrocarbon Identification

Sample Number	Sample Date	Gasoline-range Hydrocarbons	Diesel-Range Hydrocarbons	Mineral Oil	Heavy Oil-Range Hydrocarbons
"Boot Hill"					
HA-1-4.5	July 10, 2009	<20	<50	<100	<100
HA-2-5	July 8, 2009	<20	<50	<100	<100
HA-3-5	July 10, 2009	<20	<50	<100	**333**
MTCA Method A Cleanup Level		100/30	2,000	4,000	2,000

Notes:
[1]Analyses performed using Ecology Method NWTPH-HCID.
"<5.0" - indicates the analyte was not detected above the concentration shown.
All concentrations shown are in units of milligrams per kilogram (mg/kg).
Detected compounds are shown in **BOLD** text.
Exceedences of MTCA Method A cleanup levels are shown in **RED** text.

TABLE 2
Chemical Analytical Summary - Soil[1]
Total Metals

Sample Number	Sample Date	Arsenic	Cadmium	Total Chromium	Chromium VI	Lead	Mercury
"Boot Hill"							
HA-1-4.5	July 10, 2009	<5.0	<1.0	**17**	**NA**	<5.0	<0.5
HA-2-3	July 8, 2009	**5**	<1.0	**22**	<0.2	<5.0	<0.5
HA-3-5	July 10, 2009	**6**	<1.0	**11**	**NA**	<5.0	<0.5
MTCA Method A Cleanup Level		20	2	19[2]		250	2

Notes:

Analyses performed using EPA 7000 Series Methodology.

Cleanup level is for Chromium VI. Additional speciation analysis is required.

"<5.0" indicates the analyte was not detected above the concentration shown.

All concentrations shown are in units of milligrams per kilogram (mg/kg).

Detected compounds are shown in BOLD text.

Exceedences of MTCA Method A cleanup levels are shown in RED text.

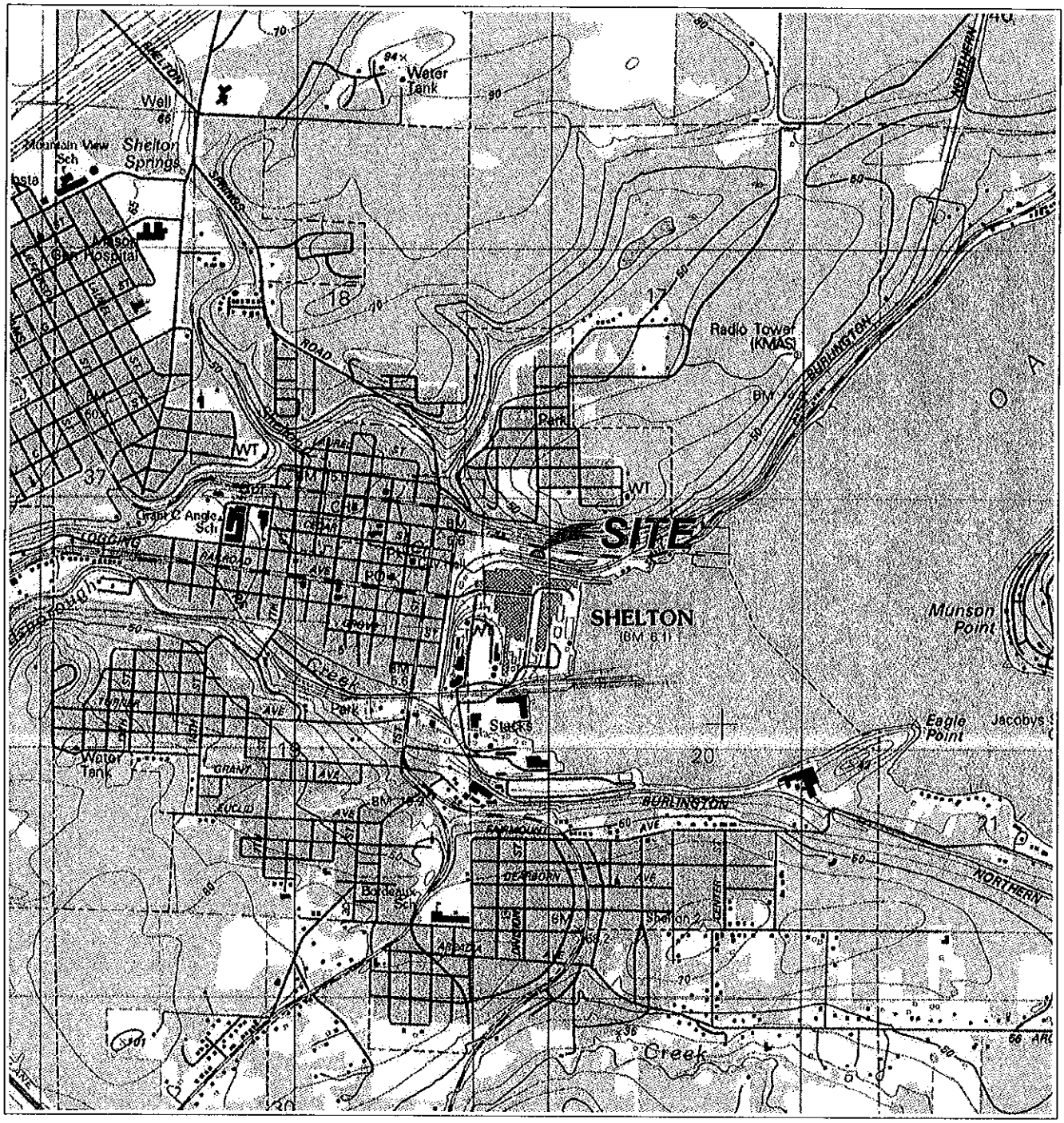
TABLE 3
Chemical Analytical Summary - Soil[1]
Polycyclic Aromatic Hydrocarbons

Sample Number	Sample Date	Phenanthrene	Anthracene	Fluoranthene	Pyrene	Benzo(a)anthracene	Chrysene	Benzo(b)fluoranthene	Benzo(k)fluoranthene	Benzo(a)pyrene	Ideno(1,2,3-cd)pyrene	Dibenzo(a,h)anthracene	Benzo(g,h,i)perylene	Total Carcinogenic PAHs
"Boot Hill"														
HA-1-4.5	July 10, 2009	**0.2**	**<0.1**	**0.3**	**0.3**	**<0.08**	**<0.08**	**0.39**	**0.25**	**0.33**	**0.33**	**0.24**	**0.3**	**1.54**
HA-2-5	July 8, 2009	**0.3**	**0.1**	**0.4**	**0.4**	**0.11**	**0.22**	**0.7**	**0.65**	**0.36**	**0.52**	**0.28**	**0.6**	**2.84**
HA-3-5	July 10, 2009	**0.2**	**0.1**	**0.2**	**0.2**	**0.2**	**0.22**	**0.35**	**0.3**	**0.15**	**0.16**	**0.11**	**0.2**	**1.49**

Notes:

1. Analyses performed using EPA Method 8270C.
2. "<0.1" - indicates the analyte was not detected above the concentration shown.
3. All concentrations shown are in units of milligrams per kilogram (mg/kg).
4. Detected compounds are shown in **BOLD** text. Exceedences of MTCA Method A cleanup levels are shown in **RED** text.
5. Carcinogenic PAHs are indicated by orange shading.

FIGURES



Source: Maptech, Inc. (c) 1997

SHELTON, WASHINGTON
7.5 MINUTE QUADRANGLE
Year created 1981

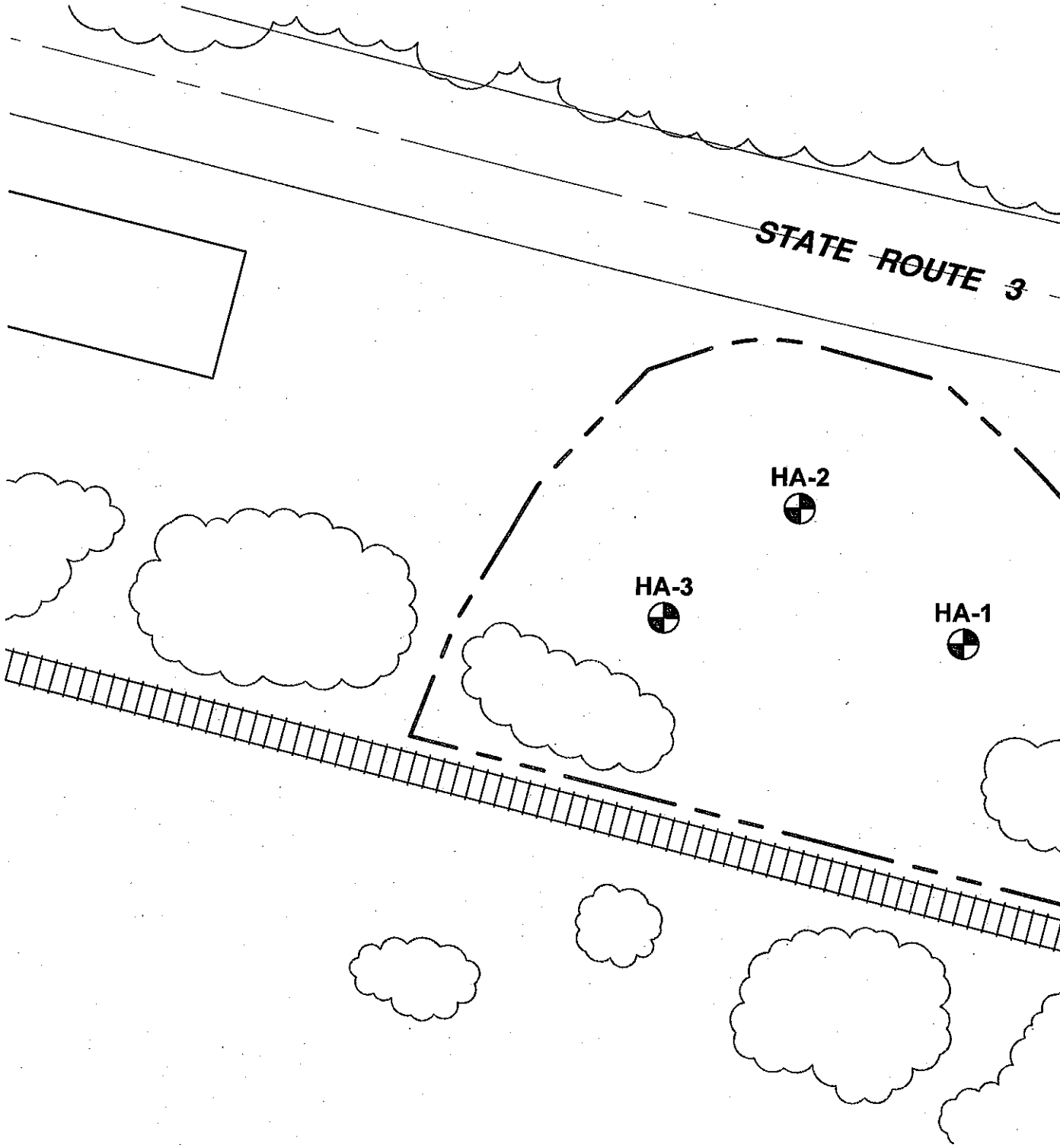
SCALE: 1: 24000

CITY OF SHELTON
BOOT HILL
SHELTON, WASHINGTON

INSIGHT GEOLOGIC, INC.

Figure 1
Vicinity Map

INSIGHT GEOLOGIC, INC.



INSIGHT GEOLOGIC, INC.

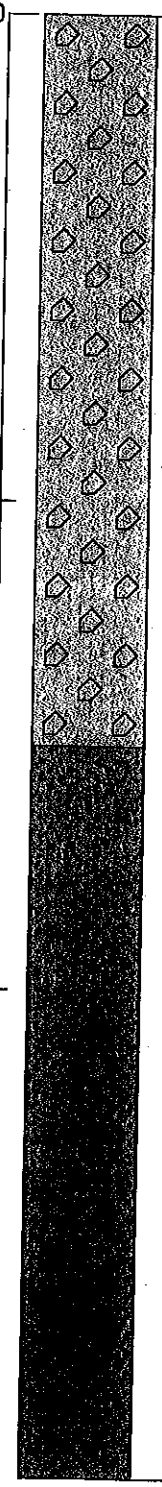
ATTACHMENT A

EXPLORATION LOGS

PROJECT: **City of Shelton**
PROJECT NO.: **461-01-1**
LOCATION: **Boot Hill**

BOREHOLE: **HA 2**

DATE: **07/08/2009**
TOTAL DEPTH: **3'**

Depth (feet)	Lithology	Inches Driven/ Recovered	Blows per Foot	USCS	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0				SP	SP: Light brown fine to coarse gravel with fine to coarse sand and silt, occassional cobbles, dense, dry	
					SP: Light gray/brown find to coarse sand and silt with fine to coarse gravel, occassional bits of trash, dense, dry	

Drilling Contractor:
Drilling Equimpment: **Hand Auger**
Drilling Method: **Hand Auger**

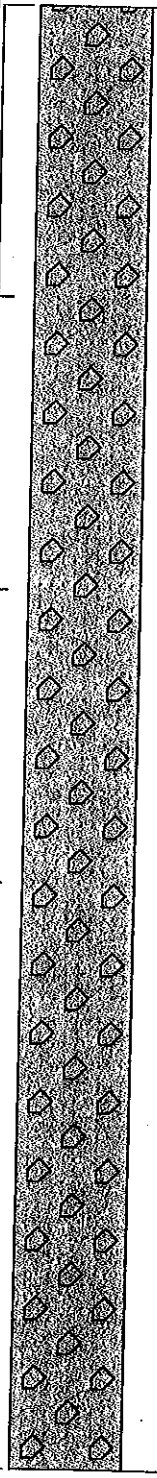
Logged By: **KVandehey**
Driller:

INSIGHT GEOLOGIC, INC.

PROJECT: **City of Shelton**
PROJECT NO.: **461-01-1**
LOCATION: **Boot Hill**

BOREHOLE: **HA 3**

DATE: **07/08/2009**
TOTAL DEPTH: **5'**

Depth (feet)	Lithology	Inches Driven/ Recovered	Blows per Foot	USCS	SOIL DESCRIPTION	REMARKS AND OTHER TESTS
0				GW	GW: Light brown fine to coarse gravel with fine to coarse sand and silt, occassional cobbles, dense, dry	
5						

Drilling Contractor:
Drilling Equimpment: **Hand Auger**
Drilling Method: **Hand Auger**

Logged By: **KVandehey**
Driller:

INSIGHT GEOLOGIC, INC.

ATTACHMENT B

CHEMICAL ANALYTICAL REPORTS

Libby Environmental, Inc.

4139 Libby Road N.E., Olympia, WA 98506-2518

August 4, 2009

Bill Halbert
Insight Geologic, Inc.
1015 East Fourth Avenue
Olympia, WA 98506

Dear Mr. Halbert:

Please find enclosed the analytical data report for the City of Shelton Boot Hill and Kneeland Park Project located in Shelton, Washington. Soil samples were received and analyzed for Hydrocarbon Identification by NWTPH-HCID, PAH's by EPA Method 8270, and MTCA5 Metals by EPA Method 7000 Series on July 12 – 14 & 21, 2009.

The results of the analyses are summarized in the attached tables. Applicable detection limits and QA/QC data are included. An invoice for this analytical work is also enclosed. All soil samples are reported on a dry weight basis.

Libby Environmental, Inc. appreciates the opportunity to have provided analytical services for this project. If you have any further questions about the data report, please give me a call. It was a pleasure working with you on this project, and we are looking forward to the next opportunity to work together.

Sincerely,

Sherry L. Chilcutt
President
Libby Environmental, Inc.

Phone (360) 352-2110 * Fax (360) 352-4154 * libbyenv@aol.com

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

CITY OF SHELTON BOOTHILL & KNEELAND PARK PROJECT
Shelton, Washington
Insight Geologic
Client Project #461-01-01
Libby Project No.L090708-7

Hydrocarbon Identification by NWTPH-HCID for Soil

Sample Number	Date Analyzed	Surrogate Recovery (%)	Gasoline (mg/kg)	Diesel (mg/kg)	Mineral Oil (mg/kg)	Heavy Oil (mg/kg)
Method Blank	7/13/2009	117	nd	nd	nd	nd
HA-2	7/13/2009	118	nd	nd	nd	nd
B-1	7/13/2009	85	nd	nd	nd	nd
B-2	7/13/2009	89	nd	nd	nd	nd
B-3	7/13/2009	80	nd	nd	nd	nd
B-4	7/13/2009	101	nd	nd	nd	nd
B-5	7/13/2009	92	nd	nd	nd	nd
B-6	7/13/2009	109	nd	nd	nd	nd
B-7	7/13/2009	109	nd	nd	nd	nd
B-7 Dup.	7/13/2009	101	nd	nd	nd	nd
Practical Quantitation Limit			20	50	100	100

"nd" Indicates not detected at listed detection limits.
"D" Indicates detected above the listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

ANALYSES PERFORMED BY: Athanasius Shaw

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

CITY OF SHELTON BOOT HILL PROJECT
Shelton, Washington
Insight Geologic
Client Project #461-01-01
Libby Project No.L090708-7

Hydrocarbon Identification by NWTPH-HCID for Soil

Sample Number	Date Analyzed	Surrogate Recovery (%)	Gasoline (mg/kg)	Diesel (mg/kg)	Mineral Oil (mg/kg)	Heavy Oil (mg/kg)
Method Blank	7/13/2009	117	nd	nd	nd	nd
HA-1-4.5	7/13/2009	106	nd	nd	nd	nd
HA-3-5	7/13/2009	101	nd	nd	nd	D
Practical Quantitation Limit			20	50	100	100

"nd" Indicates not detected at listed detection limits.
"D" Indicates detected above the listed detection limit.
"int" Indicates that interference prevents determination.

ACCEPTABLE RECOVERY LIMITS FOR SURROGATE (2-F Biphenyl): 65% TO 135%

ANALYSES PERFORMED BY: Athanasius Shaw

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

SHELTON BOOT HILL & KNEELAND PARK PROJECT
Shelton, Washington
Insight Geologic, Inc

Libby Project No.L090708-7

Analyses of Mercury in Soil by EPA Method 7471

Sample Number	Date Analyzed	Mercury (mg/kg)
Method Blank	7/13/09	nd
HA-1-4.5	7/13/09	nd
HA-2	7/13/09	nd
HA-3-5	7/13/09	nd
B-1	7/13/09	nd
B-2	7/13/09	nd
B-3	7/13/09	nd
B-4	7/13/09	nd
B-5	7/13/09	nd
B-6	7/13/09	nd
B-7	7/13/09	nd
	7/13/09	nd
Practical Quantitation Limit		0.5

"nd" Indicates not detected at the listed detection limits.

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

SHELTON BOOT HILL & KNEELAND PARK PROJECT
Shelton, Washington
Insight Geologic, Inc

Libby Project No.L090708-7

Analyses of Metals in Soil by EPA Method 7000 Series

Sample Number	Date Analyzed	Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Arsenic (mg/kg)
Method Blank	7/12/09	nd	nd	nd	nd
HA-1-4.5	7/12/09	nd	nd	17	nd
HA-2	7/12/09	nd	nd	22	5
HA-3-5	7/12/09	nd	nd	11	6
HA-3-5 Dup	7/12/09	nd	nd	14	6
B-1	7/12/09	6	nd	7	8
B-2	7/12/09	28	nd	38	12
B-3	7/12/09	9	nd	37	10
B-4	7/12/09	12	nd	35	8
B-5	7/12/09	7	nd	28	6
B-6	7/12/09	19	nd	20	6
B-7	7/12/09	32	nd	22	9
B-7 Dup	7/12/09	31	nd	32	12
Practical Quantitation Limit		5.0	1.0	5.0	5.0

"nd" Indicates not detected at the listed detection limits.

ANALYSES PERFORMED BY: Sherry Chilcutt

LIBBY ENVIRONMENTAL CHEMISTRY LABORATORY

SHELTON BOOT HILL & KNEELAND PARK PROJECT
Shelton, Washington
Insight Geologic, Inc

QA/QC for Metals in Soil by EPA Method 7000 Series

Sample Number	Date Analyzed	Lead (% Recovery)	Cadmium (% Recovery)	Chromium (% Recovery)	Arsenic (% Recovery)
LCS	7/12/09	112%	107%	113%	86%
MS	7/12/09	74%	85%	int	119%
MSD	7/12/09	int	97%	int	int
RPD	7/12/09		13%		
Practical Quantitation Limit		5.0	1.0	5.0	5.0

ACCEPTABLE RECOVERY LIMITS FOR MATRIX SPIKES: 65%-135%
ACCEPTABLE RPD IS 35%

ANALYSES PERFORMED BY: Sherry Chilcutt

Fremont
2930 Westlake Ave. N., Suite 100
Seattle, WA 98103

T: 206.352.3790
F: 206.352.7178
email: info@fremontanalytical.com

Analysis of Polyaromatic Hydrocarbons in Soil by EPA Method 8270C

Project: City of Shelton
Client: Libby Environmental
Client Project #: N/A
Lab Project #: CHM090713-1

EPA 8270C (mg/kg)	MRL	Method Blank	LCS	HA-2	B-1	B-1 Duplicate	B-2	B-3	B-4
Date Extracted		7/13/09	7/13/09	7/13/09	7/13/09	7/13/09	7/13/09	7/13/09	7/13/09
Date Analyzed		7/14/09	7/14/09	7/14/09	7/14/09	7/14/09	7/14/09	7/14/09	7/14/09
Matrix				Soil	Soil	Soil	Soil	Soil	Soil
Naphthalene	0.1	nd		nd	nd	nd	nd	nd	nd
1-Methylnaphthalene	0.1	nd		nd	nd	nd	nd	nd	nd
2-Methylnaphthalene	0.1	nd		nd	nd	nd	nd	nd	nd
Acenaphthene	0.1	nd	101%	nd	nd	nd	nd	nd	nd
Acenaphthylene	0.1	nd		nd	nd	nd	nd	nd	nd
Fluorene	0.1	nd		nd	nd	nd	nd	nd	nd
Phenanthrene	0.1	nd		**0.3**	nd	nd	nd	nd	nd
Anthracene	0.1	nd		**0.1**	nd	nd	nd	nd	nd
Fluoranthene	0.1	nd		**0.4**	nd	nd	nd	nd	nd
Pyrene	0.1	nd	91%	**0.4**	nd	nd	nd	nd	nd
Benzo(a)anthracene	0.08	nd		**0.11**	nd	nd	nd	nd	nd
Chrysene	0.08	nd		**0.22**	nd	nd	nd	nd	nd
Benzo(b)fluoranthene	0.08	nd		**0.70**	nd	nd	nd	nd	nd
Benzo(k)fluoranthene	0.08	nd		**0.65**	nd	nd	nd	nd	nd
Benzo(a)pyrene	0.08	nd		**0.36**	nd	nd	nd	nd	nd
Indeno(1,2,3-cd)pyrene	0.08	nd		**0.52**	nd	nd	nd	nd	nd
Dibenzo(a,h)anthracene	0.08	nd		**0.28**	nd	nd	nd	nd	nd
Benzo(g,h,i)perylene	0.1	nd		**0.6**	nd	nd	nd	nd	nd
Total PAH Carcinogens				*2.8*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*

Total PAH Carcinogens Defined as:
Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Ideno(1,2,3-cd)pyrene & Dibenzo(a,h)anthracene

Surrogate Recovery								
(Surr 1) 2-Fluorobiphenyl	80%	104%	83%	88%	89%	89%	97%	98%
(Surr 2) p-Terphenyl	75%	89%	72%	72%	75%	67%	72%	77%

"nd" Indicates not detected at listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"MRL" Indicates Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Samples may be run under SIM
Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 50% to 150%
Surrogate Concentration = 0.5 mg/kg
Spike Concentration = 1.0 mg/kg

Fremont

2930 Westlake Ave. N., Suite 100
Seattle, WA 98103

T: 206.352.3790
F: 206.352.7178
email: info@fremontanalytical.com

Analysis of Polyaromatic Hydrocarbons in Soil by EPA Method 8270C

Project: City of Shelton
Client: Libby Environmental
Client Project #: N/A
Lab Project #: CHM090713-1

EPA 8270C (mg/kg)	MRL	B-5	B-6	B-7	HA-1-4.5	HA-3-5	MS B-7	MSD B-7	RPD %
Date Extracted		7/13/09	7/13/09	7/13/09	7/13/09	7/13/09	7/13/09	7/13/09	
Date Analyzed		7/14/09	7/14/09	7/14/09	7/14/09	7/14/09	7/14/09	7/14/09	
Matrix		Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Naphthalene	0.1	nd	nd	nd	nd	nd			
1-Methylnaphthalene	0.1	nd	nd	nd	nd	nd			
2-Methylnaphthalene	0.1	nd	nd	nd	nd	nd			
Acenaphthene	0.1	nd	nd	nd	nd	nd	100%	99%	1%
Acenaphthylene	0.1	nd	nd	nd	nd	nd			
Fluorene	0.1	nd	nd	nd	nd	nd			
Phenanthrene	0.1	nd	nd	nd	**0.2**	**0.2**			
Anthracene	0.1	nd	nd	nd	nd	**0.1**			
Fluoranthene	0.1	nd	nd	nd	**0.3**	**0.2**			
Pyrene	0.1	nd	nd	nd	**0.3**	**0.2**	89%	88%	1%
Benzo(a)anthracene	0.08	nd	nd	nd	nd	**0.20**			
Chrysene	0.08	nd	nd	nd	nd	**0.22**			
Benzo(b)fluoranthene	0.08	nd	nd	nd	**0.45**	**0.35**			
Benzo(k)fluoranthene	0.08	nd	nd	nd	**0.39**	**0.30**			
Benzo(a)pyrene	0.08	nd	nd	nd	**0.25**	**0.15**			
Indeno(1,2,3-cd)pyrene	0.08	nd	nd	nd	**0.33**	**0.16**			
Dibenzo(a,h)anthracene	0.08	nd	nd	nd	**0.24**	**0.11**			
Benzo(g,h,i)perylene	0.1	nd	nd	nd	**0.3**	**0.2**			
Total PAH Carcinogens		*0.0*	*0.0*	*0.0*	*1.7*	*1.5*			

Total PAH Carcinogens Defined as:
Benzo(a)anthracene, Chrysene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Benzo(a)pyrene, Ideno(1,2,3-cd)pyrene & Dibenzo(a,h)anthracene

Surrogate Recovery							
(Surr 1) 2-Fluorobiphenyl	77%	103%	126%	78%	89%	103%	100%
(Surr 2) p-Terphenyl	60%	87%	98%	86%	77%	87%	83%

"nd" Indicates not detected at listed reporting limits
"int" Indicates that interference prevents determination
"J" Indicates estimated value
"MRL" Indicates Method Reporting Limit
"MRL" Indicates Reporting Limit
"LCS" Indicates Laboratory Control Sample
"MS" Indicates Matrix Spike
"MSD" Indicates Matrix Spike Duplicate
"RPD" Indicates Relative Percent Difference

Samples may be run under SIM
Acceptable RPD is determined to be less than 30%
Acceptable Recovery Limits:
Surrogates = 65% to 135%
LCS, LCSD, MS, MSD = 50% to 150%
Surrogate Concentration = 0.5 mg/kg
Spike Concentration = 1.0 mg/kg

SPECTRA Laboratories
2221 Ross Way • Tacoma, WA 98421 • (253) 272-4850 • Fax (253) 572-9838 • www.spectra-lab.com

07/28/2009

Libby Environmental, LLC
4139 Libby Rd NE
Olympia, WA 98506
Attn: Sherry Chilcutt

Project: City of Shelton
Sample Matrix: Soil
Date Sampled: 07/20/2009
Date Received: 07/21/2009
Spectra Project: 2009070355

Client ID	Spectra #	Analyte	Result	Units	Method
HA-2-3	1	Hexavalent Chromium	< 0.2	mg/Kg	SW846 7196A
B-2	2	Hexavalent Chromium	< 0.2	mg/Kg	SW846 7196A
B-3	3	Hexavalent Chromium	< 0.2	mg/Kg	SW846 7196A
B-04	4	Hexavalent Chromium	< 0.2	mg/Kg	SW846 7196A
B-5	5	Hexavalent Chromium	< 0.2	mg/Kg	SW846 7196A
B-6	6	Hexavalent Chromium	< 0.2	mg/Kg	SW846 7196A
B-7	7	Hexavalent Chromium	< 0.2	mg/Kg	SW846 7196A

Detection limit elevated due to sample color.

SPECTRA LABORATORIES

Steve Hibbs, Laboratory Manager
a7/scj

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Client: Insight Geologic
Address: 1115 [illegible] Olympia, WA 98502
Phone: 360-754-2120 Fax: 360-352-9029
Client Project # 461-01-01

Date: 7/8/09
Page: 1 of 1
Project Manager: Bill Hurlbut
Project Name: City of Shelton Road Hill + Kneeland Park
Location: Shelton
Collector: Kevin Vanderhoof
Date of Collection: 7/8/09

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270 PAH	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals				Field Note/# Containers
1 HA-1	35'	10:30	Soil	4oz jar				X	X					X					4oz ~
2 HA-2	3'	11:30		8															
3 HA-3	3'	12:30																	8oz ~
4 R-1	.5'	13:20																	
5 R-2		14:40																	
6 R-3		14:55																	
7 R-4		15:05																	
8 R-5		15:15																	
9 R-6		15:30																	
10 R-7		15:45																	
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			

Relinquished by:	Date / Time	Received by	Date / Time
Kevin Vanderhoof	7/8/09	[illegible]	7-8-09
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks: Special pricing per Shelly

TAT 24HR 48HR 5-Day

Distribution White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Client: Insight Geologic
Address: 1015 NE 4th Ave Olympia WA
Phone: 360-754-2124 Fax:
Client Project #

Date: 7/10/09 Page: 1 of 1
Project Manager: Bill Albert
Project Name: City of Shelton Boat Hill
Location: Shelton
Collector: Kevin Chamberlain Date of Collection: 7/10/09

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Note/# Containers
1 MB-1-4.5	4.5	10:15	Soil	4oz jar					X				X		X			
2 MB-3-5	5	10:40	Soil	4oz jar					X				X		X			
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		

Relinquished by:	Date / Time	Received by	Date / Time
Kevin Chamberlain	7/10/09 12:30	[illegible]	7/10/09 12:30
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR (5-Day)

Distribution White - Lab, Yellow - File, Pink - Originator

Libby Environmental, Inc.

Chain of Custody Record

4139 Libby Road NE
Olympia, WA 98506
Ph: 360-352-2110
Fax: 360-352-4154

Date: 7/19/05 Page: 1 of 1

Client: [illegible] Project Manager: [illegible]

Address: [illegible] Project Name: [illegible]

Phone: [illegible] Fax: Location: [illegible]

Client Project # Collector: [illegible] Date of Collection: 7/19/05

Sample Number	Depth	Time	Sample Type	Container Type	VOA 8021B	VOA 8021B BTEX Only	VOA 8260	SEMI VOL 8270	NWTPH-HCID	NWTPH-Gx	NWTPH-Dx	NWTPH-Dx Ext.	PAH 8270	PCB's 8082	MTCA 5 Metals			Field Note/# Containers
1 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]					X				X		X			
2 [illegible]	[illegible]	[illegible]	[illegible]	[illegible]					X				X		X			
3																		
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		
16																		
17																		
18																		

Relinquished by:	Date / Time	Received by	Date / Time
[illegible]	[illegible]	[illegible]	
Relinquished by:	Date / Time	Received by	Date / Time
Relinquished by:	Date / Time	Received by	Date / Time

Sample Receipt:

Good Condition?	
Cold?	
Seals Intact?	
Total Number of Containers	

Remarks:

TAT 24HR 48HR 5-Day

Distribution White - Lab, Yellow - File, Pink - Originator

ATTACHMENT C

GEOTECHNICAL TESTING

Moisture - Density Summary Data

Job Name: City of Shelton
Job Number: 461-01-1
Sample Number: HA1 4'-5'

Date Sampled: July 8, 2009
Sampled By: Kevin Vandehey
Date Tested: July 22, 2009
Tested By: Kevin Vandehey

Sample Prepared:

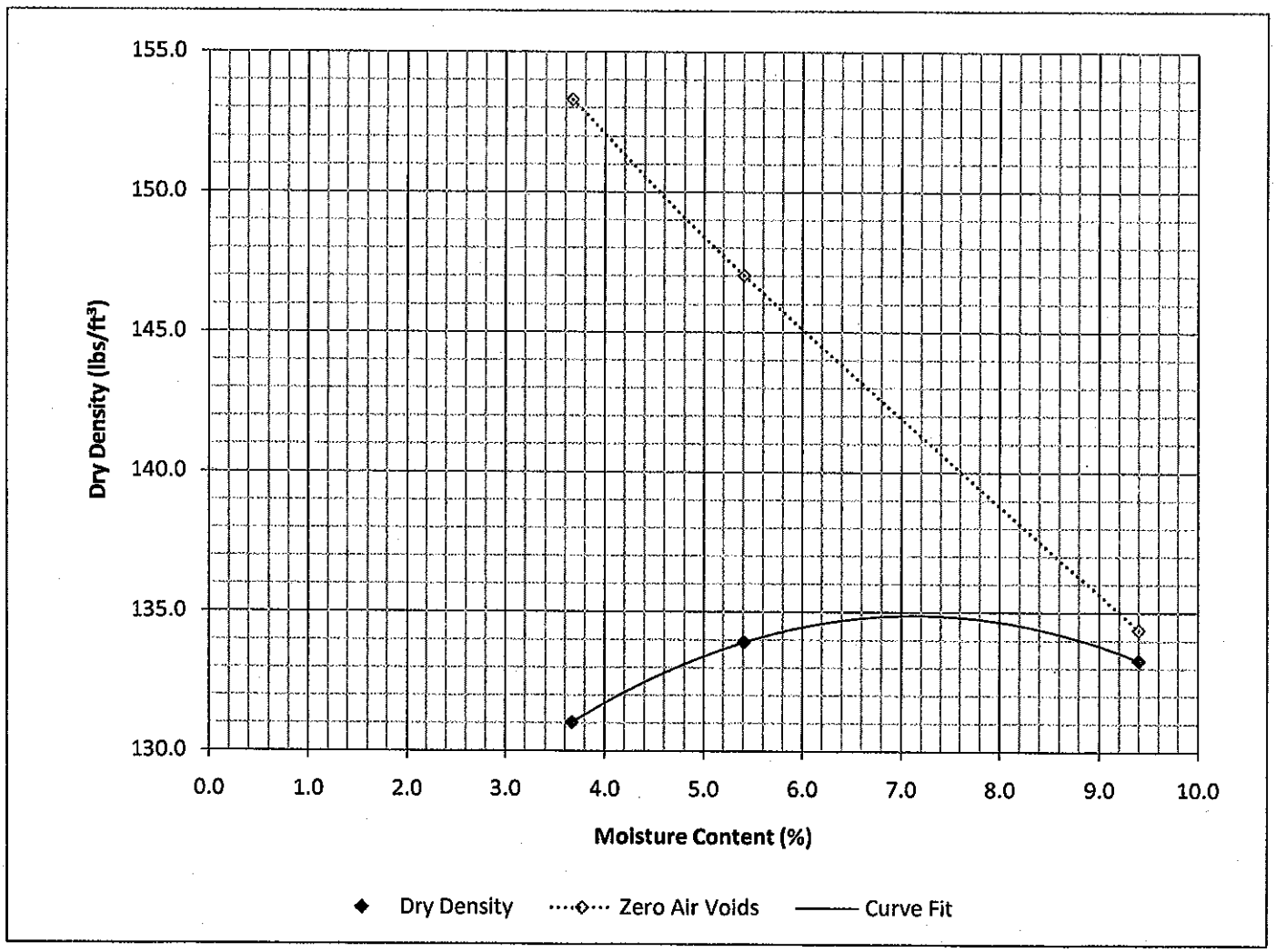
X	Manual
	Mechanical
	Dry
X	Moist

Test Standard:

X	ASTM D1557
	AASHTO T180
C	Method

Points	Moisture %	Dry Density	Zero Air Voids
1	3.67	131.01	153.29
2	5.41	133.90	147.02
3	9.40	133.27	134.37

Particle Density	2.7	Assumed
Maximum Dry Density	134.8	lbs/ft³
Optimum Moisture Content	6.9	%
Field Moisture Content	3.67	%



INSIGHT GEOLOGIC, INC.

Moisture - Density Summary Data

Job Name: City of Shelton
Job Number: 461-01-1
Sample Number: HA2 2'-3'

Date Sampled: July 8, 2009
Sampled By: Kevin Vandehey
Date Tested: July 22, 2009
Tested By: Kevin Vandehey

Sample Prepared:

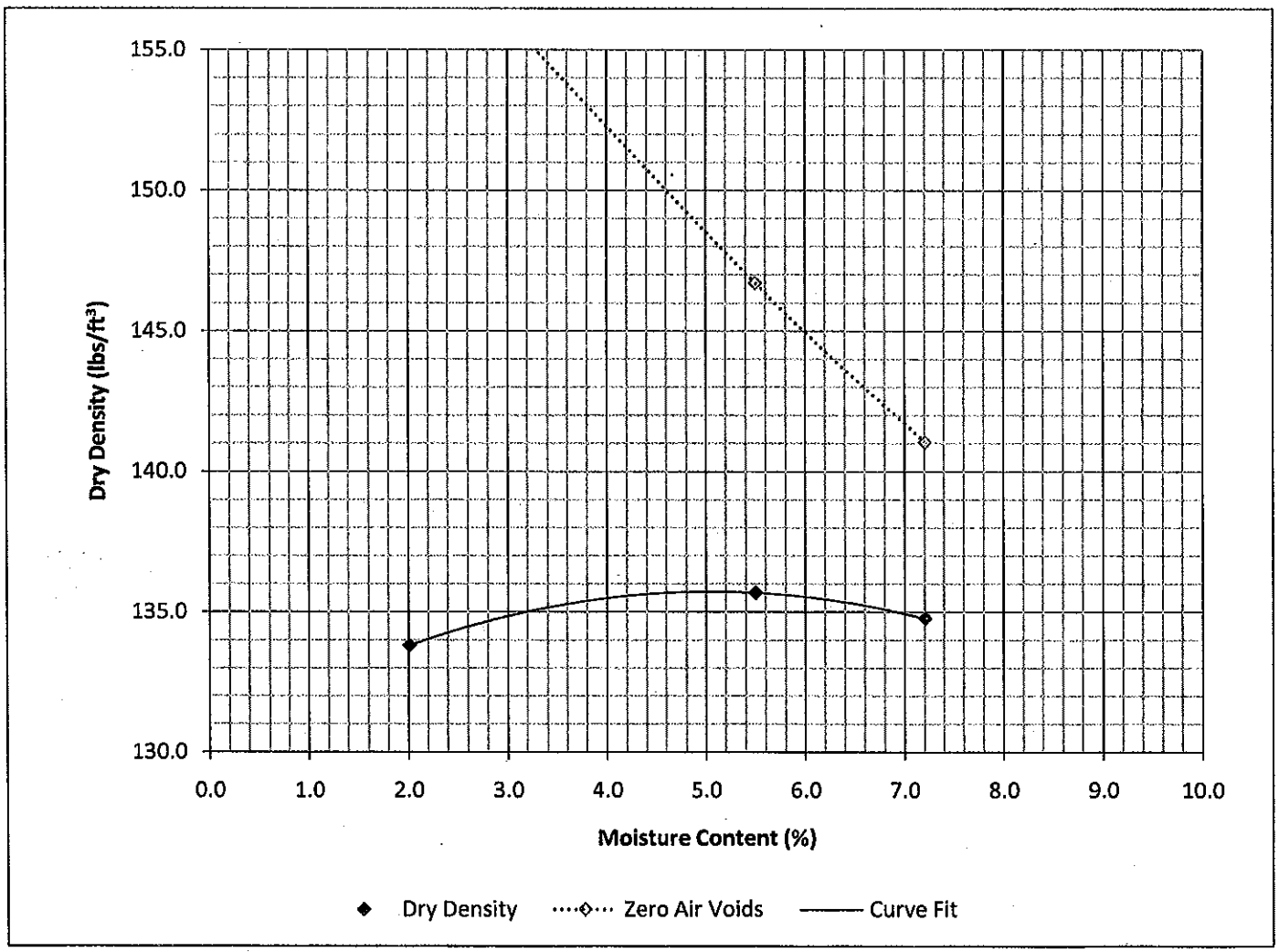
X	Manual
	Mechanical
	Dry
X	Moist

Test Standard:

X	ASTM D1557
	AASHTO T180
C	Method

Points	Moisture %	Dry Density	Zero Air Voids
1	2.01	133.80	159.81
2	5.50	135.68	146.70
3	7.21	134.76	141.04

Particle Density	2.7	Assumed
Maximum Dry Density	135.8	lbs/ft³
Optimum Moisture Content	5	%
Field Moisture Content	2.1	%



INSIGHT GEOLOGIC, INC.

Moisture - Density Summary Data

Job Name: City of Shelton
Job Number: 461-01-1
Sample Number: HA3 1-3'

Date Sampled: July 8, 2009
Sampled By: Kevin Vandehey
Date Tested: July 22, 2009
Tested By: Kevin Vandehey

Sample Prepared:

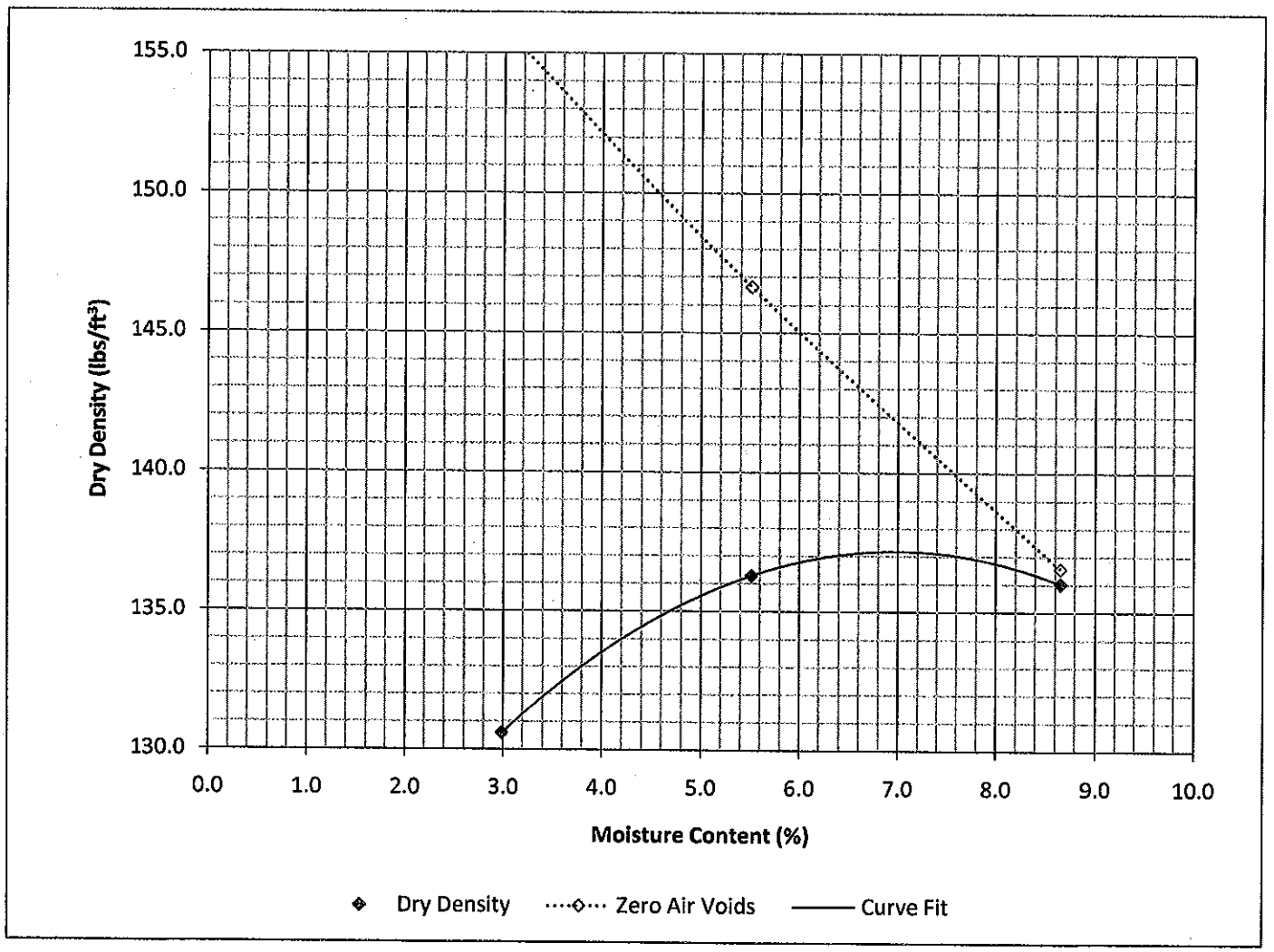
X	Manual
	Mechanical
	Dry
X	Moist

Test Standard:

X	ASTM D1557
	AASHTO T180
C	Method

Points	Moisture %	Dry Density	Zero Air Voids
1	2.99	130.59	155.90
2	5.51	136.29	146.64
3	8.65	136.03	136.57

Particle Density	2.7	Assumed
Maximum Dry Density	137	lbs/ft³
Optimum Moisture Content	7	%
Field Moisture Content	3	%



Insight Geologic, Inc.

PARTICLE SIZE ANALYSIS SUMMARY DATA

Job Name: City of Shelton - Boot Hill
Job Number: 461-01-1
Date Tested: July 14, 2009
Tested By: AD

Boring #: HA 1
Sample #: 4.5'-5'
Depth: 5.0

Moisture Content(%) 2.6%

Sieve Size	Percent Passing (%)
3.0 in. (75.0)	100.0
1.5 in. (37.5)	100.0
3/4 in. (19.0)	100.0
3/8 in. (9.5-mm)	97.6
No. 4 (4.75-mm)	86.4
No. 10 (2.00-mm)	64.6
No. 20 (.850-mm)	38.5
No. 40 (.425-mm)	21.6
No. 60 (.250-mm)	12.1
No. 100 (.150-mm)	7.0
No. 200 (.075-mm)	4.5

Size Fraction	Percent by Weight
Coarse Gravel	0.0
Fine Gravel	13.6
Coarse Sand	21.8
Medium Sand	42.9
Fine Sand	17.2
Fines	4.5
Total	**100.0**

LL	--
PL	--
PI	--
D_{10}	0.210
D_{30}	0.600
D_{60}	1.750
D_{90}	5.950
Cc	0.980
Cu	8.333

ASTM Classification

Group Name: **Poorly Graded Sand**
Symbol: **SP**

INSIGHT GEOLOGIC, INC.

PARTICLE SIZE ANALYSIS SUMMARY DATA

Job Name: City of Shelton - Boot Hill
Job Number: 461-01-1
Date Tested: July 14, 2009
Tested By: AD

Boring #: HA 2
Sample #: 2-3
Depth: 3.0

Moisture Content(%) 1.4%

Sieve Size	Percent Passing (%)
3.0 in. (75.0)	100.0
1.5 in. (37.5)	100.0
3/4 in. (19.0)	81.2
3/8 in. (9.5-mm)	74.5
No. 4 (4.75-mm)	63.2
No. 10 (2.00-mm)	49.3
No. 20 (.850-mm)	33.2
No. 40 (.425-mm)	20.9
No. 60 (.250-mm)	12.8
No. 100 (.150-mm)	7.9
No. 200 (.075-mm)	5.2

Size Fraction	Percent by Weight
Coarse Gravel	18.8
Fine Gravel	18.0
Coarse Sand	13.9
Medium Sand	28.4
Fine Sand	15.7
Fines	5.2
Total	**100.0**

LL	--
PL	--
PI	--
D_{10}	0.195
D_{30}	0.700
D_{60}	3.950
D_{90}	11.700
Cc	0.636
Cu	20.256

ASTM Classification

Group Name: **Poorly Graded Sand with Gravel**
Symbol: **SP**

INSIGHT GEOLOGIC, INC.

PARTICLE SIZE ANALYSIS SUMMARY DATA

Job Name: City of Shelton - Boot Hill
Job Number: 461.01-1
Date Tested: July 14, 2009
Tested By: AD

Boring #: HA 3
Sample #: 1'-3'
Depth: 3.0

Moisture Content(%) 1.5%

Sieve Size	Percent Passing (%)
3.0 in. (75.0)	100.0
1.5 in. (37.5)	100.0
3/4 in. (19.0)	71.8
3/8 in. (9.5-mm)	57.7
No. 4 (4.75-mm)	39.8
No. 10 (2.00-mm)	28.3
No. 20 (.850-mm)	18.0
No. 40 (.425-mm)	11.5
No. 60 (.250-mm)	6.0
No. 100 (.150-mm)	2.7
No. 200 (.075-mm)	1.7

Size Fraction	Percent by Weight
Coarse Gravel	28.2
Fine Gravel	32.0
Coarse Sand	11.5
Medium Sand	16.8
Fine Sand	9.8
Fines	1.7
Total	**100.0**

LL	- -
PL	- -
PI	- -
D_{10}	0.375
D_{30}	2.400
D_{60}	10.100
D_{90}	12.000
Cc	1.521
Cu	26.933

ASTM Classification

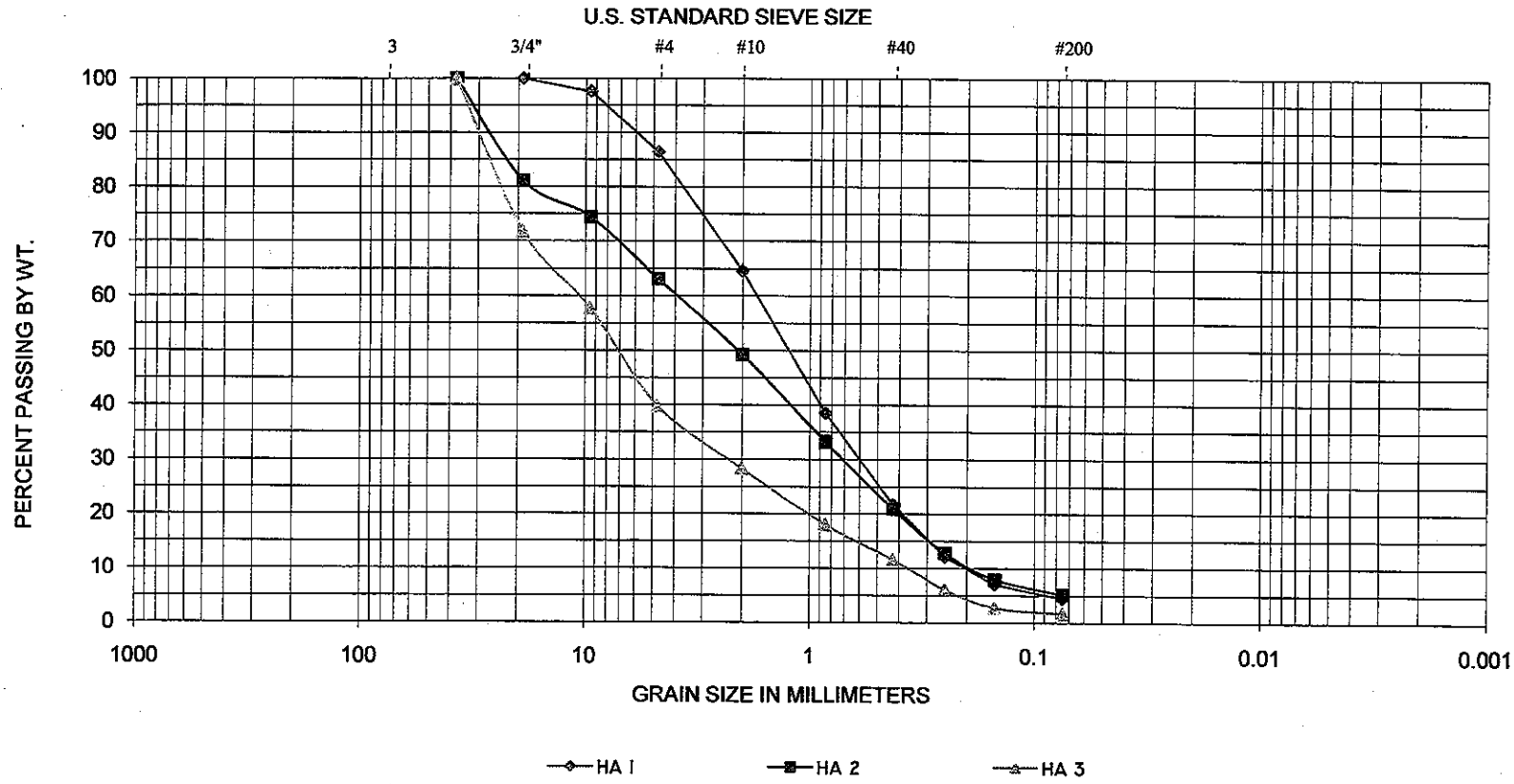
Group Name: **Well Graded Gravel with Sand**
Symbol: **GW**

INSIGHT GEOLOGIC, INC.

INSIGHT GEOLOGIC, INC.

FIGURE 1

SIEVE ANALYSIS RESULTS



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

GeoEngineers
1101 South Fawcett Avenue, Suite 200
Tacoma, Washington 98402
253.383.4940

May 5, 2014

KPFF Consulting Engineers, Inc.
4200 6th Avenue, Suite 309
Lacey, Washington 98503

Attention: Mark Steepy, PE

Subject: Geotechnical Engineering Services
Shelton Park & Ride Trail Boardwalk
Shelton, Washington
File No. 1208-007-00

INTRODUCTION AND PROJECT UNDERSTANDING

GeoEngineers is pleased to present our report of geotechnical engineering services to support design of the Shelton Park & Ride Trail Boardwalk project near the intersection of East Pine Street (State Route 3) and North Front Street in Shelton, Washington. A Vicinity Map is included as Figure 1. Our understanding of the project is based on our discussions with you and our review of the conceptual boardwalk and park & ride improvement layout. Our services were completed in accordance with our March 24, 2014 Agreement authorized on April 17, 2014

We understand the proposed boardwalk will be about 800 feet long and extend from the westerly margin of the proposed park & ride facility across an existing low lying wetland area to Front Street. Our Site Plan, Figure 2, shows the project area and the approximate proposed alignment of the boardwalk. We understand that the boardwalk will likely by supported by pin piles or helical piles. The boardwalk will be about 10 feet wide with bents spaced every 10 feet. Information you provided for foundation design includes an estimated live load of 60 pounds per square foot (psf) and a dead load of 20 psf. For bents with a tributary area of 100 square feet we assumed that the loading per bent will be between 8 kips (unfactored) and 12 kips (factored at 1.2*Dead Load+1.6*Live Load).

SCOPE OF SERVICES

The purpose of our services is to perform subsurface exploration and analysis in support of developing design recommendations for pin pile and helical piles to support the proposed boardwalk structure. Our specific scope includes:

1. Reviewing our prior geotechnical report and other project data from select nearby sites for subsurface information pertinent to this project.

2. Notifying the "One Call" state utility notification system to clear underground utilities as required by state law. We also retained a private utility locating service to check for utilities at the proposed exploration locations.
3. Exploring subsurface conditions by drilling two hollow stem auger borings, one at each end of the proposed boardwalk. The borings extended to about 51½ feet below ground surface (bgs).
4. Performing laboratory testing consisting of two grain-size distributions performed in accordance with ASTM International (ASTM) D 442.
5. Developing geotechnical recommendations for design and construction of pin piles and helical piles to support the proposed boardwalk.
6. Presenting the results of our study in this written report.

SITE CONDITIONS

Literature Review

We reviewed our prior geotechnical report titled "Geotechnical and Environmental Engineering Services for the Proposed Shelton Point Park" dated April 18, 2002. Twenty-two test pits were advanced in association with this report. The test pits were advanced in an area beginning about 200 feet to the east of the boring B-2 location advanced for this study. Subsurface conditions described in the prior report consist of a variable thickness of fill (silty sand with gravel and sand with variable silt and gravel content) underlain by sandy silt with occasional peat lenses. We did not observe any peat material in the explorations performed for this study.

Surface Conditions

The proposed boardwalk will extend from the westerly margin of the proposed park & ride facility across an existing low lying wetland area to near Front Street. The wetland area is bounded to the west by an existing wood products facility and to the east by an existing gravel-surfaced parking lot (future site for the proposed park & ride). Railroad tracks on an embankment form the south boundary of the wetland area and East Pine Street (State Route 3) bounds the site on the north.

Based on visual observation while on site the ground surface at the boring locations is on the order of 3 to 5 feet higher than in the adjacent wetland area. The wetlands area is generally flat and is covered with grasses, small shrubs, and trees 6 to 12 inches in diameter. We did not observe any standing water within the wetland area during the time of our explorations, but it is likely that the groundwater is at or near the ground surface during most of the year.

Subsurface Exploration and Laboratory Testing

Subsurface conditions at the site were explored by advancing two hollow stem auger borings to a nominal depth of about 50½ feet bgs at the locations shown on the attached Site Plan (Figure 2). Boring locations were established in the field by pacing from prominent site features. Standard Penetration Tests (SPTs) were performed at 5-foot depth intervals to evaluate relative density and collect soil samples. We classified the collected soil samples in accordance with the Unified Soil Classification System (USCS) (Figure 3). Boring logs for the two explorations are attached to this report as Figures 4 and 5.

We performed particle size analyses on two samples obtained from the borings. Testing was performed in general accordance with ASTM D 442 Test Method and the results are presented in Figure 6.

Subsurface Conditions

In boring B-1, we observed gray silty sand in a very loose to medium dense condition from the ground surface to about 13½ feet bgs. Between about 13½ feet bgs and about 33½ feet bgs, we observed medium dense to very dense sands and gravels. From about 33½ feet bgs to the full depth explored, we observed interbedded layers of medium dense gravel with sand, silty sands and sands with variable silt and gravel content.

Three attempts were made to advance boring B-2 to the target depth of about 50 feet bgs. An obstruction was encountered at about 14 feet bgs in the first two attempts, which were located 10 feet west and 20 feet west of the location shown on the Site Plan. We were not able to determine what the obstruction was during drilling.

In boring B-2, we observed loose sand and silty sand from the ground surface to about 14 feet bgs. Between about 14 feet bgs and about 40½ feet bgs, we observed very dense silty sand overlying medium dense to dense sands with variable silt and gravel content. From about 40½ feet bgs to the full depth explored, we observed loose to medium dense silty sand.

Groundwater was encountered at about 5 feet bgs in both of our explorations. Our explorations were advanced at locations about 3 to 5 feet above the elevation of the wetlands area. Groundwater level is expected to vary seasonally and with rainfall events, generally being highest in the winter months.

CONCLUSIONS AND RECOMMENDATIONS

In our opinion, the proposed boardwalk can be adequately supported by pin piles or helical piles for the assumed loading. The medium dense to very dense sands and gravels observed in the borings between about 15 and 40 feet bgs should provide an adequate bearing zone for the pin piles or helical piles. Specific design and construction recommendations for the pin piles and helical piles are provided in the sections below.

Pin Piles

We recommend using 6-inch diameter pin piles. The piles should consist of at least Schedule 40 steel pipes, and should be driven to a final penetration rate at the target embedment depth of 3 inches per minute or less using a pneumatic jack hammer with a minimum rated energy of 1,100 foot-pounds. For estimating and design we recommend a target embedment depth of 25 feet bgs and an allowable axial design capacity of 6 kips per pile. Provided pin piles are installed at a minimum center-to-center spacing of five diameters no reduction is necessary for pile group effects.

Depth to the anticipated bearing zone could vary across the project site, which could affect the actual pile embedment depth required to obtain capacity. Accordingly, some variation in pile length should be anticipated. If a penetration rate of more than 3 inches per minute is observed at 25 feet of embedment we recommend that the pin piles be left to setup for about one or two days. These piles should then be re-struck with the same hammer equipment used to install them to recheck the penetration rate or to

continue driving the pile until the penetration rate criteria are met with additional embedment. If the target penetration rate criterion is met with less than 20 feet of embedment, the pile acceptability should be evaluated on a case-by-case basis.

Helical Piles

We recommend that helical piles be installed to a target depth of 25 feet bgs. Table 1 below provides design helical pile capacities for different helix diameters at an embedment depth of 25 feet bgs. Helical piles should be spaced at five helix diameters on center or more to avoid group action and a reduction in individual pile capacity.

TABLE 1: HELICAL PILE ALLOWABLE AXIAL CAPACITY AT 25 FEET OF EMBEDMENT

Helix Diameter (inches)	Allowable Axial Capacity (kips)
6	3
8	5
10	8
12	12

The amount of torsional force required to install a helical pile can be related to the axial capacity of the pile. The relationship between installation torque and axial capacity depends on the type of helical pile used and installation equipment selected for construction. Once the helical pile type and installation equipment are selected we recommend that a target installation torque criteria be established. The target installation torque criteria can be used to check that the design pile capacity is achieved at the specified embedment depth and as a basis for extending the pile deeper should the criteria not be met.

Foundation Settlement

We estimate that the total settlement of a pin pile or helical pile installed in accordance with our recommendations in this report will be less than 1 inch. Most of the settlement should occur rapidly upon loading.

Construction Considerations

We anticipate that the pin piles or helical piles can be installed with conventional construction equipment. Track-mounted equipment will likely be required when working within the wetlands area. Standing water may be present in the wetlands during certain times of the year, which may limit access. As observed in boring B-2, obstructions may be present beneath the site. Possible obstructions could include but are not limited to, large diameter cobbles and boulders and debris associated with past construction activities in the area. The contractor should be prepared to deal with such obstacles during pile installation.

ADDITIONAL SERVICES

We recommend the following additional services with regard to foundation design and construction.

- Review contractor submittals to develop an installation torque criteria for the helical piles (if selected).

- Monitor and document the installation of the pin piles or helical piles. The intent is to confirm the design capacity and a penetration depth to achieve this capacity and provide a record of construction. We will provide daily field reports to the contractor and owner regarding conditions and work observed that day.

LIMITATIONS

We have prepared this report for KPFF Consulting Engineers Inc. Client may distribute copies of this report to the City of Shelton and their authorized agents and regulatory agencies as may be required for the project.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in the field of geotechnical engineering in this area at the time this report was prepared. The conclusions, recommendations, and opinions presented in this report are based on our professional knowledge, judgment and experience. No warranty or other conditions, express or implied, should be understood.

Please refer to Appendix A titled "Report Limitations and Guidelines for Use" for additional information pertaining to use of this report.

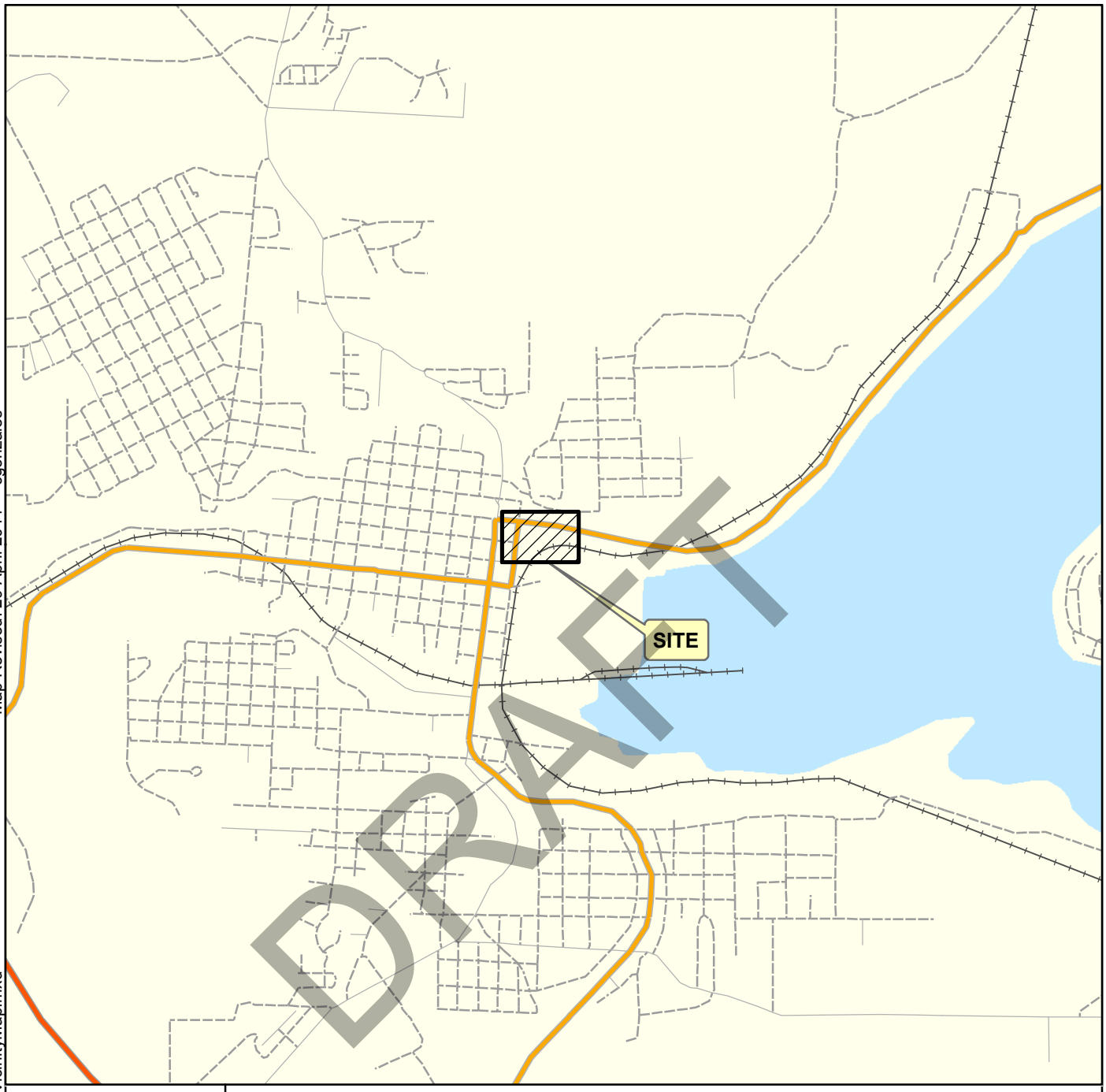
Sincerely,
GeoEngineers, Inc.

Brett E. Larabee
Geotechnical Engineer

Garry H. Squires, PE, LG, LEG
Principal

BEL:GHS:tt

Attachments:
Figure 1 – Vicinity Map
Figure 2 – Site Plan
Figure 3 – Key to Exploration Logs
Figures 4 and 5 – Log of Borings
Figure 6 - Sieve Analysis Results
Appendix A. Report Limitations and Guidelines for Use



N
W E
S

2,000 0 2,000
Feet

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.
3. It is unlawful to copy or reproduce all or any part thereof, whether for personal use or resale, without permission.

Data Sources: ESRI Data & Maps

Projection: NAD 1983 UTM Zone 10N

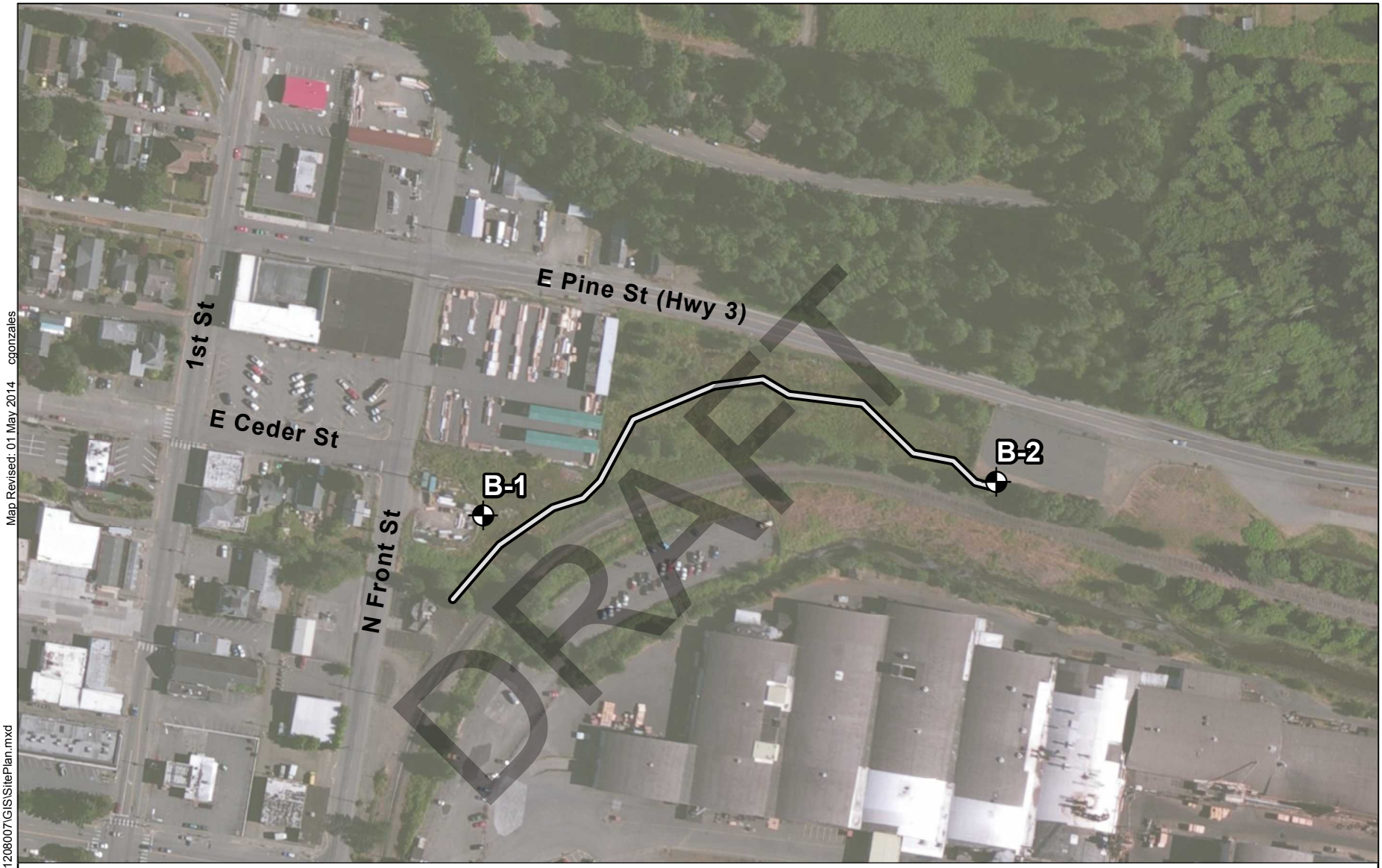
Vicinity Map

Shelton Park & Ride Trail Boardwalk
Shelton, Washington

GeoEngineers

Figure 1

Office: TAC Path: W:\Tacoma\Projects\1\1208007\GIS\VicinityMap.mxd Map Revised: 29 April 2014 cgonzales



Map Revised: 01 May 2014 cgonzales

Path: \\tac\projects\1\1208007\GIS\SitePlan.mxd

Office: TAC

Legend

B-1 Boring Locations

Approximate Location of Proposed Boardwalk

200 0 200

Feet

N W E S

Projection: NAD 1983 StatePlane Washington North FIPS 4601 Feet

Notes:
1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Site Plan

Shelton Park & Ride Trail Boardwalk
Shelton, Washington

GeoEngineers

Figure 2

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
MORE THAN 50% RETAINED ON NO. 200 SIEVE	SAND AND SANDY SOILS	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS
				SP	POORLY-GRADED SANDS, GRAVELLY SAND
	MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% PASSING NO. 200 SIEVE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
	AC	Asphalt Concrete
	CC	Cement Concrete
	CR	Crushed Rock/ Quarry Spalls
	TS	Topsoil/ Forest Duff/Sod

Groundwater Contact

Measured groundwater level in exploration, well, or piezometer

Measured free product in well or piezometer

Graphic Log Contact

Distinct contact between soil strata or geologic units

Approximate location of soil strata change within a geologic soil unit

Material Description Contact

Distinct contact between soil strata or geologic units

Approximate location of soil strata change within a geologic soil unit

Sampler Symbol Descriptions

2.4-inch I.D. split barrel

Standard Penetration Test (SPT)

Shelby tube

Piston

Direct-Push

Bulk or grab

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

A "P" indicates sampler pushed using the weight of the drill rig.

Laboratory / Field Tests

%F	Percent fines
AL	Atterberg limits
CA	Chemical analysis
CP	Laboratory compaction test
CS	Consolidation test
DS	Direct shear
HA	Hydrometer analysis
MC	Moisture content
MD	Moisture content and dry density
OC	Organic content
PM	Permeability or hydraulic conductivity
PI	Plasticity index
PP	Pocket penetrometer
PPM	Parts per million
SA	Sieve analysis
TX	Triaxial compression
UC	Unconfined compression
VS	Vane shear

Sheen Classification

NS	No Visible Sheen
SS	Slight Sheen
MS	Moderate Sheen
HS	Heavy Sheen
NT	Not Tested

NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

KEY TO EXPLORATION LOGS

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FIGURE 3

Drilled Start	End	Total Depth (ft)	Logged By / Checked By	Driller	Drilling Method
4/18/2014	4/18/2014	51.5	JWW / BEL	Holocene Drilling, Inc.	Hollow Stem Auger

Surface Elevation (ft) Vertical Datum	Hammer Data	Drilling Equipment
Undetermined	140 (lbs) / 30 (in) Drop	TruckMounted CME50

Easting (X) Northing (Y)	System Datum	Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft)
		See Remarks

Notes:

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample: Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content, %	Dry Density, (pcf)	REMARKS
	0						SM	Gray silty fine to medium sand, occasional gravel (very loose, wet)			
	5	15	3	1							Groundwater encountered at 5 feet at time of drilling
	10	5	15	2				Grades to medium dense			
							GP-GM	Brown fine to coarse gravel with silt and sand (very dense, wet)			
	15	15	50	3							
							SP-SM	Gray fine to coarse sand with gravel and silt (dense, wet)			
	20	17	39	4							
							SP-SM	Brown fine to coarse sand with silt (medium dense, wet)			
	25	18	22	5 SA					21		%F=5
								Grades to dense, occasional gravel			
	30	18	35	6							
							GP	Brown fine gravel with sand, trace silt (medium dense, wet)			
	35										

Note: See Figure 3 for explanation of symbols.

Log of Boring B-1

GeoEngineers

Project: Shelton Park & Ride Trail Boardwalk
Project Location: Shelton, Washington
Project Number: 1208-007-00

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	FIELD DATA: Blows/foot	FIELD DATA: Collected Sample / Sample Name Testing	FIELD DATA: Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content, %	Dry Density, (pcf)	REMARKS
	35	15	21	7							
							SP-SM	Brown fine to coarse sand with gravel (medium dense, wet)			
	40	12	22	8							
							SM	Dark gray silty fine to medium sand (medium dense, wet)			
	45	15	13	9							
	50	18	15	10							

Note: See Figure 3 for explanation of symbols.

Log of Boring B-1 (continued)

GeoEngineers

Project: Shelton Park & Ride Trail Boardwalk
Project Location: Shelton, Washington
Project Number: 1208-007-00

Figure 4
Sheet 2 of 2

Drilled Start 4/18/2014 End 4/18/2014	Total Depth (ft) 51.5	Logged By JWW Checked By BEL	Driller Holocene Drilling, Inc.	Drilling Method Hollow Stem Auger
Surface Elevation (ft) Vertical Datum Undetermined		Hammer Data 140 (lbs) / 30 (in) Drop		Drilling Equipment TruckMounted CME50
Easting (X) Northing (Y)		System Datum		Groundwater: Date Measured / Depth to Water (ft) / Elevation (ft) — See Remarks
Notes:				

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	Blows/foot	Collected Sample: Sample Name Testing	Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content, %	Dry Density, (pcf)	REMARKS
	0						SM	Gray silty fine to coarse sand, occasional gravel and organics (wood) (loose, wet)			
	5	12	8	1							Groundwater encountered at 5 feet at time of drilling
	10	15	5	2A,B			SP	Brown fine to coarse sand with gravel, trace silt (loose, wet)			
	15	5	50/5"	3			SM	Black silty fine to medium sand with gravel (very dense, wet)			Hard drilling
	20	9	19	4			SP-SM	Gray fine to coarse sand with gravel and silt (medium dense, wet)			
	25	15	37	5			SP	Gray fine to coarse sand, trace silt (dense, wet)			
	30	15	30	6 SA				Occasional gravel	24		%F=3
	35										

Note: See Figure 3 for explanation of symbols.

Log of Boring B-2

GeoEngineers

Project: Shelton Park & Ride Trail Boardwalk
Project Location: Shelton, Washington
Project Number: 1208-007-00

Figure 5
Sheet 1 of 2

Elevation (feet)	Depth (feet)	FIELD DATA: Interval Recovered (in)	FIELD DATA: Blows/foot	FIELD DATA: Collected Sample Name Testing	FIELD DATA: Water Level	Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content, %	Dry Density, (pcf)	REMARKS
	35	15	19	7				Grades to medium dense			
	40	18	9	8A,B			SM	Grades to loose Gray silty fine sand (loose, wet)			
								Grades to medium dense			
	45	18	10	9A,B							
	50	15	11	10							

Note: See Figure 3 for explanation of symbols.

Log of Boring B-2 (continued)

GeoEngineers

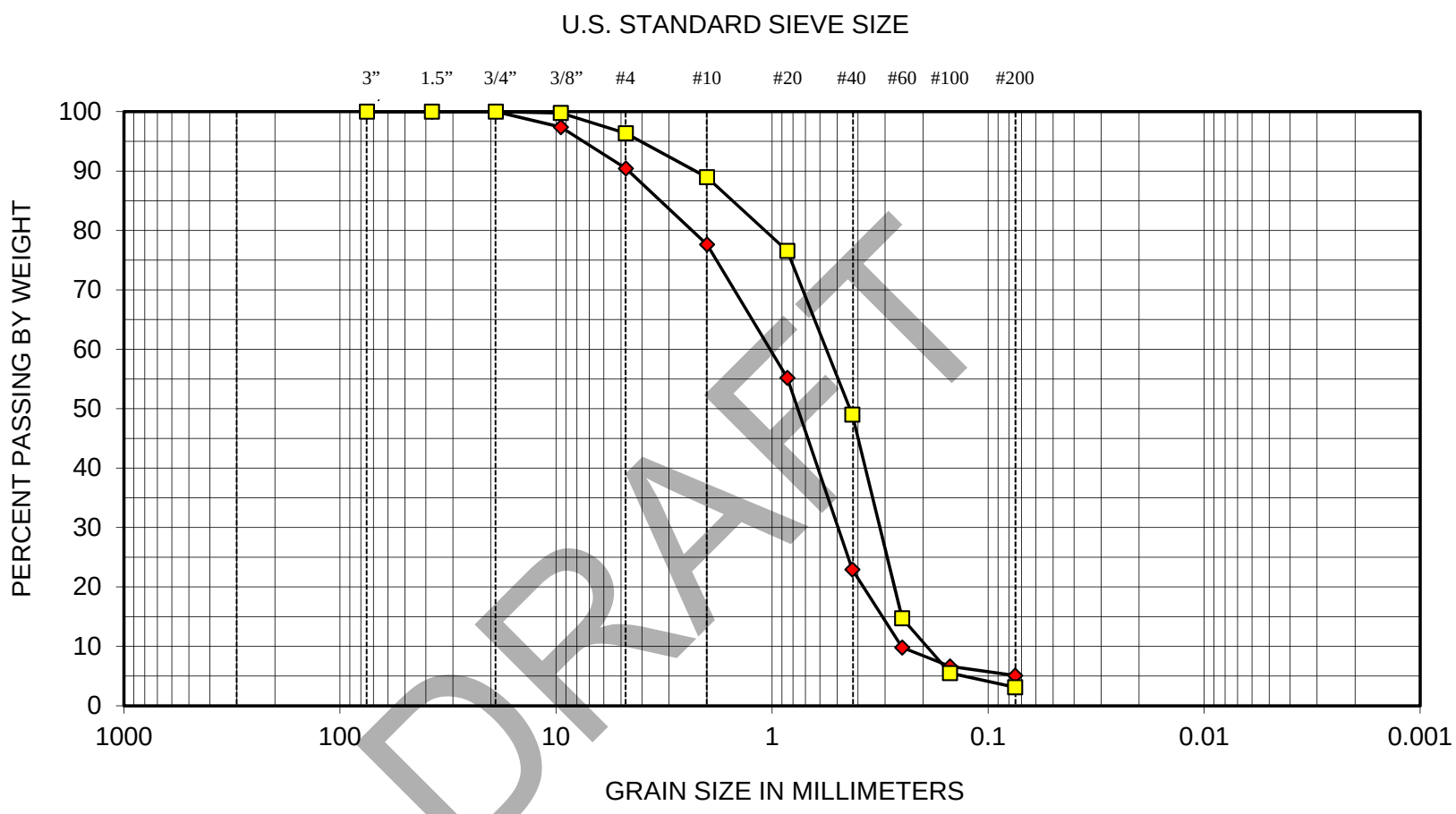
Project: Shelton Park & Ride Trail Boardwalk
Project Location: Shelton, Washington
Project Number: 1208-007-00

Figure 5
Sheet 2 of 2

GEOENGINEERS

FIGURE 6

SIEVE ANALYSIS RESULTS



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

SYMBOL	EXPLORATION NUMBER	DEPTH (ft)	MOISTURE (%)	SOIL CLASSIFICATION
◆	B-1	25	21	Sand with silt (SP-SM)
■	B-2	30	24	Sand (SP)

APPENDIX A
Report Limitations and Guidelines for Use

APPENDIX A
REPORT LIMITATIONS AND GUIDELINES FOR USE[1]

This appendix provides information to help you manage your risks with respect to the use of this report.

Read These Provisions Closely

It is important to recognize that the geoscience practices (geotechnical engineering, geology and environmental science) rely on professional judgment and opinion to a greater extent than other engineering and natural science disciplines, where more precise and/or readily observable data may exist. To help clients better understand how this difference pertains to our services, GeoEngineers includes the following explanatory "limitations" provisions in its reports. Please confer with GeoEngineers if you need to know more how these "Report Limitations and Guidelines for Use" apply to your project or site.

Geotechnical Services Are Performed for Specific Purposes, Persons and Projects

This report has been prepared for KPFF Consulting Engineers and for the Project specifically identified in the report. The information contained herein is not applicable to other sites or projects.

GeoEngineers structures its services to meet the specific needs of its clients. No party other than the party to whom this report is addressed may rely on the product of our services unless we agree to such reliance in advance and in writing. Within the limitations of the agreed scope of services for the Project, and its schedule and budget, our services have been executed in accordance with our Agreement with KPFF Consulting Engineers dated March 24, 2014 and generally accepted geotechnical practices in this area at the time this report was prepared. We do not authorize, and will not be responsible for, the use of this report for any purposes or projects other than those identified in the report.

A Geotechnical Engineering or Geologic Report is Based on a Unique Set of Project-Specific Factors

This report has been prepared for the Shelton Park & Ride Trail Boardwalk located in Shelton, Washington. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this project and report. Unless GeoEngineers specifically indicates otherwise, it is important not to rely on this report if it was:

- not prepared for you,
- not prepared for your project,
- not prepared for the specific site explored, or
- completed before important project changes were made.

For example, changes that can affect the applicability of this report include those that affect:

- the function of the proposed structure;
- elevation, configuration, location, orientation or weight of the proposed structure;
- composition of the design team; or

[1] Developed based on material provided by ASFE, Professional Firms Practicing in the Geosciences; www.asfe.org.

- project ownership.

If changes occur after the date of this report, GeoEngineers cannot be responsible for any consequences of such changes in relation to this report unless we have been given the opportunity to review our interpretations and recommendations. Based on that review, we can provide written modifications or confirmation, as appropriate.

Subsurface Conditions Can Change

This geotechnical or geologic report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by man-made events such as construction on or adjacent to the site, new information or technology that becomes available subsequent to the report date, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. If more than a few months have passed since issuance of our report or work product, or if any of the described events may have occurred, please contact GeoEngineers before applying this report for its intended purpose so that we may evaluate whether changed conditions affect the continued reliability or applicability of our conclusions and recommendations.

Topsoil

For the purposes of this report, we consider topsoil to consist of generally fine-grained soil with an appreciable amount of organic matter based on visual examination, and to be unsuitable for direct support of the proposed improvements. However, the organic content and other mineralogical and gradational characteristics used to evaluate the suitability of soil for use in landscaping and agricultural purposes was not determined, nor considered in our analyses. Therefore, the information and recommendations in this report, and our logs and descriptions should not be used as a basis for estimating the volume of topsoil available for such purposes.

Geotechnical and Geologic Findings Are Professional Opinions

Our interpretations of subsurface conditions are based on field observations from widely spaced sampling locations at the site. Site exploration identifies the specific subsurface conditions only at those points where subsurface tests are conducted or samples are taken. GeoEngineers reviewed field and laboratory data and then applied its professional judgment to render an informed opinion about subsurface conditions at other locations. Actual subsurface conditions may differ, sometimes significantly, from the opinions presented in this report. Our report, conclusions and interpretations are not a warranty of the actual subsurface conditions.

Geotechnical Engineering Report Recommendations Are Not Final

The construction recommendations included in this report are preliminary and should not be considered final. GeoEngineers' recommendations can be finalized only by observing actual subsurface conditions revealed during construction. GeoEngineers cannot assume responsibility or liability for the recommendations in this report if we do not perform construction observation.

We recommend that you allow sufficient monitoring, testing and consultation during construction by GeoEngineers to confirm that the conditions encountered are consistent with those indicated by the explorations, to provide recommendations for design changes if the conditions revealed during the work differ from those anticipated, and to evaluate whether earthwork activities are completed in accordance

with our recommendations. Retaining GeoEngineers for construction observation for this project is the most effective means of managing the risks associated with unanticipated conditions.

A Geotechnical Engineering or Geologic Report Could Be Subject to Misinterpretation

Misinterpretation of this report by members of the design team or by contractors can result in costly problems. GeoEngineers can help reduce the risks of misinterpretation by conferring with appropriate members of the design team after submitting the report, reviewing pertinent elements of the design team's plans and specifications, participating in pre-bid and preconstruction conferences, and providing construction observation.

Do Not Redraw the Exploration Logs

Geotechnical engineers and geologists prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. The logs included in a geotechnical engineering or geologic report should never be redrawn for inclusion in architectural or other design drawings. Photographic or electronic reproduction is acceptable, but separating logs from the report can create a risk of misinterpretation.

Give Contractors a Complete Report and Guidance

To help reduce the risk of problems associated with unanticipated subsurface conditions, GeoEngineers recommends giving contractors the complete geotechnical engineering or geologic report, including these "Report Limitations and Guidelines for Use." When providing the report, you should preface it with a clearly written letter of transmittal that:

- advises contractors that the report was not prepared for purposes of bid development and that its accuracy is limited; and
- encourages contractors to confer with GeoEngineers and/or to conduct additional study to obtain the specific types of information they need or prefer.

Contractors Are Responsible for Site Safety on Their Own Construction Projects

Our geotechnical recommendations are not intended to direct the contractor's procedures, methods, schedule or management of the work site. The contractor is solely responsible for job site safety and for managing construction operations to minimize risks to on-site personnel and adjacent properties.

Biological Pollutants

GeoEngineers' Scope of Work specifically excludes the investigation, detection, prevention or assessment of the presence of Biological Pollutants. Accordingly, this report does not include any interpretations, recommendations, findings or conclusions regarding the detecting, assessing, preventing or abating of Biological Pollutants, and no conclusions or inferences should be drawn regarding Biological Pollutants as they may relate to this project. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria and viruses, and/or any of their byproducts.

A Client that desires these specialized services is advised to obtain them from a consultant who offers services in this specialized field.

MASON TRANSIT AUTHORITY
PEAR ORCHARD PARK AND RIDE

APPENDIX B

Permit Docs

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