

**CONTRACTOR
ORIGINAL**

CONTRACT DOCUMENTS

WHATCOM COUNTY
CONTRACT NO.
202109016

Deer Trail Slide Damage Repair

CRP No. 921020



PUBLIC WORKS DEPARTMENT

CONSISTING OF:

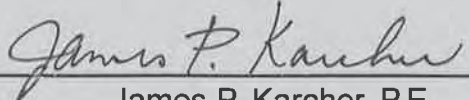
SPECIFICATIONS AND CONDITIONS

CONTRACT FORMS

CONTRACT PLANS

SEPTEMBER 2021

Approved for Construction:

 *James P. Karcher* 4/23/2021

James P. Karcher, P.E.
County Engineer

PROJECT LOCATION MAP

DEER TRAIL SLIDE DAMAGE REPAIR (CRP 921020)

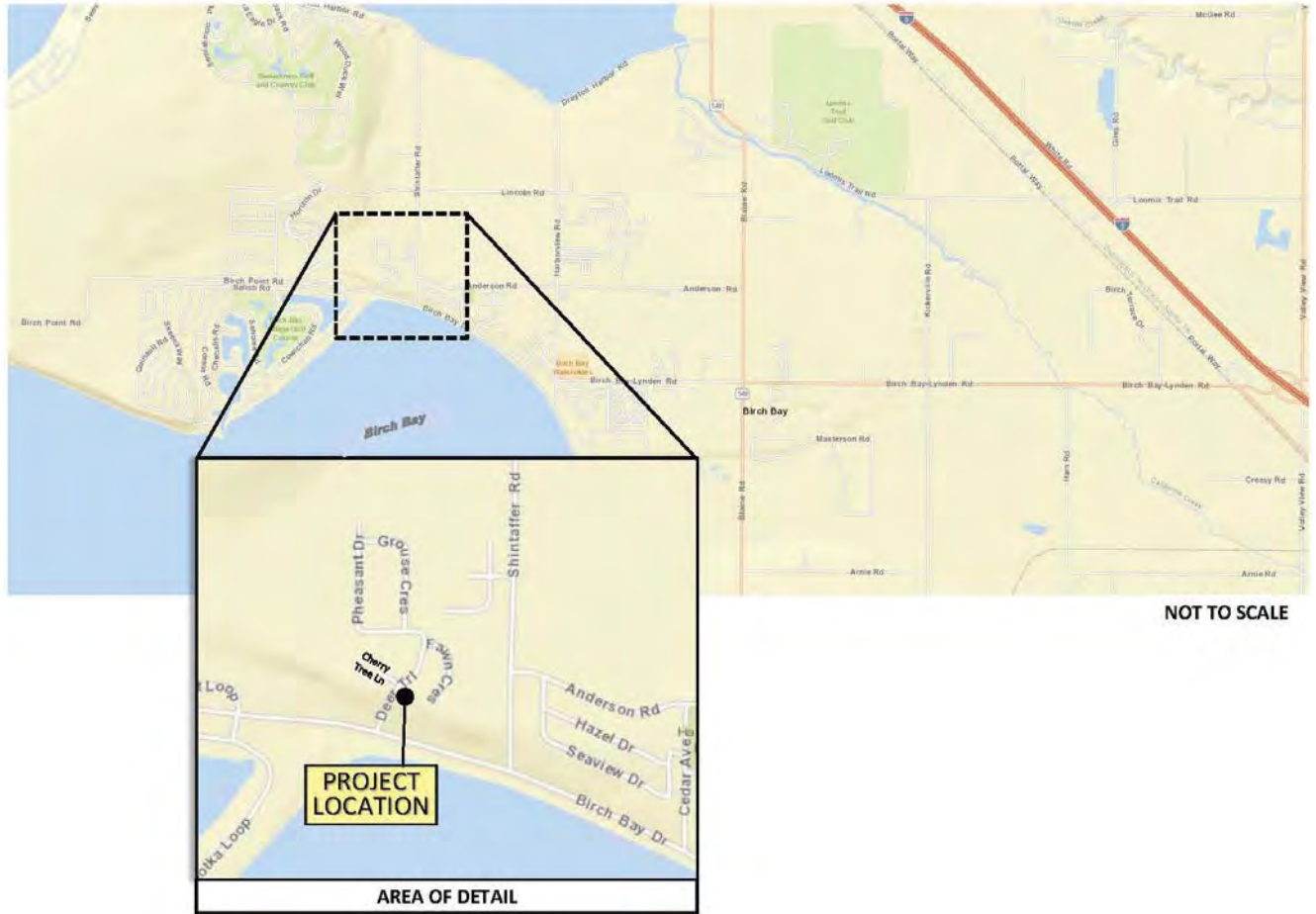


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PART 1

SPECIAL PROVISIONS AND CONDITIONS

SPECIAL PROVISIONS



INTRODUCTION TO THE SPECIAL PROVISIONS

(August 14, 2013 APWA GSP)

The work on this project shall be accomplished in accordance with the *Standard Specifications for Road, Bridge and Municipal Construction*, 2020 edition, as issued by the Washington State Department of Transportation (WSDOT) and the American Public Works Association (APWA), Washington State Chapter (hereafter "Standard Specifications"). The Standard Specifications, as modified or supplemented by the Amendments to the Standard Specifications and these Special Provisions, all of which are made a part of the Contract Documents, shall govern all of the Work.

These Special Provisions are made up of both General Special Provisions (GSPs) from various sources, which may have project-specific fill-ins; and project-specific Special Provisions. Each Provision either supplements, modifies, or replaces the comparable Standard Specification, or is a new Provision. The deletion, amendment, alteration, or addition to any subsection or portion of the Standard Specifications is meant to pertain only to that particular portion of the section, and in no way should it be interpreted that the balance of the section does not apply.

The project-specific Special Provisions are not labeled as such. The GSPs are labeled under the headers of each GSP, with the effective date of the GSP and its source. For example:

(<date> APWA GSP)
(<date> WSDOT GSP)
*(*****) Project specific Special Provision*

Also incorporated into the Contract Documents by reference are:

- *Manual on Uniform Traffic Control Devices for Streets and Highways*, currently adopted edition, with Washington State modifications, if any
- *Standard Plans for Road, Bridge and Municipal Construction*, WSDOT/APWA, current edition
- *Contract Plans*

Contractor shall obtain copies of these publications, at Contractor's own expense.

Division 1

General Requirements

DESCRIPTION OF WORK

(March 13, 1995 WSDOT GSP)

This Contract provides for the emergency roadway repairs of Deer Trail in Whatcom County Washington. The work includes stabilizing approximately 150 lineal feet of roadway with the excavation of unstable soils and constructing a structural fill buttress comprised of riprap, quarry spalls, scoria rock and slope armoring; Stormwater conveyance improvements; HMA paving; guardrail installation. All Work will be done as Force in accordance with the most current Associate of General Contractor (AGC) guidelines, the WSDOT 2021 Standard Specifications, including the amendments thereto, Special Provisions and the Plans hereunder. All materials, equipment, labor, and other miscellaneous items required to complete the work shall be furnished by the Contractor and approved the Engineer.

1-01.3 Definitions

(January 4, 2016 APWA GSP)

Delete the heading **Completion Dates** and the three paragraphs that follow it, and replace them with the following:

Dates

Bid Opening Date

The date on which the Contracting Agency publicly opens and reads the Bids.

Award Date

The date of the formal decision of the Contracting Agency to accept the lowest responsible and responsive Bidder for the Work.

Contract Execution Date

The date the Contracting Agency officially binds the Agency to the Contract.

Notice to Proceed Date

The date stated in the Notice to Proceed on which the Contract time begins.

Substantial Completion Date

The day the Engineer determines the Contracting Agency has full and unrestricted use and benefit of the facilities, both from the operational and safety standpoint, any remaining traffic disruptions will be rare and brief, and only minor incidental work, replacement of temporary substitute facilities, plant establishment periods, or correction or repair remains for the Physical Completion of the total Contract.

Physical Completion Date

The day all of the Work is physically completed on the project. All documentation required by the Contract and required by law does not necessarily need to be furnished by the Contractor by this date.

Completion Date

The day all the Work specified in the Contract is completed and all the obligations of the Contractor under the contract are fulfilled by the Contractor. All documentation required by the Contract and required by law must be furnished by the Contractor before establishment of this date.

Final Acceptance Date

The date on which the Contracting Agency accepts the Work as complete.

Supplement this Section with the following:

All references in the Standard Specifications, Amendments, or WSDOT General Special Provisions, to the terms "Department of Transportation", "Washington State Transportation Commission", "Commission", "Secretary of Transportation", "Secretary", "Headquarters", and "State Treasurer" shall be revised to read "Contracting Agency".

All references to the terms "State" or "state" shall be revised to read "Contracting Agency" unless the reference is to an administrative agency of the State of Washington, a State statute or regulation, or the context reasonably indicates otherwise.

All references to "State Materials Laboratory" shall be revised to read "Contracting Agency designated location".

All references to "final contract voucher certification" shall be interpreted to mean the Contracting Agency form(s) by which final payment is authorized, and final completion and acceptance granted.

Additive

A supplemental unit of work or group of bid items, identified separately in the Bid Proposal, which may, at the discretion of the Contracting Agency, be awarded in addition to the base bid.

Alternate

One of two or more units of work or groups of bid items, identified separately in the Bid Proposal, from which the Contracting Agency may make a choice between different methods or material of construction for performing the same work.

Business Day

A business day is any day from Monday through Friday except holidays as listed in Section 1-08.5.

Contract Bond

The definition in the Standard Specifications for "Contract Bond" applies to whatever bond form(s) are required by the Contract Documents, which may be a combination of a Payment Bond and a Performance Bond.

Contract Documents

See definition for "Contract".

Contract Time

The period of time established by the terms and conditions of the Contract within which the Work must be physically completed.

Notice of Award

The written notice from the Contracting Agency to the successful Bidder signifying the Contracting Agency's acceptance of the Bid Proposal.

Notice to Proceed

The written notice from the Contracting Agency or Engineer to the Contractor authorizing and directing the Contractor to proceed with the Work and establishing the date on which the Contract time begins.

Traffic

Both vehicular and non-vehicular traffic, such as pedestrians, bicyclists, wheelchairs, and equestrian traffic.

1-02 Bid Procedures and Conditions

1-02.1 Prequalification of Bidders

Delete this section and replace it with the following:

1-02.1 Qualifications of Bidder
(January 24, 2011 APWA GSP)

Before award of a public works contract, a bidder must meet at least the minimum qualifications of RCW 39.04.350(1) to be considered a responsible bidder and qualified to be awarded a public works project.

1-02.2 Plans and Specifications

Delete this section and replace it with the following:

1-03.3 Execution of Contract

(October 1, 2005 APWA GSP)

Revise this section to read:

(*****)

Copies of the Contract Provisions, including the unsigned contract form, 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 three (3) calendar days after the award date, the successful bidder shall return the signed Contracting Agency prepared contract, an insurance certification as required by Section 1-07.18, and a satisfactory bond as required by law and Section 1-03.4. Before execution of the contract by the Contracting Agency, the successful bidder shall provide any pre-award information the Contracting Agency may require under Section 1-02.15.

Until the Contracting Agency executes a contract, no proposal shall bind the Contracting Agency nor shall any work begin within the project limits or within Contracting Agency furnished sites. The contractor shall bear all risks for any work begun outside such areas 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 five (5) calendar days after the award date stated above, the Contracting Agency may grant up to a maximum of five (5) 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).

1-04 Scope of the Work

1-04.2 Coordination of Contract Documents, Plans, Special Provisions, Specifications, and Addenda *(December 10, 2020 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.

1-05 Control of Work

1-05.4 Conformity With And Deviations From Plans And Stakes

Section 1-05.4 is supplemented with the following:

(*****)

County Supplied Survey

The following survey tasks will be performed, if applicable, by the County for the project.

1. Verify primary horizontal survey control.
2. Staking of clearing limits & fill limits
3. Staking of Right-of-Way and existing monuments
4. Slope staking
5. String line for paving operations
6. Staking of guard rail and traffic barriers
7. Tying out of existing survey monuments
8. Mark location of survey monument to be placed by contractor
9. Staking of Storm sewers and catch basins
10. Centerline or offsets to centerline of the structures.

The contractor will be responsible to maintain the control staking. Any additional call out for resurveying for destruction of stakes will be paid to the County on a time and material basis.

The contractor shall protect existing Property Corner Monuments. Property corners destroyed during construction shall be replaced by a licensed surveyor at the Contractor's expense.

1-05.13 Superintendents, Labor and Equipment of Contractor

(August 14, 2013 APWA GSP)

Delete the sixth and seventh paragraphs of this section.

1-07 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).

1-07.6 Permits and Licenses

Section 1-07.6 is supplemented with the following:

(*****)

The Contracting Agency has obtained the below-listed permit(s) for this project. A copy of the permits is attached as an appendix for informational purposes.

Name of Document	Permitting Agency	Permit Reference No.
Land Disturbance Permit	Whatcom County Planning and Development Services	LDP2021-00045

1-07.7 Load Limits

Section 1-07.7 is supplemented with the following:

(March 13, 1995 WSDOT GSP)

If the sources of materials provided by the Contractor necessitates hauling over roads other than State Highways, the Contractor shall, at the Contractor's expense, make all arrangements for the use of the haul routes.

1-07.9 Wages

1-07.9(5) Required Documents

Delete this section and replace it with the following:

(*****)

Unless otherwise specified by the Contracting Agency, certified payrolls from the prime contractor and subcontractors shall be submitted to the Project Engineer.

1-07.13 Contractor's Responsibility for Work

1-07.13(4) Repair of Damage

(August 6, 2001 WSDOT GSP)

Section 1-07.13(4) is revised to read:

The Contractor shall promptly repair all damage to either temporary or permanent work as directed by the Engineer. For damage qualifying for relief under Sections 1-07.13(1), 1-07.13(2) or 1-07.13(3), payment will be made in accordance with Section 1-04.4. Payment will be limited to repair of damaged work only. No payment will be made for delay or disruption of work.

1-07.18 Insurance

(January 4, 2016 APWA GSP)

1-07.18(1) General Requirements

- A. The Contractor shall procure and maintain the insurance described in all subsections of section 1-07.18 of these Special Provisions, from insurers with a current A. M. Best rating of not less than A-: VII and licensed to do business in the State of Washington. The Contracting Agency reserves the right to approve or reject the insurance provided, based on the insurer's financial condition.
- B. The Contractor shall keep this insurance in force without interruption from the commencement of the Contractor's Work through the term of the Contract and for thirty (30) days after the Physical Completion date, unless otherwise indicated below.
- C. If any insurance policy is written on a claims made form, its retroactive date, and that of all subsequent renewals, shall be no later than the effective date of this Contract. The policy shall state that coverage is claims made, and state the retroactive date. Claims-made form coverage shall be maintained by the Contractor for a minimum of 36 months following the Completion Date or earlier termination of this Contract, and the Contractor shall annually provide the Contracting Agency with proof of renewal. If renewal of the claims made form of coverage becomes unavailable, or economically prohibitive, the Contractor shall purchase an extended reporting period ("tail") or execute another form of guarantee acceptable to the Contracting Agency to assure financial responsibility for liability for services performed.
- D. The Contractor's Automobile Liability, Commercial General Liability and Excess or Umbrella Liability insurance policies shall be primary and non-contributory insurance as respects the Contracting Agency's insurance, self-insurance, or self-insured pool coverage. Any insurance, self-insurance, or self-insured pool coverage maintained by the Contracting Agency shall be excess of the Contractor's insurance and shall not contribute with it.
- E. The Contractor shall provide the Contracting Agency and all additional insureds with written notice of any policy cancellation, within two business days of their receipt of such notice.
- F. The Contractor shall not begin work under the Contract until the required insurance has been obtained and approved by the Contracting Agency
- G. Failure on the part of the Contractor to maintain the insurance as required shall constitute a material breach of contract, upon which the Contracting Agency may, after giving five business days' notice to the Contractor to correct the breach, immediately terminate the Contract or, at its discretion, procure or renew such insurance and pay any and all premiums in connection therewith, with any sums so expended to be repaid to the Contracting Agency on demand, or at the sole discretion of the Contracting Agency, offset against funds due the Contractor from the Contracting Agency.
- H. All costs for insurance shall be incidental to and included in the unit or lump sum prices of the Contract and no additional payment will be made.

1-07.18(2) Additional Insured

All insurance policies, with the exception of Workers Compensation, and of Professional Liability and Builder's Risk (if required by this Contract) shall name the following listed entities as additional insured(s) using the forms or endorsements required herein:

- the Contracting Agency and its officers, elected officials, employees, agents, and volunteers

The above-listed entities shall be additional insured(s) for the full available limits of liability maintained by the Contractor, irrespective of whether such limits maintained by the Contractor are greater than those required by this Contract, and irrespective of whether the Certificate of Insurance provided by the Contractor pursuant to 1-07.18(4) describes limits lower than those maintained by the Contractor.

For Commercial General Liability insurance coverage, the required additional insured endorsements shall be at least as broad as ISO forms CG 20 10 10 01 for ongoing operations and CG 20 37 10 01 for completed operations.

1-07.18(3) Subcontractors

The Contractor shall cause each Subcontractor of every tier to provide insurance coverage that complies with all applicable requirements of the Contractor-provided insurance as set forth herein, except the Contractor shall have sole responsibility for determining the limits of coverage required to be obtained by Subcontractors.

The Contractor shall ensure that all Subcontractors of every tier add all entities listed in 1-07.18(2) as additional insureds, and provide proof of such on the policies as required by that section as detailed in 1-07.18(2) using an endorsement as least as broad as ISO CG 20 10 10 01 for ongoing operations and CG 20 37 10 01 for completed operations.

Upon request by the Contracting Agency, the Contractor shall forward to the Contracting Agency evidence of insurance and copies of the additional insured endorsements of each Subcontractor of every tier as required in 1-07.18(4) Verification of Coverage.

1-07.18(4) Verification of Coverage

The Contractor shall deliver to the Contracting Agency a Certificate(s) of Insurance and endorsements for each policy of insurance meeting the requirements set forth herein when the Contractor delivers the signed Contract for the work. Failure of Contracting Agency to demand such verification of coverage with these insurance requirements or failure of Contracting Agency to identify a deficiency from the insurance documentation provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.

Verification of coverage shall include:

1. An ACORD certificate or a form determined by the Contracting Agency to be equivalent.
2. Copies of all endorsements naming Contracting Agency and all other entities listed in 1-07.18(2) as additional insured(s), showing the policy number. The Contractor may submit a copy of any blanket additional insured clause from its policies instead of a separate endorsement.
3. Any other amendatory endorsements to show the coverage required herein.
4. A notation of coverage enhancements on the Certificate of Insurance shall not satisfy these requirements – actual endorsements must be submitted.

Upon request by the Contracting Agency, the Contractor shall forward to the Contracting Agency a full and certified copy of the insurance policy(s). If Builders Risk insurance is required on this Project, a full and certified copy of that policy is required when the Contractor delivers the signed Contract for the work.

1-07.18(5) Coverages and Limits

The insurance shall provide the minimum coverages and limits set forth below. Contractor's maintenance of insurance, its scope of coverage, and limits as required herein shall not be construed to limit the liability of the Contractor to the coverage provided by such insurance, or otherwise limit the Contracting Agency's recourse to any remedy available at law or in equity.

All deductibles and self-insured retentions must be disclosed and are subject to approval by the Contracting Agency. The cost of any claim payments falling within the deductible or self-insured retention shall be the responsibility of the Contractor. In the event an additional insured incurs a liability subject to any policy's

deductibles or self-insured retention, said deductibles or self-insured retention shall be the responsibility of the Contractor.

1-07.18(5)A Commercial General Liability

Commercial General Liability insurance shall be written on coverage forms at least as broad as ISO occurrence form CG 00 01, including but not limited to liability arising from premises, operations, stop gap liability, independent contractors, products-completed operations, personal and advertising injury, and liability assumed under an insured contract. There shall be no exclusion for liability arising from explosion, collapse or underground property damage.

The Commercial General Liability insurance shall be endorsed to provide a per project general aggregate limit, using ISO form CG 25 03 05 09 or an equivalent endorsement.

Contractor shall maintain Commercial General Liability Insurance arising out of the Contractor's completed operations for at least three years following Substantial Completion of the Work.

Such policy must provide the following minimum limits:

\$1,000,000	Each Occurrence
\$2,000,000	General Aggregate
\$2,000,000	Products & Completed Operations Aggregate
\$1,000,000	Personal & Advertising Injury each offence
\$1,000,000	Stop Gap / Employers' Liability each accident

1-07.18(5)B Automobile Liability

Automobile Liability shall cover owned, non-owned, hired, and leased vehicles; and shall be written on a coverage form at least as broad as ISO form CA 00 01. If the work involves the transport of pollutants, the automobile liability policy shall include MCS 90 and CA 99 48 endorsements.

Such policy must provide the following minimum limit:

\$1,000,000	Combined single limit each accident
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1-07.18(5)C Workers' Compensation

The Contractor shall comply with Workers' Compensation coverage as required by the Industrial Insurance laws of the State of Washington.

1-07.24 Rights of Way

(July 23, 2015 APWA GSP)

Delete this section and replace it with the following:

Street Right of Way lines, limits of easements, and limits of construction permits are indicated in the Plans. The Contractor's construction activities shall be confined within these limits, unless arrangements for use of private property are made.

Generally, the Contracting Agency will have obtained, prior to bid opening, all rights of way and easements, both permanent and temporary, necessary for carrying out the work. Exceptions to this are noted in the Bid Documents or will be brought to the Contractor's attention by a duly issued Addendum.

Whenever any of the work is accomplished on or through property other than public Right of Way, the Contractor shall meet and fulfill all covenants and stipulations of any easement agreement obtained by the Contracting Agency from the owner of the private property. Copies of the easement agreements may be included in the Contract Provisions or made available to the Contractor as soon as practical after they have been obtained by the Engineer.

Whenever easements or rights of entry have not been acquired prior to advertising, these areas are so noted in the Plans. The Contractor shall not proceed with any portion of the work in areas where right of way, easements or rights of entry have not been acquired until the Engineer certifies to the Contractor that the right of way or easement is available or that the right of entry has been received. If the Contractor is delayed due

to acts of omission on the part of the Contracting Agency in obtaining easements, rights of entry or right of way, the Contractor will be entitled to an extension of time. The Contractor agrees that such delay shall not be a breach of contract.

Each property owner shall be given 48 hours notice prior to entry by the Contractor. This includes entry onto easements and private property where private improvements must be adjusted.

The Contractor shall be responsible for providing, without expense or liability to the Contracting Agency, any additional land and access thereto that the Contractor may desire for temporary construction facilities, storage of materials, or other Contractor needs. However, before using any private property, whether adjoining the work or not, the Contractor shall file with the Engineer a written permission of the private property owner, and, upon vacating the premises, a written release from the property owner of each property disturbed or otherwise interfered with by reasons of construction pursued under this contract. The statement shall be signed by the private property owner, or proper authority acting for the owner of the private property affected, stating that permission has been granted to use the property and all necessary permits have been obtained or, in the case of a release, that the restoration of the property has been satisfactorily accomplished. The statement shall include the parcel number, address, and date of signature. Written releases must be filed with the Engineer before the Completion Date will be established.

1-08 PROSECUTION AND PROGRESS

Add the following new section:

1-08.0 Preliminary Matters (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.

Add the following new section:

1-08.0(2) Hours of Work (December 8, 2014 APWA GSP)

Except in the case of emergency or unless otherwise approved by the Engineer, the normal working hours for the Contract shall be any consecutive 8-hour period between 7:00 a.m. and 6:00 p.m. Monday through Friday, exclusive of a lunch break. If the Contractor desires different than the normal working hours stated above, the request must be submitted in writing prior to the preconstruction conference, subject to the provisions below. The working hours for the Contract shall be established at or prior to the preconstruction conference.

All working hours and days are also subject to local permit and ordinance conditions (such as noise ordinances).

If the Contractor wishes to deviate from the established working hours, the Contractor shall submit a written request to the Engineer for consideration. This request shall state what hours are being requested, and why. Requests shall be submitted for review no later than 7 days prior to the day(s) the Contractor is requesting to change the hours.

If the Contracting Agency approves such a deviation, such approval may be subject to certain other conditions, which will be detailed in writing. For example:

1. On non-Federal aid projects, requiring the Contractor to reimburse the Contracting Agency for the costs in excess of straight-time costs for Contracting Agency representatives who worked during such times. (The Engineer may require designated representatives to be present during the work. Representatives who may be deemed necessary by the Engineer include, but are not limited to: survey crews; personnel from the Contracting Agency's material testing lab; inspectors; and other Contracting Agency employees or third party consultants when, in the opinion of the Engineer, such work necessitates their presence.)
2. Considering the work performed on Saturdays, Sundays, and holidays as working days with regard to the contract time.
3. Considering multiple work shifts as multiple working days with respect to contract time even though the multiple shifts occur in a single 24-hour period.
4. If a 4-10 work schedule is requested and approved the non working day for the week will be charged as a working day.
5. If Davis Bacon wage rates apply to this Contract, all requirements must be met and recorded properly on certified payroll.

1-08.1 Subcontracting

Section is supplemented with the following:

(*****)

A subcontractor or lower tier subcontractor will not be permitted to perform work under the contract unit the following documents have been completed and submitted to the Engineer:

- 1) Request to Sublet Work (Form 421-012 EF).

Upon request of the Contracting Agency the contractor shall provide sufficient evidence of past related contract work.

1-08.3(2)A Type A Progress Schedule

(March 13, 2012 APWA GSP)

Revise this section to read:

The Contractor shall submit electronic copies of a Type A Progress Schedule no later than at the preconstruction conference, or some other mutually agreed upon submittal time. The schedule may be a critical path method (CPM) schedule, bar chart, or other standard schedule format. Regardless of which format used, the schedule shall identify the critical path. The Engineer will evaluate the Type A Progress Schedule and approve or return the schedule for corrections within 15 calendar days of receiving the submittal.

1-08.4 Prosecution of Work

Delete this section and replace it with the following:

1-08.4 Notice to Proceed and Prosecution of Work

(*****)

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 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.

1-08.5 Time for Completion

Section 1-08.5 is supplemented with the following:

(*****)

This project shall be substantially complete completed within 25 working days.

The Engineer will give the Contractor written notice of the completion date of the contract after all the Contractor's obligations under the contract have been performed by the Contractor. The following events must occur before the Completion Date can be established, or as mutually agreed upon between Whatcom County and the Contractor:

- 1) The physical work on the project must be complete.
- 2) The Contractor must furnish all documentation required by the contract and required by law, to allow the Contracting Agency to process final acceptance of the contract. The following documents must be received by the Project Engineer prior to establishing a completion date: (a) Certified Payrolls, and (b) Material Acceptance Certification Documents.

1-09.9 Payment

The first, second and third paragraphs of Section 1-09.9 is deleted and replaced with:

(*****)

All costs incurred in connection with this project shall be paid on a Force Account basis according to the provisions of Section 1-09.6.

PART II

CONTRACT FORMS

Deer Trail Slide Repair
CRP NO. 921020

WHATCOM COUNTY
CONTRACT NO.
202109016

This Contract, made and entered into this 24th day of September, 2021 by and between Whatcom County, Washington, a municipal Corporation and a Charter County in the State of Washington, hereinafter called the "County" and Stremler Gravel, Inc hereinafter called the "Contractor."

WITNESSETH:

That in consideration of the terms and conditions contained herein and attached and made a part of this Contract, the parties hereto covenant and agree as follows:

1. The Contractor shall do all of the work and furnish all of the labor, materials, tools and equipment for the construction of the improvements and shall perform any changes in the work, all in full compliance with the contract documents entitled "**Deer Trail Slide Damage Repair, CRP No. 921020**", The Washington State Department of Transportation Standard Specifications, and all sections contained in said contract documents, including: Specifications and Conditions, Contract Forms, construction Plans, and appendices, are hereby referred to and by reference made a part hereof.
2. The County hereby promises and agrees with the Contractor to employ, and does employ the Contractor to furnish the labor, materials, tools and equipment, and to do and cause to be done the above-described work, and to complete and finish the same in accordance with the said contract documents and the terms and conditions herein contained, and hereby contracts to pay for the same, on a force account basis and in accordance with the attached AGC-WSDOT Equipment Rental Agreement, a sum not to exceed \$700,000.00, subject to the actual quantity of work performed, at the time and in the manner and upon the conditions provided for in this contract.
3. The Contractor for himself, and for his agents, successors, assigns, subcontractors and/or employees, does hereby agree to the full performance of all the covenants herein contained upon the part of the Contractor.
4. The County hereby appoints and the Contractor hereby accepts the Whatcom County Engineer, as the County's representative for the purpose of administering the provisions of this Contract, including the County's right to receive and act on all reports and documents related to this Contract, to request and receive additional information from the Contractor, to assess the general performance of the Contractor under this Contract, to determine if the contracted services are being performed in accordance with Federal, State or local laws, and to administer any other right granted to the County under this Contract. The County expressly reserves the right to terminate this Contract as provided in the contract documents, and also expressly reserves the right to commence civil action for the enforcement of this contract.
5. This Contract contains terms and conditions agreed upon by the parties. The parties agree that there are no other understandings, oral or otherwise, regarding the subject matter of this Contract.

6. The Contractor agrees to comply with all applicable Federal, State, County or municipal standards for the licensing, certification, operation of facilities and programs, and accreditation and licensing of individuals.
7. The Contractor shall not assign or subcontract any portion of the work provided for under the terms of this Contract without obtaining prior written approval of the County Engineer. All terms and conditions of this Contract shall apply to any approved subcontract or assignment related to this Contract.
8. The parties intend that an independent Contractor-County relationship will be created by this Contract. The County is interested only in the results to be achieved, and the implementation of the work will lie solely with the Contractor. No agent, employee, servant, or representative of the Contractor shall be deemed to be an employee, agent, servant, or representative of the County for any purpose. Employees of the Contractor are not entitled to any of the benefits the County provides for County employees. The Contractor will be solely and entirely responsible for its acts and for the acts of its agents, employees, servants, subcontractors, or otherwise during the performance of this Contract. In the performance of the work herein contemplated, the Contractor is an independent Contractor with regard to the performance of the details of the work; however, the components of and the results of the work contemplated herein must meet the approval of the County Engineer and shall be subject to the County Engineer's general rights of inspection and review to secure the satisfactory completion thereof.
9. The Contractor agrees and covenants to indemnify, defend, and save harmless, the County and those persons who were, now are, or shall be duly elected or appointed officials or employees thereof, hereinafter referred to as the "County" against and from any loss, damage, costs, charge, expense, liability, claims, demands or judgments, of whatsoever kind or nature, whether to persons or to property, arising wholly or partially out of any act, action, neglect, omission, or default on the part of the Contractor, his agents, successors, assignees, subcontractors and/or employees, except only such injury or damage as shall have been caused by or resulted from the sole negligence of the County. In case any suit or cause of action shall be brought against the County on account of any act, action, neglect, omission, or default on the part of the Contractor, his agents, successors, assignees, subcontractors and/or employees the Contractor hereby agrees and covenants to assume the defense thereof and to pay any and all costs, charges, attorney's fees and other expenses and any and all judgments that may be incurred or obtained against the County.
 - a. In the event the County is required to institute legal action and/or participate in the legal action to enforce this Indemnification and Hold Harmless Clause, the Contractor agrees to pay the County's legal fees, costs and disbursements incurred in establishing the right to indemnification.
 - b. If the claim, suit, or action for injuries, death, or damages as provided for in the preceding paragraphs of this specification is caused by or results from the concurrent negligence of (a) the indemnitee or the indemnitee's agents or employees and (b) the indemnitor or the indemnitor's agents for employees the indemnity provisions provided for in the preceding paragraphs of this specification shall be valid and enforceable only to the extent of the indemnitor's negligence.
10. This Contract has been and shall be construed as having been made and delivered within the State of Washington, and it is mutually understood and agreed by each party hereto that this Contract shall be governed by the laws of the State of Washington, both as to interpretation and performance. Any action in law, suit and equity or judicial proceedings for the enforcement of this contract, or any provisions thereof, shall be

instituted and maintained in the courts of competent jurisdiction located in Whatcom County, Washington.

11. The failure of the County to insist upon strict performance of any of the covenants and agreements of this Contract or to exercise any option herein conferred in any one or more instances shall not be construed to be a waiver or relinquishment of any such obligation, or any other covenants or agreements, but the same shall be and remain in full force and effect.
12. It is understood and agreed by the parties hereto that if any part of this agreement is determined to be illegal, the validity of the remaining portions shall be construed as if the agreement did not contain the particular illegal part.
13. No change or addition to this Contract shall be valid or binding upon either party unless such change or addition shall be in writing, executed by both parties.

IN WITNESS WHEREOF, the Contractor has executed this instrument, on the day and year first below written and the County Executive has caused this instrument to be executed by and in the name of the said County, the day and year first above written.

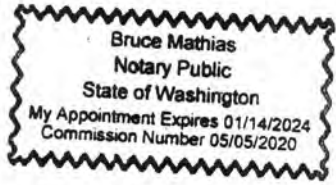
Executed by the Contractor this 21st day of September 2021.

By: [Signature] (SEAL)
Title: President

Contractor: Stremler Gravel, Inc

STATE OF WASHINGTON)
) ss.
COUNTY OF Whatcom)

On this 21st day of September, 2021, before me personally appeared Lane Stremler, to me personally known to be the person described in and who executed the above instrument and who acknowledged to me the act of signing thereof.



[Signature]
Notary Public, in and for the
State of Washington, residing at:
FERNDALE, WA
My commission expires: 1/14/24

Executed by Whatcom County this 24 day of Sept. 2021.

By: [Signature] For ss
Satpal Singh Sidhu
Whatcom County Executive

STATE OF WASHINGTON)
) ss
COUNTY OF WHATCOM)

Tyler Schroeder
Deputy County Executive

On this 24th day of September, 2021, before me personally appeared ^
~~Satpal Singh Sidhu~~, to me personally known to be the ^{Deputy} Executive of Whatcom County
described in and who executed the above instrument and who acknowledged to me the act of
signing thereof.



[Signature]
Notary Public, in and for the
State of Washington, residing at:
Billingsham

My commission expires: 12-31-22

Christopher Quinn

Approved as to form: Electronically Approved by CQ 9-22-2021/BW
Christopher Quinn
Senior Civil Deputy Prosecuting Attorney

CONTRACT BOND #107477934

Deer Trail Slide Repair

CRP NO. 921020

KNOW ALL MEN BY THESE PRESENTS, that Stremler Gravel, Inc
(Insert full legal name of Contractor)

Of 210 Birch Bay Lynden Road, Lynden WA, as Principal, and Travelers Casualty and Surety Company of America
(Insert address of Contractor)

as SURETY, are jointly and severally held and bound unto the COUNTY OF WHATCOM,
in the penal sum of Seven hundred thousand & No/100ths dollars

(Amount written in words)

Dollars (\$ 700,000.00), 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 24TH

day of SEPT., 2021 A.D. the said Principal, herein, executed a certain contract with Whatcom County, 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 Principal, herein, will undertake and complete the construction of the Deer Trail Slide Damage Repair, CRP No. 921020, according to the maps, plans and specifications made a part of said contract, which contract as so executed, is hereunto attached, is now referred to and by reference is incorporated herein and made a part of 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. Similarly, the bond shall cover payment of all taxes incurred on said contract under Title 50 and 51 Revised Code of Washington (RCW) and all taxes imposed on the Principle under Title 82 RCW.

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 pay all taxes pursuant to Title 50, and 51, and 82 RCW, and shall in all respects, faithfully perform said contract according to law, then this obligation to be void, otherwise remain in full force and effect.

WITNESS our hands this 20th day of September, 2021

Stremler Gravel, Inc.

By: [Signature] (Principal)

Name: Lane Stremler

Title: President

By: Travelers Casualty and Surety Company of America
(Surety)

Name: Cynthia L. Jay, Attorney-in-Fact

By: [Signature]
(Attorney-in-Fact)

Propel Insurance
(Name of Local Office of Agent)

601 Union #3400, Seattle, WA 98101
(Address of Local Office of Agent)

APPROVED:

Local Agency: Whatcom County
Tyler Schroeder

Title: Deputy County Executive

By: [Signature]

Date: 9-24-21

Approved as to form: CHRISTOPHER QUINN
ELECTRONICALLY APPROVED BY CQ 9-22-2021
Senior Civil Deputy Prosecutor BW

Surety Bond No.: 107477934

Wh. Co. Contract No.: 202109016



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

POWER OF ATTORNEY

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

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



State of Connecticut

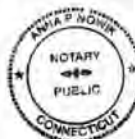
City of Hartford ss.

By 
Robert L. Raney, Senior Vice President

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

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

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




Anna P. Nowik, Notary Public

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

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

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

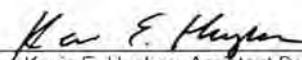
FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice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

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

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

Dated this **20th** day of **September**, 2021




Kevin E. Hughes, Assistant Secretary

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

RETAINAGE INVESTMENT OPTION

Deer Trail Slide Repair

CRP NO. 921020

CONTRACTOR: Stremler Gravel, Inc

Pursuant to R.C.W. 60.28.010, as amended, you may choose how your retainage under this contract will be held and invested. Please complete and sign this form indicating your preference. If you fail to do so, the County will hold your retainage as described in "Current Expense" option 1 below.

- 1. **Current Expense:** The County will retain your money in its Current Expense Fund Account until sixty (60) days following final acceptance of the improvement or work as completed. You will not receive interest earned on this money.
- 2. **Interest Bearing Account:** The County will deposit retainage checks in an interest-bearing account in a bank, mutual savings bank, or savings and loan association, not subject to withdrawal until after the final acceptance of the improvement or work as completed or until agreed to by both parties. Interest on the account will be paid to you.
- 3. **Escrow/Investments:** The County will place the retainage checks in escrow with a bank or trust company until thirty days following the final acceptance of the improvement or work as completed. When the moneys reserved are to be placed in escrow, the County will issue a check representing the sum of the moneys reserved payable to the bank or trust company and you jointly. This check will be converted into bonds and securities chosen by you and approved by the County and these bonds and securities will be held in escrow. Interest on these bonds and securities will be paid to you as interest accrues. If this option is chosen, the bidder shall complete the Escrow Agreement form on the following pages.
- 4. **Retainage Bond:** The Bidder shall post a retainage bond equal to 5% of the total bid price on this. If this option is chosen, the Bidder shall complete the Retainage Bond form supplied in this document.

Retainage is normally released 45-60 days after final acceptance of work by the County, or following receipt of Washington State Departments of **Labor and Industries / Revenue / Employment Security**, whichever takes longer.



(Contractor's signature)

President

(Title)

ESCROW AGREEMENT

Escrow No. _____
Agency Whatcom County

TO: _____

The undersigned, _____, hereinafter referred to as the Contractor, has directed Whatcom County hereinafter referred to as the Agency, to deliver to you its warrants or checks which shall be payable to you and the Contractor jointly. Such warrants or checks are to be held and disposed of by you in accordance with the following instructions and upon the terms and conditions hereinafter set forth.

INSTRUCTIONS

1) The Agency shall deliver to you from time to time, checks or warrants payable jointly to you and the Contractor. You are hereby authorized by the Contractor to endorse in the Contractor's name, any such check or warrant so that you may receive the proceeds thereof and invest the same. The power of endorsement hereby granted to you by the Contractor shall be deemed a power coupled with an interest and shall be irrevocable during the term of this escrow. Although you may be a payee named in such warrants or checks as shall be delivered to you, your duties and responsibilities with respect to the same shall be only those duties and responsibilities which a depository bank would have, pursuant to Article 4 of the Uniform Commercial Code of the State of Washington for an item deposited with it for collection as of the date such check or warrant shall be delivered to you. The proceeds from collections shall be used by you to purchase, as directed by the Contractor, bonds or other securities chosen by the Contractor and approved by you and the Agency. For the purpose of each such purchase, you may follow the last written direction received by you from the Contractor, provided such direction otherwise conforms with the restrictions or investments recited herein. Attached is a list of such bonds or other securities approved by the Agency. No further approval is necessary if any securities, except stocks, may be selected by the Contractor, subject to express written approval of you and the Agency. Purchase of such bonds or other securities shall be in a form which shall allow you alone to reconvert such bonds or other securities into money if you are required to do so by the Agency as provided in paragraph 4 of this Escrow Agreement.

2) The investments selected by the Contractor, approved by the Agency and purchase by you must mature on or prior to the date set for the completion of the contract, including extensions thereof or thirty days following the final acceptance of said improvement or work.

3) When and as interest on the securities held by you pursuant to this agreement accrues and is paid, you shall collect such interest and forward it to the Contractor at the address designated below unless within your written consent you are otherwise directed in writing by the Contractor.

4) You are not authorized to deliver to the Contractor all or any part of the securities held by you pursuant to this agreement (or any monies derived from the sale of such securities, or the

negotiation of the Agency's warrants or checks) except in accordance with written instructions from the Agency. The Agency shall inform you and keep you informed in writing of the name of the person or persons with authority to give you such written instructions. Compliance with such instructions shall relieve you of any further liability related thereto. The estimated completion date of the contract underlying this Escrow Agreement is

_____.

5) Upon request by you, the Agency shall advise you in writing of any change in the estimated completion date. If the estimated completion date is changed, you are authorized to reinvest the monies held hereunder in accordance with the new estimated completion date.

6) In the event the Agency orders you to do so in writing, and notwithstanding any other provisions of this agreement, you shall, within thirty-five (35) days of receipt of such order, reconvert into money the securities held by you pursuant to this agreement and return such money, together with any other monies, including accrued interest on such securities held by you hereunder, to the Agency.

7) The Contractor agrees to pay you as compensation for your services hereunder as follows:

_____.

Payment of all fees shall be the sole responsibility of the Contractor and shall not be deducted from any property placed with you pursuant to this agreement until and unless the Agency directs the release to the Contractor of the securities and monies held hereunder whereupon you shall be granted a first lien upon such property released and shall be entitled to reimburse yourself from such property for the entire amount of your fees and any anticipated amounts which might be owing as provided for herein. In the event that you are made a party to any litigation with respect to the property held by you hereunder, or in the event that the conditions of this escrow are not promptly fulfilled or that you are required to render any services not provided for in these instructions, or that there is any assignment of the interests of this escrow or any modification hereof, you shall be entitled to reasonable compensation for such extraordinary services from the Contractor and reimbursement from the Contractor for all costs and expenses, including attorney fees occasioned by such default, delay, controversy or litigation.

8) Should you at any time and for any reason desire to be relieved of your obligations as escrow holder hereunder, you shall give written notice to the Agency and Contractor. The Agency and Contractor shall, within 20 days of the receipt of such notice, jointly appoint a successor escrow holder and instruct you to deliver all securities and funds held hereunder to said successor. If you are notified of the appointment of the successor escrow holder within 20 days, you may return the subject matter hereof to the Agency and upon so doing, it absolves you from all further charges and obligations in connection with this escrow.

9) This agreement shall not be binding until executed by the Contractor and the Agency and accepted by you.

10) This instrument contains the entire agreement between you, the Contractor and the Agency with respect to this escrow and you are not a party to nor bound by any instrument or agreement other than this; you shall not be required to take notice of any default any other matter, nor be bound by nor required to give notice or demand, nor required to take any action

whatever except as herein expressly provided; you shall not be liable for any loss or damage not caused by your own negligence or willful misconduct.

11) The foregoing provisions shall be binding upon the assigns, successors, personal representatives and heirs to the parties hereto.

The undersigned have read and hereby approve the instructions as given above governing the administration of this escrow and do hereby execute this agreement this _____ day of _____, 20____.

Contractor

Agency

By: _____
Signature and Title

Signature and Title

Address

The above escrow instructions received and accepted this ____ day of _____, 20__.

Bank or Trust Company

By: _____

LIST OF TYPE OF BONDS OR SECURITIES THAT ARE APPROVED BY AGENCY

Bills, certificates, notes or bonds of the United States.

Other obligations of the United States or its agencies.

Any Corporation wholly owned by the government of the United States.

Indebtedness of the Federal National Mortgage Association.

Time deposits in Commercial Banks, Mutual Savings Banks or Savings and Loan Associations.

The investments selected must mature on or prior to the date set for completion of the contract, including extensions thereof.

Bond No. _____

RETAINAGE BOND

KNOW ALL MEN BY THESE PRESENTS, that _____,
A corporation existing under and by virtue of the laws of the State of _____ and
authorized to do business in the State of Washington as Principal, and
_____ a corporation organized and existing under the laws of the
_____ and authorized to transact business in the State of Washington
as Surety, are jointly and severally held and bound unto WHATCOM COUNTY, WASHINGTON,
hereinafter called Obligee, and are similarly held and bound unto the beneficiaries of the trust fund
created by RCW 60.28, in the penal sum of:

_____ Dollars
(\$ _____) which is 5% of the Principal's price on
Contract No. CRP No. 921020.

WHEREAS, on the _____ the said Principal herein executed a contract
with the Obligee, for Deer Trail Slide Repair, CRP 921020.

WHEREAS, said contract and RCW 60.28 require the Obligee to withhold from the principal the sum of
5% from monies earned on estimates during the progress of the construction, hereinafter referred to as
earned retained funds.

AND NOW WHEREAS, Principal has requested that the Obligee not retain any earned retained funds
as allowed under RCW 60.28.

NOW THEREFORE, the condition of this obligation is such that the surety is held and bound unto the
beneficiaries of the trust fund created by RCW 60.28 in the penal sum of 5 percent of the final contract
cost which shall include any increases due to change orders, increases in quantities of work or the
addition of any new item of work. If the Principal shall use the earned retained funds, which will not be
retained, for the trust fund purposes of RCW 60.28, then this obligation shall be null and void;
otherwise, it shall remain in full force and effect until release is authorized in writing by the Obligee.

PROVIDED HOWEVER that:

1. The liability of the Surety under this bond shall not exceed 5% of the total amount earned by the Principal if no monies are retained by the Obligee on estimates during the progress of construction.
2. Any suit under this bond must be instituted within the time period provided by applicable law.

WITNESS our hands this _____ day of _____ 20_____.

BY: _____

_____ Principal

Name and Address Local Office or Agent

APPROVED:

**WHATCOM COUNTY
PUBLIC WORKS DEPARTMENT**

By: _____

Date: _____, 20 _____.

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

PORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer any rights to the certificate holder in lieu of such endorsement(s).

PRODUCER: Propel Insurance, Seattle Commercial Insurance, 601 Union Street, Suite 3400, Seattle, WA 98101-1371. CONTACT NAME: Rainey Lindholm, PHONE: 800 499-0933, FAX: 866 577-1326, E-MAIL ADDRESS: Rainey.Lindholm@propelinsurance.com. INSURER(S) AFFORDING COVERAGE: INSURER A: BITCO General Insurance Corporation (NAIC # 20095), INSURER B: GuideOne National Insurance Company (NAIC # 14167).

COVERAGES CERTIFICATE NUMBER: REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

Table with columns: INSR LTR, TYPE OF INSURANCE, ADDL INSR, SUBR WVD, POLICY NUMBER, POLICY EFF (MM/DD/YYYY), POLICY EXP (MM/DD/YYYY), LIMITS. Rows include Commercial General Liability, Automobile Liability, Umbrella Liability, Excess Liability, Workers Compensation, and Leased & Rented Equipment.

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required) The General Liability, Auto Liability and Umbrella Liability policies include a blanket automatic additional insured endorsement that provides additional insured status only when there is a written contract between the named insured and the entity that requires such status. Project: Deer Trail Slide Damage Repair - CRP No. 921020 Whatcom County is an additional insured per the attached forms.

CERTIFICATE HOLDER: Whatcom County, 322 N Commercial St, Suite 301, Bellingham, WA 98225. CANCELLATION: SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE: [Signature]

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

**TRANSPORTATION CONTRACTORS EXTENDED
LIABILITY COVERAGE**

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE FORM

It is agreed that the provisions listed below apply only upon the entry of an in the box next to the caption of such provision.

- | | |
|--|---|
| A. <input checked="" type="checkbox"/> Partnership and Joint Venture Extension | N. <input checked="" type="checkbox"/> Construction Project General Aggregate Limits |
| B. <input checked="" type="checkbox"/> Contractors Automatic Additional Insured Coverage – Ongoing Operations | O. <input checked="" type="checkbox"/> Fellow Employee Coverage |
| C. <input checked="" type="checkbox"/> Automatic Waiver of Subrogation | P. <input checked="" type="checkbox"/> Property Damage Liability - Elevators |
| D. <input checked="" type="checkbox"/> Extended Notice of Cancellation, Nonrenewal | Q. <input checked="" type="checkbox"/> Property Damage to the Named Insured's Work |
| E. <input checked="" type="checkbox"/> Unintentional Failure to Disclose Hazards | R. <input checked="" type="checkbox"/> Care, Custody or Control |
| F. <input checked="" type="checkbox"/> Broadened Mobile Equipment | S. <input checked="" type="checkbox"/> Electronic Data Liability Coverage |
| G. <input checked="" type="checkbox"/> Personal and Advertising Injury - Contractual Coverage | T. <input checked="" type="checkbox"/> Consolidated Insurance Program Residual Liability Coverage |
| H. <input checked="" type="checkbox"/> Nonemployment Discrimination | U. <input checked="" type="checkbox"/> Automatic Additional Insureds – Managers or Lessors of Premises |
| I. <input checked="" type="checkbox"/> Liquor Liability | V. <input checked="" type="checkbox"/> Automatic Additional Insureds – State or Governmental Agency or Political Subdivisions – Permits or Authorizations |
| J. <input checked="" type="checkbox"/> Broadened Conditions | W. <input checked="" type="checkbox"/> Contractors Automatic Additional Insured Coverage – Completed Operations |
| K. <input checked="" type="checkbox"/> Automatic Additional Insureds – Equipment Leases | X. <input checked="" type="checkbox"/> Additional Insured – Engineers, Architects or Surveyors |
| L. <input checked="" type="checkbox"/> Suits Against Dredges and Barges | |
| M. <input checked="" type="checkbox"/> Insured Contract Extension - Railroad Property and Construction Contracts | |

A. PARTNERSHIP AND JOINT VENTURE EXTENSION

The following provision is added to **SECTION II - WHO IS AN INSURED**:

The last full paragraph which reads as follows:

No person or organization is an insured with respect to the conduct of any current or past partnership, joint venture or limited liability company that is not shown as a Named Insured in the Declarations.

is deleted and replaced with the following:

With respect to the conduct of any past or present joint venture or partnership not shown as a Named Insured in the Declarations and of which you are or were a partner or member, you are an insured, but only with respect to liability arising out of "your work" on behalf of any partnership or joint venture not shown as a Named Insured in the Declarations, provided no other similar liability insurance is available to you for "your work" in connection with your interest in such partnership or joint venture.

B. CONTRACTORS AUTOMATIC ADDITIONAL INSURED COVERAGE – ONGOING OPERATIONS

SECTION II – WHO IS AN INSURED is amended to include as an additional insured any person or organization who is required by written contract to be an additional insured on your policy, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the project(s) designated in the written contract.

With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to "bodily injury" or "property damage" occurring after:

1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

This insurance is excess of all other insurance available to the additional insured, whether primary, excess, contingent or on any other basis, unless the written contract requires this insurance to be primary. In that event, this insurance will be primary relative to insurance policy(s) which designate the additional insured as a Named Insured in the Declarations and we will not require contribution from such insurance if the written contract also requires that this insurance be non-contributory. But with respect to all other insurance under which the additional insured qualifies as an insured or additional insured, this insurance will be excess.

C. AUTOMATIC WAIVER OF SUBROGATION

Item 8. of **SECTION IV - COMMERCIAL GENERAL LIABILITY CONDITIONS**, is deleted and replaced with the following:

8. **Transfer of Rights of Recovery Against Others to Us and Automatic Waiver of Subrogation.**
 - a. If the insured has rights to recover all or part of any payment we have made under this Coverage Form, those rights are transferred to us. The insured must do nothing after loss to impair those rights. At our request, the insured will bring "suit" or transfer those rights to us and help us enforce them.
 - b. If required by a written contract executed prior to loss, we waive any right of recovery we may have against any person or organization because of payments we make for injury or damage arising out of "your work" for that person or organization.

D. EXTENDED NOTICE OF CANCELLATION, NONRENEWAL

Item **A.2.b.** of the **COMMON POLICY CONDITIONS**, is deleted and replaced with the following:

A.2.b. 60 days before the effective date of the cancellation if we cancel for any other reason.

Item **9.** of **SECTION IV - COMMERCIAL GENERAL LIABILITY CONDITIONS**, is deleted and replaced with the following:

9. WHEN WE DO NOT RENEW

- a.** If we choose to nonrenew this policy, we will mail or deliver to the first Named Insured shown in the Declarations written notice of the nonrenewal not less than 60 days before the expiration date.
- b.** If we do not give notice of our intent to nonrenew as prescribed in **a.** above, it is agreed that you may extend the period of this policy for a maximum additional sixty (60) days from its scheduled expiration date. Where not otherwise prohibited by law, the existing terms, conditions and rates will remain in effect during that extension period. It is further agreed that so long as it is not otherwise prohibited by law, this one time sixty day extension is the sole remedy and liquidated damages available to the insured as a result of our failure to give the notice as prescribed in **9. a.** above.

E. UNINTENTIONAL FAILURE TO DISCLOSE HAZARDS

Although we relied on your representations as to existing and past hazards, if unintentionally you should fail to disclose all such hazards at the inception date of your policy, we will not deny coverage under this Coverage Form because of such failure.

F. BROADENED MOBILE EQUIPMENT

Item **12.b.** of **SECTION V - DEFINITIONS**, is deleted and replaced with the following:

12.b. Vehicles maintained for use solely on or next to premises, sites or locations you own, rent or occupy.

G. PERSONAL AND ADVERTISING INJURY - CONTRACTUAL COVERAGE

Exclusion 2.e. of **SECTION I, COVERAGE B** is deleted.

H. NONEMPLOYMENT DISCRIMINATION

Unless "personal and advertising injury" is excluded from this policy:

Item **14.** of **SECTION V - DEFINITIONS**, is amended to include:

"Personal and advertising injury" also means embarrassment or humiliation, mental or emotional distress, physical illness, physical impairment, loss of earning capacity or monetary loss, which is caused by "discrimination."

SECTION V - DEFINITIONS, is amended to include:

"Discrimination" means the unlawful treatment of individuals based on race, color, ethnic origin, age, gender or religion.

Item **2. Exclusions** of **SECTION I, COVERAGE B**, is amended to include:

"Personal and advertising injury" arising out of "discrimination" directly or indirectly related to the past employment, employment or prospective employment of any person or class of persons by any insured;

"Personal and advertising injury" arising out of "discrimination" by or at your, your agents or your "employees" direction or with your, your agents or your "employees" knowledge or consent;

"Personal and advertising injury" arising out of "discrimination" directly or indirectly related to the sale, rental, lease or sub-lease or prospective sale, rental, lease or sub-lease of any dwelling, permanent lodging or premises by or at the direction of any insured.

Fines, penalties, specific performance or injunctions levied or imposed by a governmental entity, or governmental code, law, or statute because of "discrimination."

I. LIQUOR LIABILITY

Exclusion 2.c. of **SECTION I, COVERAGE A**, is deleted.

J. BROADENED CONDITIONS

Items **2.a.** and **2.b.** of **SECTION IV - COMMERCIAL GENERAL LIABILITY CONDITIONS**, are deleted and replaced with the following:

2. Duties In The Event Of Occurrence, Offense, Claim Or Suit:

- a.** You must see to it that we are notified of an "occurrence" or an offense which may result in a claim as soon as practicable after the "occurrence" has been reported to you, one of your officers or an "employee" designated to give notice to us. Notice should include:
 - (1)** How, when and where the "occurrence" or offense took place;
 - (2)** The names and addresses of any injured persons and witnesses; and
 - (3)** The nature and location of any injury or damage arising out of the "occurrence" or offense.
- b.** If a claim is made or "suit" is brought against any insured, you must:
 - (1)** Record the specifics of the claim or "suit" and the date received as soon as you, one of your officers, or an "employee" designated to record such information is notified of it; and
 - (2)** Notify us in writing as soon as practicable after you, one of your officers, your legal department or an "employee" you designate to give us such notice learns of the claims or "suit."

Item **2.e.** is added to **SECTION IV - COMMERCIAL GENERAL LIABILITY CONDITIONS**:

- 2.e.** If you report an "occurrence" to your workers compensation insurer which develops into a liability claim for which coverage is provided by the Coverage Form, failure to report such "occurrence" to us at the time of "occurrence" shall not be deemed in violation of paragraphs **2.a., 2.b., and 2.c.** However, you shall give written notice of this "occurrence" to us as soon as you are made aware of the fact that this "occurrence" may be a liability claim rather than a workers compensation claim.

K. AUTOMATIC ADDITIONAL INSURED - EQUIPMENT LEASES

SECTION II - WHO IS AN INSURED is amended to include any person or organization with whom you agree in a written equipment lease or rental agreement to name as an additional insured with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, at least in part, by your maintenance, operation, or use by you of the equipment leased to you by such person or organization, subject to the following additional exclusions.

The insurance provided to the additional insured does not apply to:

1. "Bodily injury" or "property damage" occurring after you cease leasing the equipment.
2. "Bodily injury" or "property damage" arising out of the sole negligence of the additional insured.
3. "Property damage" to:
 - a. Property owned, used or occupied by or rented to the additional insured; or
 - b. Property in the care, custody or control of the additional insured or over which the additional insured is for any purpose exercising physical control.

This insurance is excess of all other insurance available to the additional insured, whether primary, excess, contingent or on any other basis, unless the written contract requires this insurance to be primary. In that event, this insurance will be primary relative to insurance policy(s) which designate the additional insured as a Named Insured in the Declarations and we will not require contribution from such insurance if the written contract also requires that this insurance be non-contributory. But with respect to all other insurance under which the additional insured qualifies as an insured or additional insured, this insurance will be excess.

L. SUITS AGAINST DREDGES AND BARGES

We agree that any "suit" in rem against any dredge or barge owned, operated by or for you, and used in your operations, shall in all respects be treated in the same manner as though the "suit" were against you.

This coverage is excess over and above any specific insurance on any dredge or barge owned, operated by or for you, and used in your operations.

M. INSURED CONTRACT EXTENSION - RAILROAD PROPERTY AND CONSTRUCTION CONTRACTS

Item 9. of **SECTION V - DEFINITIONS**, is deleted and replaced with the following.

9. "Insured Contract" means:
 - a. A contract for a lease of premises. However, that portion of the contract for a lease of premises that indemnifies any person or organization for damage by fire to premises while rented to you or temporarily occupied by you with permission of the owner is not an "insured contract";
 - b. A sidetrack agreement;
 - c. Any easement or license agreement;
 - d. An obligation, as required by ordinance, to indemnify a municipality, except in connection with work for a municipality;
 - e. An elevator maintenance agreement;

- f. That part of any other contract or agreement pertaining to your business (including an indemnification of a municipality in connection with work performed for a municipality) under which you assume the tort liability of another party to pay for "bodily injury" or "property damage" to a third person or organization. Tort liability means a liability that would be imposed by law in the absence of any contract or agreement.

Paragraph f. does not include that part of any contract or agreement:

- (1) That indemnifies an architect, engineer or surveyor for injury or damage arising out of:
- (a) Preparing, approving, or failing to prepare or approve, maps, shop drawings, opinions, reports, surveys, field orders, change orders or drawings and specifications; or
 - (b) Giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage; or
- (2) Under which the insured, if an architect, engineer or surveyor, assumes liability for an injury or damage arising out of the insured's rendering or failure to render professional services, including those listed in (1) above and supervisory, inspection, architectural or engineering activities.

N. CONSTRUCTION PROJECT GENERAL AGGREGATE LIMITS

This modifies **SECTION III - LIMITS OF INSURANCE**.

- A.** For all sums which can be attributed only to ongoing operations at a single construction project for which the insured becomes legally obligated to pay as damages caused by an "occurrence" under **SECTION I - COVERAGE A**, and for all medical expenses caused by accidents under **SECTION I - COVERAGE C**:
1. A separate Construction Project General Aggregate Limit applies to each construction project, and that limit is equal to the amount of the General Aggregate Limit shown in the Declarations.
 2. The Construction Project General Aggregate Limit is the most we will pay for the sum of all damages under **COVERAGE A**, except damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard," and for medical expenses under **COVERAGE C** regardless of the number of:
 - a. Insureds;
 - b. Claims made or "suits" brought; or
 - c. Persons or organizations making claims or bringing "suits."
 3. Any payments made under **COVERAGE A** for damages or under **COVERAGE C** for medical expenses shall reduce the Construction Project General Aggregate Limit for that construction project. Such payments shall not reduce the General Aggregate Limit shown in the Declarations nor shall they reduce any other Construction Project General Aggregate Limit for any other construction project.
 4. The limits shown in the Declarations for Each Occurrence, Fire Damage and Medical Expense continue to apply. However, instead of being subject to the General Aggregate Limit shown in the Declarations, such limits will be subject to the applicable Construction Project General Aggregate Limit.

- B.** For all sums which cannot be attributed only to ongoing operations at a single construction project for which the insured becomes legally obligated to pay as damages caused by an "occurrence" under **SECTION I - COVERAGE A**, and for all medical expenses caused by accidents under **SECTION I - COVERAGE C**:
1. Any payments made under **COVERAGE A** for damages or under **COVERAGE C** for medical expenses shall reduce the amount available under the General Aggregate Limit or the Products-Completed Operations Aggregate Limit, whichever is applicable; and
 2. Such payments shall not reduce any Construction Project General Aggregate Limit.
- C.** Payments for damages because of "bodily injury" or "property damage" included in the "products-completed operations hazard" will reduce the Products-Completed Operations Aggregate Limit, and not reduce the General Aggregate Limit nor the Construction Project General Aggregate Limit.
- D.** If a construction project has been abandoned, delayed, or abandoned and then restarted, or if the authorized contracting parties deviate from plans, blueprints, designs, specifications or timetables, the project will still be deemed to be the same construction project.
- E.** The provisions of **SECTION III - LIMITS OF INSURANCE** not otherwise modified by this endorsement shall continue to be applicable.

O. FELLOW EMPLOYEE COVERAGE

Exclusion 2.e. Employers Liability of **SECTION I, COVERAGE A**, is deleted and replaced with the following:

2.e. "Bodily injury" to

(1) An "employee" of the insured arising out of and in the course of:

(a) Employment by the insured; or

(b) Performing duties related to the conduct of the insured's business; or

(2) The spouse, child, parent, brother or sister of that "employee" as a consequence of paragraph (1) above.

This exclusion applies:

(1) Whether the insured may be liable as an employer or in any other capacity; and

(2) To any obligation to share damages with or repay someone else who must pay damages because of the injury.

This exclusion does not apply to:

(1) Liability assumed by the insured under an "insured contract"; or

(2) Liability arising from any action or omission of a co-"employee" while that co-"employee" is either in the course of his or her employment or performing duties related to the conduct of your business.

Item **2.a. (1)(a)** of **SECTION II - WHO IS AN INSURED**, is deleted and replaced with the following:

2.a. (1)(a) To you, to your partners or members (if you are a partnership or joint venture) or to your members (if you are a limited liability company), or to your "volunteer workers" while performing duties related to the conduct of your business.

P. PROPERTY DAMAGE LIABILITY - ELEVATORS

"Property damage" liability is changed as follows:

1. **Exclusions 2.j.(3) and 2.j.(4) of SECTION I, COVERAGE A**, do not apply to the use of elevators.
2. The insurance afforded by reason of this provision is excess over any valid and collectible property insurance (including any deductible portion thereof) available to the insured whether primary, excess, contingent or on any other basis, and the **OTHER INSURANCE** condition is changed accordingly.

Q. PROPERTY DAMAGE TO THE NAMED INSURED'S WORK

Exclusion I of SECTION I, COVERAGE A is deleted and replaced with the following:

I. Damage to Your Work

"Property damage" to "your work" arising out of it or any part of it and included in the "products completed operation hazard."

This exclusion applies only to that portion of any loss in excess of \$50,000 per occurrence if the damaged work and the work out of which the damage arises was performed by you.

This exclusion does not apply if the damaged work or the work out of which the damage arises was performed on your behalf by a subcontractor.

R. CARE, CUSTODY OR CONTROL

Exclusion 2.j.4 of SECTION I, COVERAGE A is deleted and replaced with the following:

- 2.j.4** Personal property in the care, custody or control of the insured. However, for personal property in the care, custody or control of you or your "employees," this exclusion applies only to that portion of any loss in excess of \$25,000 per occurrence, subject to the following terms and conditions;
- (a) The most that we will pay under this provision as an annual aggregate is \$100,000, regardless of the number of occurrences.
 - (b) This provision does not apply to "employee" owned property or any property that is missing where there is not physical evidence to show what happened to the property.
 - (c) The aggregate limit for this coverage provision is part of the General Aggregate Limit and **SECTION III - LIMITS OF INSURANCE** is changed accordingly.
 - (d) In the event of damage to or destruction of property covered by this exception, you shall, if requested by us, replace the property or furnish the labor and materials necessary for repairs thereto, at actual cost to you, exclusive of prospective profit or overhead charges of any nature.

- (e) \$2,500 shall be deducted from the total amount of all sums you became obligated to pay as damages on account of damage to or destruction of all property of each person or organization, including the loss of use of that property, as a result of each "occurrence." Our limit of liability under the endorsement as being applicable to each "occurrence" shall be reduced by the amount of the deductible indicated above, however, our aggregate limit of liability under this provision shall not be reduced by the amount of such deductible. The conditions of the policy, including those with respect to duties in the event of "occurrence," claims or "suit" apply irrespective of the application of the deductible amount. We may pay any part or all of the deductible amount to effect settlement of any claim or "suit" and, upon notification of the action taken, you shall promptly reimburse us for such part of the deductible amount as has been paid by us.

S. ELECTRONIC DATA LIABILITY COVERAGE

1. **Exclusion 2.p. Electronic Data** of **SECTION I, COVERAGE A**, is deleted and replaced with the following:

2.p. Damages arising out of the loss of, loss of use of, damage to, corruption of, inability to access, or inability to manipulate "electronic data" that does not result from physical injury to tangible property.

2. The following definition is added to **SECTION V – DEFINITIONS**:

"Electronic data" means information, facts or programs stored as or on, created or used on, or transmitted to or from computer software (including systems and applications software), hard or floppy disks, CD-ROMS, tapes, drives, cells, data processing devices or any other media which are used with electronically controlled equipment.

3. For the purposes of this coverage, the definition of "property damage" in **SECTION V – DEFINITIONS** is replaced by the following:

"Property damage" means:

- a. Physical injury to tangible property, including all resulting loss of use of that property. All such loss of use shall be deemed to occur at the time of the physical injury that caused it;
- b. Loss of use of tangible property that is not physically injured. All such loss of use shall be deemed to occur at the time of the "occurrence" that caused it, or
- c. Loss of, loss of use of, damage to, corruption of, inability to access, or inability to properly manipulate "electronic data", resulting from physical injury to tangible property. All such loss of "electronic data" shall be deemed to occur at the time of the "occurrence" that caused it.

For the purposes of this insurance, "electronic data" is not tangible property.

T. CONSOLIDATED INSURANCE PROGRAM RESIDUAL LIABILITY COVERAGE

With respect to "bodily injury", "property damage", or "personal and advertising injury" arising out of your ongoing operations; or operations included within the "products-completed operations hazard", the policy to which this coverage is attached shall apply as excess insurance over coverage available to "you" under a Consolidated Insurance Program (such as an Owner Controlled Insurance Program or Contractors Controlled Insurance Program).

Coverage afforded by this endorsement does not apply to any Consolidated Insurance Program involving a "residential project" or any deductible or insured retention, specified in the Consolidated Insurance Program.

The following is added to **Section V – Definitions**

“Residential project” means any project where 30% or more of the total square foot area of the structures on the project is used or is intended to be used for human residency. This includes but is not limited to single or multifamily housing, apartments, condominiums, townhouses, co-operatives or planned unit developments and appurtenant structures (including pools, hot tubs, detached garages, guest houses or any similar structures). A “residential project” does not include military owned housing, college/university owned housing or dormitories, long term care facilities, hotels, motels, hospitals or prisons.

All other terms, provisions, exclusions and limitations of this policy apply.

U. AUTOMATIC ADDITIONAL INSURED - MANAGERS OR LESSORS OR PREMISES

SECTION II – WHO IS AN INSURED is amended to include:

Any person or organization with whom you agree in a written contract or written agreement to name as an additional insured but only with respect to liability arising out of the ownership, maintenance or use of that part of the premises, designated in the written contract or written agreement, that is leased to you and subject to the following additional exclusions:

This insurance does not apply to:

1. Any “occurrence” which takes place after you cease to be a tenant in that premises.
2. Structural alterations, new construction or demolition operations performed by or on behalf of the additional insured listed in the written contract or written agreement.

This insurance is excess of all other insurance available to the additional insured, whether primary, excess, contingent or on any other basis, unless the written contract requires this insurance to be primary. In that event, this insurance will be primary relative to insurance policy(s) which designate the additional insured as a Named Insured in the Declarations and we will not require contribution from such insurance if the written contract also requires that this insurance be non-contributory. But with respect to all other insurance under which the additional insured qualifies as an insured or additional insured, this insurance will be excess.

V. AUTOMATIC ADDITIONAL INSURED – STATE OR GOVERNMENTAL AGENCY OR POLITICAL SUBDIVISIONS – PERMITS OR AUTHORIZATIONS

SECTION II – WHO IS AN INSURED is amended to include any state or governmental agency or subdivision or political subdivision with whom you are required by written contract, ordinance, law or building code to name as an additional insured subject to the following provisions:

This insurance applies only with respect to operations performed by you or on your behalf for which the state or governmental agency or subdivision or political subdivision has issued a permit or authorization.

This insurance does not apply to:

1. “Bodily injury”, “property damage” or “personal and advertising injury” arising out of operations performed for the federal government, state or municipality; or
2. “Bodily injury” or “property damage” included within the “products-completed operations hazard”.

This insurance is excess of all other insurance available to the additional insured, whether primary, excess, contingent or on any other basis, unless the written contract requires this insurance to be primary. In that event, this insurance will be primary relative to insurance policy(s) which designate the additional insured as a Named Insured in the Declarations and we will not require contribution

from such insurance if the written contract also requires that this insurance be non-contributory. But with respect to all other insurance under which the additional insured qualifies as an insured or additional insured, this insurance will be excess.

W. CONTRACTORS AUTOMATIC ADDITIONAL INSURED COVERAGE – COMPLETED OPERATIONS

SECTION II – WHO IS AN INSURED is amended to include as an additional insured any person or organization who is required by written contract to be an additional insured on your policy for completed operations, but only with respect to liability for "bodily injury" or "property damage" caused, in whole or in part, by "your work" at the project designated in the contract, performed for that additional insured and included in the "products-completed operations hazard".

This insurance is excess of all other insurance available to the additional insured, whether primary, excess, contingent or on any other basis, unless the written contract requires this insurance to be primary. In that event, this insurance will be primary relative to insurance policy(s) which designate the additional insured as a Named Insured in the Declarations and we will not require contribution from such insurance if the written contract also requires that this insurance be non-contributory. But with respect to all other insurance under which the additional insured qualifies as an insured or additional insured, this insurance will be excess.

X. ADDITIONAL INSURED – ENGINEERS, ARCHITECTS OR SURVEYORS

SECTION II – WHO IS AN INSURED is amended to include as an additional insured any architect, engineer or surveyor who is required by written contract to be an additional insured on your policy, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations performed by you or on your behalf.

This includes such architect, engineer or surveyor, who may not be engaged by you, but is contractually required to be added as an additional insured to your policy.

With respect to the insurance afforded to these additional insureds, the following additional exclusion applies:

This insurance does not apply to "bodily injury", "property damage" or "personal and advertising injury" arising out of the rendering of or the failure to render any professional services, including:

1. The preparing, approving, or failing to prepare or approve maps, drawings, opinions, reports, surveys, change orders, designs or specifications; or
2. Supervisory, inspection or engineering services.

This insurance is excess of all other insurance available to the additional insured, whether primary, excess, contingent or on any other basis, unless the written contract requires this insurance to be primary. In that event, this insurance will be primary relative to insurance policy(s) which designate the additional insured as a Named Insured in the Declarations and we will not require contribution from such insurance if the written contract also requires that this insurance be non-contributory. But with respect to all other insurance under which the additional insured qualifies as an insured or additional insured, this insurance will be excess.

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

BROADENED COVERAGE - AUTOMOBILES

The following modifies insurance provided under:

BUSINESS AUTO COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by this endorsement.

- | | |
|---|--|
| 1 - Broad Form Named Insured | 11 - Bodily Injury Extension |
| 2 - Automatic Waiver of Subrogation | 12 - Hired Auto Physical Damage |
| 3 - Automatic Additional Insured | 13 - Enhanced Supplementary Payments |
| 4 - Primary and Noncontributory - Other Insurance Condition | 14 - Fellow Employee Coverage for Designated Positions |
| 5 - Unintentional Failure to Disclose Hazards | 15 - Physical Damage – Transportation Expenses |
| 6 - Extended Notice of Cancellation, Non-Renewal | 16 - Rental Reimbursement Coverage |
| 7 - When We Do Not Renew | 17 - Loan/Lease Gap Coverage |
| 8 - Notice of Knowledge of Accident or Loss | 18 - Accidental Air Bag Discharge Coverage |
| 9 - Employees as Insured | 19 - Glass Repair – Waiver of Deductible |
| 10 - Employee Hired Autos | |

1. BROAD FORM NAMED INSURED

SECTION II. A. 1. -WHO IS AN INSURED - Paragraph d. is added:

- d. Any organization you newly acquire or form, except for a partnership, joint venture or limited liability company, and over which you maintain majority ownership or interest (51% or more) or for which you have assumed the active management, will qualify as a Named Insured if there is no other similar insurance available to that organization. However, coverage under this provision is only afforded until the end of the policy period or the 12-month anniversary of the policy inception date, whichever is earlier.

2. AUTOMATIC WAIVER OF SUBROGATION

Section IV – Business Auto Conditions, Paragraph A.5., Transfer of Rights of Recovery Against Others to Us, is deleted and replaced with the following:

- a. If the insured has rights to recover all or part of any payment we have made under this Coverage Form, those rights are transferred to us. The insured must do nothing after loss to impair those rights. At our request, the insured will bring "suit" or transfer those rights to us and help us enforce them.
- b. If required by a written contract executed prior to loss, we waive any right of recovery we may have against any person or organization because of payments we make for damages under this coverage form.

3. AUTOMATIC ADDITIONAL INSURED

SECTION II – WHO IS AN INSURED, Paragraph A.1, is amended to include as an "insured" any person or organization who is required by written contract or agreement to be an additional insured on your policy, but only with respect to liability arising out of operations performed by you or on your behalf for the additional insured.

4. PRIMARY AND NONCONTRIBUTORY - OTHER INSURANCE CONDITION

The following is added to the Other Insurance Condition in the Business Auto Coverage Form and the Other Insurance - Primary And Excess Insurance Provisions in the Motor Carrier Coverage Form and supersedes any provision to the contrary:

This Coverage Form's Covered Autos Liability Coverage is primary to and will not seek contribution from any other insurance available to an "insured" under your policy provided that:

1. Such "insured" is a Named Insured under such other insurance; and
2. You have agreed in writing in a contract or agreement that this insurance would be primary and would not seek contribution from any other insurance available to such "insured".

5. UNINTENTIONAL FAILURE TO DISCLOSE HAZARDS

Although we relied on your representations as to existing and past hazards, if unintentionally you should fail to disclose all such hazards at the inception date of your policy, we will not deny coverage under this Coverage Form because of such failure.

6. EXTENDED NOTICE OF CANCELLATION, NON-RENEWAL

The **COMMON POLICY CONDITIONS** , Item **A.2.b.** is deleted and replaced with the following:

A.2.b. 60 days before the effective date of the cancellation if we cancel for any other reason.

7. WHEN WE DO NOT RENEW

SECTION IV – BUSINESS AUTO CONDITIONS , is amended to add Item **B.9.**:

- a. If we choose to nonrenew this policy, we will mail or deliver to the first Named Insured shown in the Declarations written notice of the nonrenewal not less than 60 days before the expiration date.
- b. If we do not give notice of our intent to nonrenew as prescribed in **a.** above, it is agreed that you may extend the period of this policy for a maximum additional sixty (60) days from its scheduled expiration date. Where not otherwise prohibited by law, the existing terms, conditions and rates will remain in effect during that extension period. It is further agreed that so long as it is not otherwise prohibited by law, this one-time sixty-day extension is the sole remedy and liquidated damages available to the insured as a result of our failure to give the notice as prescribed in **9. a.** above.

8. NOTICE OF KNOWLEDGE OF ACCIDENT OR LOSS

SECTION IV - BUSINESS AUTO CONDITIONS , Item **A.2.a.** is deleted and replaced with the following:

2. Duties in the Event of Accident, Claim Suit or Loss:

- a. You must see to it that we are notified of an "accident", "claim", "suit" or "loss" which may result in a claim as soon as practicable after the "occurrence" has been reported to you, a partner, a member, an officer, or an employee designated to give notice to us. Notice should include:

- (1) How, when and where the "accident" or "loss" occurred;

- (2) The "insured's" name and address; and
- (3) To the extent possible, the names and addresses of any injured persons and witnesses.

9. EMPLOYEES AS INSURED

The following is added to the **Section II - Covered Autos Liability Coverage**, Paragraph **A.1. Who Is An Insured** provision:

Any "employee" of yours is an "insured" while using a covered "auto" you don't own, hire or borrow in your business or your personal affairs.

10. EMPLOYEE HIRED AUTOS

A. Changes In Covered Autos Liability Coverage

The following is added to the **Who Is An Insured** Provision:

An "employee" of yours is an "insured" while operating an "auto" hired or rented under a contract or agreement in an "employee's" name, with your permission, while performing duties related to the conduct of your business.

B. Changes In General Conditions

Paragraph **5.b.** of the **Other Insurance** Condition in the Business Auto Coverage Form and Paragraph **5.f.** of the **Other Insurance - Primary And Excess Insurance Provisions** Condition in the Motor Carrier Coverage Form are replaced by the following:

For Hired Auto Physical Damage Coverage, the following are deemed to be covered "autos" you own:

1. Any covered "auto" you lease, hire, rent or borrow, and
2. Any covered "auto" hired or rented by your "employee" under a contract in an "employee's" name, with your permission, while performing duties related to the conduct of your business.

However, any "auto" that is leased, hired, rented or borrowed with a driver is not a covered "auto".

11. BODILY INJURY EXTENSION

SECTION V - DEFINITIONS , Paragraph **C.** is deleted and replaced by the following:

- C. "Bodily injury" means bodily injury, sickness or disease sustained by a person, including mental anguish or death resulting from any of these, at any time. Mental anguish means any type of mental or emotional illness or disease.

12. HIRED AUTO PHYSICAL DAMAGE

SECTION III.A.4. - Coverage Extensions - Paragraph **c.** is added:

c. Hired Auto Physical Damage

If Comprehensive, Specified Causes of Loss or Collision coverage is provided under this policy, then Hired Auto Physical Damage is provided for that coverage part subject to the following:

- (1) The most we will pay for any one "accident" or "loss" under this Hired Auto Physical Damage Coverage is the lesser of:
 - (a) The any one "Accident" or "Loss" amount of \$100,000;
 - (b) The actual cash value; or

(c) Cost of repair.

Our obligation to pay for a loss in c.(1) above will be reduced by a deductible. The deductible will be equal to the largest deductible applicable to any owned "auto" for that coverage. The deductible will be waived for "loss" caused by fire or lightning.

- (2) Subject to paragraph c.(1). above, we will provide coverage equal to the broadest physical damage coverage applicable to any covered "auto" shown in the declarations.
- (3) When you are required by written contract to indemnify a lessor for actual financial loss because of loss of use of a hired "auto" resulting from a covered "accident" or "loss", we will cover that financial loss subject to the limit specified in paragraph c.(1).

13. ENHANCED SUPPLEMENTARY PAYMENTS

SECTION II.A.2.a. COVERAGE EXTENSIONS, Supplementary Payments (2) and (4) are replaced by the following:

- (2) Up to \$2,500 for the cost of bail bonds (including bonds for related traffic laws violations) required because of an "accident" we cover. We do not have to furnish these bonds.
- (4) All reasonable expenses incurred by the "insured" at our request, including actual loss of earnings up to \$350 a day because of time off from work.

14. FELLOW EMPLOYEE COVERAGE FOR DESIGNATED POSITIONS

The **Fellow Employee Exclusion contained in Section II.B.5.** does not apply to the following positions or job titles: foreman, supervisor, manager, officer, partner or other senior level "employee". Coverage is excess over all other collectible insurance.

15. PHYSICAL DAMAGE - TRANSPORTATION EXPENSES

SECTION III.A.4.a. Transportation Expenses is replaced by the following:

a. Transportation Expenses

We will pay up to \$50 per day to a maximum of \$1,500 for temporary transportation expense incurred by you because of the total theft of a covered "auto". We will pay only for those covered "autos" for which you carry either Comprehensive or Specified Cause of Loss Coverage. We will pay for temporary transportation expenses incurred during the period beginning 48 hours after the theft and ending, regardless of the policy's expirations, when the covered "auto" is returned to use or we pay for its "loss".

For autos provided with temporary transportation expense, the following physical damage coverage will apply:

- (1) The most we will pay for any one "accident" or "loss" under the temporary transportation expense physical damage coverage is the lessor of:
 - (a) The any one "Accident" or "Loss" amount of \$100,000;
 - (b) The actual cash value; or
 - (c) Cost of repair.

Our obligation to pay for a loss in a.(1) above will be reduced by a deductible. The deductible will be equal to the largest deductible applicable to any owned "auto" for that coverage. The deductible will be waived for "loss" caused by fire or lightning.

- (2) Subject to paragraph a.(1). above, we will provide coverage equal to the broadest physical damage coverage applicable to any covered "auto" shown in the declarations.
- (3) When you are required by written contract to indemnify a lessor for actual financial loss because of loss of use of a hired "auto" resulting from a covered "accident" or "loss", we will cover that financial loss subject to the limit specified in paragraph a.(1).

16. RENTAL REIMBURSEMENT COVERAGE

SECTION III.A.4. - Coverage Extensions - Paragraph **d.** is added.

- d.** If you carry Comprehensive, Specified Causes of Loss or Collision coverage for the damaged covered "auto" as provided under this policy, then Rental Reimbursement Coverage is provided for that coverage part subject to the following:
 1. We will pay for rental reimbursement expenses incurred by you for the rental of an "auto" because of "loss" other than theft, to a covered "auto". Payment applies in addition to the otherwise applicable amount of each coverage you have on a covered "auto". No deductibles apply to this coverage.
 2. We will only pay for those expenses incurred during the policy period beginning 24 hours after the "loss" and ending, regardless of the policy's expiration, with the lesser of the following number of days:
 - (a) The number of days reasonably required to repair or replace the covered "auto"; or,
 - (b) 30 days.
 - (c) Our payment is limited to the lesser of the following amounts:
 - (1) Necessary and actual expenses incurred; or
 - (2) \$50 per day.

17. LOAN/LEASE GAP COVERAGE

Physical Damage Coverage is amended by the addition of the following:

In the event of a total "loss" to a covered "auto", we will pay your additional legal obligation for any difference between the actual cash value of the "auto" at the time of the loss and the "outstanding balance" of the loan/lease, not to exceed \$2,500 for any one vehicle or \$25,000 annually in aggregate.

For the purposes of this endorsement, "outstanding balance" means the amount you owe on the loan/lease at the time of loss less any amounts representing taxes, overdue payments, penalties, interest or charges resulting from overdue payments, additional mileage charges, excess wear and tear charges or lease termination fees, costs for extended warranties, credit Life Insurance; Health, Accident or Disability Insurance purchased with the loan or lease; and carry-over balances from previous loans or leases.

18. ACCIDENTAL AIR BAG DISCHARGE COVERAGE

SECTION III.B.3.a - Exclusions . This exclusion does not apply to the accidental discharge of an air bag.

19. GLASS REPAIR - WAIVER OF DEDUCTIBLE

SECTION III.D - Deductible is replaced with the following:

For each covered "auto", our obligation to pay for, repair, return or replace damaged or stolen property will be reduced by the applicable deductible shown in the Declarations. Any Comprehensive Coverage deductible shown in the Declarations does not apply to "loss" caused by fire or lightning. The deductible does not apply to glass damage if the glass is repaired rather than replaced.

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PART III

APPENDICES

APPENDIX A

Project Geotechnical Engineering Basis of Design Report

Basis of Design Report
Deer Trail Slide Damage Repair, CRP 921020
Birch Bay, Washington

File No. 00484-120-01

September 9, 2021

Prepared for:

Whatcom County Public Works
322 North Commercial Street, Suite 301
Bellingham, Washington 98225

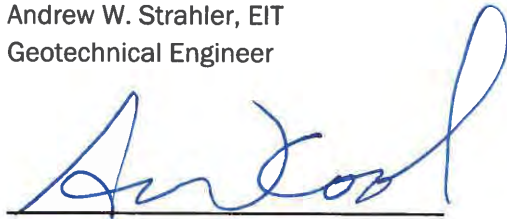
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FIGURES

Figure 1. Vicinity Map

Figure 2. Site and Exploration Plan

APPENDICES

Appendix A. Field Exploration and Laboratory Testing

Appendix B. Slope/W Analysis Results

Appendix C. Plan Set prepared by Whatcom County

Appendix D. Report Limitations Guidelines for Use

1.0 INTRODUCTION

GeoEngineers, Inc. (GeoEngineers) is pleased to submit this Basis of Design Report presenting our geotechnical conclusions and recommendations in support of our roadway stabilization design for repair of a landslide that occurred on Deer Trail Road in Birch Bay, Washington. The approximate location of the landslide is presented in the Vicinity Map, Figure 1 and the Site and Exploration Plan, Figure 2. This document has been developed in support of the slide repair, details of which are presented in the construction plan set developed by Whatcom County Public Works (WCPW).

An approximate 75-foot stretch of the Deer Trail roadway at the intersection of Cherry Tree Lane has failed on the south (downhill) side of the road. The road is currently reduced to one lane. We visited the site on February 3, 2021 and met with Brian Walker of WCPW to perform a preliminary evaluation of site conditions and discuss preliminary repair options that are summarized in our letter report dated April 19, 2021. After completing preliminary stability analyses and discussing repair options with WCPW it was determined that additional subsurface information was necessary to select the final repair option.

The purposes of our geotechnical engineering services described in this Basis of Design report included performing supplemental field explorations to evaluate subsurface conditions at the project site, evaluating slide causes and repair options, performing geotechnical analyses, and reviewing design documents for WCPW to incorporate into a bid package for construction. Our scope of services is described in our Professional Services Consultant Agreement with Whatcom County dated June 15, 2021.

2.0 SITE CONDITIONS

2.1. General

The landslide and ground movement occurred along Deer Trail near the intersection of Cherry Tree Lane in Birch Bay, Washington. We understand that the slide was first noticed on January 4, 2021 and GeoEngineers conducted a detailed reconnaissance of the slide area on February 3, 2021 which are summarized in our previously provided letter report and briefly discussed below. A portion of the roadway in the area of instability and slumping appears to have been constructed with common “cut and fill” techniques where the inside lane of the roadway is constructed by excavating into the hill slope and the outside lane is constructed with fill from the excavation. The resulting cut and fill slopes are sometimes over steepened, and the fill slope is often not well compacted or keyed into the native slope, resulting in slope instability along the fill or cut section of the roadway. The slope instability can be exacerbated by increase in seasonal moisture content in the slope from rainfall runoff and groundwater seepage, resulting in slope failure.

2.2. Geology

We reviewed a U.S. Geologic Survey (USGS) map for the project area, “Geologic Map of Washington – Northwest Quadrant” by Dragovich et al. (2002). The site is mapped as undifferentiated glacial drift, likely associated with a glacial outwash unit deposited in a glaciofluvial or glaciodeltaic environment, with other mixed glacial till and glaciolacustrine deposits. A contact with quaternary alluvium (beach deposits) is mapped just south of the project site near Birch Point Road.

The undifferentiated glacial drift deposits mapped at the site typically consist of loose, stratified cobbles, gravel, sand, and silt beds, but also contain till-like and fine-grained glaciolacustrine sediments.

Quaternary alluvium deposits mapped to the south of the project vicinity are generally considered to be beach deposits comprised of sand and gravel with minor shell fragments deposited along shorelines and locally includes back-beach dune fields and minor estuarine deposits.

2.3. Slide Description

The Deer Trail roadway is located along an east-facing slope that parallels immediately above and adjacent to a creek approximately 20 to 25 feet lower in elevation to the east. The current roadway is approximately 20 feet wide and paved with asphalt concrete pavement (ACP) that is generally in good condition with the exception of the deterioration associated with the slope movement. The road traverses down the slope toward Birch Point Road from approximately north to south. The north end of the roadway alignment increases from the existing road grades to a developed, level landscaped area with grasses, bushes, and trees that are part of a residential property at approximately Elevation 51 feet (NGVD88). A shallow vegetated ditch directly adjacent to the roadway supports a culvert running northeast/southwest underneath Cherry Tree Lane. The overall slope gradient adjacent to the slide ranges from about 1.5H:1V (horizontal to vertical) to 1.6H:1V although some areas of the slope are as steep at 0.6H:1V near the toe of the slope. The creek channel side slopes contain heavy vegetation and several large maple and cedar trees. We observed a bench at the toe of the slope in this area that may be comprised of historic slope debris from a previous slide. The vegetation along the south side of the right-of-way (ROW) and slope consists primarily of trees, bushes, and blackberry brambles.

The slide scarp extended an estimated distance of about 2 feet back into the roadway prism and extends approximately 25 feet in elevation below the top of the road. Areas of exposed native material were observed approximately 5 feet downslope, at about Elevation 45 feet. The slide area was observed to be approximately 70 to 80 feet wide including the sides of the scarp. Areas of significant seepage channels were observed on the surface or face of the slide scarp, suggesting that significant groundwater had built up behind the face of the pre-failure slope.

2.4. Subsurface Explorations

Subsurface soil conditions at the site were explored to depths ranging up to 31½ feet below ground surface (bgs) by drilling three borings (B-1 through B-3) with a track-mounted drilling rig subcontracted to GeoEngineers on July 7, 2021, to supplement initial site reconnaissance investigations consisting of three dynamic cone penetrometer tests (DCPTs) (DCP-1A, DCP-1B, and DCP-2) to depths of 13 feet. The approximate locations of the explorations are shown in the Site and Exploration Plan, Figure 2. The locations of the explorations were determined by recreational grade global positioning system (GPS); therefore, the locations shown in Figure 2 should be considered approximate. Details of the field exploration program and the exploration logs are presented in Appendix A. Details regarding the laboratory testing program and results are also presented in Appendix A.

2.5. Subsurface Conditions

2.5.1. Soil Conditions

Soils encountered in the borings generally consisted of uncontrolled fill soils, roadway fill soils, and undifferentiated glacial deposits as described below. Surfacing at the boring locations typically consisted of asphalt concrete pavement ranging from 3 to 4 inches thick, gravel base course, or a thin approximately 6-inch-thick sod layer.

- **Topsoil:** Topsoil material was observed in boring B-1. The topsoil generally consisted of a dark brown loose silty sand to soft sandy silt with rootlets and other organic matter.
- **Roadway Fill Soils:** Roadway fill soils encountered in the explorations generally consist of a 4- to 5-inch thick layer sand and crushed gravel road base course underlying the asphalt and topsoil surfacing in all borings.
- **Possible Fill/Reworked Native Soils:** Possible fill or reworked native material consisting of gray to brown sandy silt to silt or clay with sand were encountered to depths of 2 to 3 feet bgs in all borings.
- **Undifferentiated Glacial Deposits:** Native soils were encountered to full exploration depths of 31½ feet bgs underlying the possible fill/reworked native soils in the borings. We interpret the native soils to be interbedded layers of gray silt with fine sand and tan clay with silt and decaying marine organics. Light iron staining was observed at the contact between layers. Dead tree roots were observed within the clay layer which had hollow internal support structures. We consider this unit to be consistent with the stratified and unconsolidated glaciofluvial or glaciodeltaic outwash sediments as part of the undifferentiated glacial drift unit mapped at the site.

2.5.2. Groundwater Conditions

As noted in our letter report, significant groundwater seepage was observed approximately 3 feet up from the toe of the failed slope at the time of our visit. Water appeared to seep out of the face through the roots observed within the clay layer. All of our explorations were completed during the dry season. Standing groundwater was not observed during our explorations but wet soil was encountered in all the borings at depths of 7.5 to 10 feet bgs at the time of drilling. The groundwater conditions should be expected to vary as a function of season, precipitation, and other factors.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1. General

We evaluated repair options for the slide and discussed these potential approaches with WCPW. Major considerations in selecting a preferred repair option included: (a) the road must stay open during construction; (b) onsite soils are highly variable strength and generally reduce in strength with depth; (c) site access; (d) ROW constraints; and (d) cost/efficiency of construction. It was determined that a fill buttress comprised of quarry spalls and lightweight (scoria) rock is the preferred option. However, assuming a maximum buttress inclination of 1.5H:1V, the buttress would extend into the adjacent ROW. It is our understanding that WCPW intends to pursue construction easements to accommodate the buttress design.

3.2. Slope Stability Modeling Approach

We conducted slope stability modeling of the existing conditions, assumed pre-failure conditions, and several repair options based on the results of our slope reconnaissance, site explorations, and site topographic survey information provided by WCPW. The slopes were analyzed under static loading conditions and a variety of groundwater/creek conditions using the computer program SLOPE/W, Version 10.2 developed by Geo-Slope International to determine safe slope configurations. The program has the capability of analyzing slope stability for two-dimensional profiles under a wide range of failure surface geometries, soil layers and groundwater conditions. The limit equilibrium based computer stability

program was used to randomly generate and evaluate circular failures within the area of interest. The slide area was analyzed under static loading conditions to evaluate the root cause of the observed failure.

The factor of safety (FS) obtained from the computer modeling is the ratio of the shear strength of the soils along the failure surface to the shear forces experienced on the failure surface due to the weight of the failure block. When the ratio of these forces (the FS) is greater than 1, the slope is stable as modeled. Preferred static factor of safety values used in this type of analyses for design of repairs are typically 1.5 or greater for slopes with potential impacts on structures and critical roadways. When structures are not involved and the area is a low volume road, Washington State Department of Transportation (WSDOT) allows for minimum static factors of safety of 1.2 for repaired slopes.

3.2.1. Existing Conditions and Slope Failure

The site is generally mantled with an approximately 15-foot-thick crust of medium stiff silty clay that is underlain by soft silty clay to the depths explored. Two generalized subsurface cross-sections were developed based on provided survey data at the locations shown on the attached site plan to represent the existing geometry. Cross-section A-A' was used as a baseline and combined with cross-section B-B' to establish an approximate pre-failure ground surface geometry in SLOPE/W shown in Figure B-1 in Appendix B. An approximate failure surface, shown in Figure B-1, was estimated based on our subsurface explorations and observations completed during our site reconnaissance visits.

The subsurface cross section was separated into three soil units with engineering properties selected based on correlations with the subsurface conditions noted in the boring logs. Table 1 below provides the selected soil properties used in the slope stability modeling for both existing and proposed repair materials.

TABLE 1. SELECTED ENGINEERING SOIL PROPERTIES-BARE CABLE SITE

Subsurface Unit	Total Unit Weight (pcf) ¹	Friction Angle (degrees)	Cohesion (psf) ¹
Medium Stiff Clay	105	0	600
Soft Silty Clay	105	0	300
Roadbase Fill	125	34	0
Scoria Rock	60	40	0
Quarry Spalls	120	45	0
Rip Rap	150	45	0

The general shape of the failure geometry also suggests that several deciduous trees (maple trees) located at the crest of the slope may have contributed to the failure and were incorporated in the modeling.

Results of our analyses indicate that the FS for the pre-failure condition was generally slightly above 1.0 during the wet season and was likely exhibiting annual periodic progressive movement. The root cause of the slide failure at this location is likely the result of locally oversteepened slopes, high groundwater and elevated moisture content within the slope, and tree surcharging at the crest. Based on our back-calculations, we conclude that the failure was likely the result of wet season saturation and/or dynamic tree loading from a wind storm.

3.2.2. Evaluation of Repair Options

Typical non-structural slope repairs include reconstructing a 2H:1V soil or rock buttress slope, reconstructing with a steeper slope using angular rock (such as quarry spalls) because of the high strength of this material, or reconstructing a steeper slope using reinforced embankment techniques. Structural slope repairs for these types of slope failures generally include Structural Earth Walls (SEW) with toe trenches. Preliminary static slope stability analyses were conducted within SLOPE/W evaluating various non-structural and structural repairs that would meet the minimum required WSDOT FS of 1.2 for these type of slope repairs. Based on our analyses, we conclude that viable, cost-effective repair options generally consist of two options:

1. A quarry spall rock and scoria buttress supported by an SEW with a sizable toe trench, or a
2. Combination quarry spall and scoria rock buttress constructed at a 1.5H:1V slope with a riprap armored toe trench.

Our analyses indicate that the first option would generally be more expensive but would reduce adjacent ROW impacts. The second option would likely be cheaper and easier to construct but will impact adjacent ROW and would require construction easements. Based on discussions with WCPW, it is our understanding that the 1.5H:1V quarry spall/scoria rock buttress (Option 2) is the preferred repair option.

3.3. Scoria Rock/Quarry Spall Buttress Design

To provide sufficient travel space and guardrail protection, it is our understanding that WCPW prefers the final design to consist of a 15-foot-wide section of roadway extending from the centerline to the crest of the rock buttress. The proposed slope geometry of 1.5H:1V will extend to the toe of the slope and into the County obtained construction easement. The repair will extend for approximately 170 feet along the Deer Trail roadway from the northernmost portion of the slide failure and will capture areas of previous instability observed during our site reconnaissance visits.

Based on several iterations of static slope stability analyses, in order to meet the minimum WSDOT slope stability FS for this repair, we recommend a typical repair section with 60 percent of the buttress height being comprised of lightweight fill material (e.g., scoria rock) underlain by a zone of quarry spalls at the base of the fill. The quarry spall/scoria rock buttress includes a toe trench at the elevations shown, construction of wrapped face slopes, and slope armoring using riprap of various sizes based on site conditions. The results of our slope stability analysis are presented in Figures B-2 and B-3 and indicate that the repaired slopes result in adequate safety factor at or above 1.2 for static conditions.

The repair concept is presented in the attached draft plan sets developed by WCPW dated September 1, 2021. The rock fill slope buttress can be constructed with a maximum slope of 1.5H:1V as shown in the project plans. While some “field fitting” will be required during construction, temporary or permanent buttress slopes should not be constructed any steeper than this geometry. The final base elevation of the excavation for the buttress will need to be adjusted based on the actual soil conditions encountered during construction of the repair, and the height of the slope will be that necessary to match the grades of the existing roadway. We have designed the buttress fill using scoria rock and 8-inch quarry spalls in accordance with WSDOT Standard Specifications for Road, Bridge, and Municipal Construction (herein after referred to as WSDOT Standard Specifications) 9-13.5.

3.3.1. Scoria Slope Armoring and Scour Mitigation

Based on our experience with the lightweight scoria fill, we anticipate that some erosion, raveling, and spalling may occur at the slope face during construction and throughout the lifetime of an exposed scoria rock slope face. We recommend that the fill at the slope face consisting of scoria be constructed with a geogrid wrapped face overlain by a minimum 18-inch-thick section of quarry spalls or light duty riprap to armor the exposed slope. The geogrid should extend a minimum of 8 feet into the slope face at the bottom of each layer and include a 4 foot tail. The layers should be constructed in 18-inch lifts in accordance with the material placement section of this report. We recommend that the geogrid consist of Mirafi 3XT or equivalent. It is critical that the geogrid is oriented with the strength direction perpendicular to the slope face.

3.3.2. Trenched Key at Toe of Slope

A trenched key shall be incorporated into the rock buttress repair at the toe of the slope. The trenched key should extend through landslide debris present at the site and a minimum of 4 feet into the competent medium stiff clay soils encountered at the site or as directed by the field engineer. The trenched key shall be a minimum 5-feet wide at the base and constructed with either a heavy riprap material or quarry spalls and must seamlessly transition into the overlying rock buttress fill. To mitigate erosion and potential scour at toe of the slope, we recommend that an approximately 3-foot-thick heavy riprap section be incorporated at the toe of the repair slope. This recommendation is based on practical experience, GeoEngineers did not complete any hydraulic analysis.

We also recommend excavating a series of horizontal terraces or benches into the native soil/bedrock to prevent creating a dipping slip plane between the native conditions and the rock buttress. We expect that the maximum height of the terrace or benches should be on the order of 2 to 4 feet in order minimize the excavation into the native soils. We recommend the excavated key trench and benches be evaluated by a representative of our firm prior to placing any fill to confirm if the subgrade soils are adequate, and to provide alternate recommendations if necessary.

3.3.3. Roadside Design Considerations

The current roadway section generally consists of a 2 percent gradient sloping away from the roadway centerline and generally varies with stationing due to super elevation of the roadway. It is our understanding that the proposed road repair will match existing grades. To mitigate against surface water sheetflow on to the slope and inundating the repaired buttress, we recommend that a thickened asphalt edge or raised curb and gutter be installed along the north bound lane of the repaired asphalt roadway. Surface runoff from the roadway should either be directed away from the repair area or collected in storm drains and conveyed to the toe of the slope in pipes or quarry spall lined trenches.

We understand that a guard rail is also planned along northbound lane of the repaired slope. Guardrail foundation support is anticipated to consist of driven posts extending into the lightweight scoria rock buttress fill. The lightweight fill has a reduced lateral capacity when compared to typical soils and should be considered in the design of the guardrail support. Often this can be accomplished by increasing the length of the piles by 40 to 50 percent.

3.4. Quarry Spall/Scoria Rock Buttress Construction Considerations

3.4.1. Fill Material Importation and Placement

3.4.1.1. Quarry Spalls

We recommend the quarry spalls be consistent with WSDOT Standard Specifications Section 9-13 (5). Other products may be submitted to the geotechnical engineer for approval. The initial lift of spalls should not be end-dumped on the geotextile fabric and recommend they be placed with an excavator bucket, with less than a 12-inch drop above the geotextile fabric to minimize the risk of damage. Once a layer of quarry spalls covers the fabric, the drop should be limited to less than 2 feet. We recommend the rock be placed in lifts no greater than 18 inches thick, and each lift be **uniformly and consistently** tamped in place with, at minimum, a medium-sized excavator (machine weight at least 45,000 pounds) bucket. Alternative placement procedures must be approved by the geotechnical engineer.

3.4.1.2. Lightweight Scoria Rock Fill

Imported lightweight scoria rock should have a moist unit weight on the order of 45 to 60 pounds per cubic foot (pcf) at a moisture content between 5 and 10 percent and gradation as shown in Table 2.

TABLE 2. RECOMMENDED SCORIA ROCK GRADATION

Sieve Size	Percent Passing
4-inch	100
3-inch	95 to 100
1-inch	25 maximum
#200	0 to 3

Lightweight scoria rock will not be suitable for in-place density testing. The scoria rock should be placed in maximum 18-inch-thick lifts and rolled with a minimum of three passes with a smooth-drum roller to seat the material in place, or the number of passes required to produce a uniformly firm condition. The engineer may specify static roll without vibration if excessive crushing of the rock is observed. A large walk-behind plate compactor, small double-drum roller, and/or excavator mounted hoe-pack may be appropriate for compaction in areas with limited access.

3.4.1.3. Roadway Fill

We recommend that select import fill such as gravel borrow and crushed surfacing base course (CSBC) be used to reconstruct the road base and shoulder within the slide area. We recommend a pavement replacement section consisting of 4 inches of asphalt concrete over 3 inches of CSBC overlying 12 inches of gravel borrow placed as structural fill. The same stabilization fabric described in Section 3.4.2 should be placed over the top of the scoria before placing roadway base course. We recommend that the roadway base course section be compacted to 95 percent of the maximum dry density (MDD) per ASTM International (ATSM) D1557. Conventional WSDOT compaction and construction procedures should be used unless otherwise approved by WCPW or the geotechnical engineer.

The on-site soils within the excavation depth for the slope repair consist primarily of silty clay to clayey silt with some organic matter. We recommend that the on-site landslide soils not be considered for use as fill on the site.

3.4.2. Subgrade Preparation

The loose slide debris must be removed from the actual repair area for stability of the rock buttress. Based on the results of our observations and probing, we conclude that medium stiff soils can be exposed within reasonable depth and removal of limited material. The full extent of the existing slide debris that should be removed will not become apparent until the time of construction; therefore, we recommend that the extent of the debris removal be determined at that time by the geotechnical engineer and WCPW personnel. Prior to placement of any rock buttress material, the area to be repaired should be cleared of loose, saturated soil and any remaining vegetation or organic debris.

We recommend that a high survivability nonwoven geotextile for soil stabilization be placed against the slope and subgrade to prevent migration of finer particles into the rock fill buttress. This fabric should have a minimum grab tensile strength of 200 pounds and be consistent with WSDOT Standard Specification Section 9-33.2(1) Table 3 for Construction Geotextiles. An appropriate fabric would be Mirafi 180N or equivalent. The addition of a geotextile fabric along the back and base of the excavation surface and the scoria rock/quarry spall buttress will mitigate fines migration associated with seepage from the slope.

We recommend the trees and vegetation adjacent to the repair area be left intact to the extent feasible.

3.4.3. Temporary Construction Considerations

3.4.3.1. Slope Excavation

Project excavations will extend through loose slide debris, which consists of silty clay and clayey silt with sand and variable amounts of oversized debris including cobbles, logs, tree trunks, and asphalt pavement debris. We anticipate the excavation of loose slide debris will occur from either the top of the slope or at-grade and transported off site using a temporary construction access road. The contractor should plan on mobilizing an appropriately sized excavator that has sufficient reach to accomplish the work detailed in the plans and specifications.

The excavation and repair, and site access for personnel safety should be completed in accordance with Washington State Administrative Code (WAC) 296-155, Part N for excavation safety. Any loose slide debris encountered at the site would be classified as "Type C" and require 1.5H:1V slopes. The existing roadway fill prism has been standing at a moderately stable 1.2H:1V with no significant additional movement since the slide has occurred. We anticipate that general temporary excavations on the order of 15 feet are possible at a 1H:1V slope during the dry season. We recommend that excavations along the slope greater than 15 feet should be completed in sections no larger than 50 feet lengths at a time to mitigate against additional slope movement. Additional efforts and shallower temporary slopes may be required if construction is completed in the wet season. The above regulations assume that surface loads such as construction equipment and storage loads will be kept a sufficient distance away from the top of the slope so the stability of the excavation is not affected.

In our opinion, the contractor will be in the best position to observe subsurface conditions continuously throughout the construction process and to respond to the soil and groundwater conditions in accordance with their means and methods to complete the work. Construction site safety is generally the sole responsibility of the contractor, who also is solely responsible for the means, methods, and sequencing of the construction operations and choices regarding temporary excavations and shoring. We are providing this information only as a service to our client. Under no circumstances should the information provided below be interpreted to mean that GeoEngineers, Inc. is assuming responsibility for construction site safety or the contractor's activities; such responsibility is not being implied and should not be inferred.

3.4.3.2. Lateral Support at Manhole During Construction

Based on our review of the survey provided by WCPW, excavation of temporary construction slopes will expose an existing sanitary sewer manhole at approximately Station 3+80 in the plans developed by WCPW. Efforts to protect the existing manhole should be in place prior to excavation of the temporary slopes in this area. Conventional repair options generally consist of reinforcing the existing manhole, installing downslope sheet piles for support, or adjusting the construction sequencing to mitigate against movement or separation of joints in the existing manhole. In our opinion, the contractor will be in the best position to select the most appropriate protection mechanism based on selected construction practices.

3.4.3.3. Temporary Deer Trail Travel Lane Section

We understand that the existing roadway alignment will be shifted slightly westerly during construction in order to facilitate construction efforts and minimize impacts to traffic along Deer Trail. This area currently contains a shallow vegetated ditch that conveys surface water adjacent to the roadway. To facilitate construction of the temporary travel lane in this area, we recommend that the ditch be cleared and grubbed prior to construction of temporary roadway section which should consist of open graded crushed rock section underlain by the same geotextile fabric provided in Section 3.4.2 and overlain by a minimum of 3 inches of CSBC. The open graded crushed rock should generally be consistent with WSDOT Standard Specification Section 9-03.9(1) for ballast or 9-03.9(2) for permeable ballast.

3.4.3.4. Seepage and Construction Dewatering Considerations

Dewatering and construction of temporary dams will likely be necessary to maintain groundwater levels below the base of the excavation due to the presence of the adjacent creek and relatively high groundwater in the vicinity of the slide. The level of effort to manage groundwater at this location will depend on the time of year of construction. If construction occurs during the dry season, we anticipate that simple berms of soil should be sufficient to prevent creek water inflow.

We recommend that dewatering be incidental to the bid. It is possible that open pumping will be sufficient to maintain water at the base of the excavation. This dewatering method involves removing water that has seeped into the excavation from the base by pumping from a series of sumps (submersible pumps) excavated and installed within the excavation. Drainage ditches that are connected to the sump are typically excavated along the sidewalls at the base of the excavation or trench. The excavation for the sump and the drainage ditches should be backfilled with appropriately sized material to serve as a filter to reduce the amount of erosion and associated sediment in the water pumped from the sump. In our experience, a slotted casing that is installed in the sump backfill provides a suitable housing for a submersible pump.

The amount of water removed from the excavation by open pumping should be minimized because of high turbidity levels. Temporary storage of dewatering effluent from the sumps in a settlement tank or basin may be required to meet discharge permit requirements and reduce sediment content prior to discharging the water to surface water course. We recommend that any dewatering system be installed and functioning prior to excavation to final subgrade, and that the water levels be drawn down to 2 feet below final planned excavation.

3.4.3.5. Erosion and Sedimentation Control

The site soils have a low to moderate susceptibility to erosion when disturbed. Temporary erosion control measures should be used during construction depending on the water, location, soil type, and other factors. Surface water should be prevented from flowing across disturbed areas and not directed toward the slopes during construction. Temporary erosion protection (e.g., straw, plastic, or rolled erosion control products

[RECPs]) may be necessary to reduce sediment transport until vegetation is established or permanent surfacing applied. Appropriate best management practices (BMPs) should be incorporated into the temporary erosion and sediment control plan by WCPW. GeoEngineers is available to provide input if desirable.

3.4.4. Wet Weather Earthwork

During wet weather, existing on-site silt and clay soils will become muddy and unstable. We strongly recommend that construction be scheduled for the drier mid- to late-summer months, typically July through September. We provide the following wet weather considerations:

- Construction activities should be scheduled so that the length of time that soils are left exposed to moisture is reduced to the extent practical and limit the size of areas that are stripped of topsoil or gravel surfacing and left exposed.
- The ground surface in and around the work area should be sloped so that surface water is directed to a sump or discharge location. The ground surface should be graded such that areas of ponded water do not develop.
- Slopes with exposed soils should be covered with plastic sheeting or similar means.
- Providing upgradient perimeter ditches or low earthen berms and using temporary sumps to collect runoff and prevent water from ponding and damaging exposed subgrades.
- The site soils should not be left uncompacted and exposed to moisture. Sealing the surficial soils by rolling with a smooth-drum roller prior to periods of precipitation will reduce the extent to which these soils become wet or unstable.
- Limiting construction traffic over unprotected soil and by limiting the size and type of construction equipment used.

4.0 REFERENCES

Dragovich, J.D., R.L. Logan, H.W. Schasse, T.J. Walsh, W.S. Lingley, Jr., D.K. Norman, W.J. Gerstel, T.J. Lapen, J.E. Schuster, and K.D. Meyers. 2002. "Geologic Map of Washington-Northwest Quadrant." Washington Division of Geology and Earth Resources. Geologic Map GM-50.

Geo-Slope International. GeoStudio 2020, SLOPE/W, Version 10.2

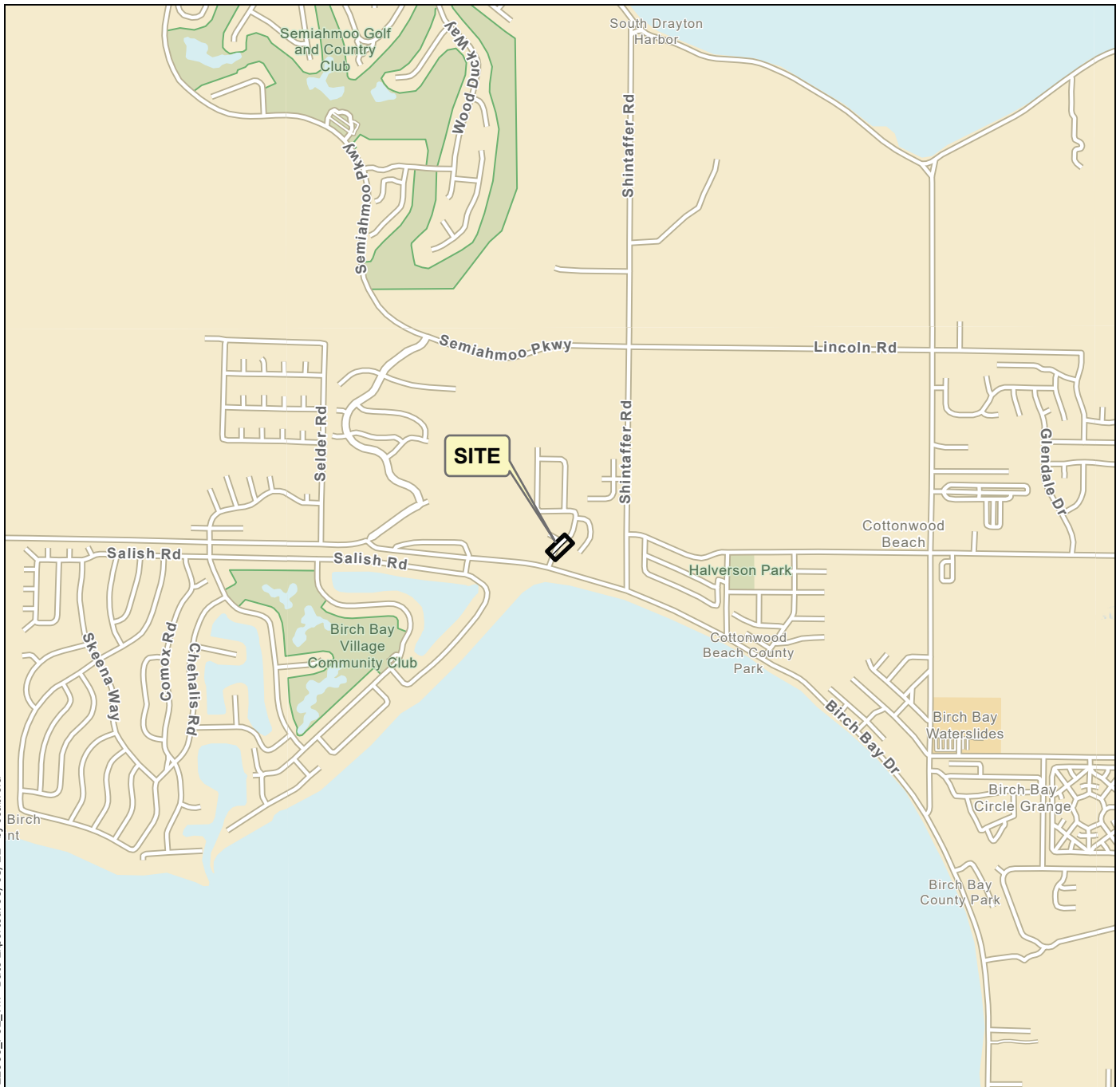
Washington Department of Transportation, Standard Specifications for Road, Bridge and Municipal Construction, 2022.

5.0 LIMITATIONS

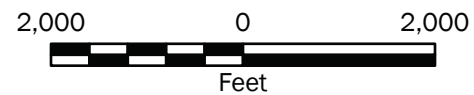
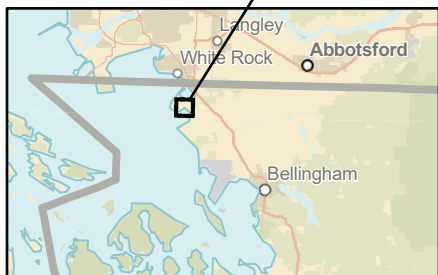
We have prepared this report for the exclusive use of Whatcom County Public Works and their authorized agents for the Deer Trail Slide Damage Repair, CRP 921020 project in Birch Bay, Washington.

Within the limitations of scope, schedule and budget, our services have been executed in accordance with generally accepted practices in the field of geotechnical engineering in this area at the time this report was prepared. No warranty or other conditions, express or implied, should be understood.

Please refer to the appendix titled Report Limitations and Guidelines for Use for additional information pertaining to use of this report.



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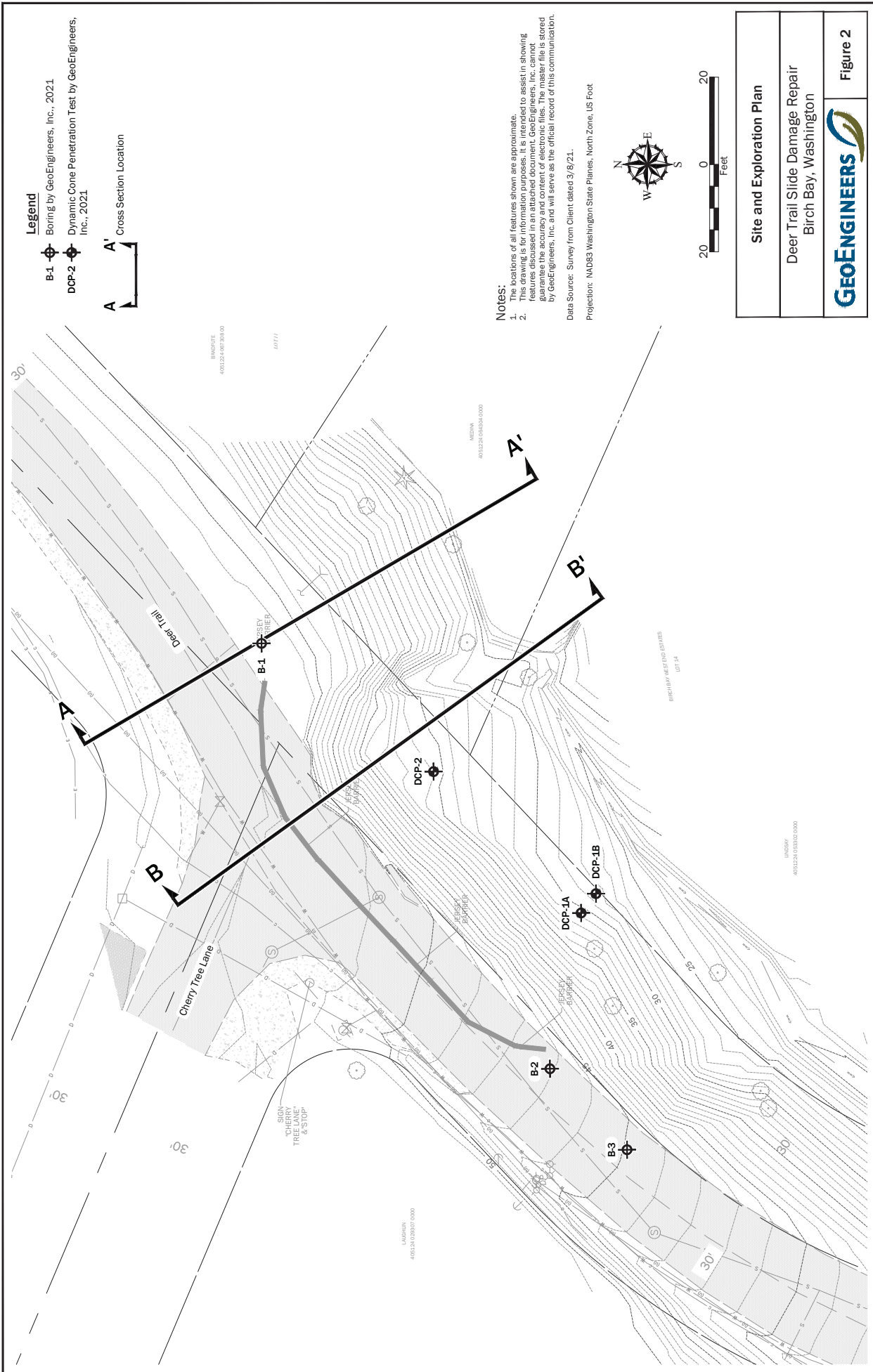


Notes:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: ESRI
 Projection: NAD 1983 UTM Zone 10N

Vicinity Map	
Deer Trail Slide Damage Repair Birch Bay, Washington	
	Figure 1



Legend

- B-1 Boring by GeoEngineers, Inc., 2021
- DCP-2 Dynamic Cone Penetration Test by GeoEngineers, Inc., 2021



NOTES:

1. The locations of all features shown are approximate.
2. This drawing is for information purposes. It is intended to assist in showing features discussed in an attached document. GeoEngineers, Inc. cannot guarantee the accuracy and content of electronic files. The master file is stored by GeoEngineers, Inc. and will serve as the official record of this communication.

Data Source: Survey from Client dated 3/8/21.

Projection: NAD83 Washington State Planes, North Zone, US Foot



Site and Exploration Plan

Deer Trail Slide Damage Repair
Birch Bay, Washington



Figure 2

APPENDIX A
Field Exploration and Laboratory Testing

APPENDIX A FIELD EXPLORATION AND LABORATORY TESTING

Field Exploration

Subsurface soil and groundwater conditions were evaluated at the slide location by completing three dynamic cone penetration tests (DCPTs) (DCP-1A, DCP-1B, and DCP-2) on June 22, 2021 and three borings (B-1 through B-3) on July 7, 2021. The borings were completed using a track-mounted drill rig subcontracted to GeoEngineers, Inc. The DCPTs were completed to estimate density/consistency and depth of the landslide debris. The DCPTs consist of a 1½-inch-diameter cone point attached to a drive hammer. The drive hammer weighs 35 pounds and has a free fall height of 15 inches. Blows are recorded for 4-inch intervals and correlated to soil density/consistency. The locations of the borings were determined by recreational grade global positioning system (GPS); therefore, the locations shown in Figure 2 should be considered approximate.

Disturbed soils samples were obtained using Standard Penetration Test (SPT) methodology with the standard split spoon sampler in the borings. The samples were placed in sealed plastic bags to maintain the moisture content and transported back to our laboratory for analysis and testing.

The borings were continuously monitored by a geotechnical engineer or engineering geologist from our firm who examined and classified the soils encountered, obtained representative soil samples, observed groundwater conditions, and prepared a detailed log of each exploration. Soils encountered were classified visually in general accordance with ASTM International (ASTM) D-2488-90, which is described in Figure A-1, Key to Exploration Logs. An explanation of our boring log symbols is also shown on Figure A-1.

The logs of the borings are presented in Figures A-2 through A-4 and the logs of the DCPTs are presented in Figure A-7 through A-9. The exploration logs are based on our interpretation of the field and laboratory data and indicate the various types of soils encountered. It also indicates the depths at which these soils or their characteristics change, although the change might actually be gradual. If the change occurred between samples in the boring, it was interpreted.

Laboratory Testing

Soil samples obtained from the explorations were transported to our laboratory and examined to confirm or modify field classifications, as well as to evaluate index properties of the soil samples. Representative samples were selected for laboratory testing consisting of percent fines determination and grain size distribution. The tests were performed in general accordance with ASTM test methods or other applicable procedures.

Percent Passing U.S. No. 200 Sieve

Selected samples were “washed” through the U.S. No. 200 mesh sieve to determine the relative percentage of coarse- and fine-grained particles in the soil. The percent passing value represents the percentage by weight of the sample finer than the U.S. No. 200 sieve. These tests were conducted in general accordance with ASTM D 1140. The results from the percent fines determinations are displayed in the column labeled “Fines Content (%)” adjacent to the corresponding samples on the summary exploration logs.

Atterberg Limits

Atterberg limits tests were performed on selected fine-grained soil samples. The tests were used to classify the soils as well as to evaluate index properties. The liquid limit and the plastic limit were estimated through a procedure performed in general accordance with ASTM D 4318. The results of the Atterberg limits tests are summarized in Figures A-5 and A-6.

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS		TYPICAL DESCRIPTIONS
			GRAPH	LETTER	
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS <small>(LITTLE OR NO FINES)</small>		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES
		GRAVELS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES
		GRAVELS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
	SAND AND SANDY SOILS	CLEAN SANDS <small>(LITTLE OR NO FINES)</small>		SW	WELL-GRADED SANDS, GRAVELLY SANDS
		SANDS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		SP	POORLY-GRADED SANDS, GRAVELLY SAND
		SANDS WITH FINES <small>(APPRECIABLE AMOUNT OF FINES)</small>		SM	SILTY SANDS, SAND - SILT MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS, ROCK FLOUR, CLAYEY SILTS WITH SLIGHT PLASTICITY
		LIQUID LIMIT LESS THAN 50		CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
		LIQUID LIMIT LESS THAN 50		OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS SILTY SOILS
		LIQUID LIMIT GREATER THAN 50		CH	INORGANIC CLAYS OF HIGH PLASTICITY
		LIQUID LIMIT GREATER THAN 50		OH	ORGANIC CLAYS AND SILTS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: Multiple symbols are used to indicate borderline or dual soil classifications

Sampler Symbol Descriptions

	2.4-inch I.D. split barrel
	Standard Penetration Test (SPT)
	Shelby tube
	Piston
	Direct-Push
	Bulk or grab
	Continuous Coring

Blowcount is recorded for driven samplers as the number of blows required to advance sampler 12 inches (or distance noted). See exploration log for hammer weight and drop.

"P" indicates sampler pushed using the weight of the drill rig.

"WOH" indicates sampler pushed using the weight of the hammer.

NOTE: The reader must refer to the discussion in the report text and the logs of explorations for a proper understanding of subsurface conditions. Descriptions on the logs apply only at the specific exploration locations and at the time the explorations were made; they are not warranted to be representative of subsurface conditions at other locations or times.

ADDITIONAL MATERIAL SYMBOLS

SYMBOLS		TYPICAL DESCRIPTIONS
GRAPH	LETTER	
	AC	Asphalt Concrete
	CC	Cement Concrete
	CR	Crushed Rock/ Quarry Spalls
	SOD	Sod/Forest Duff
	TS	Topsoil

Groundwater Contact



Measured groundwater level in exploration, well, or piezometer



Measured free product in well or piezometer

Graphic Log Contact

Distinct contact between soil strata

Approximate contact between soil strata

Material Description Contact

Contact between geologic units

Contact between soil of the same geologic unit

Laboratory / Field Tests

%F	Percent fines
%G	Percent gravel
AL	Atterberg limits
CA	Chemical analysis
CP	Laboratory compaction test
CS	Consolidation test
DD	Dry density
DS	Direct shear
HA	Hydrometer analysis
MC	Moisture content
MD	Moisture content and dry density
Mohs	Mohs hardness scale
OC	Organic content
PM	Permeability or hydraulic conductivity
PI	Plasticity index
PL	Point load test
PP	Pocket penetrometer
SA	Sieve analysis
TX	Triaxial compression
UC	Unconfined compression
VS	Vane shear

Sheen Classification

NS	No Visible Sheen
SS	Slight Sheen
MS	Moderate Sheen
HS	Heavy Sheen

Key to Exploration Logs



Figure A-1

Drilled	Start 7/7/2021	End 7/7/2021	Total Depth (ft)	31.5	Logged By Checked By	JES AJH	Driller	Borettec1, Inc.	Drilling Method	Hollow-stem Auger
Surface Elevation (ft) Vertical Datum	51.5 NAVD88			Hammer Data	Manual 140 (lbs) / 30 (in) Drop			Drilling Equipment	EC-55 track-mounted	
Easting (X) Northing (Y)	1175470 714902			System Datum	WA State Plane North NAD83 (feet)			See "Remarks" section for groundwater observed		
Notes:										

Elevation (feet)	FIELD DATA					Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing						
0						TS	Approximately 4 to 6 inches of topsoil				
						CR	Approximately 4 inches of crushed gravel base course				
						CL	Light brown sandy clay (medium stiff, moist) (possible fill/reworked native)	24			
						CL	Tan clay with sand, varied layering with dark gray thin lenses and trace decomposed organic matter (medium stiff, moist) (undifferentiated glacial deposits)	26	55		
						ML	Gray silt with sand (medium stiff, wet)	24			
						AL		42			AL (LL = 34; PI = 10) Groundwater encountered at 10 feet during drilling
						CL	Gray plastic clay with trace sand (medium stiff, wet)	44			
						MC	Becomes very soft	44			
						AL		45			AL (LL = 58; PI = 29)
						MC	Contains shell fragments	37			

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Aerial Imagery. Vertical approximated based on Locational Survey.

Log of Boring B-1



Project: Deer Trail Slide Damage Repair
Project Location: Birch Bay, Washington
Project Number: 0484-120-01

Figure A-2
Sheet 1 of 1

Date: 9/22/21 Path: P:\0_0484120\GINT\048412001.GPJ DBLibrary\Library\GEOENGINEERS_DF_STD_US_JUNE_2017.GLB\GEB_GEO TECH_STANDARD_%F_NO_GW

Drilled	Start 7/7/2021	End 7/7/2021	Total Depth (ft)	31.5	Logged By Checked By	JES AJH	Driller	Borettec1, Inc.	Drilling Method	Hollow-stem Auger
Surface Elevation (ft) Vertical Datum	47.09 NAVD88			Hammer Data	Manual 140 (lbs) / 30 (in) Drop			Drilling Equipment	EC-55 track-mounted	
Easting (X) Northing (Y)	1175354 714818			System Datum	WA State Plane North NAD83 (feet)			See "Remarks" section for groundwater observed		
Notes:										

Elevation (feet)	FIELD DATA					Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing						
0						AC	Approximately 3 inches of asphalt concrete pavement				
						CR	Approximately 4 inches of crushed gravel base course				
15						ML	Brown/gray sandy silt with iron staining, low plasticity (medium stiff, moist) (possible fill/reworked native)	24			
						CL-ML	Tan clay with sand, with iron staining, varied layering with dark gray thin lenses and trace decomposed organic matter (medium stiff to stiff, moist) (undifferentiated glacial deposits)	28			
5							Becomes wet at 7½ feet	47			AL (LL = 38; PI = 15) Groundwater encountered at 7½ feet during drilling
10								41			
15						CL	Gray clay with trace sand (very soft to soft, wet)	57			
20								53			
25								37			AL (LL = 40; PI = 18)
30							Becomes soft to medium stiff	37			

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Aerial Imagery. Vertical approximated based on Locational Survey.

Log of Boring B-2



Project: Deer Trail Slide Damage Repair
Project Location: Birch Bay, Washington
Project Number: 0484-120-01

Figure A-3
Sheet 1 of 1

Date: 9/22/21 Path: P:\0_0484120\GINT\048412001.GPJ DBLibrary\Library\GEOENGINEERS_DF_STD_US_JUNE_2017.GLB\GEB_GEO TECH_STANDARD_%F_NO_GW

Drilled	Start 7/7/2021	End 7/7/2021	Total Depth (ft)	31.5	Logged By Checked By	JES AJH	Driller	Borettec1, Inc.	Drilling Method	Hollow-stem Auger
Surface Elevation (ft) Vertical Datum	44.91 NAVD88			Hammer Data	Manual 140 (lbs) / 30 (in) Drop			Drilling Equipment	EC-55 track-mounted	
Easting (X) Northing (Y)	1175373 714836			System Datum	WA State Plane North NAD83 (feet)			See "Remarks" section for groundwater observed		
Notes:										

Elevation (feet)	FIELD DATA					Graphic Log	Group Classification	MATERIAL DESCRIPTION	Moisture Content (%)	Fines Content (%)	REMARKS
	Depth (feet)	Interval Recovered (in)	Blows/foot	Collected Sample	Sample Name Testing						
0						AC	Approximately 3½ inches of asphalt concrete pavement				
						CR	Approximately 5 inches of crushed gravel base course				
						ML	Brown silt with sand (non-plastic) (medium stiff, moist) (possible fill/reworked native)	37			
						CL	Tan to gray clay with sand, contains varied layers of brown clay with trace organic matter and gray to light brown clay (medium stiff, moist) (undifferentiated glacial deposits)	30	64		
5											
10											
15											
20											
25											
30											

Note: See Figure A-1 for explanation of symbols.
Coordinates Data Source: Horizontal approximated based on Aerial Imagery. Vertical approximated based on Locational Survey.

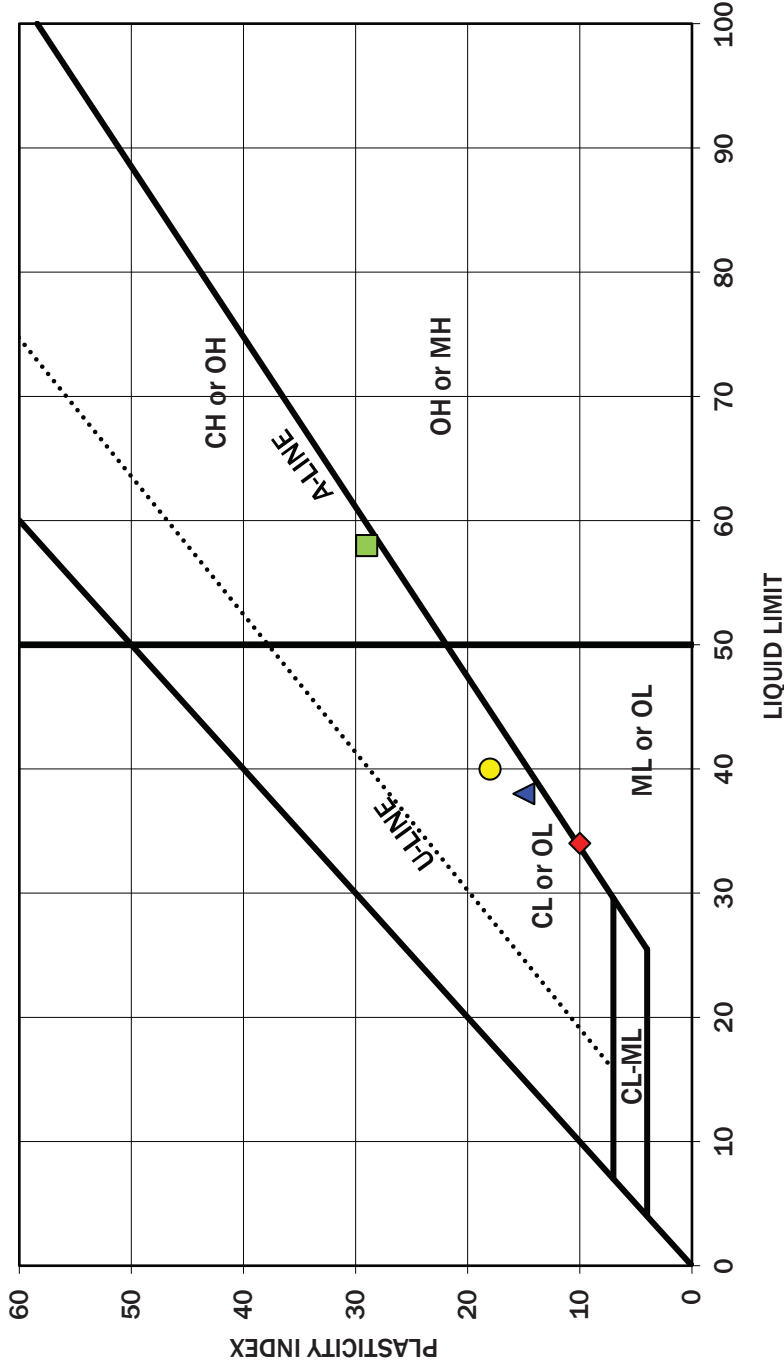
Log of Boring B-3



Project: Deer Trail Slide Damage Repair
Project Location: Birch Bay, Washington
Project Number: 0484-120-01

Date: 9/22/21 Path: P:\0_0484120\GINT\048412001.GPJ DBLibrary\Library\GEOENGINEERS_DF_STD_US_JUNE_2017.GLB\GEB_GEO TECH_STANDARD_%F_NO_GW

PLASTICITY CHART



Symbol	Boring Number	Depth (feet)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	Soil Description
Red Diamond	B-1	10	42	34	10	Silt (ML)
Green Square	B-1	25	45	58	29	Plastic clay (CH)
Blue Triangle	B-2	7.5	47	38	15	Clay (CL)
Yellow Circle	B-2	25	37	40	18	Clay (CL)

Note: This report may not be reproduced, except in full, without written approval of GeoEngineers, Inc. Test results are applicable only to the specific sample on which they were performed, and should not be interpreted as representative of any other samples obtained at other times, depths or locations, or generated by separate operations or processes. The liquid limit and plasticity index were obtained in general accordance with ASTM D 4318. GeoEngineers 17425 NE Union Hill Road Ste 250, Redmond, WA 98052

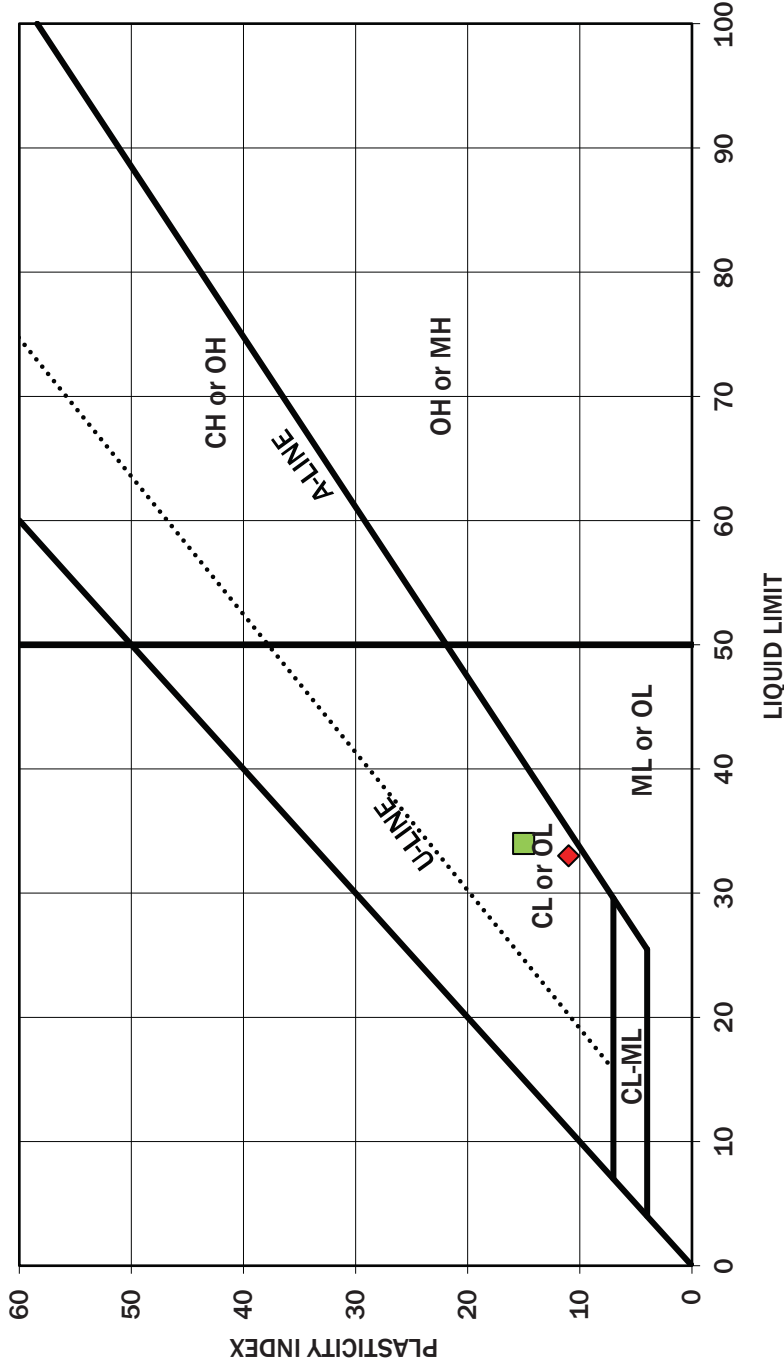
Atterberg Limits Test Results

Deer Trail Slide Damage Repair
Birch Bay, Washington



Figure A-5

PLASTICITY CHART



Symbol	Boring Number	Depth (feet)	Moisture Content (%)	Liquid Limit (%)	Plasticity Index (%)	Soil Description
◆	B-3	7.5	49	33	11	Clay (CL)
■	B-3	20	31	34	15	Clay (CL)

Note: This report may not be reproduced, except in full, without written approval of GeoEngineers, Inc. Test results are applicable only to the specific sample on which they were performed, and should not be interpreted as representative of any other samples obtained at other times, depths or locations, or generated by separate operations or processes. The liquid limit and plasticity index were obtained in general accordance with ASTM D 4318. GeoEngineers 17425 NE Union Hill Road Ste 250, Redmond, WA 98052

Atterberg Limits Test Results

Deer Trail Slide Damage Repair
Birch Bay, Washington



Figure A-6

WILDCAT DYNAMIC CONE LOG

GeoEngineers
 554 West Bakerview Road
 Bellingham, WA 98226

PROJECT NUMBER: 00484-120-01
 DATE STARTED: 06-22-2021
 DATE COMPLETED: 06-22-2021

HOLE #: DC-1A
 CREW: AWS/JES
 PROJECT: Deer Trail Road Slide
 ADDRESS: _____
 LOCATION: Birch Bay, WA

SURFACE ELEVATION: _____
 WATER ON COMPLETION: _____
 HAMMER WEIGHT: 35 lbs.
 CONE AREA: 10 sq. cm

DEPTH	BLOWS PER 10 cm	RESISTANCE Kg/cm ²	GRAPH OF CONE RESISTANCE 0 50 100 150	N'	TESTED CONSISTENCY	
					NON-COHESIVE	COHESIVE
0	0	0.0		0	VERY LOOSE	VERY SOFT
	0	0.0		0	VERY LOOSE	VERY SOFT
1 ft	0	0.0		0	VERY LOOSE	VERY SOFT
	2	8.9	..	2	VERY LOOSE	SOFT
	1	4.4	.	1	VERY LOOSE	VERY SOFT
2 ft	1	4.4	.	1	VERY LOOSE	VERY SOFT
	1	4.4	.	1	VERY LOOSE	VERY SOFT
	1	4.4	.	1	VERY LOOSE	VERY SOFT
3 ft	1	4.4	.	1	VERY LOOSE	VERY SOFT
1 m	6	26.6	.....	7	LOOSE	MEDIUM STIFF
	6	23.2	.....	6	LOOSE	MEDIUM STIFF
4 ft	5	19.3	.....	5	LOOSE	MEDIUM STIFF
	6	23.2	.....	6	LOOSE	MEDIUM STIFF
	7	27.0	.....	7	LOOSE	MEDIUM STIFF
5 ft	7	27.0	.....	7	LOOSE	MEDIUM STIFF
	7	27.0	.....	7	LOOSE	MEDIUM STIFF
	9	34.7	.....	9	LOOSE	STIFF
6 ft	7	27.0	.....	7	LOOSE	MEDIUM STIFF
	7	27.0	.....	7	LOOSE	MEDIUM STIFF
2 m	10	38.6	.....	11	MEDIUM DENSE	STIFF
7 ft	10	34.2	.....	9	LOOSE	STIFF
	9	30.8	.....	8	LOOSE	MEDIUM STIFF
	6	20.5	.....	5	LOOSE	MEDIUM STIFF
8 ft	7	23.9	.....	6	LOOSE	MEDIUM STIFF
	50	171.0	.....	25+	DENSE	HARD
9 ft						
3 m 10 ft						
11 ft						
12 ft						
4 m 13 ft						

WILDCAT DYNAMIC CONE LOG

GeoEngineers
554 West Bakerview Road
Bellingham, WA 98226

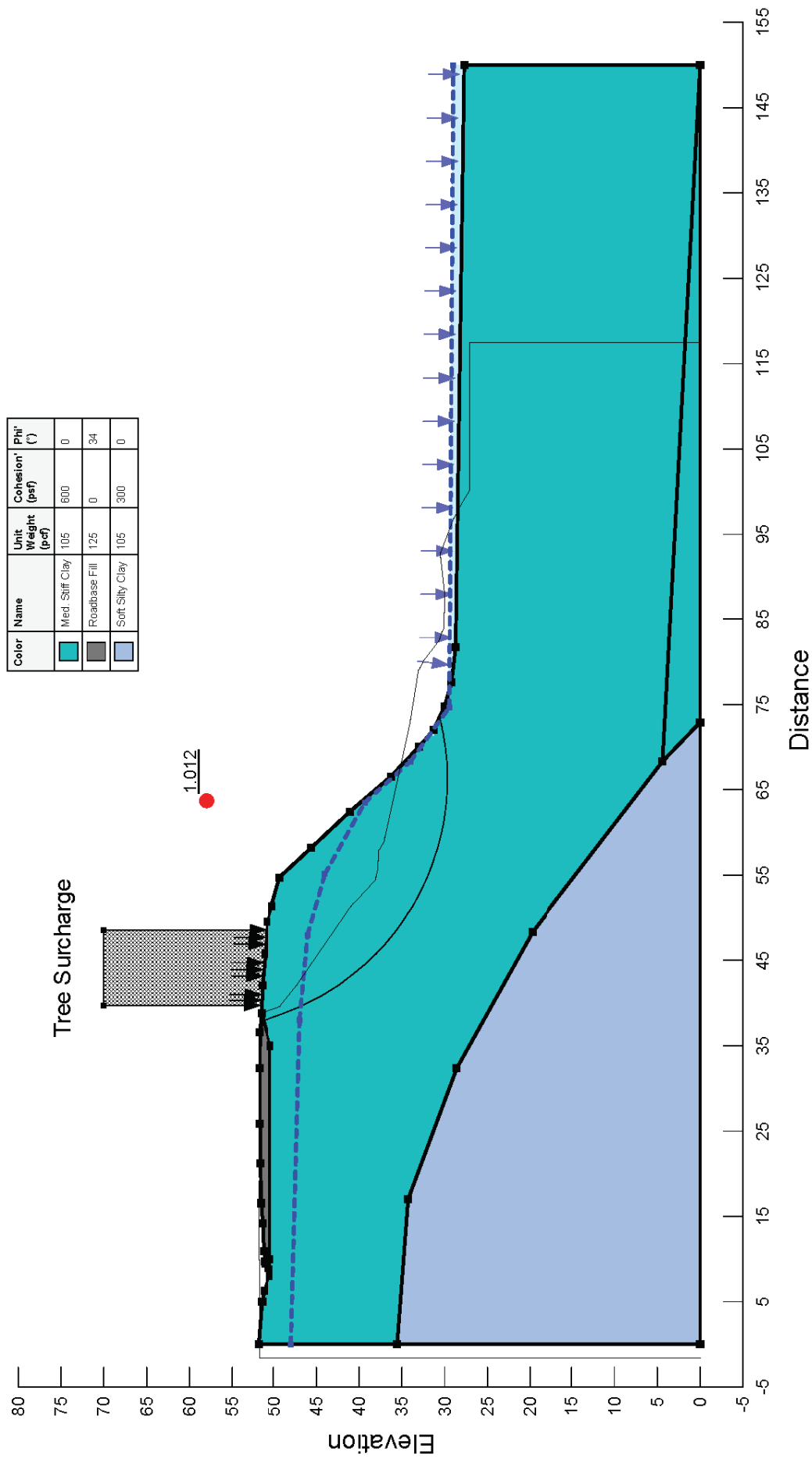
PROJECT NUMBER: 00484-120-01
DATE STARTED: 06-22-2021
DATE COMPLETED: 06-22-2021

HOLE #: DC-2
CREW: AWS/JES
PROJECT: Deer Trail Road Slide
ADDRESS: _____
LOCATION: Birch Bay, WA

SURFACE ELEVATION: _____
WATER ON COMPLETION: _____
HAMMER WEIGHT: 35 lbs.
CONE AREA: 10 sq. cm

DEPTH	BLOWS PER 10 cm	RESISTANCE Kg/cm ²	GRAPH OF CONE RESISTANCE				N'	TESTED CONSISTENCY	
			0	50	100	150		NON-COHESIVE	COHESIVE
-	0	0.0					0	VERY LOOSE	VERY SOFT
-	1	4.4	•				1	VERY LOOSE	VERY SOFT
- 1 ft	2	8.9	••				2	VERY LOOSE	SOFT
-	1	4.4	•				1	VERY LOOSE	VERY SOFT
-	1	4.4	•				1	VERY LOOSE	VERY SOFT
- 2 ft	2	8.9	••				2	VERY LOOSE	SOFT
-	1	4.4	•				1	VERY LOOSE	VERY SOFT
-	2	8.9	••				2	VERY LOOSE	SOFT
- 3 ft	1	4.4	•				1	VERY LOOSE	VERY SOFT
- 1 m	1	4.4	•				1	VERY LOOSE	VERY SOFT
-	1	3.9	•				1	VERY LOOSE	VERY SOFT
- 4 ft	3	11.6	•••				3	VERY LOOSE	SOFT
-	5	19.3	••••				5	LOOSE	MEDIUM STIFF
-	6	23.2	•••••				6	LOOSE	MEDIUM STIFF
- 5 ft	6	23.2	•••••				6	LOOSE	MEDIUM STIFF
-	8	30.9	••••••				8	LOOSE	MEDIUM STIFF
-	11	42.5	••••••••				12	MEDIUM DENSE	STIFF
- 6 ft	9	34.7	•••••••				9	LOOSE	STIFF
-	8	30.9	••••••				8	LOOSE	MEDIUM STIFF
- 2 m	8	30.9	••••••				8	LOOSE	MEDIUM STIFF
- 7 ft	9	30.8	••••••				8	LOOSE	MEDIUM STIFF
-	7	23.9	•••••				6	LOOSE	MEDIUM STIFF
-	11	37.6	••••••••				10	LOOSE	STIFF
- 8 ft	7	23.9	•••••				6	LOOSE	MEDIUM STIFF
-	7	23.9	•••••				6	LOOSE	MEDIUM STIFF
-	7	23.9	•••••				6	LOOSE	MEDIUM STIFF
- 9 ft	7	23.9	•••••				6	LOOSE	MEDIUM STIFF
-	7	23.9	•••••				6	LOOSE	MEDIUM STIFF
- 3 m	9	30.8	••••••				8	LOOSE	MEDIUM STIFF
- 10 ft	8	27.4	•••••				7	LOOSE	MEDIUM STIFF
-	8	24.5	•••••				6	LOOSE	MEDIUM STIFF
-	8	24.5	•••••				6	LOOSE	MEDIUM STIFF
-	7	21.4	•••••				6	LOOSE	MEDIUM STIFF
- 11 ft	7	21.4	•••••				6	LOOSE	MEDIUM STIFF
-	8	24.5	•••••				6	LOOSE	MEDIUM STIFF
-	7	21.4	•••••				6	LOOSE	MEDIUM STIFF
- 12 ft	7	21.4	•••••				6	LOOSE	MEDIUM STIFF
-	8	24.5	•••••				6	LOOSE	MEDIUM STIFF
- 4 m	10	30.6	••••••				8	LOOSE	MEDIUM STIFF

APPENDIX B
SLOPE/W Analysis Results

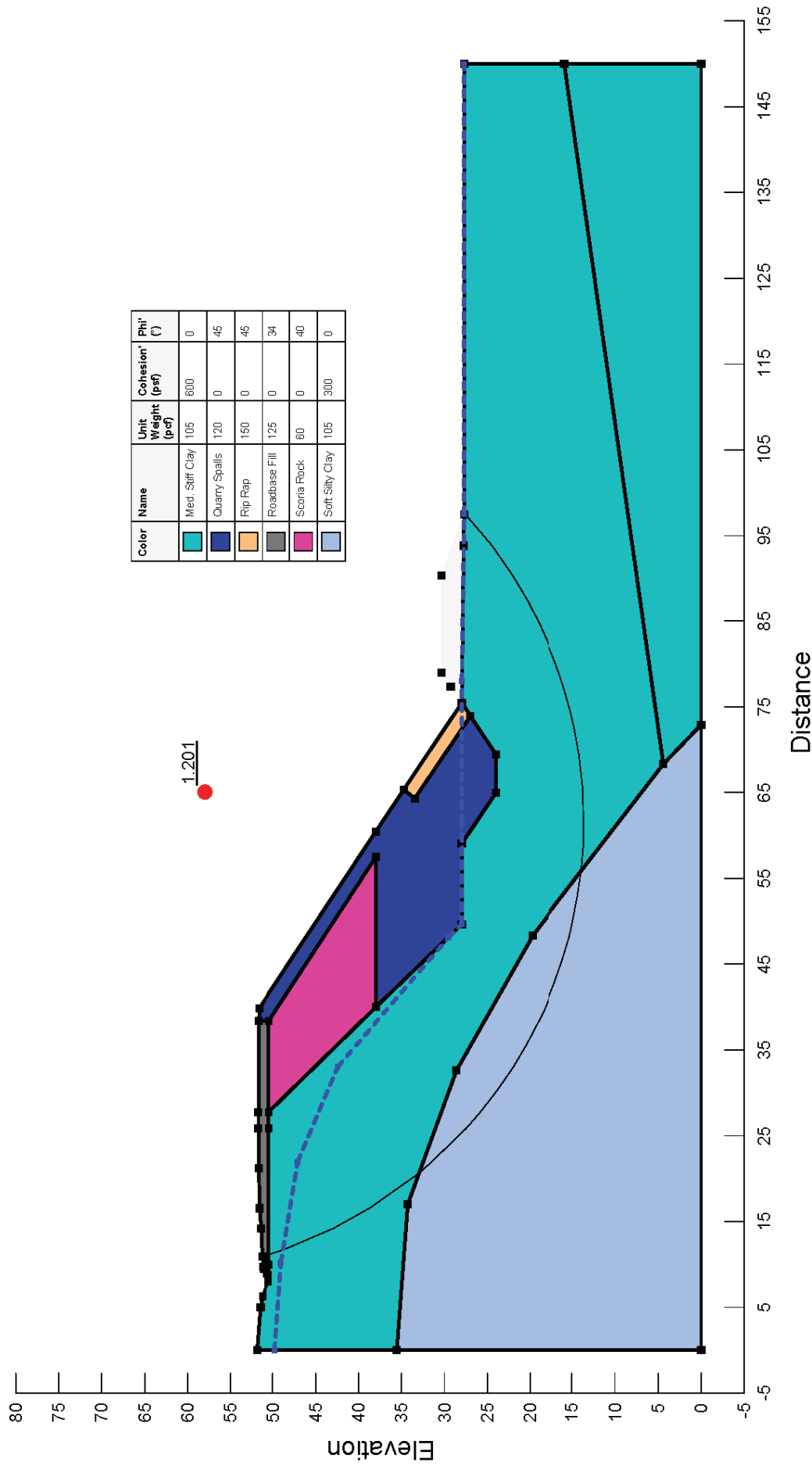


Slope Stability Analysis – Pre-failure Condition

Deer Trail Slide Damage Repair
 Birch Bay, Washington



Figure B-1



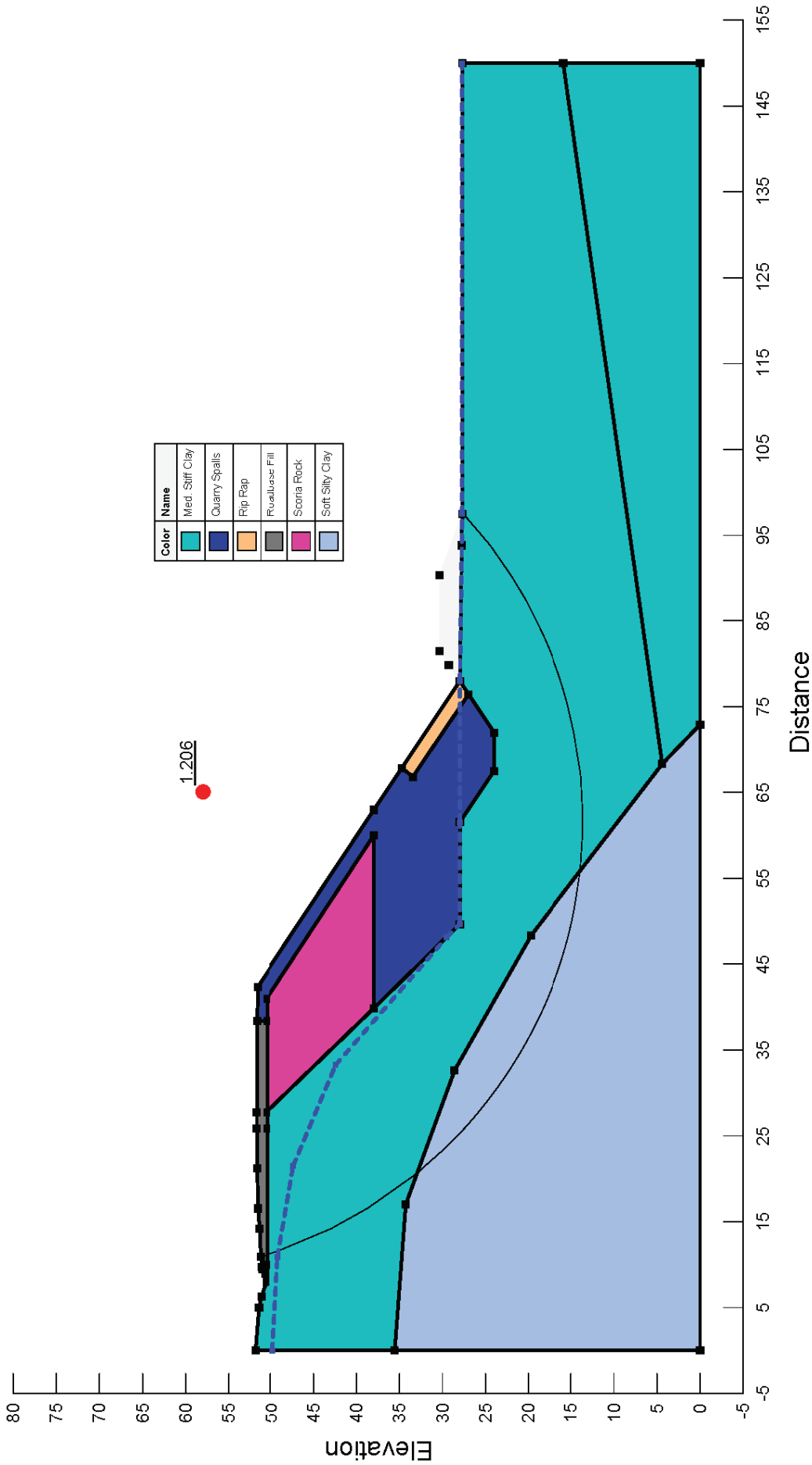
Color	Name	Unit Weight (pcf)	Cohesion (psf)	Phi (°)
■	Med. Stiff Clay	105	600	0
■	Quarry Spalls	120	0	45
■	Rip Rap	150	0	45
■	Roadbase Fill	125	0	34
■	Scoria Rock	80	0	40
■	Soft Silty Clay	105	300	0

Slope Stability Analysis – Scoria Rock/Quarry Spall Buttress Repair – 2.5 ft Shoulder

Deer Trail Slide Damage Repair
Birch Bay, Washington

GEOENGINEERS

Figure B-2



Slope Stability Analysis – Scoria Rock/Quarry Spall Buttress Repair – 4 ft Shoulder
Deer Trail Slide Damage Repair
Birch Bay, Washington



Figure B-3

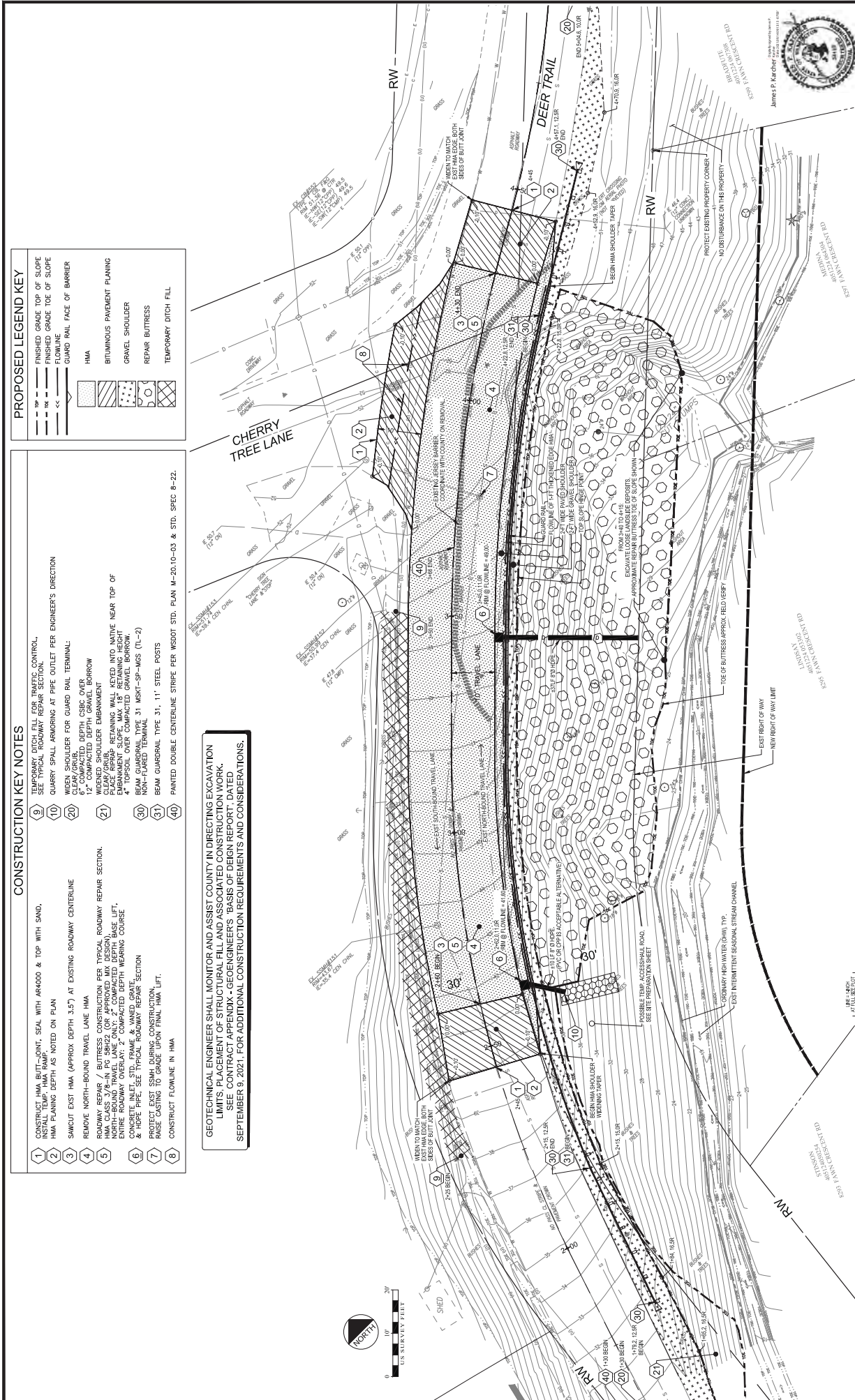
APPENDIX C
Plan Set prepared by Whatcom County

PROPOSED LEGEND KEY

---	FINISHED GRADE TOP OF SLOPE
---	FINISHED GRADE TOE OF SLOPE
---	FLOWLINE
---	GUARD RAIL FACE OF BARRIER
---	HMA
---	BITUMINOUS PAVEMENT PLANING
---	GRAVEL SHOULDER
---	REPAIR BUTTRESS
---	TEMPORARY DITCH FILL

- CONSTRUCTION KEY NOTES**
- 1. CONSTRUCT HMA BUTTRESS, SEAL WITH AR4000 & TOP WITH SAND.
 - 2. HMA PLANING DEPTH AS NOTED ON PLAN.
 - 3. REMOVE NORTH-BOUND TRAVEL LANE HMA.
 - 4. ROADWAY REPAIRS / BUTTRESS CONSTRUCTION PER TYPICAL ROADWAY REPAIR SECTION.
 - 5. NORTH-BOUND TRAVEL LANE ONLY: 2" COMPACTED DEPTH BASE LIFT, 4" COMPACTED DEPTH WEARING COURSE.
 - 6. CONCRETE INLET, STD. FRAME & VAVED GRATE.
 - 7. PROTECT EXIST SSWM DURING CONSTRUCTION, RAISE CASTING TO GRADE UPON FINAL HMA LIFT.
 - 8. CONSTRUCT FLOWLINE IN HMA.
 - 9. QUARRY SPALL ARMORING AT PIPE OUTLET PER ENGINEER'S DIRECTION. SEE TYPICAL ROADWAY REPAIR SECTION.
 - 10. 12" COMPACTED DEPTH CSBC OVER CLEAR GRUB.
 - 11. 12" COMPACTED DEPTH GRASS BORROW WITH 12" SHOULDER ENHANCEMENT.
 - 12. CLEAR GRUB, SOULDER ENHANCEMENT, 4" TOPSOIL OVER COMPACTED GRAVEL BORROW.
 - 13. BEAM GUARDRAIL TYPE 31 MSRT-SP-MGS (TL-2) NON-TURNED TERMINAL.
 - 14. BEAM GUARDRAIL TYPE 31, 11" STEEL POSTS.
 - 15. PAINTED DOUBLE CENTERLINE STRIPE PER INSDOT STD. PLAN M-20.10-03 & STD. SPEC 8-22.

GEOTECHNICAL ENGINEER SHALL MONITOR AND ASSIST COUNTY IN DIRECTING EXCAVATION LIMITS, PLACEMENT OF STRUCTURAL FILL AND ASSOCIATED CONSTRUCTION WORK. SEE CONTRACT APPENDIX - GEOTECHNICAL'S BASIS OF DESIGN REPORT, DATED SEPTEMBER 9, 2021, FOR ADDITIONAL CONSTRUCTION REQUIREMENTS AND CONSIDERATIONS.



SHEET NO.	DATE	DRAWING TITLE	PROJECT	SHEET	OF																		
02	SEP 2021	DEER TRAIL SLIDE DAMAGE REPAIR SITE PLAN	WHATCOM COUNTY DEPARTMENT OF PUBLIC WORKS	02	05																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">DESIGNER</td> <td style="width: 33%;">CHECKER</td> <td style="width: 33%;">DATE</td> </tr> <tr> <td>JAMES P. MASCHER</td> <td>JAMES P. MASCHER</td> <td>SEP 2021</td> </tr> <tr> <td>PROJECT MANAGER</td> <td>PROJECT MANAGER</td> <td>DATE</td> </tr> <tr> <td>BRIAN WALKER</td> <td>BRIAN WALKER</td> <td>SEP 2021</td> </tr> </table>			DESIGNER	CHECKER	DATE	JAMES P. MASCHER	JAMES P. MASCHER	SEP 2021	PROJECT MANAGER	PROJECT MANAGER	DATE	BRIAN WALKER	BRIAN WALKER	SEP 2021	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">PUBLIC WORKS DIRECTOR</td> <td style="width: 33%;">COUNTY ENGINEER</td> <td style="width: 33%;">PROJECT MANAGER</td> </tr> <tr> <td>JON HUTCHINGS</td> <td>JAMES P. MASCHER, P.E.</td> <td>BRIAN WALKER</td> </tr> </table>			PUBLIC WORKS DIRECTOR	COUNTY ENGINEER	PROJECT MANAGER	JON HUTCHINGS	JAMES P. MASCHER, P.E.	BRIAN WALKER
DESIGNER	CHECKER	DATE																					
JAMES P. MASCHER	JAMES P. MASCHER	SEP 2021																					
PROJECT MANAGER	PROJECT MANAGER	DATE																					
BRIAN WALKER	BRIAN WALKER	SEP 2021																					
PUBLIC WORKS DIRECTOR	COUNTY ENGINEER	PROJECT MANAGER																					
JON HUTCHINGS	JAMES P. MASCHER, P.E.	BRIAN WALKER																					



James P. Karcher
 Director of Public Works
 Department of Public Works
 322 S. Commercial St., 2nd Floor
 Springfield, IL 62762

SHEET 03
 OF 05

DEER TRAIL SLIDE DAMAGE REPAIR
 TYPICAL ROADWAY REPAIR SECTION

PROJECT:

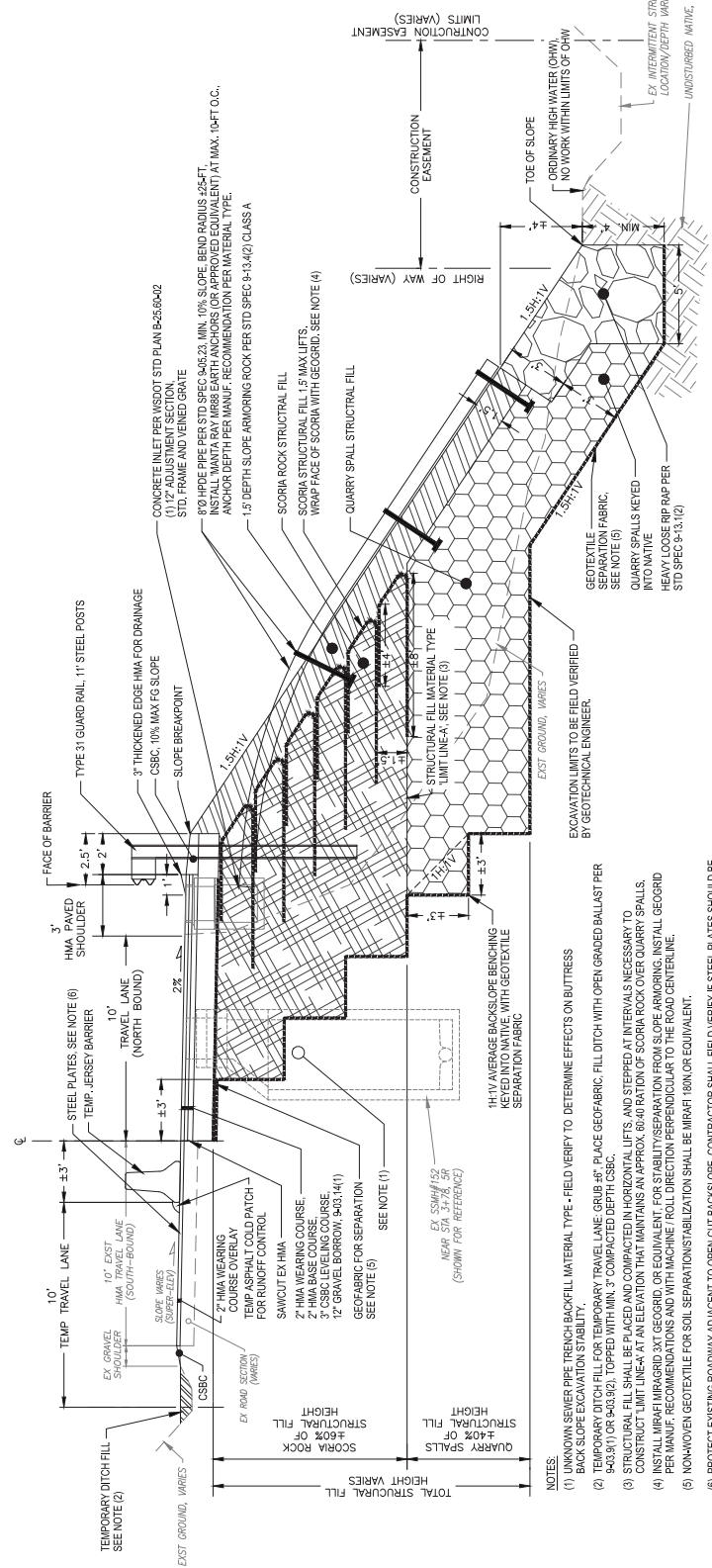
WHATCOM COUNTY
 DEPARTMENT OF PUBLIC WORKS
 322 S. COMMERCIAL ST., 2ND FLOOR
 SPRINGFIELD, IL 62762



PUBLIC WORKS DIRECTOR: JON HUTCHINGS
 COUNTY ENGINEER: JAMES P. KARCHER, P.E.
 PROJECT MANAGER: BRIAN WALKER

DATE: SEP 2021
 PROJECT NO: 230520
 DRAWING FILE: 230520.SP.009

DATE	BY	REVISION	DATE	BY	REVISION	DATE	BY	REVISION



- NOTES:
- UNKNOWN SEWER PIPE TRENCH BACKFILL MATERIAL TYPE - FIELD VERIFY TO DETERMINE EFFECTS ON BUTTRESS
 - BACK SLOPE EXCAVATION STABILITY.
 - TEMPORARY DITCH FILL PER TEMPORARY TRAVEL LANE GRUB UP PLACE GEOPAPRIC FILL DITCH WITH OPEN GRADED BALLAST PER SPEC. SECTION 307.05.000. COMPLETE CSBC.
 - STRUCTURAL FILL SHALL BE PLACED AND COMPACTED IN HORIZONTAL LIFTS AND STEPPED AT INTERVALS NECESSARY TO CONSTRUCT LIMIT LINE-A AT AN ELEVATION THAT MAINTAINS AN APPROX. 60:40 RATIO OF SCORIA ROCK OVER QUARRY SPALLS.
 - INSTALL MIRAFIBRE GRID 30T GEOTEXTILE OR EQUIVALENT FOR STABILITY SEPARATION FROM SLOPE ARMORING. INSTALL GEOTEXTILE PER MANUF. RECOMMENDATIONS AND WITH MACHINE ROLL DIRECTION PERPENDICULAR TO THE ROAD CENTERLINE.
 - NONWOVEN GEOTEXTILE FOR SOIL SEPARATION STABILIZATION SHALL BE MIRAFIBRE OR EQUIVALENT.
 - PROTECT EXISTING ROADWAY ADJACENT TO OPEN-CUT BACKSLOPE. CONTRACTOR SHALL FIELD VERIFY IF STEEL PLATES SHOULD BE PLACED ON ROADWAY TO DISTRIBUTE TRUCK AXLE WEIGHTS.

GEOTECHNICAL ENGINEER SHALL MONITOR AND ASSIST COUNTY IN DIRECTING EXCAVATION LIMITS, PLACEMENT OF STRUCTURAL FILL AND ASSOCIATED CONSTRUCTION WORK. SEE CONTRACT APPENDIX - GEOENGINEERS' BASIS OF DESIGN REPORT, DATED SEPTEMBER 9, 2021, FOR ADDITIONAL CONSTRUCTION REQUIREMENTS AND CONSIDERATIONS.

DATE	BY	REVISION	DATE	BY	REVISION

CONTRACTOR SHALL PROVIDE
SPILL PREVENTION CONTROL & COUNTERMEASURES PLAN (SPCCP)
FOR ENGINEER APPROVAL PRIOR TO ANY ONSITE WORK.

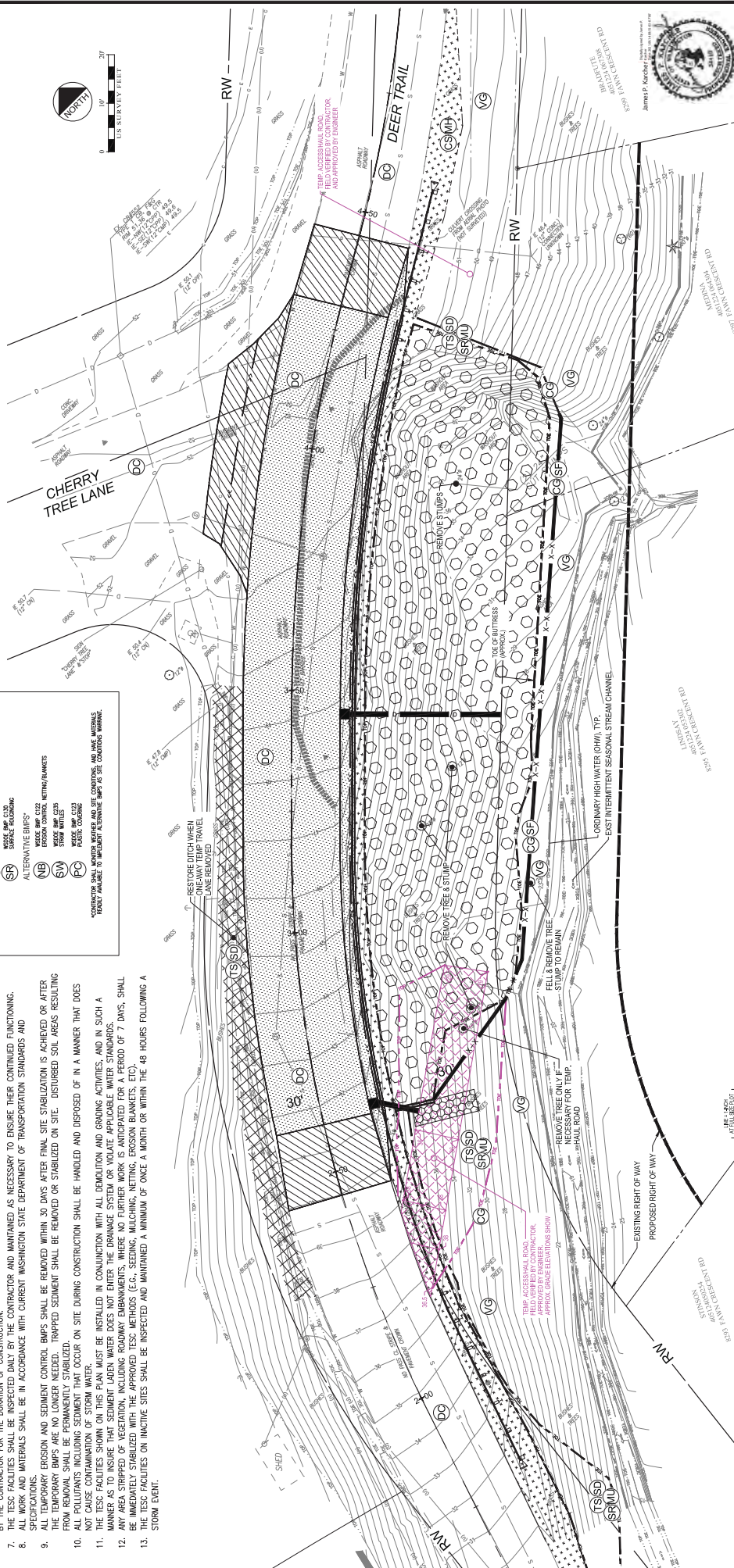
TEMPORARY EROSION / SEDIMENTATION CONTROL NOTES

- A COPY OF THESE APPROVED PLANS MUST BE ON THE JOB SITE THROUGHOUT CONSTRUCTION IS IN PROGRESS.
- DOES BMP'S SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
- THE BMP'S LISTED ARE MINIMUM REQUIREMENTS FOR THE PROJECT CONSTRUCTION. ADDITIONAL BMP'S MAY BE REQUIRED AT THE ENGINEER'S DISCRETION BASED ON PERFORMANCE OF REQUIRED BMP'S, SITE CONDITIONS, TIME OF CONSTRUCTION, AND WEATHER.
- CONTRACTOR SHALL PROVIDE CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (CESCL), AND BE RESPONSIBLE FOR ALL STORMWATER MONITORING, INSPECTIONS, TESTING, AND REPORTING AND RECORD KEEPING.
- THE IMPLEMENTATION OF THESE TESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT AND UPGRADE OF THESE TESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.
- DURING THE CONSTRUCTION PERIOD, DISTURBED AREAS BEYOND THE FLAGGED CLEARING LIMITS SHALL BE MAINTAINED AND PROTECTED BY EROSION CONTROL MEASURES.
- THE TESC FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
- ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS.
- ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER FROM REMOVAL BMP'S ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL AREAS RESULTING FROM ALL POLLUTANTS INCLUDING SEDIMENT THAT OCCUR ON SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CONTAMINATE NEARBY AREAS.
- THE TESC FACILITIES SHOWN ON THIS PLAN MUST BE INSTALLED IN CONJUNCTION WITH ALL DEMOLITION AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS.
- ANY AREA STRIPPED OF VEGETATION, INCLUDING ROADWAY EMBANKMENTS, WHERE NO FURTHER WORK IS ANTICIPATED FOR A PERIOD OF 7 DAYS, SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED TESC METHODS (E.G., SEEDING, MULCHING, NETTING, EROSION BLANKETS, ETC.).
- THE TESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 48 HOURS FOLLOWING A STORM EVENT.

EROSION & SEDIMENTATION CONTROL LEGEND

SYMBOL	DOES BMP'S (EROSION CONTROL)
CG	CONSTRUCTION STANDING AREA
X-X	CONSTRUCTION STANDING AREA
MH	MATERIAL HANDLING AREA
CS	CONSTRUCTION STANDING AREA
DC	DEMOLITION CONTROL
ST	STORMWATER TREATMENT
TS	TEMPORARY EROSION CONTROL
VS	VEGETATION STRIP
UL	UNDERLYING LAYER
SR	SEEDING
ALTERNATIVE BMP'S	
NB	NETTING/BLANKETS
SW	SEEDING
PC	PASTURE COVERING

*CONTRACTOR SHALL MAINTAIN WEATHER AND SITE CONDITIONS, AND USE MATERIALS LISTED / PROVIDED TO MAINTAIN ALTERNATIVE BMP'S TO SET CONTROLLING MATERIAL.



DATE	18/11/2021	DATE	SEP 2021
DESIGNER	CONSTRUCTION ST	DATE	18/11/2021
PROJECT NO.	18/11/2021	DATE	18/11/2021
PROJECT NAME	DEER TRAIL SLIDE DAMAGE REPAIR	DATE	18/11/2021
PROJECT LOCATION	DEER TRAIL SLIDE DAMAGE REPAIR	DATE	18/11/2021

WHATCOM COUNTY
DEPARTMENT OF PUBLIC WORKS
322 S. COMMERCIAL ST., SUITE 200, PULLMAN, WA 99126

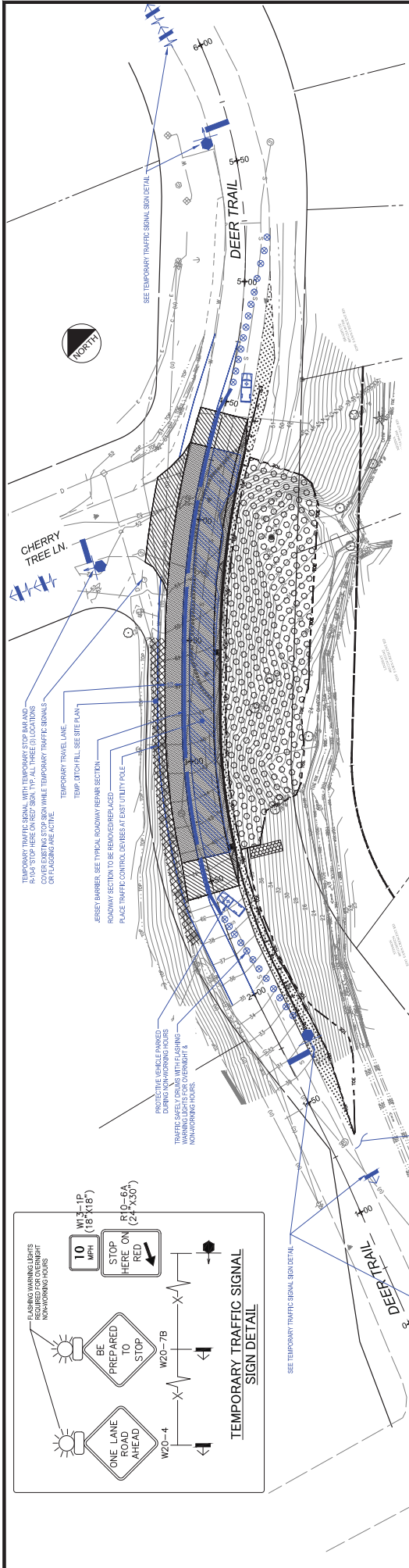
PROJECT: DEER TRAIL SLIDE DAMAGE REPAIR
SITE PREPARATION / RESTORATION & TEMPORARY EROSION & SEDIMENTATION CONTROL PLAN

PROJECT MANAGER: BRIAN WALKER
COUNTY ENGINEER: JAMES P. KASCHER, P.E.
PUBLIC WORKS DIRECTOR: JON HUTCHINGS

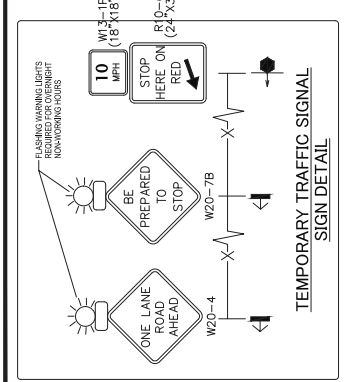
DATE: SEP 2021
PROJECT NO: 18/11/2021
DRAWING TITLE: DEER TRAIL SLIDE DAMAGE REPAIR
DRAWING FILE: 18/11/2021.SP.009

DATE: 18/11/2021
SCALE: N/A
JOB NO: 18/11/2021
JOB NAME: 18/11/2021

DATE: 18/11/2021
SCALE: N/A
JOB NO: 18/11/2021
JOB NAME: 18/11/2021



NON-WORKING HOURS - THREE-WAY TRAFFIC CONTROL WITH TEMPORARY TRAFFIC SIGNALS
NOT TO SCALE



- NOTES:**
- ALL SIGNS ARE BLACK ON ORANGE - 48" X 48"
 - EXTENDING THE CHANNELIZING DEVICE TAPER ACROSS SHOULDER IS RECOMMENDED.
 - NIGHT WORK REQUIRES ADDITIONAL ROADWAY STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.
 - SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
 - TRAFFIC CONTROL PROCEDURES AND DEVICES SHALL CONFORM TO CURRENT MUTCD AND WSDOT STANDARD SPEC. 1-10 TEMP. TRAFFIC CONTROL.

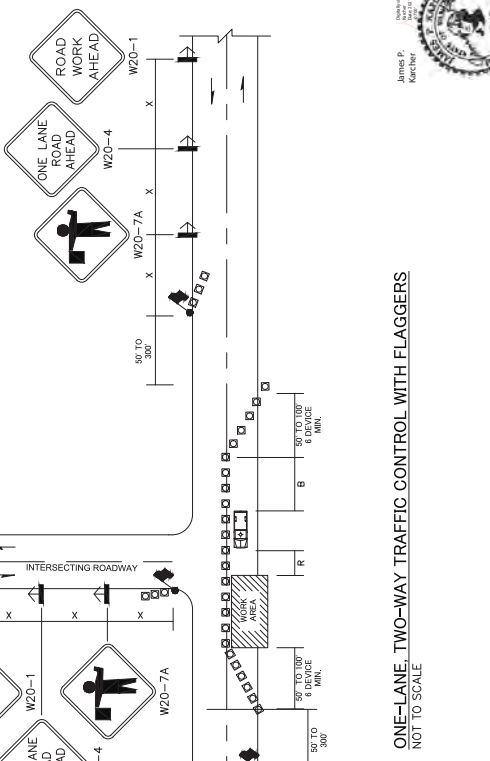
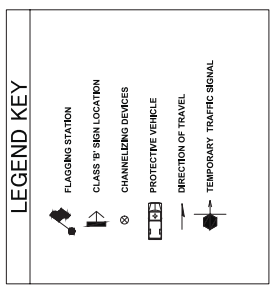
ROADWAY TYPE	SIGN SPACING = X (1)
RURAL HIGHWAYS	60 / 65 MPH
RURAL ROADS	45 / 55 MPH
URBAN ARTERIALS	35 / 40 MPH
URBAN LOCAL	25 / 30 MPH
RESIDENTIAL & BUSINESS DISTRICTS	200' ± (2)
URBAN STREETS	25 MPH OR LESS

(1) INTERSECTIONS AND DRIVEWAYS
(2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

ROADWAY TYPE	LONGITUDINAL BUFFER SPACE = B
RURAL HIGHWAYS	30
RURAL ROADS	45
URBAN ARTERIALS	50
URBAN LOCAL	60
RESIDENTIAL & BUSINESS DISTRICTS	65
URBAN STREETS	70

PROTECTIVE VEHICLE (WORK VEHICLE) = R
NO SPECIFIED DISTANCE REQUIRED.

CHANNELIZATION DEVICE	SPACING (SEE TABLE)
MPH	TANGENT
5005	10 TO 20
3545	10 TO 20
2550	10 TO 20
40	40



ONE-LANE, TWO-WAY TRAFFIC CONTROL WITH FLAGGERS
NOT TO SCALE



APPENDIX D
Report Limitations and Guidelines for Use

APPENDIX D REPORT LIMITATIONS AND GUIDELINES FOR USE¹

This appendix provides information to help you manage your risks with respect to the use of this report.

Read These Provisions Closely

It is important to recognize that the geoscience practices (geotechnical engineering, geology and environmental science) rely on professional judgment and opinion to a greater extent than other engineering and natural science disciplines, where more precise and/or readily observable data may exist. To help clients better understand how this difference pertains to our services, GeoEngineers includes the following explanatory “limitations” provisions in its reports. Please confer with GeoEngineers if you need to know more how these “Report Limitations and Guidelines for Use” apply to your project or site.

Geotechnical Services are Performed for Specific Purposes, Persons and Projects

This report has been prepared for Whatcom County Public Works and their authorized agents and for the Project(s) specifically identified in the report. The information contained herein is not applicable to other sites or projects.

GeoEngineers structures its services to meet the specific needs of its clients. No party other than the party to whom this report is addressed may rely on the product of our services unless we agree to such reliance in advance and in writing. Within the limitations of the agreed scope of services for the Project, and its schedule and budget, our services have been executed in accordance with our Agreement with Whatcom County dated June 15, 2021 and generally accepted geotechnical practices in this area at the time this report was prepared. We do not authorize, and will not be responsible for, the use of this report for any purposes or projects other than those identified in the report.

A Geotechnical Engineering or Geologic Report is based on a Unique Set of Project-Specific Factors

This report has been prepared for the Deer Trail Slide Damage Repair, CRP 921020 project near Birch Bay, Washington. GeoEngineers considered a number of unique, project-specific factors when establishing the scope of services for this project and report. Unless GeoEngineers specifically indicates otherwise, it is important not to rely on this report if it was:

- Not prepared for you,
- Not prepared for your project,
- Not prepared for the specific site explored, or
- Completed before important project changes were made.

¹ Developed based on material provided by ASFE, Professional Firms Practicing in the Geosciences; www.asfe.org.

For example, changes that can affect the applicability of this report include those that affect:

- The function of the proposed structure;
- Elevation, configuration, location, orientation or weight of the proposed structure;
- Composition of the design team; or
- Project ownership.

If changes occur after the date of this report, GeoEngineers cannot be responsible for any consequences of such changes in relation to this report unless we have been given the opportunity to review our interpretations and recommendations. Based on that review, we can provide written modifications or confirmation, as appropriate.

Environmental Concerns are Not Covered

Unless environmental services were specifically included in our scope of services, this report does not provide any environmental findings, conclusions, or recommendations, including but not limited to, the likelihood of encountering underground storage tanks or regulated contaminants.

Subsurface Conditions Can Change

This geotechnical or geologic report is based on conditions that existed at the time the study was performed. The findings and conclusions of this report may be affected by the passage of time, by man-made events such as construction on or adjacent to the site, new information or technology that becomes available subsequent to the report date, or by natural events such as floods, earthquakes, slope instability or groundwater fluctuations. If more than a few months have passed since issuance of our report or work product, or if any of the described events may have occurred, please contact GeoEngineers before applying this report for its intended purpose so that we may evaluate whether changed conditions affect the continued reliability or applicability of our conclusions and recommendations.

Geotechnical and Geologic Findings are Professional Opinions

Our interpretations of subsurface conditions are based on field observations from widely spaced sampling locations at the site. Site exploration identifies the specific subsurface conditions only at those points where subsurface tests are conducted or samples are taken. GeoEngineers reviewed field and laboratory data and then applied its professional judgment to render an informed opinion about subsurface conditions at other locations. Actual subsurface conditions may differ, sometimes significantly, from the opinions presented in this report. Our report, conclusions and interpretations are not a warranty of the actual subsurface conditions.

Geotechnical Engineering Report Recommendations are Not Final

We have developed the following recommendations based on data gathered from subsurface investigation(s). These investigations sample just a small percentage of a site to create a snapshot of the subsurface conditions elsewhere on the site. Such sampling on its own cannot provide a complete and accurate view of subsurface conditions for the entire site. Therefore, the recommendations included in this report are preliminary and should not be considered final. GeoEngineers' recommendations can be finalized only by observing actual subsurface conditions revealed during construction. GeoEngineers

cannot assume responsibility or liability for the recommendations in this report if we do not perform construction observation.

We recommend that you allow sufficient monitoring, testing and consultation during construction by GeoEngineers to confirm that the conditions encountered are consistent with those indicated by the explorations, to provide recommendations for design changes if the conditions revealed during the work differ from those anticipated, and to evaluate whether earthwork activities are completed in accordance with our recommendations. Retaining GeoEngineers for construction observation for this project is the most effective means of managing the risks associated with unanticipated conditions. If another party performs field observation and confirms our expectations, the other party must take full responsibility for both the observations and recommendations. Please note, however, that another party would lack our project-specific knowledge and resources.

A Geotechnical Engineering or Geologic Report Could Be Subject to Misinterpretation

Misinterpretation of this report by members of the design team or by contractors can result in costly problems. GeoEngineers can help reduce the risks of misinterpretation by conferring with appropriate members of the design team after submitting the report, reviewing pertinent elements of the design team's plans and specifications, participating in pre-bid and preconstruction conferences, and providing construction observation.

Do Not Redraw the Exploration Logs

Geotechnical engineers and geologists prepare final boring and testing logs based upon their interpretation of field logs and laboratory data. The logs included in a geotechnical engineering or geologic report should never be redrawn for inclusion in architectural or other design drawings. Photographic or electronic reproduction is acceptable, but separating logs from the report can create a risk of misinterpretation.

Give Contractors a Complete Report and Guidance

To help reduce the risk of problems associated with unanticipated subsurface conditions, GeoEngineers recommends giving contractors the complete geotechnical engineering or geologic report, including these "Report Limitations and Guidelines for Use." When providing the report, you should preface it with a clearly written letter of transmittal that:

- Advises contractors that the report was not prepared for purposes of bid development and that its accuracy is limited; and
- Encourages contractors to confer with GeoEngineers and/or to conduct additional study to obtain the specific types of information they need or prefer.

Contractors are Responsible for Site Safety on Their Own Construction Projects

Our geotechnical recommendations are not intended to direct the contractor's procedures, methods, schedule or management of the work site. The contractor is solely responsible for job site safety and for managing construction operations to minimize risks to on-site personnel and adjacent properties.

Biological Pollutants

GeoEngineers' Scope of Work specifically excludes the investigation, detection, prevention or assessment of the presence of Biological Pollutants. Accordingly, this report does not include any interpretations, recommendations, findings or conclusions regarding the detecting, assessing, preventing or abating of Biological Pollutants, and no conclusions or inferences should be drawn regarding Biological Pollutants as they may relate to this project. The term "Biological Pollutants" includes, but is not limited to, molds, fungi, spores, bacteria and viruses, and/or any of their byproducts.

A Client that desires these specialized services is advised to obtain them from a consultant who offers services in this specialized field.

APPENDIX B

Whatcom County Land Disturbance Permit

WHATCOM COUNTY
 Planning & Development Services
 5280 Northwest Drive,
 Bellingham, WA 98226-9097
 360-778-5900, TTY 800-833-6384
 360-778-5901 Fax



Mark Personius, AICP
 Director

LAND DISTURBANCE PERMIT

PERMIT NO: LDP2021-00045	ISSUED: September 15, 2021	EXPIRES: March 14, 2022
SITE ADDRESS: BIRCH BAY	TAX PARCEL NO: 405124000000000	

APPLICANT	PROPERTY OWNER	CONTRACTOR
	WHATCOM COUNTY-MISCELLANEOUS EXECUTIVE OFFICE 311 GRAND AVE #	

PROJECT DESCRIPTION

<p>excavate slide debris on Deer Trail to stable soils. Construct MSE retaining wall at the toe of the slide repair within right of way limits, and a stabilized armored slope buttress from the top of the MSE wall to the edge of the reconstructed roadway shoulder. Reconstruct and pave the roadway. buffer mitigation plantings will total 1000 plants. Repair and replace the slope repair and OHWM.</p> <p>MATERIAL DESTINATION: OFF SITE</p>	EROSION CONTROL METHODS REQ
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FILL INFORMATION				GRADE INFORMATION			
FILL	LENGTH	WIDTH	CUBIC YRDS	GRADE	LENGTH	WIDTH	CUBIC YRDS
DRIVE			256.00	OTHER			1,800.00
COMP			2,242.00				

PERMIT BECOMES NULL AND VOID IF WORK AUTHORIZED HEREIN HAS NOT COMMENCED WITHIN 180 DAYS, OR IF WORK IS SUSPENDED OR ABANDONED FOR A PERIOD OF 180 DAYS AT ANY TIME AFTER WORK HAS COMMENCED.

A COPY OF THIS PERMIT MUST BE POSTED ON-SITE AND BE CLEARLY VISABLE FROM THE ROAD ACCESS POINT (WCC 20.90.730.9)

FAILURE TO DO SO MAY RESULT IN PERMIT REVOCATION AND/OR OTHER PENALTIES

CONDITIONS OF APPROVAL

THIS PERMIT IS SUBJECT TO THE FOLLOWING CONDITIONS

IT IS IMPORTANT THAT YOU **READ AND UNDERSTAND** THE GOVERNING FACTORS OF THIS PERMIT. IF YOU HAVE ANY QUESTIONS REGARDING THESE CONDITIONS OR YOUR RESPONSIBILITIES, CONTACT WHATCOM COUNTY PLANNING AND DEVELOPMENT SERVICES.

CUSTOM CONDITION

1. Final wall design shall incorporate all geotechnical design recommendations prepared by GeoEngineers following field explorations to confirm of subsurface conditions.
2. The final geotechnical design report shall be provided to Whatcom County Planning and Development Services for review and inclusion in the permit file.

INADVERTENT ARCH RESOURCE

Inadvertent Discovery of Archaeological Resources:

Should archaeological resources (e.g. shell midden, animal remains, stone tools) be observed during project activities, all work in the immediate vicinity should stop, and the area should be secured. The Washington State Department of Archaeology and Historic Preservation (Stephanie Jolivet, Local Government Archaeologist 360-628-2755) and the Lummi Nation Tribal Historic Preservation Office (Lena Tso, THPO 360-961-7752; Tamela Smart, Deputy THPO 360-927-2944) should be contacted immediately in order to help assess the situation and to determine how to preserve the resource(s). Compliance with all applicable laws pertaining to archaeological resources is required.

Inadvertent Discovery of Human Skeletal Remains on Non-Federal and Non-Tribal Land in the State of Washington (RCWs 68.50.645, 27.44.055, and 68.60.055)

"If ground disturbing activities encounter human skeletal remains during the course of construction, then all activity will cease that may cause further disturbance to those remains. The area of the find will be secured and protected from further disturbance until the State provides notice to proceed. The finding of human skeletal remains will be reported to the county medical examiner/coroner and local law enforcement in the most expeditious manner possible. The remains will not be touched, moved, or further disturbed. The county medical examiner/coroner will assume jurisdiction over the human skeletal remains and make a determination of whether those remains are forensic or non-forensic. If the county medical examiner/coroner determines the remains are non-forensic, then they will report that finding to the Department of Archaeology and Historic Preservation (DAHP) who will then take jurisdiction over the remains. The DAHP will notify any appropriate cemeteries and all affected tribes of the find. The State Physical Anthropologist will make a determination of whether the remains are Indian or Non-Indian and report that finding to any appropriate cemeteries and the affected tribes. The DAHP will then handle all consultation with the affected parties as to the future preservation, excavation, and disposition of the remains" (DAHP).

LU - EXCAVATION WASTE

Any excess excavation waste or waste volume of any origin exported off site must be exported to a site with an ACTIVE LAND DISTURBANCE PERMIT for the approved fill volume or a site with a current Washington State approved Reclamation Plan. Whatcom County Planning and Development Services will require documentation of the approved disposal site.

LU - NOTIFY OF ADD FILL/GRADE

Notify Whatcom County Planning and Development Services, Natural Resource Division at (360) 778-5900 if any additional Fill and / or Grading to be included.

LU - EROSION CONTROL

Proper Erosion Control measures shall be installed prior to any land alteration and maintained throughout the entire land disturbance / construction process. Any evidence of sedimentation shall be controlled and kept on site.

LU - MULCHING

All exposed soils shall be mulched per Whatcom County Standards and maintained or until seeding or other stabilization methods are effective.

LU - RESEEDING

Reseeding of the area affected with native species by the work detailed in this permit is required. Erosion and sediment shall be controlled and contained within the work area through best management practices until stabilization through revegetation can occur. Documentation must be provided of the species used to revegetate the disturbed areas.

LU - TOP OF CUT SLOPE

The top of cut slopes shall not be made nearer to a site boundary line than 1/5 (one fifth) of the vertical height of cut with a minimum of 2 (two) feet or 610 mm and a maximum of 10 (ten) feet or 6096 mm.

LU - TOE EDGE OF FILL SLOPE

The toe edge of fill slopes shall be made not nearer to the site boundary line than 1/2 (one-half) the height of the slope with a minimum of 2 (two) feet or 610 mm and a maximum of 20 feet or 3048 mm.

LU - FILL & GRADE EXTENSIONS

Per section 105.5 of the IBC Permit Expirations

Every permit issued under the provisions of this code shall expire and become null and void, if the work authorized by such permit is not commenced within 180 days from the date of issuance of such permit, or if the work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of 180 days. The building official is authorized to grant, in writing, one or more extensions of time, for a period not more than 180 days each. The extension request shall be in writing and justifiable causes demonstrated. If the permit has expired, before such work can recommence, a new permit shall be first obtained to do so, and the fee therefore shall be one - half the amount required for a new permit for such work, provided no changes have been made, or will be made in the original plans and specifications for such work; and provided, further that such suspension or abandonment has not exceeded one year.

LU - CONSTRUCTION ACCESS ROUTE

Construction vehicle access will be, whenever feasible, limited to one route. Access surfaces shall be stabilized to minimize the tracking of sediment onto adjacent roads. See Series 301 for Standard Drawings of alternative techniques.

LU - STREAM

This site contains REGULATED STREAM AND BUFFER AREAS. The regulated buffer area is 100 feet measured from the ordinary high water mark. No disturbance or alteration of vegetation or soils is permitted within the stream channel or 100 foot buffer except as indicated in an approved mitigation plan on file with Whatcom County Planning and Development.

LU - DISCLOSURE CONDITION

Unless otherwise specified the construction of any improvements (e.g. accesses, roads, driveways, storm water facilities, etc.) approved by this permit are for the purpose of facilitating the clearing and or grading activities identified in the scope of this permit only. Approval of such construction activities shall not be construed as approval of improvements that may be associated with other future and or pending land use permits and or authorizations (e.g. short plats, long plats, binding site plans, conditional use permits, shoreline permits, variances, building permits, etc.).

All work performed by applicant in advance of application approval and or issuance of other associated land use permits and or authorization (e.g. short plats, long plats, binding site plans, conditional use permits, shoreline permits, variances, building permits, etc.) are undertaken at the sole risk of the underlying property owner(s) and may be subject to modification.

LU - ARCHAEOLOGICAL SITE

Your property is located on or near a recorded archaeological site. Applicable laws and regulations pertaining to this site include RCW 27.44, WAC 25.48, and Lummi Nation Title 40. Please contact the Washington State Department of Archaeology and Historic Preservation (DAHP) at (360) 586-3065 and the Lummi Nation Tribal Historic Preservation Office (360) 384-2298 to determine the specific applicability of these laws and regulations and to determine if any additional permits are required prior to initiating any ground disturbing activities on the subject site. Pursuant to RCW 27.44.040, any person who knowingly disturbs certain regulated cultural resources is guilty of a Class C felony.

LU - CRITICAL AREA MITIGATION

Development of this site requires mitigation for unavoidable impacts to critical areas and / or their buffer areas. This mitigation shall be done according to the approved mitigation plan on file with Whatcom County Planning and Development.

LU - OTHER AGENCY CONDITION

OBTAINING A COUNTY PERMIT DOES NOT SUPERCEDE OTHER LOCAL, STATE OR FEDERAL STATUTES AND REGULATIONS THAT MAY APPLY TO THIS PERMIT. ANY WETLAND OR STREAM IMPACTS REQUIRE NOTIFYING THE U.S. ARMY CORPS OF ENGINEERS (RANDALL PERRY 206-764-6985) AND WASHINGTON STATE DEPARTMENT OF ECOLOGY (SUSAN MEYER 425-649-7168). ANY IN STREAM ACTIVITY REQUIRES REVIEW BY THE WASHINGTON DEPARTMENT OF FISH AND WILDLIFE (360-466-4345) AND ACTIVITY THAT INCLUDES CLASS II, III OR IV FOREST PRACTICES AS DEFINED IN WAC 222-16-050 MAY REQUIRE A FOREST PRACTICES APPLICATION / NOTIFICATION FROM THE WASHINGTON DEPARTMENT OF NATURAL RESOURCES.

LU - COUNTY RIGHT OF WAY

Issuance of this permit does not authorize any work within the County right-of-way. Obtain a Revocable Encroachment Permit from Whatcom County's Engineering Department prior to commencing any work within the County right-of-way.

NATURAL DRAINAGE PATTERNS

Natural drainage patterns shall be maintained and discharges from the site shall occur at the natural location, unless it can be shown that relocation will have no significant adverse impact to either built or natural systems as a result of the relocation.
(WCC20.80.634(1)(e))

LU - CONFORMANCE WITH SITE PLAN

All activity on site shall be done in accordance with the site plan approved by the Whatcom County Planning and Development Land Use Division. Any alterations from the approved site plan will require further review by Planning and Development Services.

SEPA Threshold Determination

SEPA Threshold Determination of Mitigated Determination of Non-significance (MDNS) was made on September 14 2021 with conditions to mitigate for potentially adverse environmental impacts for this project. All conditions of this MDNS, SEP2021-00056 apply.

CUSTOM CONDITION

The project applicant shall follow the recommendations of the "Cultural Resources Assessment of the Deer Trail Slide Damage Repair, CRP No. 921020, Birch Bay, Whatcom County, Washington" dated August 17 2021.

I hereby certify that I have read and examined this application and know that the same to be true and correct. All provisions of laws and ordinances governing this type of work will be complied with whether specified herein or not.

I understand that the granting of a permit does not presume to give authority to violate or cancel the provisions of any other federal, state or local law regulating performance of this type of work.

Further, I hereby certify that I am a licensed contractor and that said license is in full force and effect, or that I am the legal owner or agent of the legal owner of the above-described real property.



CALL BEFORE YOU DIG! IT'S THE LAW! 1-800-424-5555

A handwritten signature in blue ink that reads "James P. Karcher".

9-15-2021

APPLICANT'S SIGNATURE

DATE

James P. Karcher, P.E. - County Engr / WCPW

WHATCOM COUNTY REGULATIONS

1. All activity on site shall be done in accordance with the permit application and site plan approved by Whatcom County Planning and Development. Any alterations from the approved site plan will require further review by Whatcom County Planning and Development Services.
2. Issuance of this permit does not include review of any proposed use for conformity with Whatcom County Zoning Regulations. It is the property owners' responsibility to ensure that any use of the property is consistent with the requirements of WCC Title 20.
3. **This permit is not transferable without prior approval from Whatcom County Planning and Development Services.**
4. All work must be performed in accordance with WCC 20.80.730 and Whatcom County Development Standards, plans, specifications, ordinances and regulations.
5. **Hour of Operations: 7:00 AM to 10:00 PM, per WAC 173-60-050 unless otherwise prohibited.**

ENVIRONMENTAL REGULATIONS

1. Approved erosion control measures shall be installed prior to any land alteration and maintained throughout the entire land disturbance / construction process. All sediment or erosion shall be controlled and kept on-site until stabilized through re-vegetation.
2. Appropriate drainage controls shall be installed on site prior to any land alteration. Natural drainage patterns shall not be altered without further review by Whatcom County Planning and Development Services.

APPENDIX C

Washington State Prevailing Wages (Whatcom County)

State of Washington
Department of Labor & Industries
Prevailing Wage Section - Telephone 360-902-5335
PO Box 44540, Olympia, WA 98504-4540

Washington State Prevailing Wage

The PREVAILING WAGES listed here include both the hourly wage rate and the hourly rate of fringe benefits. On public works projects, worker's wage and benefit rates must add to not less than this total. A brief description of overtime calculation requirements are provided on the Benefit Code Key.

Journey Level Prevailing Wage Rates for the Effective Date: 9/15/2021

<u>County</u>	<u>Trade</u>	<u>Job Classification</u>	<u>Wage</u>	<u>Holiday</u>	<u>Overtime</u>	<u>Note</u>	<u>*Risk Class</u>
Whatcom	Asbestos Abatement Workers	Journey Level	\$54.62	<u>5D</u>	<u>1H</u>		View
Whatcom	Boilermakers	Journey Level	\$70.79	<u>5N</u>	<u>1C</u>		View
Whatcom	Brick Mason	Journey Level	\$63.32	<u>7E</u>	<u>1N</u>		View
Whatcom	Brick Mason	Pointer-Caulker-Cleaner	\$63.32	<u>7E</u>	<u>1N</u>		View
Whatcom	Building Service Employees	Janitor	\$13.69		<u>1</u>		View
Whatcom	Building Service Employees	Shampooer	\$13.69		<u>1</u>		View
Whatcom	Building Service Employees	Waxer	\$13.69		<u>1</u>		View
Whatcom	Building Service Employees	Window Cleaner	\$13.69		<u>1</u>		View
Whatcom	Cabinet Makers (In Shop)	Journey Level	\$24.89		<u>1</u>		View
Whatcom	Carpenters	Acoustical Worker	\$64.94	<u>7A</u>	<u>4C</u>		View
Whatcom	Carpenters	Bridge, Dock And Wharf Carpenters	\$64.94	<u>7A</u>	<u>4C</u>		View
Whatcom	Carpenters	Carpenter	\$64.94	<u>7A</u>	<u>4C</u>		View
Whatcom	Carpenters	Carpenters on Stationary Tools	\$65.07	<u>7A</u>	<u>4C</u>		View
Whatcom	Carpenters	Creosoted Material	\$65.07	<u>7A</u>	<u>4C</u>		View
Whatcom	Carpenters	Floor Finisher	\$64.94	<u>7A</u>	<u>4C</u>		View
Whatcom	Carpenters	Floor Layer	\$64.94	<u>7A</u>	<u>4C</u>		View
Whatcom	Carpenters	Scaffold Erector	\$64.94	<u>7A</u>	<u>4C</u>		View
Whatcom	Cement Masons	Application of all Composition Mastic	\$67.41	<u>7A</u>	<u>4U</u>		View
Whatcom	Cement Masons	Application of all Epoxy Material	\$66.91	<u>7A</u>	<u>4U</u>		View
Whatcom	Cement Masons	Application of all Plastic Material	\$67.41	<u>7A</u>	<u>4U</u>		View
Whatcom	Cement Masons	Application of Sealing Compound	\$66.91	<u>7A</u>	<u>4U</u>		View
Whatcom	Cement Masons	Application of Underlayment	\$67.41	<u>7A</u>	<u>4U</u>		View
Whatcom	Cement Masons	Building General	\$66.91	<u>7A</u>	<u>4U</u>		View
Whatcom	Cement Masons	Composition or Kalman Floors	\$67.41	<u>7A</u>	<u>4U</u>		View
Whatcom	Cement Masons	Concrete Paving	\$66.91	<u>7A</u>	<u>4U</u>		View
Whatcom	Cement Masons	Curb & Gutter Machine	\$67.41	<u>7A</u>	<u>4U</u>		View

Whatcom	Cement Masons	Curb & Gutter, Sidewalks	\$66.91	7A	4U		View
Whatcom	Cement Masons	Curing Concrete	\$66.91	7A	4U		View
Whatcom	Cement Masons	Finish Colored Concrete	\$67.41	7A	4U		View
Whatcom	Cement Masons	Floor Grinding	\$67.41	7A	4U		View
Whatcom	Cement Masons	Floor Grinding/Polisher	\$66.91	7A	4U		View
Whatcom	Cement Masons	Green Concrete Saw, self-powered	\$67.41	7A	4U		View
Whatcom	Cement Masons	Grouting of all Plates	\$66.91	7A	4U		View
Whatcom	Cement Masons	Grouting of all Tilt-up Panels	\$66.91	7A	4U		View
Whatcom	Cement Masons	Guniting Nozzleman	\$67.41	7A	4U		View
Whatcom	Cement Masons	Hand Powered Grinder	\$67.41	7A	4U		View
Whatcom	Cement Masons	Journey Level	\$66.91	7A	4U		View
Whatcom	Cement Masons	Patching Concrete	\$66.91	7A	4U		View
Whatcom	Cement Masons	Pneumatic Power Tools	\$67.41	7A	4U		View
Whatcom	Cement Masons	Power Chipping & Brushing	\$67.41	7A	4U		View
Whatcom	Cement Masons	Sand Blasting Architectural Finish	\$67.41	7A	4U		View
Whatcom	Cement Masons	Screed & Rodding Machine	\$67.41	7A	4U		View
Whatcom	Cement Masons	Spackling or Skim Coat Concrete	\$66.91	7A	4U		View
Whatcom	Cement Masons	Troweling Machine Operator	\$67.41	7A	4U		View
Whatcom	Cement Masons	Troweling Machine Operator on Colored Slabs	\$67.41	7A	4U		View
Whatcom	Cement Masons	Tunnel Workers	\$67.41	7A	4U		View
Whatcom	Divers & Tenders	Bell/Vehicle or Submersible Operator (Not Under Pressure)	\$118.80	7A	4C		View
Whatcom	Divers & Tenders	Dive Supervisor/Master	\$81.98	7A	4C		View
Whatcom	Divers & Tenders	Diver	\$118.80	7A	4C	8V	View
Whatcom	Divers & Tenders	Diver On Standby	\$76.98	7A	4C		View
Whatcom	Divers & Tenders	Diver Tender	\$69.91	7A	4C		View
Whatcom	Divers & Tenders	Manifold Operator	\$69.91	7A	4C		View
Whatcom	Divers & Tenders	Manifold Operator Mixed Gas	\$74.91	7A	4C		View
Whatcom	Divers & Tenders	Remote Operated Vehicle Operator/Technician	\$69.91	7A	4C		View
Whatcom	Divers & Tenders	Remote Operated Vehicle Tender	\$65.19	7A	4C		View
Whatcom	Dredge Workers	Assistant Engineer	\$73.62	5D	3F		View
Whatcom	Dredge Workers	Assistant Mate (Deckhand)	\$73.05	5D	3F		View
Whatcom	Dredge Workers	Boatmen	\$73.62	5D	3F		View
Whatcom	Dredge Workers	Engineer Welder	\$75.03	5D	3F		View
Whatcom	Dredge Workers	Leverman, Hydraulic	\$76.53	5D	3F		View
Whatcom	Dredge Workers	Mates	\$73.62	5D	3F		View
Whatcom	Dredge Workers	Oiler	\$73.05	5D	3F		View
Whatcom	Drywall Applicator	Journey Level	\$67.54	5D	1H		View
Whatcom	Drywall Tapers	Journey Level	\$67.91	5P	1E		View
Whatcom	Electrical Fixture Maintenance Workers	Journey Level	\$13.82		1		View
Whatcom	Electricians - Inside	Cable Splicer	\$83.25	7H	1E		View

Whatcom	Electricians - Inside	Construction Stock Person	\$40.04	7H	1D		View
Whatcom	Electricians - Inside	Journey Level	\$77.98	7H	1E		View
Whatcom	Electricians - Motor Shop	Craftsman	\$15.37		1		View
Whatcom	Electricians - Motor Shop	Journey Level	\$14.69		1		View
Whatcom	Electricians - Powerline Construction	Cable Splicer	\$82.39	5A	4D		View
Whatcom	Electricians - Powerline Construction	Certified Line Welder	\$75.64	5A	4D		View
Whatcom	Electricians - Powerline Construction	Groundperson	\$49.17	5A	4D		View
Whatcom	Electricians - Powerline Construction	Heavy Line Equipment Operator	\$75.64	5A	4D		View
Whatcom	Electricians - Powerline Construction	Journey Level Lineperson	\$75.64	5A	4D		View
Whatcom	Electricians - Powerline Construction	Line Equipment Operator	\$64.54	5A	4D		View
Whatcom	Electricians - Powerline Construction	Meter Installer	\$49.17	5A	4D	8W	View
Whatcom	Electricians - Powerline Construction	Pole Sprayer	\$75.64	5A	4D		View
Whatcom	Electricians - Powerline Construction	Powderperson	\$56.49	5A	4D		View
Whatcom	Electronic Technicians	Electronic Technicians Journey Level	\$47.28	5B	1B		View
Whatcom	Elevator Constructors	Mechanic	\$100.51	7D	4A		View
Whatcom	Elevator Constructors	Mechanic In Charge	\$108.53	7D	4A		View
Whatcom	Fabricated Precast Concrete Products	Journey Level	\$13.69		1		View
Whatcom	Fabricated Precast Concrete Products	Journey Level - In-Factory Work Only	\$13.69		1		View
Whatcom	Fence Erectors	Fence Erector	\$46.29	7A	4V	8Y	View
Whatcom	Fence Erectors	Fence Laborer	\$46.29	7A	4V	8Y	View
Whatcom	Flaggers	Journey Level	\$46.29	7A	4V	8Y	View
Whatcom	Glaziers	Journey Level	\$72.41	7L	1Y		View
Whatcom	Heat & Frost Insulators And Asbestos Workers	Journey Level	\$82.02	15H	11C		View
Whatcom	Heating Equipment Mechanics	Mechanic	\$85.05	7F	1E		View
Whatcom	Hod Carriers & Mason Tenders	Journey Level	\$46.42	7A	4V	8Y	View
Whatcom	Industrial Power Vacuum Cleaner	Journey Level	\$13.69		1		View
Whatcom	Inland Boatmen	Boat Operator	\$61.41	5B	1K		View
Whatcom	Inland Boatmen	Cook	\$56.48	5B	1K		View
Whatcom	Inland Boatmen	Deckhand	\$57.48	5B	1K		View
Whatcom	Inland Boatmen	Deckhand Engineer	\$58.81	5B	1K		View
Whatcom	Inland Boatmen	Launch Operator	\$58.89	5B	1K		View
Whatcom	Inland Boatmen	Mate	\$57.31	5B	1K		View
Whatcom	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Cleaner Operator, Foamer Operator	\$13.69		1		View
Whatcom	Inspection/Cleaning/Sealing Of	Grout Truck Operator	\$13.69		1		View

	Sewer & Water Systems By Remote Control						
Whatcom	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Head Operator	\$13.69		1		View
Whatcom	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Technician	\$13.69		1		View
Whatcom	Inspection/Cleaning/Sealing Of Sewer & Water Systems By Remote Control	Tv Truck Operator	\$13.69		1		View
Whatcom	Insulation Applicators	Journey Level	\$64.94	7A	4C		View
Whatcom	Ironworkers	Journeyman	\$78.53	7N	10		View
Whatcom	Laborers	Air, Gas Or Electric Vibrating Screed	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Airtrac Drill Operator	\$56.31	7A	4V	8Y	View
Whatcom	Laborers	Ballast Regular Machine	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Batch Weighman	\$46.29	7A	4V	8Y	View
Whatcom	Laborers	Brick Pavers	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Brush Cutter	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Brush Hog Feeder	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Burner	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Caisson Worker	\$56.31	7A	4V	8Y	View
Whatcom	Laborers	Carpenter Tender	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Cement Dumper-paving	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Cement Finisher Tender	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Change House Or Dry Shack	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Chipping Gun (30 Lbs. And Over)	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Chipping Gun (Under 30 Lbs.)	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Choker Setter	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Chuck Tender	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Clary Power Spreader	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Clean-up Laborer	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Concrete Dumper/Chute Operator	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Concrete Form Stripper	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Concrete Placement Crew	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Concrete Saw Operator/Core Driller	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Crusher Feeder	\$46.29	7A	4V	8Y	View
Whatcom	Laborers	Curing Laborer	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Demolition: Wrecking & Moving (Incl. Charred Material)	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Ditch Digger	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Diver	\$56.31	7A	4V	8Y	View
Whatcom	Laborers	Drill Operator (Hydraulic, Diamond)	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Dry Stack Walls	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Dump Person	\$54.62	7A	4V	8Y	View

Whatcom	Laborers	Epoxy Technician	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Erosion Control Worker	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Faller & Bucker Chain Saw	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Fine Graders	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Firewatch	\$46.29	7A	4V	8Y	View
Whatcom	Laborers	Form Setter	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Gabian Basket Builders	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	General Laborer	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Grade Checker & Transit Person	\$46.42	7A	4V	8Y	View
Whatcom	Laborers	Grinders	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Grout Machine Tender	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Groutmen (Pressure) Including Post Tension Beams	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Guardrail Erector	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Hazardous Waste Worker (Level A)	\$56.31	7A	4V	8Y	View
Whatcom	Laborers	Hazardous Waste Worker (Level B)	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Hazardous Waste Worker (Level C)	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	High Scaler	\$56.31	7A	4V	8Y	View
Whatcom	Laborers	Jackhammer	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Laserbeam Operator	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Maintenance Person	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Manhole Builder-Mudman	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Material Yard Person	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Motorman-Dinky Locomotive	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	nozzleman (concrete pump, green cutter when using combination of high pressure air & water on concrete & rock, sandblast, gunite, shotcrete, water blaster, vacuum blaster)	\$46.42	7A	4V	8Y	View
Whatcom	Laborers	Pavement Breaker	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Pilot Car	\$46.29	7A	4V	8Y	View
Whatcom	Laborers	Pipe Layer (Lead)	\$46.42	7A	4V	8Y	View
Whatcom	Laborers	Pipe Layer/Tailor	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Pipe Pot Tender	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Pipe Reliner	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Pipe Wrapper	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Pot Tender	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Powderman	\$56.31	7A	4V	8Y	View
Whatcom	Laborers	Powderman's Helper	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Power Jacks	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Railroad Spike Puller - Power	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Raker - Asphalt	\$46.42	7A	4V	8Y	View
Whatcom	Laborers	Re-timberman	\$56.31	7A	4V	8Y	View

Whatcom	Laborers	Remote Equipment Operator	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Rigger/Signal Person	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Rip Rap Person	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Rivet Buster	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Rodder	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Scaffold Erector	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Scale Person	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Sloper (Over 20")	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Sloper Sprayer	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Spreader (Concrete)	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Stake Hopper	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Stock Piler	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Swinging Stage/Boatswain Chair	\$46.29	7A	4V	8Y	View
Whatcom	Laborers	Tamper & Similar Electric, Air & Gas Operated Tools	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Tamper (Multiple & Self-propelled)	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Timber Person - Sewer (Lagger, Shorer & Cribber)	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Toolroom Person (at Jobsite)	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Topper	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Track Laborer	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Track Liner (Power)	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Traffic Control Laborer	\$49.50	7A	4V	9C	View
Whatcom	Laborers	Traffic Control Supervisor	\$52.45	7A	4V	9C	View
Whatcom	Laborers	Truck Spotter	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Tugger Operator	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Tunnel Work-Compressed Air Worker 0-30 psi	\$142.82	7A	4V	9B	View
Whatcom	Laborers	Tunnel Work-Compressed Air Worker 30.01-44.00 psi	\$147.85	7A	4V	9B	View
Whatcom	Laborers	Tunnel Work-Compressed Air Worker 44.01-54.00 psi	\$151.53	7A	4V	9B	View
Whatcom	Laborers	Tunnel Work-Compressed Air Worker 54.01-60.00 psi	\$157.23	7A	4V	9B	View
Whatcom	Laborers	Tunnel Work-Compressed Air Worker 60.01-64.00 psi	\$159.35	7A	4V	9B	View
Whatcom	Laborers	Tunnel Work-Compressed Air Worker 64.01-68.00 psi	\$164.45	7A	4V	9B	View
Whatcom	Laborers	Tunnel Work-Compressed Air Worker 68.01-70.00 psi	\$166.35	7A	4V	9B	View
Whatcom	Laborers	Tunnel Work-Compressed Air Worker 70.01-72.00 psi	\$168.35	7A	4V	9B	View
Whatcom	Laborers	Tunnel Work-Compressed Air Worker 72.01-74.00 psi	\$170.35	7A	4V	9B	View
Whatcom	Laborers	Tunnel Work-Guage and Lock Tender	\$57.41	7A	4V	8Y	View
Whatcom	Laborers	Tunnel Work-Miner	\$57.41	7A	4V	8Y	View
Whatcom	Laborers	Vibrator	\$55.62	7A	4V	8Y	View

Whatcom	Laborers	Vinyl Seamer	\$54.62	7A	4V	8Y	View
Whatcom	Laborers	Watchman	\$42.08	7A	4V	8Y	View
Whatcom	Laborers	Welder	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Well Point Laborer	\$55.62	7A	4V	8Y	View
Whatcom	Laborers	Window Washer/Cleaner	\$42.08	7A	4V	8Y	View
Whatcom	Laborers - Underground Sewer & Water	General Laborer & Topman	\$54.62	7A	4V	8Y	View
Whatcom	Laborers - Underground Sewer & Water	Pipe Layer	\$55.62	7A	4V	8Y	View
Whatcom	Landscape Construction	Landscape Construction/Landscaping Or Planting Laborers	\$42.08	7A	4V	8Y	View
Whatcom	Landscape Construction	Landscape Operator	\$72.28	7A	3K	8X	View
Whatcom	Landscape Maintenance	Groundskeeper	\$13.69		1		View
Whatcom	Lathers	Journey Level	\$67.54	5D	1H		View
Whatcom	Marble Setters	Journey Level	\$63.32	7E	1N		View
Whatcom	Metal Fabrication (In Shop)	Journey Level	\$33.09	15G	11B		View
Whatcom	Millwright	Journey Level	\$66.44	7A	4C		View
Whatcom	Modular Buildings	Journey Level	\$13.69		1		View
Whatcom	Painters	Journey Level	\$47.70	6Z	2B		View
Whatcom	Pile Driver	Crew Tender	\$69.91	7A	4C		View
Whatcom	Pile Driver	Crew Tender/Technician	\$69.91	7A	4C		View
Whatcom	Pile Driver	Hyperbaric Worker - Compressed Air Worker 0-30.00 PSI	\$80.76	7A	4C		View
Whatcom	Pile Driver	Hyperbaric Worker - Compressed Air Worker 30.01 - 44.00 PSI	\$85.76	7A	4C		View
Whatcom	Pile Driver	Hyperbaric Worker - Compressed Air Worker 44.01 - 54.00 PSI	\$89.76	7A	4C		View
Whatcom	Pile Driver	Hyperbaric Worker - Compressed Air Worker 54.01 - 60.00 PSI	\$94.76	7A	4C		View
Whatcom	Pile Driver	Hyperbaric Worker - Compressed Air Worker 60.01 - 64.00 PSI	\$97.26	7A	4C		View
Whatcom	Pile Driver	Hyperbaric Worker - Compressed Air Worker 64.01 - 68.00 PSI	\$102.26	7A	4C		View
Whatcom	Pile Driver	Hyperbaric Worker - Compressed Air Worker 68.01 - 70.00 PSI	\$104.26	7A	4C		View
Whatcom	Pile Driver	Hyperbaric Worker - Compressed Air Worker 70.01 - 72.00 PSI	\$106.26	7A	4C		View
Whatcom	Pile Driver	Hyperbaric Worker - Compressed Air Worker 72.01 - 74.00 PSI	\$108.26	7A	4C		View
Whatcom	Pile Driver	Journey Level	\$65.19	7A	4C		View
Whatcom	Plasterers	Journey Level	\$64.14	7Q	1R		View
Whatcom	Plasterers	Nozzleman	\$67.64	7Q	1R		View

Whatcom	Playground & Park Equipment Installers	Journey Level	\$13.69		1		View
Whatcom	Plumbers & Pipefitters	Journey Level	\$80.97	5A	1G		View
Whatcom	Power Equipment Operators	Asphalt Plant Operators	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators	Assistant Engineer	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators	Barrier Machine (zipper)	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Batch Plant Operator: concrete	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Bobcat	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators	Brokk - Remote Demolition Equipment	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators	Brooms	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators	Bump Cutter	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Cableways	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators	Chipper	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Compressor	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators	Concrete Finish Machine - Laser Screed	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Over 42 M	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Conveyors	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators	Cranes friction: 200 tons and over	\$75.72	7A	3K	8X	View
Whatcom	Power Equipment Operators	Cranes: 100 tons through 199 tons, or 150' of boom (including jib with attachments)	\$74.22	7A	3K	8X	View
Whatcom	Power Equipment Operators	Cranes: 20 Tons Through 44 Tons With Attachments	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Cranes: 200 tons- 299 tons, or 250' of boom including jib with attachments	\$74.99	7A	3K	8X	View
Whatcom	Power Equipment Operators	Cranes: 300 tons and over or 300' of boom including jib with attachments	\$75.72	7A	3K	8X	View
Whatcom	Power Equipment Operators	Cranes: 45 Tons Through 99 Tons, Under 150' Of Boom (including Jib With Attachments)	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators	Cranes: A-frame - 10 Tons And Under	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators	Cranes: Friction cranes through 199 tons	\$74.99	7A	3K	8X	View
Whatcom	Power Equipment Operators	Cranes: through 19 tons with attachments, A-frame over 10 tons	\$72.28	7A	3K	8X	View

Whatcom	Power Equipment Operators	Crusher	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Deck Engineer/Deck Winches (power)	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Derricks, On Building Work	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators	Dozers D-9 & Under	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators	Drill Oilers: Auger Type, Truck Or Crane Mount	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators	Drilling Machine	\$74.22	7A	3K	8X	View
Whatcom	Power Equipment Operators	Elevator And Man-lift: Permanent And Shaft Type	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators	Finishing Machine, Bidwell And Gamaco & Similar Equipment	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Forklift: 3000 Lbs And Over With Attachments	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators	Forklifts: Under 3000 Lbs. With Attachments	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators	Grade Engineer: Using Blue Prints, Cut Sheets, Etc	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Gradechecker/Stakeman	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators	Guardrail Punch	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Horizontal/Directional Drill Locator	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators	Horizontal/Directional Drill Operator	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Hydralifts/Boom Trucks Over 10 Tons	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators	Hydralifts/Boom Trucks, 10 Tons And Under	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators	Loader, Overhead 8 Yards. & Over	\$74.22	7A	3K	8X	View
Whatcom	Power Equipment Operators	Loader, Overhead, 6 Yards. But Not Including 8 Yards	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators	Loaders, Overhead Under 6 Yards	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Loaders, Plant Feed	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Loaders: Elevating Type Belt	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators	Locomotives, All	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Material Transfer Device	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Mechanics, All (leadmen - \$0.50 Per Hour Over Mechanic)	\$74.22	7A	3K	8X	View
Whatcom	Power Equipment Operators	Motor Patrol Graders	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators	Oil Distributors, Blower	\$69.12	7A	3K	8X	View

		Distribution & Mulch Seeding Operator					
Whatcom	Power Equipment Operators	Outside Hoists (Elevators And Manlifts), Air Tuggers, Strato	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators	Overhead, Bridge Type Crane: 20 Tons Through 44 Tons	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Overhead, Bridge Type: 100 Tons And Over	\$74.22	7A	3K	8X	View
Whatcom	Power Equipment Operators	Overhead, Bridge Type: 45 Tons Through 99 Tons	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators	Pavement Breaker	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators	Pile Driver (other Than Crane Mount)	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Plant Oiler - Asphalt, Crusher	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators	Posthole Digger, Mechanical	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators	Power Plant	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators	Pumps - Water	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators	Quad 9, Hd 41, D10 And Over	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators	Quick Tower - No Cab, Under 100 Feet In Height Based To Boom	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators	Remote Control Operator On Rubber Tired Earth Moving Equipment	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators	Rigger and Bellman	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators	Rigger/Signal Person, Bellman (Certified)	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators	Rollagon	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators	Roller, Other Than Plant Mix	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators	Roller, Plant Mix Or Multi-lift Materials	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators	Roto-mill, Roto-grinder	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Saws - Concrete	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators	Scraper, Self Propelled Under 45 Yards	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Scrapers - Concrete & Carry All	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators	Scrapers, Self-propelled: 45 Yards And Over	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators	Service Engineers - Equipment	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators	Shotcrete/Gunite Equipment	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	\$74.22	7A	3K	8X	View
Whatcom	Power Equipment Operators	Shovel, Excavator, Backhoes:	\$74.99	7A	3K	8X	View

		Over 90 Metric Tons					
Whatcom	Power Equipment Operators	Slipform Pavers	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators	Spreader, Toppersider & Screedman	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators	Subgrader Trimmer	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Tower Bucket Elevators	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators	Tower Crane Up To 175' In Height Base To Boom	\$74.22	7A	3K	8X	View
Whatcom	Power Equipment Operators	Tower Crane: over 175' through 250' in height, base to boom	\$74.99	7A	3K	8X	View
Whatcom	Power Equipment Operators	Tower Cranes: over 250' in height from base to boom	\$75.72	7A	3K	8X	View
Whatcom	Power Equipment Operators	Transporters, All Track Or Truck Type	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators	Trenching Machines	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators	Truck Crane Oiler/driver - 100 Tons And Over	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Truck Crane Oiler/Driver Under 100 Tons	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators	Truck Mount Portable Conveyor	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators	Welder	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators	Wheel Tractors, Farmall Type	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators	Yo Yo Pay Dozer	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Asphalt Plant Operators	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Assistant Engineer	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Barrier Machine (zipper)	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Batch Plant Operator, Concrete	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Bobcat	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Brokk - Remote Demolition Equipment	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Brooms	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Bump Cutter	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Cableways	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Chipper	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Compressor	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Concrete Finish Machine - Laser Screed	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	\$72.28	7A	3K	8X	View

Whatcom	Power Equipment Operators-Underground Sewer & Water	Concrete Pump: Truck Mount With Boom Attachment Over 42 M	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Conveyors	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Cranes friction: 200 tons and over	\$75.72	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Cranes: 100 tons through 199 tons, or 150' of boom (including jib with attachments)	\$74.22	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Cranes: 20 Tons Through 44 Tons With Attachments	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Cranes: 200 tons- 299 tons, or 250' of boom including jib with attachments	\$74.99	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Cranes: 300 tons and over or 300' of boom including jib with attachments	\$75.72	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Cranes: 45 Tons Through 99 Tons, Under 150' Of Boom (including Jib With Attachments)	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Cranes: A-frame - 10 Tons And Under	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Cranes: Friction cranes through 199 tons	\$74.99	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Cranes: through 19 tons with attachments, A-frame over 10 tons	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Crusher	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Deck Engineer/Deck Winches (power)	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Derricks, On Building Work	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Dozers D-9 & Under	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Drill Oilers: Auger Type, Truck Or Crane Mount	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Drilling Machine	\$74.22	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Elevator And Man-lift: Permanent And Shaft Type	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Finishing Machine, Bidwell And Gamaco & Similar Equipment	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Forklift: 3000 Lbs And Over With Attachments	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Forklifts: Under 3000 Lbs. With Attachments	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators-	Grade Engineer: Using Blue	\$72.84	7A	3K	8X	View

	Underground Sewer & Water	Prints, Cut Sheets, Etc					
Whatcom	Power Equipment Operators- Underground Sewer & Water	Gradechecker/Stakeman	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Guardrail Punch	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Horizontal/Directional Drill Locator	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Horizontal/Directional Drill Operator	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Hydralifts/Boom Trucks Over 10 Tons	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Hydralifts/Boom Trucks, 10 Tons And Under	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Loader, Overhead 8 Yards. & Over	\$74.22	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Loader, Overhead, 6 Yards. But Not Including 8 Yards	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Loaders, Overhead Under 6 Yards	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Loaders, Plant Feed	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Loaders: Elevating Type Belt	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Locomotives, All	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Material Transfer Device	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Mechanics, All (leadmen - \$0.50 Per Hour Over Mechanic)	\$74.22	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Motor Patrol Graders	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Oil Distributors, Blower Distribution & Mulch Seeding Operator	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Outside Hoists (Elevators And Manlifts), Air Tuggers, Strato	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Overhead, Bridge Type Crane: 20 Tons Through 44 Tons	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Overhead, Bridge Type: 100 Tons And Over	\$74.22	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Overhead, Bridge Type: 45 Tons Through 99 Tons	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Pavement Breaker	\$69.12	7A	3K	8X	View

Whatcom	Power Equipment Operators-Underground Sewer & Water	Pile Driver (other Than Crane Mount)	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Plant Oiler - Asphalt, Crusher	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Posthole Digger, Mechanical	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Power Plant	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Pumps - Water	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Quad 9, Hd 41, D10 And Over	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Quick Tower - No Cab, Under 100 Feet In Height Based To Boom	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Remote Control Operator On Rubber Tired Earth Moving Equipment	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Rigger and Bellman	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Rigger/Signal Person, Bellman (Certified)	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Rollagon	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Roller, Other Than Plant Mix	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Roller, Plant Mix Or Multi-lift Materials	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Roto-mill, Roto-grinder	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Saws - Concrete	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Scraper, Self Propelled Under 45 Yards	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Scrapers - Concrete & Carry All	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Scrapers, Self-propelled: 45 Yards And Over	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Service Engineers - Equipment	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Shotcrete/Gunite Equipment	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	\$74.22	7A	3K	8X	View
Whatcom	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes:	\$74.99	7A	3K	8X	View

	Underground Sewer & Water	Over 90 Metric Tons					
Whatcom	Power Equipment Operators- Underground Sewer & Water	Slipform Pavers	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Spreader, Topsider & Screedman	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Subgrader Trimmer	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Tower Bucket Elevators	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Tower Crane Up To 175' In Height Base To Boom	\$74.22	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Tower Crane: over 175' through 250' in height, base to boom	\$74.99	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Tower Cranes: over 250' in height from base to boom	\$75.72	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Transporters, All Track Or Truck Type	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Trenching Machines	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Truck Crane Oiler/driver - 100 Tons And Over	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Truck Crane Oiler/Driver Under 100 Tons	\$72.28	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Truck Mount Portable Conveyor	\$72.84	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Welder	\$73.49	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Wheel Tractors, Farmall Type	\$69.12	7A	3K	8X	View
Whatcom	Power Equipment Operators- Underground Sewer & Water	Yo Yo Pay Dozer	\$72.84	7A	3K	8X	View
Whatcom	Power Line Clearance Tree Trimmers	Journey Level In Charge	\$55.03	5A	4A		View
Whatcom	Power Line Clearance Tree Trimmers	Spray Person	\$52.24	5A	4A		View
Whatcom	Power Line Clearance Tree Trimmers	Tree Equipment Operator	\$55.03	5A	4A		View
Whatcom	Power Line Clearance Tree Trimmers	Tree Trimmer	\$49.21	5A	4A		View
Whatcom	Power Line Clearance Tree Trimmers	Tree Trimmer Groundperson	\$37.47	5A	4A		View
Whatcom	Refrigeration & Air Conditioning Mechanics	Journey Level	\$88.51	6Z	1G		View
Whatcom	Residential Brick Mason	Journey Level	\$63.32	7E	1N		View
Whatcom	Residential Carpenters	Journey Level	\$31.89		1		View
Whatcom	Residential Cement Masons	Journey Level	\$35.24		1		View
Whatcom	Residential Drywall Applicators	Journey Level	\$26.00		1		View
Whatcom	Residential Drywall Tapers	Journey Level	\$27.18		1		View
Whatcom	Residential Electricians	Journey Level	\$42.61	7F	1D		View
Whatcom	Residential Glaziers	Journey Level	\$15.68		1		View
Whatcom	Residential Insulation	Journey Level	\$18.03		1		View

	Applicators					
Whatcom	Residential Laborers	Journey Level	\$28.59		1	View
Whatcom	Residential Marble Setters	Journey Level	\$63.32	7E	1N	View
Whatcom	Residential Painters	Journey Level	\$30.34		1	View
Whatcom	Residential Plumbers & Pipefitters	Journey Level	\$32.12		1	View
Whatcom	Residential Refrigeration & Air Conditioning Mechanics	Journey Level	\$46.96	5A	1G	View
Whatcom	Residential Sheet Metal Workers	Journey Level (Field or Shop)	\$46.25	7J	1I	View
Whatcom	Residential Soft Floor Layers	Journey Level	\$30.31		1	View
Whatcom	Residential Sprinkler Fitters (Fire Protection)	Journey Level	\$17.09		1	View
Whatcom	Residential Stone Masons	Journey Level	\$63.32	7E	1N	View
Whatcom	Residential Terrazzo Workers	Journey Level	\$14.86		1	View
Whatcom	Residential Terrazzo/Tile Finishers	Journey Level	\$18.09		1	View
Whatcom	Residential Tile Setters	Journey Level	\$14.86		1	View
Whatcom	Roofers	Journey Level	\$57.30	5A	3H	View
Whatcom	Roofers	Using Irritable Bituminous Materials	\$60.30	5A	3H	View
Whatcom	Sheet Metal Workers	Journey Level (Field or Shop)	\$85.05	7F	1E	View
Whatcom	Shipbuilding & Ship Repair	New Construction Boilermaker	\$39.58	7V	1	View
Whatcom	Shipbuilding & Ship Repair	New Construction Carpenter	\$39.58	7V	1	View
Whatcom	Shipbuilding & Ship Repair	New Construction Crane Operator	\$39.58	7V	1	View
Whatcom	Shipbuilding & Ship Repair	New Construction Electrician	\$39.58	7V	1	View
Whatcom	Shipbuilding & Ship Repair	New Construction Heat & Frost Insulator	\$82.02	15H	11C	View
Whatcom	Shipbuilding & Ship Repair	New Construction Laborer	\$39.58	7V	1	View
Whatcom	Shipbuilding & Ship Repair	New Construction Machinist	\$39.58	7V	1	View
Whatcom	Shipbuilding & Ship Repair	New Construction Operating Engineer	\$39.58	7V	1	View
Whatcom	Shipbuilding & Ship Repair	New Construction Painter	\$39.58	7V	1	View
Whatcom	Shipbuilding & Ship Repair	New Construction Pipefitter	\$39.58	7V	1	View
Whatcom	Shipbuilding & Ship Repair	New Construction Rigger	\$39.58	7V	1	View
Whatcom	Shipbuilding & Ship Repair	New Construction Sheet Metal	\$39.58	7V	1	View
Whatcom	Shipbuilding & Ship Repair	New Construction Shipfitter	\$39.58	7V	1	View
Whatcom	Shipbuilding & Ship Repair	New Construction Warehouse/Teamster	\$39.58	7V	1	View
Whatcom	Shipbuilding & Ship Repair	New Construction Welder / Burner	\$39.58	7V	1	View
Whatcom	Shipbuilding & Ship Repair	Ship Repair Boilermaker	\$47.45	7X	4J	View
Whatcom	Shipbuilding & Ship Repair	Ship Repair Carpenter	\$47.35	7X	4J	View
Whatcom	Shipbuilding & Ship Repair	Ship Repair Crane Operator	\$45.06	7Y	4K	View
Whatcom	Shipbuilding & Ship Repair	Ship Repair Electrician	\$47.42	7X	4J	View
Whatcom	Shipbuilding & Ship Repair	Ship Repair Heat & Frost Insulator	\$82.02	15H	11C	View
Whatcom	Shipbuilding & Ship Repair	Ship Repair Laborer	\$47.35	7X	4J	View

Whatcom	Shipbuilding & Ship Repair	Ship Repair Machinist	\$47.35	7X	4J		View
Whatcom	Shipbuilding & Ship Repair	Ship Repair Operating Engineer	\$45.06	7Y	4K		View
Whatcom	Shipbuilding & Ship Repair	Ship Repair Painter	\$47.35	7X	4J		View
Whatcom	Shipbuilding & Ship Repair	Ship Repair Pipefitter	\$47.35	7X	4J		View
Whatcom	Shipbuilding & Ship Repair	Ship Repair Rigger	\$47.45	7X	4J		View
Whatcom	Shipbuilding & Ship Repair	Ship Repair Sheet Metal	\$47.35	7X	4J		View
Whatcom	Shipbuilding & Ship Repair	Ship Repair Shipwright	\$47.35	7X	4J		View
Whatcom	Shipbuilding & Ship Repair	Ship Repair Warehouse / Teamster	\$45.06	7Y	4K		View
Whatcom	Sign Makers & Installers (Electrical)	Journey Level	\$16.03		1		View
Whatcom	Sign Makers & Installers (Non-Electrical)	Journey Level	\$14.23		1		View
Whatcom	Soft Floor Layers	Journey Level	\$51.91	5A	3J		View
Whatcom	Solar Controls For Windows	Journey Level	\$13.69		1		View
Whatcom	Sprinkler Fitters (Fire Protection)	Journey Level	\$66.01	7J	1R		View
Whatcom	Stage Rigging Mechanics (Non Structural)	Journey Level	\$13.69		1		View
Whatcom	Stone Masons	Journey Level	\$63.32	7E	1N		View
Whatcom	Street And Parking Lot Sweeper Workers	Journey Level	\$15.00		1		View
Whatcom	Surveyors	Assistant Construction Site Surveyor	\$72.28	7A	3K	8X	View
Whatcom	Surveyors	Chainman	\$69.12	7A	3K	8X	View
Whatcom	Surveyors	Construction Site Surveyor	\$73.49	7A	3K	8X	View
Whatcom	Telecommunication Technicians	Telecom Technician Journey Level	\$47.28	5B	1B		View
Whatcom	Telephone Line Construction - Outside	Cable Splicer	\$38.27	5A	2B		View
Whatcom	Telephone Line Construction - Outside	Hole Digger/Ground Person	\$25.66	5A	2B		View
Whatcom	Telephone Line Construction - Outside	Telephone Equipment Operator (Light)	\$31.96	5A	2B		View
Whatcom	Telephone Line Construction - Outside	Telephone Lineperson	\$36.17	5A	2B		View
Whatcom	Terrazzo Workers	Journey Level	\$57.71	7E	1N		View
Whatcom	Tile Setters	Journey Level	\$57.71	7E	1N		View
Whatcom	Tile, Marble & Terrazzo Finishers	Finisher	\$48.54	7E	1N		View
Whatcom	Traffic Control Stripers	Journey Level	\$50.51	7A	1K		View
Whatcom	Truck Drivers	Asphalt Mix Over 16 Yards	\$63.80	5D	4Y	8L	View
Whatcom	Truck Drivers	Asphalt Mix To 16 Yards	\$62.96	5D	4Y	8L	View
Whatcom	Truck Drivers	Dump Truck	\$62.96	5D	4Y	8L	View
Whatcom	Truck Drivers	Dump Truck & Trailer	\$63.80	5D	4Y	8L	View
Whatcom	Truck Drivers	Other Trucks	\$63.80	5D	4Y	8L	View
Whatcom	Truck Drivers - Ready Mix	Transit Mix	\$63.80	5D	4Y	8L	View
Whatcom	Well Drillers & Irrigation Pump Installers	Irrigation Pump Installer	\$15.00		1		View
Whatcom	Well Drillers & Irrigation Pump	Oiler	\$13.69		1		View

	Installers					
Whatcom	Well Drillers & Irrigation Pump Installers	Well Driller	\$18.02		1	View

APPENDIX D

ACG-WSDOT Equipment Rental Agreement

AGC-WSDOT EQUIPMENT RENTAL AGREEMENT

Effective Date: Jun 16, 2020 Until Further Notice

It is mutually agreed by the parties to this agreement that rental rates paid to Contractors for equipment used on force account will be established in accordance with Section 1-09.6 of the Standard Specifications and this agreement. The following rules have been agreed to:

1. General

The Rental Rate Blue Book® published by Equipment Watch™ (herein after simply referred to as Blue Book), as clarified or modified by this agreement, will be used to establish rental rates for equipment approved for use on force account work. Rate modifications for the State of Washington shall be used for all equipment covered under this agreement. Equipment rates established under the terms of this agreement will be the rates in effect for each section of the Blue Book at the time the equipment is used.

2. Rental Rate

The hourly rental rate for equipment utilized on force account shall be a combination of the following items:

- a. **Ownership Costs:** The ownership costs shall be calculated by using the Blue Book monthly rate multiplied by the Rate Adjustment factors for age and geographic location divided by 176. The geographic location used for calculating rates shall be Washington DOT.
- b. **Implements and Attachments** (hereafter simply referred to as attachments): will be included in the rental rate when the Engineer deems them necessary to accomplish the force account work. An approved attachment that is continuously attached and used intermittently during the work will be paid for the same duration as the host equipment. When multiple attachments are approved for use, and the attachments are being used interchangeably on the force account operation, only the one attachment having the higher rate will be paid for the same duration as the host equipment. Attachments that are continuously attached, but not used will be paid for at the standby rate in accordance with Section 3 of this agreement, unless it is more economical to remove the attachment. Removal of the attachment, when authorized by the Engineer, will be paid in accordance with Section 5 of this agreement.
- c. **Operating Costs:** The hourly operating cost for each hour that the equipment is in use. "In use" shall mean that the equipment is operating and the presence of the equipment is necessary for the operation. The equipment shall be present and not used for other activities while the force account work is underway. Under the circumstances, the equipment shall be paid at its hourly rate plus the hourly operating cost. If the equipment is not operating, but is necessary for the operation, it may be eligible for payment as Standby Time.

3. **Standby Time**

Standby time shall be defined as the time during which equipment is idled, but cannot be assigned to other work on the project. Only that equipment which has been utilized for work on the force account and is expected to be utilized again on the same force account will be eligible for standby compensation. The Contractor is expected to utilize idled equipment on other work if reasonable. Standby time will only be paid if the Engineer has had an opportunity to evaluate the cost of standby versus the cost of mobilizing and demobilizing and has ordered standby.

When ordered by the Engineer, standby time shall be paid at the standby rate established by Blue Book. The operating cost shall not be included in the calculation for establishing the standby rate. Standby time will not be compensated beyond that amount which will bring the resulting total of operated time and standby time to 8 hours in any one day or 40 hours in any one week.

4. **Rental Equipment**

If Contractor-owned equipment is not reasonably available, the Engineer may approve the use of operated or non-operated rental equipment. Operated equipment shall be considered a "service" and shall be compensated according to section 4 of the force account specification.

Non-operated equipment shall be compensated according to the provisions for rented equipment in section 3 of the force account specifications. If the invoice costs of non-operated equipment do not specifically say the fuel is included, the Blue Book hourly operating cost (see section 2c) shall be added for each hour the equipment operates.

When rental equipment is used on both force account and non-force account work, payment for the equipment will be a prorated share of the invoice cost. The time period covered by the invoice shall reflect the normal practice of the renting agency, except that the time period shall not exceed one month. When calculating the prorated share, the amounts of standby time for both types of work will be considered according to the formula:

$$\text{Share of Invoice to be charged to force account} = F/(F+NF)$$

Where:

F = Number of hours equipment was utilized on force account including standby time.

NF = Number of hours equipment was utilized on non-force account including standby time.

5. **Mobilization**

Force account mobilization of equipment is defined as the preparatory work performed by the Contractor including procurement, loading and transportation of equipment that is intended for use in a force account. A pro rata adjustment will be made when the equipment is eventually used for regular Contract work in addition to the force account work. Mobilization also included the costs incurred during demobilization. The costs will be included in the appropriate sections (Labor, Equipment, Services, etc) depending on the

nature of the cost. If the equipment being mobilized is hauled, payment will cover the hauling vehicle (operated cost). In the event that equipment is transferred under its own power, the payment will cover the operated cost of the equipment plus operator costs. Move-out, or demobilization costs will provide for the return of the equipment to the location from which it was obtained. In the event that the move-out is to a different location, payment will not exceed the amount of the move-in.

If approved by the Engineer, payment will be allowed for moving equipment from work site to work site within the project after the equipment is on the job.

Charges for mechanic's time utilized in servicing equipment to ready it for use prior to moving to the project and similar charges will not be allowed.

6. **Blue Book Omissions**

In the event a rate has not been established for a particular piece of equipment in the Blue Book, a rate will be established, utilizing one or more of the following methods:

- a. Use a rate for the most similar model found in the applicable Blue Book. Such characteristics as manufacturer, capacity, horsepower, and fuel type will be used as the basis for selecting a similar model.
- b. Request a rate through the WSDOT HQ Construction Office for the rate not included in the Blue Book.
- c. Utilize a rate agreed upon by the parties.
- d. For equipment that is older than 20 years the oldest adjustment rate available in the Blue Book shall be used.

7. **Breakdown**

The Contractor shall provide reasonable maintenance efforts for equipment utilized in force account. When a breakdown occurs for any piece of equipment being used on force account work, the Contractor shall first divert idled equipment to replace it. If idled equipment is not available, the Engineer may order rental equipment.

Payment shall cease for the equipment that is broken down. Payment shall also cease for any other equipment that is idled as a result of the breakdown (there will be no standby payment). Payment for any labor that is idled as a result of the breakdown will be made in accordance with provisions of section 1 of the force account specifications, particularly as related to contractual obligations and normal practices of the Contractor.

8. **Shutdown**

If the Engineer orders a shutdown of any or all of the force account, the equipment idled as a result of the shutdown shall be diverted to other work. When diversion of equipment is not practical, standby time may be paid during non-operating hours as provided in Item 3 of this agreement.

The Engineer reserves the right to cease standby payment for equipment that is idled as a

result of a shutdown when the shutdown is anticipated to be for an extended period of time. No further payment shall be allowed after the date the Engineer makes this determination except as provided in Item 5 of this agreement, "Mobilization."

Standby time shall not be paid when shutdown is the result of the fault or negligence of the Contractor.

9. **Small Tools**

Any contractor-owned equipment listed in the Blue Book with a monthly rate of less than \$100 and any other equipment with a purchase price of less than \$500 shall be considered Small Tools and shall be paid by negotiation rather than using an hourly rate (except for rentals.) Any such small tool that is rented shall be paid according to the rental provisions in the Equipment section of this agreement. All other Small Tools shall be paid by agreement of the parties. After the force account work has been completed, (or more often, by agreement of the parties,) the Contractor shall promptly supply a list of small tools and equipment that have been utilized in the work. The list shall be supported by invoices or, in the event the item came from stock, by a Contractor affidavit of purchase cost. The negotiation of the Small Tools payment may include discussions of shared use with other work and of residual value, if appropriate. Once agreed upon, the small tools amount will be added to the payment amount in the Equipment section (Section 3 of the force account specification.)

10. **Concurrence, Review Time**

This agreement is issued after conference among representatives of the Associated General Contractors of Washington and the Washington State Department of Transportation and has the approval of both. Either party may request a review after a one-year period.

Associated General Contractors of Washington

**Washington State Department of
Transportation**

Dave D'Hondt

Dave D'Hondt (Jun 15, 2020 09:48 EDT)

Dave D'Hondt
Executive Vice President

Robert E. Christopher III, P.E.

Robert E. Christopher III, P.E. (Jun 16, 2020 09:24 PDT)

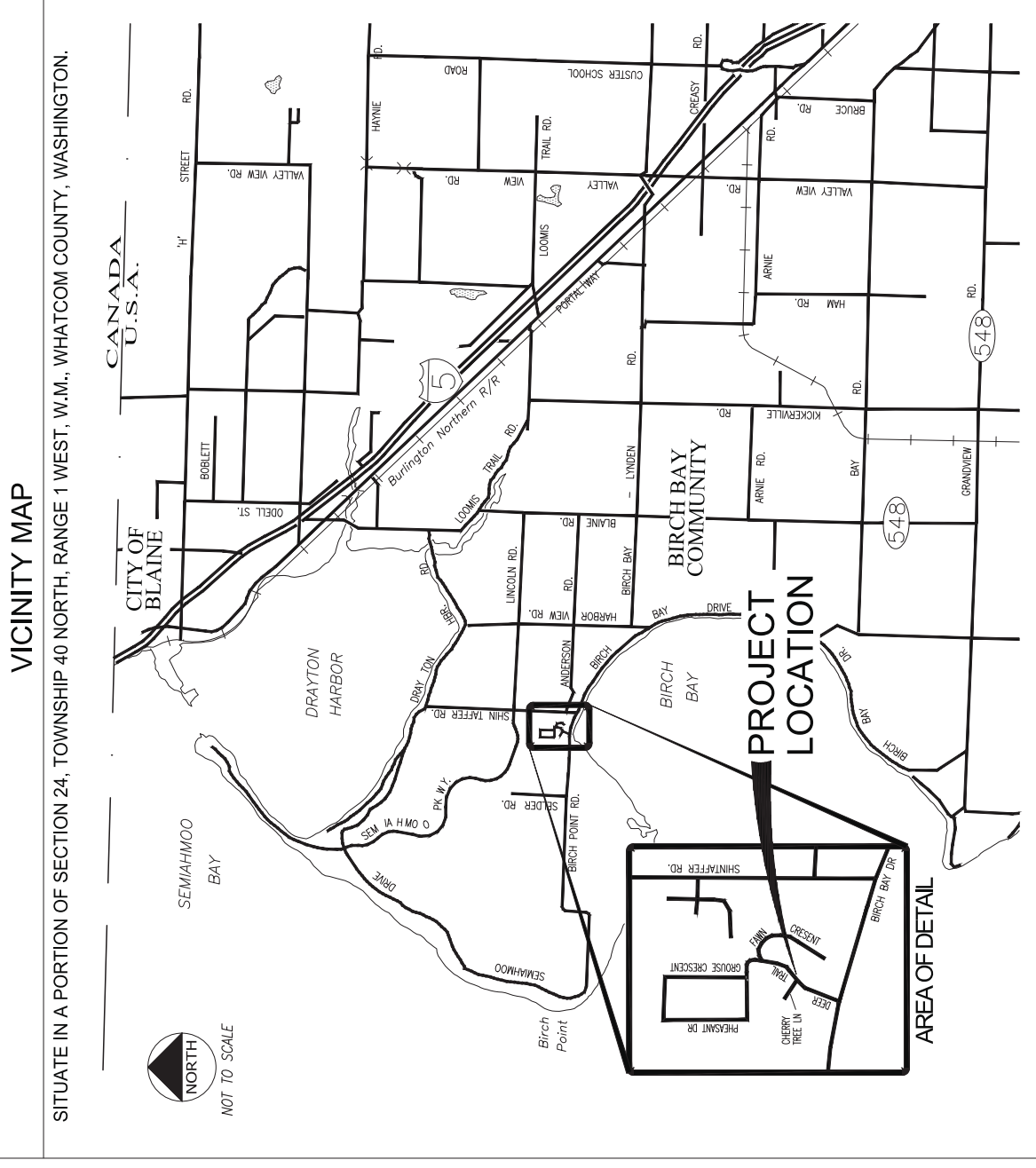
Robert E. Christopher III, P.E.
State Construction Engineer

PART IV
CONTRACT PLANS



DEER TRAIL SLIDE DAMAGE REPAIR

CRP No. 921020



SITUATE IN A PORTION OF SECTION 24, TOWNSHIP 40 NORTH, RANGE 1 WEST, W.M., WHATCOM COUNTY, WASHINGTON.

LEGEND KEY

<ul style="list-style-type: none"> ● SIGN POST (GENERAL) ▲ TREE DEAD SMG ▲ CONIFEROUS TREE ▲ CONIFEROUS TREES GROUP ○ DECIDUOUS TREE ○ DECIDUOUS TREES GROUP ○ UTILITY POLE MOUNTED LIGHT ○ STUMP 	<ul style="list-style-type: none"> ● FOUND REBAR & YELLOW CAP ▲ SET NAIL & SHINER/WASHER ○ UTILITY/SERVICE POLE ○ UTILITY POLE W/ DROP ○ GUY ANCHOR ○ UTILITY PEDISTAL / HANDHOLE ○ UTILITY POLE W/ DROP ○ WATER METER ○ WATER VALVE ○ SANITARY SEWER MANHOLE
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— TOP —	— TOP —	— TOP —	— TOP —
— INBEI —	— INBEI —	— INBEI —	— INBEI —
— (C) —	— (C) —	— (C) —	— (C) —
— (E) —	— (E) —	— (E) —	— (E) —
— (W) —	— (W) —	— (W) —	— (W) —
— (S) —	— (S) —	— (S) —	— (S) —
— (OH) —	— (OH) —	— (OH) —	— (OH) —

ABBREVIATION KEY

ACP	ASPHALT CONCRETE PAVEMENT	LF	LINEAR FEET
APPROX.	APPROXIMATE	MAX.	MAXIMUM
C.C.L.	CENTERLINE	MIN.	MINIMUM
BOP	BEGINNING OF PROJECT	MP	MILE POINT
COMP.	COMPACTED	N/B	NORTH TO SCALE
CONC.	CONCRETE	NTS	NOT TO SCALE
CONST.	CONSTRUCTION	PVC	POLYVINYL CHLORIDE
CSBC	CRUSHED SURFACING BASE COURSE	ORD.	ORDINARY HIGH WATER
CTR	CENTER	RAD.	RADIUS
DWY	DRIVEWAY	ROW	RIGHT OF WAY
E/B	EASEMENT	S/B	SOUTH BOUND
E/C	EXISTING CURB	S/F	SOUTH FEET
EXIST/EX	EXISTING EXISTING	STA	STATION
FG	FINISHED GRADE	STR	STRUCTURE
FT	FEET	STD	STANDARD
GVL	GRAVEL	TEMP	TEMPORARY
HMA	HOT MIX ASPHALT	TYP	TYPICAL
		W/B	WEST BOUND
		WC	WATER VALVE

GENERAL NOTES

- ALL WORK SHALL CONFORM TO THE CURRENT STANDARD PLANS AND SPECIFICATIONS OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT), AND WHATCOM COUNTY STANDARDS UNLESS INDICATED OTHERWISE BY THE CONTRACT DOCUMENTS.
- TRAFFIC SHALL BE MAINTAINED ACCORDING TO WSDOT SPECIFICATION 1-07.23, OR APPROVED TRAFFIC CONTROL PLAN, WHATCOM COUNTY SPECIFICATIONS & THE MOST CURRENT EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES (MUTCD). EXISTING PUBLIC AND PRIVATE TRAVEL WAYS AND ACCESSES SHALL REMAIN OPEN AND MAINTAINED IN A SAFE CONDITION AT ALL TIMES.
- APPROVED PLANS STAMPED BY THE ENGINEER AND ALL PERMITS FOR CONSTRUCTION SHALL BE KEPT ON-SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
- THE CONTRACTOR IS TO FIELD VERIFY EXISTING SITE CONDITIONS AND DISCUSS ANY POSSIBLE CONSTRUCTION CONFLICTS WITH THE ENGINEER PRIOR TO START OF ALL WORK.
- THE CONTRACTOR SHALL EXERCISE EXTREME CARE DURING EXCAVATION OPERATIONS TO AVOID DISTURBING ADJACENT FACILITIES, UTILITIES, SUB-GRADE STRUCTURES AND TREES. ALL DAMAGE RESULTING FROM THE CONSTRUCTION SHALL BE THE CONTRACTOR'S RESPONSIBILITY AND SHALL BE REPAIRED AT NO EXPENSE TO THE OWNER OR AGENCY. ALL REPAIR WORK SHALL BE TO THE SATISFACTION OF THE ENGINEER. PLANTED AREAS DISTURBED BY THE CONTRACTOR SHALL BE RESTORED AS DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PROTECT ALL EXISTING UTILITIES FROM DAMAGE. LOCATIONS SHOWN FOR EXISTING UTILITIES ARE APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE TRUE AND CORRECT LOCATIONS. FORTY-EIGHT (48) HOURS PRIOR TO PERFORMING ANY WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY LOCATION SERVICE AT (800) 424-5555 AND APPROPRIATE PRIVATE UTILITIES AS PER THE SPECIFICATIONS.
- EXCAVATIONS WITHIN FIVE FEET OF EXISTING ELECTRIC, GAS, OR COMMUNICATIONS FACILITIES SHALL BE HAND EXCAVATED OR AT THE DISCRETION, APPROVAL AND DIRECTION OF THE AFFECTED UTILITY.
- WHATCOM COUNTY WILL PROVIDE ALL CONSTRUCTION STAKING FOR THIS PROJECT.
- WHATCOM COUNTY WILL BE RESPONSIBLE FOR OBTAINING APPLICABLE MONUMENT DISTURBANCE PERMITS PRIOR TO CONSTRUCTION.

SHEET INDEX

- COVER SHEET
- SITE PLAN
- TYPICAL ROADWAY REPAIR SECTION
- SITE PREPARATION / RESTORATION & TEMP. EROSION & SEDIMENTATION CONTROL PLAN
- TEMPORARY TRAFFIC CONTROL PLAN

James P. Karcher
 Digitally signed by James P. Karcher
 Date: 2021.09.14 09:12:54
 P.D.F.

SATPAL SINGH SIDHU
 JAMES P. KARCHER, P.E.
 COUNTY ENGINEER

NO. SHEET REVISION	DATE	BY	PLAN SET ISSUE	DATE	CHECK	DRAWN	DESIGN	DATE	PROJECT No.	PUBLIC WORKS DIRECTOR:	PROJECT:
1	SEP. 13, 2021		CONSTRUCTION SET	SEP. 13, 2021	DB	BW	BW	SEP. 2021	CRP-921020	JON HUTCHINGS	DEER TRAIL SLIDE DAMAGE REPAIR
2								CRP-921020	NAD 83/07 USFT	JAMES P. KARCHER, P.E.	COVER SHEET
3								25550	921020.SP.dwg	BRIAN WALKER	
4								NAVD88 USFT			

WHATCOM COUNTY
 DEPARTMENT OF PUBLIC WORKS
 322 N. COMMERCIAL ST., SUITE 801 BELLINGHAM, WA 98225
 (360) 778-6210

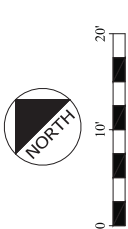
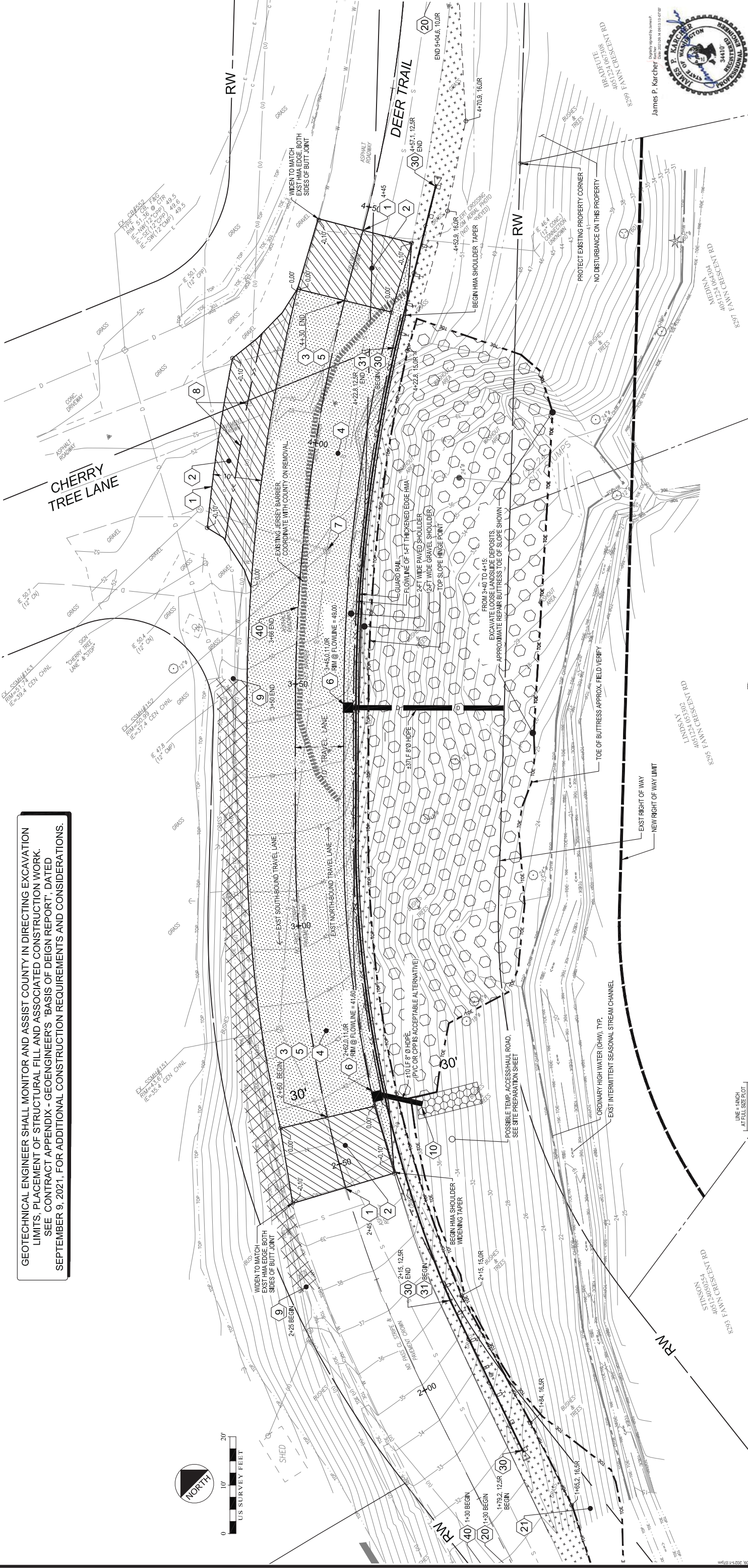
CONSTRUCTION KEY NOTES

- 1 CONSTRUCT HMA BUTT-JOINT, SEAL WITH AR4000 & TOP WITH SAND. INSTALL TEMP. HMA RAMP.
- 2 HMA PLANING DEPTH AS NOTED ON PLAN
- 3 SAWCUT EXST HMA (APPROX DEPTH 3.5") AT EXISTING ROADWAY CENTERLINE
- 4 REMOVE NORTH-BOUND TRAVEL LANE HMA
- 5 ROADWAY REPAIR / BUTTRESS CONSTRUCTION PER TYPICAL ROADWAY REPAIR SECTION. HMA CLASS 3/8-IN PG 58H22 (OR APPROVED MIX DESIGN). NORTH-BOUND TRAVEL LANE ONLY. 2" COMPACTED DEPTH BASE LIFT, ENTIRE ROADWAY OVERLAY. 2" COMPACTED DEPTH WEARING COURSE
- 6 CONCRETE INLET, STD. FRAME & VANED GRATE, & HDPE PIPE, SEE TYPICAL ROADWAY REPAIR SECTION
- 7 PROTECT EXST SSMH DURING CONSTRUCTION. RAISE CASTING TO GRADE UPON FINAL HMA LIFT.
- 8 CONSTRUCT FLOWLINE IN HMA
- 9 TEMPORARY DITCH FILL FOR TRAFFIC CONTROL. SEE TYPICAL ROADWAY REPAIR SECTION.
- 10 QUARRY SPALL ARMORING AT PIPE OUTLET PER ENGINEER'S DIRECTION
- 20 WIDEN SHOULDER FOR GUARD RAIL TERMINAL: 6" COMPACTED DEPTH CSBC OVER CLEAR/GRUB.
- 21 WIDEN SHOULDER EMBANKMENT CLEAR/GRUB. PLACE RIPRAP RETAINING WALL KEYED INTO NATIVE NEAR TOP OF EMBANKMENT SLOPE, MAX 18" REMAINING HEIGHT. 4" TOPSOIL OVER COMPACTED GRAVEL BORROW.
- 30 BEAM GUARDRAIL TYPE 31 MSKT-SP-M6S (TL-2) NON-FLARED TERMINAL
- 31 BEAM GUARDRAIL TYPE 31, 11" STEEL POSTS
- 40 PAINTED DOUBLE CENTERLINE STRIPE PER WSDOT STD. PLAN M-20.10-03 & STD. SPEC 8-22.

PROPOSED LEGEND KEY

- TOP FINISHED GRADE TOP OF SLOPE
- TOE FINISHED GRADE TOE OF SLOPE
- FLOWLINE
- GUARD RAIL FACE OF BARRIER
- HMA
- BITUMINOUS PAVEMENT PLANING
- GRAVEL SHOULDER
- REPAIR BUTTRESS
- TEMPORARY DITCH FILL

GEOTECHNICAL ENGINEER SHALL MONITOR AND ASSIST COUNTY IN DIRECTING EXCAVATION LIMITS, PLACEMENT OF STRUCTURAL FILL AND ASSOCIATED CONSTRUCTION WORK. SEE CONTRACT APPENDIX - GEOENGINEERS' BASIS OF DESIGN REPORT, DATED SEPTEMBER 9, 2021, FOR ADDITIONAL CONSTRUCTION REQUIREMENTS AND CONSIDERATIONS.



No.	SHEET REVISION	DATE	BY
1		SEP. 13, 2021	
2	PLAN SET ISSUE		
3	CONSTRUCTION SET		
4			

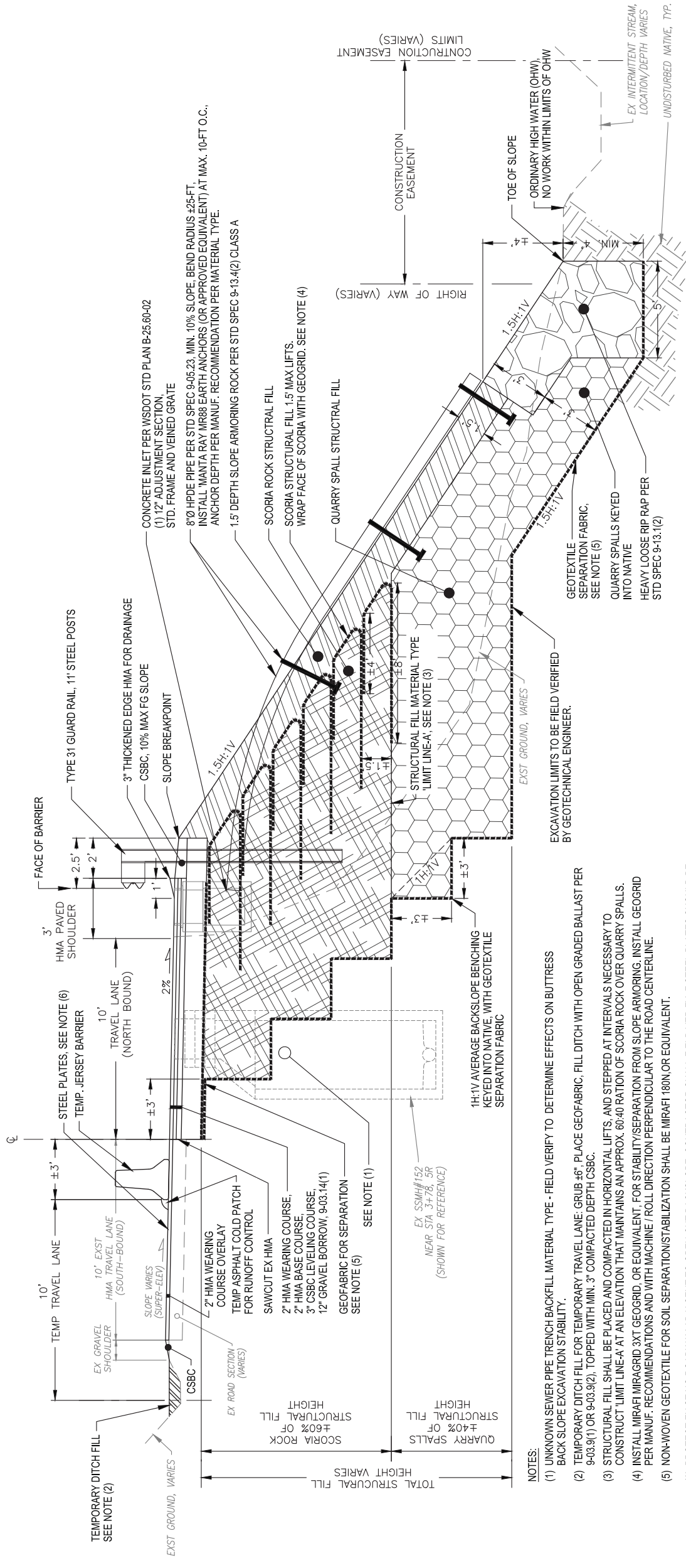
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VERT DATUM:	NAVD83 LIST				

DATE:	SEP. 2021
PROJECT No:	CRP-021020
ROAD No:	25550
DRAWING FILE:	021020_SP.dwg

PUBLIC WORKS DIRECTOR:	JON HUTCHINGS
COUNTY ENGINEER:	JAMES P. KARCHER, P.E.
PROJECT MANAGER:	BRIAN WALKER

PROJECT: DEER TRAIL SLIDE DAMAGE REPAIR
 TITLE: SITE PLAN
 SHEET: 02 OF 05





- NOTES:**
- (1) UNKNOWN SEWER PIPE TRENCH BACKFILL MATERIAL TYPE - FIELD VERIFY TO DETERMINE EFFECTS ON BUTTRISS BACK SLOPE EXCAVATION STABILITY.
 - (2) TEMPORARY DITCH FILL FOR TEMPORARY TRAVEL LANE. GRUB 48". PLACE GEOFABRIC. FILL DITCH WITH OPEN GRADED BALLAST PER 9-03.9(1) OR 9-03.9(2). TOPPED WITH MIN. 3" COMPACTED DEPTH CSBC.
 - (3) STRUCTURAL FILL SHALL BE PLACED AND COMPACTED IN HORIZONTAL LIFTS, AND STEPPED AT INTERVALS NECESSARY TO CONSTRUCT LIMIT LINE-A' AT AN ELEVATION THAT MAINTAINS AN APPROX. 80:40 RATION OF SCORIA ROCK OVER QUARRY SPALLS.
 - (4) INSTALL MIRAFI IMRAGRID 3XT GEOGRID, OR EQUIVALENT, FOR STABILITY/SEPARATION FROM SLOPE ARMORING. INSTALL GEOGRID PER MANUF. RECOMMENDATIONS AND WITH MACHINE / ROLL DIRECTION PERPENDICULAR TO THE ROAD CENTERLINE.
 - (5) NON-WOVEN GEOTEXTILE FOR SOIL SEPARATION/STABILIZATION SHALL BE MIRAFI 180N OR EQUIVALENT.
 - (6) PROTECT EXISTING ROADWAY ADJACENT TO OPEN-CUT BACKSLOPE. CONTRACTOR SHALL FIELD VERIFY IF STEEL PLATES SHOULD BE PLACED ON ROADWAY TO DISTRIBUTE TRUCK AXLE WEIGHTS.

GEOTECHNICAL ENGINEER SHALL MONITOR AND ASSIST COUNTY IN DIRECTING EXCAVATION LIMITS, PLACEMENT OF STRUCTURAL FILL AND ASSOCIATED CONSTRUCTION WORK. SEE CONTRACT APPENDIX - GEOENGINEERS' BASIS OF DESIGN REPORT, DATED SEPTEMBER 9, 2021, FOR ADDITIONAL CONSTRUCTION REQUIREMENTS AND CONSIDERATIONS.



James P. Karcher
 Digitally signed by James P. Karcher
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COUNTY ENGINEER	JAMES P. KARCHER, P.E.				
PROJECT MANAGER	BRIAN WALKER				

PROJECT: DEER TRAIL SLIDE DAMAGE REPAIR

TITLE: TYPICAL ROADWAY REPAIR SECTION

WHATCOM COUNTY
 DEPARTMENT OF PUBLIC WORKS
 322 N. COMMERCIAL ST., SUITE 301 BELLINGHAM, WA 98225
 (360) 778-4210

SHEET: 03
 OF: 05

**CONTRACTOR SHALL PROVIDE
SPILL PREVENTION CONTROL & COUNTERMEASURES PLAN (SPCCP)
FOR ENGINEER APPROVAL PRIOR TO ANY ONSITE WORK.**

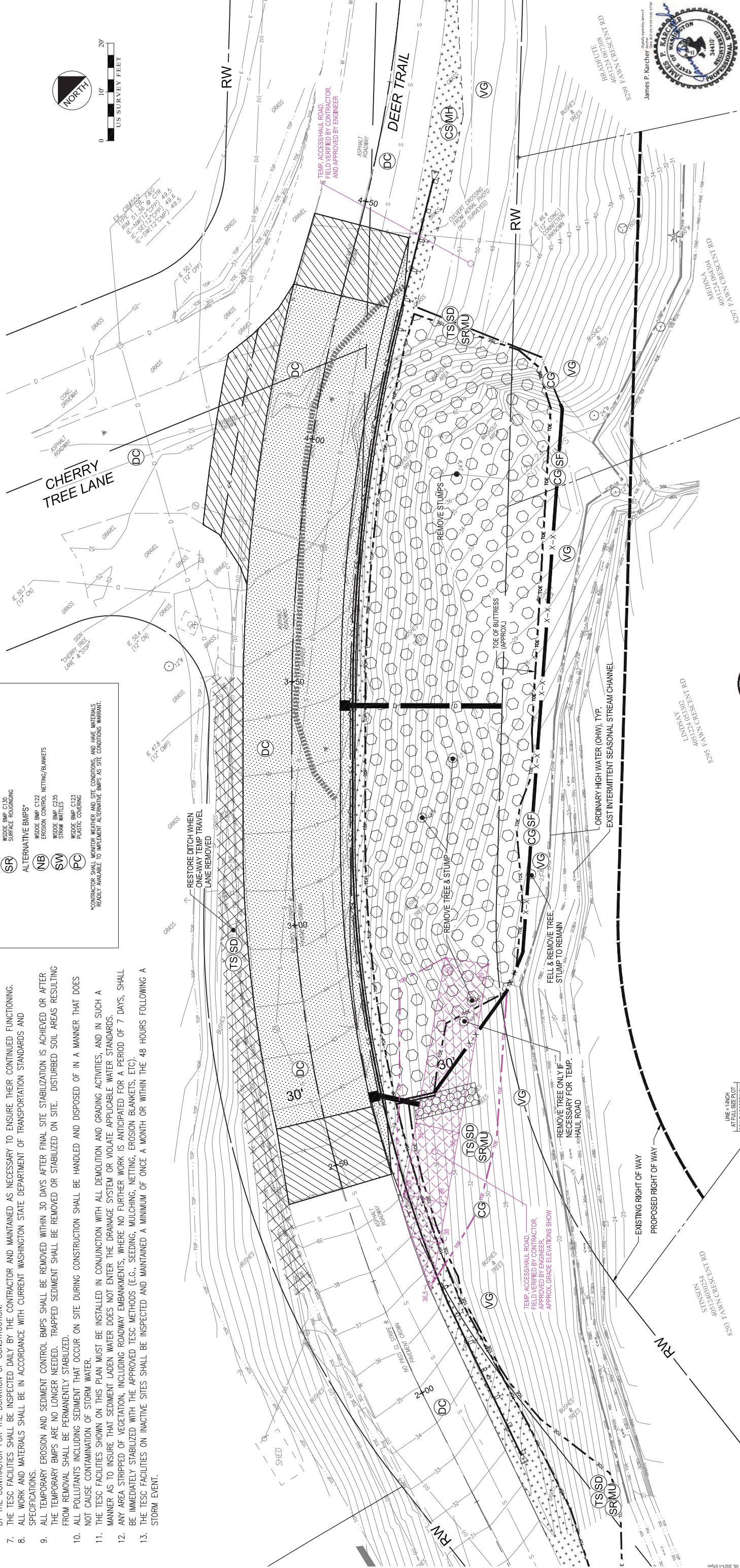
TEMPORARY EROSION / SEDIMENTATION CONTROL NOTES

1. A COPY OF THESE APPROVED PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.
2. THE BMP'S REFERENCED FOLLOW THE 2019 WSDOE STORMWATER MANAGEMENT MANUAL
3. THE BMP'S LISTED ARE MINIMUM REQUIREMENTS FOR THE PROJECT CONSTRUCTION. ADDITIONAL BMP'S MAY BE REQUIRED AT THE ENGINEER'S DISCRETION BASED ON PERFORMANCE OF REQUIRED BMP'S, SITE CONDITIONS, TIME OF CONSTRUCTION, AND WEATHER.
4. CONTRACTOR SHALL PROVIDE CERTIFIED EROSION AND SEDIMENT CONTROL LEAD (CESL), AND BE RESPONSIBLE FOR ALL STORMWATER MONITORING, INSPECTIONS, TESTING, AND REPORTING AND RECORD KEEPING.
5. THE IMPLEMENTATION OF THESE TESC PLANS AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT AND UPGRADING OF THESE TESC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.
6. THE BOUNDARIES OF THE PROJECT DISTURBANCE LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY FLAGGED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE FLAGGED CLEARING LIMITS SHALL BE PERMITTED. THE FLAGGING SHALL BE MAINTAINED BY THE CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
7. THE TESC FACILITIES SHALL BE INSPECTED DAILY BY THE CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
8. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH CURRENT WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS.
9. ALL TEMPORARY EROSION AND SEDIMENT CONTROL BMP'S SHALL BE REMOVED WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION IS ACHIEVED OR AFTER THE TEMPORARY BMP'S ARE NO LONGER NEEDED. TRAPPED SEDIMENT SHALL BE REMOVED OR STABILIZED ON SITE. DISTURBED SOIL AREAS RESULTING FROM REMOVAL SHALL BE PERMANENTLY STABILIZED.
10. ALL POLLUTANTS INCLUDING SEDIMENT THAT OCCUR ON SITE DURING CONSTRUCTION SHALL BE HANDLED AND DISPOSED OF IN A MANNER THAT DOES NOT CAUSE CONTAMINATION OF STORM WATER.
11. THE TESC FACILITIES SHOWN ON THIS PLAN MUST BE INSTALLED IN CONJUNCTION WITH ALL DEMOLITION AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER THE DRAINAGE SYSTEM OR VIOLATE APPLICABLE WATER STANDARDS.
12. ANY AREA STRIPPED OF VEGETATION, INCLUDING ROADWAY EMBANKMENTS, WHERE NO FURTHER WORK IS ANTICIPATED FOR A PERIOD OF 7 DAYS, SHALL BE IMMEDIATELY STABILIZED WITH THE APPROVED TESC METHODS (E.G., SEEDING, MULCHING, NETTING, EROSION BLANKETS, ETC).
13. THE TESC FACILITIES ON INACTIVE SITES SHALL BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN THE 48 HOURS FOLLOWING A STORM EVENT.

**EROSION & SEDIMENTATION
CONTROL LEGEND**

SYMBOL	DOE BMP'S
CG	PROJECT/DISTURBANCE LIMITS (CLEARING & GRUBBING)
X-X	INSIDE BMP C233 SILT FENCE
MH	INSIDE BMP C150 CONSTRUCTION STAGING AREA MATERIALS ON HAND
CS	INSIDE BMP C107
DC	INSIDE BMP C140 DUST CONTROL
SD	INSIDE BMP C120 TEMPORARY AND PERMANENT SEEDING TOPSOILING
TS	INSIDE BMP C125
VG	INSIDE BMP C101 PRESERVING NATURAL VEGETATION
MU	INSIDE BMP C102 BUFFER ZONES
SR	INSIDE BMP C130 MULCHING SURFACE ROUGHENING
ALTERNATIVE BMP'S	
NB	INSIDE BMP C122 EROSION CONTROL NETTING/BLANKETS
SW	INSIDE BMP C235 STRAW MATS
PC	INSIDE BMP C123 PLASTIC COVERING

*CONTRACTORS SHALL NOTIFY WSDOT AND SITE GOVERNORS AND TAKE MATERIALS READY AVAILABLE TO IMPLEMENT ALTERNATIVE BMP'S AS SITE CONDITIONS WARRANT.



No.	SHEET REVISION	DATE	BY	PLAN SET ISSUE	DATE	DESIGN	DRAWN	CHECK
1		SEP. 13, 2021		CONSTRUCTION SET	SEP. 13, 2021	BW	BW	DB
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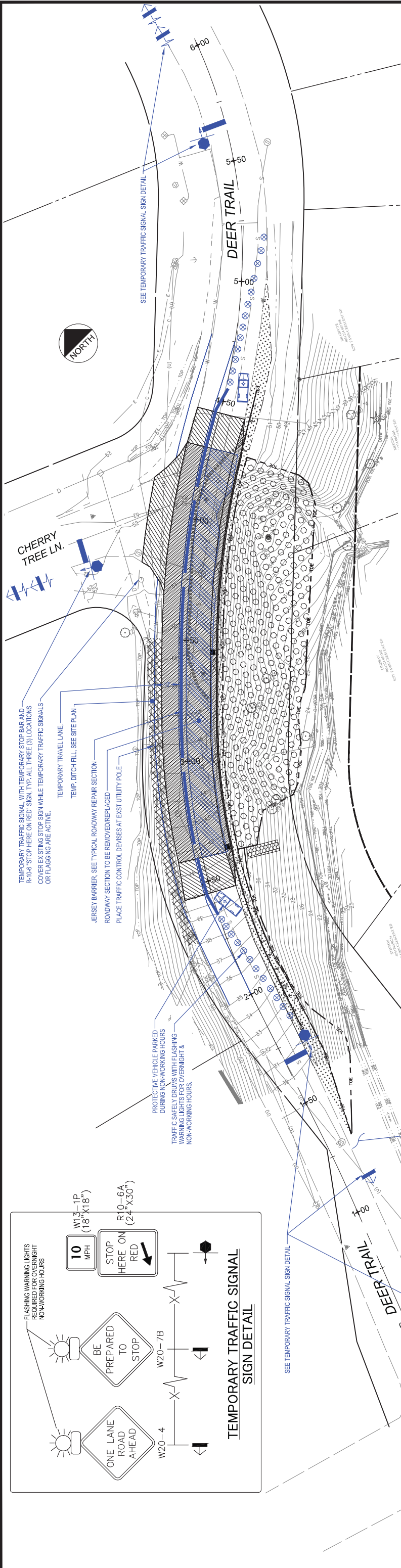
DATE: SEP. 2021
PROJECT No: CRP-021020
ROAD No: 25550
DRAWING FILE: 021020_SP.dwg

PUBLIC WORKS DIRECTOR: JON HUTCHINGS
COUNTY ENGINEER: JAMES P. KARCHER, P.E.
PROJECT MANAGER: BRIAN WALKER

WHATCOM COUNTY
DEPARTMENT OF PUBLIC WORKS
322 N. COMMERCIAL ST., SUITE 801 BELLINGHAM, WA 98225
(360) 778-6210

PROJECT: DEER TRAIL SLIDE DAMAGE REPAIR
SITE PREPARATION / RESTORATION &
TEMPORARY EROSION & SEDIMENTATION CONTROL PLAN

SHEET: 04
OF: 05



NON-WORKING HOURS - THREE-WAY TRAFFIC CONTROL WITH TEMPORARY TRAFFIC SIGNALS

NOT TO SCALE

CONTRACTOR SHALL COVER EXISTING TEMPORARY SIGNS UPON START PROJECT'S FLAGGING. TYPICAL ALL LESS OF DEER TRAIL. COUNTY SHALL REMOVE EXISTING TEMPORARY SIGNS UPON START OF CONTRACTOR'S USE OF TEMPORARY TRAFFIC SIGNALS.

TEMPORARY TRAFFIC SIGNAL WITH TEMPORARY STOP BAR AND R-104 STOP HERE ON RED SIGN, TYP. ALL THREE (3) LOCATIONS COVER EXISTING STOP SIGN WHILE TEMPORARY TRAFFIC SIGNALS OR FLAGGING ARE ACTIVE.

TEMPORARY TRAVEL LANE.

TEMP. DITCH FILL. SEE SITE PLAN.

JERSEY BARRIER. SEE TYPICAL ROADWAY REPAIR SECTION.

ROADWAY SECTION TO BE REMOVED/REPLACED.

PLACE TRAFFIC CONTROL DEVICES AT EXIST UTILITY POLE.

PROTECTIVE VEHICLE PARKED DURING NON-WORKING HOURS.

TRAFFIC SAFELY DRUMS WITH FLASHING WARNING LIGHTS FOR OVERNIGHT & NON-WORKING HOURS.

SEE TEMPORARY TRAFFIC SIGNAL SIGN DETAIL.

SEE TEMPORARY TRAFFIC SIGNAL SIGN DETAIL.

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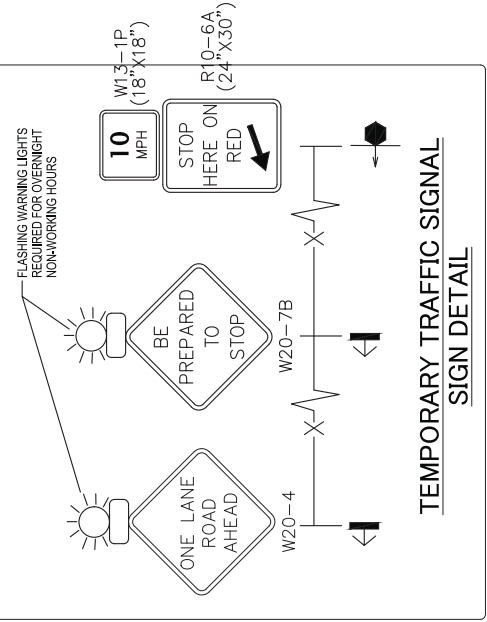
SEE TEMPORARY TRAFFIC SIGNAL SIGN DETAIL.

SEE TEMPORARY TRAFFIC SIGNAL SIGN DETAIL.

SEE TEMPORARY TRAFFIC SIGNAL SIGN DETAIL.

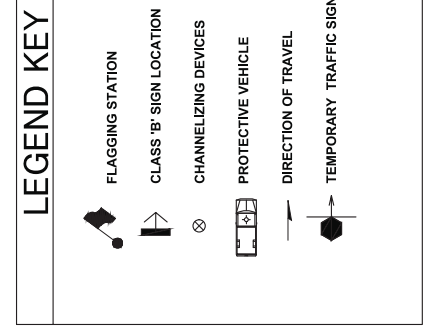
SEE TEMPORARY TRAFFIC SIGNAL SIGN DETAIL.

SEE TEMPORARY TRAFFIC SIGNAL SIGN DETAIL.



BIRCH BAY DRIVE

DEER TRAIL



SIGN SPACING = X (1)

RURAL HIGHWAYS	60 / 65 MPH	800' ±
RURAL ROADS	45 / 55 MPH	500' ±
RURAL ROADS & URBAN ARTERIALS	35 / 40 MPH	350' ±
RURAL ROADS, URBAN ARTERIALS, RESIDENTIAL & BUSINESS DISTRICTS	25 / 30 MPH	200' ± (2)
URBAN STREETS	25 MPH OR LESS	100' ± (2)

(1) ALL SPACING MAY BE ADJUSTED TO ACCOMMODATE INTERSECTIONS AND DRIVEWAYS.
 (2) THIS SPACING MAY BE REDUCED IN URBAN AREAS TO FIT ROADWAY CONDITIONS.

BUFFER DATA

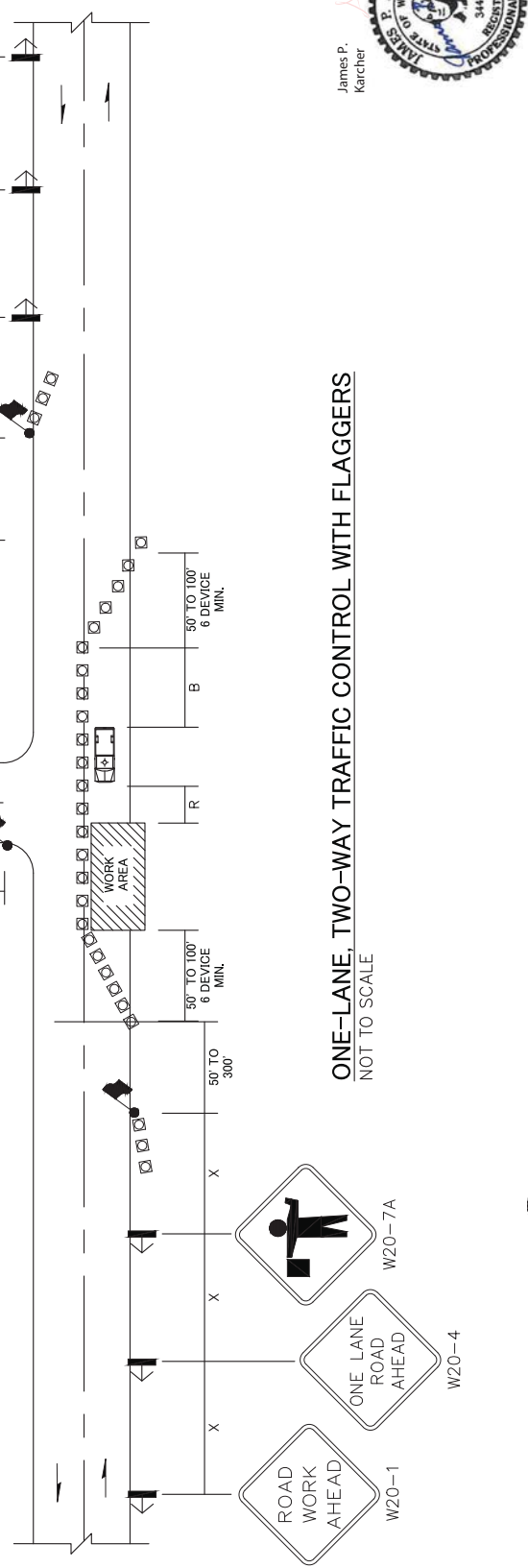
LONGITUDINAL BUFFER SPACE = B	
SPEED (MPH)	25 30 35 40 45 50 55 60 65 70
LENGTH (FEET)	155 200 250 305 360 425 485 570 645 730

PROTECTIVE VEHICLE (WORK VEHICLE) = R
 NO SPECIFIED DISTANCE REQUIRED

CHANNELIZATION DEVICE SPACING (FEET)

MPH	TAPER	TANGENT
50/65	10 TO 20	80
35/45	10 TO 20	60
25/30	10 TO 20	40

- NOTES:**
- ALL SIGNS ARE BLACK ON ORANGE, 48" X 48".
 - EXTENDING THE CHANNELIZING DEVICE TAPER ACROSS SHOULDER IS RECOMMENDED.
 - NIGHT WORK REQUIRES ADDITIONAL ROADWAY LIGHTING AT FLAGGING STATIONS. SEE THE STANDARD SPECIFICATIONS FOR ADDITIONAL DETAILS.
 - SEE SPECIAL PROVISIONS FOR WORK HOUR RESTRICTIONS.
 - TRAFFIC CONTROL PROCEDURES AND DEVICES SHALL CONFORM TO CURRENT MUTCD AND WSDOT STANDARD SPEC. 1-10 TEMP. TRAFFIC CONTROL.



ONE-LANE, TWO-WAY TRAFFIC CONTROL WITH FLAGGERS

NOT TO SCALE

DATE	SEP. 2021
PROJECT No.	CRP-921020
ROAD No.	25550
DRAWING FILE:	921020_SP.dwg
DESIGN	BW
DRAWN	BW
CHECK	DB
DATE	SEP. 13, 2021
PLAN SET ISSUE	CONSTRUCTION SET
DATE	
BY	
NO.	1
REVISION	
NO.	2
REVISION	
NO.	3
REVISION	
NO.	4
REVISION	

LINE = 1/4" INCH
 AT FULL SIZE PLOT
 SCALE ACCORDINGLY!

PUBLIC WORKS DIRECTOR: JON HUTCHINGS
 COUNTY ENGINEER: JAMES P. KARCHER, P.E.
 PROJECT MANAGER: BRIAN WALKER

WHATCOM COUNTY
 DEPARTMENT OF PUBLIC WORKS
 323 N. COMMERCIAL ST., SUITE 801 BELLINGHAM, WA 98225
 (360) 778-4210

DEER TRAIL SLIDE DAMAGE REPAIR
 TEMPORARY TRAFFIC CONTROL PLAN

SHEET: 05
 OF: 05