MASON TRANSIT AUTHORITY

Shelton, Washington

BID DOCUMENTS FOR:

Sanitary Sewer Conversion Belfair Park and Ride

Prepared by:

SCJ ALLIANCE

CONSULTING SERVICES

MASON TRANSIT AUTHORITY
Sanitary Sewer Conversion Park and Ride

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MASON TRANSIT AUTHORITY
Sanitary Sewer Conversion Belfair Park and Ride

SECTION I

CALL FOR SEALED BIDS

Mason Transit Authority
Invitation to Bid
Sanitary Sewer Conversion Belfair Park and Ride

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

MASON TRANSIT AUTHORITY
Sanitary Sewer Conversion Belfair Park and Ride

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

Converting the Mason Transit Belfair Park and Ride from septic to gravity sewer, and includes abandoning and decommissioning of septic system, connecting to Mason County gravity sewer system, trenching, pipe laying, back filling, restoration, and other work, all in accordance with the attached Contract Plans, these Contract Provisions, and the 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 Sam Rowswell at SCJ Alliance (360-352-1465 or sam.rowswell@scjalliance.com).

Project Proposal SEALED BIDS must be received at the Mason Transit Authority Business Office located at 790 East Johns Prairie Road, Shelton, WA 98584 by 3:00 p.m. on May 25, 2023
and MTA then and there will open and publicly read the bids. Bids may be submitted by mail or hand delivery only. If hand delivered, the bid shall be delivered at the green door as indicated by signage and by pressing the doorbell to be escorted into the building and formally received by an employee of Mason Transit Authority.

A pre-bid walkthrough is planned for May 18, 2023 at 10:00 a.m. at the Mason Transit Belfair Park & Ride Building located at 25250 NE State Route 3, Belfair, WA 98528.

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

MASON TRANSIT AUTHORITY
Sanitary Sewer Conversion Belfair Park and Ride

SECTION II

PROJECT PROPOSAL

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

Bid Checklist

Bidders must bid on all items contained in the Proposal. The omission or deletion of any bid item will be considered non-responsive and shall be cause for rejection of the bid.

Please check to make sure you have accomplished the following:

- ☐ **Has bid bond or certified check been enclosed with your bid?**
- ☐ **Is the amount of the bid guarantee at least five (5) percent of the total amount of the bid?**
- ☐ **Has the proposal been properly signed?**
- ☐ **Have you bid on ALL ITEMS?**
- ☐ **Have you certified receipt of addenda?**

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. Removal of Structures and Obstructions _____
3. Sanitary Sewer Conversion _____
4. Paving/Surfacing _____
5. Erosion Control and Water Pollution Prevention _____
6. Roadway Surveying _____
7. Roadside Cleanup _____
8. Chain Link Fence Type 4 _____
9. Shoring or Extra Excavation Class B _____

Subtotal _____

Sales Tax _____

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 - SANITARY SEWER CONVERSION BELFAIR 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
Sanitary Sewer Conversion Belfair Park and Ride

SECTION III

1. CONTRACT BOND

2. MASON TRANSIT AUTHORITY SAMPLE CONTRACT

Contract Bond –
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:

> *Converting the Mason County Belfair Park and Ride from septic to gravity sewer, and includes abandoning and decommissioning of septic system, connecting to Mason County gravity sewer system, trenching, pipe laying, back filling, restoration, 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.

Scope of Work

List of Drawings and Specifications

Site Conditions and Coordination

GRANT CONDITIONS

SECTION IV

1. SPECIAL PROVISIONS

Division 1
General Requirements

DESCRIPTION OF WORK

(March 13, 1995)

This Contract provides for the improvement of *** converting the Mason County Transit Belfair Park and Ride from septic to gravity sewer, and includes abandoning and decommissioning of septic system, connecting to Mason County gravity sewer system, trenching, pipe laying, back filling, restoration, *** and other work, all in accordance with the attached Contract Plans, these Contract Provisions, and the Standard Specifications.

1-01.3 Definitions

(January 19, 2022 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 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.

Bid Procedures and Conditions

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")	**1**	Furnished automatically upon award.
Contract Provisions	**1**	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

General

Section 1-02.4(1) is supplemented with the following:

(September 3, 2019)

The Reference Information for this project is available for review by the bidder at the following location:

*** The URL link provided in the Appendix ***

The Reference Information includes the following:

***

1. Geotechnical Investigation performed for the project.
2. Permit documents for project

***

1-02.4(1) General

(December 30, 2022 APWA GSP Option B)

The first sentence of the ninth paragraph, beginning with "Prospective Bidder desiring…", is revised to read:

Prospective Bidders desiring an explanation or interpretation of the Bid Documents, shall request the explanation or interpretation in writing by close of business ***2*** business days preceding the bid opening to allow a written reply to reach all prospective Bidders before the submission of their Bids.

Preparation of Proposal

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.

1-02.10 Withdrawing, Revising, or Supplementing Proposal

(July 23, 2015 APWA GSP)

Delete this section, and replace it with the following:

After submitting a physical Bid Proposal to the Contracting Agency, the Bidder may withdraw, revise, or supplement it if:

1. The Bidder submits a written request signed by an authorized person and physically delivers it to the place designated for receipt of Bid Proposals, and
2. The Contracting Agency receives the request before the time set for receipt of Bid Proposals, and
3. The revised or supplemented Bid Proposal (if any) is received by the Contracting Agency before the time set for receipt of Bid Proposals.

If the Bidder's request to withdraw, revise, or supplement its Bid Proposal is received before the time set for receipt of Bid Proposals, the Contracting Agency will return the unopened Proposal package to the Bidder. The Bidder must then submit the revised or supplemented package in its entirety. If the Bidder does not submit a revised or supplemented package, then its bid shall be considered withdrawn.

Late revised or supplemented Bid Proposals or late withdrawal requests will be date recorded by the Contracting Agency and returned unopened. Mailed, emailed, or faxed requests to withdraw, revise, or supplement a Bid Proposal are not acceptable.

1-02.14 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.

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 *** May 25, 2023 ***. Bids received will be publicly opened and read after 3:00:00 P. M. Pacific Time on this date.

1-02.13 Irregular Proposals
(December 30, 2022 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 (WSDOT Form 271-015), if applicable, as required in Section 1-02.6;
h. The Bidder fails to submit or properly complete a Disadvantaged Business Enterprise Certification (WSDOT Form 272-056), if applicable, as required in Section 1-02.6;
i. The Bidder fails to submit Written Confirmations (WSDOT Form 422-031) from each DBE firm listed on the Bidder's completed DBE Utilization Certification that they are in agreement with the bidder's DBE 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 DBE Good Faith Effort documentation, if applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to demonstrate that a Good Faith Effort to meet the Condition of Award was made;
k. The Bidder fails to submit a DBE Bid Item Breakdown (WSDOT Form 272-054), if applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to meet the requirements of the Special Provisions;
l. The Bidder fails to submit DBE Trucking Credit Forms (WSDOT Form 272-058), if applicable, as required in Section 1-02.6, or if the documentation that is submitted fails to meet the requirements of the Special Provisions;
m. The Bid Proposal does not constitute a definite and unqualified offer to meet the material terms of the Bid invitation; or
n. More than one Proposal is submitted for the same project from a Bidder under the same or different names.

2. A Proposal may be considered irregular and may be rejected if:
   a. The Proposal does not include a unit price for every Bid item;
   b. Any of the unit prices are excessively unbalanced (either above or below the amount of a reasonable Bid) to the potential detriment of the Contracting Agency;
   c. Receipt of Addenda is not acknowledged;
   d. A member of a joint venture or partnership and the joint venture or partnership submit Proposals for the same project (in such an instance, both Bids may be rejected); or
   e. If Proposal form entries are not made in ink.

1-02.14 Disqualification of Bidders

(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

(December 30, 2022 APWA GSP)

Revise this section to read:

Before awarding any contract, the Contracting Agency may require one or more of these items or actions of the apparent lowest responsible bidder:

1. A complete statement of the origin, composition, and manufacture of any or all materials to be used,
2. Samples of these materials for quality and fitness tests,
3. A progress schedule (in a form the Contracting Agency requires) showing the order of and time required for the various phases of the work,
4. A breakdown of costs assigned to any bid item,
5. Attendance at a conference with the Engineer or representatives of the Engineer,
6. Obtain, and furnish a copy of, a business license to do business in the city or county where the work is located.
7. Any other information or action taken that is deemed necessary to ensure that the bidder is the lowest responsible bidder.

1-03.1(1) Identical Bid Totals

(December 30, 2022 APWA GSP)

Revise this section to read:

After opening Bids, if two or more lowest responsive Bid totals are exactly equal, then the tie-breaker will be the Bidder with an equal lowest bid, that proposed to use the highest percentage of recycled materials in the Project, per the form submitted with the Bid Proposal. If those percentages are also exactly equal, then the tie-breaker will be determined by drawing as follows: Two or more slips of paper will be marked as follows: one marked "Winner" and the other(s) marked "unsuccessful". The slips will be folded to make the marking unseen. The slips will be placed inside a box. One authorized representative of each Bidder shall draw a slip from the box. Bidders shall draw in alphabetic order by the name of the firm as registered with the Washington State Department of Licensing. The slips shall be unfolded and the firm with the slip marked "Winner" will be determined to be the successful Bidder and eligible for Award of the Contract. Only those Bidders who submitted a Bid total that is exactly equal to the lowest responsive Bid, and with a proposed recycled materials percentage that is exactly equal to the highest proposed recycled materials amount, are eligible to draw.

1-03.3 Execution of Contract

(January 19, 2022 APWA GSP)

Revise this section to read:

Within 3 calendar days of Award date (not including Saturdays, Sundays and Holidays), the successful Bidder shall provide the information necessary to execute the Contract to the Contracting Agency. The Bidder shall send the contact information, including the full name, email address, and phone number, for the authorized signer and bonding agent to the Contracting Agency.

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, 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. 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

(December 30, 2022 APWA GSP)

Revise this section to read:

All decisions made by the Contracting Agency regarding the Award and execution of the Contract or Bid rejection shall be conclusive subject to the scope of judicial review permitted under Washington Law. Such review, if any, shall be timely filed in the Superior Court of the county where the Contracting Agency headquarters is located, provided that where an action is asserted against a county, RCW 36.01.050 shall control venue and jurisdiction.

Scope of the Work

1-04.2 Coordination of Contract Documents, Plans, Special Provisions, Specifications, and Addenda

(December 30, 2022 APWA GSP)

Revise the second paragraph to read:

Any inconsistency in the parts of the contract shall be resolved by following this order of precedence (e.g., 1 presiding over 2, 2 over 3, 3 over 4, and so forth):

1. Addenda,
2. Proposal Form,
3. Special Provisions,
4. Contract Plans,
5. Standard Specifications,
6. Contracting Agency's Standard Plans or Details (if any), and
7. WSDOT Standard Plans for Road, Bridge, and Municipal Construction.

1-04.4 Changes

(January 19, 2022 APWA GSP)

The first two sentences of the last paragraph of Section 1-04.4 are deleted.

Control of Work

Conformity with and Deviations from Plans and Stakes

Section 1-05.4 is supplemented with the following:

(January 13, 2021)
Contractor Surveying - Roadway

The Contracting Agency has provided primary survey control in the Plans.

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.

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.

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:

1-05.12(1) One-Year Guarantee Period
(March 8, 2013 APWA GSP, may not be used on FHWA funded projects)

The Contractor shall return to the project and repair or replace all defects in workmanship and material discovered within one year after Final Acceptance of the Work. The Contractor shall start work to remedy any such defects within 7 calendar days of receiving Contracting Agency's written notice of a defect, and shall complete such work within the time stated in the Contracting Agency's notice. In case of an emergency, where damage may result from delay or where loss of services may result, such corrections may be made by the Contracting Agency's own forces or another contractor, in which case the cost of corrections shall be paid by the Contractor. In the event the Contractor does not accomplish corrections within the time specified, the work will be otherwise accomplished and the cost of same shall be paid by the Contractor.

When corrections of defects are made, the Contractor shall then be responsible for correcting all defects in workmanship and materials in the corrected work for one year after acceptance of the corrections by Contracting Agency.

This guarantee is supplemental to and does not limit or affect the requirements that the Contractor's work comply with the requirements of the Contract or any other legal rights or remedies of the Contracting Agency.

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

(March 8, 2013 APWA GSP)

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 will be made for the following bid item:

Record Drawings	Payment will be made for this bid item under the "Schedule of Values": "Roadway Surveying"

Payment for this item will be made on a prorated monthly basis for work completed in accordance with this section up to 75% of the lump sum bid. The final 25% of the lump sum item will be paid upon submittal and approval of the completed Record Drawings set prepared in conformance with these Special Provisions.

A minimum bid amount has been entered in the Bid Proposal for this item. The Contractor must bid at least that amount.

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.

*** $$1$$ ***

1-08 PROSECUTION AND PROGRESS

Add the following new section:

1-08.0 Preliminary Matters

(May 25, 2006 APWA GSP)

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:

(******)

This project shall be physically completed within *** 30 *** working days.

1-08.9 Liquidated Damages
(March 3, 2021 APWA GSP, Option B)

Revise the second and third paragraphs to read:

Accordingly, the Contractor agrees:

1. To pay (according to the following formula) liquidated damages for each working day beyond the number of working days established for Physical Completion, and

2. To authorize the Engineer to deduct these liquidated damages from any money due or coming due to the Contractor.

Liquidated Damages Formula

LD=0.15C/T

Where:

LD = liquidated damages per working day (rounded to the nearest dollar)
C = original Contract amount
T = original time for Physical Completion

When the Contract Work has progressed to Substantial Completion as defined in the Contract, the Engineer may determine the Contract Work is Substantially Complete. The Engineer will notify the Contractor in writing of the Substantial Completion Date. For overruns in Contract time occurring after the date so established, the formula for liquidated damages shown above will not apply. For overruns in Contract time occurring after the Substantial Completion Date, liquidated damages shall be assessed on the basis of direct engineering and related costs assignable to the project until the actual Physical Completion Date of all the Contract Work. The Contractor shall complete the remaining Work as promptly as possible. Upon request by the Project Engineer, the

Contractor shall furnish a written schedule for completing the physical Work on the Contract.

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.

Measurement and Payment

Weighing Equipment

General Requirements for Weighing Equipment

Electronic Delivery Management System (E-Ticketing)

Item number 1 in the first paragraph of Section 1-09.2(1)A1 is revised to read:

(March 9, 2023)

1. The ETS shall generate an E-ticket in PDF format meeting the requirements of 1-09.2(1)A2. The information shall be immediately uploaded to a designated site so the information can be accessed by the Inspector located at the material delivery site.

1-09.9 Payments

(March 13, 2012 APWA GSP)

Supplement this section with the following:

Lump sum item breakdowns are not required when the bid price for the lump sum item is less than $20,000.

1-09.9 Payments

(December 30, 2022 APWA GSP)

Section 1-09.9 is revised to read:

The basis of payment will be the actual quantities of Work performed according to the Contract and as specified for payment.

The Contractor shall submit a breakdown of the cost of lump sum bid items at the Preconstruction Conference, to enable the Project Engineer to determine the Work performed on a monthly basis. A breakdown is not required for lump sum items that include a basis for incremental payments as part of the respective Specification. Absent a lump sum breakdown, the Project Engineer will make a determination based on information available. The Project Engineer's determination of the cost of work shall be final.

Progress payments for completed work and material on hand will be based upon progress estimates prepared by the Engineer. A progress estimate cutoff date will be established at the preconstruction conference.

The initial progress estimate will be made not later than 30 days after the Contractor commences the work, and successive progress estimates will be made every month thereafter until the Completion Date. Progress estimates made during progress of the work are tentative, and made only for the purpose of determining progress payments. The progress estimates are subject to change at any time prior to the calculation of the final payment.

The value of the progress estimate will be the sum of the following:

1. Unit Price Items in the Bid Form — the approximate quantity of acceptable units of work completed multiplied by the unit price.
2. Lump Sum Items in the Bid Form — based on the approved Contractor's lump sum breakdown for that item, or absent such a breakdown, based on the Engineer's determination.
3. Materials on Hand — 100 percent of invoiced cost of material delivered to Job site or other storage area approved by the Engineer.
4. Change Orders — entitlement for approved extra cost or completed extra work as determined by the Engineer.

Progress payments will be made in accordance with the progress estimate less:

1. Retainage per Section 1-09.9(1), on non FHWA-funded projects;
2. The amount of progress payments previously made; and
3. Funds withheld by the Contracting Agency for disbursement in accordance with the Contract Documents.

Progress payments for work performed shall not be evidence of acceptable performance or an admission by the Contracting Agency that any work has been satisfactorily completed. The determination of payments under the contract will be final in accordance with Section 1-05.1.

Failure to perform obligations under the Contract by the Contractor may be decreed by the Contracting Agency to be adequate reason for withholding any payments until compliance is achieved.

Upon completion of all Work and after final inspection (Section 1-05.11), the amount due the Contractor under the Contract will be paid based upon the final estimate made by the Engineer and presentation of a Final Contract Voucher Certification to be signed by the

Contractor. The Contractor's signature on such voucher shall be deemed a release of all claims of the Contractor unless a Certified Claim is filed in accordance with the requirements of Section 1-09.11 and is expressly excepted from the Contractor's certification on the Final Contract Voucher Certification. The date the Contracting Agency signs the Final Contract Voucher Certification constitutes the final acceptance date (Section 1-05.12).

If the Contractor fails, refuses, or is unable to sign and return the Final Contract Voucher Certification or any other documentation required for completion and final acceptance of the Contract, the Contracting Agency reserves the right to establish a Completion Date (for the purpose of meeting the requirements of RCW 60.28) and unilaterally accept the Contract. Unilateral final acceptance will occur only after the Contractor has been provided the opportunity, by written request from the Engineer, to voluntarily submit such documents. If voluntary compliance is not achieved, formal notification of the impending establishment of a Completion Date and unilateral final acceptance will be provided by email with delivery confirmation from the Contracting Agency to the Contractor, which will provide 30 calendar days for the Contractor to submit the necessary documents. The 30 calendar day period will begin on the date the email with delivery confirmation is received by the Contractor. The date the Contracting Agency unilaterally signs the Final Contract Voucher Certification shall constitute the Completion Date and the final acceptance date (Section 1-05.12). The reservation by the Contracting Agency to unilaterally accept the Contract will apply to Contracts that are Physically Completed in accordance with Section 1-08.5, or for Contracts that are terminated in accordance with Section 1-08.10. Unilateral final acceptance of the Contract by the Contracting Agency does not in any way relieve the Contractor of their responsibility to comply with all Federal, State, tribal, or local laws, ordinances, and regulations that affect the Work under the Contract.

Payment to the Contractor of partial estimates, final estimates, and retained percentages shall be subject to controlling laws.

1-09.11(3) Time Limitation and Jurisdiction
(December 30, 2022 APWA GSP)

Revise this section to read*:*

For the convenience of the parties to the Contract it is mutually agreed by the parties that all claims or causes of action which the Contractor has against the Contracting Agency arising from the Contract shall be brought within 180 calendar days from the date of final acceptance (Section 1-05.12) of the Contract by the Contracting Agency; and it is further agreed that all such claims or causes of action shall be brought only in the Superior Court of the county where the Contracting Agency headquarters is located, provided that where an action is asserted against a county, RCW 36.01.050 shall control venue and jurisdiction. The parties understand and agree that the Contractor's failure to bring suit within the time period provided, shall be a complete bar to all such claims or causes of action. It is further mutually agreed by the parties that when claims or causes of action which the Contractor asserts against the Contracting Agency arising from the Contract are filed with the Contracting Agency or initiated in court, the Contractor shall permit the Contracting Agency to have timely access to all records deemed necessary by the Contracting Agency to assist in evaluating the claims or action.

Temporary Traffic Control

Payment

Lump Sum Bid for Project (No Unit Items)

Revise this section with the following:

(******)

Payment will be made for the following bid items when they are included in the proposal:

All costs for Project Temporary Traffic on this project shall be included in the Mobilization.

Division 2
Earthwork

Clearing, Grubbing, and Roadside Cleanup

Payment

(August 7, 2017)
Payment will be made for the following bid items when they are included in the proposal:

All costs for clearing and grubbing on this project shall be included in the *** Removal of Structures and Obstructions ***.

(******)

Payment will be made for the following bid under the “Schedule of Values”:

"Roadside Cleanup", lump sum.

Removal of Structures and Obstructions

Construction Requirements

Section 2-02.3 is supplemented with the following:

(September 7, 2021)
Removal of Obstructions
The following miscellaneous Obstructions shall be removed and disposed of:

*** Removing Chain Link Fence 262 LF
Removing Asphalt Conc. Pavement 15 SY
Clearing and Grubbing 0.30 Acres ***

Removal of Pavement, Sidewalks, Curbs, and Gutters

Section 2-02.3(3) is supplemented with the following:

(September 8, 1997)
The approximate thickness of the *** Asphalt *** pavement is *** 4 inches ***.

Structure Excavation

Payment

(******)

Replace the unit Contract price per square foot for “Shoring or Extra Excavation Class B” with the following:

Payment will be made for the following bid under the “Schedule of Values”:

“Shoring or Extra Excavation Class B”, Lump Sum

Division 5
Surface Treatments and Pavements

5-04 Hot Mix Asphalt

(July 18, 2018 APWA GSP)

Delete Section 5-04 and amendments, Hot Mix Asphalt and replace it with the following:

5-04.1 Description

This Work shall consist of providing and placing one or more layers of plant-mixed hot mix asphalt (HMA) on a prepared foundation or base in accordance with these Specifications and the lines, grades, thicknesses, and typical cross-sections shown in the Plans. The manufacture of HMA may include warm mix asphalt (WMA) processes in accordance with these Specifications. WMA processes include organic additives, chemical additives, and foaming.

HMA shall be composed of asphalt binder and mineral materials as may be required, mixed in the proportions specified to provide a homogeneous, stable, and workable mixture.

5-04.2 Materials

Materials shall meet the requirements of the following sections:

Asphalt Binder	9-02.1(4)
Cationic Emulsified Asphalt	9-02.1(6)
Anti-Stripping Additive	9-02.4
HMA Additive	9-02.5
Aggregates	9-03.8
Recycled Asphalt Pavement	9-03.8(3)B
Mineral Filler	9-03.8(5)

Recycled Material	9-03.21
Portland Cement	9-01
Sand	9-03.1(2)
(As noted in 5-04.3(5)C for crack sealing)	
Joint Sealant	9-04.2
Foam Backer Rod	9-04.2(3)A

The Contract documents may establish that the various mineral materials required for the manufacture of HMA will be furnished in whole or in part by the Contracting Agency. If the documents do not establish the furnishing of any of these mineral materials by the Contracting Agency, the Contractor shall be required to furnish such materials in the amounts required for the designated mix. Mineral materials include coarse and fine aggregates, and mineral filler.

The Contractor may choose to utilize recycled asphalt pavement (RAP) in the production of HMA. The RAP may be from pavements removed under the Contract, if any, or pavement material from an existing stockpile.

The Contractor may use up to 20 percent RAP by total weight of HMA with no additional sampling or testing of the RAP. The RAP shall be sampled and tested at a frequency of one sample for every 1,000 tons produced and not less than ten samples per project. The asphalt content and gradation test data shall be reported to the Contracting Agency when submitting the mix design for approval on the QPL. The Contractor shall include the RAP as part of the mix design as defined in these Specifications.

The grade of asphalt binder shall be as required by the Contract. Blending of asphalt binder from different sources is not permitted.

The Contractor may only use warm mix asphalt (WMA) processes in the production of HMA with 20 percent or less RAP by total weight of HMA. The Contractor shall submit to the Engineer for approval the process that is proposed and how it will be used in the manufacture of HMA.

Production of aggregates shall comply with the requirements of Section 3-01. Preparation of stockpile site, the stockpiling of aggregates, and the removal of aggregates from stockpiles shall comply with the requirements of Section 3-02.

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

If the contractor wishes to submit a mix design for inclusion in the Qualified Products List (QPL), please follow the WSDOT process outlined in Standard Specification 5-04.2(1).

5-04.2(1)A Vacant

5-04.2(2) Mix Design – Obtaining Project Approval

No paving shall begin prior to the approval of the mix design by the Engineer.

Nonstatistical evaluation will be used for all HMA not designated as Commercial HMA in the contract documents.

Commercial evaluation will be used for Commercial HMA and for other classes of HMA in the following applications: sidewalks, road approaches, ditches, slopes, paths, trails, gores, prelevel, and pavement repair. Other nonstructural applications of HMA accepted by commercial evaluation shall be as approved by the Project Engineer. Sampling and testing of HMA accepted by commercial evaluation will be at the option of the Project Engineer. The Proposal quantity of HMA that is accepted by commercial evaluation will be excluded from the quantities used in the determination of nonstatistical evaluation.

Nonstatistical Mix Design. Fifteen days prior to the first day of paving the contractor shall provide one of the following mix design verification certifications for Contracting Agency review;

- The WSDOT Mix Design Evaluation Report from the current WSDOT QPL, or one of the mix design verification certifications listed below.
- The proposed HMA mix design on WSDOT Form 350-042 with the seal and certification (stamp & sig-nature) of a valid licensed Washington State Professional Engineer.
- The Mix Design Report for the proposed HMA mix design developed by a qualified City or County laboratory that is within one year of the approval date.**

The mix design shall be performed by a lab accredited by a national authority such as Laboratory Accreditation Bureau, L-A-B for Construction Materials Testing, The Construction Materials Engineering Council (CMEC's) ISO 17025 or AASHTO Accreditation Program (AAP) and shall supply evidence of participation in the AASHTO: resource proficiency sample program.

Mix designs for HMA accepted by Nonstatistical evaluation shall;

- Have the aggregate structure and asphalt binder content determined in accordance with WSDOT Standard Operating Procedure 732 and meet the requirements of Sections 9-03.8(2), except that Hamburg testing for ruts and stripping are at the discretion of the Engineer, and 9-03.8(6).
- Have anti-strip requirements, if any, for the proposed mix design determined in accordance with AASHTO T 283 or T 324, or based on historic anti-strip and aggregate source compatibility from previous WSDOT lab testing.

At the discretion of the Engineer, agencies may accept verified mix designs older than 12 months from the original verification date with a certification from the Contractor that the materials and sources are the same as those shown on the original mix design.

Commercial Evaluation Approval of a mix design for "Commercial Evaluation" will be based on a review of the Contractor's submittal of WSDOT Form 350-042 (For commercial mixes, AASHTO T 324 evaluation is not required) or a Mix Design from the current WSDOT QPL or from one of the processes allowed by this section. Testing of the HMA by the Contracting Agency for mix design approval is not required.

For the Bid Item Commercial HMA, the Contractor shall select a class of HMA and design level of Equivalent Single Axle Loads (ESAL's) appropriate for the required use.

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

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

- Do not use additives that reduce the mixing temperature more than allowed in Section 5-04.3(6) in the production of mixtures.
- Before using additives, obtain the Engineer's approval using WSDOT Form 350-076 to describe the proposed additive and process.

5-04.3 Construction Requirements

5-04.3(1) Weather Limitations

Do not place HMA for wearing course on any Traveled Way beginning October 1st through March 31st of the following year without written concurrence from the Engineer.

Do not place HMA on any wet surface, or when the average surface temperatures are less than those specified below, or when weather conditions otherwise prevent the proper handling or finishing of the HMA.

Minimum Surface Temperature for Paving

Compacted Thickness (Feet)	Wearing Course	Other Courses
Less than 0.10	55◦F	45◦F
0.10 to .20	45◦F	35◦F
More than 0.20	35◦F	35◦F

5-04.3(2) Paving Under Traffic

When the Roadway being paved is open to traffic, the requirements of this Section shall apply.

The Contractor shall keep intersections open to traffic at all times except when paving the intersection or paving across the intersection. During such time, and provided that there has been an advance warning to the public, the intersection may be closed for the minimum time required to place and compact the mixture. In hot weather, the Engineer may require the application of water to the pavement to accelerate the finish rolling of the pavement and to shorten the time required before reopening to traffic.

Before closing an intersection, advance warning signs shall be placed and signs shall also be placed marking the detour or alternate route.

During paving operations, temporary pavement markings shall be maintained throughout the project. Temporary pavement markings shall be installed on the Roadway prior to opening to traffic. Temporary pavement markings shall be in accordance with Section 8-23.

All costs in connection with performing the Work in accordance with these requirements, except the cost of temporary pavement markings, shall be included in the unit Contract prices for the various Bid items involved in the Contract.

5-04.3(3) Equipment

5-04.3(3)A Mixing Plant

Plants used for the preparation of HMA shall conform to the following requirements:

1. **Equipment for Preparation of Asphalt Binder** – Tanks for the storage of asphalt binder shall be equipped to heat and hold the material at the required temperatures. The heating shall be accomplished by steam coils, electricity, or other approved means so that no flame shall be in contact with the storage tank. The circulating system for the asphalt binder shall be designed to ensure proper and continuous circulation during the operating period. A valve for the purpose of sampling the asphalt binder shall be placed in either the storage tank or in the supply line to the mixer.
2. **Thermometric Equipment** – An armored thermometer, capable of detecting temperature ranges expected in the HMA mix, shall be fixed in the asphalt binder feed line at a location near the charging valve at the mixer unit. The thermometer location shall be convenient and safe for access by Inspectors. The plant shall also be equipped with an approved dial-scale thermometer, a mercury actuated thermometer, an electric pyrometer, or another approved thermometric instrument placed at the discharge chute of the drier to automatically register or indicate the temperature of the heated aggregates. This device shall be in full view of the plant operator.
3. **Heating of Asphalt Binder** – The temperature of the asphalt binder shall not exceed the maximum recommended by the asphalt binder manufacturer nor shall it be below the minimum temperature required to maintain the asphalt binder in a homogeneous state. The asphalt binder shall be heated in a manner that will avoid local variations in heating. The heating method shall provide a continuous supply of asphalt binder to the mixer at a uniform average temperature with no individual variations exceeding 25°F. Also, when a WMA additive is included in the asphalt binder, the temperature of the asphalt binder shall not exceed the maximum recommended by the manufacturer of the WMA additive.
4. **Sampling and Testing of Mineral Materials** – The HMA plant shall be equipped with a mechanical sampler for the sampling of the mineral materials. The mechanical sampler shall meet the requirements of Section 1-05.6 for the crushing and screening operation. The Contractor shall provide for the setup and operation of the field testing facilities of the Contracting Agency as provided for in Section 3-01.2(2).
5. **Sampling HMA** – The HMA plant shall provide for sampling HMA by one of the following methods:
    a. A mechanical sampling device attached to the HMA plant.

b. Platforms or devices to enable sampling from the hauling vehicle without entering the hauling vehicle.

5-04.3(3)B Hauling Equipment

Trucks used for hauling HMA shall have tight, clean, smooth metal beds and shall have a cover of canvas or other suitable material of sufficient size to protect the mixture from adverse weather. Whenever the weather conditions during the work shift include, or are forecast to include, precipitation or an air temperature less than 45°F or when time from loading to unloading exceeds 30 minutes, the cover shall be securely attached to protect the HMA.

The contractor shall provide an environmentally benign means to prevent the HMA mixture from adhering to the hauling equipment. Excess release agent shall be drained prior to filling hauling equipment with HMA. Petroleum derivatives or other coating material that contaminate or alter the characteristics of the HMA shall not be used. For live bed trucks, the conveyer shall be in operation during the process of applying the release agent.

5-04.3(3)C Pavers

HMA pavers shall be self-contained, power-propelled units, provided with an internally heated vibratory screed and shall be capable of spreading and finishing courses of HMA plant mix material in lane widths required by the paving section shown in the Plans.

The HMA paver shall be in good condition and shall have the most current equipment available from the manufacturer for the prevention of segregation of the HMA mixture installed, in good condition, and in working order. The equipment certification shall list the make, model, and year of the paver and any equipment that has been retrofitted.

The screed shall be operated in accordance with the manufacturer's recommendations and shall effectively produce a finished surface of the required evenness and texture without tearing, shoving, segregating, or gouging the mixture. A copy of the manufacturer's recommendations shall be provided upon request by the Contracting Agency. Extensions will be allowed provided they produce the same results, including ride, density, and surface texture as obtained by the primary screed. Extensions without augers and an internally heated vibratory screed shall not be used in the Traveled Way.

When specified in the Contract, reference lines for vertical control will be required. Lines shall be placed on both outer edges of the Traveled Way of each Roadway. Horizontal control utilizing the reference line will be permitted. The grade and slope for intermediate lanes shall be controlled automatically from reference lines or by means of a mat referencing device and a slope control device. When the finish of the grade prepared for paving is superior to the established tolerances and when, in the opinion of the Engineer, further improvement to the line, grade, cross-section, and smoothness can best be achieved without the use of the reference line, a mat referencing device may be substituted for the reference line. Substitution of the device will be subject to the continued approval of the Engineer. A joint matcher may be used subject to the approval of the Engineer. The reference line may be removed after the completion of the first course of HMA when approved by the Engineer. Whenever the Engineer determines that

any of these methods are failing to provide the necessary vertical control, the reference lines will be reinstalled by the Contractor.

The Contractor shall furnish and install all pins, brackets, tensioning devices, wire, and accessories necessary for satisfactory operation of the automatic control equipment.

If the paving machine in use is not providing the required finish, the Engineer may suspend Work as allowed by Section 1-08.6. Any cleaning or solvent type liquids spilled on the pavement shall be thoroughly removed before paving proceeds.

5-04.3(3)D Material Transfer Device or Material Transfer Vehicle

A Material Transfer Device/Vehicle (MTD/V) shall only be used with the Engineer's approval, unless other-wise required by the contract.

Where an MTD/V is required by the contract, the Engineer may approve paving without an MTD/V, at the request of the Contractor. The Engineer will determine if an equitable adjustment in cost or time is due.

When used, the MTD/V shall mix the HMA after delivery by the hauling equipment and prior to laydown by the paving machine. Mixing of the HMA shall be sufficient to obtain a uniform temperature throughout the mixture. If a windrow elevator is used, the length of the windrow may be limited in urban areas or through intersections, at the discretion of the Engineer.

To be approved for use, an MTV:

1. Shall be self-propelled vehicle, separate from the hauling vehicle or paver.
2. Shall not be connected to the hauling vehicle or paver.
3. May accept HMA directly from the haul vehicle or pick up HMA from a windrow.
4. Shall mix the HMA after delivery by the hauling equipment and prior to placement into the paving machine.
5. Shall mix the HMA sufficiently to obtain a uniform temperature throughout the mixture.

To be approved for use, an MTD:

1. Shall be positively connected to the paver.
2. May accept HMA directly from the haul vehicle or pick up HMA from a windrow.
3. Shall mix the HMA after delivery by the hauling equipment and prior to placement into the paving machine.
4. Shall mix the HMA sufficiently to obtain a uniform temperature throughout the mixture.

5-04.3(3)E Rollers

Rollers shall be of the steel wheel, vibratory, oscillatory, or pneumatic tire type, in good condition and capable of reversing without backlash. Operation of the roller shall be in accordance with the manufacturer's recommendations. When ordered by the Engineer for any roller planned for use on the project, the Contractor shall provide a copy of the manufacturer's recommendation for the use of that roller for compaction of HMA. The number and weight of rollers shall be sufficient to compact the mixture in compliance with the requirements of Section 5-04.3(10). The use of equipment that results in crushing of the aggregate will not be permitted. Rollers producing pickup, washboard, uneven compaction of the surface, displacement of the mixture or other undesirable results shall not be used.

5-04.3(4) Preparation of Existing Paved Surfaces

When the surface of the existing pavement or old base is irregular, the Contractor shall bring it to a uniform grade and cross-section as shown on the Plans or approved by the Engineer.

Preleveling of uneven or broken surfaces over which HMA is to be placed may be accomplished by using an asphalt paver, a motor patrol grader, or by hand raking, as approved by the Engineer.

Compaction of preleveling HMA shall be to the satisfaction of the Engineer and may require the use of small steel wheel rollers, plate compactors, or pneumatic rollers to avoid bridging across preleveled areas by the compaction equipment. Equipment used for the compaction of preleveling HMA shall be approved by the Engineer.

Before construction of HMA on an existing paved surface, the entire surface of the pavement shall be clean. All fatty asphalt patches, grease drippings, and other objectionable matter shall be entirely removed from the existing pavement. All pavements or bituminous surfaces shall be thoroughly cleaned of dust, soil, pavement grindings, and other foreign matter. All holes and small depressions shall be filled with an appropriate class of HMA. The surface of the patched area shall be leveled and compacted thoroughly. Prior to the application of tack coat, or paving, the condition of the surface shall be approved by the Engineer.

A tack coat of asphalt shall be applied to all paved surfaces on which any course of HMA is to be placed or abutted; except that tack coat may be omitted from clean, newly paved surfaces at the discretion of the Engineer. Tack coat shall be uniformly applied to cover the existing pavement with a thin film of residual asphalt free of streaks and bare spots at a rate between 0.02 and 0.10 gallons per square yard of retained asphalt. The rate of application shall be approved by the Engineer. A heavy application of tack coat shall be applied to all joints. For Roadways open to traffic, the application of tack coat shall be limited to surfaces that will be paved during the same working shift. The spreading equipment shall be equipped with a thermometer to indicate the temperature of the tack coat material.

Equipment shall not operate on tacked surfaces until the tack has broken and cured. If the Contractor's operation damages the tack coat it shall be repaired prior to placement of the HMA.

The tack coat shall be CSS-1, or CSS-1h emulsified asphalt. The CSS-1 and CSS-1h emulsified asphalt may be diluted once with water at a rate not to exceed one part water to one part emulsified asphalt. The tack coat shall have sufficient temperature such that it may be applied uniformly at the specified rate of application and shall not exceed the maximum temperature recommended by the emulsified asphalt manufacturer.

5-04.3(4)A Crack Sealing

5-04.3(4)A1 General

When the Proposal includes a pay item for crack sealing, seal all cracks ¼ inch in width and greater.

Cleaning: Ensure that cracks are thoroughly clean, dry and free of all loose and foreign material when filling with crack sealant material. Use a hot compressed air lance to dry and warm the pavement surfaces within the crack immediately prior to filling a crack with the sealant material. Do not overheat pavement. Do not use direct flame dryers. Routing cracks is not required.

Sand Slurry: For cracks that are to be filled with sand slurry, thoroughly mix the components and pour the mixture into the cracks until full. Add additional CSS-1 cationic emulsified asphalt to the sand slurry as needed for workability to ensure the mixture will completely fill the cracks. Strike off the sand slurry flush with the existing pavement surface and allow the mixture to cure. Top off cracks that were not completely filled with additional sand slurry. Do not place the HMA overlay until the slurry has fully cured.

The sand slurry shall consist of approximately 20 percent CSS-1 emulsified asphalt, approximately 2 percent portland cement, water (if required), and the remainder clean Class 1 or 2 fine aggregate per section 9-03.1(2). The components shall be thoroughly mixed and then poured into the cracks and joints until full. The following day, any cracks or joints that are not completely filled shall be topped off with additional sand slurry. After the sand slurry is placed, the filler shall be struck off flush with the existing pavement surface and allowed to cure. The HMA overlay shall not be placed until the slurry has fully cured. The requirements of Section 1-06 will not apply to the portland cement and sand used in the sand slurry.

In areas where HMA will be placed, use sand slurry to fill the cracks.

In areas where HMA will not be placed, fill the cracks as follows:

1. Cracks ¼ inch to 1 inch in width - fill with hot poured sealant.
2. Cracks greater than 1 inch in width – fill with sand slurry.

Hot Poured Sealant: For cracks that are to be filled with hot poured sealant, apply the material in accordance with these requirements and the manufacturer's recommendations. Furnish a Type 1 Working Drawing of the manufacturer's product information and recommendations to the Engineer prior to the start of work, including the manufacturer's recommended heating time and temperatures, allowable storage time

and temperatures after initial heating, allowable reheating criteria, and application temperature range. Confine hot poured sealant material within the crack. Clean any overflow of sealant from the pavement surface. If, in the opinion of the Engineer, the Contractor's method of sealing the cracks with hot poured sealant results in an excessive amount of material on the pavement surface, stop and correct the operation to eliminate the excess material.

5-04.3(4)A2 Crack Sealing Areas Prior to Paving

In areas where HMA will be placed, use sand slurry to fill the cracks.

5-04.3(4)A3 Crack Sealing Areas Not to be Paved

In areas where HMA will not be placed, fill the cracks as follows:

A. Cracks ¼ inch to 1 inch in width - fill with hot poured sealant.
B. Cracks greater than 1 inch in width – fill with sand slurry.

5-04.3(4)B Vacant

5-04.3(4)C Pavement Repair

The Contractor shall excavate pavement repair areas and shall backfill these with HMA in accordance with the details shown in the Plans and as marked in the field. The Contractor shall conduct the excavation operations in a manner that will protect the pavement that is to remain. Pavement not designated to be removed that is damaged as a result of the Contractor's operations shall be repaired by the Contractor to the satisfaction of the Engineer at no cost to the Contracting Agency. The Contractor shall excavate only within one lane at a time unless approved otherwise by the Engineer. The Contractor shall not excavate more area than can be completely finished during the same shift, unless approved by the Engineer.

Unless otherwise shown in the Plans or determined by the Engineer, excavate to a depth of 1.0 feet. The Engineer will make the final determination of the excavation depth required. The minimum width of any pavement repair area shall be 40 inches unless shown otherwise in the Plans. Before any excavation, the existing pavement shall be sawcut or shall be removed by a pavement grinder. Excavated materials will become the property of the Contractor and shall be disposed of in a Contractor-provided site off the Right of Way or used in accordance with Sections 2-02.3(3) or 9-03.21.

Asphalt for tack coat shall be required as specified in Section 5-04.3(4). A heavy application of tack coat shall be applied to all surfaces of existing pavement in the pavement repair area.

Placement of the HMA backfill shall be accomplished in lifts not to exceed 0.35-foot compacted depth. Lifts that exceed 0.35-foot of compacted depth may be accomplished with the approval of the Engineer. Each lift shall be thoroughly compacted by a mechanical tamper or a roller.

5-04.3(5) Producing/Stockpiling Aggregates and RAP

Aggregates and RAP shall be stockpiled according to the requirements of Section 3-02. Sufficient storage space shall be provided for each size of aggregate and RAP. Materials shall be removed from stockpile(s) in a manner to ensure minimal segregation when being moved to the HMA plant for processing into the final mixture. Different aggregate sizes shall be kept separated until they have been delivered to the HMA plant.

5-04.3(5)A Vacant

5-04.3(6) Mixing

After the required amount of mineral materials, asphalt binder, recycling agent and anti-stripping additives have been introduced into the mixer the HMA shall be mixed until complete and uniform coating of the particles and thorough distribution of the asphalt binder throughout the mineral materials is ensured.

When discharged, the temperature of the HMA shall not exceed the optimum mixing temperature by more than 25°F as shown on the reference mix design report or as approved by the Engineer. Also, when a WMA additive is included in the manufacture of HMA, the discharge temperature of the HMA shall not exceed the maximum recommended by the manufacturer of the WMA additive. A maximum water content of 2 percent in the mix, at discharge, will be allowed providing the water causes no problems with handling, stripping, or flushing. If the water in the HMA causes any of these problems, the moisture content shall be reduced as directed by the Engineer.

Storing or holding of the HMA in approved storage facilities will be permitted with approval of the Engineer, but in no event shall the HMA be held for more than 24 hours. HMA held for more than 24 hours after mixing shall be rejected. Rejected HMA shall be disposed of by the Contractor at no expense to the Contracting Agency. The storage facility shall have an accessible device located at the top of the cone or about the third point. The device shall indicate the amount of material in storage. No HMA shall be accepted from the storage facility when the HMA in storage is below the top of the cone of the storage facility, except as the storage facility is being emptied at the end of the working shift.

Recycled asphalt pavement (RAP) utilized in the production of HMA shall be sized prior to entering the mixer so that a uniform and thoroughly mixed HMA is produced. If there is evidence of the recycled asphalt pavement not breaking down during the heating and mixing of the HMA, the Contractor shall immediately suspend the use of the RAP until changes have been approved by the Engineer. After the required amount of mineral materials, RAP, new asphalt binder and asphalt rejuvenator have been introduced into the mixer the HMA shall be mixed until complete and uniform coating of the particles and thorough distribution of the asphalt binder throughout the mineral materials, and RAP is ensured.

5-04.3(7) Spreading and Finishing

The mixture shall be laid upon an approved surface, spread, and struck off to the grade and elevation established. HMA pavers complying with Section 5-04.3(3) shall be used to distribute the mixture. Unless otherwise directed by the Engineer, the nominal compacted depth of any layer of any course shall not exceed the following:

HMA Class 1”	0.35 feet
HMA Class ¾” and HMA Class ½”	
wearing course	0.30 feet
other courses	0.35 feet
HMA Class ⅜”	0.15 feet

On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impractical, the paving may be done with other equipment or by hand.

When more than one JMF is being utilized to produce HMA, the material produced for each JMF shall be placed by separate spreading and compacting equipment. The intermingling of HMA produced from more than one JMF is prohibited. Each strip of HMA placed during a work shift shall conform to a single JMF established for the class of HMA specified unless there is a need to make an adjustment in the JMF.

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

For HMA accepted by nonstatistical evaluation the aggregate properties of sand equivalent, uncompacted void content and fracture will be evaluated in accordance with Section 3-04. Sampling and testing of aggregates for HMA accepted by commercial evaluation will be at the option of the Engineer.

5-04.3(9) HMA Mixture Acceptance

Acceptance of HMA shall be as provided under nonstatistical, or commercial evaluation.

Nonstatistical evaluation will be used for the acceptance of HMA unless Commercial Evaluation is specified.

Commercial evaluation will be used for Commercial HMA and for other classes of HMA in the following applications: sidewalks, road approaches, ditches, slopes, paths, trails, gores, prelevel, temporary pavement, and pavement repair. Other nonstructural applications of HMA accepted by commercial evaluation shall be as approved by the Engineer. Sampling and testing of HMA accepted by commercial evaluation will be at the option of the Engineer.

The mix design will be the initial JMF for the class of HMA. The Contractor may request a change in the JMF. Any adjustments to the JMF will require the approval of the Engineer and may be made in accordance with this section.

HMA Tolerances and Adjustments

1. **Job Mix Formula Tolerances** – The constituents of the mixture at the time of acceptance shall be within tolerance. The tolerance limits will be established as follows:

   For Asphalt Binder and Air Voids (Va), the acceptance limits are determined by adding the tolerances below to the approved JMF values. These values

will also be the Upper Specification Limit (USL) and Lower Specification Limit (LSL) required in Section 1-06.2(2)D2

Property	Non-Statistical Evaluation	Commercial Evaluation
Asphalt Binder	+/- 0.5%	+/- 0.7%
Air Voids, Va	2.5% min. and 5.5% max	N/A

For Aggregates in the mixture:

a. First, determine preliminary upper and lower acceptance limits by applying the following tolerances to the approved JMF.

Aggregate Percent Passing	Non-Statistical Evaluation	Commercial Evaluation
1", ¾", ½", and 3/8" sieves	+/- 6%	+/- 8%
No. 4 sieve	+/-6%	+/- 8%
No. 8 Sieve	+/- 6%	+/-8%
No. 200 sieve	+/- 2.0%	+/- 3.0%

b. Second, adjust the preliminary upper and lower acceptance limits determined from step (a) the minimum amount necessary so that none of the aggregate properties are outside the control points in Section 9-03.8(6). The resulting values will be the upper and lower acceptance limits for aggregates, as well as the USL and LSL required in Section 1-06.2(2)D2.

2. Job Mix Formula Adjustments – An adjustment to the aggregate gradation or asphalt binder content of the JMF requires approval of the Engineer. Adjustments to the JMF will only be considered if the change produces material of equal or better quality and may require the development of a new mix design if the adjustment exceeds the amounts listed below.

   a. **Aggregates** –2 percent for the aggregate passing the 1½″, 1″, ¾″, ½″, ⅜″, and the No. 4 sieves, 1 percent for aggregate passing the No. 8 sieve, and 0.5 percent for the aggregate passing the No. 200 sieve. The adjusted JMF shall be within the range of the control points in Section 9-03.8(6).

   b. **Asphalt Binder Con**tent – The Engineer may order or approve changes to asphalt binder content. The maximum adjustment from the approved mix design for the asphalt binder content shall be 0.3 percent

5-04.3(9)A Vacant

5-04.3(9)B Vacant

5-04.3(9)C Mixture Acceptance – Nonstatistical Evaluation

HMA mixture which is accepted by Nonstatistical Evaluation will be evaluated by the Contracting Agency by dividing the HMA tonnage into lots.

5-04.3(9)C1 Mixture Nonstatistical Evaluation – Lots and Sublots

A lot is represented by randomly selected samples of the same mix design that will be tested for acceptance. A lot is defined as the total quantity of material or work produced for each Job Mix Formula placed. Only one lot per JMF is expected. A sublot shall be equal to one day's production or 800 tons, whichever is less except that the final sublot will be a minimum of 400 tons and may be increased to 1200 tons.

All of the test results obtained from the acceptance samples from a given lot shall be evaluated collectively. If the Contractor requests a change to the JMF that is approved,

the material produced after the change will be evaluated on the basis of the new JMF for the remaining sublots in the current lot and for acceptance of subsequent lots. For a lot in progress with a CPF less than 0.75, a new lot will begin at the Contractor's request after the Engineer is satisfied that material conforming to the Specifications can be produced.

Sampling and testing for evaluation shall be performed on the frequency of one sample per sublot.

5-04.3(9)C2 Mixture Nonstatistical Evaluation Sampling

Samples for acceptance testing shall be obtained by the Contractor when ordered by the Engineer. The Contractor shall sample the HMA mixture in the presence of the Engineer and in accordance with AASH-TO T 168. A minimum of three samples should be taken for each class of HMA placed on a project. If used in a structural application, at least one of the three samples shall to be tested.

Sampling and testing HMA in a Structural application where quantities are less than 400 tons is at the discretion of the Engineer.

For HMA used in a structural application and with a total project quantity less than 800 tons but more than 400 tons, a minimum of one acceptance test shall be performed. In all cases, a minimum of 3 samples will be obtained at the point of acceptance, a minimum of one of the three samples will be tested for conformance to the JMF:

- If the test results are found to be within specification requirements, additional testing will be at the Engineer's discretion.
- If test results are found not to be within specification requirements, additional testing of the remaining samples to determine a Composite Pay Factor (CPF) shall be performed.

5-04.3(9)C3 Mixture Nonstatistical Evaluation – Acceptance Testing

Testing of HMA for compliance of V_a will at the option of the Contracting Agency. If tested, compliance of V_a will use WSDOT SOP 731.

Testing for compliance of asphalt binder content will be by WSDOT FOP for AASHTO T 308.

Testing for compliance of gradation will be by FOP for WAQTC T 27/T 11.

5-04.3(9)C4 Mixture Nonstatistical Evaluation – Pay Factors

For each lot of material falling outside the tolerance limits in 5-04.3(9), the Contracting Agency will determine a Composite Pay Factor (CPF) using the following price adjustment factors:

Table of Price Adjustment Factors	
Constituent	**Factor**

	"f"
All aggregate passing: 1½", 1", ¾", ½", ⅜" and No.4 sieves	2
All aggregate passing No. 8 sieve	15
All aggregate passing No. 200 sieve	20
Asphalt binder	40
Air Voids (Va) (where applicable)	20

Each lot of HMA produced under Nonstatistical Evaluation and having all constituents falling within the tolerance limits of the job mix formula shall be accepted at the unit Contract price with no further evaluation. When one or more constituents fall outside the nonstatistical tolerance limits in the Job Mix Formula shown in Table of Price Adjustment Factors, the lot shall be evaluated in accordance with Section 1-06.2 to determine the appropriate CPF. The nonstatistical tolerance limits will be used in the calculation of the CPF and the maximum CPF shall be 1.00. When less than three sublots exist, backup samples of the existing sublots or samples from the Roadway shall be tested to provide a minimum of three sets of results for evaluation.

5-04.3(9)C5 Vacant

5-04.3(9)C6 Mixture Nonstatistical Evaluation – Price Adjustments

For each lot of HMA mix produced under Nonstatistical Evaluation when the calculated CPF is less than 1.00, a Nonconforming Mix Factor (NCMF) will be determined. The NCMF equals the algebraic difference of CPF minus 1.00 multiplied by 60 percent. The total job mix compliance price adjustment will be calculated as the product of the NCMF, the quantity of HMA in the lot in tons, and the unit Contract price per ton of mix.

If a constituent is not measured in accordance with these Specifications, its individual pay factor will be considered 1.00 in calculating the Composite Pay Factor (CPF).

5-04.3(9)C7 Mixture Nonstatistical Evaluation - Retests

The Contractor may request a sublot be retested. To request a retest, the Contractor shall submit a written request within 7 calendar days after the specific test results have been received. A split of the original acceptance sample will be retested. The split of the sample will not be tested with the same tester that ran the original acceptance test. The sample will be tested for a complete gradation analysis, asphalt binder content, and, at the option of the agency, V_a. The results of the retest will be used for the acceptance of the HMA in place of the original sublot sample test results. The cost of testing will be deducted from any monies due or that may come due the Contractor under the Contract at the rate of $500 per sample.

5-04.3 (9)D Mixture Acceptance – Commercial Evaluation

If sampled and tested, HMA produced under Commercial Evaluation and having all constituents falling within the tolerance limits of the job mix formula shall be accepted at the unit Contract price with no further evaluation. When one or more constituents fall outside the commercial tolerance limits in the Job Mix Formula shown in 5-04.3(9), the

lot shall be evaluated in accordance with Section 1-06.2 to determine the appropriate CPF. The commercial tolerance limits will be used in the calculation of the CPF and the maximum CPF shall be 1.00. When less than three sublots exist, backup samples of the existing sublots or samples from the street shall be tested to provide a minimum of three sets of results for evaluation.

For each lot of HMA mix produced and tested under Commercial Evaluation when the calculated CPF is less than 1.00, a Nonconforming Mix Factor (NCMF) will be determined. The NCMF equals the algebraic difference of CPF minus 1.00 multiplied by 60 percent. The Job Mix Compliance Price Adjustment will be calculated as the product of the NCMF, the quantity of HMA in the lot in tons, and the unit Contract price per ton of mix.

If a constituent is not measured in accordance with these Specifications, its individual pay factor will be considered 1.00 in calculating the Composite Pay Factor (CPF).

5-04.3(10) HMA Compaction Acceptance

HMA mixture accepted by nonstatistical evaluation that is used in traffic lanes, including lanes for intersections, ramps, truck climbing, weaving, and speed change, and having a specified compacted course thickness greater than 0.10-foot, shall be compacted to a specified level of relative density. The specified level of relative density shall be a Composite Pay Factor (CPF) of not less than 0.75 when evaluated in accordance with Section 1-06.2, using a LSL of 92.0 (minimum of 92 percent of the maximum density). The maximum density shall be determined by WSDOT FOP for AASHTO T 729. The specified level of density attained will be determined by the evaluation of the density of the pavement. The density of the pavement shall be determined in accordance with WSDOT FOP for WAQTC TM 8, except that gauge correlation will be at the discretion of the Engineer, when using the nuclear density gauge and WSDOT SOP 736 when using cores to determine density.

Tests for the determination of the pavement density will be taken in accordance with the required procedures for measurement by a nuclear density gauge or roadway cores after completion of the finish rolling.

If the Contracting Agency uses a nuclear density gauge to determine density the test procedures FOP for WAQTC TM 8 and WSDOT SOP T 729 will be used on the day the mix is placed and prior to opening to traffic.

Roadway cores for density may be obtained by either the Contracting Agency or the Contractor in accordance with WSDOT SOP 734. The core diameter shall be 4-inches minimum, unless otherwise approved by the Engineer. Roadway cores will be tested by the Contracting Agency in accordance with WSDOT FOP for AASHTO T 166.

If the Contract includes the Bid item “Roadway Core” the cores shall be obtained by the Contractor in the presence of the Engineer on the same day the mix is placed and at locations designated by the Engineer. If the Contract does not include the Bid item “Roadway Core” the Contracting Agency will obtain the cores.

For a lot in progress with a CPF less than 0.75, a new lot will begin at the Contractor's request after the Engineer is satisfied that material conforming to the Specifications can be produced.

HMA mixture accepted by commercial evaluation and HMA constructed under conditions other than those listed above shall be compacted on the basis of a test point evaluation of the compaction train. The test point evaluation shall be performed in accordance with instructions from the Engineer. The number of passes with an approved compaction train, required to attain the maximum test point density, shall be used on all subsequent paving.

HMA for preleveling shall be thoroughly compacted. HMA that is used for preleveling wheel rutting shall be compacted with a pneumatic tire roller unless otherwise approved by the Engineer.

Test Results

For a sublot that has been tested with a nuclear density gauge that did not meet the minimum of 92 percent of the reference maximum density in a compaction lot with a CPF below 1.00 and thus subject to a price reduction or rejection, the Contractor may request that a core be used for determination of the relative density of the sublot. The relative density of the core will replace the relative density determined by the nuclear density gauge for the sublot and will be used for calculation of the CPF and acceptance of HMA compaction lot.

When cores are taken by the Contracting Agency at the request of the Contractor, they shall be requested by noon of the next workday after the test results for the sublot have been provided or made available to the Contractor. Core locations shall be outside of wheel paths and as determined by the Engineer. Traffic control shall be provided by the Contractor as requested by the Engineer. Failure by the Contractor to provide the requested traffic control will result in forfeiture of the request for cores. When the CPF for the lot based on the results of the HMA cores is less than 1.00, the cost for the coring will be deducted from any monies due or that may become due the Contractor under the Contract at the rate of $200 per core and the Contractor shall pay for the cost of the traffic control.

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

Compaction shall take place when the mixture is in the proper condition so that no undue displacement, cracking, or shoving occurs. Areas inaccessible to large compaction equipment shall be compacted by other mechanical means. Any HMA that becomes loose, broken, contaminated, shows an excess or deficiency of asphalt, or is in any way defective, shall be removed and replaced with new hot mix that shall be immediately compacted to conform to the surrounding area.

The type of rollers to be used and their relative position in the compaction sequence shall generally be the Contractor's option, provided the specified densities are attained. Unless the Engineer has approved otherwise, rollers shall only be operated in the static mode when the internal temperature of the mix is less than 175°F. Regardless of mix temperature, a roller shall not be operated in a mode that results in checking or cracking of the mat. Rollers shall only be operated in static mode on bridge decks.

5-04.3(10)B HMA Compaction – Cyclic Density

Low cyclic density areas are defined as spots or streaks in the pavement that are less than 90 percent of the theoretical maximum density. At the Engineer's discretion, the Engineer may evaluate the HMA pavement for low cyclic density, and when doing so will follow WSDOT SOP 733. A $500 Cyclic Density Price Adjustment will be assessed for any 500-foot section with two or more density readings below 90 percent of the theoretical maximum density.

5-04.3(10)C Vacant

5-04.3(10)D HMA Nonstatistical Compaction

5-04.3(10)D1 HMA Nonstatistical Compaction – Lots and Sublots

HMA compaction which is accepted by nonstatistical evaluation will be based on acceptance testing performed by the Contracting Agency dividing the project into compaction lots.

A lot is represented by randomly selected samples of the same mix design that will be tested for acceptance. A lot is defined as the total quantity of material or work produced for each Job Mix Formula placed. Only one lot per JMF is expected. A sublot shall be equal to one day's production or 400 tons, whichever is less except that the final sublot will be a minimum of 200 tons and may be increased to 800 tons. Testing for compaction will be at the rate of 5 tests per sublot per WSDOT T 738.

The sublot locations within each density lot will be determined by the Engineer. For a lot in progress with a CPF less than 0.75, a new lot will begin at the Contractor's request after the Engineer is satisfied that material conforming to the Specifications can be produced.

HMA mixture accepted by commercial evaluation and HMA constructed under conditions other than those listed above shall be compacted on the basis of a test point evaluation of the compaction train. The test point evaluation shall be performed in accordance with instructions from the Engineer. The number of passes with an approved compaction train, required to attain the maximum test point density, shall be used on all subsequent paving.

HMA for preleveling shall be thoroughly compacted. HMA that is used to prelevel wheel ruts shall be compacted with a pneumatic tire roller unless otherwise approved by the Engineer.

5-04.3(10)D2 HMA Compaction Nonstatistical Evaluation – Acceptance Testing

The location of the HMA compaction acceptance tests will be randomly selected by the Engineer from within each sublot, with one test per sublot.

5-04.3(10)D3 HMA Nonstatistical Compaction – Price Adjustments

For each compaction lot with one or two sublots, having all sublots attain a relative density that is 92 percent of the reference maximum density the HMA shall be accepted at the unit Contract price with no further evaluation. When a sublot does not attain a relative density that is 92 percent of the reference maximum density, the lot shall be evaluated in accordance with Section 1-06.2 to determine the appropriate CPF. The maximum CPF shall be 1.00, however, lots with a calculated CPF in excess of 1.00 will be used to offset lots with CPF values below 1.00 but greater than 0.90. Lots with CPF lower than 0.90 will be evaluated for compliance per 5-04.3(11). Additional testing by either a nuclear moisture-density gauge or cores will be completed as required to provide a minimum of three tests for evaluation.

For compaction below the required 92% a Non-Conforming Compaction Factor (NCCF) will be determined. The NCCF equals the algebraic difference of CPF minus 1.00 multiplied by 40 percent. The Compaction Price Adjustment will be calculated as the product of CPF, the quantity of HMA in the compaction control lot in tons, and the unit Contract price per ton of mix.

5-04.3(11) Reject Work

5-04.3(11)A Reject Work General

Work that is defective or does not conform to Contract requirements shall be rejected. The Contractor may propose, in writing, alternatives to removal and replacement of rejected material. Acceptability of such alternative proposals will be determined at the sole discretion of the Engineer. HMA that has been rejected is subject to the requirements in Section 1-06.2(2) and this specification, and the Contractor shall submit a corrective action proposal to the Engineer for approval.

5-04.3(11)B Rejection by Contractor

The Contractor may, prior to sampling, elect to remove any defective material and replace it with new material. Any such new material will be sampled, tested, and evaluated for acceptance.

5-04.3(11)C Rejection Without Testing (Mixture or Compaction)

The Engineer may, without sampling, reject any batch, load, or section of Roadway that appears defective. Material rejected before placement shall not be incorporated into the pavement. Any rejected section of Roadway shall be removed.

No payment will be made for the rejected materials or the removal of the materials unless the Contractor requests that the rejected material be tested. If the Contractor elects to have the rejected material tested, a minimum of three representative samples will be obtained and tested. Acceptance of rejected material will be based on conformance with the nonstatistical acceptance Specification. If the CPF for the rejected material is less than 0.75, no payment will be made for the rejected material; in addition, the cost of sampling and testing shall be borne by the Contractor. If the CPF is greater than or equal to 0.75, the cost of sampling and testing will be borne by the Contracting Agency. If the material is rejected before placement and the CPF is greater than or equal to 0.75, compensation for the rejected material will be at a CPF of 0.75. If rejection occurs after placement and the CPF is greater than or equal to 0.75, compensation for

the rejected material will be at the calculated CPF with an addition of 25 percent of the unit Contract price added for the cost of removal and disposal.

5-04.3(11)D Rejection - A Partial Sublot

In addition to the random acceptance sampling and testing, the Engineer may also isolate from a normal sublot any material that is suspected of being defective in relative density, gradation or asphalt binder content. Such isolated material will not include an original sample location. A minimum of three random samples of the suspect material will be obtained and tested. The material will then be statistically evaluated as an independent lot in accordance with Section 1-06.2(2).

5-04.3(11)E Rejection - An Entire Sublot

An entire sublot that is suspected of being defective may be rejected. When a sublot is rejected a minimum of two additional random samples from this sublot will be obtained. These additional samples and the original sublot will be evaluated as an independent lot in accordance with Section 1-06.2(2).

5-04.3(11)F Rejection - A Lot in Progress

The Contractor shall shut down operations and shall not resume HMA placement until such time as the Engineer is satisfied that material conforming to the Specifications can be produced:

1. When the Composite Pay Factor (CPF) of a lot in progress drops below 1.00 and the Contractor is taking no corrective action, or
2. When the Pay Factor (PF) for any constituent of a lot in progress drops below 0.95 and the Contractor is taking no corrective action, or
3. When either the PFi for any constituent or the CPF of a lot in progress is less than 0.75.

5-04.3(11)G Rejection - An Entire Lot (Mixture or Compaction)

An entire lot with a CPF of less than 0.75 will be rejected.

5-04.3(12) Joints

5-04.3(12)A HMA Joints

5-04.3(12)A1 Transverse Joints

The Contractor shall conduct operations such that the placing of the top or wearing course is a continuous operation or as close to continuous as possible. Unscheduled transverse joints will be allowed and the roller may pass over the unprotected end of the freshly laid mixture only when the placement of the course must be discontinued for such a length of time that the mixture will cool below compaction temperature. When the Work is resumed, the previously compacted mixture shall be cut back to produce a slightly beveled edge for the full thickness of the course.

A temporary wedge of HMA constructed on a 20H:1V shall be constructed where a transverse joint as a result of paving or planing is open to traffic. The HMA in the temporary wedge shall be separated from the permanent HMA by strips of heavy wrapping paper or other methods approved by the Engineer. The wrapping paper shall be removed and the joint trimmed to a slightly beveled edge for the full thickness of the course prior to resumption of paving.

The material that is cut away shall be wasted and new mix shall be laid against the cut. Rollers or tamping irons shall be used to seal the joint.

5-04.3(12)A2 Longitudinal Joints

The longitudinal joint in any one course shall be offset from the course immediately below by not more than 6 inches nor less than 2 inches. All longitudinal joints constructed in the wearing course shall be located at a lane line or an edge line of the Traveled Way. A notched wedge joint shall be constructed along all longitudinal joints in the wearing surface of new HMA unless otherwise approved by the Engineer. The notched wedge joint shall have a vertical edge of not less than the maximum aggregate size or more than ½ of the compacted lift thickness and then taper down on a slope not steeper than 4H:1V. The sloped portion of the HMA notched wedge joint shall be uniformly compacted.

5-04.3(12)B Bridge Paving Joint Seals

5-04.3(12)B1 HMA Sawcut and Seal

Prior to placing HMA on the bridge deck, establish sawcut alignment points at both ends of the bridge paving joint seals to be placed at the bridge ends, and at interior joints within the bridge deck when and where shown in the Plans. Establish the sawcut alignment points in a manner that they remain functional for use in aligning the sawcut after placing the overlay.

Submit a Type 1 Working Drawing consisting of the sealant manufacturer's application procedure.

Construct the bridge paving joint seal as specified ion the Plans and in accordance with the detail shown in the Standard Plans. Construct the sawcut in accordance with the detail shown in the Standard Plan. Construct the sawcut in accordance with Section 5-05.3(8)B and the manufacturer's application procedure.

5-04.3(12)B2 Paved Panel Joint Seal

Construct the paved panel joint seal in accordance with the requirements specified in section 5-04.3(12)B1 and the following requirement:

1. Clean and seal the existing joint between concrete panels in accordance with Section 5-01.3(8) and the details shown in the Standard Plans.

5-04.3(13) Surface Smoothness

The completed surface of all courses shall be of uniform texture, smooth, uniform as to crown and grade, and free from defects of all kinds. The completed surface of the wearing course shall not vary more than ⅛ inch from the lower edge of a 10-foot straightedge placed on the surface parallel to the centerline. The transverse slope of the completed surface of the wearing course shall vary not more than ¼ inch in 10 feet from the rate of transverse slope shown in the Plans.

When deviations in excess of the above tolerances are found that result from a high place in the HMA, the pavement surface shall be corrected by one of the following methods:

1. Removal of material from high places by grinding with an approved grinding machine, or
2. Removal and replacement of the wearing course of HMA, or
3. By other method approved by the Engineer.

Correction of defects shall be carried out until there are no deviations anywhere greater than the allowable tolerances.

Deviations in excess of the above tolerances that result from a low place in the HMA and deviations resulting from a high place where corrective action, in the opinion of the Engineer, will not produce satisfactory results will be accepted with a price adjustment. The Engineer shall deduct from monies due or that may become due to the Contractor the sum of $500.00 for each and every section of single traffic lane 100 feet in length in which any excessive deviations described above are found.

When utility appurtenances such as manhole covers and valve boxes are located in the traveled way, the utility appurtenances shall be adjusted to the finished grade prior to paving. This requirement may be waived when requested by the Contractor, at the discretion of the Engineer or when the adjustment details provided in the project plan or specifications call for utility appurtenance adjustments after the completion of paving.

Utility appurtenance adjustment discussions will be included in the Pre-Paving planning (5-04.3(14)B3). Submit a written request to waive this requirement to the Engineer prior to the start of paving.

5-04.3(14) Planing (Milling) Bituminous Pavement

The planning plan must be approved by the Engineer and a pre planning meeting must be held prior to the start of any planing. See Section 5-04.3(14)B2 for information on planning submittals.

Locations of existing surfacing to be planed are as shown in the Drawings.

Where planing an existing pavement is specified in the Contract, the Contractor must remove existing surfacing material and to reshape the surface to remove irregularities. The finished product must be a prepared surface acceptable for receiving an HMA overlay.

Use the cold milling method for planing unless otherwise specified in the Contract. Do not use the planer on the final wearing course of new HMA.

Conduct planing operations in a manner that does not tear, break, burn, or otherwise damage the surface which is to remain. The finished planed surface must be slightly grooved or roughened and must be free from gouges, deep grooves, ridges, or other imperfections. The Contractor must repair any damage to the surface by the Contractor's planing equipment, using an Engineer approved method.

Repair or replace any metal castings and other surface improvements damaged by planing, as determined by the Engineer.

A tapered wedge cut must be planed longitudinally along curb lines sufficient to provide a minimum of 4 inches of curb reveal after placement and compaction of the final wearing course. The dimensions of the wedge must be as shown on the Drawings or as specified by the Engineer.

A tapered wedge cut must also be made at transitions to adjoining pavement surfaces (meet lines) where butt joints are shown on the Drawings. Cut butt joints in a straight line with vertical faces 2 inches or more in height, producing a smooth transition to the existing adjoining pavement.

After planing is complete, planed surfaces must be swept, cleaned, and if required by the Contract, patched and preleveled.

The Engineer may direct additional depth planing. Before performing this additional depth planing, the Contractor must conduct a hidden metal in pavement detection survey as specified in Section 5-04.3(14)A.

5-04.3(14)A Pre-Planing Metal Detection Check

Before starting planing of pavements, and before any additional depth planing required by the Engineer, the Contractor must conduct a physical survey of existing pavement to be planed with equipment that can identify hidden metal objects.

Should such metal be identified, promptly notify the Engineer.

See Section 1-07.16(1) regarding the protection of survey monumentation that may be hidden in pavement.

The Contractor is solely responsible for any damage to equipment resulting from the Contractor's failure to conduct a pre-planing metal detection survey, or from the Contractor's failure to notify the Engineer of any hidden metal that is detected.

5-04.3(14)B Paving and Planing Under Traffic

5-04.3(14)B1 General

In addition the requirements of Section 1-07.23 and the traffic controls required in Section 1-10, and unless the Contract specifies otherwise or the Engineer approves, the Contractor must comply with the following:

1. Intersections:
   a. Keep intersections open to traffic at all times, except when paving or planing operations through an intersection requires closure. Such closure must be kept to the minimum time required to place and compact the HMA mixture, or plane as appropriate. For paving, schedule such closure to individual lanes or portions thereof that allows the traffic volumes and schedule of traffic volumes required in the approved traffic control plan. Schedule work so that adjacent intersections are not impacted at the same time and comply with the traffic control restrictions required by the Traffic Engineer. Each individual intersection closure or partial closure, must be addressed in the traffic control plan, which must be submitted to and accepted by the Engineer, see Section 1-10.2(2).
   b. When planing or paving and related construction must occur in an intersection, consider scheduling and sequencing such work into quarters of the intersection, or half or more of an intersection with side street detours. Be prepared to sequence the work to individual lanes or portions thereof.
   c. Should closure of the intersection in its entirety be necessary, and no trolley service is impacted, keep such closure to the minimum time required to place and compact the HMA mixture, plane, remove asphalt, tack coat, and as needed.
   d. Any work in an intersection requires advance warning in both signage and a number of Working Days advance notice as determined by the Engineer, to alert traffic and emergency services of the intersection closure or partial closure.
   e. Allow new compacted HMA asphalt to cool to ambient temperature before any traffic is allowed on it. Traffic is not allowed on newly placed asphalt until approval has been obtained from the Engineer.
2. Temporary centerline marking, post-paving temporary marking, temporary stop bars, and maintaining temporary pavement marking must comply with Section 8-23.
3. Permanent pavement marking must comply with Section 8-22.

5-04.3(14)B2 Submittals – Planing Plan and HMA Paving Plan

The Contractor must submit a separate planing plan and a separate paving plan to the Engineer at least 5 Working Days in advance of each operation's activity start date. These plans must show how the moving operation and traffic control are coordinated, as they will be discussed at the pre-planing briefing and pre-paving briefing. When requested by the Engineer, the Contractor must provide each operation's traffic control plan on 24 x 36 inch or larger size Shop Drawings with a scale showing both the area of operation and sufficient detail of traffic beyond the area of operation where detour traffic may be required. The scale on the Shop Drawings is 1 inch = 20 feet, which may be changed if the Engineer agrees sufficient detail is shown.

The planing operation and the paving operation include, but are not limited to, metal detection, removal of asphalt and temporary asphalt of any kind, tack coat and drying,

staging of supply trucks, paving trains, rolling, scheduling, and as may be discussed at the briefing.

When intersections will be partially or totally blocked, provide adequately sized and noticeable signage alerting traffic of closures to come, a minimum 2 Working Days in advance. The traffic control plan must show where police officers will be stationed when signalization is or may be, countermanded, and show areas where flaggers are proposed.

At a minimum, the planing and the paving plan must include:

1. A copy of the accepted traffic control plan, see Section 1-10.2(2), detailing each day's traffic control as it relates to the specific requirements of that day's planing and paving. Briefly describe the sequencing of traffic control consistent with the proposed planing and paving sequence, and scheduling of placement of temporary pavement markings and channelizing devices after each day's planing, and paving.
2. A copy of each intersection's traffic control plan.
3. Haul routes from Supplier facilities, and locations of temporary parking and staging areas, including return routes. Describe the complete round trip as it relates to the sequencing of paving operations.
4. Names and locations of HMA Supplier facilities to be used.
5. List of all equipment to be used for paving.
6. List of personnel and associated job classification assigned to each piece of paving equipment.
7. Description (geometric or narrative) of the scheduled sequence of planing and of paving, and intended area of planing and of paving for each day's work, must include the directions of proposed planing and of proposed paving, sequence of adjacent lane paving, sequence of skipped lane paving, intersection planing and paving scheduling and sequencing, and proposed notifications and coordinations to be timely made. The plan must show HMA joints relative to the final pavement marking lane lines.
8. Names, job titles, and contact information for field, office, and plant supervisory personnel.
9. A copy of the approved Mix Designs.
10. Tonnage of HMA to be placed each day.
11. Approximate times and days for starting and ending daily operations.

5-04.3(14)B3 Pre-Paving and Pre-Planing Briefing

At least 2 Working Days before the first paving operation and the first planing operation, or as scheduled by the Engineer for future paving and planing operations to ensure the Contractor has adequately prepared for notifying and coordinating as required in the Contract, the Contractor must be prepared to discuss that day's operations as they relate to other entities and to public safety and convenience, including driveway and business access, garbage truck operations, Metro transit operations and working around energized overhead wires, school and nursing home and hospital and other accesses, other contractors who may be operating in the area, pedestrian and bicycle traffic, and emergency services. The Contractor, and Subcontractors that may be part of that day's

operations, must meet with the Engineer and discuss the proposed operation as it relates to the submitted planing plan and paving plan, approved traffic control plan, and public convenience and safety. Such discussion includes, but is not limited to:

1. General for both Paving Plan and for Planing Plan:
   a. The actual times of starting and ending daily operations.
   b. In intersections, how to break up the intersection, and address traffic control and signalization for that operation, including use of peace officers.
   c. The sequencing and scheduling of paving operations and of planing operations, as applicable, as it relates to traffic control, to public convenience and safety, and to other con-tractors who may operate in the Project Site.
   d. Notifications required of Contractor activities, and coordinating with other entities and the public as necessary.
   e. Description of the sequencing of installation and types of temporary pavement markings as it relates to planning and to paving.
   f. Description of the sequencing of installation of, and the removal of, temporary pavement patch material around exposed castings and as may be needed
   g. Description of procedures and equipment to identify hidden metal in the pavement, such as survey monumentation, monitoring wells, street car rail, and castings, before planning, see Section 5-04.3(14)B2.
   h. Description of how flaggers will be coordinated with the planing, paving, and related operations.
   i. Description of sequencing of traffic controls for the process of rigid pavement base repairs.
   j. Other items the Engineer deems necessary to address.
2. Paving – additional topics:
   a. When to start applying tack and coordinating with paving.
   b. Types of equipment and numbers of each type equipment to be used. If more pieces of equipment than personnel are proposed, describe the sequencing of the personnel operating the types of equipment. Discuss the continuance of operator personnel for each type equipment as it relates to meeting Specification requirements.
   c. Number of JMFs to be placed, and if more than one JMF how the Contractor will ensure different JMFs are distinguished, how pavers and MTVs are distinguished if more than one JMF is being placed at the time, and how pavers and MTVs are cleaned so that one JMF does not adversely influence the other JMF.
   d. Description of contingency plans for that day's operations such as equipment breakdown, rain out, and Supplier shutdown of operations.
   e. Number of sublots to be placed, sequencing of density testing, and other sampling and testing.

5-04.3(15) Sealing Pavement Surfaces

Apply a fog seal where shown in the plans. Construct the fog seal in accordance with Section 5-02.3. Unless otherwise approved by the Engineer, apply the fog seal prior to opening to traffic.

5-04.3(16) HMA Road Approaches

HMA approaches shall be constructed at the locations shown in the Plans or where staked by the Engineer. The Work shall be performed in accordance with Section 5-04.

5-04.4 Measurement

HMA Cl. ___ PG ___, HMA for ___ Cl. ___ PG ___, and Commercial HMA will be measured by the ton in accordance with Section 1-09.2, with no deduction being made for the weight of asphalt binder, mineral filler, or any other component of the mixture. If the Contractor elects to remove and replace mix as allowed by Section 5-04.3(11), the material removed will not be measured.

Roadway cores will be measured per each for the number of cores taken.

Preparation of untreated roadway will be measured by the mile once along the centerline of the main line Roadway. No additional measurement will be made for ramps, Auxiliary Lanes, service roads, Frontage Roads, or Shoulders. Measurement will be to the nearest 0.01 mile.

Soil residual herbicide will be measured by the mile for the stated width to the nearest 0.01 mile or by the square yard, whichever is designated in the Proposal.

Pavement repair excavation will be measured by the square yard of surface marked prior to excavation.

Asphalt for prime coat will be measured by the ton in accordance with Section 1-09.2.

Prime coat aggregate will be measured by the cubic yard, truck measure, or by the ton, whichever is designated in the Proposal.

Asphalt for fog seal will be measured by the ton, as provided in Section 5-02.4.

Longitudinal joint seals between the HMA and cement concrete pavement will be measured by the linear foot along the line and slope of the completed joint seal.

Planing bituminous pavement will be measured by the square yard.

Temporary pavement marking will be measured by the linear foot as provided in Section 8-23.4.

Water will be measured by the M gallon as provided in Section 2-07.4.

(******)

When the Bid Proposal contains the item “Paving/Surfacing” there will be no measurement of unit or force account items for Work defined in Section 5-04.

5-04.5 Payment

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

(******)

Payment will be made for the following bid under the “Schedule of Values”:

“Paving/Surfacing”, lump sum

The lump sum Contact price for “Paving/Surfacing” shall be full pay to perform the Work as described in Section 5-04 and Crush Surfacing Base Course as described in Section 4-04.

(******)

“HMA Cl. ___ PG ___”, per ton.

“HMA for Approach Cl. ___ PG ___”, per ton.

“HMA for Preleveling Cl. ___ PG ___”, per ton.

“HMA for Pavement Repair Cl. ___ PG ___”, per ton.

“Commercial HMA”, per ton.

The unit Contract price per ton for “HMA Cl. ___ PG ___”, “HMA for Approach Cl. ___ PG ___”, “HMA for Preleveling Cl. ___ PG ___”, “HMA for Pavement Repair Cl. ___ PG ___”, and “Commercial HMA” shall be full compensation for all costs, including anti-stripping additive, incurred to carry out the requirements of Section 5-04 except for those costs included in other items which are included in this Subsection and which are included in the Proposal.

“Preparation of Untreated Roadway”, per mile.

The unit Contract price per mile for “Preparation of Untreated Roadway” shall be full pay for all Work described under 5-04.3(4) , with the exception, however, that all costs involved in patching the Roadway prior to placement of HMA shall be included in the unit Contract price per ton for “HMA Cl. ___ PG ___” which was used for patching. If the Proposal does not include a Bid item for “Preparation of Untreated Roadway”, the Roadway shall be prepared as specified, but the Work shall be included in the Contract prices of the other items of Work.

"Preparation of Existing Paved Surfaces", per mile.

The unit Contract Price for "Preparation of Existing Paved Surfaces" shall be full pay for all Work described under Section 5-04.3(4) with the exception, however, that all costs involved in patching the Roadway prior to placement of HMA shall be included in the unit Contract price per ton for "HMA Cl. ___ PG ___" which was used for patching. If the Proposal does not include a Bid item for "Preparation of Untreated Roadway", the Roadway shall be prepared as specified, but the Work shall be included in the Contract prices of the other items of Work.

"Crack Sealing", by force account.

"Crack Sealing" will be paid for by force account as specified in Section 1-09.6. For the purpose of providing a common Proposal for all Bidders, the Contracting Agency has entered an amount in the Proposal to become a part of the total Bid by the Contractor.

"Pavement Repair Excavation Incl. Haul", per square yard.

The unit Contract price per square yard for "Pavement Repair Excavation Incl. Haul" shall be full payment for all costs incurred to perform the Work described in Section 5-04.3(4) with the exception, however, that all costs involved in the placement of HMA shall be included in the unit Contract price per ton for "HMA for Pavement Repair Cl. ___ PG ___", per ton.

"Asphalt for Prime Coat", per ton.

The unit Contract price per ton for "Asphalt for Prime Coat" shall be full payment for all costs incurred to obtain, provide and install the material in accordance with Section 5-04.3(4).

"Prime Coat Agg.", per cubic yard, or per ton.

The unit Contract price per cubic yard or per ton for "Prime Coat Agg." shall be full pay for furnishing, loading, and hauling aggregate to the place of deposit and spreading the aggregate in the quantities required by the Engineer.

"Asphalt for Fog Seal", per ton.

Payment for "Asphalt for Fog Seal" is described in Section 5-02.5.

"Longitudinal Joint Seal", per linear foot.

The unit Contract price per linear foot for "Longitudinal Joint Seal" shall be full payment for all costs incurred to perform the Work described in Section 5-04.3(12).

"Planing Bituminous Pavement", per square yard.

The unit Contract price per square yard for “Planing Bituminous Pavement” shall be full payment for all costs incurred to perform the Work described in Section 5-04.3(14).

“Temporary Pavement Marking”, per linear foot.

Payment for “Temporary Pavement Marking” is described in Section 8-23.5.

“Water”, per M gallon.

Payment for “Water” is described in Section 2-07.5.

“Job Mix Compliance Price Adjustment”, by calculation.

“Job Mix Compliance Price Adjustment” will be calculated and paid for as described in Section 5-04.3(9)C6.

“Compaction Price Adjustment”, by calculation.

“Compaction Price Adjustment” will be calculated and paid for as described in Section 5-04..3(10)D3.

“Roadway Core”, per each.

The Contractor’s costs for all other Work associated with the coring (e.g., traffic control) shall be incidental and included within the unit Bid price per each and no additional payments will be made.

“Cyclic Density Price Adjustment”, by calculation.

“Cyclic Density Price Adjustment” will be calculated and paid for as described in Section 5-04.3(10)B.

Division 7
Drainage Structures, Storm Sewers, Sanitary Sewers, Water Mains, and Conduits

Sanitary Sewers

Materials

Section 7-17.2 is supplemented with the following:

(******)

High-Density Polyethylene (HDPE) Pipe 9-05.23

Measurement

Section 7-17.4 is supplemented with the following:

(******)

When the Bid Proposal contains the item “Sanitary Sewer Conversion” there will be no measurement of unit or force account items for Work defined in Section 7-17.

Payment

Section 7-17.5 is supplemented with the following:

(******)

Payment will be made for the following bid under the “Schedule of Values”:

“Sanitary Sewer Conversion”, Lump Sum

The unit Contract price lump sum of “Sanitary Sewer Conversion” shall be full play for all Work to complete the installation of the sanitary sewer conversion, including but not limited to, trench excavation, bedding, laying and jointing pipe and fittings, cleanouts, manholes, connecting to existing sanitary sewer structure and pipe, backfilling, and decommission and abandoning of existing septic system.

Division 8
Miscellaneous Construction

Erosion Control and Water Pollution Control

Temporary Seeding and Mulching

Temporary Seeding

Section 8-01.3(2)B is supplemented with the following:

(August 4, 2014)
Seed of the following mix, rate, and analysis shall be applied at the rates shown below on all areas requiring ***hydro*** seeding within the project:

Seed by Common Name, (Botanical Name), and “Source Identification”	Pounds Pure Live Seed (PLS) Per Acre

*** 40% Jaguar Tall Fescue	70
30% Barclay Perennial Ryegrass	52
25% Red Creeping Fescue	44
5% Highland Colonial Bentgrass	9
Total	175 ***

Source Identified seed shall be generation four or less. Non-Source Identified seed shall meet or exceed Washington State Department of Agriculture Certified Seed Standards and be from within the appropriate genetic zones of the *** 7.0 *** Ecoregion(s) as defined by the US Environmental Protection Agency (EPA).

The seed certification class shall be Certified (blue tag) 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.

The Contractor shall document all Source Identified seed by providing the Association of Official Seed Certifying Agents (AOSCA) yellow seed label for each species in the mix. Site Identification Logs can be supplied for collections where the AOSCA yellow label is not available.

Seeding, Fertilizing, and Mulching

Roadside Restoration

Seeding and Fertilizing

Section 8-02.3(9)B is supplemented with the following:

(September 3, 2019)
Seed of the following mix, rate, and analysis shall be applied at the rates shown below on all areas requiring ***hydro*** seeding within the project:

Seed by Common Name, (Botanical Name), and "Source Identification"	Pounds Pure Live Seed (PLS) Per Acre
*** 40% Jaguar Tall Fescue	70
30% Barclay Perennial Ryegrass	52
25% Red Creeping Fescue	44

5% Highland Colonial Bentgrass	9
Total	175 ***

Source Identified seed shall be generation four or less. Non-Source Identified seed shall meet or exceed Washington State Department of Agriculture Certified Seed Standards and be from within the appropriate genetic zones of the *** 7.0 *** Ecoregion(s) as defined by the US Environmental Protection Agency (EPA).

The seed certification class shall be Certified (blue tag) 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.

The Contractor shall document all Source Identified seed by providing the Association of Official Seed Certifying Agents (AOSCA) yellow seed label for each species in the mix. Site Identification Logs can be supplied for collections where the AOSCA yellow label is not available.

Chain Link Fence and Wire Fence

Payment

Section 8-12.5 is supplemented with the following:

(******)

Payment

Payment will be made for the following bid under the “Schedule of Values”:

"Chain Link Fence Type _", lump sum.

Division 9
Materials

(January 9, 2023)

Standard Plans

The State of Washington Standard Plans for Road, Bridge and Municipal Construction M21-01, effective September 30, 2022, is made a part of this contract.

The Standard Plans are revised as follows:

A-10.30

RISER RING detail (Including SECTION view and RISER RING DIMENSIONS table): The RISER RING detail is deleted from the plan.

INSTALLATION detail, SECTION A: The “1/4”” callout is revised to read “+/- 1/4" (SEE CONTRACT ~ Note: The + 1/4" installation is shown in the Section A view)”

B-90.40
Valve Detail – DELETED

C-8
DELETED

C-8A
DELETED

C-20.42
Plan View (Case 22A-31), callout, was; “BEAM GUARDRAIL ANCHOR TYPE 10 PAY LIMIT” is revised to read; “BEAM GUARDRAIL ANCHOR TYPE 11 PAY LIMIT”

C-23.60
DELETED

C-23.70
Sheet 1, Detail A, callout, was – “EIGHT 5/8” x 1/2" (IN) BOLTS W/ HEX NUTS AND WASHERS (SEE NOTE 5)”is revised to read: “EIGHT 5/8” x 1-1/2" (IN) BOLTS W/ HEX NUTS AND WASHERS (SEE NOTE 5)”.
Sheet 2, ANCHOR RAIL ELEMENT DETAIL and associated Enlarged Detail, 3/4" Diameter hole pattern (8 holes), callout, “3/4" DIAMETER HOLE (TYP.)” is revised to read: “29/32” x 1 1/8” (IN) SLOT (TYP.)”

D-2.04
DELETED

D-2.06
DELETED

D-2.08
DELETED

D-2.32
DELETED

D-2.34
DELETED

D-2.60
DELETED

D-2.62
DELETED

D-2.64
DELETED

D-2.66
DELETED

D-2.68
DELETED

D-2.80
DELETED

D-2.88
DELETED

D-3.15
DELETED

D-3.16
DELETED

D-3.17
DELETED

D-3.10
Sheet 1, Typical Section, callout – “FOR WALLS WITH SINGLE SLOPE TRAFFIC BARRIER. USE THE DETAILS ABOVE THE MATCH LINE ON STANDARD PLAN D-3.15” is revised to read; ”FOR WALLS WITH SINGLE SLOPE TRAFFIC BARRIER, SEE CONTRACT PLANS”
Sheet 1, Typical Section, callout – “FOR WALLS WITH F-SHAPE TRAFFIC BARRIER. USE THE DETAILS ABOVE THE MATCH LINE ON STANDARD PLAN D-3.16” is revised to read; ”FOR WALLS WITH F-SHAPE TRAFFIC BARRIER, SEE CONTRACT PLANS”

D-3.11
Sheet 1, Typical Section, callout – “”B” BRIDGE APPROACH SLAB (SEE BRIDGE PLANS) OR PERMANENT GEOSYNTHETIC WALL BARRIER ~ SEE STANDARD PLANS D-3.15 OR D-3.16” is revised to read; ”B” BRIDGE APPROACH SLAB OR MOMENT SLAB (SEE CONTRACT PLANS)
Sheet 1, Typical Section, callout – “TYPICAL BARRIER ON BRIDGE APPROACH SLAB (SEE BRIDGE PLANS) OR PERMANENT GEOSYNTHETIC WALL BARRIER ~ SEE STANDARD PLANS D-3.15 OR D-3.16” is revised to read; “TYPICAL BARRIER ON BRIDGE APPROACH SLAB OR MOMENT SLAB (SEE CONTRACT PLANS)

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-10.30
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-10.18
Note 2, “Region Traffic engineer approval is needed to install a truck apron lower than 3”.”
- DELETED

J-10.10
Sheet 4 of 6, “Foundation Size Reference Table”, PAD WIDTH column, Type 33xD=6’ – 3” is revised to read: 7’ – 3”. Type 342LX / NEMA P44=5’ – 10” is revised to read: 6’ – 10”
Sheet 5 of 6, Plan View, “FOR EXAMPLE PAD SHOWN HERE:, “first bullet” item, “-SPACE BETWEEN TYPE B MOD. CABINET AND 33x CABINET IS 6” (IN)” IS REVISED TO READ: “SPACE BETWEEN TYPE B MOD. CABINET (BACK OF ALL CHANNEL STEEL) AND 33x CABINET IS 6” (IN) (CHANNEL STEEL ADDS ABOUT 5” (IN)”

J-10.16
Key Note 1, Standard Plan J-10.30 revised to Standard Plan J-10.14

J-10.17
Key Note 1, Standard Plan J-10.30 revised to Standard Plan J-10.14

J-10.18

Key Note 1, Standard Plan J-10.30 revised to Standard Plan J-10.14

J-20.10

Elevation View, horizontal dimension to edge of sidewalk 10" (IN) OR LESS DESIRABLE ~ 18" (IN) MAXIMUM is revised to read: "10" (IN) MAXIMUM"

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-40.36
Note 1, second sentence; ”Finish shall be # 2B for backbox and # 4 for the cover.” Is revised to read; ”Finish shall be # 2B for barrier box and HRAP (Hot Rolled Annealed and Pickled) for the cover.

J-40.37
Note 1, second sentence; ”Finish shall be # 2B for backbox and # 4 for the cover.” Is revised to read; ”Finish shall be # 2B for barrier box and HRAP (Hot Rolled Annealed and Pickled) for the cover.

J-75.20
Key Notes, note 16, second bullet point, was: “1/2” (IN) x 0.45” (IN) Stainless Steel Bands”, add the following to the end of the note: “Alternate: Stainless steel cable with stainless steel ends, nuts, bolts, and washers may be used in place of stainless steel bands and associated hardware.”

J-75.41
DELETED

J-75.55
Notes, Note A1, Revise reference, was – G-90.29, should be – G-90.20.

K-80.20
DELETED

L-5.10
Sheet 2, Typical Elevation, callout - “2’ – 0” MIN. LAP SPLICE BETWEEN (mark) A #3 BAR AND WALL REINFORCEMENT ~ TYPICAL” is revised to read: “2’ – 0” MIN. LAP SPLICE BETWEEN (MARK) A #4 BAR AND WALL REINFORCEMENT ~ TYPICAL”
Section C, callout; “(mark) A #3” is revised to read: “(mark) A #4”, callout - “(mark) B #3” is revised to read: “(mark) B #4”, callout - “(mark) C #3 TIE” is revised to read: “(mark) C #4 TIE”
Reinforcing Steel Bending Diagram, (mark) B detail, callout – “128 deg.” is revised to read: “123 deg.”, callout – “51 deg.” is revised to read: “57 deg.”

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-30.35-00.....10/12/07	A-50.10-01……...8/17/21
A-10.20-00.....10/5/07	A-40.00-01.....7/6/22	A-50.40-01……...8/17/21
A-10.30-00.....10/5/07	A-40.10-04.....7/31/19	A-60.10-03.....12/23/14
A-20.10-00.....8/31/07	A-40.15-00.....8/11/09	A-60.20-03.....12/23/14
A-30.10-00.....11/8/07	A-40.20-04.....1/18/17	A-60.30-01.....6/28/18
A-30.30-01.....6/16/11	A-40.50-02.....12/23/14	A-60.40-00.....8/31/07

B-5.20-03.....9/9/20
B-5.40-02.....1/26/17
B-5.60-02.....1/26/17
B-10.20-02.....3/2/18
B-10.40-02.....8/17/21
B-10.70-02……8/17/21
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-30.05-00……..9/9/20
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-30.50-03.....2/27/18
B-30.60-00……..9/9/20
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-55.20-03.....8/17/21
B-60.20-02.....9/9/20
B-60.40-01.....2/27/18
B-65.20-01.....4/26/12
B-65.40-00.....6/1/06
B-70.20-01.....3/15/22
B-70.60-01.....1/26/17
B-75.20-03.....8/17/21
B-75.50-02.....3/15/22
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-90.50-00.....6/8/06
B-95.20-02.....8/17/21
B-95.40-01.....6/28/18

1

C-1.....9/8/22
C-1b.....9/8/22
C-1d.....10/31/03
C-2c.....8/12/19
C-4f.....8/12/19
C-6a.....9/8/22
C-7.....9/8/22
C-7a.....9/8/22
C-20.10-08.....9/8/22
C-20.14-05.....9/8/22
C-20.15-02.....6/11/14
C-20.18-04.....9/8/22
C-20.40-09.....9/8/22
C-20.41-04.....8/22/22
C-20.42-05.....7/14/15
C-20.43-00……8/22/22
C-20.45.03.....9/8/22
C-22.16-07.....9/16/20
C-22.40-09.....9/8/22
C-22.45-06.....9/8/22
C-23.70-00……..8/22/22
C.24.10-03.....7/24/22
C-24.15-00…….3/15/22
C-25.20-07.....8/20/21
C-25.22-06.....8/20/21
C-25.26-05.....8/20/21
C-25.30-01…….8/20/21
C-25.80-05.....8/12/19
C-60.10-02…….9/8/22
C-60.15-00……..8/17/21
C-60.20-01……9/8/22
C-60.30-01……8/17/21
C-60.40-00……..8/17/21
C-60.45-00……..8/17/21
C-60.50-00……..8/17/21
C-60.60-00……..8/17/21
C-60.70-01……9/8/22
C-60.80-01……..9/8/22
C-70.15-00……..8/17/21
C-70.10-03.....8/20/21
C-75.10-02.....9/16/20
C-75.20-03.....8/20/21
C-75.30-03.....8/20/21
C-80.10-02.....9/16/20
C-80.20-01.....6/11/14
C-80.30-02.....8/20/21
C-80.40-01.....6/11/14
C-85.10-00.....4/8/12
C-85.11-01.....9/16/20
C-85.15-02.....8/27/21
C-85-18-03.....9/8/22

2

D-2.36-03.....6/11/14
D-2.46-02……8/13/21
D-2.84-00.....11/10/05
D-2.92-01.....4/26/22
D-3.09-00.....5/17/12
D-3.10-01……5/29/13
D-3.11-03……6/11/14
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-10.20-01.....8/7/19
D-10.25-01.....8/7/19
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

3

E-1.....2/21/07
E-2.....5/29/98
E-4.....8/27/03
E-4a.....8/27/03

4

F-10.12-04.....9/24/20
F-10.62-02.....4/22/14
F-40.15-04.....9/25/20

F-10.16-00.....12/20/06
F-10.18-03.....3/28/22
F-10.40-04.....9/24/20
F-10.42-00.....1/23/07
F-10.64-03.....4/22/14
F-30.10-04.....9/25/20
F-40.12-03.....6/29/16
F-40.14-03.....6/29/16
F-40.16-03.....6/29/16
F-45.10-03.....8/13/21
F-80.10-04.....7/15/16

1

G-10.10-00.....9/20/07
G-20.10-03.....8/20/21
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-24.50-05.....8/7/19
G-24.60-05.....6/28/18
G-25.10-05.....9/16/20
G-26.10-00……7/31/19
G-30.10-04.....6/23/15
G-50.10-03.....6/28/18
G-90.10-03……7/11/17
G-90.20-05……7/11/17
G-90.30-04……7/11/17
G-95.10-02.....6/28/18
G-95.20-03.....6/28/18
G-95.30-03.....6/28/18

2

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-70.10-02.....8/17/21
H-70.20-02.....8/17/21

3

I-10.10-01.....8/11/09
I-30.10-02.....3/22/13
I-30.15-02.....3/22/13
I-30.16-01.....7/11/19
I-30.17-01.....6/12/19
I-30.20-00.....9/20/07
I-30.30-02.....6/12/19
I-30.40-02.....6/12/19
I-30.60-02.....6/12/19
I-40.10-00.....9/20/07
I-40.20-00.....9/20/07
I-50.20-02.....7/6/22
I-60.10-01.....6/10/13
I-60.20-01.....6/10/13
I-80.10-02.....7/15/16

4

J-05.50-00…….8/30/22
J-10.....7/18/97
J-10.10-04……9/16/20
J-10.12-00……9/16/20
J-10.14-00……9/16/20
J-10.15-01.....6/11/14
J-10.16-02……8/18/21
J-10.17-02……8/18/21
J-10.18-02……8/18/21
J-10.20-04……8/18/21
J-10.21-02……8/18/21
J-10.22-02.....8/18/21
J-10.25-00……7/11/17
J-10.26-00…….8/30/22
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-20.01-00…….8/30/22
J-20.10-04.....7/31/19
J-20.11-03.....7/31/19
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-28.10-02.....8/7/19
J-28.22-00.....8/07/07
J-28.24-02.....9/16/20
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-28.60-03.....8/27/21
J-28.70-04.....8/30/22
J-29.10-02.....8/26/22
J-29.15-01.....7/21/16
J-29.16-02.....7/21/16
J-30.10-01……8/26/22
J-40.01-00……..8/30/22
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-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-60.14-01……7/31/19
J-75.10-02……7/10/15
J-75.20-01……7/10/15
J-75.30-02…….7/10/15
J-75.50-00……8/30/22
J-75.55-00……8/30/22
J-80.05-00……8/30/22
J-80.10-01……8/18/21
J-80.12-00……8/18/21
J-80.15-00……6/28/18
J-81.10-02……8/18/21
J-81.12-00……9/3/21
J-84.05-00……8/30/22
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

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-28.01-00……8/30/22
J-40.40-02……7/31/19
J-45.36-00……7/21/17
J-50.05-00……7/21/17
J-50.10-01…….7/31/19
J-50.11-02…….7/31/19
J-50.12-02…….8/7/19
J-50.13-01…….8/30/22
J-50.15-01…….7/21/17
J-50.16-01…….3/22/13
J-50.18-00…….8/7/19
J-50.19-00…….8/7/19
J-50.20-00…….6/3/11

1

K-70.20-01.....6/1/16
K-80.10-02.....9/25/20
K-80.32-00……8/17/21
K-80.34-00……8/17/21
K-80.35-01.....9/16/20
K-80.37-01.....9/16/20

2

L-5.10-00……..9/19/22
L-5.15-00……..9/19/22
L-10.10-02.....6/21/12
L-20.10-03.....7/14/15
L-30.10-02.....6/11/14
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-1.20-04.....9/25/20
M-1.40-03.....9/25/20
M-1.60-03.....9/25/20
M-1.80-03.....6/3/11
M-2.20-03.....7/10/15
M-2.21-00……..7/10/15
M-3.10-04.....9/25/20
M-3.20-04.....8/2/22
M-3.30-04.....9/25/20
M-3.40-04.....9/25/20
M-3.50-03.....9/25/20
M-5.10-03.....9/25/20
M-7.50-01.....1/30/07
M-9.50-02.....6/24/14
M-9.60-00……..2/10/09
M-11.10-04.....8/2/22
M-12.10-03……8/2/22
M-15.10-01.....2/6/07
M-17.10-02.....7/3/08
M-20.10-04.....8/2/22
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-24.60-04.....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-60.20-03.....8/17/21
M-65.10-03.....8/17/21
M-80.10-01.....6/3/11
M-80.20-00.....6/10/08
M-80.30-00.....6/10/08

4

5

SECTION V

CONTRACT DRAWINGS

T. 23 N., R. 01 W., S. 21, W.M.

BELFAIR
PARK AND RIDE DEVELOPMENT
SANITARY SEWER CONVERSION

SHELTON, WASHINGTON
MASON COUNTY

OWNER/APPLICANT

MASON COUNTY TRANSIT
601 WEST FRANKLIN ST
SHELTON, WA 98584
(360) 426-9434
CONTACT: MIKE OLIVER, DEVELOPMENT MANAGER

GOVERNING AGENCIES

MASON COUNTY TRANSIT
601 WEST FRANKLIN ST
SHELTON, WA 98584
(360) 426-9434
CONTACT: MIKE OLIVER, DEVELOPMENT 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.

ELECTED OFFICIALS

MAYOR: GARY CRONCE
COMMISSIONER: KATHY McDOWELL
TRACY MOORE

DATUM

HORIZONTAL – WASHINGTON STATE PLANE COORDINATES, SOUTH ZONE, NAD 83/2011 BASED ON TIES TO WSDOT MON 4599.

VERTICAL – NAVD 88 BASED ON TIES TO WSDOT MONUMENT 4599, ELEVATION 298.73.

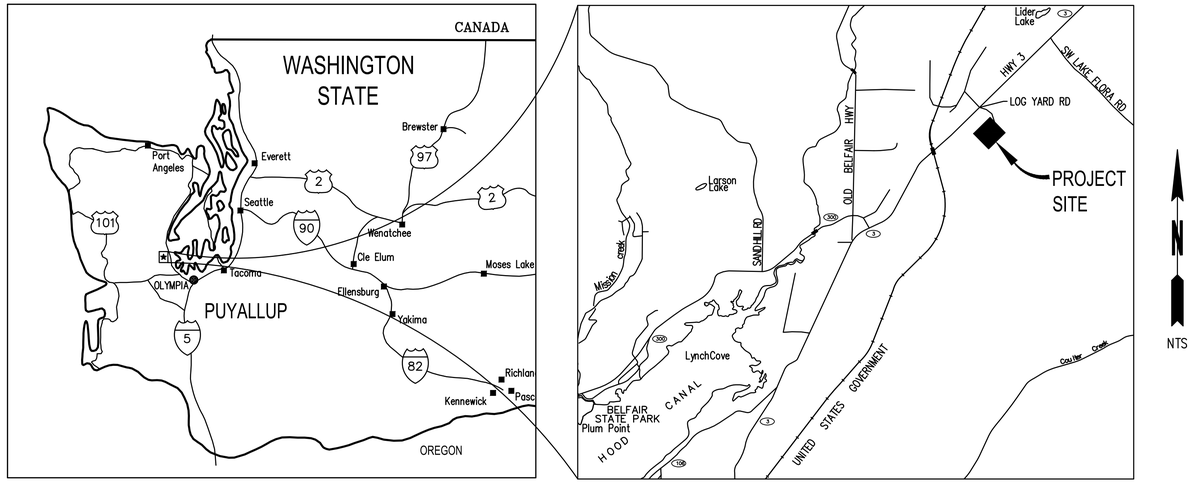
SURVEY NOTES

1. INSTRUMENT USED: SOKKIA SRX 3 TOTAL STATION AND TOPCON GR5 GPS.
2. THIS SURVEY MEETS OR EXCEEDS THE STANDARDS OF WAC 332-130-090
3. SURVEY COMPLETED 9/28/2017
4. ALL MONUMENTS SHOWN AS FOUND VISITED 9/2017.

UTILITY NOTE

UTILITIES SHOWN HEREON ARE FROM MAPPING VISIBLE SURFACE APPURTENANCES, AND MAPPING UTILITY PAINT MARKS FROM A UTILITY LOCATING SERVICE. BURIED UTILITIES ARE ONLY SHOWN AS APPROXIMATE AND SHOULD BE VERIFIED BEFORE CONSTRUCTION.

SHEET INDEX



NOTES

1. WORK FOR THIS PROJECT SHALL MEET OR EXCEED THE PROJECT SPECIFICATIONS AND THE 2023 WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION WHICH ARE HEREBY REFERENCED AS A PART OF THESE PLANS.

2. 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).

BID SET

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES.
THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE AT: 811 A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.
THE CONTRACTOR WILL ALSO BE RESPONSIBLE FOR MAINTAINING ALL LOCATE MARKS ONCE THE UTILITIES HAVE BEEN LOCATED.

△	REVISIONS	DATE	BY

DESIGNED BY: S. ROWSWELL
DRAWN BY: A. CHAKRABORTY
CHECKED BY: ---
ISSUE DATE: - -
JOB No.: 00-073805
DRAWING FILE No.: 0738.05-CV-B-SC.dwg

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

SAMUEL A ROWSWELL — STATE OF WASHINGTON — 57696 — REGISTERED PROFESSIONAL ENGINEER — 5/10/23

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:

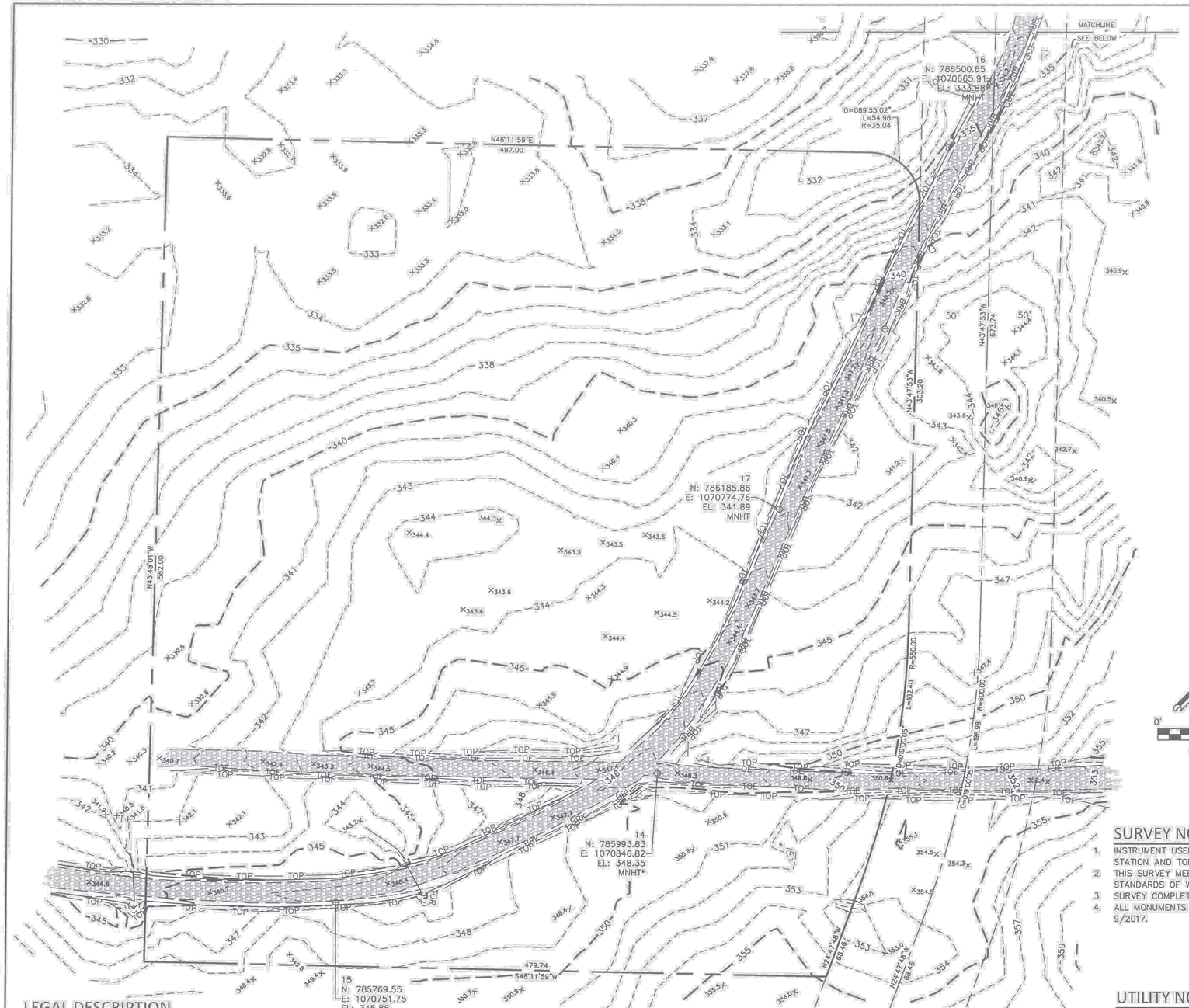
MTA

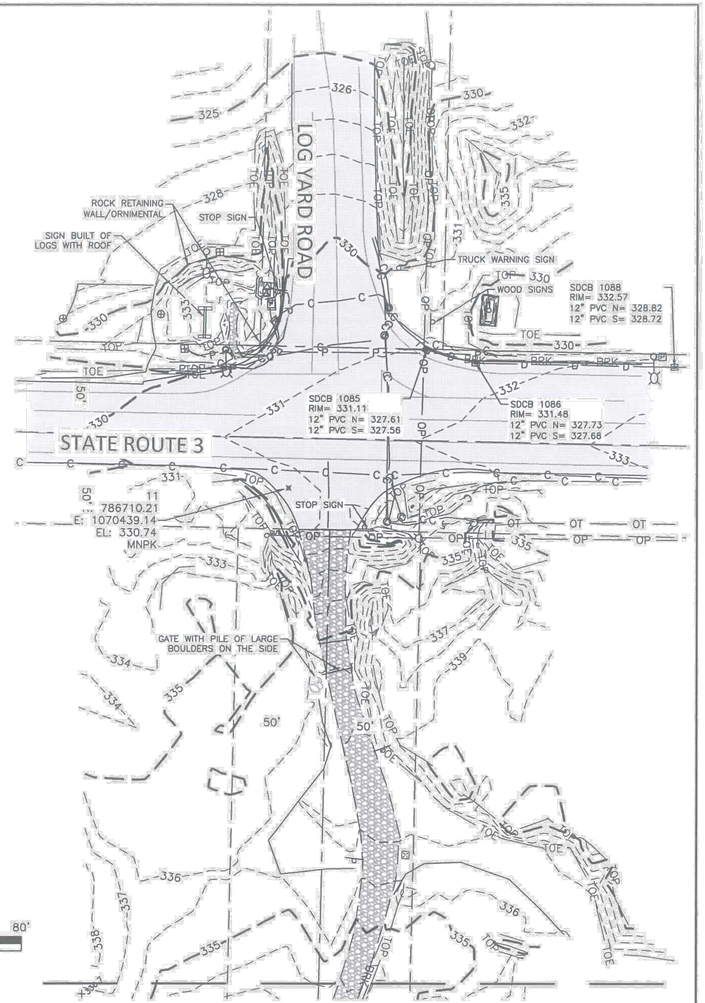
MASON TRANIST AUTHORITY
BELFAIR - PARK AND RIDE
SANITARY SEWER CONVERSION

COVER SHEET

DRAWING No.: CV-01
SHEET No.: 01 OF 12

May 10, 2023 - 9:49:39am - User: sam.rowswell
N:\PROJECTS\0738 MASON TRANSIT AUTHORITY\0738.05 MTA PARK AND RIDE DEVELOPMENT\CAD\BELFAIR SS CONVERSION\0738.05-CV-B-SC.DWG





SURVEY NOTES

1. INSTRUMENT USED: SOKKIA SRX 3 TOTAL STATION AND TOPCON GR5 GPS.
2. THIS SURVEY MEETS OR EXCEEDS THE STANDARDS OF WAC 332-130-090
3. SURVEY COMPLETED 9/28/2017
4. ALL MONUMENTS SHOWN AS FOUND VISITED 9/2017.

LEGEND

- BRASS CAP
- HUB AND TACK
- IRON PIPE
- PK NAIL
- REBAR AND CAP

HATCHING

- GRAVEL
- ASPHALT

LEGEND (UTILITIES)

- CABLE RISER/ PEDESTAL
- CABLE VAULT/MANHOLE
- CULVERT
- LUMINAIRE WITH ARM
- NATURAL GAS MARKER POST
- NATURAL GAS METER
- NATURAL GAS VALVE
- POWER CONDUIT
- GUY ANCHOR
- GUY POLE
- POWER JUNCTION BOX
- POWER MARKER POST
- POWER METER
- POWER POLE
- PP WITH DROP LINE
- PP WITH DROP AND LIGHT
- PP WITH DROP, LIGHT AND TRANSFORMER
- POWER TRANSFORMER
- POWER VAULT/ MANHOLE
- TELEPHONE CABINET
- TELEPHONE JUNCTION BOX
- TELEPHONE RISER
- TELEPHONE MARKER POST
- TELEPHONE VAULT/MANHOLE
- WATER AIR RELEASE VALVE
- WATER BLOW OFF
- FIRE DEPARTMENT CONNECTION
- HOSE BIB
- IRRIGATION CONTROL VALVE
- WATER MARKER POST
- WATER METER
- WATER POST INDICATOR VALVE
- SPRINKLER HEAD
- WATER VALVE
- WATER FIRE HYDRANT
- WATER VAULT/MANHOLE
- WELL
- STORM CATCH BASIN
- STORM MANHOLE
- STORM YARD DRAIN

LEGAL DESCRIPTION

PARCEL 1:
ALL THAT PORTION OF THE EAST HALF (E ½) OF THE SOUTHEAST QUARTER (SE ¼) OF SECTION TWENTYONE (21), TOWNSHIP TWENTYTHREE (23) NORTH, RANGE ONE (1) WEST, W.M., PARTICULARLY DESCRIBED AS FOLLOWS:
COMMENCING AT THE SOUTHEASTERLY CORNER OF SAID SECTION TWENTYONE (21); THENCE NORTH 00°09'15" EAST, ALONG THE EAST LINE OF SAID SECTION TWENTYONE (21), 811.29 FEET; THENCE NORTH 82°45'41" WEST, 5.58 FEET, TO THE BEGINNING OF A CURVE, CONCAVE TO THE NORTHEAST, HAVING A RADIUS OF 500.00 FEET; THENCE WESTERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 37°45'47", FOR AN ARC DISTANCE OF 329.54 FEET; THENCE NORTH 24°59'55" WEST, 414.33 FEET, TO A POINT HEREINAFTER REFERRED TO AS "POINT A"; THENCE SOUTH 65°00'05" WEST, 50.00 FEET, TO THE POINT OF BEGINNING OF THE TRACT OF LAND HEREBY DESCRIBED; THENCE SOUTH 46°00'00" WEST, 479.74 FEET; THENCE NORTH 44°00'00" WEST, 582.00 FEET; THENCE NORTH 46°00'00" EAST, 497.00 FEET, TO THE BEGINNING OF A CURVE, CONCAVE TO THE SOUTH, HAVING A RADIUS OF 35.00 FEET; THENCE EASTERLY, ALONG THE ARC OF SAID CURVE, THROUGH A CENTRAL ANGLE OF 90°00'00, FOR AN ARC DISTANCE OF 54.98 FEET; THENCE SOUTH 44°00'00" EAST, 303.19 FEET, TO THE BEGINNING OF A CURVE CONCAVE TO THE SOUTHWEST, HAVING A RADIUS OF 550.00 FEET; THENCE SOUTHERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 19°00'05", FOR AN ARC DISTANCE OF 182.40 FEET; THENCE SOUTH 24°59'55" EAST, 68.46 FEET, TO THE POINT OF BEGINNING.
PORTION OF PARCEL NOS. 12321 41 00000 AND 12321 44 00000

PARCEL 2:
AN EASEMENT FOR INGRESS, EGRESS AND UTILITIES, OVER, UNDER AND ACROSS THAT PORTION OF THE EAST HALF (E ½) OF THE SOUTHEAST QUARTER (SE ¼) OF SECTION TWENTYONE (21), TOWNSHIP TWENTYTHREE (23) NORTH, RANGE ONE (1) WEST, W.M., LYING 50.00 FEET ON EACH SIDE OF A CENTERLINE, PARTICULARLY DESCRIBED AS FOLLOWS:
BEGINNING AT "POINT A" AS REFERENCED IN THE ABOVE PARCEL 1; THENCE NORTH 24°59'55" WEST, 68.46 FEET, TO THE BEGINNING OF A CURVE, CONCAVE TO THE SOUTHWEST, HAVING A RADIUS OF 600.00 FEET; THENCE NORTHERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 19°00'05", FOR AN ARC DISTANCE OF 198.98 FEET; THENCE NORTH 44°00'00" WEST, 673.76 FEET, MORE OR LESS, TO THE SOUTHEASTERLY RIGHT-OF-WAY LINE OF STATE ROUTE 3, AND THE TERMINUS OF THE HEREIN DESCRIBED CENTERLINE.

DATUM

HORIZONTAL – WASHINGTON STATE PLANE COORDINATES, SOUTH ZONE, NAD 83/2011 BASED ON TIES TO WSDOT MON 4599.

VERTICAL – NAVD 88 BASED ON TIES TO WSDOT MONUMENT 4599, ELEVATION 298.73.

LINE TYPES

- TOE
- TOP
- BRK
- D
- S
- T
- OT
- P
- OP
- W
- G
- C
- GROUND TOE
- GROUND TOP
- GROUND BREAK
- STORM LINE
- SANITARY SEWER LINE
- BURIED TELEPHONE
- OVERHEAD TELEPHONE
- BURIED POWER
- OVERHEAD POWER
- WATER LINE
- NATURAL GAS LINE
- BURIED CABLE TV LINE
- MAJOR CONTOUR
- MINOR CONTOUR

UTILITY NOTE

UTILITIES SHOWN HEREON ARE FROM MAPPING VISIBLE SURFACE APPURTENANCES, AND MAPPING UTILITY PAINT MARKS FROM A UTILITY LOCATING SERVICE. BURIED UTILITIES ARE ONLY SHOWN AS APPROXIMATE AND SHOULD BE VERIFIED BEFORE CONSTRUCTION.

BID SET

DATE	9/28/2017
SCALE	1" = 40'
M2C PROJECT NO.:	17-625
DRAWN	SEP
CHECKED	BEP
APPROVED	BEP

BLAIR E. PRIGGE
STATE OF WASHINGTON
29278
REGISTERED
PROFESSIONAL LAND SURVEYOR
10/6/17

MTN 2 COAST LLC
1506 FAIRVIEW ST SE
OLYMPIA, WA 98501
360.239.1497

PROJECT NAME:
MASON TRANSIT AUTHORITY, BELFAIR TOPOGRAPHIC MAPPING

CLIENT NAME:
SCJ ALLIANCE

SHEET NAME:
SV-1

SHEET NO. 02 OF 12

T. 23 N., R. 01 W., S. 21, W.M.

ABBREVIATIONS:

AC	ASPHALT CONCRETE
APPROX	APPROXIMATELY
BFC	BOTTOM FACE OF CURB
BFS	BEGIN FULL SUPER
BNC	BEGIN NORMAL CROWN
BOP	BEGINNING OF PROJECT
BOW	BOTTOM OF WALL
BT	BEGIN TRANSITION (SUPER)
C&G	CEMENT CONCERT TRAFFIC CURB AND GUTTER
CB	CATCH BASIN
CIPP	CURED-IN-PLACE-PIPE
CL	CENTERLINE
CURB	CEMENT CONCERT TRAFFIC CURB
CSBC	CRUSHED SURFACING BASE COURSE
CSTC	CRUSHED SURFACING TOP COURSE
DIA	DIAMETER
DBH	DIAMETER BREAST HEIGHT
EL	ELEVATION
EOP	END OF PROJECT
EP	EDGE OF PAVEMENT
EX	EXISTING
FL	FLOWLINE
FT	FOOT
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
JUT	JOINT UTILITY TRENCH
LF	LINEAR FEET
LT	LEFT
LUM	LUMINARIE
MC	MIDDLE OF CURVE
OD	OUTSIDE DIAMETER
P&O	PLANING AND OVERLAY
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
R	RADIUS
RC&G	ROUNDABOUT CONCRETE CURB AND GUTTER
ROW	RIGHT-OF-WAY
RT	RIGHT
S/W	SIDEWALK
SHT	SHEET OR PAGE
STA	STATION
TBC	TOP BACK OF CURB
TOC	TOP OF CURB
TOW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE

SCJ ALLIANCE
GENERAL CONSTRUCTION NOTES:

1. ALL GOVERNMENTAL SAFETY REGULATIONS SHALL BE STRICTLY ADHERED TO INCLUDING OSHA, WISHA AND THE WASHINGTON DEPARTMENT OF LABOR AND INDUSTRY.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DULY NOTIFY THE COUNTY IN ADVANCE OF THE COMMENCEMENT OF ANY AUTHORIZED WORK AND TO SCHEDULE REQUIRED INSPECTIONS. ALL REQUIRED INSPECTION TESTS WILL BE PERFORMED AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL PROVIDE A TWO-YEAR WARRANTY ON ALL WORKMANSHIP AND MATERIAL FOLLOWING ACCEPTANCE OF THE PROJECT BY THE OWNER.
4. THE APPROVAL OF THESE PLANS BY MASON COUNTY DOES NOT RELIEVE THE CONTRACTOR OR DEVELOPER OF THE RESPONSIBILITY TO COMPLY WITH THE REQUIREMENTS OF OTHER GOVERNING AGENCIES.
5. THE DESIGN SHOWN IS BASED UPON THE ENGINEER'S UNDERSTANDING OF THE EXISTING CONDITIONS. THE EXISTING CONDITIONS SHOWN ON THIS PLAN SHEET ARE BASED UPON COMPILED SURVEY DATA. 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 OWNERS REPRESENTATIVE.
6. EXISTING UTILITIES ARE SHOWN FOR REFERENCE ONLY. PRIOR TO CONNECTION TO EXISTING UTILITIES THE CONTRACTOR SHALL VERIFY EXACT LOCATION, DIA, LENGTH, CONDITION, PIPE TYPE, SLOPE AND VERTICAL AND HORIZONTAL ALIGNMENT OF THE EXISTING UTILITY AND PROPOSED POINT OF CONNECTION. THE CONTRACTOR SHALL REPORT ANY DISCREPANCIES TO ENGINEER PRIOR TO CONSTRUCTION.
7. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL OBTAIN ALL NECESSARY LOCAL, STATE, AND FEDERAL APPROVALS AND PERMITS.
8. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO HAVE A COPY OF THE APPROVED PLANS, SPECIFICATIONS, AND CONTRACT DOCUMENTS AT THE CONSTRUCTION SITE AT ALL TIMES.
9. THE CONTRACTOR SHALL PROVIDE SLOPE PROTECTION FOR SLOPES OF 5:1 OR GREATER ACCORDING TO ASSOCIATED GENERAL CONTRACTORS (AGC) STANDARD GUIDELINES AND BEST MANAGEMENT PRACTICES (BMP'S).
10. THE CONTRACTOR SHALL MAINTAIN EROSION CONTROL FACILITIES IN ACCORDANCE WITH MASON COUNTY, DEPARTMENT OF ECOLOGY STORMWATER MANUAL, THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP), AND PER THE EROSION CONTROL PLAN.
11. THE CONTRACTOR SHALL SAFELY MAINTAIN TRAFFIC AND CONTINUOUS ACCESS TO PRIVATE AND/OR PUBLIC PROPERTY.
12. CONSTRUCTION SIGNING AND TRAFFIC CONTROL SHALL BE PER THE CURRENT COPY OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
13. ALL VEHICLES AND EQUIPMENT SHALL BE KEPT WITHIN THE WORK AREAS ESTABLISHED FOR THAT WORK SHIFT UNLESS TRAVELING TO OR FROM THE SITE. UNDER NO CIRCUMSTANCES SHALL VEHICLES OR EQUIPMENT BE PARKED OR STORED OUTSIDE OF THESE AREAS.
14. OTHER CONSTRUCTION PROJECTS MAY OCCUR NEAR THE PROJECT SITE AND MAY BE IN PROGRESS CONCURRENT WITH THE PROJECT. THE CONTRACTOR SHALL COOPERATE AS NECESSARY AND NOT INTERFERE OR HINDER THE PROGRESS OR COMPLETION OF WORK BEING PERFORMED BY OTHER CONTRACTORS.
15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FURNISHING AND INSTALLING ALL MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO COMPLETE THE WORK SHOWN ON THESE DRAWINGS AND TO OBTAIN ACCEPTANCE BY MASON COUNTY AND THE PROJECT OWNER.
16. ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE RESTORED TO THEIR ORIGINAL "PRE CONSTRUCTION" STATE OR BETTER.
17. DRIVEWAY ACCESS AND UTILITY SERVICE TO EXISTING HOMES AND BUSINESSES SHALL BE MAINTAINED AT ALL TIMES.

EXISTING LEGEND

- RIGHT-OF-WAY (R/W)
- PROPERTY LINE
- CONSTRUCTION CENTERLINE
- EXISTING CONTOUR MAJOR
- EXISTING CONTOUR MINOR
- EXISTING SIDEWALK
- EXISTING CURB
- EXISTING EDGE OF ASPHALT
- EXISTING EDGE DRIVEWAY
- EXISTING FENCE
- EXISTING BUILDING
- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING GAS
- EXISTING OVERHEAD POWER
- EXISTING UNDERGROUND POWER
- EXISTING UNDERGROUND TELEPHONE
- EXISTING UNDERGROUND FIBER OPTICS
- EXISTING UNDERGROUND CABLE
- EXISTING CATCH BASIN TYPE 1
- EXISTING CATCH BASIN TYPE 2
- EXISTING HYDRANT
- EXISTING WATER VALVE
- EXISTING WATER METER
- EXISTING WATER FAUCET
- EXISTING SANITARY SEWER MANHOLE
- EXISTING SEWER CLEANOUT
- EXISTING POWER POLE
- EXISTING JUNCTION BOX
- EXISTING JUNCTION BOX
- EXISTING LUMINARIE
- EXISTING GUY WIRE
- EXISTING POWER VAULT
- EXISTING GAS METER
- EXISTING SHRUB
- EXISTING MAILBOX
- EXISTING CONIFER TREE
- EXISTING DECIDUOUS TREE
- MONUMENT IN CASE
- BRASS CAP MONUMENT
- EXISTING SIGN & POST
- EXISTING SIGN & DOUBLE POST
- EXISTING DOUBLE SIGN

PROPOSED LEGEND

- RIGHT-OF-WAY (R/W)
- PROPERTY LINE
- CONSTRUCTION CENTERLINE
- SECTION LINE
- TEMPORARY CONSTRUCTION EASEMENT (TCE)
- MONUMENT IN CASE
- BRASS CAP MONUMENT
- PROPOSED FENCE
- PROPOSED UNDERGROUND POWER
- PROPOSED UNDERGROUND CONDUIT
- PROPOSED POWER CONDUIT
- PROPOSED UNDERGROUND POWER
- PROPOSED UNDERGROUND TELECOMMUNICATION
- PROPOSED SPARE CONDUIT
- PROPOSED SANITARY SEWER PIPE
- PROPOSED STORM SEWER PIPE
- PROPOSED WATER MAIN
- PROPOSED SIDEWALK
- PROPOSED EDGE OF ASPHALT
- PROPOSED WATER VALVE
- PROPOSED WATER METER
- PROPOSED THRUST BLOCK
- PROPOSED CATCH BASIN TYPE 1
- PROPOSED CATCH BASIN TYPE 2
- PROPOSED DETECTABLE WARNING STRIP
- PROPOSED LUMINARIE
- PROPOSED JUNCTION BOX (J-BOX)
- PROPOSED SERVICE CABINET
- SANITARY SEWER LINE
- EXISTING SANITARY SEWER LINE
- REMOVE
- SANITARY SEWER MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- CLEANOUT

- COMMERCIAL HMA

CALL BEFORE YOU DIG

THE CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL EXISTING UTILITIES. THE CONTRACTOR SHALL VERIFY ALL UTILITY LOCATIONS PRIOR TO CONSTRUCTION BY CALLING THE UNDERGROUND LOCATE LINE 811 OR SUBMITTING AN ONLINE REQUEST AT WWW.CALLBEFOREYOUDIG.ORG/CONTACT.ASP A MINIMUM OF 48 HOURS PRIOR TO ANY EXCAVATION.

BID SET

△	REVISIONS	DATE	BY

DESIGNED BY: S. ROWSWELL
DRAWN BY: A. CHAKRABORTY
CHECKED BY: ----
ISSUE DATE: - -
JOB No.: 00-073805
DRAWING FILE No.: 0738.05-LN-B-SC.dwg

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

SAMUEL A ROWSWELL — STATE OF WASHINGTON — 57686 — REGISTERED PROFESSIONAL ENGINEER — 5/10/23

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 TRANIST AUTHORITY
BELFAIR - PARK AND RIDE
SANITARY SEWER CONVERSION

GENERAL NOTES & LEGEND

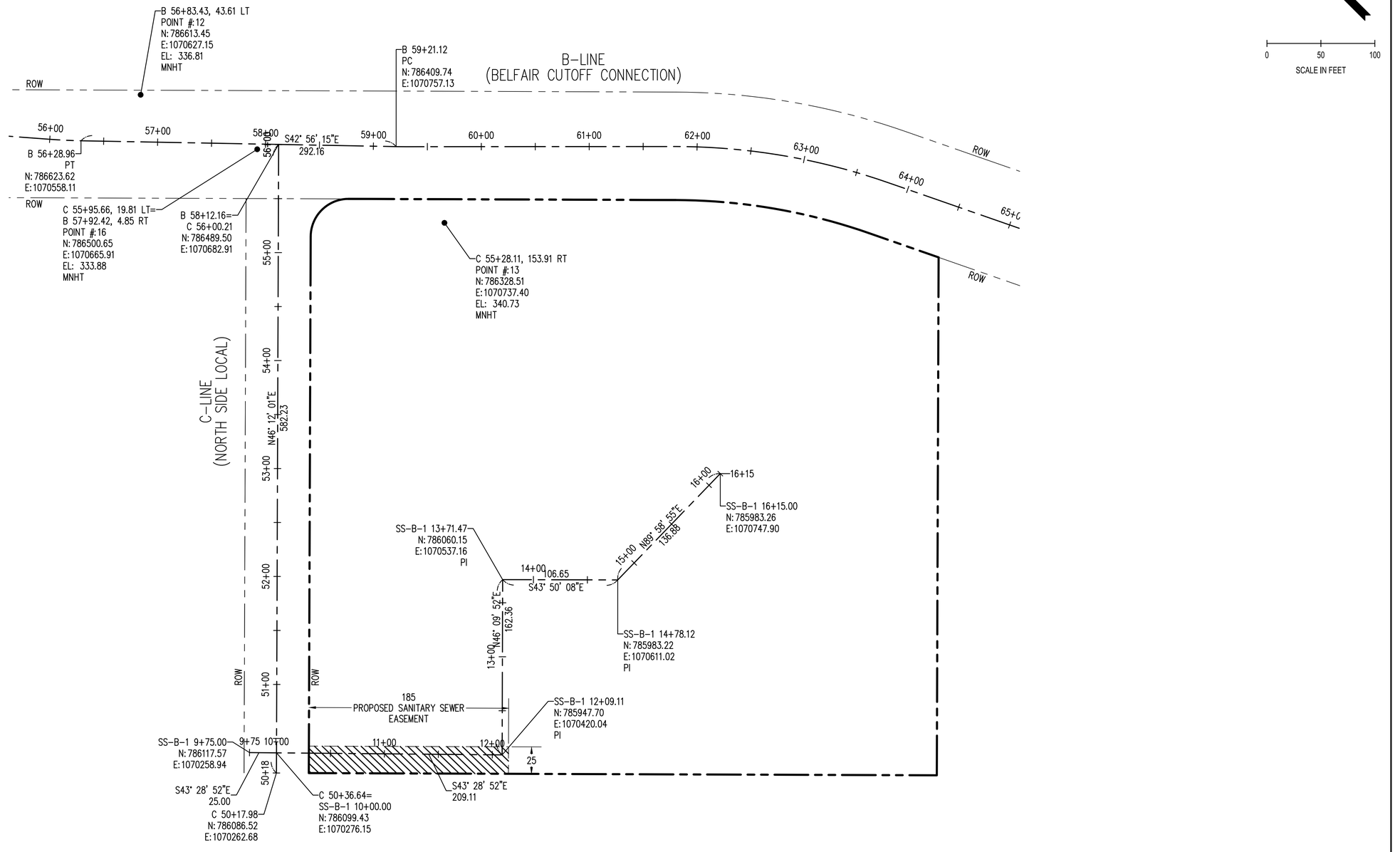
DRAWING No.: GN-01

SHEET No.: 03 OF 12

T. 23 N., R. 01 W., S. 21, W.M.

LEGEND

- RIGHT-OF-WAY
- CONSTRUCTION CENTERLINE
- SANITARY SEWER EASEMENT



0 50 100
SCALE IN FEET

BID SET

△	REVISIONS	DATE	BY

DESIGNED BY: S. ROWSWELL
DRAWN BY: A. CHAKRABORTY
CHECKED BY: ---
ISSUE DATE: - -
JOB No.: 00-073805
DRAWING FILE No.: 0738.05-HZ-01-B-SC.dwg

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

SAMUEL A ROWSWELL — STATE OF WASHINGTON — 57696 — REGISTERED PROFESSIONAL ENGINEER
5/10/23

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 TRANIST AUTHORITY
BELFAIR - PARK AND RIDE
SANITARY SEWER CONVERSION

HORIZONTAL CONTROL PLAN

DRAWING No.: HC-01
SHEET No.: 04 OF 12

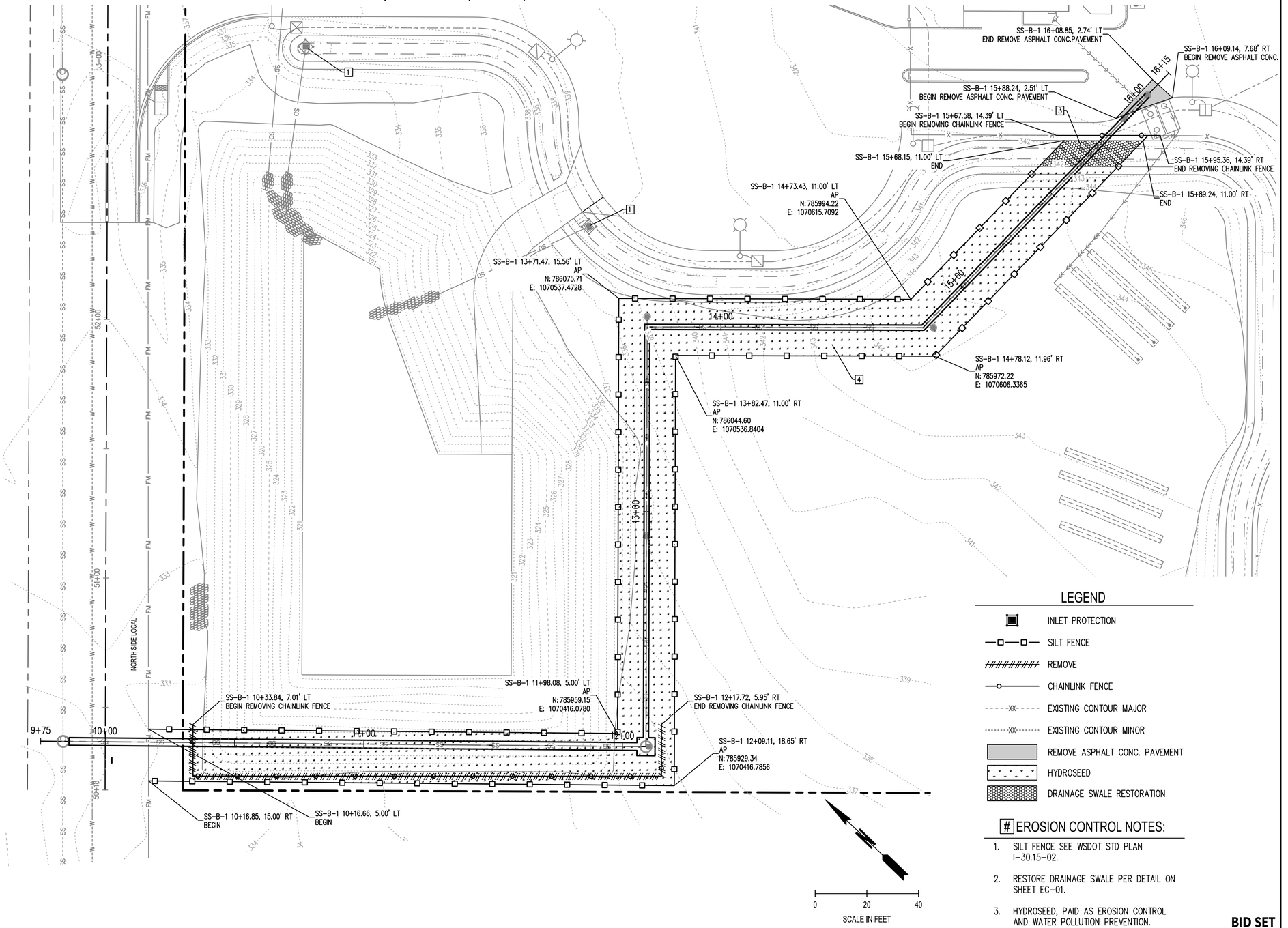
T. 23 N., R. 01 W., S. 21, W.M.

SCJ ALLIANCE GENERAL EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL FOLLOW EROSION CONTROL PRACTICES OUTLINED IN THE WASHINGTON STATE DEPARTMENT OF ECOLOGY STORMWATER MANAGEMENT MANUAL FOR WESTERN WASHINGTON AND THE SWPPP.
2. EROSION CONTROL MEASURES ARE NOT LIMITED TO THE ITEMS ON THESE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION CONTROL MEASURES. NO SILTATION OF EXISTING OR PROPOSED DRAINAGE FACILITIES SHALL BE ALLOWED. CARE SHALL BE TAKEN TO PREVENT MIGRATION OF SILTS TO OFF-SITE PROPERTIES.
3. EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO THE BEGINNING OF CONSTRUCTION. THE PROJECT ENGINEER AND THE REVIEWING AGENCY SHALL INSPECT AND APPROVE THE INSTALLATION OF EROSION CONTROL MEASURES PRIOR TO BEGINNING CONSTRUCTION.
   A. INSTALL INLET SEDIMENTATION AS SPECIFIED AT ALL CATCH BASIN LOCATIONS IMMEDIATELY UPON ARRIVAL AT PROJECT/CONSTRUCTION SITE.
   B. STABILIZED CONSTRUCTION ENTRANCE SHALL CONFORM TO DETAIL ON THIS SHEET, STABILIZED CONSTRUCTION ENTRANCE. A STABILIZED CONSTRUCTION ENTRANCE
4. ALL EROSION/SEDIMENTATION CONTROL FACILITIES SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL CONSTRUCTION IS COMPLETE AND THE SITE HAS BEEN STABILIZED. THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTATION, MAINTENANCE, REPLACEMENT, AND ADDITIONS TO THE SYSTEM AS REQUIRED BY MASON COUNTY TRANSIT, ENGINEER, OR MASON COUNTY.
5. THE CONTRACTOR SHALL MAKE A DAILY SURVEILLANCE OF ALL EROSION CONTROL MEASURES AND MAKE ANY NECESSARY REPAIRS OR ADDITIONS TO THE EROSION CONTROL MEASURES AS REQUIRED. THE CONTRACTOR SHALL PROVIDE ADDITIONAL EROSION CONTROL MEASURES AS DETERMINED NECESSARY BY THE INSPECTOR AND/OR PROJECT ENGINEER. FAILURE TO COMPLY WITH ALL LOCAL AND STATE EROSION CONTROL REQUIREMENTS MAY RESULT IN CIVIL PENALTIES BEING LEVIED AGAINST THE CONTRACTOR.
6. PRIOR TO CLEARING AND GRADING THE CONTRACTOR SHALL PROTECT TREES TO BE SAVED WITH HIGH VISIBILITY FENCING AS DIRECTED BY THE ENGINEER, COUNTY STAFF, OR OWNERS REPRESENTATIVE. CLEARING AND GRADING LIMITS SHALL BE STAKED IN THE FIELD PRIOR TO EXCAVATION.
7. ALL STORM DRAINAGE INLETS RECEIVING RUNOFF FROM THE PROJECT DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN WATER WILL BE FILTERED BEFORE ENTERING THE CONVEYANCE SYSTEM.
8. ALL OFF-SITE CATCH BASINS IMMEDIATELY ADJACENT TO THE PROPOSED SITE SHALL BE PROTECTED FROM SILTATION.
9. THE CONSTRUCTION OF TRENCHES (E.G., PIPES, UNDERGROUND UTILITY LINES AND STRUCTURES) SHALL BE SUBJECT TO THE FOLLOWING CRITERIA:
   A. NO MORE THAN 300 FEET OF TRENCH ON A DOWNSLOPE OF MORE THAN FIVE PERCENT SHALL BE OPENED AT ONE TIME.
   B. EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
10. TRENCH DEWATERING DEVICES SHALL BE DISCHARGED IN A MANNER THAT WILL NOT ADVERSELY AFFECT STREAMS, DRAINAGE SYSTEMS, OR OFF-SITE PROPERTIES.
11. TRACKING OF SOIL, MUD, OR DEBRIS OFF-SITE IS NOT ALLOWED. SOIL, MUD, OR DEBRIS TRACKED ONTO A PUBLIC ROADWAY, SHALL BE REMOVED BY THE END OF THAT WORKING DAY. TO PREVENT THE TRACKING OF SOIL, MUD, OR DEBRIS ONTO PUBLIC ROADWAYS, SWEEPING OR WASHING OF THE VEHICLE'S TIRES MAY BE REQUIRED PRIOR TO ENTERING A PUBLIC ROADWAY.
12. ALL DISTURBED AREAS SHALL BE HYDROSEEDED WITH EROSION CONTROL SEED MIX. INCLUDING BUT NOT LIMITED TO ROADWAY EMBANKMENTS, SHOULDERS, UTILITY EASEMENTS, STAGING AREAS, CONSTRUCTED WETLANDS AND CUT/FILL SLOPES.
13. ALL SEEDED OR SODDED AREAS SHALL BE CHECKED REGULARLY TO ENSURE VEGETATIVE COVERAGE IS COMPLETE. AREAS SHALL BE REPAIRED, RESEEDED, AND FERTILIZED AS REQUIRED.
14. NO MATERIAL SHALL BE STOCKPILED ON PAVEMENT WITHOUT AUTHORIZATION FROM THE PROJECT ENGINEER OR OWNERS REPRESENTATIVE WHICH WILL BE CONDITIONAL ON IMPLEMENTATION OF A PROCEDURE TO PREVENT SEDIMENT TRANSPORT.
15. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED OR AFTER THE MEASURES ARE NO LONGER NEEDED. SEDIMENT COLLECTED IN TRAPS, PONDS, OR SILT FENCE SHALL BE REMOVED AND DISPOSED IN AN APPROVED MANNER OR STABILIZED ON SITE. DISTURBED SOIL AREAS RESULTING FROM SEDIMENT REMOVAL SHALL BE PERMANENTLY STABILIZED WITHIN SEVEN (7) DAYS.

DEMOLITION GENERAL NOTES

1. PRIOR TO DEMOLITION AND REMOVAL OF SEWER SYSTEMS, THIS EXISTING SYSTEM SHALL BE PROTECTED AND REMAIN FUNCTIONAL UNTIL PROPOSED SYSTEMS ARE CONSTRUCTED AND ACCEPTED BY THE COUNTY.
2. PROTECT EXISTING LANDSCAPING OUTSIDE THE SILT FENCE. DAMAGE TO EXISTING LANDSCAPING SHALL BE REMOVED AND REPLACED BY THE CONTRACTOR AT NO COST TO CONTRACTING AGENCY.
3. ALL TREES AND SHRUBS WITHIN CLEARING AND GRUBBING LIMITS SHALL BE REMOVED AND DISPOSED OF OFF SITE.



LEGEND

- INLET PROTECTION
- SILT FENCE
- REMOVE
- CHAINLINK FENCE
- EXISTING CONTOUR MAJOR
- EXISTING CONTOUR MINOR
- REMOVE ASPHALT CONC. PAVEMENT
- HYDROSEED
- DRAINAGE SWALE RESTORATION

#EROSION CONTROL NOTES:

1. SILT FENCE SEE WSDOT STD PLAN I-30.15-02.
2. RESTORE DRAINAGE SWALE PER DETAIL ON SHEET EC-01.
3. HYDROSEED, PAID AS EROSION CONTROL AND WATER POLLUTION PREVENTION.

BID SET

△	REVISIONS	DATE	BY

DESIGNED BY: S. ROWSWELL
DRAWN BY: A. CHAKRABORTY
CHECKED BY: ---
ISSUE DATE: - -
JOB No.: 00-073805
DRAWING FILE No.: 0738.05-EC-01-B-SC.dwg

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

SAMUEL A ROWSWELL — STATE OF WASHINGTON — 57696 — REGISTERED PROFESSIONAL ENGINEER — 5/10/23

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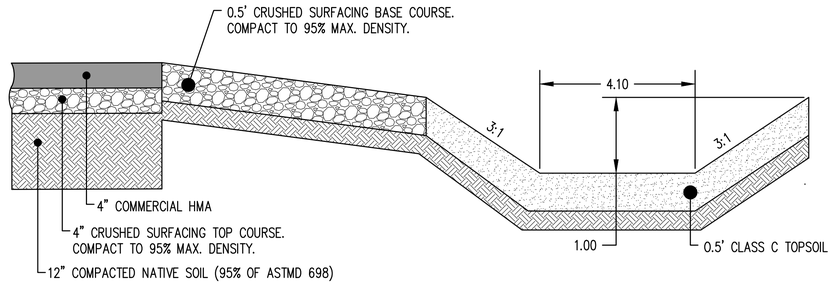
PROJECT NAME:

MASON TRANIST AUTHORITY
BELFAIR - PARK AND RIDE
SANITARY SEWER CONVERSION

TESC AND REMOVAL PLAN

DRAWING No.: EC-01
SHEET No.: 05 OF 12



DRAINAGE SWALE DETAIL
N.T.S

BID SET

△	REVISIONS	DATE	BY

DESIGNED BY: S. ROWSWELL
DRAWN BY: A. CHAKRABORTY
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SANITARY SEWER CONVERSION

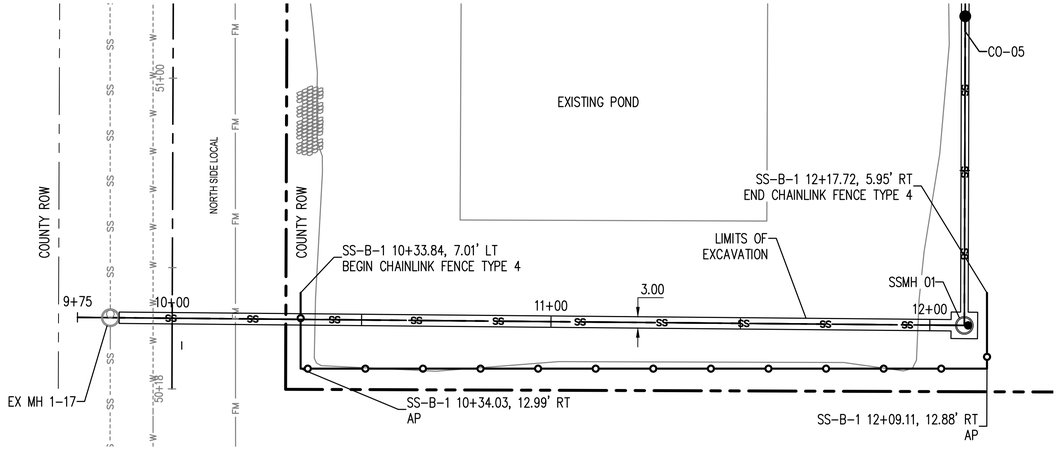
TESC AND REMOVAL DETAILS

DRAWING No.: EC-02
SHEET No.: 06 OF 12

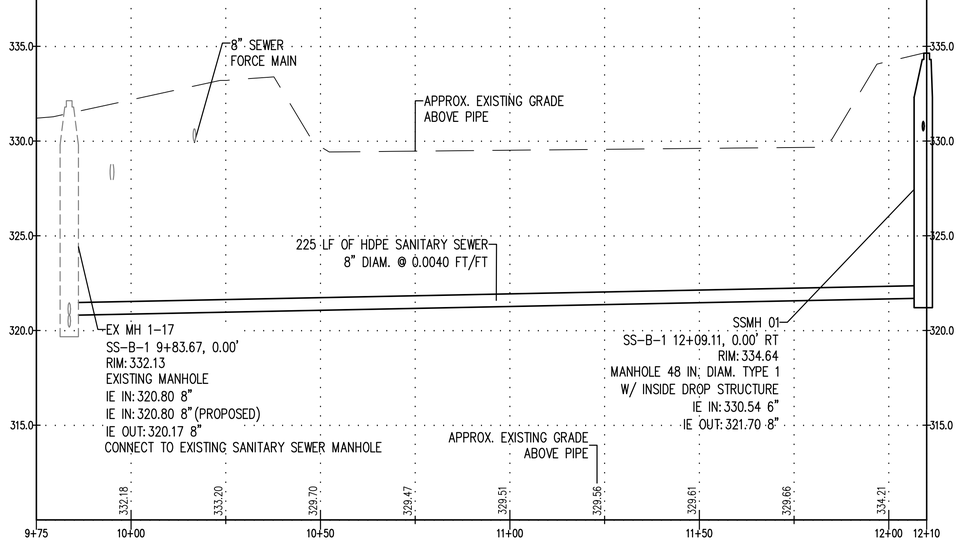
LEGEND

- SS — SCH 40 PVC SANITARY SEWER PIPE / HIGH-DENSITY POLETHYLENE (HDPE) SANITARY SEWER PIPE
- SS - - - SS - - - SS — EXISTING SANITARY SEWER LINE
- SANITARY SEWER MANHOLE, MASON COUNTY DETAIL 6001, SEE DETAIL SHEET SS-04
- EXISTING SANITARY SEWER MANHOLE
- 6" STANDARD CLEANOUT PER MASON COUNTY DETAIL 6020, INCLUDING ALL REQUIRED FITTINGS, SEE DETAIL SHEET SS-04
- COMMERCIAL HMA

T. 23 N., R. 01 W., S. 21, W.M.



SS-B-1 PROFILE
SS-B-1 9+75 TO 12+10



SANITARY SEWER CONSTRUCITON NOTES:

1. ABANDON SEPTIC DRAINFIELD PER WASHINGTON STATE DEPARTMENT OF HEALTH'S GUIDELINES.
2. ABANDON SEPTIC TANK AND PUMP CHAMBER PER WASHINGTON STATE DEPARTMENT OF HEALTH'S GUIDELINES. DISCONNECT ELECTRICAL WIRE PER...
3. TYPICAL CLEANOUTS CONFORM TO MASON COUNTY DRAWING 6020. SEE DETAIL SHEET SSD-01.
4. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL MATERIALS NECESSARY TO COMPLETE THIS WORK.
5. STATIONS AND OFFSETS FOR CLEANOUTS ARE APPROXIMATE. CONTRACTOR SHALL ADJUST CLEANOUTS TO GRADE, TYP.
6. PIPE LENGTHS CALLED OUT FROM CENTER OF CLEANOUT TO CENTER OF CLEANOUT.
7. PVC SANITARY SEWER PIPE SHALL BE SCH 40 PVC, ASTM D 3034 SDR 35, ALL PIPE SHALL BE INSTALLED PER MANUFACTURES' RECOMMENDATIONS.

H: 0 20 40
V: 0 4 8
SCALE IN FEET

BID SET

△	REVISIONS	DATE	BY

DESIGNED BY: S. ROWSWELL
DRAWN BY: A. CHAKRABORTY
CHECKED BY: ----
ISSUE DATE: - -
JOB No.: 00-073805
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PROJECT NAME:

MASON TRANIST AUTHORITY
BELFAIR - PARK AND RIDE
SANITARY SEWER CONVERSION

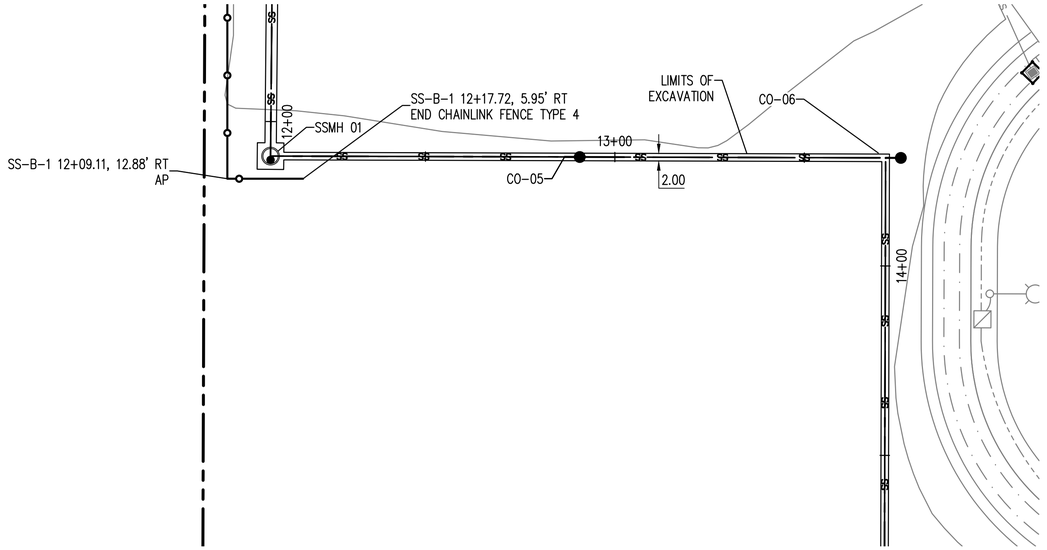
SANITARY SEWER PLAN AND PROFILE

DRAWING No.: SS-01
SHEET No.: 07 OF 12

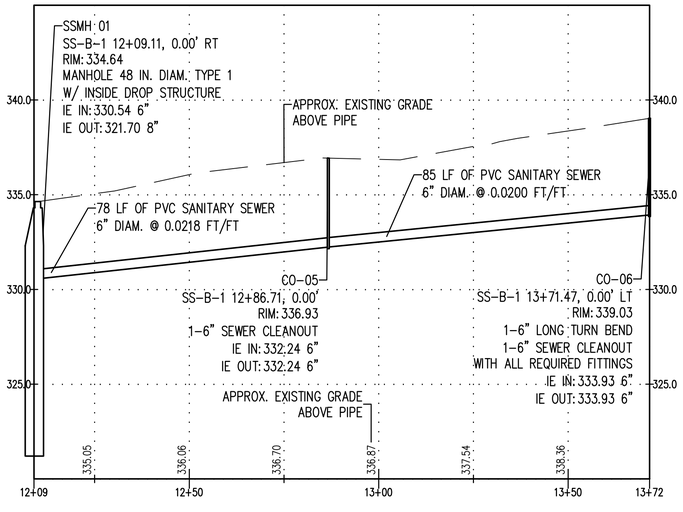
T. 23 N., R. 01 W., S. 21, W.M.

LEGEND

- SS — SCH 40 PVC SANITARY SEWER PIPE / HIGH-DENSITY POLETHYLENE (HDPE) SANITARY SEWER PIPE
- SS ----- SS — EXISTING SANITARY SEWER LINE
- SANITARY SEWER MANHOLE, MASON COUNTY DETAIL 6001, SEE DETAIL SHEET SS-04
- EXISTING SANITARY SEWER MANHOLE
- 6" STANDARD CLEANOUT PER MASON COUNTY DETAIL 6020, INCLUDING ALL REQUIRED FITTINGS, SEE DETAIL SHEET SS-04
- COMMERCIAL HMA



SS-B-1 PROFILE
SS-B-1 12+09 TO 13+72



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2. ABANDON SEPTIC TANK AND PUMP CHAMBER PER WASHINGTON STATE DEPARTMENT OF HEALTH'S GUIDELINES.
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6. PIPE LENGTHS CALLED OUT FROM CENTER OF STRUCTURE OF TO CENTER OF STRUCTURE.
7. PVC SANITARY SEWER PIPE SHALL BE PVC, ASTM D 3034 SDR 35, ALL PIPE SHALL BE INSTALLED PER MANUFACTURES' RECOMMENDATIONS.

H: 0 20 40
V: 0 4 8
SCALE IN FEET

BID SET

△	REVISIONS	DATE	BY

DESIGNED BY: S. ROWSWELL
DRAWN BY: A. CHAKRABORTY
CHECKED BY: ----
ISSUE DATE: - -
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PROJECT NAME:

MASON TRANIST AUTHORITY
BELFAIR - PARK AND RIDE
SANITARY SEWER CONVERSION

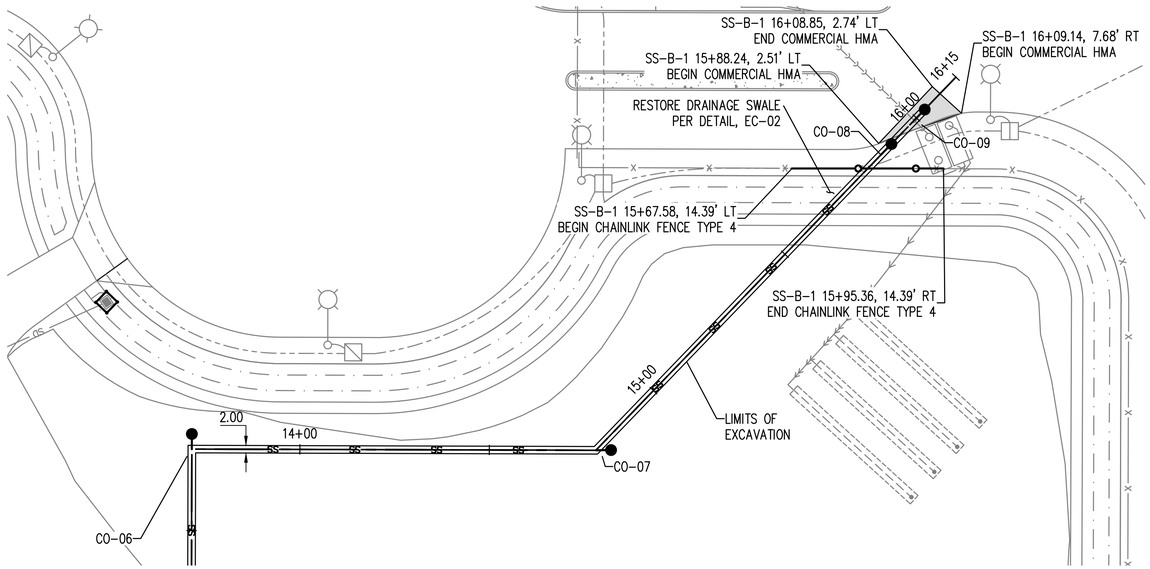
SANITARY SEWER PLAN AND PROFILE

DRAWING No.: SS-02
SHEET No.: 08 OF 12

LEGEND

- SS — SCH 40 PVC SANITARY SEWER PIPE / HIGH-DENSITY POLETHYLENE (HDPE) SANITARY SEWER PIPE
- SS - - - - SS — EXISTING SANITARY SEWER LINE
- SANITARY SEWER MANHOLE, MASON COUNTY DETAIL 6001, SEE DETAIL SHEET SS-04
- EXISTING SANITARY SEWER MANHOLE
- 6" STANDARD CLEANOUT PER MASON COUNTY DETAIL 6020, INCLUDING ALL REQUIRED FITTINGS, SEE DETAIL SHEET SS-04
- COMMERCIAL HMA

T. 23 N., R. 01 W., S. 21, W.M.



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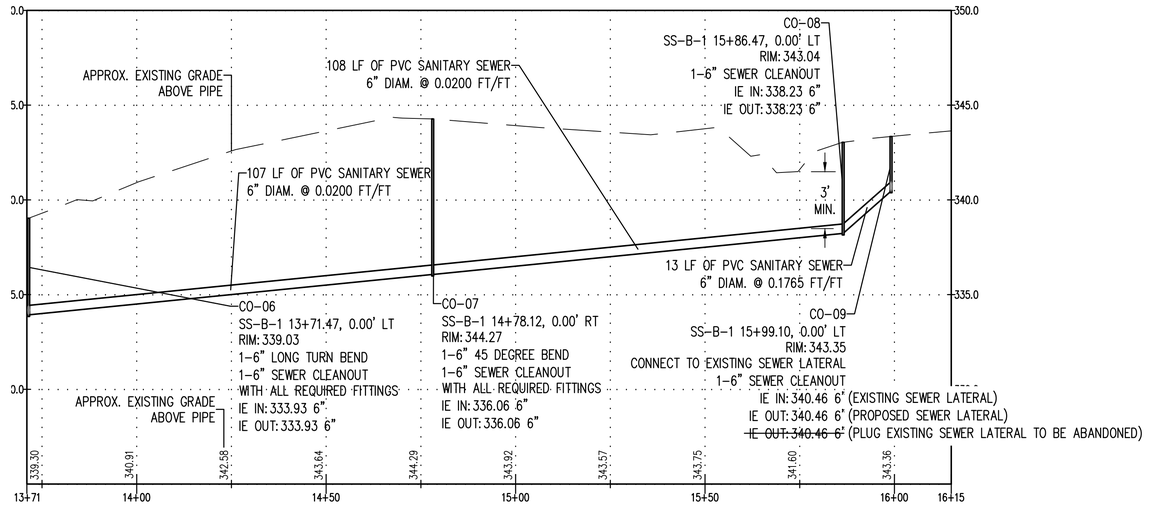
H: 0 20 40
V: 0 4 8
SCALE IN FEET

SS-B-1 PROFILE
SS-B-1 13+71 TO 16+15



BID SET

△	REVISIONS	DATE	BY

DESIGNED BY: S. ROWSWELL
DRAWN BY: A. CHAKRABORTY
CHECKED BY: ----
ISSUE DATE: - -
JOB No.: 00-073805
DRAWING FILE No.: 0738.05-SS-01-B-SC.dwg

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

SAMUEL A ROWSWELL — STATE OF WASHINGTON — 57096 — REGISTERED PROFESSIONAL ENGINEER — 5/10/23

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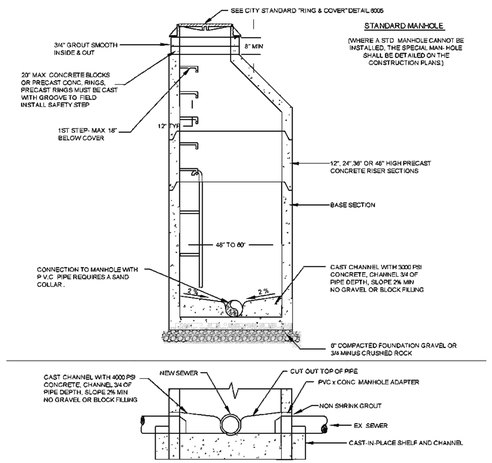
PROJECT NAME:

MASON TRANIST AUTHORITY
BELFAIR - PARK AND RIDE
SANITARY SEWER CONVERSION

SANITARY SEWER PLAN AND PROFILE

DRAWING No.: SS-03
SHEET No.: 09 OF 12

T. 23 N., R. 01 W., S. 21, W.M.

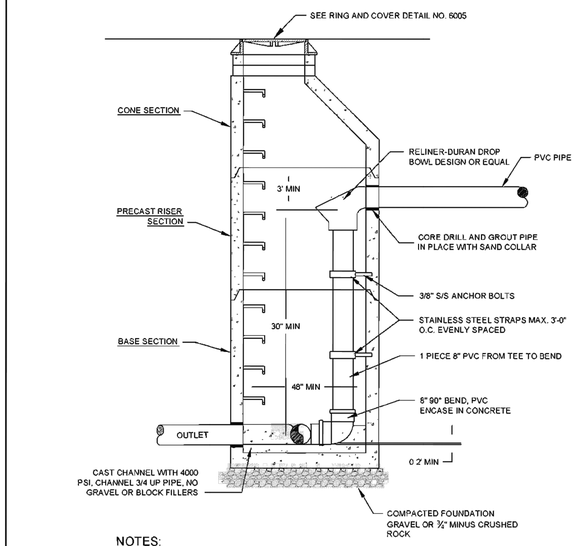


MANHOLE BASE SECTION - NEW SADDLE MANHOLE ON EXISTING SEWER

GENERAL NOTES (APPLY TO ALL MANHOLES)

1. PRECAST SECTIONS SHALL BE REINFORCED PER ASTM SPECS FOR CORRESPONDING SEWER PIPE.
2. FIBERGLASS REINFORCED PLASTIC SAFETY STEPS, 1" Ø MINIMUM. SEE DETAIL 6040
3. STEPS IN PRECAST BASE SECTION MAY BE CAST IN PLACE OR MOVABLE SAFETY LADDER GROUTED IN PLACE. SEE DETAIL "MANHOLE LADDER AND STEP"
4. ALL HOLES FOR PIPE SHALL BE BLOCKED OUT AT THE TIME OF CASTING OF THE SECTION OR CORE DRILLED IN THE FIELD
5. ALL RUBBER GASKETED MANHOLES SHALL BE FURNISHED WITH RUBBER GASKET JOINT CONFORMING TO ASTM C443
6. KOR-N-SEAL ADAPTORS SHALL BE USED
7. MINIMUM 2% SLOPE ACROSS MANHOLE CHANNEL.
8. FOR 72" MANHOLE SEE CITY STANDARD "CATCH BASIN TYPE II." SECTION 4000 "TYPE II CATCH BASIN"

MASON COUNTY	UTILITIES AND WASTE MANAGEMENT	DESIGN/ CONSTRUCTION STANDARDS	48" TO 60" STANDARD MANHOLE DETAIL	6001
			Alteration of this drawing is prohibited. Any approval of an altered drawing is unauthorized and void	Revision Date 11/06/09

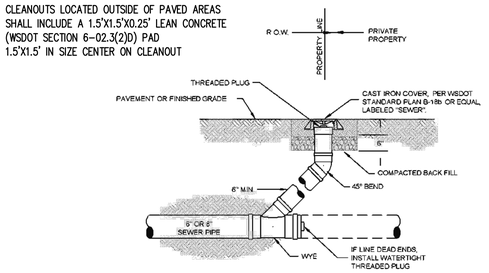


NOTES:

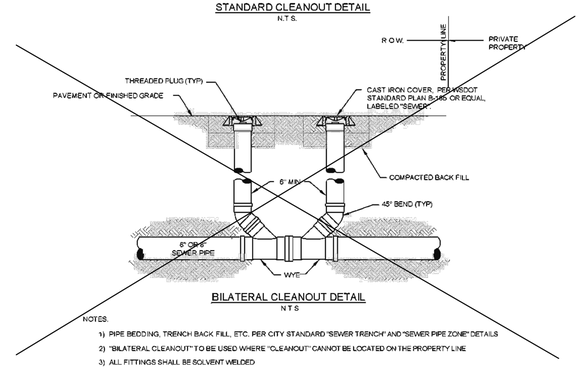
1. DROP TEE TO BE INSTALLED MINIMUM OF 3' BELOW CONE SECTION UNLESS OTHERWISE APPREOVED.
2. INSIDE DROP MANHOLE SHALL BE INSTALLED ONLY WHERE APPROVED BY THE CITY
3. INSIDE DROP CONNECTIONS SHALL NOT BE USED IN MANHOLE STRUCTURES LESS THAN 15' DEEP.
4. THE CITY MAY REQUIRE A LARGER MANHOLE WHEN THERE IS POTENTIAL FOR MORE THAN ONE INSIDE DROP CONNECTION.

MASON COUNTY	UTILITIES AND WASTE MANAGEMENT	DESIGN/ CONSTRUCTION STANDARDS	INSIDE DROP STRUCTURE	6003
			Alteration of this drawing is prohibited. Any approval of an altered drawing is unauthorized and void	Revision Date 11/06/09

CLEANOUTS LOCATED OUTSIDE OF PAVED AREAS SHALL INCLUDE A 1.5'X1.5'X0.25' LEAN CONCRETE (WSDOT SECTION 6-02.3(2)D) PAD 1.5'X1.5' IN SIZE CENTER ON CLEANOUT



STANDARD CLEANOUT DETAIL
N.T.S.



BILATERAL CLEANOUT DETAIL
N.T.S

NOTES.

1) PIPE BEDDING, TRENCH BACK FILL, ETC. PER CITY STANDARD "SEWER TRENCH" AND "SEWER PIPE ZONE" DETAILS
2) "BILATERAL CLEANOUT" TO BE USED WHERE "CLEANOUT" CANNOT BE LOCATED ON THE PROPERTY LINE
3) ALL FITTINGS SHALL BE SOLVENT WELDED

MASON COUNTY	UTILITIES AND WASTE MANAGEMENT	DESIGN/ CONSTRUCTION STANDARDS	STANDARD CLEANOUT	6020
			Alteration of this drawing is prohibited. Any approval of an altered drawing is unauthorized and void	Revision Date 11/06/09

BID SET

△	REVISIONS	DATE	BY

DESIGNED BY: S. ROWSWELL
DRAWN BY: A. CHAKRABORTY
CHECKED BY: ----
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JOB No.: 00-073805
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ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

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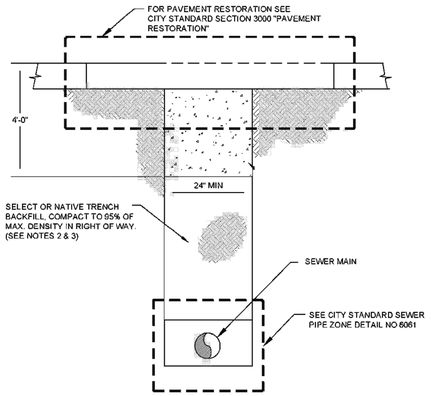
PROJECT NAME:

MASON TRANIST AUTHORITY
BELFAIR - PARK AND RIDE
SANITARY SEWER CONVERSION

SANITARY SEWER DETAILS

DRAWING No.: SS-04

SHEET No.: 10 OF 12



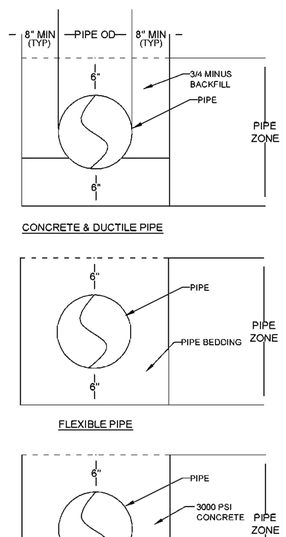
SEWER TRENCH DETAIL

N.T.S.

NOTES:

1. REFER TO CITY STANDARD DETAILS 3151 - 3155 FOR PAVEMENT RESTORATION REQUIREMENTS IN THE RIGHT OF WAY.
2. TOP FOUR FEET WHERE SEWER MAIN RUNS PARALLEL TO THE TRAVELED LANE, USE 1" CRUSHED ROCK, UNLESS EXISTING MATERIAL IS DETERMINED BY THE ENGINEER TO BE SUITABLE FOR BACKFILL 1" CRUSHED ROCK WILL BE USED.
3. TRENCH BACKFILL BELOW TOP FOUR FEET SHALL BE NATIVE MATERIALS OR AS REQUIRED BY THE SPECIFICATIONS.

MASON COUNTY UTILITIES AND WASTE MANAGEMENT DESIGN/ CONSTRUCTION STANDARDS	SEWER TRENCH DETAIL Alteration of this drawing is prohibited. Any approval of an altered drawing is unauthorized and void.	6060 Revision Date 11/06/09



NOTE:

1. CONCRETE PIPE SHALL BE BEDDED TO SPRING LINE.
2. PIPE SHALL BE BEDDED AND INSTALLED PER WSDOT STANDARD SPECIFICATIONS SECTION 7-08.

PIPE BEDDING

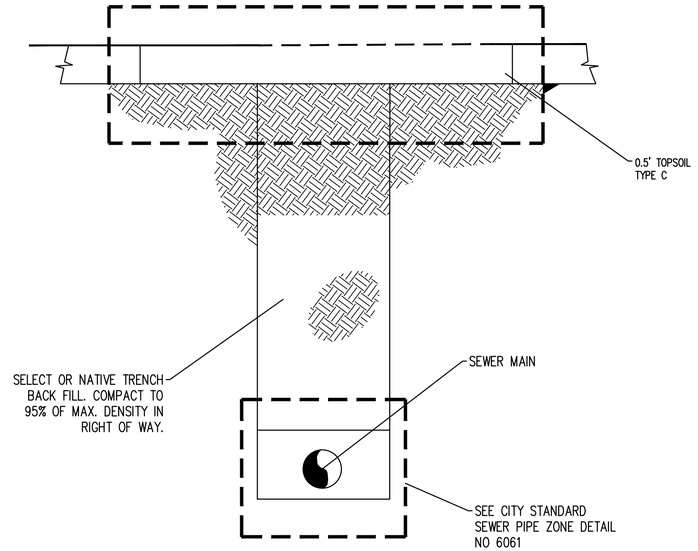
WHEN PIPE BEDDING IS REQUIRED, REFERENCE WSDOT 8-03 12(3)

COMPACTION IN PIPE ZONE SHALL BE 90% OF MAXIMUM DENSITY. LOOSE LAYERS OF 6" OR LESS SHALL BE CAREFULLY COMPACTED. BACKFILL SHALL BE BROUGHT UP SIMULTANEOUSLY ON EACH SIDE OF PIPE TO TOP OF PIPE ZONE.

SEWER PIPE ZONE DETAILS

NTS

MASON COUNTY UTILITIES AND WASTE MANAGEMENT DESIGN/ CONSTRUCTION STANDARDS	SEWER PIPE ZONE DETAIL Alteration of this drawing is prohibited. Any approval of an altered drawing is unauthorized and void	6061 Revision Date 11/06/09



SEWER TRENCH DETAIL (FOR NON-PAVED AREAS)

N.T.S

BID SET

△	REVISIONS	DATE	BY

DESIGNED BY: S. ROWSWELL
DRAWN BY: A. CHAKRABORTY
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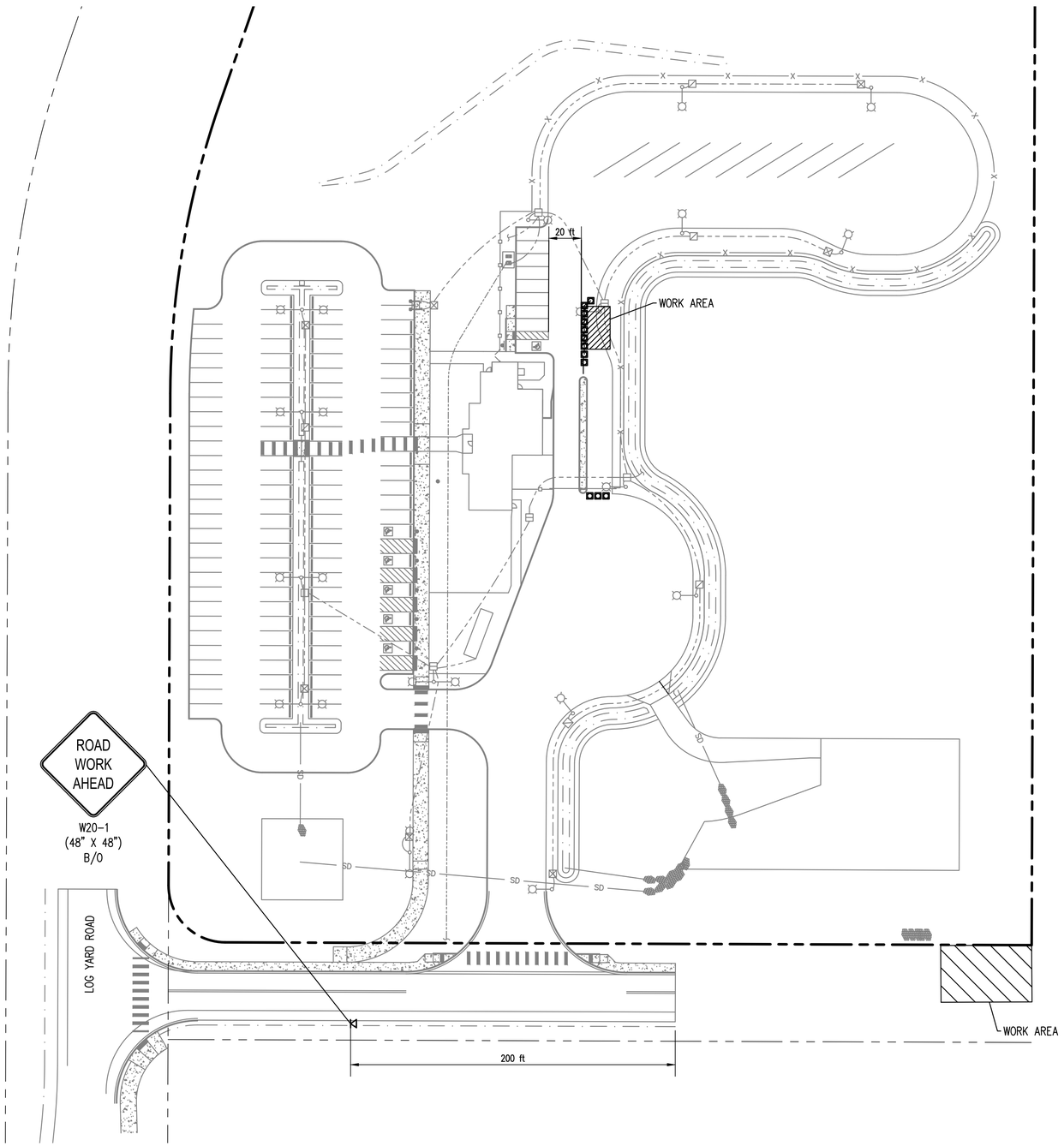
MASON TRANIST AUTHORITY
BELFAIR - PARK AND RIDE
SANITARY SEWER CONVERSION

SANITARY SEWER DETAILS

DRAWING No.: SS-05
SHEET No.: 11 OF 12

T. 23 N., R. 01 W., S. 21, W.M.



0 20 40

SCALE IN FEET

LEGEND

⋈	SIGN LOCATION – TEMPORARY MOUNT (CLASS B)
◘	CHANNELIZING DEVICES

NOTES:

1. ALL SIGNS ARE BLACK ON ORANGE UNLESS OTHERWISE DESIGNATED.
2. DEVICES SHALL NOT ENCROACH INTO ADJACENT LANES.

BID SET

△	REVISIONS	DATE	BY

DESIGNED BY: S. ROWSWELL
DRAWN BY: A. CHAKRABORTY
CHECKED BY: ---

ISSUE DATE: - -
JOB No.: 00-073805
DRAWING FILE No.: 0738.05-TC-01-B-SC.dwg

ALL DIMENSIONS SHOWN IN FEET UNLESS OTHERWISE DESIGNATED

SAMUEL A ROWSWELL — STATE OF WASHINGTON — 57696 — REGISTERED PROFESSIONAL ENGINEER — 5/10/23

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PROJECT NAME:

MTA

MASON TRANIST AUTHORITY
BELFAIR - PARK AND RIDE SANITARY
SEWER CONVERSION

TRAFFIC CONTROL PLANS

DRAWING No.: TC-01

SHEET No.: 12 OF 12

MASON TRANSIT AUTHORITY
Sanitary Sewer Conversion Belfair Park and Ride

APPENDIX A

SUMMARY OF GEOTECHNICAL CONDITIONS

Geotechnical Engineering Report
Mason Transit Authority
Park and Ride Site Improvements
Belfair Site
Shelton, Washington

December 12, 2018

Prepared for

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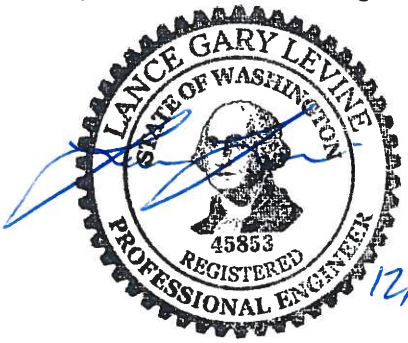
Geotechnical Engineering Report
Mason Transit Authority
Park and Ride Site Improvements
Belfair Site
Shelton, Washington

This document was prepared by, or under the direct supervision of, the undersigned, whose seal is affixed below.

Name: Lance Levine
Washington/No. 45853

Date: December 12, 2018



12/12/2018

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Date: December 12, 2018
Project No.: 1174015.010.012
File path: Y:\1174\015.010\R\Belfair Site\Signature Page.docx
Project Coordinator: MCS

LANDAU ASSOCIATES

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LIST OF ABBREVIATIONS AND ACRONYMS

AASHTO ..... American Association of State Highway and Transportation Officials
ASTM ..... ASTM International
bgs ..... below ground surface
CBR ..... California Bearing Ratio
CSBC ..... crushed surfacing base course
ESAL ..... equivalent single-axle load
ft ..... foot/feet
GDM ..... Geotechnical Design Manual
H:V ..... horizontal to vertical
IBC ..... International Building Code
LAI ..... Landau Associates, Inc.
MDD ..... maximum dry density
MTA ..... Mason Transit Authority
PCC ..... Portland cement concrete
pcf ..... pounds per cubic foot
PIT ..... pilot infiltration test
psf ..... pounds per square foot
SCJ ..... SCJ Alliance
SWMMWW ..... Stormwater Management Manual for Western Washington
WAC ..... Washington Administrative Code
WSDOT ..... Washington State Department of Transportation

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1.0 INTRODUCTION

This report presents the results of our field investigation and provides geotechnical engineering conclusions and recommendations for Mason Transit Authority's (MTA's) proposed Park and Ride Improvements project, located near the Mason County–Kitsap County border, southeast of the intersection of Log Yard Road and State Highway 3 near Belfair, Washington (site). The purpose of our investigation was to compile and review available subsurface information for the project area, complete site investigations to characterize subsurface soil and groundwater conditions, and develop geotechnical conclusions and recommendations for design of the proposed improvements.

The general project location is shown on Figure 1. Figure 2 shows some of the site features and the approximate locations of the explorations completed for this study. Appendix A includes a description of our field explorations and summary logs of the conditions observed during our field investigation. Test results and a description of our laboratory testing program are provided in Appendix B.

This report has been prepared based on conversations with and information provided by SCJ Alliance (SCJ), data collected during our field investigation, the results of our laboratory testing program, our familiarity with geologic conditions in the vicinity of the project area, and our experience with similar projects. Our services were provided in accordance with amendment number one to the subconsultant agreement for professional services, issued by SCJ on July 28, 2017 and authorized on August 1, 2017.

1.1 Project Understanding

We understand a park and ride will be constructed on an undeveloped, 4-acre site in a future commercial/industrial development near the Mason County–Kitsap County border. Proposed improvements include a 1,500-square-foot MTA office building, two bus shelters, illumination (i.e., light poles), paved parking and drive lanes, and stormwater management facilities. The proposed site layout is subject to minor changes and will be finalized during design.

1.2 Scope of Services

The objective of our services was to explore subsurface soil and groundwater conditions at the site as a basis for developing geotechnical recommendations in support of the proposed improvements. Our scope of services includes the following tasks:

- reviewing available published geologic maps and geotechnical reports for the project area;
- coordinating public and private utility locates;
- completing a subsurface exploration program by advancing a series of exploratory test pits;
- collecting representative soil samples and completing laboratory testing to aid in the classification and determination of certain engineering soil properties;

- providing seismic spectral acceleration coefficients for the proposed structures using map-based methods in accordance with International Building Code (IBC) criteria. We also assessed the risk for seismically induced soil liquefaction and lateral spreading;
- providing recommendations for earthwork and grading, including stripping depth, subgrade preparation, utility trench excavation, construction dewatering, the reuse of onsite materials and structural fill, and structural fill placement and compaction;
- providing geotechnical recommendations for shallow foundation support of the proposed bus shelters and MTA office building, including allowable soil bearing capacity, minimum footing width and depth, lateral resistance criteria, and elastic settlement estimates;
- providing geotechnical recommendations for design of foundations for new illumination in accordance with section 17.2.1 of the Washington State Department of Transportation's *Geotechnical Design Manual* (WSDOT GDM; WSDOT 2015);
- providing recommendations for pavement sections using assumed traffic loading conditions;
- assessing the feasibility of infiltrating stormwater on site, including feasible infiltration locations, depth-to-groundwater, and a design infiltration rate estimated by correlation to grain size characteristics; and
- preparing this geotechnical engineering report, summarizing the results of our field investigation and laboratory testing program and presenting our conclusions and recommendations along with supporting data.

2.0 EXISTING CONDITIONS

The following sections describe the surface conditions observed during our field explorations, the results of our geologic review, our subsurface exploration program, and the subsurface soil and groundwater conditions observed in our explorations.

2.1 Surface Conditions

The site includes undeveloped forestland with several trails and primitive gravel roads. Topography is generally flat in the areas of the proposed improvements, though the eastern portion of the site slopes gently down to the west with a vertical relief of about 10 feet (ft). The site is vegetated with mostly trees and some brush. Evidence of surface water or ponding was not observed during our August 2017 site visits.

2.2 Geologic Review

The geology of the area is described on the *Geologic Map of the Belfair 7.5-minute Quadrangle, Mason, Kitsap, and Pierce Counties, Washington* (Polenz 2009). Vashon glacial ice-contact deposits (Qgic) are mapped at the project site, with Vashon till (Qgt) mapped to the east. Ice-contact deposits are described as sand, gravel, lodgment till, and flow till with minor silt and clay beds. This unit is light brown to gray, loose to compact, and massive to well stratified. The unit was formed in the presence of meltwater alongside ice, generally near the end of the glaciation, and commonly is accompanied by stagnant-ice features, such as kettles, eskers, and subglacial outwash channels. The soils observed in our explorations are consistent with the mapped geology.

2.3 Subsurface Explorations

We explored subsurface conditions at the site on August 15, 2017 by advancing 10 test pits (TP-1 through T-10) between 12.5 and 16.3 ft below ground surface (bgs). The test pits were advanced by Howard's Construction & Excavating of Olympia, Washington, under subcontract to Landau Associates, Inc. (LAI). The approximate locations of the test pits are shown on Figure 2. The following sections summarize the subsurface conditions observed in our explorations. More detailed information, including summary exploration logs, is provided in Appendix A.

2.3.1 Soil Conditions

We categorized the soils observed in our explorations into two general units:

- **Forest duff/topsoil:** A forest duff/topsoil layer was observed in all the explorations, except test pit TP-1, where the forest duff was removed at the time the primitive gravel road was constructed. The combined thickness of the forest duff and topsoil ranged from 0.75 to 2.5 ft. Forest duff detritus observed typically included leaves, fir needles, and other non-decomposed organics above the soil surface. Where observed in our explorations, the thickness of the forest duff layer ranged from 3 to 12 inches. The topsoil observed at the

surface in test pit TP-1 and below the forest duff at the remaining test pit locations was typically a brown, loose to medium dense, silty sand with variable gravel and organic content.

- **Ice-contact deposits:** Ice-contact deposits were observed below the forest duff/topsoil unit to the depths explored. This unit typically consists of brown to gray, medium dense to very dense sand with variable silt, gravel, and cobble content or brown to gray, dense to very dense gravel with variable silt, sand, and cobble content.

Although not observed in all of our explorations, cobbles and boulders are often present in glacial deposits and may be present throughout the site. The contractor should be prepared to handle oversized material.

2.3.2 Groundwater Conditions

During our August 2017 explorations, groundwater was not observed in the test pits to 16.3 ft bgs, the maximum depth explored. No evidence of mottling was observed. The groundwater conditions reported herein and on the exploration logs in Appendix A are for the specific locations and date indicated and may not be indicative of other locations and/or times. Furthermore, we anticipate groundwater conditions will vary depending on local subsurface conditions, weather conditions, and other factors. Groundwater levels in the project area are expected to fluctuate seasonally, with maximum groundwater levels occurring during late winter and early spring.

3.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of our field explorations, laboratory testing, and engineering analyses, it is our opinion that subsurface conditions at the project site are suitable for the proposed improvements. We interpret the ice-contact deposits to be suitable for onsite infiltration of stormwater, provided the base of the infiltration facility is situated below restrictive layers. The ice-contact deposits observed in our explorations are also suitable for shallow foundation support of structures (e.g., bus pad, shelters, MTA office building, and light poles), provided the recommendations in Section 3.1 of this report are followed.

The following sections of this report provide geotechnical conclusions and recommendations pertaining to earthwork; underground utilities; structures, including seismic design criteria, allowable bearing capacity, foundation settlement, resistance to lateral loads, footing overexcavations, and slabs-on-grade; illumination; pavement design; and stormwater infiltration.

3.1 Earthwork

To accommodate construction of the proposed improvements, earthwork likely will include clearing, grubbing, and stripping of areas where improvements are planned; cuts and fills; subgrade preparation for structures and pavement areas; and construction of temporary and permanent slopes.

3.1.1 Wet Weather Considerations

Some of the onsite soils contain up to about 16 percent fines (material passing the U.S. Standard No. 200 sieve, by weight) and are considered moisture sensitive. Imported fill also could be moisture sensitive. When the moisture content of soil is more than a few percent above or below the optimum moisture content, the soil may become unstable, and meeting the required compaction criteria may be difficult. Optimum moisture content is the moisture content at which the greatest compacted dry density can be achieved. Disturbance of near surface soils should be expected if earthwork is completed during periods of wet weather or under wet conditions.

The wet weather season in the project area generally begins in late October and continues through June. However, periods of wet weather may occur throughout the year. If wet weather earthwork is unavoidable, we recommend:

- the ground surface be sloped so that surface water is collected and directed away from the work area to an approved collection/dispersion point;
- excavation of temporary drywells to expose cleaner underlying soils;
- earthwork activities not take place during periods of heavy precipitation;
- measures are taken to prevent onsite soil and soil stockpiles from becoming wet or unstable;
- structural fill materials used during periods of wet weather should be limited to imported, all-weather fill;

- a smooth-drum roller is used to seal the surface prior to periods of precipitation to reduce the extent to which the soil becomes wet or unstable;
- construction traffic is restricted to specific areas of the site, preferably areas surfaced with materials that are not susceptible to wet weather disturbance;
- a minimum 1-ft-thick layer of 4- to 6-inch quarry spalls is used in high-traffic areas to protect the subgrade soil from disturbance; and
- contingencies are included in the project schedule and budget to allow for the above elements.

3.1.2 Site Preparation Activities

Site preparation activities are expected to include clearing, grubbing, and stripping of the existing vegetation, duff, and topsoil and removal of pavement and utilities, if present. Sod, topsoil, and organic-rich soils or fill located within the bus pad shelter or pavement areas should be stripped. We estimate an average stripping depth of approximately 20 inches for removal of forest duff and near surface topsoil. If the forest duff is removed during logging activities, the remaining topsoil will range from 0.5 to 1.5 ft thick. These estimates do not include the removal of existing tree roots or debris, if present.

All incidental excavations associated with site preparation activities should be backfilled in accordance with the recommendations set forth in Section 3.1.4 of this report.

3.1.3 Subgrade Preparation

Prior to placing structural fill, the prepared subgrade should be proof-rolled in the presence of a qualified civil or geotechnical engineer, who is familiar with the site conditions and can check for any soft and/or disturbed areas. Areas of limited access that cannot be proof-rolled can be evaluated using a steel T-probe. Loose and/or disturbed subgrades identified during the proof-roll should be repaired by overexcavating the disturbed soil and replacing it with compacted structural fill, meeting the requirements described in Section 3.1.4 of this report. Unsuitable soils also can repaired with additional scarification, moisture conditioning, and recompacting. Repaired subgrades should be recompacted in accordance with Section 3.1.4.5 of this report.

3.1.4 Structural Fill

The following sections provide recommendations for the use of onsite soils, imported fill, and recycled materials as structural fill and structural fill placement and compaction.

3.1.4.1 General

The suitability of excavated or imported soil for use as structural fill will depend on the gradation and moisture content of the soil when it is placed. As the amount of fines increases, the soil becomes increasingly sensitive to small changes in moisture content, and adequate compaction may become more difficult to achieve. Soil containing more than about 5 percent fines cannot be compacted

consistently to a dense, non-yielding condition when the water content is more than about 2 to 3 percent above or below optimum moisture content.

During dry, warm weather (generally July through early October), structural fill should consist of well-graded sand and gravel with a maximum particle size of 6 inches and at least 75 percent of the material passing the 3-inch sieve. The material should contain less than 30 percent fines and be maintained at a moisture content near optimum. If wet weather construction is anticipated, the amount of fines should not exceed 5 percent, based on the minus ¾-inch fraction. Structural fill should be free of debris, organic material, and rock fragments larger than 6 inches.

3.1.4.2 Imported Fill

During dry, warm weather (generally July through early October), imported structural fill should consist of well-graded sand and gravel with a maximum particle size of 6 inches and at least 75 percent of the material passing the 3-inch sieve. The material should contain less than 30 percent fines and be maintained at a moisture content near optimum. Imported structural fill should be free of debris, organic material, and rock fragments larger than 6 inches.

During wet weather conditions, imported all-weather fill should consist of well-graded sand and gravel or crushed rock with a maximum particle size of 4 inches and less than 5 percent passing a U.S. Standard No. 200 sieve, based on the minus ¾-inch fraction. Organic matter, debris, or other deleterious material should not be present. Gravel Borrow, as described in Section 9-03.14(1) of the Washington State Department of Transportation's *2016 Standard Specifications for Road, Bridge, and Municipal Construction* (*2016 WSDOT Standard Specifications*), is a suitable source of imported all-weather fill, provided the requirements set forth in this paragraph are satisfied.

3.1.4.3 Onsite Soil

The ice-contact deposits observed in our explorations contain up to about 16 percent fines and are generally well suited for use as structural fill during dry weather. If onsite soils are reused as structural fill, they will require significant moisture conditioning to satisfy the compaction criteria recommended herein. We recommend a representative of LAI is present to review onsite material for use as structural fill prior to placement.

3.1.4.4 Recycled Materials

If practical, recycled concrete materials can be considered for use as structural fill. Recycled concrete materials used as structural fill should meet the requirements set forth in Section 9-03.21 of the *2016 WSDOT Standard Specifications;* the materials also must meet the minimum gradation criteria for Select Borrow, outlined in Section 9-03.14(2) of the *2016 WSDOT Standard Specifications.* In all instances, use of recycled concrete should comply with current environmental policies.

3.1.4.5 Fill Placement and Compaction

Structural fill should be placed on an approved subgrade that consists of uniformly firm and unyielding, inorganic native soils or compacted structural fill prepared as described in Section 3.1.3 of this report. Structural fill should be compacted at a near-optimum moisture content. Optimum moisture content varies with the soil gradation and should be evaluated during construction.

In structure and pavement areas, structural fill should be placed and compacted in accordance with Section 2-03.3(14)C, Method C of the *2016 WSDOT Standard Specifications.* Method A of the *2016 WSDOT Standard Specifications* is appropriate for non-structural areas, such as landscaping. Structural fill should be placed in loose, horizontal lifts, not exceeding 12-inch thickness, and thoroughly compacted. Compaction and moisture control tests should be completed in accordance with Section 2-03.3(14)D of the *2016 WSDOT Standard Specifications.* Alternatively, the maximum dry density (MDD) and optimum moisture content can be determined using ASTM International test method D1557 (i.e., modified Proctor).

3.1.5 Temporary and Permanent Slopes

Based on the soil conditions observed in our explorations, the maximum inclination for temporary excavation slopes less than 20 vertical ft in height, and in the absence of groundwater seepage, is 1½ horizontal to 1 vertical (1½H:1V). If groundwater is present, unstable conditions may develop in the temporary slope, and flatter slopes or shoring will be necessary. Temporary excavation slopes should be covered with plastic sheets, straw, or other materials to prevent erosion. In addition, the contractor should implement measures to prevent surface water runoff from entering excavations.

Temporary excavation slopes should be the responsibility of the contractor. All applicable local, state, and federal safety codes should be followed. Open cuts should be monitored by the contractor during excavation for evidence of instability. If instability is detected, the contractor should flatten the side slopes or install temporary shoring. If groundwater or groundwater seepage is present and the excavation is not properly dewatered, the soil may be prone to caving, channeling, and running.

Permanent cut-or-fill slopes constructed as recommended in this report should be sloped no steeper than 2H:1V. This ratio is not intended for use in the design of stormwater pond slopes; these slopes are typically 3H:1V or flatter and should be designed in compliance with local stormwater code requirements. Permanent slopes should be protected from erosion (see the preceding recommendations for protecting temporary excavations) and seeded or vegetated as soon as practical.

3.2 Site Utilities

The following sections provide geotechnical recommendations for design and construction of new site utilities. Geotechnical recommendations include trench excavation and support, construction

dewatering, pipe foundation support, pipe bedding and initial backfill, and trench backfill and compaction criteria.

Please note for any new utilities within the public right-of-way, local standards may supersede the following recommendations.

3.2.1 Trench Excavation and Support

We anticipate excavations for underground utilities will be primarily within the ice-contact deposits. Conventional construction equipment with sufficient reach should be able to excavate the proposed trenches to the expected depth of 12 ft bgs. Upon reaching the trench bottom, we suggest that a smooth-bladed bucket be used to remove any loose and/or disturbed soil. The final trench bottom should be firm and free of loose and disturbed soil.

Trench configurations and maintenance of safe working conditions, including temporary excavation stability, should be the responsibility of the contractor. All applicable local, state, and federal safety codes should be followed. Temporary excavations for utilities should be sloped no steeper than 1½H:1V, based on the governing regulations for safe excavation practice in the State of Washington (Washington State Department of Labor and Industries, Chapter 296-155 Washington Administrative Code [WAC]). If groundwater seepage is present, flatter slopes, temporary shoring, and/or dewatering may be required.

Trench boxes should provide adequate support for shallow excavations, provided the trench is properly dewatered and settlement-sensitive structures and utilities are not situated immediately adjacent to the excavation. Trench boxes should meet the requirements in Safety Standards for Construction Work, Part N (WAC Chapter 296-155).

3.2.2 Construction Dewatering

We anticipate underground utilities at the site can be installed without encountering significant groundwater. However, localized zones of perched groundwater may be encountered within the trench zone, particularly during the winter and spring months. If perched, water-bearing zones are encountered, construction dewatering using conventional sumps and pumps within the excavations should be sufficient to handle groundwater inflow. If dewatering is necessary, the contractor should be responsible for design and implementation of the dewatering system.

3.2.3 Pipe Foundation Support

Based on the conditions observed in our explorations, medium dense to very dense granular soils are expected to be present at the base of utility trenches. This soil type typically will provide adequate foundation support for utilities, provided the foundation soil remains in a relatively undisturbed condition. If the bottom of the trench becomes disturbed due to excavation and/or foot traffic during the laying of the pipe, the disturbed material should be overexcavated to expose undisturbed

foundation soil. The overexcavation should be backfilled with suitable foundation material to provide a firm trench bottom. Foundation material should be free of roots, topsoil, lumps of silt and clay, cobbles, and debris.

3.2.4 Pipe Bedding and Initial Backfill

Pipe zone bedding material should consist of crushed, processed, or naturally occurring granular material, free of organic matter and other deleterious material, and should meet the gradation requirements of Gravel Backfill for Pipe Zone Bedding outlined in Section 9-03.12(3) of the *2016 WSDOT Standard Specifications.*

Pipe bedding material should extend at least 6 inches below the invert of the pipe and be compacted to a relative density of at least 90 percent of the MDD (ASTM test method D1557). The initial pipe backfill should be brought up evenly around the pipe in relatively horizontal lifts, not exceeding 6 inches, and worked under the haunches of the pipe by slicing with a shovel, vibration, or other approved procedure. Pipe zone backfill should extend 6 inches above the crown of the pipe. In order to prevent damage to the pipe, the initial backfill directly over the pipe should be compacted with hand-operated compaction equipment. Specific material and compaction requirements provided by pipe manufacturers may supersede the recommendations provided in this report.

3.2.5 Trench Backfill and Compaction

Granular portions of the ice-contact deposits may be utilized for trench backfill, provided all soil particles greater than 4 inches in diameter are removed and the soil is properly moisture conditioned and compacted to the required density. Trench backfill should be compacted as described in Section 3.1.4.5 of this report.

3.3 Structures

The following sections provide geotechnical engineering conclusions and recommendations for foundation design of structures. Recommendations are provided for seismic design, allowable bearing capacity, settlement, resistance to lateral loads, footing excavations, drainage considerations, slabs-on-grade, and illumination pole foundations.

Table 1 provides a summary of design parameters for the structural engineer. The design parameters should be used in conjunction with the complete recommendations provided in this report.

Table 1. Summary of Design Parameters

Allowable soil bearing pressure = 3,500 pounds per square foot
Friction coefficient (factored) = 0.35
Passive resistance (factored) = 280 pounds per cubic foot
Minimum foundation width = 18 inches (continuous), 24 inches (isolated)
Maximum foundation width (for settlement considerations) = 5 feet (continuous), 10 feet (isolated)

3.3.1 Seismic Design Considerations

We understand that seismic design will be performed using the 2015 IBC standards (ICC 2014). The parameters listed in Table 2 can be used to compute seismic base shear forces.

Table 2. 2015 International Building Code Seismic Design Parameters

Spectral response acceleration at short periods (S_s) = 1.483g
Spectral response acceleration at 1-second periods (S_1) = 0.586g
Site class = C
Site coefficient (F_a) = 1.0
Site coefficient (F_v) = 1.3

g = force of gravity

The site is underlain by medium dense to very dense glacial deposits, and the groundwater table is relatively deep. On this basis, it is our opinion that there is a low risk for seismically induced soil liquefaction or lateral spreading at the site. Considering the location of the site with respect to the nearest known active crustal faults and the presence of a relatively thick layer of glacial deposits, it is our opinion that the risk of ground rupture due to surface faulting is low.

3.3.2 Bearing Capacity

We recommend an allowable soil bearing pressure of 3,500 pounds per square foot (psf) for shallow foundations that are established on medium dense to very dense glacial soils or structural fill extending to such soils. This allowable soil bearing pressure applies to long-term dead and live loads, exclusive of the weight of the footing and any overlying backfill. The allowable soil bearing pressure can be increased by one-third when considering total loads, including transient loads, such as those induced by wind and seismic forces.

The bus pad slab-on-grade foundation may utilize a thickened-edge slab design. For that reason, we recommend a minimum width of 18 inches for continuous footings. For settlement considerations, we have assumed a maximum width of 5 ft for continuous footings. For frost protection, footings should be embedded at least 12 inches below the lowest adjacent grade where the ground is flat adjacent to the footing.

3.3.3 Settlement

Settlement of shallow foundations will depend on the foundation size and bearing pressure as well as the strength and compressibility characteristics of the underlying bearing soil. Assuming construction is accomplished as previously recommended, we estimate the settlement of continuous or isolated spread footings will be on the order of 1 inch or less. Differential settlement between similarly loaded foundation elements may be assumed to be on the order of ½ inch or less.

3.3.4 Resistance to Lateral Loads

Resistance to lateral loads can be provided by friction acting on the base of footings and by passive lateral earth pressures acting against the sides of footings. An allowable coefficient of sliding resistance of 0.35, applied to the vertical dead loads only, may be used to compute frictional resistance. The allowable coefficient of sliding resistance includes a factor of safety of 1.5 on the calculated ultimate value. For design purposes, the passive resistance of properly compacted structural fill placed against the sides of foundations may be considered equivalent to a fluid with a density of 280 pounds per cubic foot (pcf). The foundation passive earth pressure has been reduced by a factor of 1.5 to limit deflections to less than 2 percent of the embedded depth. In addition, the recommended foundation passive earth pressure assumes drained conditions within the depth of the foundation.

The passive earth pressure and friction components can be combined, provided the passive component does not exceed two-thirds of the total. The top foot of soil should be excluded when calculating passive resistance unless the foundation perimeter area is covered by a slab-on-grade or pavement.

3.3.5 Footing Overexcavations

We do not anticipate that appreciable overexcavations will be required for the proposed improvements. Medium dense to very dense ice-contact deposits soils should be present at or within about 2 ft of the ground surface. However, overexcavations could be required if the soils become saturated or disturbed by foot traffic. If overexcavations are required, the overexcavation zone should extend a horizontal distance equal to at least one-half of the overexcavation depth on each side of the footing. For example, a 2-ft-wide footing with a 2-ft-deep overexcavation should have a 4-ft-wide overexcavation zone. All footing overexcavations should be backfilled with structural fill. Alternatively, the depth of the footing could be increased to bear on the base of the overexcavation. The base of the overexcavation should be evaluated by a qualified civil or geotechnical engineer prior to placement of structural fill or concrete.

3.3.6 Foundation Drainage Considerations

We recommend installing a footing drain around the perimeter of the proposed MTA office building. The drain should consist of a minimum 4-inch-diameter, perforated pipe surrounded by clean drain rock, wrapped in filter fabric. The drain pipe should be connected to a positive outlet and should include cleanouts. Roof drains should not be connected to footing drain.

3.3.7 Slabs-On-Grade

Slabs-on-grade should be established on a subgrade that consists of uniformly firm and unyielding soil. A modulus of vertical subgrade reaction (subgrade modulus) can be used to design the slab. The subgrade modulus varies based on the dimensions of the slab and the magnitude of applied loads on

the slab surface; slabs with larger dimensions and loads are influenced by soil to a greater depth. We recommend a subgrade modulus value of 225 pounds per cubic inch for the design of on-grade floor slabs with floor loads up to 500 psf. This subgrade modulus is for a 1-ft by 1-ft square plate and is not the overall modulus of a larger area. We are available to provide alternate recommendations during design, based on specific loading information available at that time.

3.3.8 Illumination Pole Foundations

Illumination structures (i.e., light poles) are proposed at the site. In our test pits, we observed medium dense to very dense soils with an estimated allowable lateral bearing pressure of 3,500 psf. The lateral bearing pressure provided was developed in general accordance with the methods described in Section 17.2.1 of the WSDOT GDM.

3.4 Pavement Design

Pavement sections should be constructed on a subgrade that consists of 1 ft of uniformly firm and unyielding, compacted native subgrade or imported structural fill as described in Section 3.1 of this report. The structural fill should be prepared as described in Section 3.1.4 of this report. The design pavement sections were developed using the American Association of State Highway and Transportation Officials' (AASHTO's) Guide for Design of Pavement Structures (AASHTO 1993). The standard duty asphalt pavement section recommendations provided in Table 3 assume a 20-year design life, a maximum equivalent single-axle load (ESAL) of 100,000, and an assumed California Bearing Ratio (CBR) of 12 percent for the section. The heavy-duty asphalt pavement section assumes at least 65 buses per day, a 20-year design life, a loading of 2,000,000 ESALs, and an assumed CBR of 12 percent for the section. The assumed CBR value is estimated to correspond to a subgrade soil with a density equal to 90 percent of the MDD, determined by ASTM test method D1557.

For any new pavement installed within the public right-of-way, local standards may supersede the recommendations below.

Table 3. Recommended Asphalt Pavement Design Section

Pavement Section Type	Asphalt Concrete Pavement Thickness	Crushed Surfacing Base Course Thickness	Compacted Native or Structural Fill Thickness
Standard duty	3 inches	4 inches	12 inches
Heavy duty	4 inches	4 inches	12 inches

Asphalt concrete should be Class B aggregate material or hot-mix asphalt class ½ inch, PG64-22, conforming to Section 5-04 of the *2016 WSDOT Standard Specifications.* The asphalt should be compacted to at least 91 percent of the Rice density. Base course material should be compacted to at least 95 percent of the MDD (ASTM test method D1557) and should meet the requirements for crushed surfacing base course (CSBC) in Section 9-03.9(3) of the *2016 WSDOT Standard Specifications.*

The upper 2 inches of crushed surfacing could consist of crushed surfacing top course to facilitate fine grading of the surface.

For our Portland cement concrete (PCC) pavement design, we assumed a design life of 20 years. For bus turnarounds, 2,000,000 ESALs were assumed in our rigid pavement design. A reliability of 85 percent, a terminal serviceability index of 2.5, a design serviceability loss of 2, and load transfer coefficient of 3.2 (assumes continuous reinforcement and tied shoulders) were used in the design. The design assumed a CBR of 12 percent (equates to a resilient modulus of 12,533) and at least 4 inches of CSBC placed below the PCC pavement. The following table summarizes the PCC pavement section for the bus turnarounds.

Table 4. Recommended Portland Cement Concrete Pavement Design Section

Pavement Section Type	Portland Cement Concrete Pavement Thickness	Crushed Surfacing Base Course Thickness	Compacted Native or Structural Fill Thickness
Heavy Duty	8 inches	4 inches	12 inches

Base course material should be compacted to at least 95 percent of the MDD determined using ASTM test method D1557 and should meet the requirements for CSBC in Section 9-03.9(3) of the *2016 WSDOT Standard Specifications.* PCC pavement should meet the requirements in Section 5-05 of the *2016 WSDOT Standard Specifications.* The pavement edges should be fully supported with either a thickened edge or an integral curb, and the joint spacing should be no more than 15 ft apart. To provide load transfer across the joints between panels, the panels should be fully doweled. Dowels should be placed at a depth of one-half the slab thickness and spaced 12 inches on center. The dowel bar diameter should be 1.5 inches and should have a minimum embedment of 9 inches on each side of the joint.

Prevention of road base saturation is essential for pavement durability. Thus, efforts should be made to limit the amount of water entering the base course.

3.5 Stormwater Infiltration Feasibility

Stormwater improvements may include ponds or underground infiltration facilities. Site soils suitable for stormwater infiltration were observed in our explorations but vary with depth and location. Groundwater was not observed during our site investigation in August 2017 to a maximum depth of 16.3 ft bgs. Groundwater levels in the project area are expected to fluctuate seasonally, with maximum groundwater levels occurring during the late winter and early spring months.

Long-term preliminary infiltration rates are provided in Table 5 and are based on the soil grain size infiltration rate determination methods in the Washington State Department of Ecology's *2005 Stormwater Management Manual for Western Washington* (*2005 SWMMWW*) and on the results of our laboratory tests (Appendix B). Appendix III-A of the *2005 SWMMWW* provides the method and

recommended correction factors to be used to estimate the infiltration rates. The following assumed correction factors were used to account for pond size (CFsize = 1.0), biofouling and siltation effects for ponds (CFsilt/bio = 0.9), and aspect ratio correction factor (CFaspect = 1.0). We also assumed a ponded water depth of 4 ft and a depth-to-groundwater of 20 ft. These assumptions should be verified or modified in final design to calculate final infiltration rates.

The preliminary (factored) infiltration rates using the correction factors mentioned above are provided in Table 5. The highest estimated infiltration rates are for soils located in the vicinity of test pits TP-2, TP-3, TP-6, and TP-9 site. The rates assume at least 10 ft of separation to seasonal high groundwater.

Table 5. Preliminary Factored Infiltration Rates

Exploration Designation	Preliminary Factored Infiltration Rate[(a)] (inches/hour)	Depth Interval (ft)
TP-2	0.9	1.0 – 12.5
TP-3	0.7	1.5 – 13.5
TP-4	0.3	2.0 – 14.0
TP-5	0.3	1.7 – 14.0
TP-6	0.4	2.0 – 13.0
TP-6	1.0	14.0 – 15.0
TP-9	1.8	2.5 – 14.0
TP-10	0.3	0.75 – 10.0
TP-10	0.1	10.0 – 14.0

(a) = Assumes bottom of infiltration facility is 4 ft bgs from current site grades.
ft = feet
TP = test pit

It is our opinion that the collection of seasonal high groundwater information is not warranted, given the site conditions. Final design infiltration rates should be confirmed by pilot infiltration test (PIT) evaluations at the specific locations and depths of the proposed facilities. Typically, the infiltration rates provided in Table 5 can be increased through the completion of onsite infiltration testing.

4.0 CONSTRUCTION SUPPORT

Landau Associates, Inc. (LAI) should be asked to review the geotechnical portions of the plans and specifications for the proposed project in advance of project bidding. The purpose of the review is to verify that the recommendations presented in this geotechnical report have been properly interpreted and implemented in the design and project specifications.

We recommend that monitoring, testing, and consultation be provided during construction to confirm that the conditions observed are consistent with those indicated by our explorations, to provide expedient recommendations should conditions be revealed during construction that differ from those anticipated, and to evaluate whether geotechnical activities comply with the project plans, specifications, and the recommendations contained in this report. Such geotechnical activities include but are not limited to observation of foundation subgrades, compaction testing of structural fill, and observation of the prepared slab and pavement subgrades. The purpose of these services would be to observe compliance with the design concepts, specifications, and recommendations in this report. In the event subsurface conditions differ from those anticipated before the start of construction, LAI can provide revised recommendations appropriate to the conditions revealed during construction. LAI would be pleased to provide these services for you.

5.0 USE OF THIS REPORT

Landau Associates, Inc. prepared this report for the exclusive use of Mason Transit Authority and SCJ Alliance for the proposed Belfair Park and Ride Improvements project, located southeast of the intersection of Log Yard Road and State Highway 3 near Belfair, Washington. Within the limitations of scope, schedule, and budget, our services have been conducted in accordance with generally accepted practices of the geotechnical engineering profession; no other warranty, express or implied, is made as to the professional advice included in this report.

The conclusions and recommendations contained in this report are based on the conditions observed/interpreted in the explorations advanced for this study and on our experience in the project area. There may be some variation in subsurface soil and groundwater conditions, and the nature and extent of the variations may not become evident until construction. Accordingly, a contingency for unanticipated conditions should be included in the construction budget and schedule.

If variations in subsurface conditions are encountered during construction, LAI should be notified for review of the recommendations in this report and revision of such if necessary. If there is a substantial lapse of time between submission of this report and the start of construction, we recommend that we review this report to determine the applicability of the conclusions and recommendations contained herein.

We appreciate the opportunity to be of service to you on this project. Please contact us at (360) 791-3178 if you have questions or require additional information.

6.0 REFERENCES

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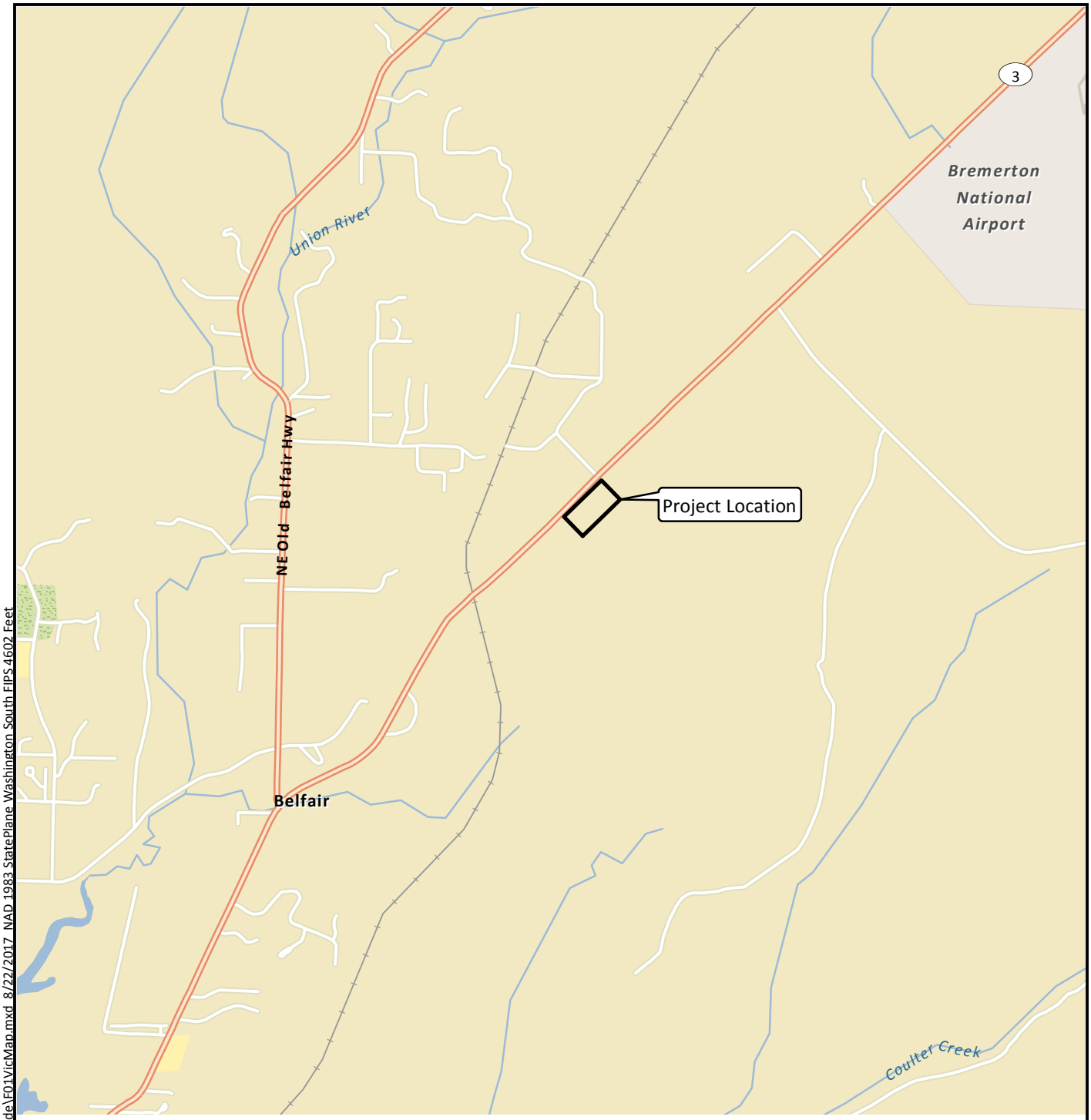

N

0 0.5 1

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Data Source: Esri 2012

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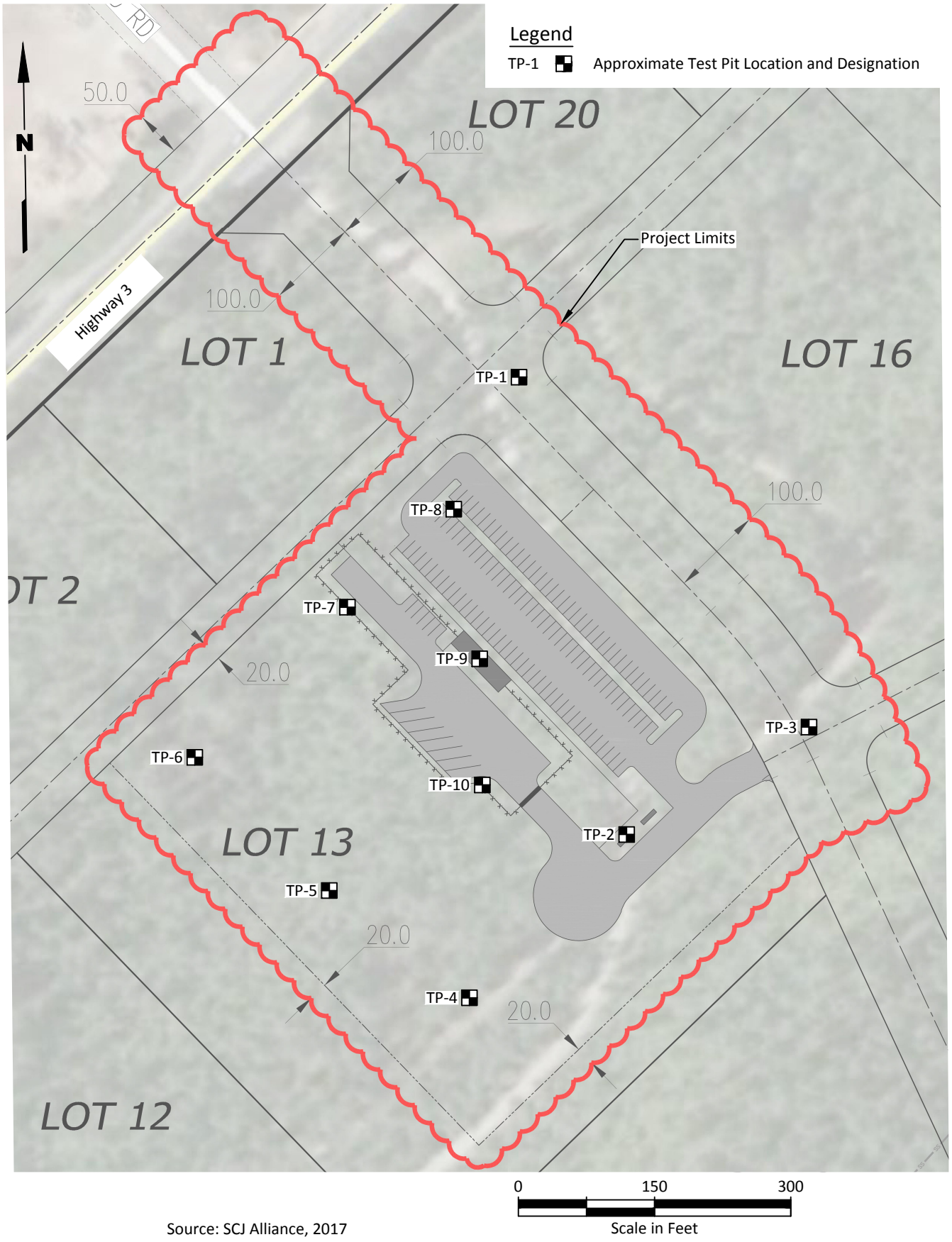
Mason Transit Authority Park and Ride Improvements Belfair Site Belfair, Washington	**Vicinity Map**	Figure 1



Source: SCJ Alliance, 2017

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Mason Transit Authority Park and Ride Improvements Belfair Site Belfair, Washington	**Site and Exploration Location Plan**	Figure 2

APPENDIX A

Field Explorations

APPENDIX A
FIELD EXPLORATIONS

Subsurface conditions at the site were explored on August 15, 2017 by advancing 10 test pits (TP-1 through TP-10) between 12.5 and 16.3 feet below ground surface. The approximate locations of our explorations are shown on Figure 2. The test pits were advanced by Howard's Construction & Excavating of Olympia, Washington, under subcontract to Landau Associates, Inc.

The field explorations were coordinated and monitored by a representative of Landau Associates, Inc., who also obtained representative soil samples, maintained a detailed record of the subsurface soil and groundwater conditions observed, and described the soil encountered by visual and textural examination. In general accordance with ASTM International test method D2488, *Standard Practice for Description and Identification of Soils (Visual-Manual Procedure)*, each representative soil type observed was described using the soil classification system shown on Figure A-1. Logs of our explorations are presented on Figures A-2 through A-6. These logs represent our interpretation of subsurface conditions identified during the field explorations. The stratigraphic contacts shown on the individual logs represent the approximate boundaries between soil types; actual transitions may be more gradual. A further discussion of the soil and groundwater conditions observed is contained in the main text of this report.

Soil samples obtained from the test pits were taken to our laboratory for further examination and testing. The test results and a discussion of our testing procedures are presented in Appendix B. Upon completion of excavation and sampling, the test pits were backfilled with the excavated material. The backfill material was compacted using the bucket of the backhoe.

Soil Classification System

MAJOR DIVISIONS			GRAPHIC SYMBOL	USCS LETTER SYMBOL[1]	TYPICAL DESCRIPTIONS [2][3]
COARSE-GRAINED SOIL (More than 50% of material is larger than No. 200 sieve size)	GRAVEL AND GRAVELLY SOIL (More than 50% of coarse fraction retained on No. 4 sieve)	CLEAN GRAVEL (Little or no fines)		GW	Well-graded gravel; gravel/sand mixture(s); little or no fines
				GP	Poorly graded gravel; gravel/sand mixture(s); little or no fines
		GRAVEL WITH FINES (Appreciable amount of fines)		GM	Silty gravel; gravel/sand/silt mixture(s)
				GC	Clayey gravel; gravel/sand/clay mixture(s)
	SAND AND SANDY SOIL (More than 50% of coarse fraction passed through No. 4 sieve)	CLEAN SAND (Little or no fines)		SW	Well-graded sand; gravelly sand; little or no fines
				SP	Poorly graded sand; gravelly sand; little or no fines
		SAND WITH FINES (Appreciable amount of fines)		SM	Silty sand; sand/silt mixture(s)
				SC	Clayey sand; sand/clay mixture(s)
FINE-GRAINED SOIL (More than 50% of material is smaller than No. 200 sieve size)	SILT AND CLAY (Liquid limit less than 50)			ML	Inorganic silt and very fine sand; rock flour; silty or clayey fine sand or clayey silt with slight plasticity
				CL	Inorganic clay of low to medium plasticity; gravelly clay; sandy clay; silty clay; lean clay
				OL	Organic silt; organic, silty clay of low plasticity
	SILT AND CLAY (Liquid limit greater than 50)			MH	Inorganic silt; micaceous or diatomaceous fine sand
				CH	Inorganic clay of high plasticity; fat clay
				OH	Organic clay of medium to high plasticity; organic silt
	HIGHLY ORGANIC SOIL			PT	Peat; humus; swamp soil with high organic content

OTHER MATERIALS	GRAPHIC SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
PAVEMENT		AC or PC	Asphalt concrete pavement or Portland cement pavement
ROCK		RK	Rock (See Rock Classification)
WOOD		WD	Wood, lumber, wood chips
DEBRIS		DB	Construction debris, garbage

Notes:
1. USCS letter symbols correspond to symbols used by the Unified Soil Classification System and ASTM classification methods. Dual letter symbols (e.g., SP-SM for sand or gravel) indicate soil with an estimated 5-15% fines. Multiple letter symbols (e.g., ML/CL) indicate borderline or multiple soil classifications.
2. Soil descriptions are based on the general approach presented in the Standard Practice for Description and Identification of Soils (Visual-Manual Procedure), outlined in ASTM D 2488. Where laboratory index testing has been conducted, soil classifications are based on the Standard Test Method for Classification of Soils for Engineering Purposes, as outlined in ASTM D 2487.
3. Soil description terminology is based on visual estimates (in the absence of laboratory test data) of the percentages of each soil type and is defined as follows:

Primary Constituent:	> 50%	"GRAVEL," "SAND," "SILT," "CLAY," etc.
Secondary Constituents:	> 30% and ≤ 50%	"very gravelly," "very sandy," "very silty," etc.
	> 15% and ≤ 30%	"gravelly," "sandy," "silty," etc.
Additional Constituents:	> 5% and ≤ 15%	"with gravel," "with sand," "with silt," etc.
	≤ 5%	"with trace gravel," "with trace sand," "with trace silt," etc., or not noted.

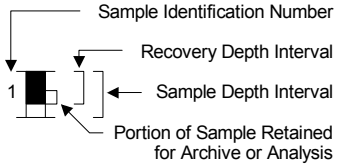
4. Soil density or consistency descriptions are based on judgement using a combination of sampler penetration blow counts, drilling or excavating conditions, field tests, and laboratory tests, as appropriate.

Drilling and Sampling Key

SAMPLER TYPE

Code	Description
a	3.25-inch O.D., 2.42-inch I.D. Split Spoon
b	2.00-inch O.D., 1.50-inch I.D. Split Spoon
c	Shelby Tube
d	Grab Sample
e	Single-Tube Core Barrel
f	Double-Tube Core Barrel
g	2.50-inch O.D., 2.00-inch I.D. WSDOT
h	3.00-inch O.D., 2.375-inch I.D. Mod. California
i	Other - See text if applicable
1	300-lb Hammer, 30-inch Drop
2	140-lb Hammer, 30-inch Drop
3	Pushed
4	Vibrocore (Rotosonic/Geoprobe)
5	Other - See text if applicable

SAMPLE NUMBER & INTERVAL



Field and Lab Test Data

Code	Description
PP = 1.0	Pocket Penetrometer, tsf
TV = 0.5	Torvane, tsf
PID = 100	Photoionization Detector VOC screening, ppm
W = 10	Moisture Content, %
D = 120	Dry Density, pcf
-200 = 60	Material smaller than No. 200 sieve, %
GS	Grain Size - See separate figure for data
AL	Atterberg Limits - See separate figure for data
GT	Other Geotechnical Testing
CA	Chemical Analysis

Groundwater

▽ Approximate water level at time of drilling (ATD)

▼ Approximate water level at time other than ATD

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Belfair Site
Belfair, Washington

Soil Classification System and Key

Figure A-1

TP- 1

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation (ft)	Sample Number & Interval	Sampler Type	Test Data	Graphic Symbol	USCS Symbol	Excavation Method: Excavator Ground Elevation (ft): Not Measured Logged By: BJM	
0						SM	Brown, silty, fine to coarse SAND with gravel and organics (medium dense, dry to moist)	Groundwater not encountered.
						SP-SM	**(TOPSOIL)**	
		S-1	d				Brown, fine to coarse SAND with gravel and silt (medium dense, moist)	
5							**(ICE CONTACT)**	
		S-2	d				-Grades to light brown and dense at 2.5 ft bgs	
10								
		S-2	d					
		S-4	d			GP	Light brown, sandy, fine to coarse GRAVEL with cobbles (dense, moist)	
15								
20								

Test Pit Completed 08/15/17
Total Depth of Test Pit = 15.5 ft.

TP- 2

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation (ft)	Sample Number & Interval	Sampler Type	Test Data	Graphic Symbol	USCS Symbol	Excavation Method: Excavator Ground Elevation (ft): Not Measured Logged By: BJM	
0						SM	6 inches of forest duff	Groundwater not encountered.
						SP-SM	**(FOREST DUFF)**	
		S-1	d	W = 4 GS			Brown, silty, fine to coarse SAND with organics (loose, dry to moist)	
5		S-2	d				**(TOPSOIL)**	
							Brown, gravelly, fine to coarse SAND with silt (dense, moist)	
10		S-3	d				**(ICE CONTACT)**	
							-Grades to gray at 5.5 ft bgs	
15								
20								

Test Pit Completed 08/15/17
Total Depth of Test Pit = 12.5 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

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Mason Transit Authority
Park and Ride Improvements
Belfair Site
Belfair, Washington

Log of Test Pits

Figure
A-2

TP- 3

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation (ft)	Sample Number & Interval	Sampler Type	Test Data	Graphic Symbol	USCS Symbol	Excavation Method: Excavator Ground Elevation (ft): Not Measured Logged By: BJM	
0						SM	6 inches of forest duff **(FOREST DUFF)**	Groundwater not encountered.
						SP-SM	Brown, silty, fine to coarse SAND with gravel (loose, dry to moist) **(TOPSOIL)**	
5		S-1	d	W = 3 GS			Gray, very gravelly, fine to coarse SAND with silt and cobbles (dense, moist) **(ICE CONTACT)**	
		S-2	d				-Grades to very dense at 8 ft bgs	
10		S-3	d				-Grades to gravelly at 11 ft bgs	
		Test Pit Completed 08/15/17 Total Depth of Test Pit = 13.5 ft.						
15								
20								

TP- 4

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation (ft)	Sample Number & Interval	Sampler Type	Test Data	Graphic Symbol	USCS Symbol	Excavation Method: Excavator Ground Elevation (ft): Not Measured Logged By: BJM	
0						SM	12 inches of forest duff **(FOREST DUFF)**	Groundwater not encountered.
						SP-SM	Brown, silty, fine to coarse SAND with gravel and organics (loose, dry to moist) **(TOPSOIL)**	
5		S-1	d				Brown, very gravelly, fine to coarse SAND with silt and cobbles (dense, moist) **(ICE CONTACT)**	
		S-2	d	W = 5 GS			-Grades to gray at 3.5 ft bgs	
10		S-3	d	W = 6 GS		SM	-Grades to light brown and very dense at 6 ft bgs	
		S-4	d				Light brown, silty, very gravelly, fine to coarse SAND with cobbles (very dense, moist)	
15		Test Pit Completed 08/15/17 Total Depth of Test Pit = 14.0 ft.						
20								

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

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Log of Test Pits

Figure
A-3

TP- 5

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation (ft)	Sample Number & Interval	Sampler Type	Test Data	Graphic Symbol	USCS Symbol		
0							Excavation Method: Excavator Ground Elevation (ft): Not Measured Logged By: BJM	
						SM	8 inches of forest duff **(FOREST DUFF)**	Groundwater not encountered.
		S-1	d	W = 6 GS		SM	Brown, silty, fine to coarse SAND with gravel and organics (loose, dry to moist) **(TOPSOIL)**	
5							Light reddish brown, silty, very gravelly, fine to coarse SAND (dense, moist) **(ICE CONTACT)**	
		S-2	d	W = 6 GS			-Grades to gray and gravelly at 5 ft bgs	
10							-Grades to with cobbles at 7.5 ft bgs	
		S-3	d					
15								
20								

Test Pit Completed 08/15/17
Total Depth of Test Pit = 14.0 ft.

TP- 6

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation (ft)	Sample Number & Interval	Sampler Type	Test Data	Graphic Symbol	USCS Symbol		
0							Excavation Method: Excavator Ground Elevation (ft): Not Measured Logged By: BJM	
						SM	6 inches of forest duff **(FOREST DUFF)**	Groundwater not encountered.
		S-1	d			GP-GM	Brown, silty, fine to coarse SAND with gravel and organics (loose, dry to moist) **(TOPSOIL)**	
5		S-2	d	W = 6 GS			Brown, very sandy, fine to coarse GRAVEL with silt (very dense, moist) **(ICE CONTACT)**	
10							-Grades to gray at 6 ft bgs	
		S-3	d			GP	Gray, very sandy, fine to coarse GRAVEL (dense, moist)	
15		S-4	d	W = 4 GS		GP-GM	Gray, very sandy, fine to coarse GRAVEL with silt (dense, moist)	
20								

Test Pit Completed 08/15/17
Total Depth of Test Pit = 16.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

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Mason Transit Authority
Park and Ride Improvements
Belfair Site
Belfair, Washington

Log of Test Pits

Figure
A-4

TP- 7

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Depth (ft) | Elevation (ft) | Sample Number & Interval | Sampler Type | Test Data | Graphic Symbol | USCS Symbol

Excavation Method: Excavator
Ground Elevation (ft): Not Measured
Logged By: BJM

Depth (ft)	Sample	Sampler Type	USCS Symbol	Soil Profile
0			SM	6 inches of forest duff **(FOREST DUFF)**
5	S-1	d	SP-SM	Brown, silty, fine to coarse SAND with gravel and organics (loose, dry to moist) **(TOPSOIL)**
10	S-2	d	GP	Gray, fine to coarse SAND with gravel and silt (dense, moist) **(ICE CONTACT)** Light brown, sandy, fine to coarse GRAVEL (dense, moist)
15	S-3	d		
20				

Groundwater not encountered.

Test Pit Completed 08/15/17
Total Depth of Test Pit = 15.0 ft.

TP- 8

SAMPLE DATA | **SOIL PROFILE** | **GROUNDWATER**

Depth (ft) | Elevation (ft) | Sample Number & Interval | Sampler Type | Test Data | Graphic Symbol | USCS Symbol

Excavation Method: Excavator
Ground Elevation (ft): Not Measured
Logged By: BJM

Depth (ft)	Sample	Sampler Type	USCS Symbol	Soil Profile
0			SM	6 inches of forest duff **(FOREST DUFF)**
5	S-1	d	SP-SM	Brown, silty, fine to coarse SAND with gravel and organics (loose, dry to moist) **(TOPSOIL)**
10	S-2	d	SP	Light brown, gravelly, fine to coarse SAND with silt (very dense, moist) **(ICE CONTACT)** Brown to gray, fine to coarse SAND with gravel (dense, moist) -Grades to with cobbles at 10 ft bgs
15	S-3	d		
20				

Groundwater not encountered.

Test Pit Completed 08/15/17
Total Depth of Test Pit = 15.0 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

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Mason Transit Authority
Park and Ride Improvements
Belfair Site
Belfair, Washington

Log of Test Pits

Figure
A-5

TP- 9

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation (ft)	Sample Number & Interval	Sampler Type	Test Data	Graphic Symbol	USCS Symbol	Excavation Method: Excavator Ground Elevation (ft): Not Measured Logged By: BJM	
0						SM	12 inches of forest duff **(FOREST DUFF)**	Groundwater not encountered.
						GW	Brown, silty, fine to coarse SAND with gravel and organics (medium dense, dry to moist) **(TOPSOIL)**	
5		S-1	d	W = 3 GS			Light brown, very sandy, fine to coarse GRAVEL (very dense, moist) **(ICE CONTACT)**	
		S-2	d				-Grades to brown to gray, with cobbles, and dense at 8.5 ft bgs	
10								
15		S-3	d			SP-SM	Brown, gravelly, fine to coarse SAND with silt (dense, moist)	
20								

Test Pit Completed 08/15/17
Total Depth of Test Pit = 16.3 ft.

TP-10

SAMPLE DATA				SOIL PROFILE			GROUNDWATER
Depth (ft)	Elevation (ft)	Sample Number & Interval	Sampler Type	Test Data	Graphic Symbol	USCS Symbol	Excavation Method: Excavator Ground Elevation (ft): Not Measured Logged By: BJM	
0						SM	3 inches of forest duff **(FOREST DUFF)**	Groundwater not encountered.
		S-1	d	W = 5 GS		SP-SM	Brown, silty, fine to coarse SAND with gravel and organics (loose, dry to moist) **(TOPSOIL)**	
5		S-2	d			SP	Brown, very gravelly, fine to coarse SAND with silt (dense, moist) **(ICE CONTACT)**	
10		S-3	d			SM	Gray, fine to coarse SAND with gravel (dense, moist)	
		S-4	d			ML	Gray, silty, fine to coarse SAND with gravel (dense, moist)	
		S-5	d			SP	Gray, sandy SILT (hard, moist)	
15							Gray, fine to coarse SAND with gravel and trace silt (dense, moist)	
20								

Test Pit Completed 08/15/17
Total Depth of Test Pit = 14.8 ft.

Notes:
1. Stratigraphic contacts are based on field interpretations and are approximate.
2. Reference to the text of this report is necessary for a proper understanding of subsurface conditions.
3. Refer to "Soil Classification System and Key" figure for explanation of graphics and symbols.

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Log of Test Pits

Figure
A-6

APPENDIX B

Laboratory Testing

APPENDIX B
LABORATORY TESTING

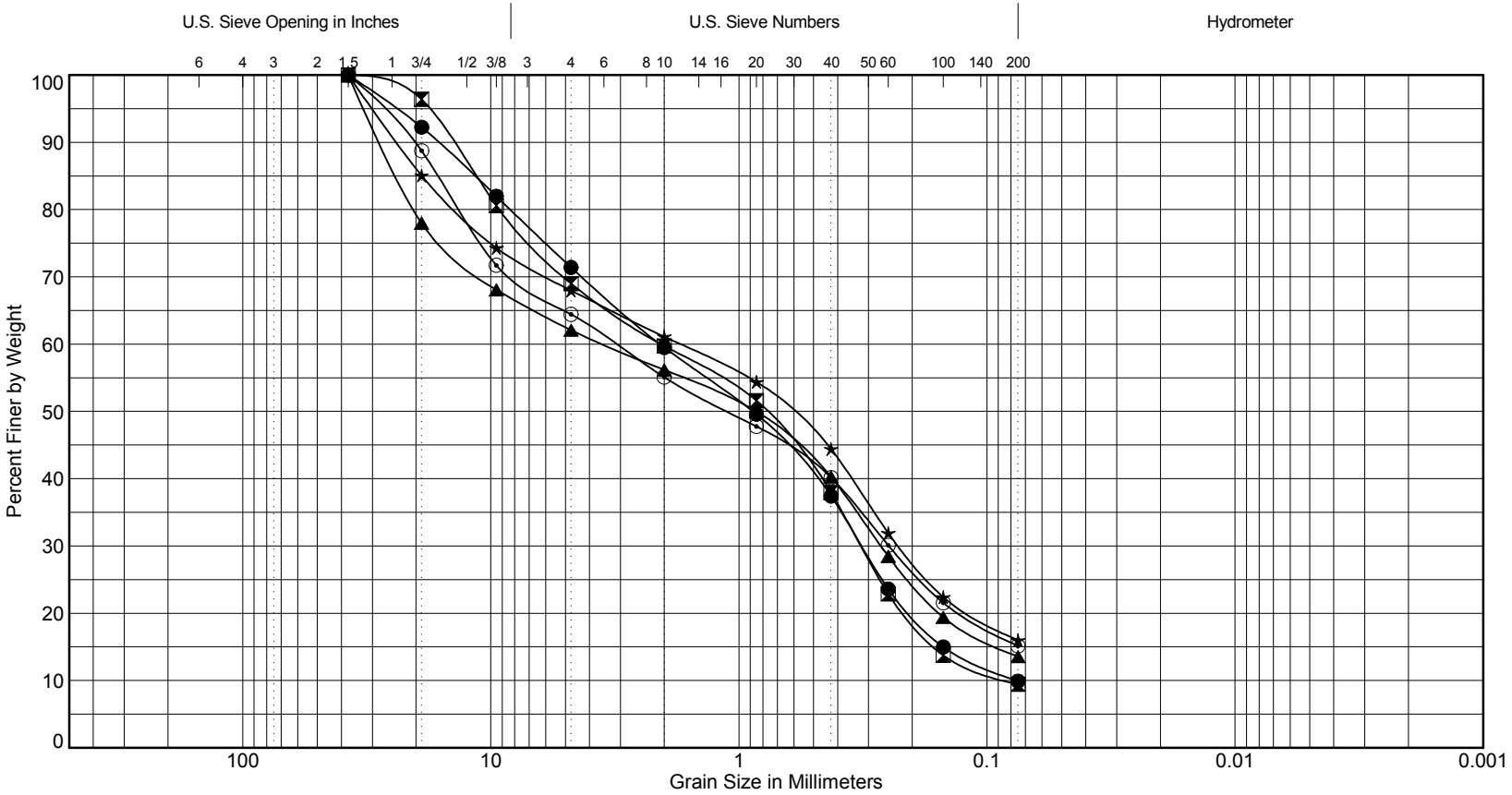
Natural moisture content determinations and grain size analyses were performed on select samples to aid in soil classification and estimation of infiltration rates. Laboratory testing was performed in general accordance with the ASTM International (ASTM) standard test methods described below. The samples were checked against the field log descriptions and updated where appropriate in general accordance with ASTM standard D2487, *Standard Practice for Classification of Soils for Engineering Purposes.*

Natural Moisture Content

In general accordance with ASTM test method D2216, natural moisture content determinations were performed on select soil samples obtained from the explorations. The natural moisture content is shown as W = xx (i.e., percentage of dry weight) at the respective sample depth in the column labeled "Test Data" on the summary exploration logs presented in Appendix A.

Grain Size Analyses

To provide an indication of the grain size distribution of the onsite soil, grain size analyses were conducted on representative soil samples obtained from the explorations. Analyses were performed in accordance with ASTM test method D422. Samples selected for grain size analyses are designated with a "GS" in the column labeled "Test Data" on the summary exploration logs in Appendix A. The results of the grain size analyses are presented in the form of grain size distribution curves on Figures B-1 and B-2 in this appendix.



Cobbles	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

Symbol	Exploration Number	Sample Number	Depth (ft)	Natural Moisture (%)	Soil Description	Unified Soil Classification
●	TP- 2	S-1	3.5	4	Gravelly, fine to coarse SAND with silt	SP-SM
⧓	TP- 3	S-1	4.0	3	Very gravelly, fine to coarse SAND with silt	SP-SM
▲	TP- 4	S-2	6.0	5	Very gravelly, fine to coarse SAND with silt	SP-SM
★	TP- 4	S-3	11.0	6	Silty, very gravelly, fine to coarse SAND	SM
⊙	TP- 5	S-1	3.0	6	Silty, very gravelly, fine to coarse SAND	SM

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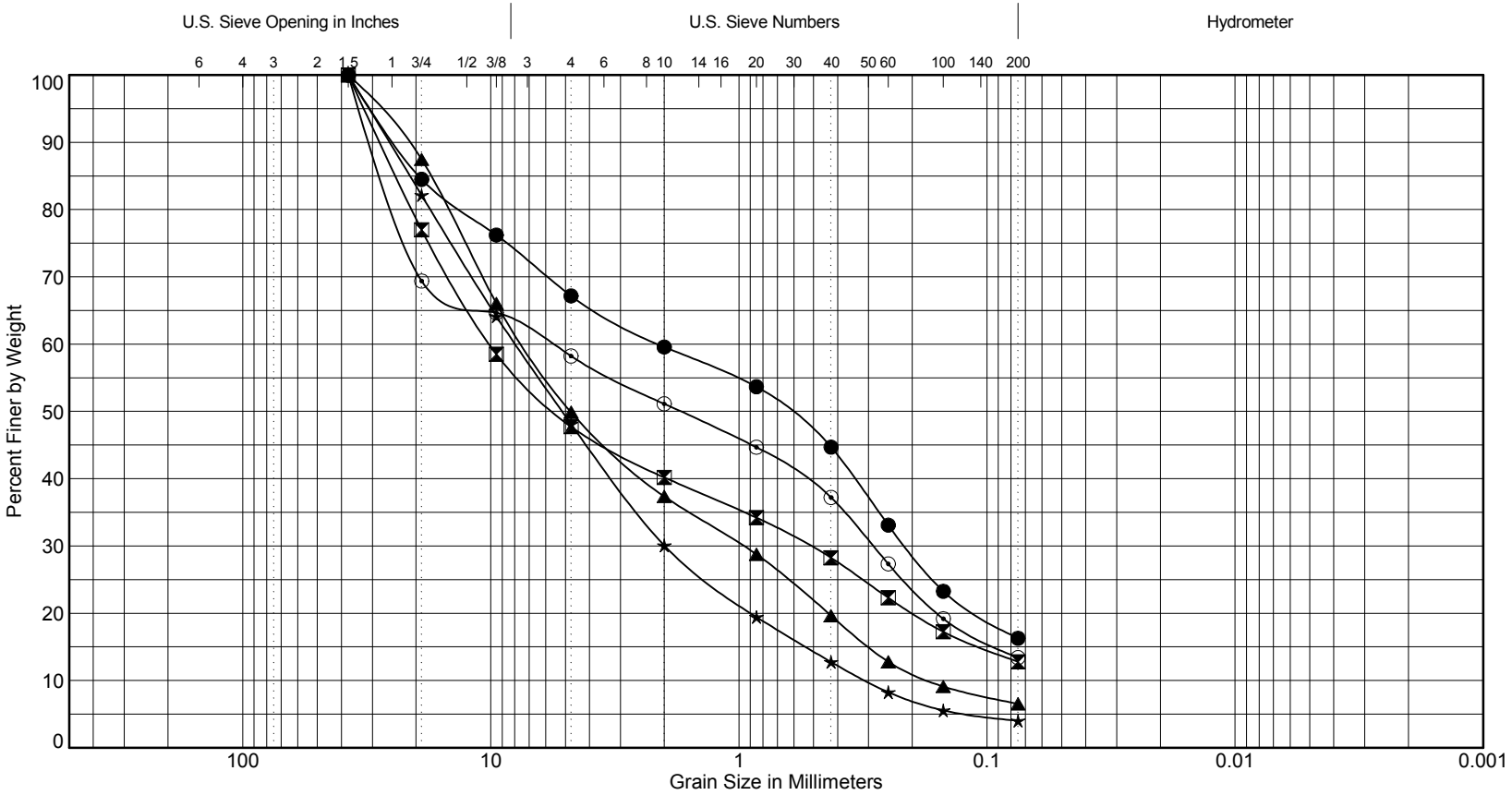
Grain Size Distribution

Figure
B-1



Cobbles	Gravel		Sand			Silt or Clay
	Coarse	Fine	Coarse	Medium	Fine	

Symbol	Exploration Number	Sample Number	Depth (ft)	Natural Moisture (%)	Soil Description	Unified Soil Classification
●	TP- 5	S-2	7.5	6	Silty, very gravelly, fine to coarse SAND	SM
⊠	TP- 6	S-2	6.0	6	Very sandy, fine to coarse GRAVEL with silt	GP-GM
▲	TP- 6	S-4	15.5	4	Very sandy, fine to coarse GRAVEL with silt	GP-GM
★	TP- 9	S-1	4.0	3	Very sandy, fine to coarse GRAVEL	GW
⊙	TP-10	S-1	2.5	5	Very gravelly, fine to coarse SAND with silt	SP-SM

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Grain Size Distribution

Figure
B-2