King County
Department of Local Services
Road Services Division

WAC 197-11-960: SEPA Environmental Checklist

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals:

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the supplemental sheet for nonproject actions (part D). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. Background

1. Name of proposed project, if applicable:

Upper Tokul Creek Bridge #271B Replacement Project #1135999

2. Name of applicant:

King County Department of Local Services (DLS), Road Services Division

3. Address and phone number of applicant and contact person:

   Contact Person:
   Broch Bender, Communications Program Manager
   206-263-1189; bbender@kingcounty.gov
   King Street Center (Mail Stop: KSC-LS-0315)
   201 South Jackson Street
   Seattle, WA 98104-3856

   Project website address: https://kingcounty.gov/depts/local-services/roads/upper-tokul-creek-bridge.aspx

4. Date checklist prepared: March 2021. The project is presently in the 60% design stage.

5. Agency requesting checklist: King County DLS, Road Services Division

6. Proposed timing or schedule (including phasing, if applicable):

   Construction is scheduled to begin in April 2022 and is expected to take approximately 9 months to complete.

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

   There are no future plans for additions, expansion, or further activity related to or connected with this proposal.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

   Environmental information prepared for this project includes the following:

   - *Critical Areas Memorandum*. – Prepared by David Evans and Associates, Inc., September 25, 2019.
   - *Preliminary Geotechnical Report* – Prepared by King County, October 7, 2019.
   - *Cultural Resources Survey.* – Prepared by Cardno, January 29, 2020.
   - *Hydraulic Analysis Report* – Prepared by David Evans and Associates, Inc., February 24, 2020.
   - *Drainge Review Memo* – Prepared by David Evans and Associates, Inc., February 2020.
   - *Type, Size, and Location (TS&L) Report* – Prepared by David Evans and Associates, Inc., April 2020.
   - *Pre-Final Technical Information Report* per the *King County Surface Water Design Manual* – Prepared by David Evans and Associates, Inc., February 2021.

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

   No other applications are known that are pending government approval for proposals directly affecting the property covered by the proposed project.

10. List any government approvals or permits that will be needed for your proposal, if known.

State:
- State Environmental Policy Act (SEPA)
  - Threshold Determination
  - Notice of Action Taken
- Washington State Department of Fish and Wildlife (WDFW) Hydraulic Project Approval

Local:
- King County Clearing and Grading Permit
- King County Shoreline Substantial Development Permit
- Green Building Ordinance documentation
- King County Equity and Social Justice documentation

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The existing Upper Tokul Creek Bridge #271B was constructed in 1965 and is 107 feet long and 24 feet wide. The bridge's three spans are supported by shallow cast-in-place concrete footings and creosote-treated timbers. The bridge's width and railings do not meet current standards. It is weight limited, preventing its use by some fire department vehicles, trucks transporting construction materials, and garbage trucks. The constricted hydraulic opening beneath the bridge has contributed to scour that has undermined the bridge's foundations. Additionally, the roadway approaches fail to meet vertical and horizontal curve standards. Consequently, this bridge has a sufficiency rating of 38.63 out of 100. The June 2020 bridge inspection report submitted to the state rates the bridge deck, superstructure, and substructure condition at 5.

The proposed bridge will span over the creek with a single 99-foot-long span (center of bearing to center of bearing). The bridge curb-to-curb width will be 31.5 feet, comprised of two 10-foot-wide travel lanes, two 4-foot-wide shoulders, and two 1.75-foot-wide curbs for mounting a rail system meeting current requirements. All portions of the existing bridge, as well as abandoned footings from a previous crossing and boulder streambank armor, will be removed. The new bridge's footings will be on new abutments constructed landward of the creek. No portions of the new bridge structure will be below the 100-year flood elevation. The project will also realign the approach roadway leading to and from the bridge to meet the AASHTO horizontal and vertical geometry requirements to the degree possible given the existing natural topography, stream channel location, and limitations within the publicly-owned right-of-way.

Upper Tokul Creek Bridge #271B provides sole access to approximately 50 homes and one access point for logging operations north of Tokul Creek. Daily traffic volumes consists of about 400 vehicles (including 40 trucks) based on 2018 counts. A temporary bridge/work trestle is required to maintain at least one lane open to local traffic for routine and emergency access at all times.

Construction is anticipated to begin in April 2022. The general construction sequence is summarized below:
- Delineate project clearing limits.
- Establish traffic controls.
- Install perimeter protection and temporary erosion and sediment control (TESC) measures.
- Clear, grub, and grade temporary bridge approaches.
- Remove abandoned bridge footings and timber structures.
- Construct temporary access bridge and stabilize temporary traveled roadway surface.
- Transfer traffic onto bypass route.
- Close and demolish existing bridge.

- Construct new bridge and prepare for traffic.
- Return traffic to new bridge.
- Remove temporary access bridge and approaches.
- Restore and stabilize disturbed areas with permanent planting.
- Remove TESC measures.

Anticipated Project Impacts

The total site area is 0.95 acres (41,480 square feet). The existing impervious surface is 0.38 acres (16,610 square feet), which amounts to approximately 40 percent of the site. Replaced impervious area is 0.27 acres (11,560 square feet). The completed project will result in an additional 0.08 acre (3,500 square feet) of new impervious, pollution generating, surface. Construction will require riparian area disturbance and over-water and minor in-water work to complete the following:

- Tree removal, vegetation clearing, concrete bridge footings and boulder armor removal, and upland excavation.
- Temporary roadway and bridge installation and removal for the project detour. The project will require at least one traffic lane with an alternating signal during the construction because this is a sole-access route.
- Construction of new bridge, including abutments and approach roadways, will add approximately 3,500 square feet of new impervious surface area (as indicated above).
- Private property temporary construction easements.

Anticipated Project Mitigation

Mitigation methods will be implemented on-site to the extent possible to avoid, minimize, and compensate for unavoidable project impacts. The following mitigation is anticipated for the project:

- TESC best management practices.
- Removal of the old bridge, concrete bridge footings, boulder armor, and creosote-treated timber structure.
- Streambank restoration and stabilization.

Anticipated Project Benefits

The project will provide the following benefits:

- Elimination of load limit on the bridge.
- Elimination of the hydraulic channel constraint by removing the existing intermediate piers.
- Elimination of a source of water pollutant by removing creosote-treated timber structure.
- Improve aquatic habitat under the bridge.
- Improved safety for the travelling public.

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

    The project is in unincorporated King County on Tokul Road SE, approximately 300 feet north of its intersection with SE 53rd Street within the NW Quarter of Section 20, Township 24N, Range 08E. The project's GPS coordinates are N47.5564 and W-121.8188.

B. Environmental Elements

1. *Earth*

a. General description of the site:

(circle one): Flat, rolling, hilly, steep slopes, mountainous, other _____

b. What is the steepest slope on the site (approximate percent slope)?

The exposed volcanic bedrock unit on the right bank of Tokul Creek at the bridge site maintains stable 50% to 70% slopes. This same unit exhibits near vertical slopes at a set of waterfalls approximately 500 feet downstream (west) of the bridge site.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils.

The soils within the project area are comprised of Barneston gravelly ashy coarse loam and Ogarty gravely loam. These soils underlay long-term commercial forestry and mining operations in the project vicinity. There has been no large scale commercial mining of the bedrock unit.

Approximately 40 cubic yards of excavation and placement of 2,000 cubic yards of temporary fill, affecting approximately 8,600 square feet of uplands, is required to construct temporary approach roads to the temporary bridge. All temporary fills will be removed prior to project completion. Affected areas outside the road-safety mandated clear zones will be restored with native vegetation.

Minor ground disturbance is required to remove the existing footings where they sit on exposed natural rock. This disturbance is limited to the area of each footing with no quantifiable excavation.

Parcel 202408-9103 is owned by the Weyerhaeuser Company. The portions of this lot affected by staging and the construction and removal of the temporary access route are not within currently utilized portions of the timber plantation.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

There is notable scour along the stream banks associated with the hydraulically constricted channel at the bridge footings. The bedrock banks within the project area show no indications of recent instability.

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill.

Purpose of Ground Disturbance	**Square Feet**	**Cubic Yards**	
	Grading Area	Excavation/Cut	Fill
Detour Bridge/Work Trestle (Temporary)	8,600	40	2,000
Bridge Demolition	350	0	45

Bridge, approaches, and roadway construction	1,610	220	94
Restoration	7,000	0	0
TOTAL	**10,560***	**260**	**2,139**

*Less restored area

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

King County's web-based geographic database indicates the project site is within a mapped erosion hazard area. Without implementation and maintenance of appropriate best management practices (BMPs), ground disturbing activity could result in erosion and turbidity if exposed soils interact with falling and flowing water or wind.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?

The existing impervious surface on the project site is approximately 0.38 acres (16,610 square feet). Project completion will result in the replacement of 11,560 square feet (0.27 acres) of this surface and add 3,500 square feet (0.08 acres) of new pollution generating impervious surface. This increases the total pollution impervious surface by approximately 21%.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

The potential for erosion and the discharge of turbid water from the project site can be reduced by timing land disturbing activities to the dry season to the degree possible, use of BMPs to prevent the initial mobilization of sediments, and containment and treatment of affected water prior to release from the site.

The 2016 King County Surface Water Design Manual (Appendix D) specifies the general requirements for erosion and sedimentation controls. These measures include establishment of clearing limits, cover measures, perimeter protection, traffic area stabilization, sediment retention, surface water collection, dewatering control, dust control, and flow control. The County uses all known, available, and reasonable methods of prevention, control, and treatment of potential pollutants associated with discharge from its projects. If, during the course of construction, conditions arise that do not meet state requirements, the County will deploy additional BMPs to correct the situation.

Outside the traveled roadway surface (paved areas and shoulders) and road-safety mandated clear zones, final site stabilization will be achieved through permanent seeding and native plant installation. Plants will be monitored and maintained to ensure their survival. The bridge and roadway will be monitored and maintained.

2. Air

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Greenhouse Gas Emissions: Construction, operations, and maintenance of the roadway will result in greenhouse gas (GHG) emissions that contribute to global warming and related climate-change concerns. Life cycle GHG emissions for the project include embodied, operational, and construction emissions defined as follows:

- Embodied emissions are the emissions released during the extraction, processing, and transportation

of the materials used in construction.

- Construction emissions are released during project construction and primarily come from fuel burned in the equipment used to build the project elements, such as bulldozers, pavers, and rollers.
- Operational and maintenance emissions are released by vehicles at the site and during vehicular roadway travel.

Fugitive Dust Emissions: Demolition of concrete, excavation, or placement of imported aggregates may result in sources of fugitive dust that can reduce roadway visibility, cause respiratory health problems in humans/animals, and negatively impact aquatic life, vegetation, and water quality. Using the attached GHC Emissions Calculator, Lifespan Emissions are estimated at 1006 metric tons of carbon dioxide equivalent (MTCO2e).

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

No off-site sources of emissions or odors have been identified that may affect this proposal.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

During construction, the contractor will implement a Fugitive Dust Control Plan. During construction, operation, and maintenance of the roadway, mitigation measures for project impacts to air quality and GHG emissions could include, but are not limited to, the following:

- Spraying water, when necessary, during construction operations to reduce emissions of fugitive dust.
- Covering dirt, gravel, and debris piles as needed to reduce fugitive dust and wind-blown debris.
- Covering open-bodied trucks in accordance with RCW 46.61.655, wetting materials in trucks, or providing adequate space from the top of the material to the top of the truck to reduce fugitive dust emissions.
- Sweeping public roadways, when necessary, to remove mud and dirt deposits.
- Using biodiesel or ultra-low-sulfur diesel fuels for vehicles and equipment to reduce diesel exhaust emissions.
- Conservation and reuse of construction materials on-site to reduce exhaust emissions and traffic delays.
- Enforcing King County's no-idling policy for county vehicles.

3. Water

a. Surface Water:

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

The project is on Tokul Creek (WRIA 07.0440). Tokul Creek is a tributary to the Snoqualmie River (WRIA 07.0219). This stream is a Shoreline of the State and provides habitat for resident salmonids and non-salmonids. Accordingly, the stream has a required 165-foot-wide buffer per King County Code (KCC) 21A.24.358.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

Yes, Upper Tokul Creek Bridge #271B spans Tokul Creek and construction will affect both the right and left stream banks.

The bridge replacement requires clearing and grading to construct and remove a temporary bridge and approaches immediately downstream of the existing bridge. This will be accompanied by the installation, maintenance, and eventual removal of BMPs necessary to protect water quality in the stream during these operations. Demolition of the existing bridge will follow completion of the temporary traffic bypass. Abandoned footings from a previous bridge and existing bank armor will also be removed from the streambanks to the edge of the wetted channel.

Following completion of the new bridge and the removal of the temporary traffic bypass, affected areas within the stream buffer will be restored and permanently stabilized by the installation of native trees and shrubs. Non-biodegradable BMPs will be removed once permanent ground cover is established.

See attached plans for specific locations and construction details.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

The County proposes to remove the shallow existing cast-in-place footings from the existing bridge, as well as the abandoned foundations of an older bridge at or immediately above the ordinary highwater mark (OHWM). Individual boulders, at and slightly below the OHWM, used for bank armor along the left bank at the foundation will be pulled. Under typical summer low flows, these areas have little or no interaction with Tokul Creek below its OHWM. Depending on conditions at the time of construction, the County will deploy appropriate BMPs necessary to protect water quality and prevent incidental fallback into Tokul Creek.

The new bridge will fully span Tokul Creek's 100-year water surface elevation without any interaction with the stream under any flow conditions. The County is not proposing placement of any materials within waters of the United States.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

No surface water withdrawls or diversions are proposed.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

The Tokul Creek Bridge is located on the Department of Homeland Security – Federal Emergency Management Agency (FEMA) effective Flood Insurance Rate Map (FIRM) panel 53033C0737G (updated on August 19, 2020), which indicates Tokul Creek does not have a floodplain or floodway mapped by FEMA at the project site.

6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.

No waste materials will be discharged to surface waters. BMPs will be implemented following the King County and Washington State Department of Ecology stormwater manual guidance.

b. Ground Water:

1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known.

Groundwater will not be withdrawn from a well for drinking water for this project. Water will not be discharged to groundwater for this project.

2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.

No waste material will be discharged into the ground from septic tanks or other sources.

c. Water runoff (including stormwater):

1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.

The source of runoff is precipitation. Stormwater presently discharges as sheet flow from the impervious roadway surface to the roadway fill prisms and from the bridge deck directly to Tokul Creek. Based on preliminary design, the project adds less than 5,000 square feet of both impervious and pollution generating impervious surfaces; therefore, flow control and water quality will not be required.

2) Could waste materials enter ground or surface waters? If so, generally describe.

It is unlikely, but possible, that fuel, hydraulic fluid, or paving material spills could occur from construction machinery. King County and Washington Department of Ecology spill prevention BMPs will be followed to avoid such spills. King County and the contractor are required to implement a Spill Prevention Control and Countermeasures Plan (SPCC) for the project prior to beginning construction.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

Removal of the existing bridge foundation, creosote-treated timber substructure, abandoned footings, and streambank armor will eliminate the hydraulic channel constriction beneath the bridge, and restore natural flow patterns within the project area.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

This project requires ground disturbing activities within uplands and at the edge of Tokul Creek to complete the bridge replacement and remove the artificial channel constriction due to the existing bridge structure and streambank armor. Prior to beginning this work, clearing limits will be flagged to ensure these activities are limited to the approved project footprint. TESC measures will be installed prior to clearing and grading. The TESC plan is devised to control surface, ground, and runoff water under anticipated conditions and will be maintained or supplemented as needed to address changing conditions in the field as construction proceeds.

Work required to remove the existing footings will occur immediately above Tokul Creek's OHWM. The lowest portion of the boulder armor present at the leading end of the left bank footings will be below the OHWM at the time of removal. Scour in this area, associated with the hydraulic constriction, has largely mobilized and removed the sediments and colloidal particles that contribute to turbidity. While no negative effect is anticipated from their removal, water quality will be monitored while the individual boulders are pulled. This work will be modified or discontinued if discernible turbidity occurs.

The completed project meets the stormwater control, conveyance, and treatment requirements of the King County Surface Water Design Manual (2016).

4. Plants

a. Check the types of vegetation found on the site:

X deciduous tree: alder, maple, aspen, other
X evergreen tree: fir, cedar, pine, other
X shrubs
X grass
__ pasture
__ crop or grain
__ Orchards, vineyards or other permanent crops.
__ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
__ water plants: water lily, eelgrass, milfoil, other
__ other types of vegetation

b. What kind and amount of vegetation will be removed or altered?

On-site vegetation consists of upland trees, shrubs, herbaceous vegetation, and grasses. Approximately 0.5 acres (22,000 square feet) of vegetation will be removed or altered for this project to accommodate the temporary access route and staging areas. The clearing limits within staging areas have been devised to protect trees within them. Trees felled within the stream buffer will be retained when allowed by the underlying landowner. Details regarding the affected trees and their numbers within Tokul Creek's 165-foot-wide buffer is provided in the tree removal schedule below.

Tree Removal Schedule

Common Name	**Botanical Name**	**DBH* inches**	**Total Removal**	**Total Felled within 165-foot-wide Aquatic Area Buffer**
Red alder	*Alnus Rubra*	6	2	2
Red alder	*Alnus Rubra*	10	1	1
Red alder	*Alnus Rubra*	12	4	4
Red alder	*Alnus Rubra*	16	4	4
Big leaf maple	*Acer Macrophyllum*	8	1	0
Big leaf maple	*Acer Macrophyllum*	16	1	1
Big leaf maple	*Acer Macrophyllum*	20	1	1
Big leaf maple	*Acer Macrophyllum*	24	2	2
Douglas fir	*Pseudotsuga menziesii*	6	1	0
Douglas fir	*Pseudotsuga menziesii*	12	1	1
Douglas fir	*Pseudotsuga menziesii*	14	1	1
Douglas fir	*Pseudotsuga menziesii*	16	2	0
Douglas fir	*Pseudotsuga menziesii*	18	2	2
Western red cedar	*Thuja Plicata*	6	1	0
Western red cedar	*Thuja Plicata*	16	1	1
Cherry	*Prunus sp.*	12	1	1
Cherry	*Prunus sp.*	14	1	1
Tree Totals			**27**	22

*Diameter Breast Height

c. List threatened and endangered species known to be on or near the site.

There are no special status plant species known to occur in the project area.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

Existing vegetation within the project area will be disturbed or removed during construction. Impacted areas will be planted with native species and soils will be stabilized per the project's mitigation plan sheets after construction. Native cut trees will be evaluated for retention on-site and repurposed as woody debris habitat features with the permission with the underlying property owner(s).

e. List all noxious weeds and invasive species known to be on or near the site.

Common Name	**Scientific Name**	**King County Noxious Weed Class**
English Ivy	*Hedera helix*	Non-regulated, Class C Noxious Weed
Himalayan Blackberry	*Rubus bifrons*	Non-regulated, Class C Noxious Weed
Japanese knotweed	*Polygonum cuspidatum*	Non-Regulated, Class B Noxious Weed

5. Animals

a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site.

Examples include:

birds: hawk, heron, eagle, songbirds, other:
mammals: deer, bear, elk, beaver, other:
fish: bass, salmon, trout, herring, shellfish, other: _____

b. List any threatened and endangered species known to be on or near the site.

The U.S. Fish and Wildlife Service-maintained Information for Planning and Consultation list for the area includes the endangered gray wolf (*Canis lupus*), as well as threatened species marbled murrelet (*Bracyramphus marmoratus*) and yellow-billed cuckoo (*Coccyzus americanus*). However, these species are not likely to occur within the project vicinity.

A series of natural downstream barriers approximately 600 feet downstream of the Upper Tokul Creek Bridge #271B prevent all anadromous fish access to the project site. Aquatic threatened or endangered species are not present at the project site.[1]

Fall Chinook (*Oncorhynchus tshawytscha*) and steelhead trout (*Oncorhynchus mykiss*) have a documented presence within Tokul Creek approximately 3,700 feet downstream of the bridge. Bull Trout (*Salvelinus*

[1] WDFW 2020. Washington State Fish Passage GIS database. Available at https://geodataservices.wdfw.wa.gov/hp/fishpassage/index.html

confluentus) are also presumed to be present within Tokul Creek approximately 3,700 feet downstream of the bridge.[2]

The gray wolf is not present within the Puget Sound lowlands. The nearest occurrence of gray wolf is approximately 75 miles east of the project site.[3]

Marbled murrelets forage in marine waters and nest within large evergreen trees within 55 miles of the ocean. The closest marbled murrelet occurence is 7.2 miles east and designated critical habitat is 10.4 miles east of the project area.[4]

The yellow-billed cuckoo has been extirpated from the state and will not occur at the project site.[5]

c. Is the site part of a migration route? If so, explain.

The project site is within the Pacific Flyway, which is a major north-south route of travel for migratory birds, extending from Alaska to Patagonia. Every year, migratory birds travel some or all of this distance both in spring and in fall following food sources, heading to breeding grounds, or travelling to overwintering sites. Migrating and nesting birds within the project area will be protected as required under the Migratory Bird Treaty Act.

d. Proposed measures to preserve or enhance wildlife, if any:

- Avoiding the impact altogether by not taking a certain action or parts of an action.
  - The project was sited to have the minimal footprint possible. Clearing limits will be marked on-site to preserve existing vegetation outside of the project limits.
  - The project will be constructed in compliance with regulations and permit conditions for allowable work windows.

- Minimizing impacts by limiting the degree or magnitude of the action and its implementation by using appropriate technology or by taking affirmative steps to avoid or reduce impacts. The project minimizes impacts by implementing the following:
  - Appropriate BMPs for TESC required by the King County Surface Water Design Manual.
  - Groundwater BMPs: If groundwater is within work areas during construction it will be discharged to a vegetated upland area to infiltrate or hauled off-site. This will prevent turbid water from discharging outside of the project limits.
  - A Fugitive Dust Control Plan.
  - An SPCC Plan.
  - Staging and stockpiling on existing paved areas.
- Rectifying
  - Restoring disturbed vegetation areas and providing cover measures to minimize erosion.
  - Retaining cut trees on-site for habitat as allowed by the underlying landowner.

e. List any invasive animal species known to be on or near the site.

---

[2] Northwest Indian Fisheries Commission (NWIFC) 2020. Available at https://geo.nwifc.org/SWIFD/

[3] WDFW 2019. Washington Gray Wolf Conservation and Management 2019 Annual Report. Available at: https://wdfw.wa.gov/publications/02136

[4] WDFW 2020. Priority Habitats and Species. Available at https://wdfw.wa.gov/species-habitats/at-risk/phs

[5] WDFW 2017. Status Report for the Yellow-billed Cuckoo. Available at https://wdfw.wa.gov/publications/01881

No invasive animal species are anticipated to be on or near the site.

6. Energy and Natural Resources

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.

Gas, diesel, or other fossil fuels will be utilized by heavy equipment during project construction.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

The project will not affect the potential use of solar energy by adjacent properties.

c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:

The completed project will not use energy, and no conservation features are included. Measures to reduce energy use during construction will be encouraged (e.g., efficient scheduling, material transport, and staging; implementing the no-idling policy).

7. Environmental Health

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.

The accidental leakage of petroleum products (e.g., gasoline, diesel fuel, hydraulic fluid, anti-freeze, grease, etc.) from construction equipment could occur, but is not likely. These substances can be toxic to nearby aquatic systems and humans upon prolonged exposure, and can pose a fire hazard. King County inspectors will monitor the site during construction. All King County vehicles are equipped with spill kits. Spill control and cleanup kits will also be provided by the contractor and will be available on-site. Heavy equipment will be inspected on a daily basis for leaks, and necessary repairs will be completed prior to commencing work activities near aquatic areas. Project operations will cease under high-flow conditions that may result in inundation of the construction zone, except for efforts to minimize resource damage.

1) Describe any known or possible contamination at the site from present or past uses.

Based on a review of the Washington State Department of Ecology's Toxic Cleanup Program website, there is a single active site awaiting cleanup within a half-mile radius of the project location. This site was identified in 2008, but no cleanup activities have been reported at this time. Contaminates of concern include petroleum compounds. However, the site is not immediately adjacent to the project area and should not have any effect on project-generated soils.

The project area falls outside the predicted arsenic contamination zone, which is based on the modeled Asarco Tacoma plume.

2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity.

There are no known existing hazardous chemicals/conditions at the project site that might affect project

development and design.

3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project.

   During construction, petroleum products will be used on-site to power construction equipment and as a component of asphalt pavement. At completion of the project, toxic or hazardous chemicals will not be stored, used, or produced at the project site.

4) Describe special emergency services that might be required.

   Special emergency services are not anticipated.

5) Proposed measures to reduce or control environmental health hazards, if any:

   Excavated areas will be sampled for contaminates prior to construction when such documentation is required for the disposal of excavated materials. Worker health and safety will be addressed as required by Washington state and federal regulations. Waste material generated from construction will be properly managed and disposed of at permitted facilities.

   During construction, the project will implement an SPCC plan that provides BMPs to minimize the potential for hazardous spills from fuels and materials. Spill control and cleanup kits will be available on-site to be used in the rare event of a spill.

   The contractor will be required to submit a Fugitive Dust Control Plan to King County for approval. The plan will provide BMPs that will be used to minimize the amount of particulate matter (i.e., dust) generated during construction.

b. Noise

1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)?

   Existing noise in the area emanates from roadway traffic, surrounding residential parcels along the roadway, and nearby commercial forestry and mineral operations. The existing noise levels in the area will not affect the proposed project.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site.

   On a short-term basis, noise will be generated from the construction equipment (e.g., truck traffic hauling materials to and from the site; backhoe, bulldozer, crane, excavator, and asphalt-paving operations). According to KCC 12.94.020, Part B-1, the following sounds are exempt from the provisions of the noise ordinance, "Sounds created by construction equipment, including special construction vehicles, and emanating from temporary construction-sites, if the receiving property is located in a rural or residential district of King County."

Construction will occur in accordance with KCC 12.86, which allows typical construction equipment operation between 7 a.m. and 7 p.m. on weekdays and 9 a.m. and 7 p.m. on weekends. If work outside these hours is needed, a variance will be requested from the King County Permitting Division.

Following construction, noise is expected to return to existing conditions. The project will not generate ongoing noise.

3) Proposed measures to reduce or control noise impacts, if any:

Standard mufflers will be used on all construction equipment. The construction crew will work during daytime hours in accordance with the requirements of King County Code and permit conditions. If work outside normal construction hours is needed, a variance will be requested from the King County Permitting Division.

8. Land and Shoreline Use

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe.

The current use of the site is as King County roadway infrastructure and utility corridor. Four privately owned parcels are adjacent to the bridge site. The proposal will not alter existing land uses. The zoning, size, current use, and relative position to the site are summarized below:

- 2024089103: Multiple zonings. RA-10 zoning adjacent to project site, also includes M (mining) and RA-5 (rural area with one dwelling unit per 5 acres); 95 total acres; undeveloped forest, surface gravel mining, and rural residential uses; in project vicinity, all property west of Tokul Road SE (bisected by 20248HYDR) and 5.8 acres northeast of the Upper Tokul Creek Bridge #271B (bisected by Tokul Road SE).
- 2024089045: Multiple zonings. RA-10 zoning southern 3.5 acres, F zoning (Forestry) northern 0.3 acres; 3.8 acres total size; rural residential and forest production (currently converted to lawn); immediately north and east of Upper Tokul Creek Bridge #271B.
- 2024089067: RA-10 zoning, 0.7 acres, rural residential, 130 feet north and east of Upper Tokul Creek Bridge #271B.

The project will not affect current land uses on nearby or adjacent parcels and does not require the conversion of any privately held property to road right-of-way.

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use?

The project vicinity has historically been used by resource industries including forest production and surface mining. The existing bridge currently provides access to working forest lands within the forest production district north of Tokul Creek. Due to its deteriorated condition, the bridge is currently load restricted to 23 tons, which prevents its use by certain forestry equipment and trucks. The new bridge will not be load restricted.

The project will not result in the conversion of agricultural or forest lands to other uses. No new road right-of-way is being obtained. All permanent improvements associated with this bridge replacement project will be contained within the King County road right-of-way. Affected areas outside of the permanently owned

public right-of-way will be restored.

A portion of the work occurs on undeveloped private properties that, while not zoned for forestry (F), could be used as working forest lands to produce merchantable timber. The proposed project will not affect existing or potential future use of these areas. A temporary bridge and approach roadways are required to maintain access to the parcels north of the existing bridge. This temporary impact, summarized above in Section 4b, requires the removal of seven potentially merchantable evergreen trees over 12 inches in diameter on a RA-10 zoned property. Ultimate disposition of any trees removed in the course of construction is determined by the property owner (Weyerhaeuser Company).

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how:

The existing weight limited bridge provides sole public access to F zoned properties within the forest district north of the bridge. Vehicular use of the existing bridge, temporary bridge, or the new bridge will be periodically interrupted or otherwise affected during project construction and phasing.

c. Describe any structures on the site.

On-site structures within the transportation corridor include the bridge, overhead utilities, roadway fill prism, and paved traveled roadway surface.

d. Will any structures be demolished? If so, what?

The existing bridge structure will be demolished in the course of construction for this project.

e. What is the current zoning classification of the site?

King County's public road rights-of-way are not subject to zoning. The project area is adjacent to an area zoned as RA-10 (rural area with 10 dwelling units per acre). F-zoned are located north of these parcels.

f. What is the current comprehensive plan designation of the site?

According to the King County Comprehensive Plan (2020), the project is within a rural area.

g. If applicable, what is the current shoreline master program designation of the site?

The site is located in two King County Shoreline Master Program areas: Aquatic and Conservancy.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

The following critical areas were identified by the County within or adjacent to the site:

- Tokul Creek is a Type S Aquatic Area that is a Shoreline of the State. The creek has a Critical Area buffer that is a minimum of 165 feet wide. The Shoreline jurisdiction extends 200 feet landward of the stream's OHWM.
- Erosion Hazard Area.
- Steep Slope Hazard Area on the left bank of Tokul Creek.
- Critical Aquifer Recharge Area, which includes a Wellhead Protection Area

i. Approximately how many people would reside or work in the completed project?

No people will reside or work in the completed project.

j. Approximately how many people would the completed project displace?

No people will be permanently displaced by the project.

k. Proposed measures to avoid or reduce displacement impacts, if any:

No measures will be implemented to avoid or reduce displaced people because no one will be displaced.

L. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

The proposed project is consistent with existing and projected land uses in the areas potentially affected by the project. The project requires land use permits from the King County DLS Permitting Division to further ensure the project is compatible with existing and projected land uses and plans.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

This project proposes to provide a safe bridge structure for a sole access roadway that serves residents/homeowners and forest lands, as well as provide drainage improvements that are compatible with adjacent uses. Forest land activities of long-term commercial significance near the project site are anticipated to benefit from the proposal that removes the load restriction for crossing the creek at this location.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

No housing units are being provided by the project.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

No housing units are being eliminated by the project.

c. Proposed measures to reduce or control housing impacts, if any:

The project will not result in adverse impacts to housing units; therefore, no measures are proposed to reduce or control impacts.

10. Aesthetics

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?

The tallest proposed structure will be the new Oregon 3-Tube Curb Mount bridge rail on both sides of the bridge. The maximum height of the bridge railing will be 42 inches including the concrete curb.

b. What views in the immediate vicinity would be altered or obstructed?

In the immediate vicinity of the project, views will be altered by removal of vegetation/tree clearing to accommodate the temporary bypass road and bridge.

While it will be within the same alignment as the existing bridge, the new bridge will be wider with improved guardrails, and the approach roads will conform with current roadway design requirements to degree possible given the existing topography and proximity of off-right-of-way improvements.

b. Proposed measures to reduce or control aesthetic impacts, if any:

The project proposes to minimize aesthetic impacts to the view shed by choosing a bridge type, roadway improvements, and native plantings consistent with the existing rural character of the landscape. The new bridge will be in approximately the same alignment as the existing bridge. It's possible the bridge could use weathered steel components or be painted a color that blends with the existing landscape.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

The project will not produce light or glare; there is no lighting proposed for the project.

No nighttime construction is proposed.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

The finished project will not produce any additional light or glare that will be a safety hazard or interfere with views.

c. What existing off-site sources of light or glare may affect your proposal?

No off-site sources of light or glare have been identified that will affect the proposed project.

d. Proposed measures to reduce or control light and glare impacts, if any:

No measures are needed to prevent or minimize light and glare impacts.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

Within the immediate vicinity of the project, informal activities include fishing, walking/hiking, and biking.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No recreational uses will be displaced by the project. However, travel across Tokul Creek may be periodically interrupted or otherwise affected by construction activities or project phasing.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

Traffic controls will be in place to allow for safe access through the construction site during construction.

13. Historic and cultural preservation

a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers ? If so, specifically describe.

King County retained the services of Cardno consultants to complete the cultural resources survey in support of this project.

One historic resource is present within the surveyed Area of Potential Affects (APE). Built c.1930, the mock log cabin (Property ID 360645) at 4824 Tokul Road SE embodies the distinctive characteristics of a recreational cabin from this period and was determined eligible for listing in the National Register of Historic Places (NRHP) with local-level significance under Criteria A and C.

The Tokul Creek Bridge Site (45KI01472) consists of ruined reinforced concrete footings, a retaining wall, and concrete fragments from a previous bridge spanning Tokul Creek immediately downstream of the existing bridge. This feature is comprised of common materials and provides no insights into local history or prehistory, is not associated with significant people and events, and does not embody a distinctive construction method. It was determined not eligible for listing in the NRHP.

b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources.

The cultural resources screening identified other cultural resources within a mile of the project. The Department of Archaeology and Historic Preservation (DAHP) Washington Information System for Architectural and Archaeological Records Data (WISAARD) database lists a possible precontact camp site (45-KI-19) approximately 0.88 miles southwest of the project site.

The Tokul Creek Trestle (property/resource number 537660/484968), is a historic structure built in 1911. It was previously determined to be eligible for listing in the NRHP and is located about 0.5 miles southwest of the project site.

The WISAARD database does not identify the presence of cemeteries or other previously recorded traditional cultural properties within one mile of the site.

c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc.

The project began with an initial project screening using the King County Cultural Resource Protection Project and DAHP WISAARD databases. These GIS-based databases utilize historic maps, ethno-historic accounts, and professional site records. A Section 106 exemption for geotechnical borings was obtained from the Washington State Department of Transportation (WSDOT) for this project.

The cultural resources survey was completed in compliance with Section 106 of the National Historic Preservation Act of 1966 as amended (16 US Code [USC] 470 et seq.) and its implementing regulations (36 Code of Federal Regulations [CFR] Part 800). This project is subject to review and consultation with WSDOT, DAHP, and affected Indian tribes to determine if the project is likely to impact historic properties.

Fieldwork of the APE for historical and archeological resources was undertaken in December 2019, employing both pedestrian and subsurface shovel probe methods.

d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

The historic cabin located at 4824 Tokul Road is immediately off the roadway within the project APE. Cardno recommends an exclusionary fence be installed at the edge of the existing paved roadway to protect the NRHP-eligible cabin. Temporary auditory, atmospheric (i.e. dust), and visual changes to the cabin and its setting during construction are not permanent and are considered non-adverse.

If resources are identified during construction, work in the vicinity of the identified resources will immediately cease and the King County Road Services Division Archaeologist, WSDOT, DAHP, the King County Historic Preservation Program, consulting Tribes and other appropriate agencies will be notified. Work will not resume in the vicinity of the identified resources until appropriate archaeological investigations are complete.

14. Transportation

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any.

Tokul Road SE is the public roadway that provides the sole public access to locations north of the project area. No new permanent roadway accesses to the site are proposed. Project plans are appended to this document as a reference.

b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop?

The site is not presently served by public transit. The nearest public transit stop is located on State Route 202 north of 37501 SE Fall City-Snoqualmie Road, approximately 2.4 miles to the southwest.

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate?

The completed project will not include parking spaces, nor eliminate any existing parking spaces.

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private).

The proposal requires an improved public bridge to meet current load-rating standards. In addition, the surrounding roadway within the project limits will be improved to meet current King County *Road Design and Construction Standards*. No other local roadway improvements are proposed.

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.

The project will not use water, rail, or air transportation and is not in the immediate vicinity of rail and air transportation.

f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates?

The project replaces an existing weight limited bridge that provides the sole public access across Tokul Creek to forest lands. The completed project could generate increased vehicular trips to and from F-zoned properties once the weight limitation is removed.

g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe.

A short detour/bypass next to the bridge is proposed, which will not interfere with, affect, or be affected by the movement of agricultural and forest products on roads in the area.

h. Proposed measures to reduce or control transportation impacts, if any:

Short term: A detour/bypass road and temporary bridge immediately downstream of the existing bridge, with necessary traffic controls (i.e., barricades, signs, signals, flaggers), provided to minimize the time needed to construct the new bridge and permit traffic though the working site. Construction of the new bridge will be phased to minimize impacts to local and emergency traffic.

In addition, a variety of notifications will be provided to the traveling public by the King County Public Communications Team in advance of traffic disruptions. A Temporary Traffic Control Plan will be prepared by the contractor for review and approval before construction starts.

Long term: The bridge will be maintained and regularly inspected.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe.

No increased needs for public services are anticipated as a result of the proposed project.

b. Proposed measures to reduce or control direct impacts on public services, if any.

There will be no direct impacts on public services. No reduction or control measures are necessary or proposed.

16. Utilities

a. Circle utilities currently available at the site:

electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other: _____

Tokul Road SE and the Upper Tokul Bridge #271B provide a public corridor for communication and power utilities. There are no occupied structures within the public right-of-way. Therefore, while utilities pass through the project area, they do not serve and are not normally available at the project site.

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.

No utilities are proposed for the project. Project construction will not interrupt or alter the utilities currently available in the area.

C. Signature

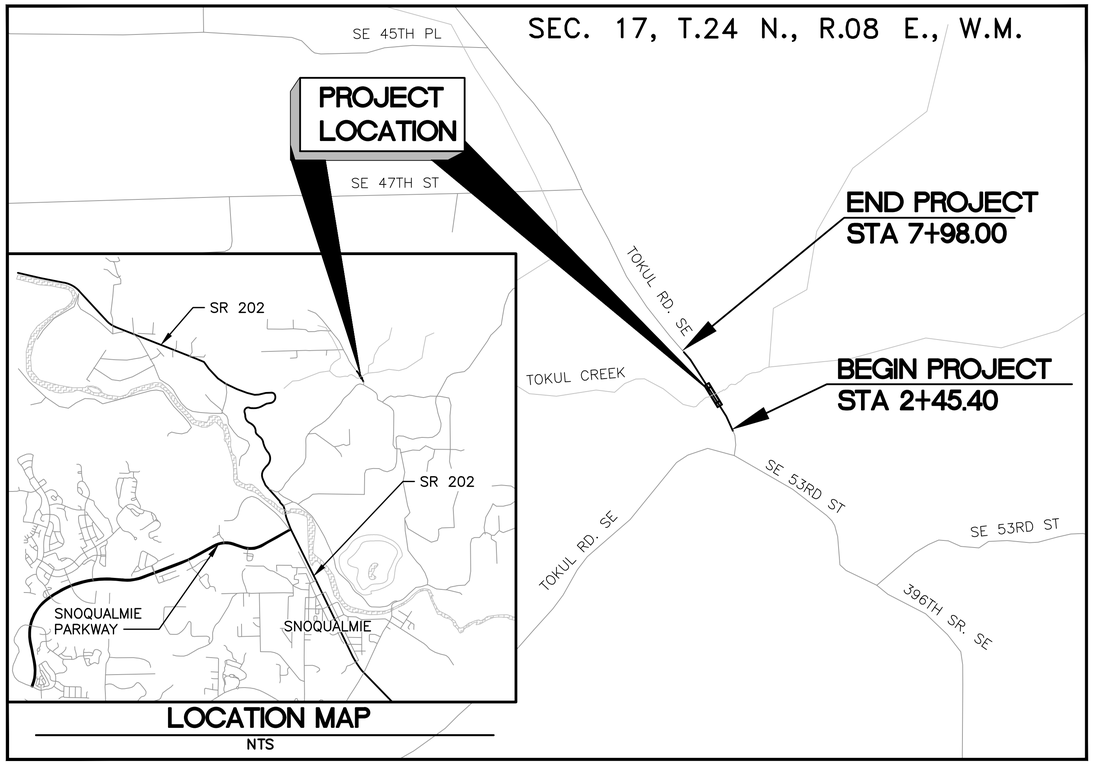
The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: DocuSigned by: 449DE71A6745480...

Name of signee Tricia Davis

Position and Agency/Organization: Road Services Division Director, Department of Local Services

Date Submitted: _____



LOCATION MAP
NTS

VICINITY MAP
NTS

UPPER TOKUL CREEK BRIDGE #271B

BRIDGE REPLACEMENT PROJECT

DRAWING INDEX

REF. NO.	SHEET NO.	DESCRIPTION
GN01	1	COVER SHEET
GN02	2	LEGEND AND ABBREVIATIONS
XS01	3	TYPICAL ROADWAY SECTIONS
SP01	4	DIVERSION ROADWAY PLAN AND PROFILE
SP02	5	DIVERSION ROADWAY PLAN AND PROFILE
SP03	6	SITE PREPARATION PLAN
SP04	7	TREE SCHEDULE
EC01	8	EROSION CONTROL PLAN
EC02	9	EROSION CONTROL DETAILS AND NOTES
RD01	10	ROADWAY PLAN AND PROFILE
RD02	11	ROADWAY PLAN AND PROFILE
DW01	12	DRIVEWAY PLAN AND PROFILE
CH01	13	SIGINING PLAN
RP01	14	RESTORATION PLANS
RP02	15	RESTORATION PLANS
RP03	16	RESTORATION PLANS
RP04	17	RESTORATION PLANS
TS01	18	DIVERSION TEMPORARY TRAFFIC CONTROL AND SIGNAL PLAN
EB01	19	BRIDGE LAYOUT
EB02	20	CONSTRUCTION SEQUENCE
EB03	21	TEMPORARY BRIDGE LAYOUT
EB04	22	BORING LOGS 1 OF 2
EB05	23	BORING LOGS 2 OF 2
EB06	24	FOUNDATION LAYOUT
EB07	25	ABUTMENT DETAILS 1 OF 2
EB08	26	ABUTMENT DETAILS 2 OF 2
EB09	27	FRAMING PLAN
EB10	28	TYPICAL SECTION
EB11	29	END DIAPHRAGM DETAILS
EB12	30	DECK REINFORCING PLAN
EB13	31	DECK REINFORCING SECTION
EB14	32	BRIDGE APPROACH SLAB DETAILS 1 OF 2
EB15	33	BRIDGE APPROACH SLAB DETAILS 2 OF 2

60% DESIGN PROGRESS 12/2/20

Know what's below.
Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	D. FOSTER	12/2020
DESIGNED:	R. KOESTER/A. CHARNESKI	12/2020
CHECKED:	S. SOISETH/E. FERLUGA	12/2020
SUPERVISOR:	S. SOISETH	12/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

SCOTT B. SOISETH, STATE OF WASHINGTON, 35218, REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

FED. AID No. N/A

PROJECT No. 1135999

SURVEY No. TBD

MAINTENANCE DIVISION No. 2

JOANN H. KOSA FERLUGA, STATE OF WASHINGTON, 34413, REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

COVER SHEET

King County

SHEET 1 OF 33 SHEETS

320-90 (GN01)

Drfo 12/02/20 2:58pm – P:\K\KCOX00000063\0400CAD\TT\SHEETS\TT-CV-001-KCOX0063.dwg

LEGEND

LINETYPES

EXIST.	DESCRIPTION
SURFACE FEATURES:	
	BUILDING LINE (EXIST.)
	CANAL[SCALEABLE](EXIST.)
	CREEK/DITCH CENTERLINE (EXIST.)
	CURB/PAVEMENT/SIDEWALK (EXIST.)
X X X	FENCE (EXIST.)
	GUARDRAIL (EXIST.)
	LAKE/POND
	MARSH/SWAMP PERIMETER
INTERIOR EXTERIOR	WETLAND PERIMETER (DELINEATED BY BIOLOGIST)
WB	WETLAND BUFFER (DELINEATED BY BIOLOGIST)
	RETAINING WALL (EXIST.)
	RIVERBANK/SHORELINE
	SHOULDER (EXIST.)
	ROCK FACING (EXIST.)
OHW OHW	ORDINARY HIGH WATER
100Y	100 YEAR FLOOD LINE
SURVEY:	
	CENTERLINE (EXIST.)
	CONTOUR (DEPRESSION)
	CONTOUR (INTERVAL) (EXIST.)
* * *	CONTOUR (INDEX) (EXIST.)
	EASEMENT (TEMPORARY)
	MATCH LINE
	MEANDER LINE
	PROPERTY LINE (EXIST.)
	RANGE/TOWNSHIP LINE
	RESERVATION/PARK/FOREST (EXIST.)
	RIGHT-OF-WAY (EXIST.)
	CITY-LIMITS
	SECTION LINE
	QUARTER SECTION LINE
	SIXTEENTH SECTION LINE
	STATE/COUNTY/CORPORATE LIMIT
UTILITIES (EXIST.):	
OTV	CABLE TELEVISION (AERIAL)
UTV	CABLE TELEVISION (BURIED)
FO	FIBER OPTIC
FM	FORCE MAIN
G	GAS
6" G	6" GAS LINE
OIL	OIL
OP	POWER (AERIAL)
UP	POWER (BURIED)
SS	SANITARY SEWER
STE	STEAM
SD	STORM DRAIN
12"CMP	(12" CMP) STORM DRAIN
OT	TELEPHONE (AERIAL)
UT	TELEPHONE (BURIED)
	UTILITY SERVICE LINE (GENERAL)
W	WATER
12" W	12" WATER

CONSTRUCT	DESCRIPTION
	BUILDING LINE
	CREEK/DITCH
	CREEK/DITCH CENTERLINE
CB 2/7	CURB(PROP)
	CURB/PAVEMENT/SIDEWALK
X	SILT FENCE
V	HIGH VISIBILITY FENCE
SW	STRAW WATTLE
TC	TURBIDITY CURTAIN
FS	FLAGS & STAKES
	GUARDRAIL
	LAKE/POND
	MARSH/SWAMP PERIMETER
INTERIOR EXTERIOR	WETLAND PERIMETER
WB	WETLAND BUFFER
	RETAINING WALL (CONC. BLOCK)
	RETAINING WALL (GABION)
	RETAINING WALL (GEOSYNTHETIC)
	TEMPORARY BARRIER
	ROCK FACING
	CENTERLINE
	CONTOUR (INTERVAL)
* * *	CONTOUR (INDEX)
	TEMPORARY CONSTRUCTION EASEMENT
	PROPERTY LINE
	RIGHT-OF-WAY (EXIST. DURING DESIGN REVIEW ONLY)
	RIGHT-OF-WAY
	RIGHT-OF-WAY (LIMITED ACCESS) COINCIDENTAL
C	CUT LINE
F	FILL LINE
C&G	CLEARING LIMITS
	SAWCUT

GAS/POWER/TELEPHONE

SYMBOL EXIST.	SYMBOL CONSTRUCT	DESCRIPTION
	G	GAS METER
		GAS VALVE
		PAD MOUNTED TRANSFORMER
P	P	POWER VAULT
		TRANSMISSION TOWER (SCALEABLE)
		UTILITY POLE
		POWER POLE
		UTILITY POLE ANCHOR
T	T	TELEPHONE RISER
T	T	TELEPHONE VAULT

SURVEY

SYMBOL	DESCRIPTION
	ANGLE POINT
	BENCH MARK
	BLOCK CORNER
	IRON PIPE
	MONUMENT (IN CASE)
	MONUMENT (SURFACE)
	OWNERSHIP TIE
16	SECTION CENTER
8 9 17 16	SECTION CORNER
	QUARTER CORNER
	SIXTEENTH CORNER
	CLOSING CORNER
	MEANDER CORNER
MC	WITNESS CORNER
WC	SOIL BORING
	SPOT ELEVATION
	TAX LOT / PARCEL NUMBER
5	INTERSTATE
X-XXXX-XXX-XX	ASSESSOR'S CODE

SYMBOLS

BH	BORING LOCATION
	PERMANENT SIGN / TEMPORARY TRAFFIC CONTROL SIGN
	TEMPORARY TRAFFIC SIGNAL
CE	TEMPORARY STABILIZED CONSTRUCTION ENTRANCE
CL	CLEARING LIMIT
CRL	COIR LOG
DC	DUST CONTROL MEASURES
IP	CATCH BASIN AND CULVERT/ INLET PROTECTION
RR	QUARRY SPALL PROTECTION
SF	SILT FENCE
SW	STRAW WATTLE
TC	TURBIDITY CURTAIN
V	HIGH VISIBILITY FENCE
WQ	WATER QUALITY SAMPLING LOCATION

1 — STRUCTURE DETAILS NO.
5 — SHEET NO.
CALL OUT DESIGNATION

CONTRACTOR SHALL VERIFY LOCATION AND DEPTHS OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION

WATER

SYMBOL EXIST.	SYMBOL CONSTRUCT	DESCRIPTION
		GUARD POST

FIRE HYDRANTS:

		FH
		WATER VALVE

ROAD PLAN

SYMBOL	DESCRIPTION
15 10	CUT SLOPE CATCH POINTS(OPTIONAL) (SCALEABLE)
SHOULDER	FILL SLOPE CATCH POINTS(OPTIONAL) (SCALEABLE)

DRAINAGE

SYMBOL EXIST.	SYMBOL CONSTRUCT	DESCRIPTION
		STORM DRAIN CATCH BASIN (GRATE LID)
		STORM DRAIN CATCH BASIN (SOLID LID)
		STORM DRAIN INLET (NO CATCH)
		STORM DRAIN CULVERT
		STORM DRAIN CATCH BASIN TYPE 2
		STORM DRAIN MANHOLE
25 L.F. 12"		STORM PIPE (PROPOSED) DOUBLE LINE TO SIZE OF PIPE DIAMETER

ABBREVIATIONS

ABAND	ABANDONED	QTY	QUANTITY
AC	ASPHALT CONCRETE	R	RADIUS
ACP	ASPHALT CONCRETE PAVEMENT	RD	ROAD
ADJ	ADJUST	REINF	REINFORCED
AH	AHEAD	REQ'D	REQUIRED
AP	ANGLE POINT	ROW	RIGHT-OF-WAY
APPROX.	APPROXIMATELY	RT	RIGHT
ARD	AGREEMENT TO RECONSTRUCT DWY	R/W	RIGHT-OF-WAY
AVE	AVENUE	S	SOUTH/SLOPE
AVG	AVERAGE	SAN	SANITARY
BK	BACK	SCHED	SCHEDULE
℄	BASELINE	SD	STORM DRAIN
BLDG	BUILDING	SECT	SECTION
BLVD	BOULEVARD	SERV	SERVICE
BM	BENCH MARK	SF	SQUARE FEET/FOOT
BMP	BEST MANAGEMENT PRACTICE	SHLD	SHOULDER
BOT	BOTTOM	SHT	SHEET
BRG	BEARING	SP	1 SHIELDED PAIR IN SHINGLE CABLE
BTWN	BETWEEN	SPEC	SPECIAL
BVCE	BEGINNING OF VERTICAL CURVE ELEVATION	SPECS	SPECIFICATIONS
BVCS	BEGINNING OF VERTICAL CURVE STATION	SQ	SQUARE
C	CONDUCTOR	SR	STATE ROUTE
CATV	CABLE TV	SS	SANITARY SEWER
CB	CATCH BASIN	ST	STREET
CL	CLASS	STA	STATION
℄	CENTERLINE	S/W	SIDEWALK
CLR	CLEAR	T	TELEPHONE, TANGENT, TON
CMP	CORRUGATED METAL PIPE	TAN	TANGENT
COMPT	COMPACTED	TBM	TEMPORARY BENCHMARK
CONC	CONCRETE	TCE	TEMPORARY CONSTRUCTION EASEMENT
CONN	CONNECT	TEMP	TEMPORARY
CONST	CONSTRUCTION	TP	TELEPHONE POLE
CSTC	CRUSHED SURFACING TOP COURSE	TYP	TYPICAL
CU	CUBIC	UD	UNDERDRAIN PIPE
CY	CUBIC YARD	UG	UNDERGROUND
CULV	CULVERT	VAR	VARIES
D	DRAIN PIPE	VC	VERTICAL CURVE
DEG OR °	DEGREE, ANGULAR	VERT.	VERTICAL
DIAM	DIAMETER	W	WEST, WATER
DIST	DISTANCE	W/	WITH
DWG	DRAWING	WM	WATER METER
DWY	DRIVEWAY	WM	WATERMAIN
E	EAST, ELECTRICAL	W/O	WITHOUT
EA	EACH	WV	WATER VALVE
EL	ELEVATION	Y	YELLOW
ELEC	ELECTRICAL	Y	YELLOW (FLASH)
EMB	EMBANKMENT	YDS	YARDS
EP	EDGE OF PAVEMENT	&	AND
EQ	EQUATION		
EST	ESTIMATE		
EVCE	END OF VERTICAL CURVE ELEVATION		
EVCS	END OF VERTICAL CURVE STATION		
EXCL	EXCLUDE		
EXIST	EXISTING		
FH	FIRE HYDRANT		
FT OR '	FEET/FOOT		
G	GAS LINE, GREEN		
GALV	GALVANIZED		
GB	GRADE BREAK		
GE	GRATE ELEVATION		
GR	GUARDRAIL		
GRD	GROUND		
GV	GAS VALVE		
HORIZ	HORIZONTAL		
HPS	HIGH PRESSURE SODIUM		
HT	HEIGHT		
HUND	HUNDRED		
HWY	HIGHWAY		
ID	INSIDE DIAMETER		
IE	INVERT ELEVATION		
INV	INVERT		
JB.	JUNCTION BOX		
JTS, JT	JOINTS, JOINT		
JUD	JOINT USE DRIVEWAY		
L	LENGTH OF ARC		
LF	LINEAL FOOT/FEET		
LT	LEFT		
LUMIN	LUMINAIRE		
M	METER		
MAX	MAXIMUM		
MH	MANHOLE		
MIN	MINIMUM		
MISC	MISCELLANEOUS		
MON	MONUMENT		
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DIVICES		
N	NORTH		
NO	NUMBER		
NST	NOT STEEPER THAN		
NTS	NOT TO SCALE		
O-XING	OVERHEAD CROSSING		
O.C.	ON CENTER		
OD	OUTSIDE DIAMETER		
OHW	ORDINARY HIGH WATER		
OP	OVERHEAD POWER		
OT	OVERHEAD TELEPHONE		
P	POLE, POWER		
PAR	PARK ACCESS ROAD		
PAV'T	PAVEMENT		
PC	POINT OF CURVATURE		
PCC	POINT OF COMPOUND CURVE		
P-E	PRE-EMPT		
PED	PEDESTRIAN		
PI	POINT OF INTERSECTION		
ℙ	PROPERTY LINE		
PP	POWER POLE		
PR	PAIR		
PRC	POINT OF REVERSE CURVE		
PSI	POUND PER SQ IN		
PT	POINT OF TANGENT		
PVC	POLYVINYL CHLORIDE		
PVCC	POINT OF VERTICAL COMPOUND CURVE		
PVI	POINT OF VERTICAL INTERSECTION		
PVRC	POINT OF VERTICAL REVERSE CURVE		

811 Know what's below. Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	D. FOSTER	12/2020
DESIGNED:	R. KOESTER	12/2020
CHECKED:	S. SOISETH	12/2020
SUPERVISOR:	S. SOISETH	12/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

SCOTT B. SOISETH — STATE OF WASHINGTON — 45218 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

FED. AID No. N/A

PROJECT No. 1135999

SURVEY No. TBD

MAINTENANCE DIVISION No. 2

JOANN H. KOSAKA — STATE OF WASHINGTON — 34413 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES

JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

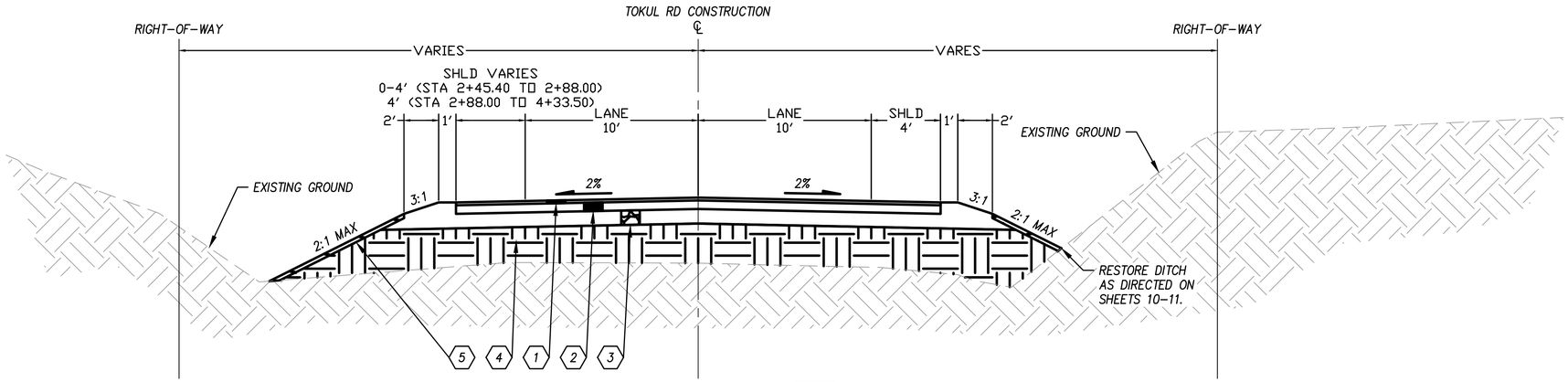
LEGEND AND ABBREVIATIONS

King County

SHEET 2 OF 33 SHEETS

320-90 (GN02)

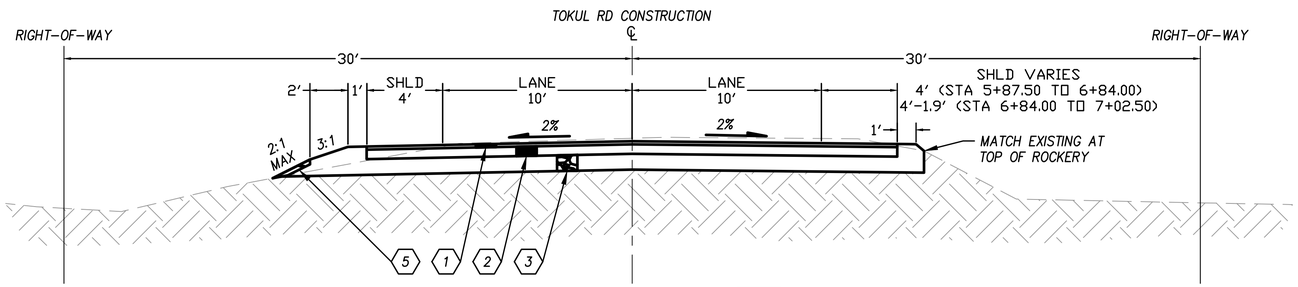
SEC. 17, T.24 N., R.08 E., W.M.



TYPICAL SECTION A

NOT TO SCALE

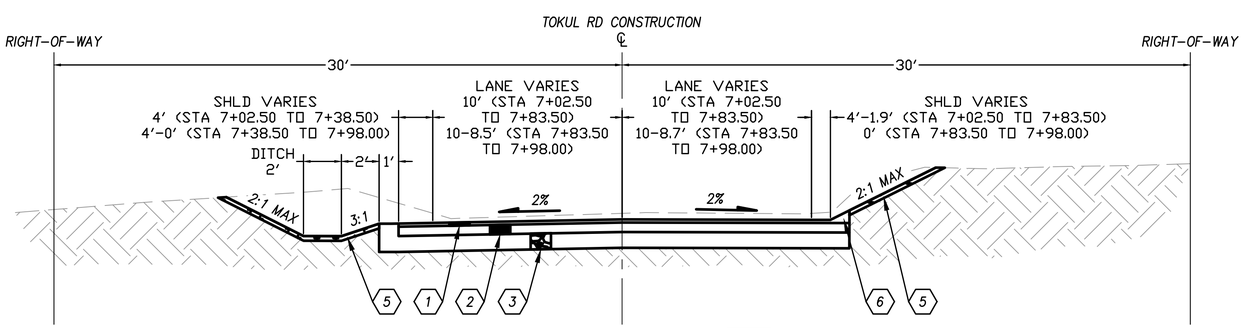
STA. 2+45.40 TO STA. 4+33.50



TYPICAL SECTION B

NOT TO SCALE

STA. 5+87.50 TO STA. 7+02.50



TYPICAL SECTION C

NOT TO SCALE

STA. 7+02.50 TO TO STA. 7+98.00

CONSTRUCTION NOTES

1. 2" HMA CLASS 1/2 IN. PG 58H-22 (WEARING COURSE)
2. 4" HMA CLASS 1/2 IN. PG 58H-22 (LEVELING COURSE)
3. 6" CSBC
4. GRAVEL BORROW
5. TURF MIX OF HYDROSEED OVER 3" TOPSOIL TYPE A
6. HMA THICKENED EDGE (DETAIL TO BE PROVIDED AT 90%)

GENERAL NOTES

1. SEE SHEET 6 FOR SITE PREPARATION PLAN.
2. SEE SHEETS 10-11 FOR ROADWAY PLAN AND PROFILE AND FOR SHOULDER TAPERS.
3. SEE SHEETS 19 AND28 FOR BRIDGE LAYOUT AND BRIDGE TYPICAL SECTION.

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91

DATUM

N.G.V.D. 88

811

Know what's below.
Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	D. FOSTER	12/2020
DESIGNED:	R. KOESTER	12/2020
CHECKED:	S. SOISETH	12/2020
SUPERVISOR:	S. SOISETH	12/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

RENEE A. KOESTER STATE OF WASHINGTON 35594 REGISTERED PROFESSIONAL ENGINEER PRELIMINARY

FED. AID No. N/A

PROJECT No. 1135999

SURVEY No. TBD

MAINTENANCE DIVISION No. 2

JOANN H. KOSAKA STATE OF WASHINGTON 34413 REGISTERED PROFESSIONAL ENGINEER PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES

JOHN TAYLOR, DIRECTOR

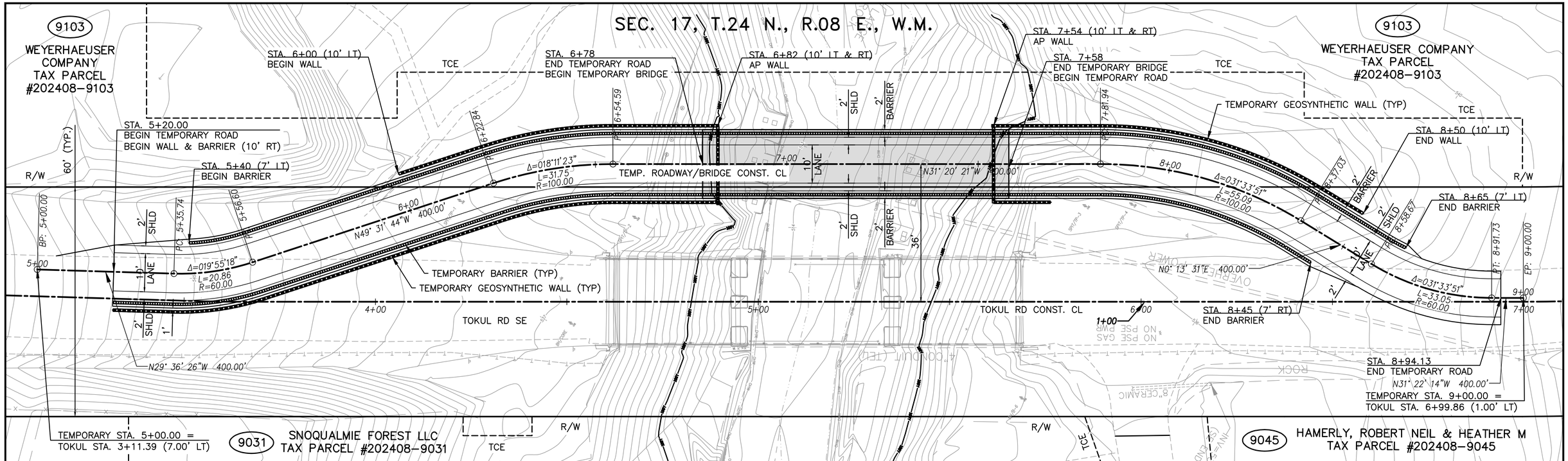
UPPER TOKUL CREEK BRIDGE #271B BRIDGE REPLACEMENT PROJECT

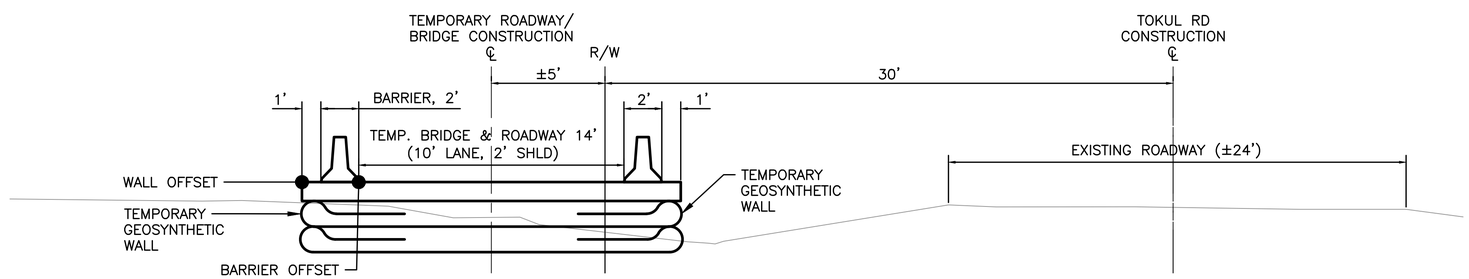
TYPICAL ROADWAY SECTIONS

King County

SHEET 3 OF 33 SHEETS

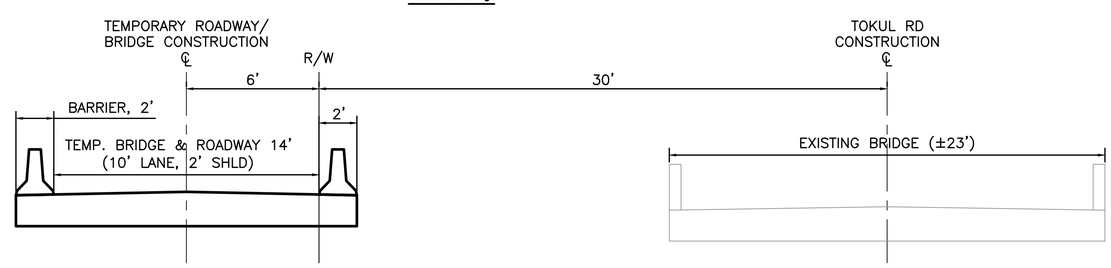
320-90 (XS01)





TEMPORARY ROADWAY SECTION (STA. ±6+50)

NOT TO SCALE



TEMPORARY BRIDGE SECTION (STA. ±7+25)

NOT TO SCALE

GENERAL NOTES

1. TEMPORARY ROADWAY ALIGNMENT AND PROFILE SHOWN PROVIDED FOR CONTRACTOR. TEMPORARY WALL LAYOUT IS FOR CONTRACTOR'S REFERENCE. CONTRACTOR MAY PROPOSE ALTERNATIVE FOR ENGINEER'S REVIEW. TEMPORARY WALL AND BRIDGE DESIGN SHALL BE COMPLETED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
2. BARRIER SHALL BE PRE-CAST CONCRETE BARRIER TYPE F PER WSDOT STD PLAN C-60.10-01.
3. TEMPORARY ROADWAY SECTION SHALL BE 4" HMA CLASS 1/2 IN. PG 58H-22 OVER 6" CSBC.
4. SEE SHEETS 8-9 FOR EROSION CONTROL PLAN AND DETAILS.
5. SEE SHEETS 14-17 FOR RESTORATION PLANS OF AREAS DISTURBED BY CONSTRUCTION OF THE NEW BRIDGE AND TEMPORARY ROADWAY.
6. SEE SHEETS 10-11 FOR PROPOSED ROADWAY PLAN AND PROFILE.

STAGING LEGEND

TEMPORARY WALL
TEMPORARY BRIDGE
TEMPORARY BARRIER

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91
DATUM
N.G.V.D. 88

HORIZONTAL
20 10 0 20 40
SCALE IN FEET

811
Know what's below.
Call before you dig.

SURVEY JOB NO: 19030	05/2019	
CHECKED: J. EVANS	08/2019	
CAD ENTERED: D. FOSTER	12/2020	
DESIGNED: R. KOESTER	12/2020	
CHECKED: S. SOISETH	12/2020	
SUPERVISOR: S. SOISETH	12/2020	

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

RENEE A. KOESTER, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER, 35594 — PRELIMINARY

FED. AID No. N/A
PROJECT No. 1135999
SURVEY No. TBD
MAINTENANCE DIVISION No. 2

JOANN H. KOSA, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER, 34413 — PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

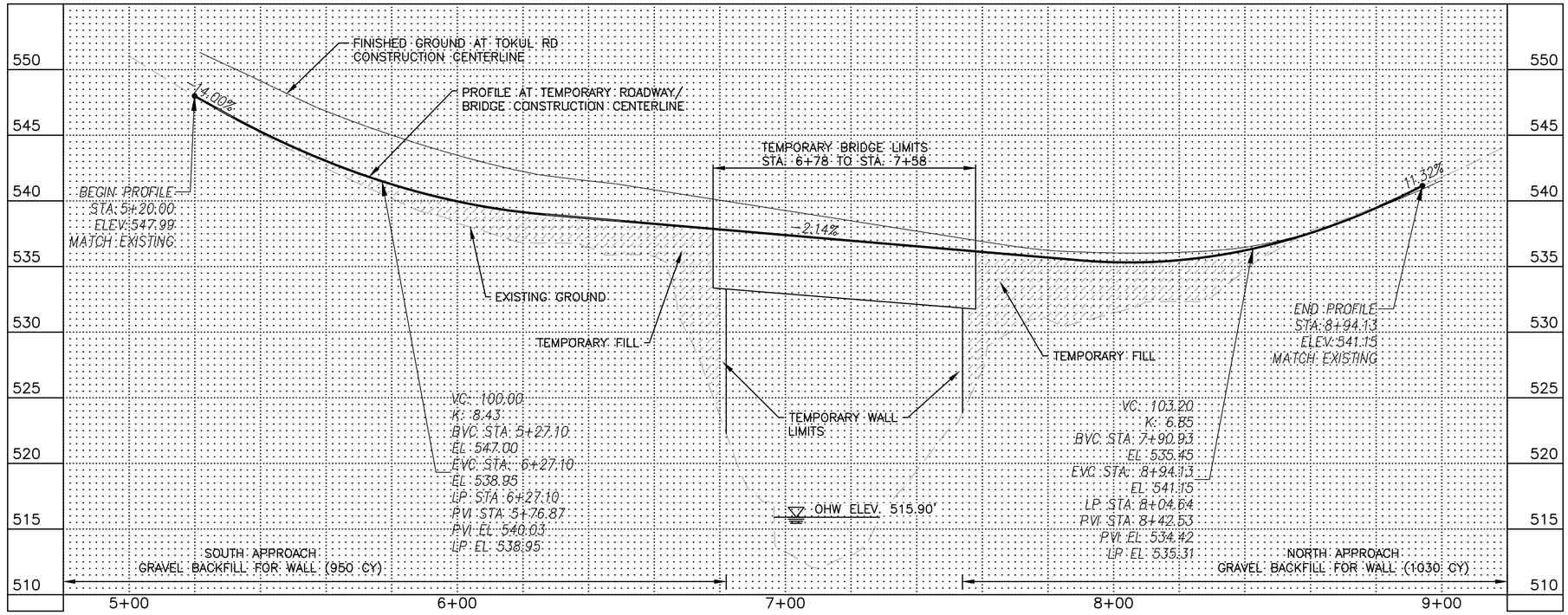
DIVERSION ROADWAY PLAN AND PROFILE

King County

SHEET 4 OF 33 SHEETS

320-90 (SP01)

SEC. 17, T.24 N., R.08 E., W.M.



GENERAL NOTES

1. TEMPORARY ROADWAY ALIGNMENT AND PROFILE SHOWN PROVIDED FOR CONTRACTOR. TEMPORARY WALL LAYOUT IS FOR CONTRACTOR'S REFERENCE. CONTRACTOR MAY PROPOSE ALTERNATIVE FOR ENGINEER'S REVIEW. TEMPORARY WALL AND BRIDGE DESIGN SHALL BE COMPLETED BY THE CONTRACTOR AND SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION.
2. SEE SHEET 4 FOR DIVERSION ROADWAY AND BRIDGE PLAN AND SECTIONS.

STAGING LEGEND

TEMPORARY FILL

HORIZONTAL
20 10 0 20 40
SCALE IN FEET

VERTICAL
5 2.5 0 5 10
SCALE IN FEET

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91
DATUM
N.G.V.D. 88

811
Know what's below.
Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	D. FOSTER	12/2020
DESIGNED:	R. KOESTER	12/2020
CHECKED:	S. SOISETH	12/2020
SUPERVISOR:	S. SOISETH	12/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

RENEE A. KOESTER
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY

FED. AID No. N/A
PROJECT No. 1135999
SURVEY No. TBD
MAINTENANCE DIVISION No. 2

JOANN H. KOSAKIANG
STATE OF WASHINGTON
REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

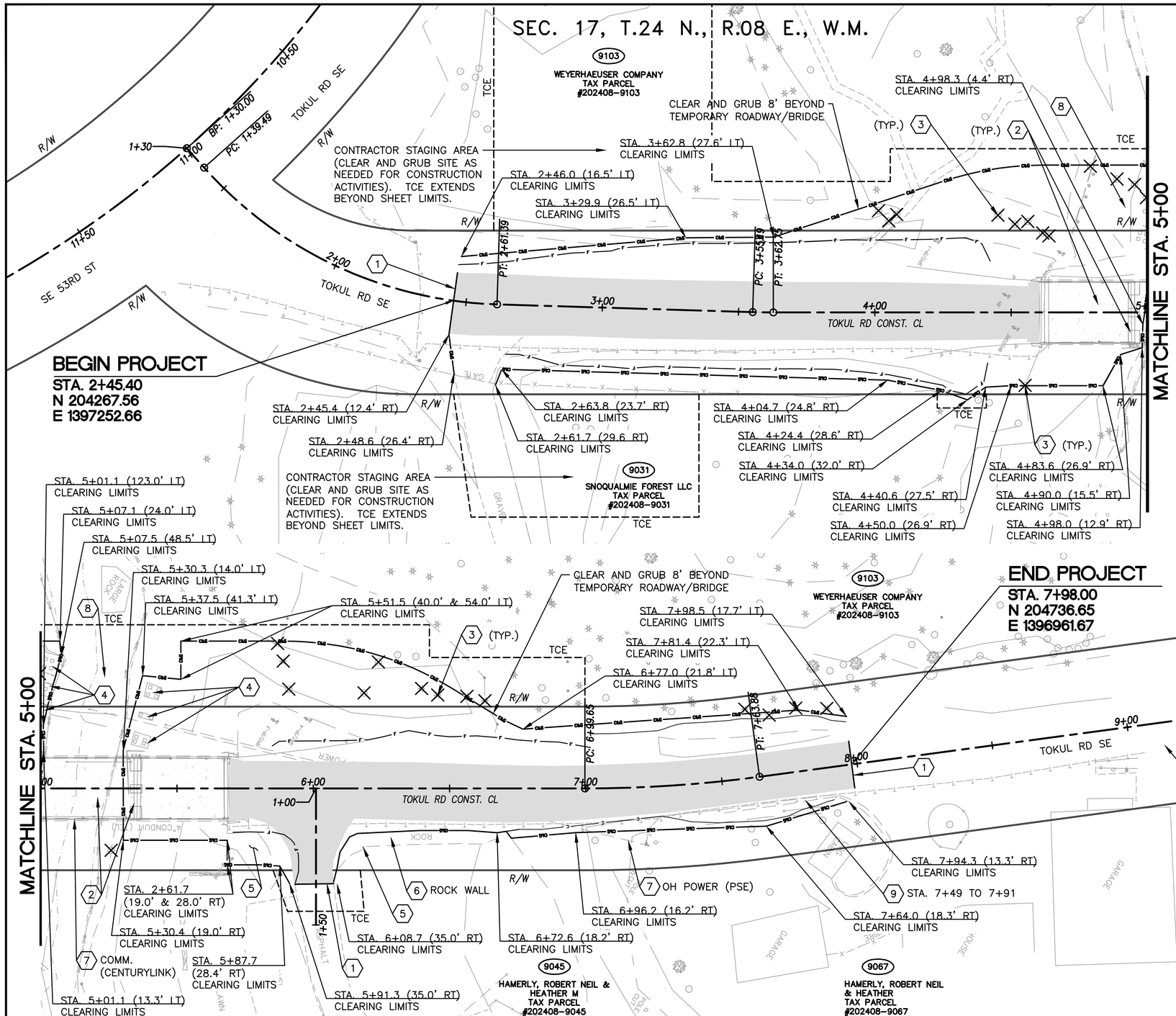
UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

DIVERSION ROADWAY PLAN AND PROFILE

King County

SHEET 5 OF 33 SHEETS

320-90 (SP02)



SITE PREP NOTES

1. SAWCUT AND REMOVE PAVEMENT
2. REMOVE EXISTING BRIDGE PIERS, FOUNDATIONS, AND ANCHORAGES
3. REMOVE EXISTING TREES, SEE SCHEDULE ON SHEET 7
4. REMOVE OLD BRIDGE FOUNDATIONS
5. PROTECT EXISTING STORM DRAIN CULVERT
6. PROTECT EXISTING FEATURE TO REMAIN
7. TEMPORARILY RELOCATE EXISTING UTILITIES FOR THE DURATION OF CONSTRUCTION (BY OTHERS)
8. INSTALL TEMPORARY BRIDGE. SEE SHEET 5 FOR TEMPORARY BRIDGE ALIGNMENT AND SECTION. TEMPORARY BRIDGE SHALL BE INSTALLED AND OPERATIONAL PRIOR TO DEMOLITION OF EXISTING BRIDGE.
9. REMOVE AND RESET LANDSCAPE TIMBERS

SITE PREP LEGEND

- CLEARING LIMITS
- CUT (PERMANENT)
- FILL (PERMANENT)
- SAWCUT
- TCE LINE
- ORDINARY HIGH WATER
- TREE REMOVAL
- ASPHALT PAVEMENT REMOVAL
- BRIDGE ABUTMENT AND BRIDGE REMOVAL

GENERAL NOTES

1. CONTRACTOR SHALL KEEP ALL CONSTRUCTION ACTIVITIES OUTSIDE OF THE TOKUL CREEK AND THE ORDINARY HIGH WATER LIMITS UNLESS STATED ON PLANS.
2. CONTRACTOR SHALL PROTECT ALL TREES NEAR WORK ACTIVITIES THAT ARE TO REMAIN.
3. SEE SHEET 3 FOR TYPICAL ROADWAY SECTIONS.
4. SEE SHEETS 8–9 FOR EROSION CONTROL PLAN AND DETAILS.
5. SEE SHEETS 10–11 FOR ROADWAY PLAN AND PROFILE.
6. SEE SHEETS 19–28 FOR BRIDGE LAYOUT, AND TYPICAL SECTION.

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91

DATUM

N.G.V.D. 88

20 10 0 20 40
SCALE IN FEET

811
Know what's below.
Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	D. FOSTER	12/2020
DESIGNED:	R. KOESTER	12/2020
CHECKED:	S. SOISETH	12/2020
SUPERVISOR:	S. SOISETH	12/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

RENEE A. KOESTER — STATE OF WASHINGTON — 45594 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

FED. AID No. N/A

PROJECT No. 1135999

SURVEY No. TBD

MAINTENANCE DIVISION No. 2

JOANN H. KOSAKA — STATE OF WASHINGTON — 34413 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B BRIDGE REPLACEMENT PROJECT

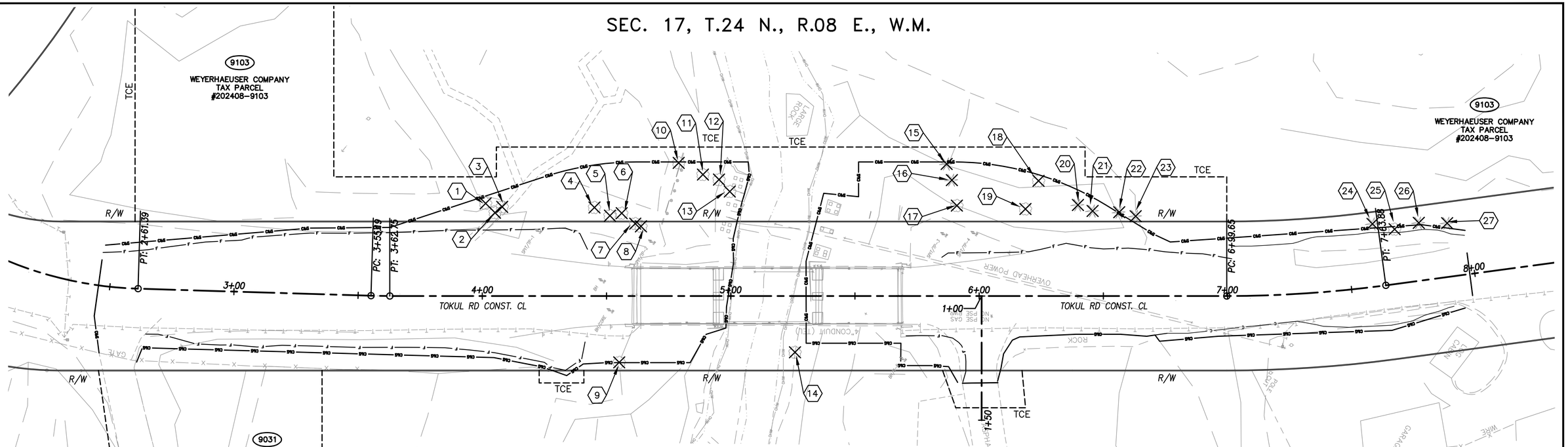
SITE PREPARATION PLAN

King County

SHEET 6 OF 33 SHEETS

320-90 (SP03)

SEC. 17, T.24 N., R.08 E., W.M.



TREE REMOVAL SCHEDULE

TREE NO.	BOTANICAL NAME	COMMON NAME	CALIPER SIZE	DISTANCE FROM OHWM (APPROX.)	TREE POINT NO.
1	ALNUS RUBRA	RED ALDER	6"	103'	1682
2	ALNUS RUBRA	RED ALDER	6"	99'	1684
3	ALNUS RUBRA	RED ALDER	12"	96'	1688
4	ACER MACROPHYLLUM	BIG LEAF MAPLE	24"	59'	1762
5	ACER MACROPHYLLUM	BIG LEAF MAPLE	20"	52'	1761
6	ALNUS RUBRA	RED ALDER	12"	48'	1760
7	ALNUS RUBRA	RED ALDER	16"	42'	1759
8	ALNUS RUBRA	RED ALDER	16"	39'	1758
9	ALNUS RUBRA	RED ALDER	12"	41'	3061
10	ALNUS RUBRA	RED ALDER	16"	29'	1747
11	ALNUS RUBRA	RED ALDER	16"	20'	1780
12	ACER MACROPHYLLUM	BIG LEAF MAPLE	24"	13'	1781
13	ALNUS RUBRA	RED ALDER	10"	7'	1818
14	ACER MACROPHYLLUM	BIG LEAF MAPLE	16"	5'	3058
15	THUJA PLICATA	WESTERN RED CEDAR	16"	50'	2049
16	THUJA PLICATA	WESTERN RED CEDAR	6"	54'	2048
17	PRUNUS SP.	CHERRY	12"	59'	1991
18	ALNUS RUBRA	RED ALDER	12"	87'	2077
19	PRUNUS SP.	CHERRY	14"	88'	2078
20	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	18"	108'	2081
21	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	12"	114'	2082
22	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	14"	125'	2088
23	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	18"	131'	2085
24	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	16"	228'	2196
25	ACER MACROPHYLLUM	BIG LEAF MAPLE	8"	238'	2195
26	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	16"	248'	2193
27	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	6"	259'	2207

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91

DATUM

N.G.V.D. 88

20 10 0 20 40
SCALE IN FEET

811
Know what's below.
Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	D. FOSTER	12/2020
DESIGNED:	R. KOESTER	12/2020
CHECKED:	S. SOISETH	12/2020
SUPERVISOR:	S. SOISETH	12/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

RENE A. KOESTER
STATE OF WASHINGTON
36594
REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY

FED. AID No. N/A

PROJECT No. 1135999

SURVEY No. TBD

MAINTENANCE DIVISION No. 2

JOANN H. KOSA
STATE OF WASHINGTON
34413
REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

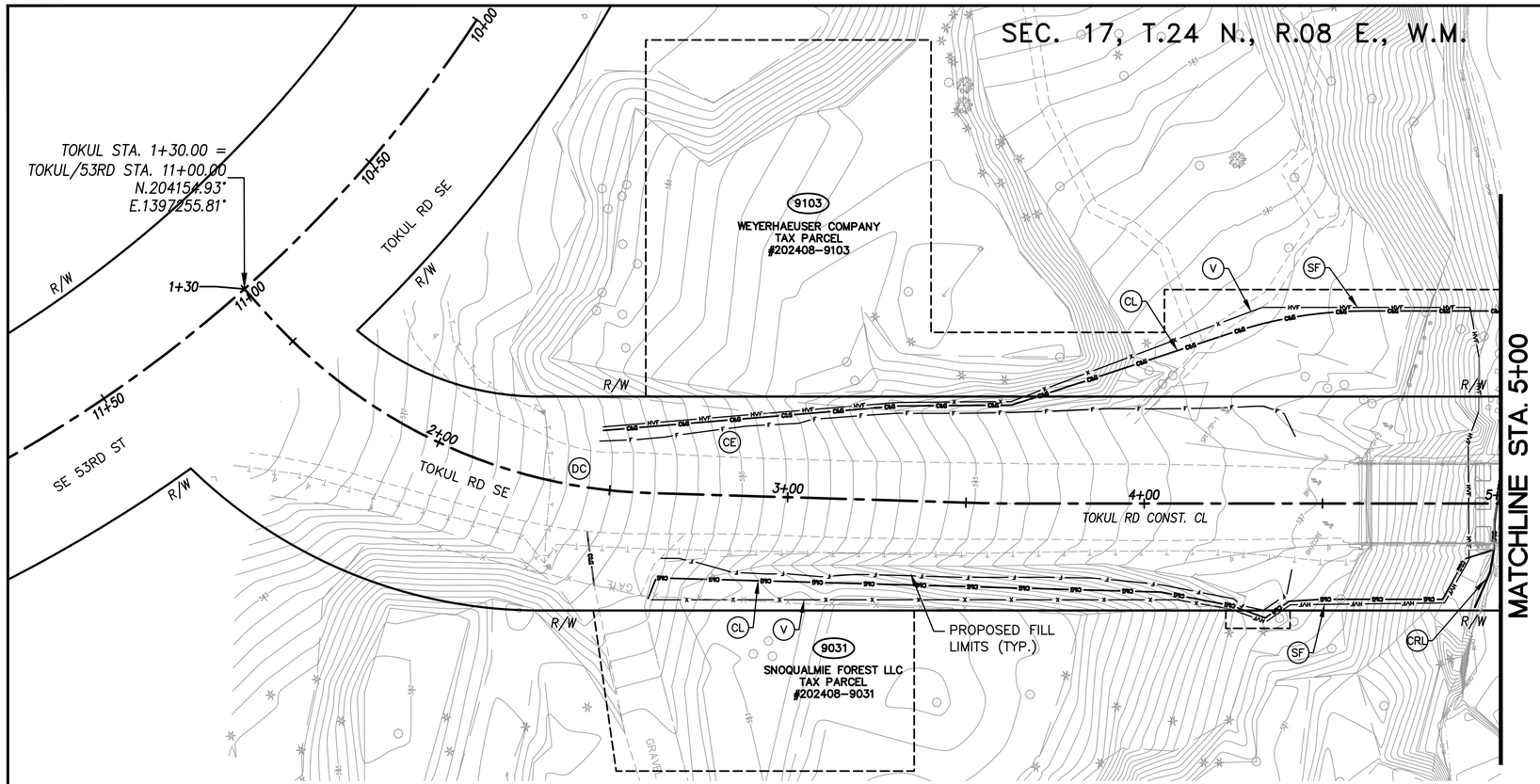
UPPER TOKUL CREEK BRIDGE #271B BRIDGE REPLACEMENT PROJECT

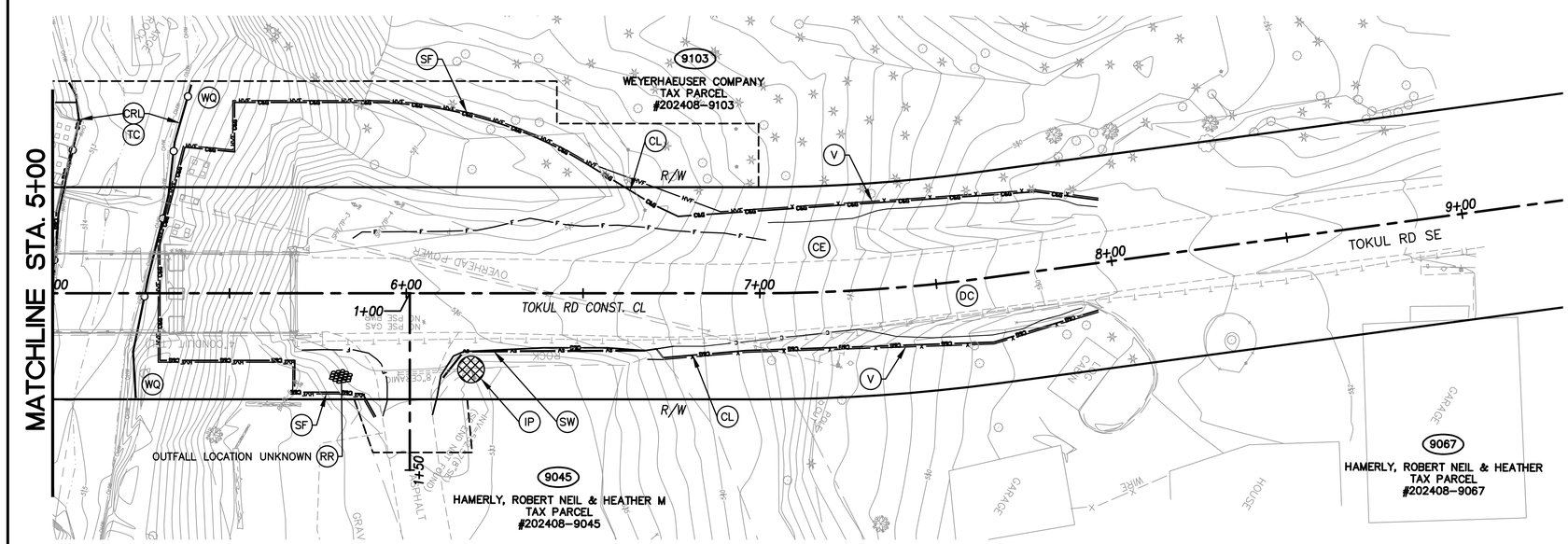
TREE SCHEDULE

King County

SHEET 7 OF 33 SHEETS

320-90 (SP04)





EROSION CONTROL SYMBOLS

- (CE) TEMPORARY STABILIZED CONSTRUCTION ENTRANCE PER KING COUNTY 2016 SWDM FIGURE C.3.1.A AND WSDOT STD PLAN I-80.10-02
- (CL) CLEARING LIMIT
- (CRL) COIR LOG PER WSDOT STD PLAN I-30.60-02
- (DC) DUST CONTROL MEASURES
- (IP) CATCH BASIN AND CULVERT/ INLET PROTECTION PER WSDOT STD PLAN I-40.10-00
- (RR) QUARRY SPALL OUTLET PROTECTION PER KING COUNTY 2016 SWDM APPENDIX D SECTION D.2.1.6.5
- (SF) HIGH VISIBILITY SILT FENCE PER WSDOT STD PLAN I-30.17-01
- (SW) TRAW WATTLE PER WSDOT STD PLAN I-30.30-01
- (TC) TURBIDITY CURTAIN PER DETAIL ON SHEET 9
- (V) HIGH VISIBILITY FENCE PER WSDOT STD PLAN I-10.11-01
- (WQ) WATER QUALITY SAMPLING LOCATION

EROSION CONTROL LEGEND

- HVF — HIGH VISIBILITY SILT FENCE
- x — HIGH VISIBILITY FENCE
- SW — STRAW WATTLE
- COIR LOG
- c — CUT (PERMANENT)
- f — FILL (PERMANENT)
- TCE LINE
- OHW — ORDINARY HIGH WATER

GENERAL NOTES

1. SEE SHEET 9 FOR EROSION CONTROL DETAILS AND NOTES.
2. SEE SHEET 6 FOR SITE PREPARATION PLAN. CONTRACTOR SHALL PROTECT ALL TREES NEAR WORK ACTIVITIES THAT ARE TO REMAIN. SEE SITE PREPARATION PLAN FOR TREE REMOVALS.
3. SEE SHEETS 4-5 FOR DIVERSION ROADWAY PLAN AND PROFILE.
4. SEE SHEETS 14-17 FOR RESTORATION PLANS.
5. CONTRACTOR SHALL KEEP ALL CONSTRUCTION ACTIVITIES OUTSIDE OF THE TOKUL CREEK AND THE ORDINARY HIGH WATER LIMITS UNLESS STATED ON PLANS.

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91
DATUM
N.G.V.D. 88

20 10 0 20 40
SCALE IN FEET

811
Know what's below.
Call before you dig.

SURVEY JOB NO: 19030	05/2019			
CHECKED: J. EVANS	08/2019			
CAD ENTERED: D. FOSTER	12/2020			
DESIGNED: R. KOESTER	12/2020			
CHECKED: S. SOISETH	12/2020			
SUPERVISOR: S. SOISETH	12/2020			
		NUM. REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

RENEE A. KOESTER — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

FED. AID No. N/A
PROJECT No. 1135999
SURVEY No. TBD
MAINTENANCE DIVISION No. 2

JOANN H. KOSA — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B BRIDGE REPLACEMENT PROJECT

EROSION CONTROL PLAN

King County

SHEET 8 OF 33 SHEETS

320-90 (EC01)

EROSION CONTROL NOTES

1. CONSTRUCTION SEQUENCE TO BE APPROVED:
   A. CONDUCT PRE–CONSTRUCTION MEETING.
   B. FLAG OR FENCE CLEARING LIMITS.
   C. POST SIGN WITH NAME AND PHONE NUMBER OF TESC SUPERVISOR.
   D. INSTALL CATCH BASIN PROTECTION IF REQUIRED.
   E. INSTALL PERIMETER PROTECTION, SILT FENCE, BRUSH BARRIER, ETC.
   F. MAINTAIN TESC MEASURES IN ACCORDANCE WITH KING COUNTY 2016 SURFACE WATER DESIGN MANUAL AND MANUFACTURER'S RECOMMENDATIONS.
   G. RELOCATE TESC MEASURES OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE TESC IS ALWAYS IN ACCORDANCE WITH WSDOT TESC MINIMUM REQUIREMENTS.
   H. STABILIZE ALL AREAS THAT REACH FINAL GRADE WITHIN 7 DAYS.
   I. SEED OR SOD ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.
   J. UPON COMPLETION OF THE PROJECT, ALL DISTURBED AREAS MUST BE STABILIZED AND BEST MANAGEMENT PRACTICES REMOVED IF APPROPRIATE.

2. THE LOCATION AND USE OF TESC BMP'S IS FOR REFERENCE ONLY. THE IMPLEMENTATION OF THIS TESC PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE TESC FACILITIES IS THE RESPONSIBILITY OF THE PERMITTEE/CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.

3. THE TESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT–LADEN WATER DOES NOT ENTER TOKUL CREEK OR VIOLATE APPLICABLE WATER STANDARDS. WHEREVER POSSIBLE, MAINTAIN NATURAL VEGETATION FOR SILT CONTROL.

4. THE TESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE TESC FACILITIES SHALL BE UPGRADED, FOR EXAMPLE, ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC, AS NEEDED FOR UNEXPECTED STORM EVENTS. ADDITIONALLY, MORE TESC FACILITIES MAY BE REQUIRED TO ENSURE COMPLETE SILTATION CONTROL. THEREFORE, DURING THE COURSE OF CONSTRUCTION IT SHALL BE THE OBLIGATION AND RESPONSIBILITIES OF THE CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES OVER AND ABOVE THE MINIMUM REQUIREMENTS AS MAY BE NEEDED.

5. THE TESC FACILITIES TO BE INSPECTED BY THE CONTRACTOR IN ACCORDANCE WITH THE CONSTRUCTION STORMWATER GENERAL PERMIT AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING. IN ADDITION, ALL TEMPORARY EROSION CONTROLS TO BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED. PERMANENT DRAINAGE FACILITIES ARE OPERATIONAL, AND THE POTENTIAL FOR EROSION HAS PASSED. WRITTEN RECORDS TO BE KEPT DOCUMENTING THE REVIEWS OF THE TESC FACILITIES.

6. THE TESC FACILITIES ON INACTIVE SITES TO BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 48 HOURS FOLLOWING A STORM EVENT.

7. ALL DENUDED SOILS MUST BE STABILIZED WITH AN APPROVED TESC METHOD, FOR EXAMPLE, SEEDING, MULCHING, PLASTIC COVERING, CRUSHED ROCK, WITH THE FOLLOW TIMELINES:
   - MAY 1 TO SEPTEMBER 30 – SOILS MUST BE STABILIZED WITHIN 7 DAYS OF GRADING.
   - OCTOBER 1 TO APRIL 30 – SOILS MUST BE STABILIZED WITHIN 2 DAYS OF GRADING.
   - STABILIZE SOILS AT THE END OF THE WORKDAY PRIOR TO A WEEKEND, HOLIDAY, OR PREDICTED RAIN EVENT.

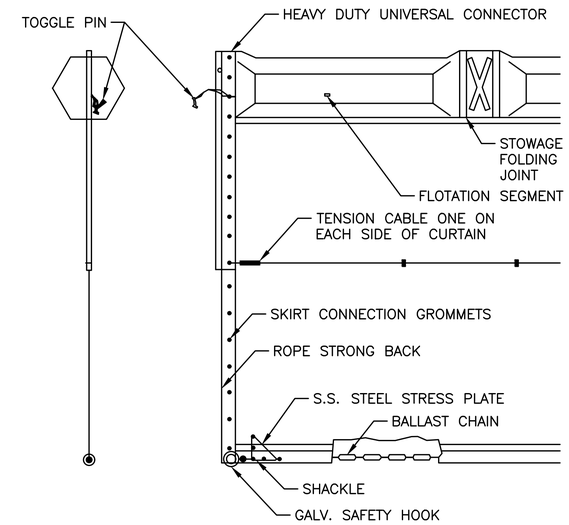
8. A COPY OF THE TESC PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.

9. IF ANY PART(S) OF THE CLEARING LIMIT BOUNDARY OR TEMPORARY EROSION/SEDIMENTATION CONTROL PLAN IS/ARE DAMAGED, IT IS TO BE REPAIRED IMMEDIATELY.

10. ALL PROPERTIES ADJACENT TO THE PROJECT SITE TO BE PROTECTED FROM SEDIMENT DEPOSITION AND RUNOFF.

11. PRIOR TO OCTOBER 1 OF EACH YEAR, AT THE BEGINNING OF THE WET SEASON, ALL DISTURBED AREAS TO BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. THE IDENTIFIED DISTURBED AREA TO BE SEEDED WITHIN ONE WEEK AFTER OCTOBER 1. A SITE PLAN DEPICTING THE AREAS TO BE SEEDED AND THE AREAS TO REMAIN UNCOVERED WILL BE SUBMITTED TO THE ENGINEER. THE ENGINEER CAN REQUIRE SEEDING OF ADDITIONAL AREAS IN ORDER TO PROTECT SURFACE WATERS, ADJACENT PROPERTIES, OR DRAINAGE FACILITIES.

12. DURING THE WET SEASON, OCTOBER 1 – APRIL 30, CONTRACTOR SHALL:
   - PROTECT STOCK PILES AND STEEP CUT AND FILL SLOPES IF UNWORKED FOR MORE THAN 12 HOURS.
   - STOCKPILE COVER MATERIAL SUFFICIENT TO COVER ALL DISTURBED AREAS ON SITE.
   - STOCKPILE FIFTY LINEAR FEET OF SILT FENCE PER ACRE OF DISTURBANCE ON SITE.
   - INCREASE THE FREQUENCY OF MAINTENANCE REVIEW FROM MONTHLY TO WEEKLY.



TURBIDITY CURTAIN (1)

NOT TO SCALE

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91

DATUM

N.G.V.D. 88

811

Know what's below.
Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	D. FOSTER	12/2020
DESIGNED:	R. KOESTER	12/2020
CHECKED:	S. SOISETH	12/2020
SUPERVISOR:	S. SOISETH	12/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

RENEE A. KOESTER — STATE OF WASHINGTON — 35594 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

FED. AID No. N/A

PROJECT No. 1135999

SURVEY No. TBD

MAINTENANCE DIVISION No. 2

JOANN H. KOSA — STATE OF WASHINGTON — 34413 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

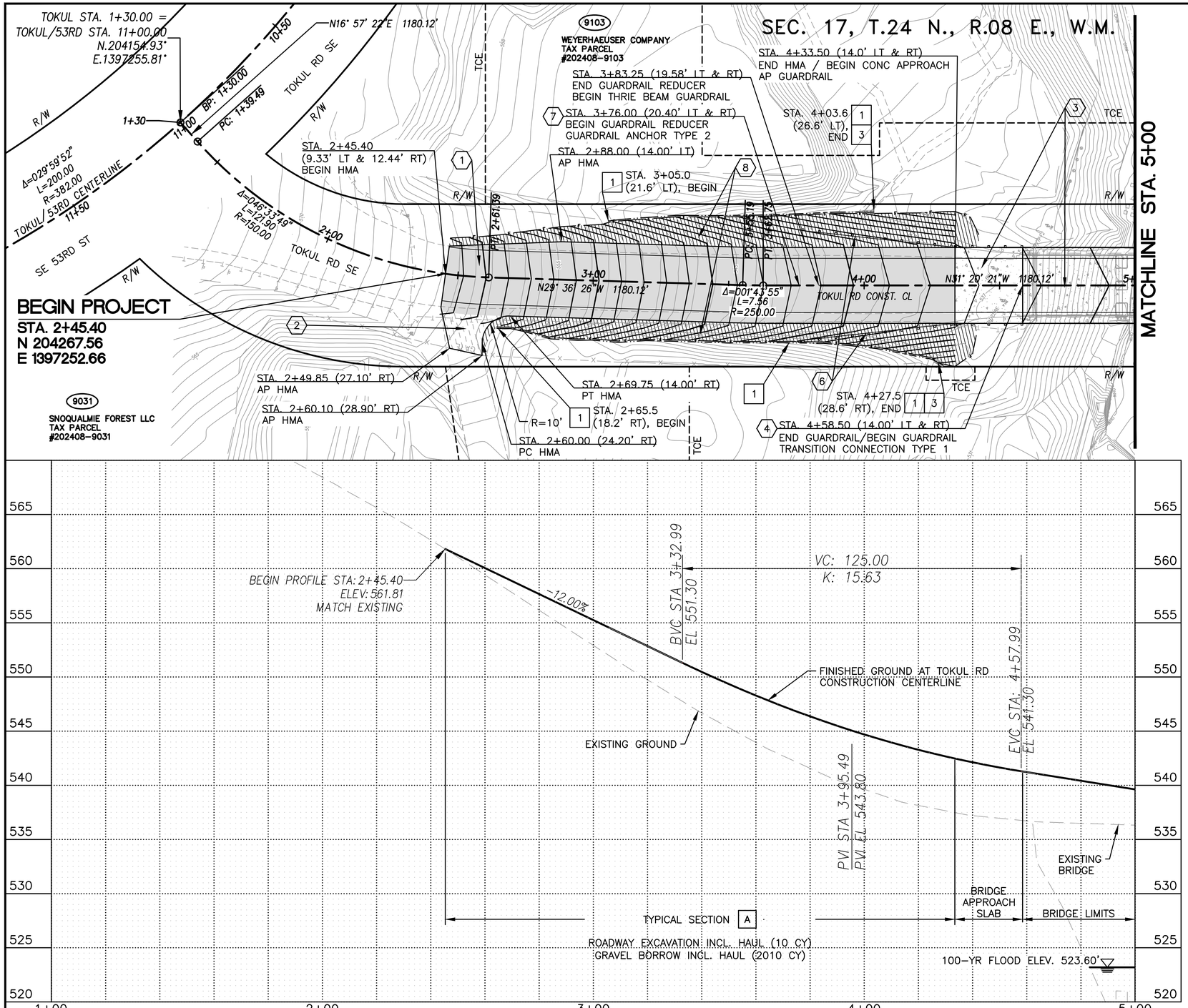
UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

EROSION CONTROL DETAILS AND NOTES

King County

SHEET 9 OF 33 SHEETS

320-90 (EC02)



ROADWAY NOTES

1. CONSTRUCT FULL DEPTH HMA PAVEMENT
2. CONSTRUCT HMA PAVEMENT FOR DRIVEWAY PER SHEET 12.
3. INSTALL BRIDGE AND CONCRETE APPROACH SLAB PER SHEET 19.
4. INSTALL GUARDRAIL TRANSITION CONNECTION TYPE 1 PER DETAIL (TO BE PROVIDED AT 90%) AND CONNECT TO BRIDGE RAILING.
5. INSTALL THRIE BEAM GUARDRAIL REDUCER SECTION TYPE B AND BEAM GUARDRAIL (THRIE BEAM) WITH DESIGN C END SECTION PER WSDOT STD PLANS C-1D & C-7A.
6. INSTALL BEAM GUARDRAIL (THRIE BEAM) WITH DESIGN G END SECTION PER WSDOT STD PLANS C-1D & C-7A.
7. INSTALL THRIE BEAM GUARDRAIL REDUCER SECTION TYPE B AND ANCHOR TYPE 2 PER WSDOT STD PLANS C-1D AND C-6A.
8. RESTORE LANDSCAPING AREA PER SHEET 14.
9. INSTALL HMA THICKENED EDGE

DRAINAGE NOTES

1. GRADE MINIMUM 9-INCH DEPTH V-DITCH WITH 2:1 SIDESLOPES
2. GRADE 2' WIDE BY MINIMUM 9-INCH DEPTH DITCH WITH 2:1 MAXIMUM SIDESLOPES
3. CONSTRUCT 3 FT WIDE X 3 FT LENGTH X 0.5 FT DEPTH QUARRY SPALL PAD
3. MAINTAIN EXISTING DITCH

LEGEND

- 6" HMA CLASS 1/2 IN. PG 58H-22
- 4" HMA CLASS 1/2 IN. PG 58H-22
- CONCRETE BRIDGE/APPROACH SLAB
- LANDSCAPING AREA
- QUARRY SPALL PAD
- DITCH
- GUARDRAIL

GENERAL NOTES

1. SEE SHEET 3 FOR TYPICAL ROADWAY SECTIONS.
2. SEE SHEET 13 FOR SIGINING PLAN.
3. SEE SHEET 19 FOR BRIDGE LAYOUT.
4. SEE SHEETS 4-5 AND 18 FOR DIVERSION ROADWAY PLAN AND PROFILE AND DIVERSION TEMPORARY TRAFFIC CONTROL AND SIGNAL PLAN.

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91

DATUM

N.G.V.D. 88

HORIZONTAL 20 10 0 20 40 SCALE IN FEET

VERTICAL 5 2.5 0 5 10 SCALE IN FEET

811 Know what's below. Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	D. FOSTER	12/2020
DESIGNED:	R. KOESTER	12/2020
CHECKED:	S. SOISETH	12/2020
SUPERVISOR:	S. SOISETH	12/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

RENNIE A. KOESTER STATE OF WASHINGTON 35594 REGISTERED PROFESSIONAL ENGINEER PRELIMINARY

FED. AID No. N/A

PROJECT No. 1135999

SURVEY No. TBD

MAINTENANCE DIVISION No. 2

JOANN H. KOSA STATE OF WASHINGTON 34413 REGISTERED PROFESSIONAL ENGINEER PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES

JOHN TAYLOR, DIRECTOR

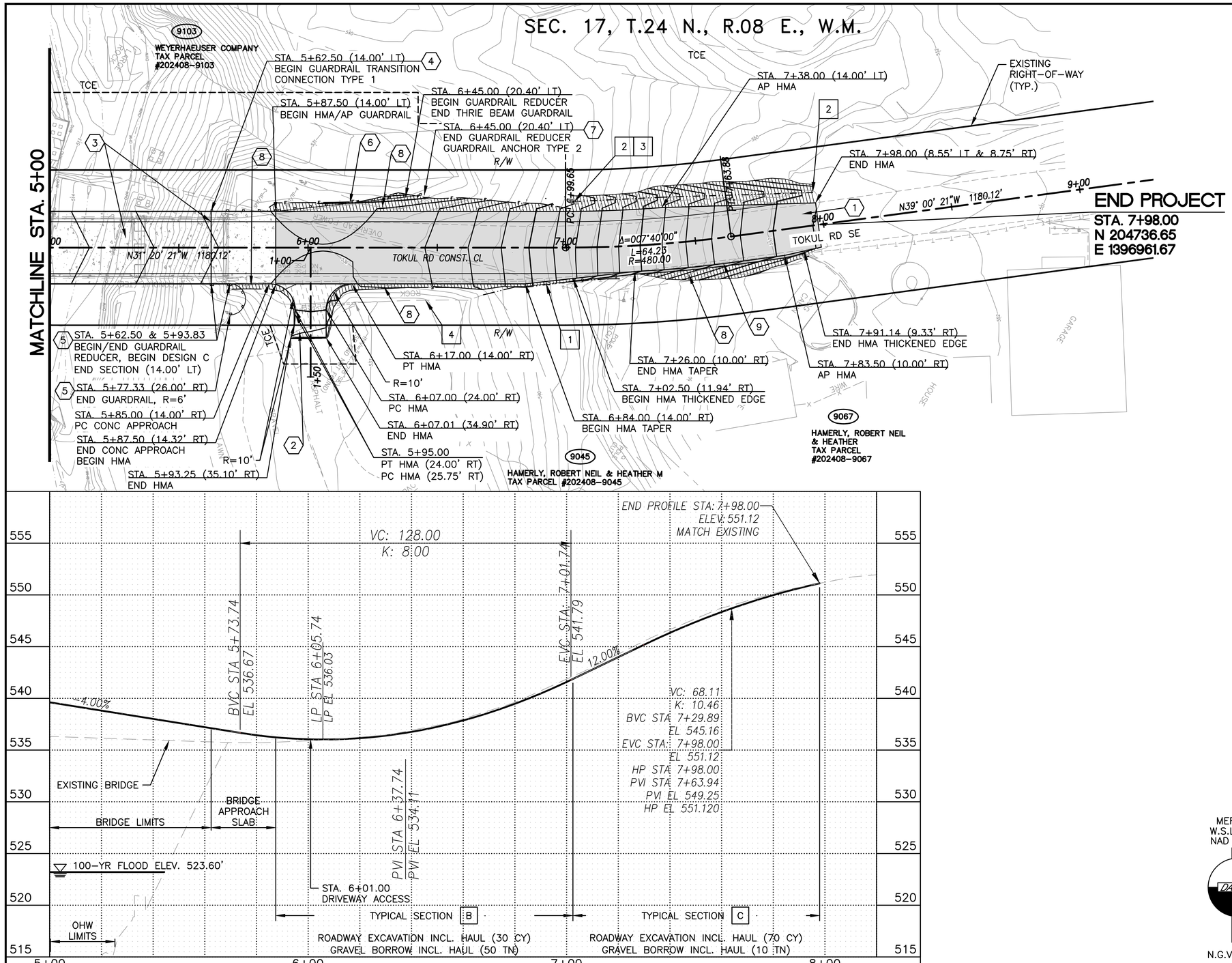
UPPER TOKUL CREEK BRIDGE #271B BRIDGE REPLACEMENT PROJECT

ROADWAY PLAN AND PROFILE

King County

SHEET 10 OF 33 SHEETS

320-90 (RD01)



ROADWAY NOTES

1. CONSTRUCT FULL DEPTH HMA PAVEMENT
2. CONSTRUCT HMA PAVEMENT FOR DRIVEWAY PER SHEET 12.
3. INSTALL BRIDGE AND CONCRETE APPROACH SLAB PER SHEET 19.
4. INSTALL GUARDRAIL TRANSITION CONNECTION TYPE 1 PER DETAIL (TO BE PROVIDED AT 90%) AND CONNECT TO BRIDGE RAILING.
5. INSTALL THRIE BEAM GUARDRAIL REDUCER SECTION TYPE B AND BEAM GUARDRAIL (THRIE BEAM) WITH DESIGN C END SECTION PER WSDOT STD PLANS C-1D & C-7A.
6. INSTALL BEAM GUARDRAIL (THRIE BEAM) WITH DESIGN G END SECTION PER WSDOT STD PLANS C-1D & C-7A.
7. INSTALL THRIE BEAM GUARDRAIL REDUCER SECTION TYPE B AND ANCHOR TYPE 2 PER WSDOT STD PLANS C-1D AND C-6A.
8. RESTORE LANDSCAPING AREA PER SHEET 14.
9. INSTALL HMA THICKENED EDGE

DRAINAGE NOTES

1. GRADE MINIMUM 9-INCH DEPTH V-DITCH WITH 2:1 SIDESLOPES
2. GRADE 2' WIDE BY MINIMUM 9-INCH DEPTH DITCH WITH 2:1 MAXIMUM SIDESLOPES
3. CONSTRUCT 3 FT WIDE X 3 FT LENGTH X 0.5 FT DEPTH QUARRY SPALL PAD

3 MAINTAIN EXISTING DITCH

LEGEND

- 6" HMA CLASS 1/2 IN. PG 58H-22
- 4" HMA CLASS 1/2 IN. PG 58H-22
- CONCRETE BRIDGE/APPROACH SLAB
- LANDSCAPING AREA
- QUARRY SPALL PAD
- DITCH
- GUARDRAIL

GENERAL NOTES

1. SEE SHEET 3 FOR TYPICAL ROADWAY SECTIONS.
2. SEE SHEET 13 FOR SIGINING PLAN.
3. SEE SHEET 19 FOR BRIDGE LAYOUT.
4. SEE SHEETS 4-5 AND 18 FOR DIVERSION ROADWAY PLAN AND PROFILE AND DIVERSION TEMPORARY TRAFFIC CONTROL AND SIGNAL PLAN.

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91
DATUM
N.G.V.D. 88

HORIZONTAL 20 10 0 20 40 SCALE IN FEET
VERTICAL 5 2.5 0 5 10 SCALE IN FEET

811 Know what's below. Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	D. FOSTER	12/2020
DESIGNED:	R. KOESTER	12/2020
CHECKED:	S. SOISETH	12/2020
SUPERVISOR:	S. SOISETH	12/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

RENEE A. KOESTER STATE OF WASHINGTON 35594 REGISTERED PROFESSIONAL ENGINEER PRELIMINARY

FED. AID No. N/A
PROJECT No. 1135999
SURVEY No. TBD
MAINTENANCE DIVISION No. 2

JOANN H. KOSAKA STATE OF WASHINGTON 34413 REGISTERED PROFESSIONAL ENGINEER PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B BRIDGE REPLACEMENT PROJECT

ROADWAY PLAN AND PROFILE

King County

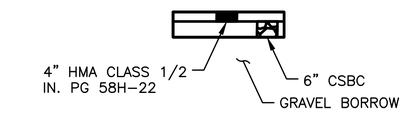
SHEET 11 OF 33 SHEETS

320-90 (RD02)

SEC. 17, T.24 N., R.08 E., W.M.

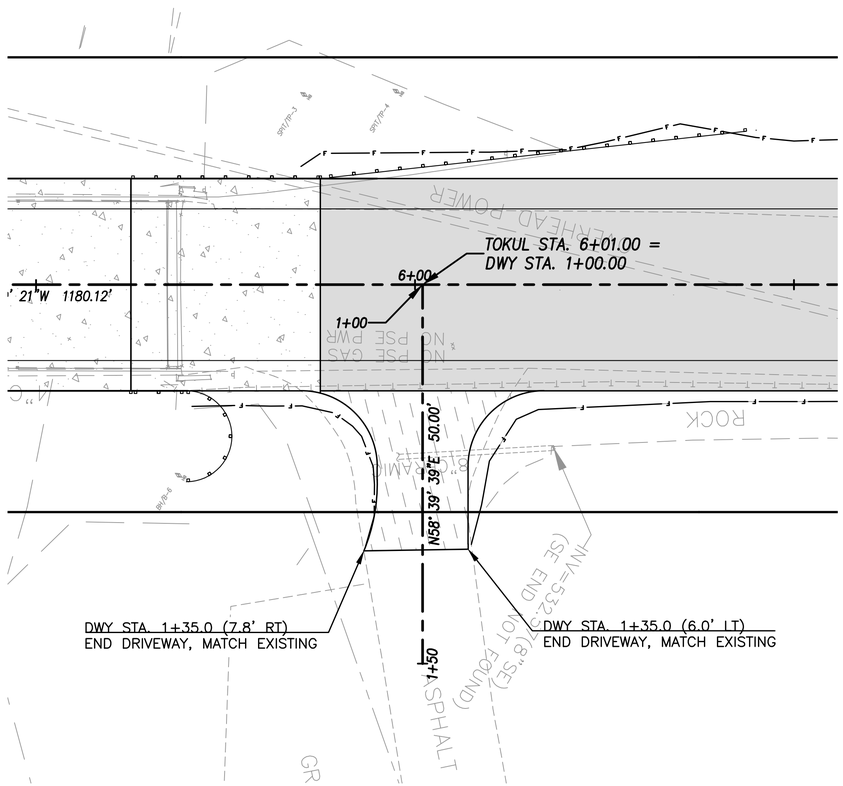
GENERAL NOTES

1. SEE SHEET 3 FOR TYPICAL ROADWAY SECTIONS.
2. SEE SHEETS 10–11 FOR ROADWAY PLAN AND PROFILE.
3. CONTRACTOR SHALL MAINTAIN ACCESS TO RESIDENTIAL DRIVEWAY THROUGHOUT CONSTRUCTION.

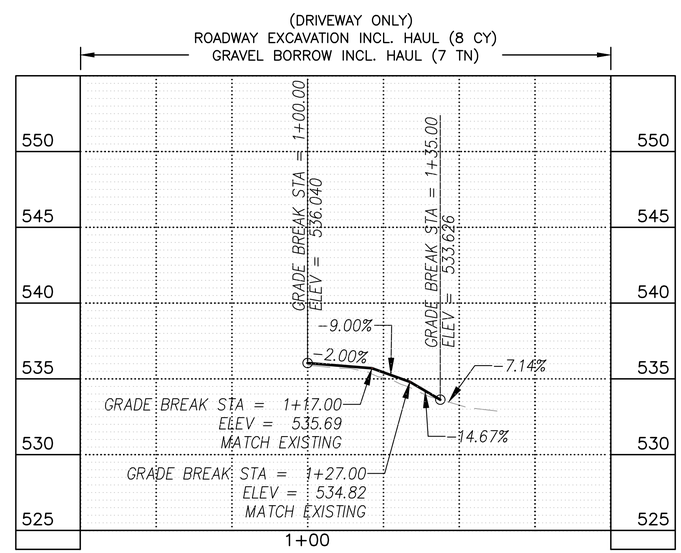


DRIVEWAY PAVEMENT SECTION

NOT TO SCALE



DRIVEWAY PLAN
(STA. 6+01.00)



DRIVEWAY PROFILE
(STA. 6+01.00)

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91

DATUM

N.G.V.D. 88

HORIZONTAL
10 5 0 10 20
SCALE IN FEET

VERTICAL
5 2.5 0 5 10
SCALE IN FEET

811
Know what's below.
Call before you dig.

SURVEY JOB NO: 19030	05/2019			
CHECKED: J. EVANS	08/2019			
CAD ENTERED: D. FOSTER	12/2020			
DESIGNED: R. KOESTER	12/2020			
CHECKED: S. SOISETH	12/2020			
SUPERVISOR: S. SOISETH	12/2020			
		NUM. REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

RENEE A. KOESTER — STATE OF WASHINGTON — 35594 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

FED. AID No. N/A

PROJECT No. 1135999

SURVEY No. TBD

MAINTENANCE DIVISION No. 2

JOANN H. KOSAKA — STATE OF WASHINGTON — 34413 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

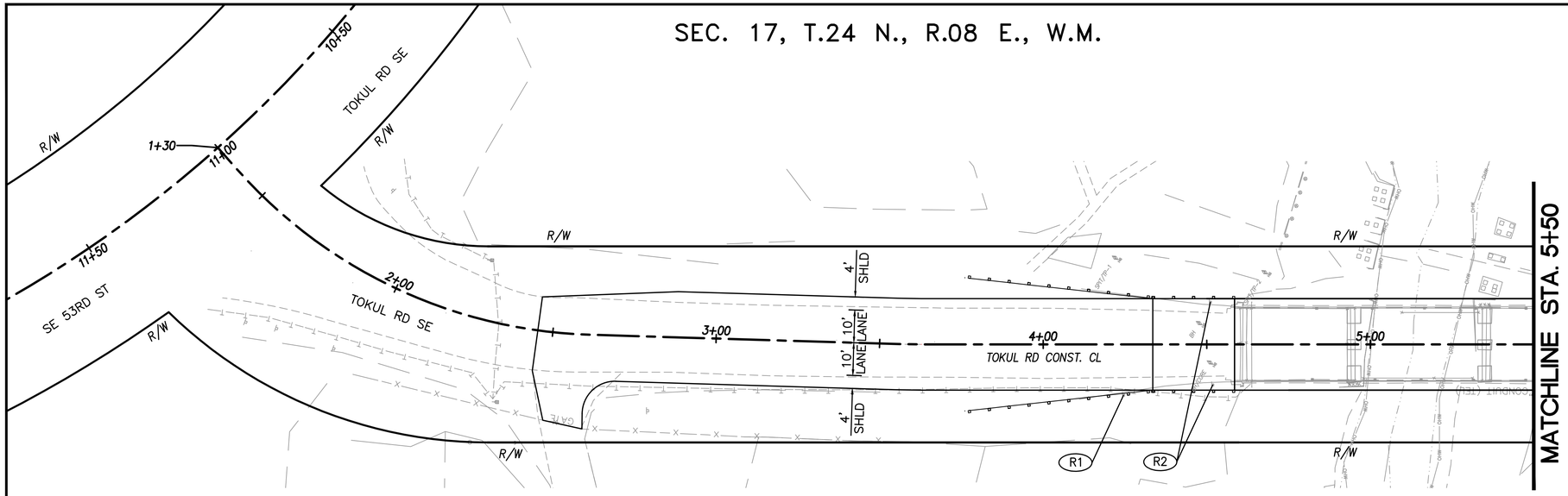
UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

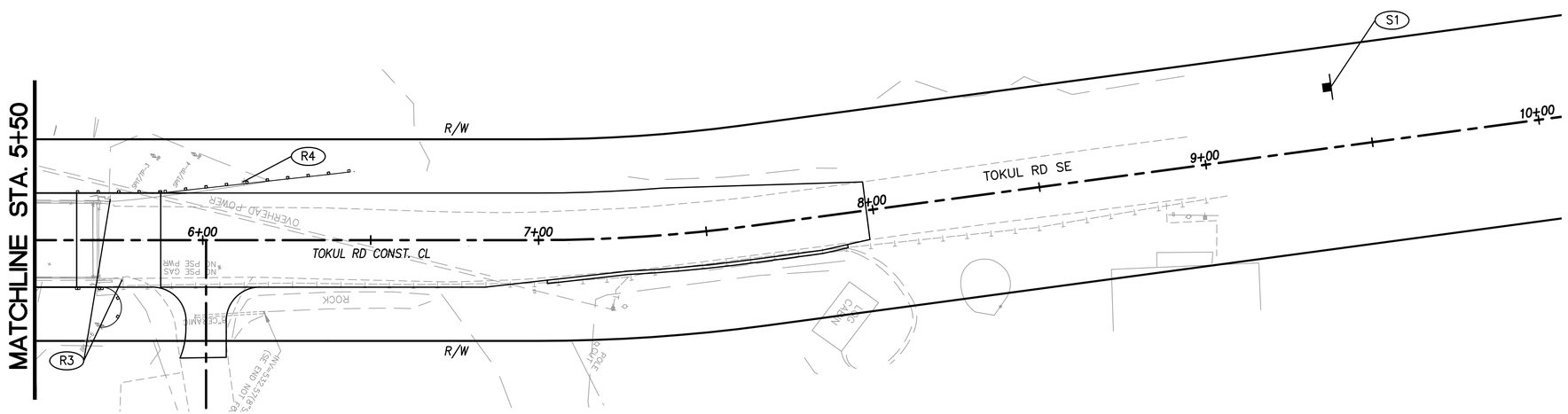
DRIVEWAY PLAN AND PROFILE

King County

SHEET 12 OF 33 SHEETS

320-90 (DW01)





SIGNING LEGEND

- SIGN
- (S#) PROPOSED SIGN LOCATION
- (R#) SIGN REMOVAL

GENERAL NOTES

1. SEE SHEETS 10–11 FOR ROADWAY PLAN AND PROFILE.
2. FOR SIGNS AND SIGN SUPPORT DETAILS, SEE WSDOT STANDARD PLANS, SECTION G.
3. SIGN CLEARANCE FROM BOTTOM OF SIGN TO FINISHED GROUND AT NEARBY SHOULDER ELEVATION SHALL BE 7'. CLEARANCES PROVIDED IN SIGN SCHEDULE ARE FROM BOTTOM OF SIGN TO FINISHED GROUND AT SIGN LOCATION. OFFSETS ARE NOTED ON PLAN. FINAL SIGN LOCATION SHALL BE APPROVED BY THE ENGINEER.
4. SIGNS SHALL BE MOUNTED ON NEW 2" I.D. GALVANIZED STEEL POSTS AND INSTALLED PER WSDOT STD PLAN G–24.20–01. CONTRACTOR SHALL INSTALL SIGN FOUNDATIONS PER WSDOT STD PLAN G–25.10–05, UNLESS OTHERWISE NOTED.
5. PROTECT AND MAINTAIN ALL SIGNS NOT NOTED ON PLANS.

DESIGNER NOTE:
KC TO DISCUSS WHETHER TO INCLUDE ADDITIONAL SIGNING REQUIREMENTS FOR LIMITED SIGHT DISTANCE AT CREST OF EX. HILL (OUTSIDE OF PROJECT LIMITS).

SIGN SCHEDULE

SIGN NO.	SIGN DESIGNATION	SIGN DESCRIPTION	STATION	OFFSET	SIGN WIDTH	SIGN HEIGHT	VERTICAL CLEARANCE	POST TYPE	REMARKS
S1	W7–6	HILL BLOCKS VIEW	9+40	±18.0' LT	30"	30"	9'–6"	2"x2" PERF.	REFER TO DESIGNER NOTE
	W13–1P	20 MPH	9+40	±18.0' LT	18"	18"	8'–0"	2"x2" PERF.	REFER TO DESIGNER NOTE
R1	EX.	WEIGHT LIMIT	4+25	15.5' LT	––	––	––	WOOD	TWO SIGNS
R2	EX.	DELINEATORS (X2)	4+51	12' LT/RT	––	––	––	WOOD	REMOVE FROM BOTH SIDES OF BRIDGE
R3	EX.	DELINEATORS (X2)	±5+74	±12' LT/RT	––	––	––	WOOD	REMOVE FROM BOTH SIDES OF BRIDGE
R4	EX.	WEIGHT LIMIT	6+12	17.3' LT	––	––	––	WOOD	TWO SIGNS

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91
DATUM
N.G.V.D. 88

HORIZONTAL
20 10 0 20 40
SCALE IN FEET

811
Know what's below.
Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	D. FOSTER	12/2020
DESIGNED:	R. KOESTER	12/2020
CHECKED:	S. SOISETH	12/2020
SUPERVISOR:	S. SOISETH	12/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

RENEE A. KOESTER STATE OF WASHINGTON 35594 REGISTERED PROFESSIONAL ENGINEER PRELIMINARY

FED. AID No. N/A
PROJECT No. 1135999
SURVEY No. TBD
MAINTENANCE DIVISION No. 2

JOANN H. KOSAKING STATE OF WASHINGTON 34413 REGISTERED PROFESSIONAL ENGINEER PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

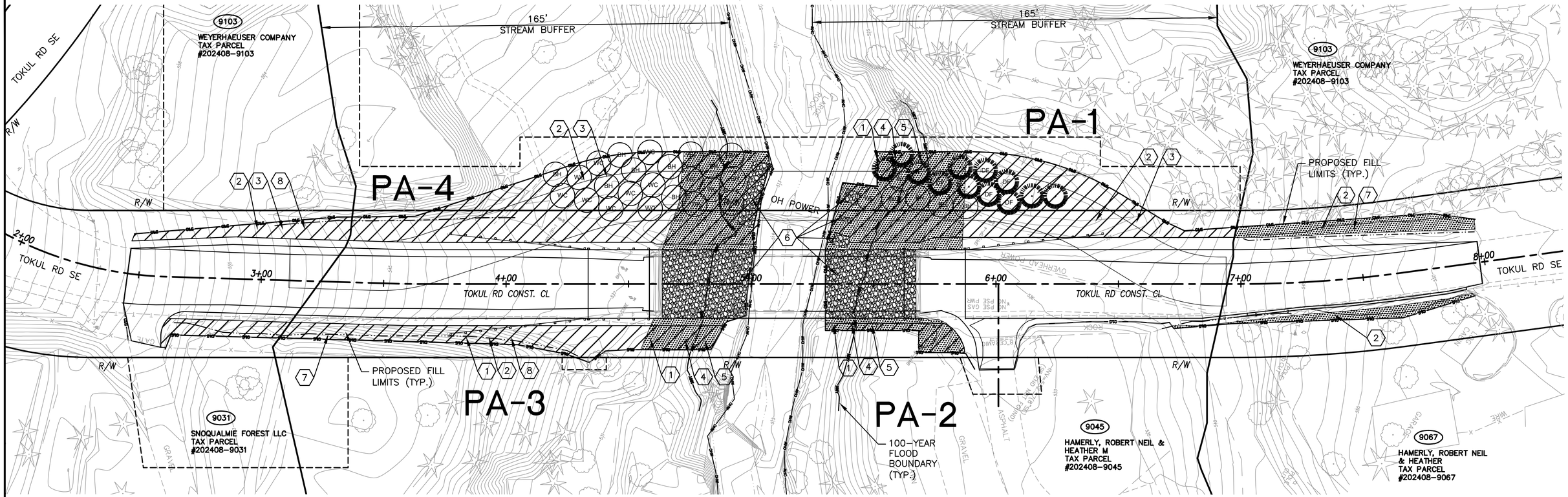
SIGINING PLAN

King County

SHEET 13 OF 33 SHEETS

320-90 (CH01)

SEC. 17, T.24 N., R.08 E., W.M.



CONSTRUCTION NOTES

1. AMEND SENSITIVE AREAS WITH 4" SOIL AMENDMENT INCORPORATED TO A 10" DEPTH PER SHEET RP04, DETAIL 1
2. AMEND ROADSIDE EMBANKMENT WITH A 4" SOIL AMENDMENT INCORPORATED TO A 14" DEPTH PER SHEET RP04, DETAIL 2
3. INSTALL UNIFORM 3" DEPTH BARK OR WOOD CHIP MULCH
4. INSTALL 3" DEEP BARK OR WOOD CHIP MULCH RINGS AT EACH PLANT PER SHEET RP03, DETAIL 1 AND 2
5. INSTALL BIODEGRADABLE EROSION CONTROL BLANKET PER SHEET RP02, DETAIL 2
6. INSTALL 2' DEPTH 12" STREAMBED COBBLE PER SHEET RP02, DETAIL 1
7. INSTALL BIODEGRADABLE EROSION CONTROL BLANKET PLACEMENT FOR DITCHES PER WSDOT STANDARD PLAN I-60.20-01
8. INSTALL SINGLE ROW OF WATTLE ON SLOPE PER WSDOT STANDARD PLAN I-30.30-02

GENERAL NOTES

1. SEE PLANT SCHEDULE AND PLANTING DETAILS, SHEET RP03
2. SEE BANK STABILIZATION DETAILS, SEE SHEET RP02 15
3. SEE SITE PREPARATION PLAN FOR EXISTING BRIDGE FOOTING REMOVAL

LEGEND

- BIODEGRADABLE EROSION CONTROL BLANKET SEEDING, FERTILIZING AND MULCHING
- TREE AND SHRUB PLANTING
- 2' DEPTH 12" STREAMBED COBBLE
- PA-1 PLANTING AREA
- 100 YEAR FLOOD BOUNDARY
- ORDINARY HIGH WATER MARK (O.H.W.M.)
- STREAM CENTERLINE
- CLEARING AND GRADING BOUNDARY
- TCE
- GUARDRAIL
- DITCH CENTERLINE
- EXISTING DECIDUOUS TREE
- EXISTING EVERGREEN TREE

20 10 0 20 40
SCALE IN FEET

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91
DATUM
N.G.V.D. 88

811
Know what's below.
Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	G. KING	03/2020
DESIGNED:	J. GAGE	03/2020
CHECKED:	S. SOISETH	03/2020
SUPERVISOR:	S. SOISETH	03/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

STATE OF WASHINGTON
JONATHAN C. GAGE
LANDSCAPE ARCHITECT
PRELIMINARY
EXP. 03/17/2022

FED. AID No. N/A
PROJECT No. 1135999
SURVEY No. TBD
MAINTENANCE DIVISION No. 2

JOANN H. KOSA
STATE OF WASHINGTON
34413
REGISTERED
PROFESSIONAL ENGINEER
PRELIMINARY

60% DESIGN
(NOT FOR
CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B BRIDGE REPLACEMENT PROJECT

RESTORATION PLANS

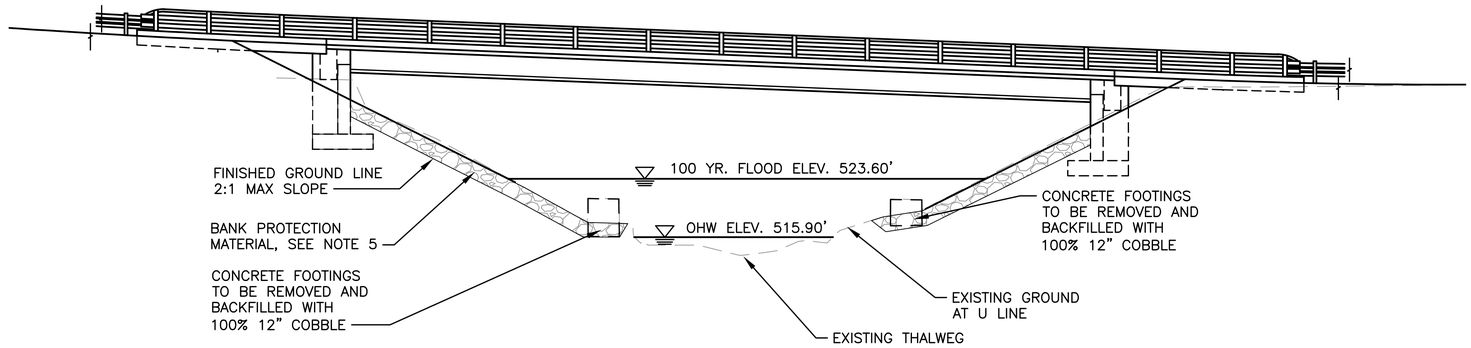
King County

SHEET 14 OF 33 SHEETS

320-90 (RP01)

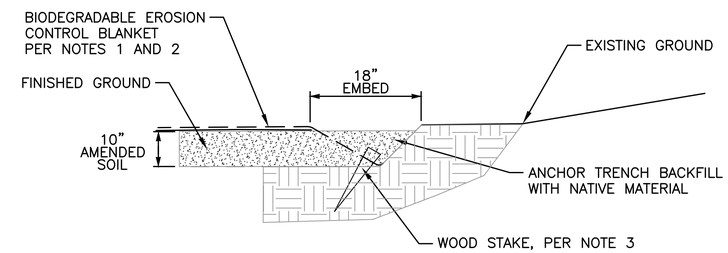
RESTORATION NOTES

1. INSTALL BIODEGRADABLE EROSION CONTROL BLANKET PER WSDOT STANDARD PLAN I-60.20-01.
2. BIODEGRADABLE EROSION CONTROL BLANKET PER 2020 WSDOT STANDARD SPECIFICATIONS 9-14.6(2) A FOR SLOPES STEEPER THAN 3:1(H:V).
3. ANCHOR BLANKET WITH WOOD STAKES AT 4' O.C. (BOTH WAYS). OVERLAP BLANKET 18" MINIMUM IN WATER FLOW DIRECTION. WOOD STAKES SHALL BE 2"X4"X18"(RIPPED DIAGONALLY).
4. FASTEN BLANKET AT TOP AND BOTTOM OF SLOPE WITH ANCHOR TRENCH PER DETAIL 2 (THIS SHEET).
5. BANK PROTECTION MATERIAL SHALL CONSIST OF 100% 12" COBBLE PER 2020 WSDOT STANDARD SPECIFICATIONS SECTION 9-03.11(2).
6. SOIL AMENDMENT SHALL CONSIST OF FINE COMPOST PER 2020 WSDOT STANDARD SPECIFICATIONS SECTION 9-14. 5(8).



UNDER BRIDGE BANK STABILIZATION - TYPICAL SECTION

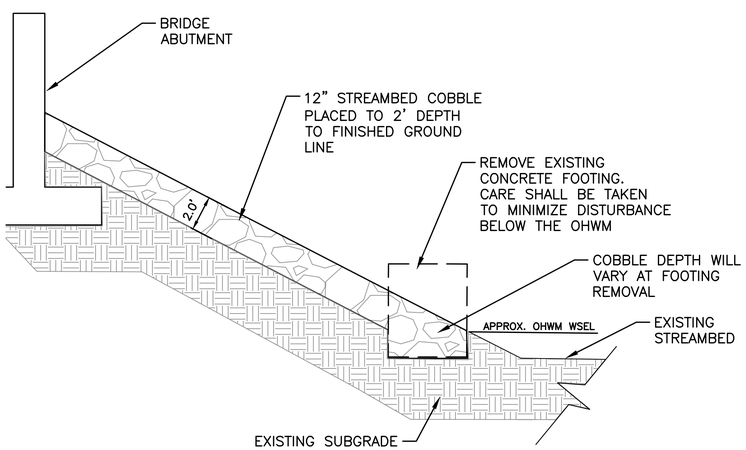
NOT TO SCALE



BLANKET ANCHOR TRENCH DETAIL

NOT TO SCALE

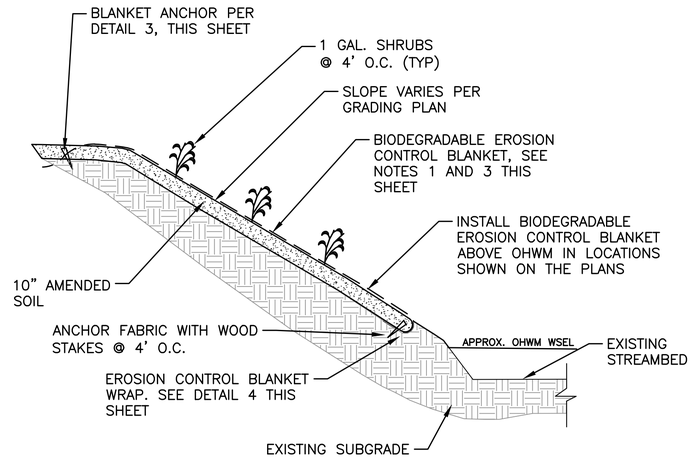
3 —



STREAMBED COBBLE PLACEMENT

NOT TO SCALE

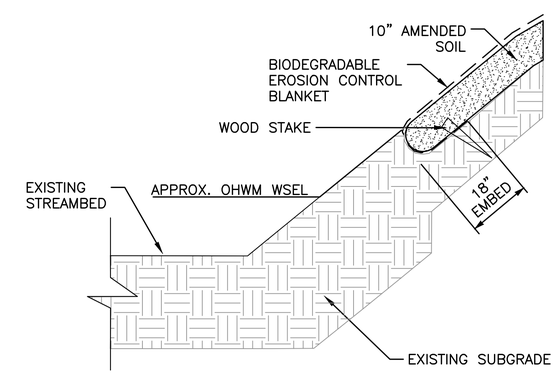
1 —



BANK STABILIZATION - DETAIL

NOT TO SCALE

2 —



BLANKET WRAP DETAIL

NOT TO SCALE

4 —

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91

DATUM

N.G.V.D. 88

811

Know what's below.
Call before you dig.

SURVEY JOB NO: 19030	05/2019			
CHECKED: J. EVANS	08/2019			
CAD ENTERED: G. KING	12/2020			
DESIGNED: J. GAGE	12/2020			
CHECKED: S. SOISETH	12/2020			
SUPERVISOR: S. SOISETH	12/2020			
		NUM. REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

STATE OF WASHINGTON JONATHAN C. GAGE LANDSCAPE ARCHITECT EXP. 03/17/2022 PRELIMINARY

FED. AID No. N/A

PROJECT No. 1135999

SURVEY No. TBD

MAINTENANCE DIVISION No. 2

JOANN H. KOSAKA STATE OF WASHINGTON 34413 REGISTERED PROFESSIONAL ENGINEER PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES

JOHN TAYLOR, DIRECTOR

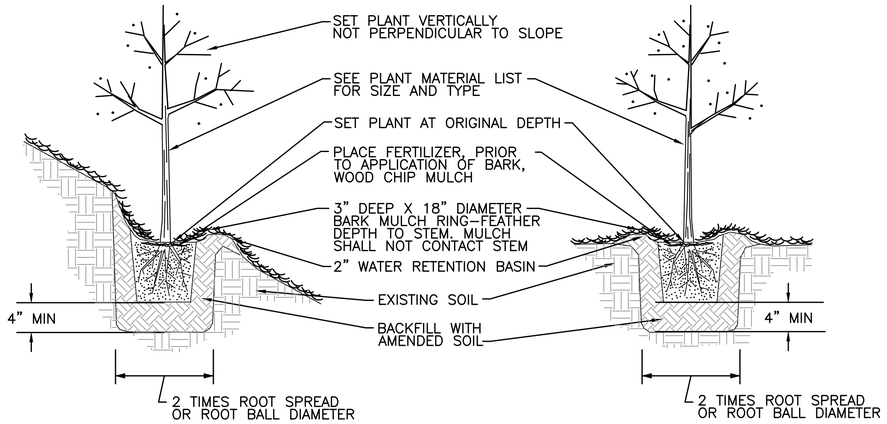
UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

RESTORATION PLANS

King County

SHEET 15 OF 33 SHEETS

320-90 (RP02)



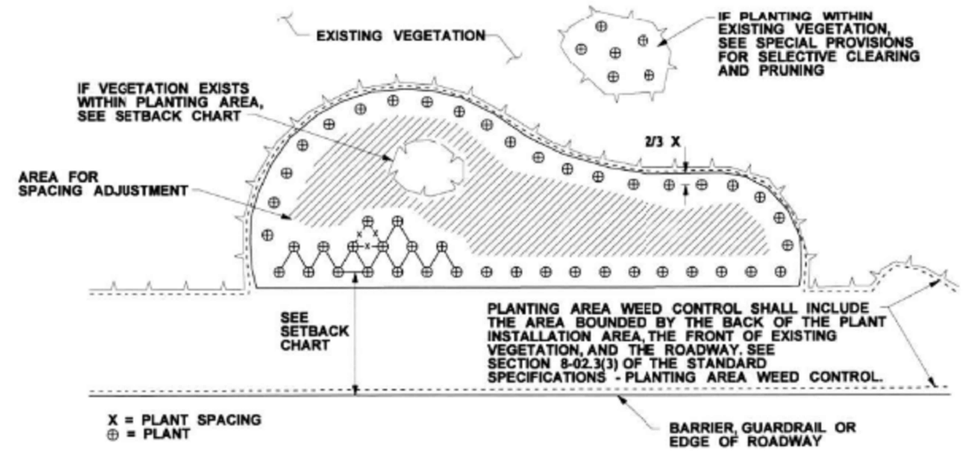
*NOTE: BARK, WOOD CHIP, MULCH SHALL BE PLACED IN 9" RADIUS AROUND EACH PLANT WHEN PLANTED IN SEEDED OR GRASS AREAS.

TREE AND SHRUB PLANTING ON SLOPE (1/–)

BARE ROOT AND CONTAINER — NOT TO SCALE

TREE AND SHRUB PLANTING (2/–)

BARE ROOT AND CONTAINER — NOT TO SCALE



PLANTING AREA LAYOUT (3/–)

NOT TO SCALE

PLANT SCHEDULE

BOTANICAL NAME	COMMON NAME	COND.	SIZE (HT)	QUANTITIES PA–1	PA–2	PA–3	PA–4	TOTAL	SPACING	REMARKS
TREES										
MALUS FUSCA	WESTERN CRABAPPLE	2 GAL.	6' HT, MIN.	3	0	0	13	16	AS SHOWN	WELL BRANCHED
CRATAEGUS DOUGLASII	BLACK HAWTHORN	2 GAL.	6' HT, MIN.	3	0	0	10	13	AS SHOWN	WELL BRANCHED, SINGLE LEADER
THUJA PLICATA	WESTERN RED CEDAR	2 GAL.	48" HT, MIN.	7	0	0	0	7	AS SHOWN	WELL BRANCHED, SINGLE LEADER
PSEUDOTSUGA MENZIESII	DOUGLAS FIR	2 GAL.	48" HT, MIN.	5	0	0	0	5	AS SHOWN	WELL BRANCHED, SINGLE LEADER
SHRUBS										
ACER CIRCINATUM	VINE MAPLE	1 GAL.	18" HT, MIN.	28	2	23	52	105	4' O.C.	WELL BRANCHED
HOLODISCUS DISCOLOR	OCEAN SPRAY	1 GAL.	18" HT, MIN.	28	0	0	34	62	4' O.C.	WELL BRANCHED
RUBUS SPECTABILIS	SALMONBERRY	1 GAL.	12" HT, MIN.	28	0	0	51	79	4' O.C.	WELL BRANCHED
ROSA NUTKANA	NOOTKA ROSE	1 GAL.	12" HT, MIN.	42	12	39	36	129	4' O.C.	WELL BRANCHED
SYMPHORICARPOS ALBUS	SNOWBERRY	1 GAL.	12" HT, MIN.	42	12	40	36	130	4' O.C.	WELL BRANCHED
RIBES SANGUINEUM	RED FLOWERING CURRANT	1 GAL.	12" HT, MIN.	28	0	23	30	81	4' O.C.	WELL BRANCHED
LONICERA INVOLUCRATA	BLACK TWINBERRY	1 GAL.	18" HT, MIN.	28	0	8	34	70	4' O.C.	WELL BRANCHED
SALIX SITCHENSIS	SITKA WILLOW	1 GAL.	36" HT, MIN.	28	0	8	34	70	4' O.C.	WELL BRANCHED
GROUNDCOVERS										
POLYSTICHUM MUNITUM	SWORD FERN	1 GAL.	12" HT, MIN.	56	0	16	68	140	2' O.C.	WELL BRANCHED, PLANT IN CLUSTERS OF 3–5 INTERPLANT AMONG SHRUBS
UPLAND HYDROSEED MIX										

INSTALL 73 WILLOW ON SOUTH BANK, 24 WILLOW ON NORTH BANK, BELOW 100 YEAR FLOOD PLAN BOUNDARY

PLANTING NOTES

1. PLANT SHRUBS IN SINGLE SPECIES GROUPINGS CLUSTERS OF 3–7.
   SEE PLANT SETBACK CHART (SHEET R04, DETAIL 3) FOR TREE AND SHRUB
2. SETBACKS.
   SAVE AND PROTECT EXISTING DESIRABLE VEGETATION PER SECTION
3. 1–07.16(2) IN THE STANDARD SPECIFICATIONS.
   ALL PLANTING AREAS SHALL BE SEEDED DURING THE APPLICATION DATES
4. SPECIFIED IN SECTION 8–01.3(2)F OF THE STANDARD SPECIFICATIONS. ANY SEEDED AREAS THAT DON'T ADEQUATELY GERMINATE SHALL RECEIVE AN APPROVED TESC BMP UNTIL RESEEDING CAN OCCUR DURING THE NEXT APPLICATION DATE SPECIFIED.
   PLACE 3" BARK OR WOOD CHIP MULCH RINGS IN ALL BUFFER PLANTING
5. AREAS.
   CONTRACTOR SHALL REMOVE ALL STABILIZED CONSTRUCTION ENTRANCE
6. TEMPORARY ACCESS ROADS AND DE–COMPACT SOILS TO AN 18" DEPTH IN PLANTING AREAS. RESTORE OTHER TEMPORARILY DISTURBED AREAS AS DIRECTED BY PROJECT ENGINEER UPON COMPLETION OF WORK. CONTRACTOR SHALL RESTORE ANY ADDITIONAL IMPACTS MADE TO STREAM
7. BUFFER AREAS NOT SHOWN ON THESE PLANS.
   ALL TREES SHALL BE STAKED WITH 2"X2" WOOD STAKES DRIVEN TO
8. REFUSAL, PLACED DIAGONALLY, AND FASTENED WITH POLY TREE TIE.

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91
DATUM
N.G.V.D. 88

811
Know what's below.
Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	G. KING	12/2020
DESIGNED:	J. GAGE	12/2020
CHECKED:	S. SOISETH	12/2020
SUPERVISOR:	S. SOISETH	12/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

STATE OF WASHINGTON — JONATHAN C. GRAY — LANDSCAPE ARCHITECT — MY COMM. EXP. 03/17/2022 — PRELIMINARY

FED. AID No. N/A
PROJECT No. 1135999
SURVEY No. TBD
MAINTENANCE DIVISION No. 2

JOANN H. KOSA — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER — 34413 — PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

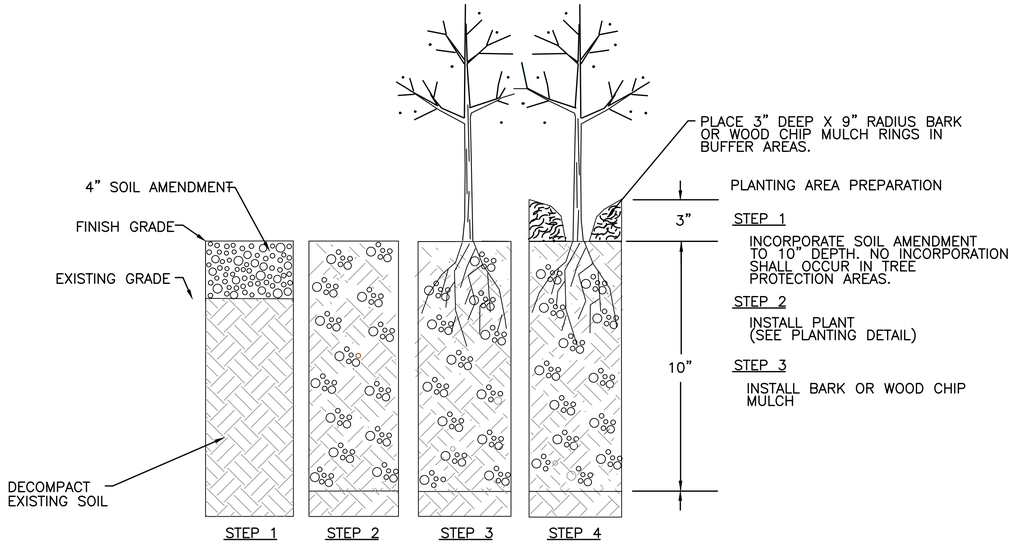
RESTORATION PLANS

King County

SHEET 16 OF 33 SHEETS

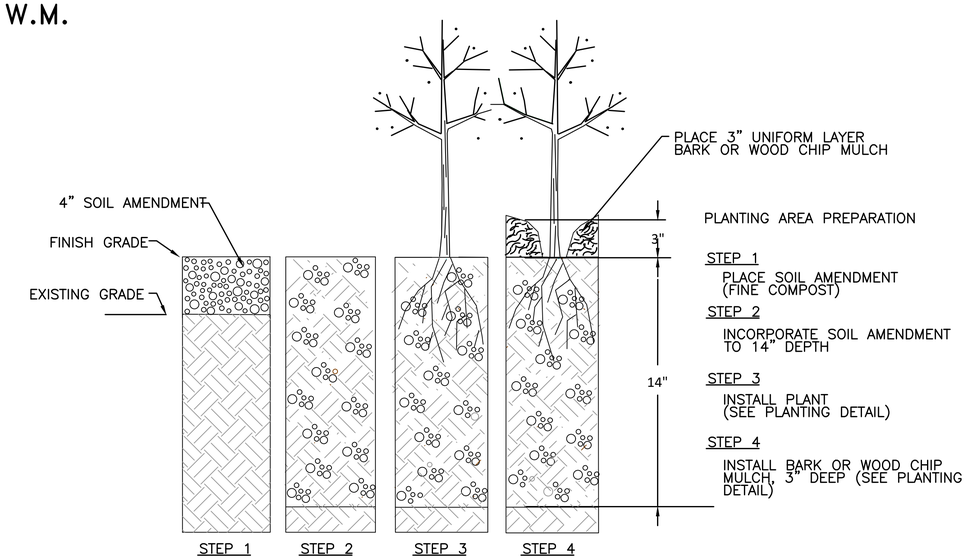
320-90 (RP03)

SEC. 17, T.24 N., R.08 E., W.M.



SENSITIVE AREA SOIL PREPARATION SEQUENCE OF WORK (1)

NOT TO SCALE



ROADSIDE EMBANKMENT SOIL PREPARATION SEQUENCE OF WORK (2)

NOT TO SCALE

THIS CHART SUPPLEMENTS SECTION 8.02.3(7) OF THE STANDARD SPECIFICATIONS. SETBACKS APPLY UNLESS OTHERWISE ADJUSTED BY ENGINEER DURING PLANT STAKING OR LAYOUT. DISTANCES BELOW ARE TO THE STEM OR TRUNK OF THE PLANT BEING INSTALLED.

	GROUND-COVER *	SMALL SHRUB **	TALL SHRUB ***	DECIDUOUS TREE	EVERGREEN TREE	SMALL TREE****
GUARDRAIL BARRIER	5'	5'	10'	15'	15'	15'
EDGE OF ROADWAY	5'	10'	15'	20'	20'	20'
WALLS	3'	5'	10'	15'	15'	15'
FENCE	1.5'	3'	3'	10'	10'	10'
SIGNS	1.5'	6'	6'	15'	15'	15'
EXISTING TREE TRUNK	5'	5'	10'	15'	15'	15'
EXISTING VEGETATION MASS	5'	5'	10'	10'	10'	10'
OVERHEAD POWER	–	–	10'	20'	20'	0'
DRAINAGE STRUCTURE	5'	5'	10'	10'	10'	10'
DRAINAGE ACCESS ROAD	5'	5'	15'	15'	15'	15'
BRIDGE	3'	5'	10'	15'	15'	15'

* GROUNDCOVERS GROW NO TALLER THAN 1.5 FEET AT MATURITY.
** SMALL SHRUBS GROW NO TALLER THAN 3 FEET AT MATURITY.
*** TALL SHRUBS GROW TALLER THAN 3 FEET AT MATURITY.
*** SMALL TREES GROW NOT TALLER THAN 30 FEET AT MATURITY.

PLANT MATERIAL SETBACK CHART (3)

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91

DATUM

N.G.V.D. 88

811

Know what's below.
Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	G. KING	12/2020
DESIGNED:	J. GAGE	12/2020
CHECKED:	S. SOISETH	12/2020
SUPERVISOR:	S. SOISETH	12/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

STATE OF WASHINGTON JONATHAN C. GAGE LANDSCAPE ARCHITECT EXP. 03/17/2022 PRELIMINARY

FED. AID No. N/A

PROJECT No. 1135999

SURVEY No. TBD

MAINTENANCE DIVISION No. 2

JOANN H. KOSA KING STATE OF WASHINGTON 34413 REGISTERED PROFESSIONAL ENGINEER PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

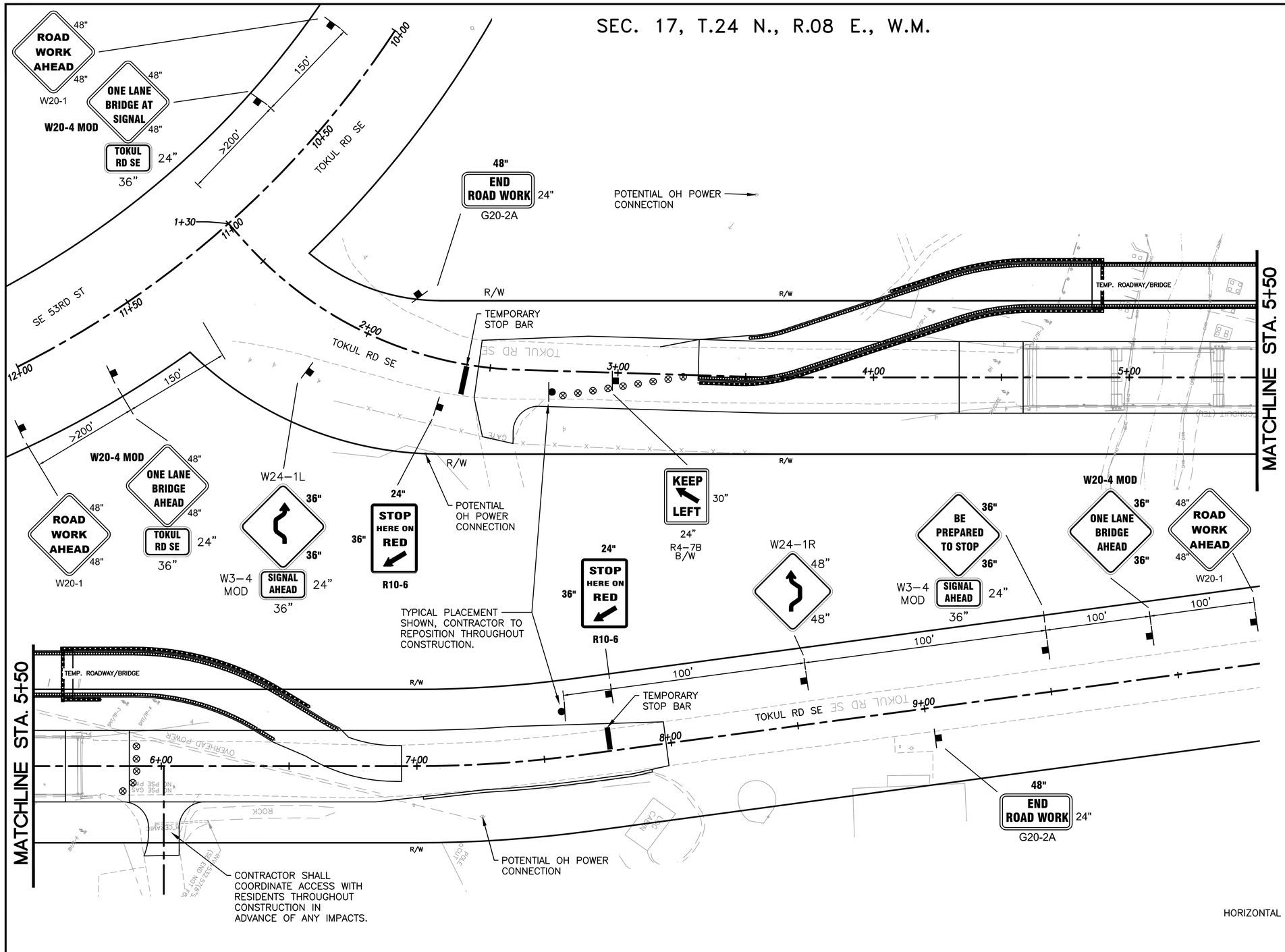
UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

RESTORATION PLANS

King County

SHEET 17 OF 33 SHEETS

320-90 (RP04)



TEMPORARY SIGNAL NOTES

1. CONTRACTOR TO SUPPLY AND MAINTAIN TEMPORARY TRAILER–MOUNTED TRAFFIC SIGNAL. CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION AROUND TRAFFIC SIGNAL. TEMPORARY TRAILER–MOUNTED TRAFFIC SIGNALS SHALL EACH CONSIST OF:
   - TOWABLE TRAILER EQUIPPED WITH LEVELING JACKS
   - TWO SIGNAL HEADS EACH WITH THREE 12–INCH LED SIGNAL SECTIONS (RED, YELLOW, AND GREEN)
   - ONE SIGNAL HEAD IS TO BE MOUNTED ON A TOWABLE TRAILER.
   - THE SYSTEM IS TO CONTAIN A LOCKABLE CABINET MOUNTED CONTROLLER WITH A CONFLICT MONITOR.
   - EACH SIGNAL UNIT SHALL BE CAPABLE OF OPERATING FROM SOLAR ARRAY CHARGED BATTERY POWER. SOLAR ARRAY SHALL ALLOW FOR TILT AND ROTATION FOR OPTIMAL CHARGING.
   - SIGNAL SOLAR/BATTERY CONFIGURATION TO SUPPLY UNINTERRUPTED POWER FOR DURATION OF CONSTRUCTION PHASE. GENERATOR OPERATIONS ONLY TO BE USED IF APPROVED BY ENGINEER. CONTRACTOR MAY COORDINATE WITH PSE FOR UNINTERRUPTED POWER CONNECTION FROM NEARBY OVERHEAD POWER FACILITIES.
   - SYSTEM SHALL CONTAIN METHOD FOR ANTI–THEFT.
   - CONTRACTOR TO MAINTAIN TEMPORARY SIGNAL SYSTEM DURING THE ENTIRETY OF THE PROJECT CONSTRUCTION.
   - CONTRACTOR RESPONSIBLE FOR ADJUSTING LOCATION OF TEMPORARY SIGNAL TRAILERS DURING EACH PHASE OF CONSTRUCTION.
2. DETECTION AT TEMPORARY TRAFFIC SIGNAL BE INCLUDED FOR ALL APPROACHES OF THE BRIDGE, INCLUDING DRIVEWAY IF NEEDED. THE CONTRACTOR SHALL PLACE THE DETECTORS INTO OPERATION TO THE SATISFACTION OF THE ENGINEER.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROGRAMMING THE VEHICLE DETECTION SYSTEM TO THE DETECTION AREAS FOR EACH CONSTRUCTION STAGE. ALL COSTS ASSOCIATED WITH VEHICLE DETECTION SHALL BE INCLUSIVE OF THE PORTABLE TEMPORARY TRAFFIC CONTROL SIGNAL BID ITEM.
4. CONTRACTOR TO INSTALL ALL NECESSARY TEMPORARY ROADWAY CHANNELIZATION, SUCH AS STOP BARS, IN COORDINATION WITH PLACEMENT OF TEMPORARY TRAFFIC SIGNAL FOR ALL PHASES.

GENERAL NOTES

1. SEE SHEET 4–5 FOR DIVERSION ROADWAY PLAN AND PROFILE AND DIVERSION ROADWAY PLAN AND PROFILE.
2. CONTRACTOR SHALL MAINTAIN ACCESS AND CONNECTIVITY TO DRIVEWAY FOR DURATION OF CONSTRUCTION. ROADWAY CONNECTION FROM DRIVEWAY TO TEMPORARY SIGNAL SHALL BE PROVIDED DURING CONSTRUCTION.
3. ALL SIGNS SHALL BE BLACK ON ORANGE.

LEGEND

- TRAFFIC CONTROL SIGN
- TEMPORARY TRAFFIC SIGNAL
- CHANNELIZATION DEVICES
- TEMPORARY STOP BAR

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91
DATUM
N.G.V.D. 88

HORIZONTAL
20 10 0 20 40
SCALE IN FEET

811
Know what's below.
Call before you dig.

SURVEY JOB NO: 19030	05/2019			
CHECKED: J. EVANS	08/2019			
CAD ENTERED: D. FOSTER	12/2020			
DESIGNED: R. KOESTER	12/2020			
CHECKED: S. SOISETH	12/2020			
SUPERVISOR: S. SOISETH	12/2020			
		NUM. REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

RENEE A. KOESTER STATE OF WASHINGTON 35594 REGISTERED PROFESSIONAL ENGINEER PRELIMINARY

FED. AID No. N/A
PROJECT No. 1135999
SURVEY No. TBD
MAINTENANCE DIVISION No. 2

JOANN H. KOSA STATE OF WASHINGTON 34413 REGISTERED PROFESSIONAL ENGINEER PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B BRIDGE REPLACEMENT PROJECT

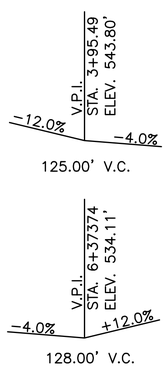
DIVERSION TEMPORARY TRAFFIC CONTROL AND SIGNAL PLAN

King County

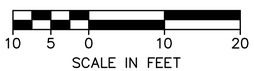
SHEET 18 OF 33 SHEETS

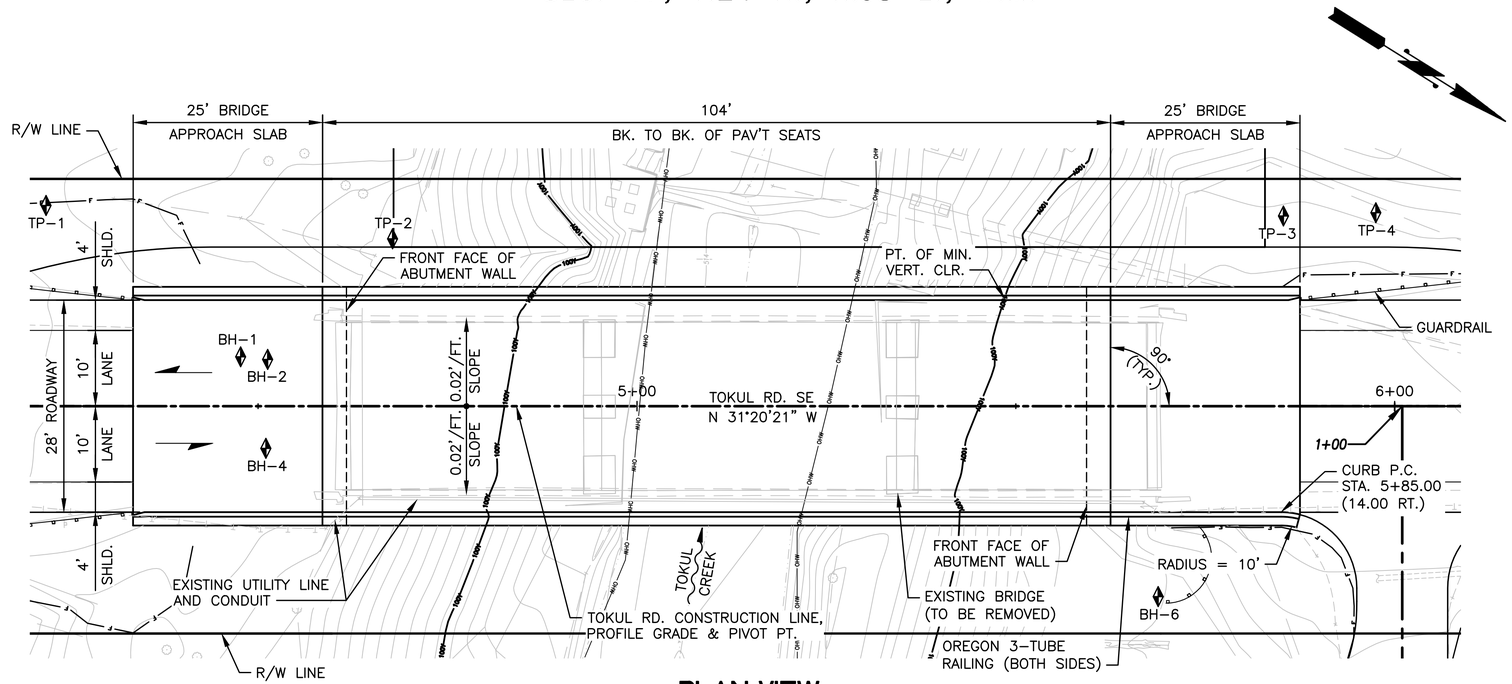
320-90 (TC01)

SEC. 17, T.24 N., R.08 E., W.M.

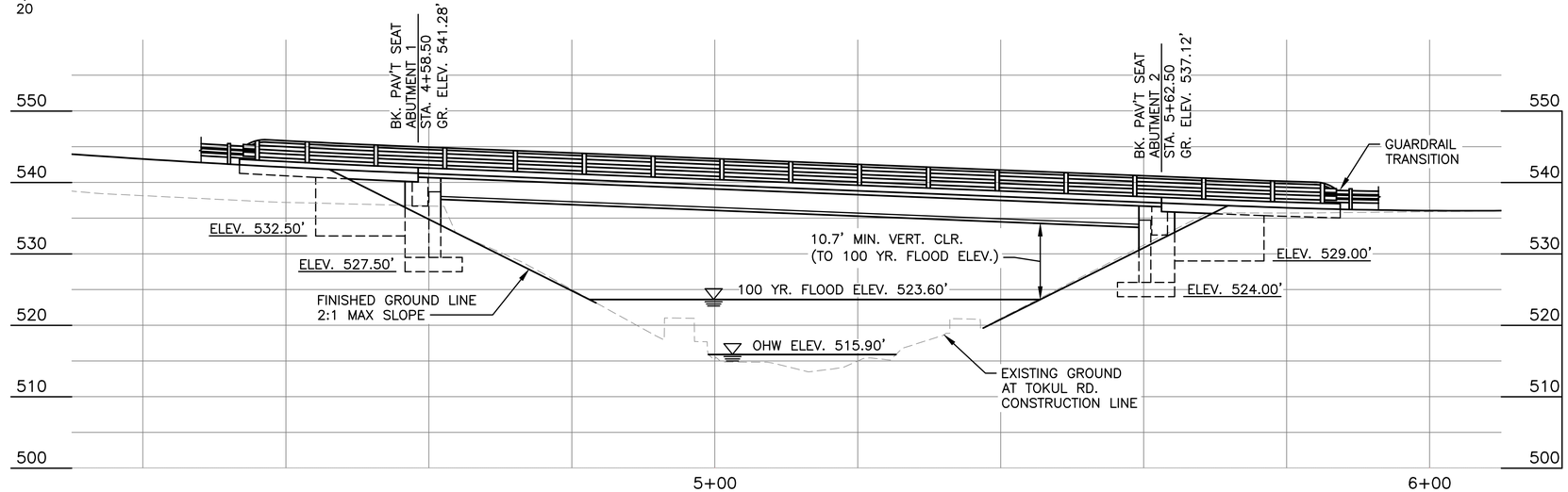


TOKUL ROAD SE PROFILE





PLAN VIEW



ELEVATION VIEW

GRADE ELEVATIONS SHOWN ARE FINISHED GRADES AT TOP OF BRIDGE DECK ON CONSTRUCTION LINE AND ARE EQUAL TO PROFILE GRADE.

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91

N.G.V.D. 88

GENERAL STRUCTURE NOTES:

1. ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION DATED 2020.
2. THIS STRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 8TH EDITION 2017 AND THE WSDOT BRIDGE DESIGN MANUAL.
3. UNLESS OTHERWISE SHOWN IN THE PLANS, CONCRETE COVER MEASURED FROM THE FACE OF CONCRETE TO THE FACE OF ANY REINFORCING STEEL SHALL BE 2 1/2" AT THE TOP OF THE BRIDGE DECK, 3" AT THE BOTTOM OF FOOTING, 2" AT THE TOP OF FOOTING AND ALL OTHER LOCATIONS.
4. THE CONTRACTOR SHALL PLAN AND CONDUCT THE WORK IN SUCH A MANNER THAT NO OBJECTS OR FOREIGN MATERIALS FALL FROM THE WORK ON THE EXISTING OR NEW BRIDGE INTO THE RIVER CHANNEL BELOW. THE CONTRACTOR'S PLAN FOR ACCOMPLISHING THIS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO THE START OF CONSTRUCTION.

DESIGN DATA:

1. DESIGN SPECIFICATIONS:
   - AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS 8TH EDITION 2017
   - STATE OF WASHINGTON, DEPARTMENT OF TRANSPORTATION, BRIDGE DESIGN MANUAL (LRFD), SEPTEMBER 2020
   - SEISMIC DESIGN IN ACCORDNACE WITH AASHTO GUIDE SPECIFICATIONS FOR LRFD SEISMIC BRIDGE DESIGN, 2ND EDITION WITH INTERIMS THROUGH 2015.
2. DESIGN LOADS:
   - UNIT WEIGHTS:
     REINFORCED CONCRETE = 155 PCF
     PRECAST GIRDER UNIT WEIGHT = 165 PCF
     BACKFILL = 125 PCF
   - LIVE LOAD: HL-93
   - EARTH PRESSURE COEFFICIENTS: Ka = 0.27, Ko = 0.43, Kae = 0.40
   - FUTURE WEARING SURFACE: 35 PSF
   - SEISMIC PARAMETERS (FOR SITE CLASS C):
     ZERO PERIOD RESPONSE ACCELERATION (As) = 0.417g
     SHORT PERIOD ACCELERATION (SDS) = 0.943g
     LONG PERIOD ACCELERATION (SD1) = 0.943g
     SEISMIC DESIGN CATEGORY = C
3. RAILING LOADS:
   - RAILINGS ARE TEST LEVEL 4

PRECAST PRESTRESSED GIRDERS (WF36TDG) LOADING: HL-93

Know what's below.
Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	D. FOSTER	12/2020
DESIGNED:	A. CHARNESKI	12/2020
CHECKED:	E. FERLUGA	12/2020
SUPERVISOR:	S. SOISETH	12/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

PRELIMINARY — JACQUES PIERRE MARD — STATE OF WASHINGTON — 52807 — PROFESSIONAL ENGINEER

FED. AID No. N/A
PROJECT No. 1135999
SURVEY No. TBD
MAINTENANCE DIVISION No. 2

PRELIMINARY — JOANN H. KOSAKA — STATE OF WASHINGTON — 34413 — REGISTERED PROFESSIONAL ENGINEER

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

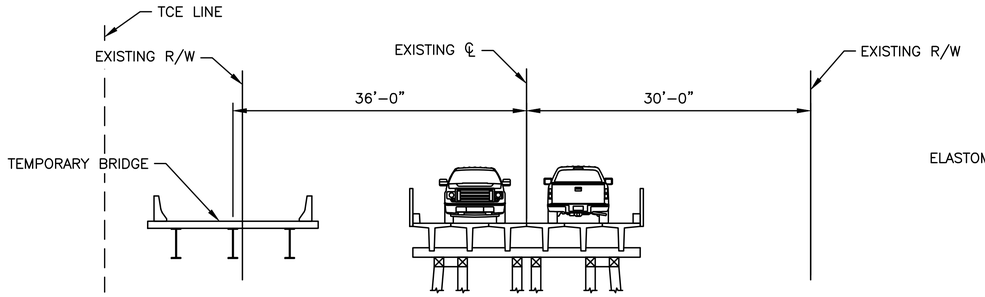
UPPER TOKUL CREEK BRIDGE #271B BRIDGE REPLACEMENT PROJECT

BRIDGE LAYOUT

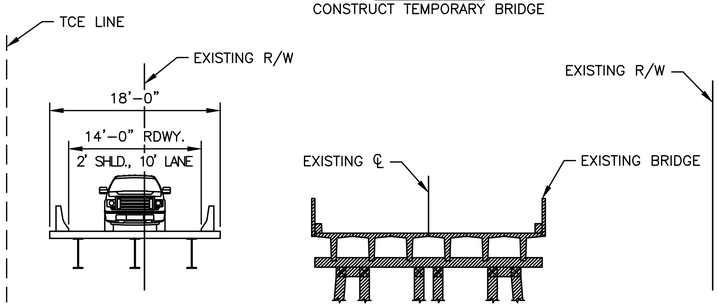
King County

SHEET 19 OF 33 SHEETS

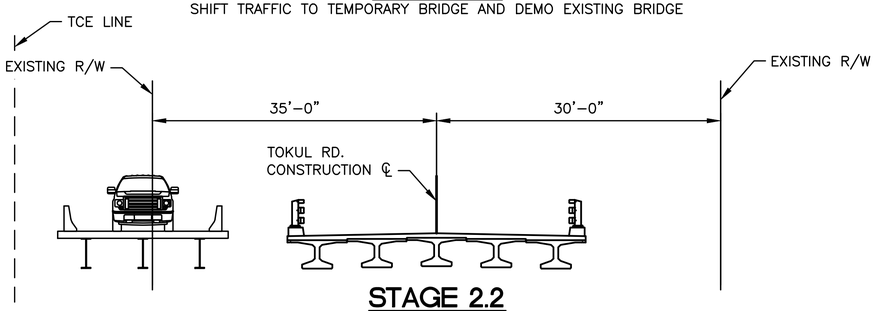
320-90 (EB01)



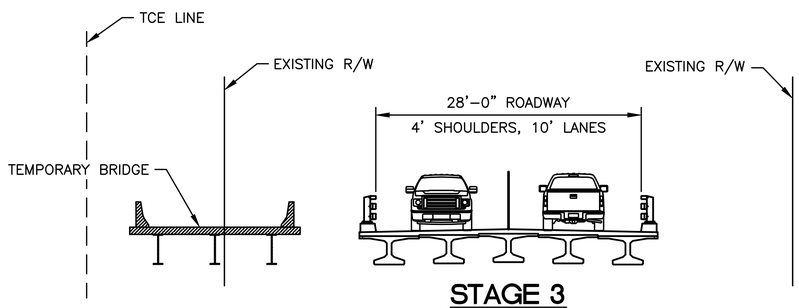
STAGE 1
CONSTRUCT TEMPORARY BRIDGE



STAGE 2.1
SHIFT TRAFFIC TO TEMPORARY BRIDGE AND DEMO EXISTING BRIDGE

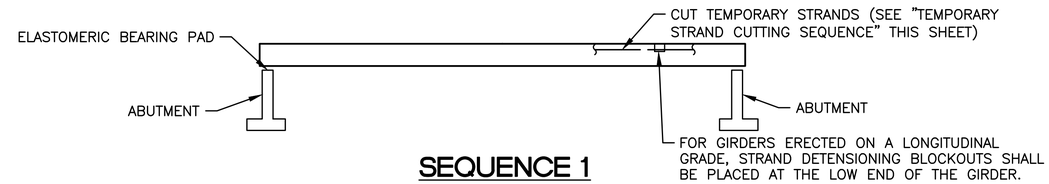


STAGE 2.2
CONSTRUCT NEW BRIDGE

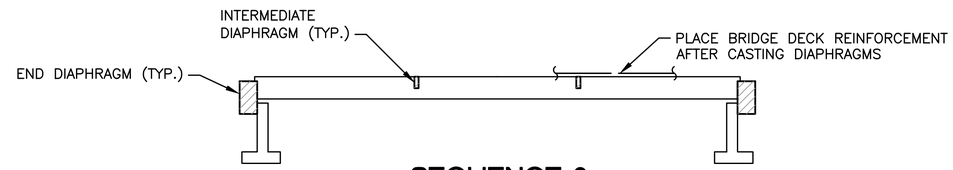


STAGE 3
SHIFT TRAFFIC TO NEW BRIDGE AND DEMO TEMPORARY BRIDGE

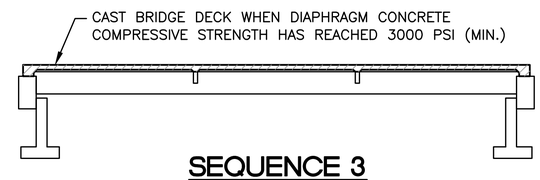
CONSTRUCTION STAGES



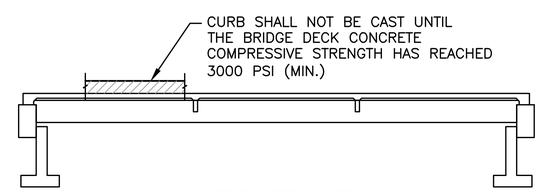
SEQUENCE 1
SET GIRDERS IN PLACE
INSTALL TEMPORARY BRACING FOR ERECTION IN ACCORDANCE WITH STD. SPEC. SECTION 6–02.3(17)F4.



SEQUENCE 2
PLACE BRIDGE DECK REINFORCEMENT
INSTALL TEMPORARY BRACING FOR DIAPHRAGM AND DECK PLACEMENT IN ACCORDANCE WITH STD. SPEC. SECTION 6–02.3(17)F5.



SEQUENCE 3
CAST BRIDGE DECK



SEQUENCE 4
CAST CURB

CONSTRUCTION SEQUENCE - SUPERSTRUCTURE
(NEW BRIDGE)

TEMPORARY STRAND CUTTING SEQUENCE

1. ERECT AND BRACE GIRDERS.
2. JUST PRIOR TO CUTTING THE TEMPORARY STRANDS, REMOVE EXPANDED POLYSTYRENE IN BLOCKOUTS IN TOP FLANGE OF GIRDERS. ONCE THE EXPANDED POLYSTYRENE HAS BEEN REMOVED FROM THE STRAND DETENSIONING BLOCKOUT, PREVENT MOISTURE FROM ENTERING THE BLOCKOUT UNTIL THE TEMPORARY TOP STRAND IS CUT AND THE BLOCKOUT FILLED WITH GROUT.
3. CUT STRANDS IN BLOCKOUTS. STRANDS MAY BE CUT BY USING A CUTTING TORCH AND MOVING THE FLAME BACK AND FORTH OVER THE LENGTH OF EXPOSED STRAND TO LET INDIVIDUAL WIRES BREAK ONE AT A TIME TO LESSEN THE SHOCK TO THE GIRDER. STRANDS SHALL BE RELEASED IN A SYMMETRICAL MANNER ABOUT THE GIRDER CENTERLINE STARTING WITH THOSE FURTHEST FROM THE CENTERLINE AND WORKING INWARDS. FOR POST–TENSIONED TEMPORARY TOP STRANDS, ACTIVELY RESTRAIN THE STRAND CHUCKS AT THE GIRDER ENDS DURING CUTTING.
4. WITHIN 24 HOURS OF CUTTING THE TEMPORARY STRANDS, FILL BLOCKOUTS WITH A GROUTH CONFORMING TO STD. SPEC. 9–20.3(2). REMOVE ALL MOISTURE IN BLOCKOUTS PRIOR TO FILLING THEM WITH GROUT.

Know what's below.
Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	D. FOSTER	12/2020
DESIGNED:	A. CHARNESKI	12/2020
CHECKED:	E. FERLUGA	12/2020
SUPERVISOR:	S. SOISETH	12/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

JACQUES PIERRE MAZARD — STATE OF WASHINGTON — 22601 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

FED. AID No. N/A
PROJECT No. 1135999
SURVEY No. TBD
MAINTENANCE DIVISION No. 2

JOANN H. KOSA — STATE OF WASHINGTON — 34413 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

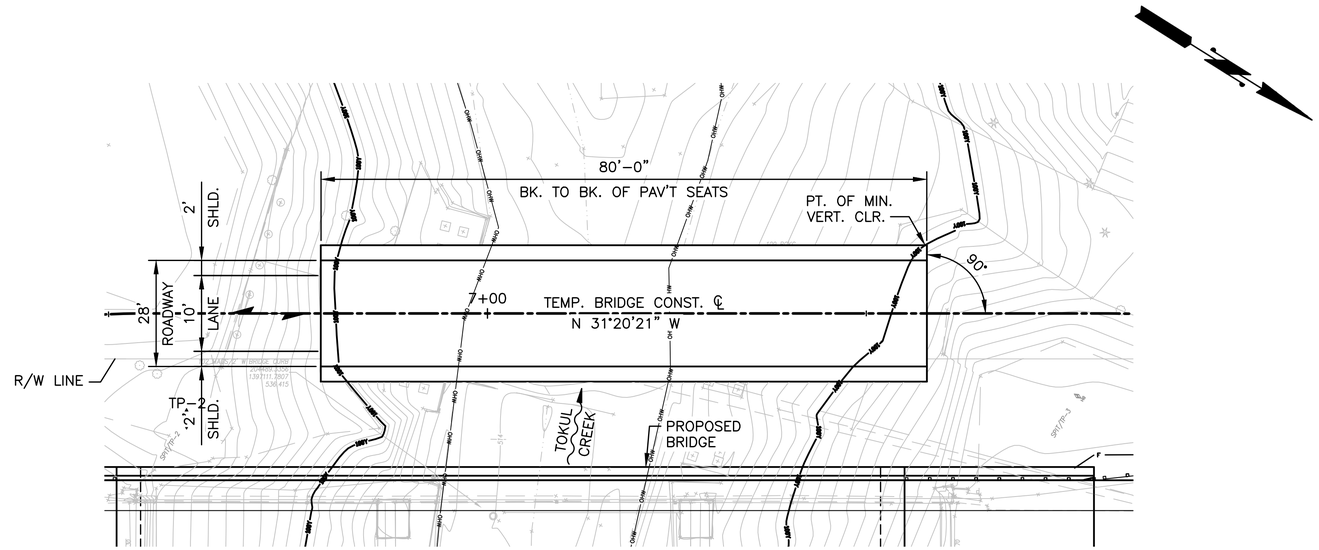
CONSTRUCTION SEQUENCE

King County

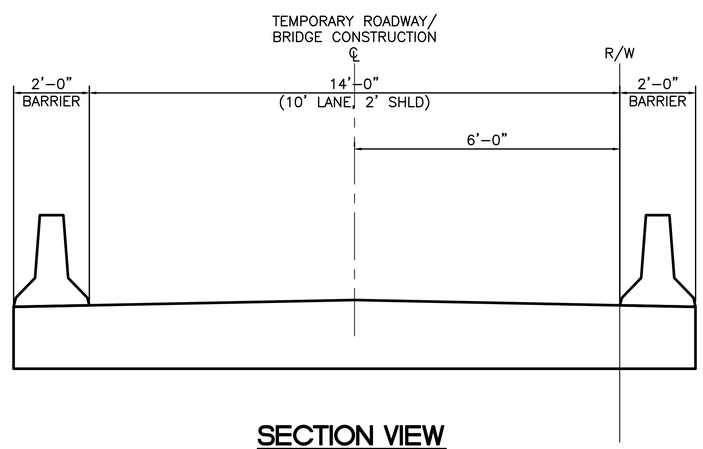
SHEET 20 OF 33 SHEETS

320-90 (EB02)

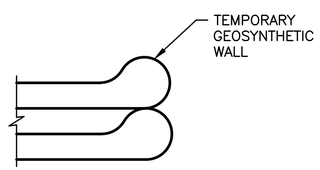
Drfo 12/02/20 3:26pm – P:\K\KCOX00000063\0400CAD\EB\SHEETS\EB-CS-001-KCOX0063.dwg



PLAN VIEW



SECTION VIEW



GEOSYNTHETIC WALL DETAIL

TEMPORARY BRIDGE NOTES

1. THE CONTRACTOR SHALL DESIGN, FURNISH, ERECT, MAINTAIN, AND REMOVE THE TEMPORARY BRIDGE AND APPROACH WALLS IN ACCORDANCE WITH THE SPECIAL PROVISION AND DETAILS SHOWN IN THE PLANS.
2. SEE SPECIAL PROVISIONS FOR TEMPORARY BRIDGE DESIGN REQUIREMENT.
3. WALLS FOR TEMPORARY APPROACH SHALL BE GEOSNYTHETIC WALLS IN ACCORDANCE WITH STANDARD PLAN D-3.09 OR APPROVED EQUAL.

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91

N.G.V.D. 88

Know what's below.
Call before you dig.

SURVEY JOB NO: 19030	05/2019			
CHECKED: J. EVANS	08/2019			
CAD ENTERED: D. FOSTER	12/2020			
DESIGNED: A. CHARNESKI	12/2020			
CHECKED: E. FERLUGA	12/2020			
SUPERVISOR: S. SOISETH	12/2020			
		NUM. REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

JACQUES PIERRE MAYARD, STATE OF WASHINGTON, 22801, PROFESSIONAL ENGINEER, STRUCTURAL ENGINEER

PRELIMINARY

FED. AID No. N/A

PROJECT No. 1135999

SURVEY No. TBD

MAINTENANCE DIVISION No. 2

JOANN H. KOSA-WANG, STATE OF WASHINGTON, 34413, REGISTERED PROFESSIONAL ENGINEER

PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

TEMPORARY BRIDGE LAYOUT

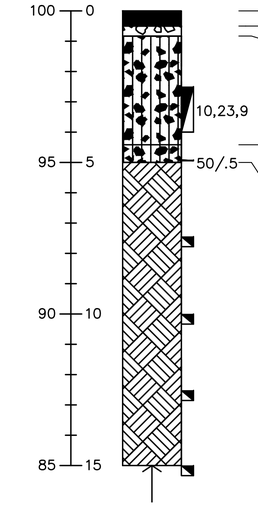
King County

SHEET 21 OF 33 SHEETS

320-90 (EB03)

B1

DATE OF BORING: 1/23/03

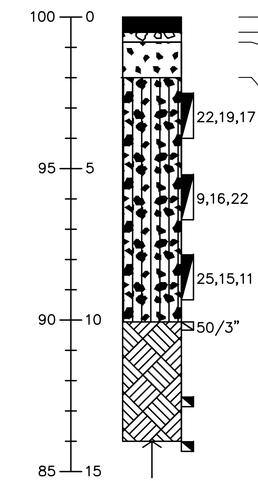


- 6 INCHES OF ASPHALT PAVEMENT.
- CRUSHED SURFACING TOP COURSE.
- BROWN SILTY GRAVEL WITH SAND, FEW COBBLES, MOIST, DENSE. (FILL) TESTED CUTTINGS
- BROWN SILTY GRAVEL WITH SAND AND COBBLES AND BOULDERS, DRY TO MOIST, VERY DENSE.
- BASALT AND ANDESITE AT 5.1 FEET. SAMPLES OF CUTTINGS WERE TAKEN IN LIEU OF SPTS.

TERMINATED THE BORING AT 15 FEET BELOW SURFACE, AND STILL DRILLING IN ROCK

B2

DATE OF BORING: 1/23/03

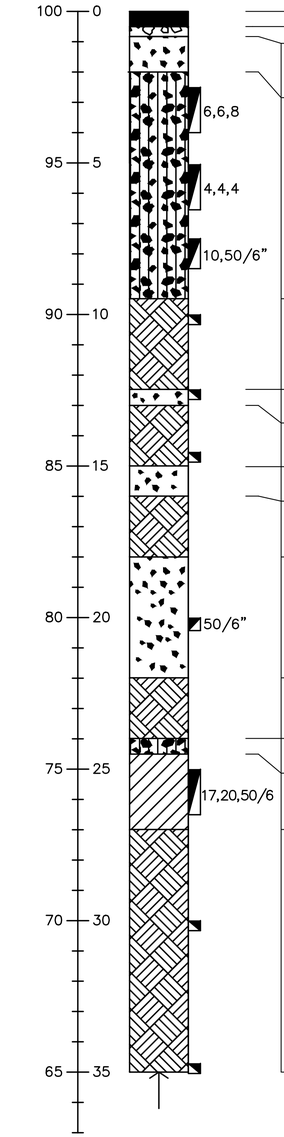


- ASPHALT PAVEMENT 6 INCHES THICK
- CRUSHED SURFACING TOP COURSE
- BROWN POORLY GRADED GRAVEL WITH SILT, SAND, AND A FEW COBBLES, MOIST, DENSE. (FILL)
- BROWN SILTY GRAVEL WITH SAND, DRY TO MOIST, DENSE. (FILL)
- BASALT AND ANDESITE AT 10.3 FEET BELOW THE SURFACE. SAMPLES OF CUTTINGS COLLECTED IN LIEU OF SPTS.

BORING TERMINATED AT 14 FEET BELOW THE SURFACE. DRILL STILL IN ROCK.

B3

DATE OF BORING: 1/23/03

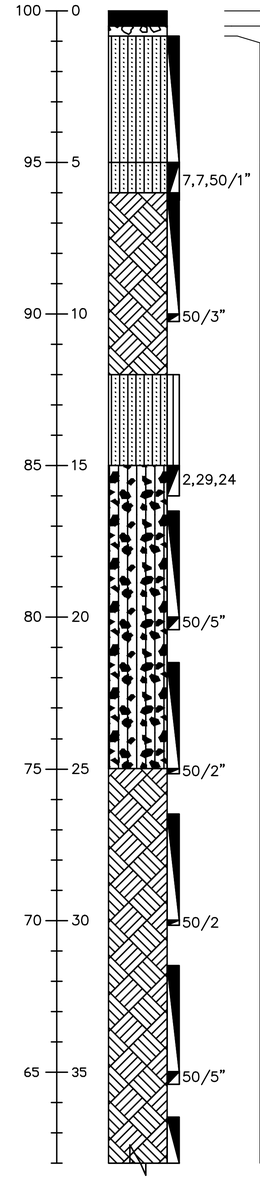


- ASPHALT PAVEMENT 6 INCHES THICK
- CRUSHED SURFACING TOP COURSE
- BROWN POORLY GRADED GRAVEL WITH SAND AND A FEW COBBLES, MOIST, DENSE. (FILL)
- BROWN SILTY GRAVEL WITH SAND, MOIST, MEDIUM DENSE. (FILL)
- DARK GRAY TO BLUE BASALT AND ANDESITE AT 8.3 FEET BELOW THE SURFACE. COLLECTED CUTTINGS
- BROWN POORLY GRADE GRAVEL WITH SAND, MOIST, DENSE.
- DARK BASALT AND ANDESITE.
- BROWN POORLY GRADED GRAVEL WITH SAND AND SILT, MOIST, DENSE
- DARK BASALT AND ANDESITE.
- FRACTURE ZONE FROM 18 FEET
- BROWN ANGULAR GRAVEL WITH SAND, WET, VERY DENSE
- BROWN TO BLACK BASALT CHIPS
- BROWN SILTY GRAVEL, WET, VERY DENSE.
- GRAY LEAN CLAY WITH SAND AND GRAVEL, WET, VERY DENSE.
- GRAY BASALT.

BORING TERMINATED AT 35 FEET. STILL DRILLING IN ROCK.

B4

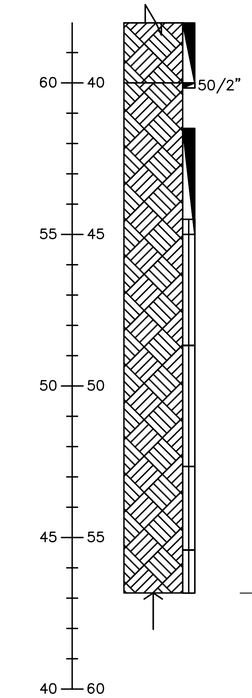
DATE OF BORING: 1/23/19



- ASPHALT PAVEMENT – APPROX. 6"
- CRUSHED SURFACING – APPROX. 4"
- DARK BROWN, DENSE, SILTY SAND WITH GRAVEL, MOIST TO WET.
- DARK BROWN, VERY DENSE, SILTY SAND WITH GRAVEL, MOIST.
- LARGE BASALT BOULDER(S) FROM 6' to 12'.
- DARK BROWN, DENSE, SITY SAND WITH GRAVEL, NON–PLASTIC, MOIST.
- BROWN, VERY DENSE, SILTY GRAVEL WITH SAND, COBBLES AND BOULDERS, NON–PLASTIC, MOIST.
- GRAY, VERY DENSE, HIGHLY WEATHERED BASALT.
- GREENISH GRAY, VERY DENSE, HIGHLY WEATHERED BASALT,
- GRAY, VERY DENSE, WEATHERED BASALT.

B4 (CONTINUED)

DATE OF BORING: 1/23/19

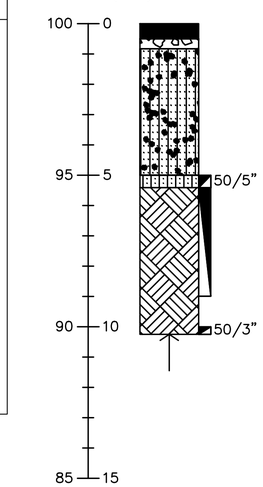


- GRAY, VERY DENSE, JOINTED AND FRACTURED BASALT.
- CORE RUN 1: JOINTED AND FRACTURED BASALT – SEE REPORT FOR MORE DETAILED DESCRIPTION.
- CORE RUN 2: JOINTED AND FRACTURED BASALT – SEE REPORT FOR MORE DETAILED DESCRIPTION.
- CORE RUN 3: JOINTED AND FRACTURED BASALT – SEE REPORT FOR MORE DETAILED DESCRIPTION.
- CORE RUN 4: JOINTED AND FRACTURED BASALT – SEE REPORT FOR MORE DETAILED DESCRIPTION.

BORING TERMINATED AT 56' 8" BELOW THE GROUND SURFACE.

B5

DATE OF BORING: 3/8/19



- ASPHALT PAVEMENT – APPROX. 6"
- CRUSHED SURFACING – APPROX. 4"
- BROWN TRANSITIONING TO REDDISH BROWN, DENSE, POORLY GRADED SILTY GRAVEL WITH SAND, MOIST TO WET.
- LARGE BASALT BOULDER(S).

DRILLING TERMINATED AT 10.25 FEET DUE TO PRACTICAL REFUSAL WITH SONIC DRILL RIG.

LEGEND:

SOIL SAMPLERS

- ROCK CORE
- BULK/GRAB SAMPLE
- STANDARD PENETRATION TEST

MISC. SYMBOLS

- BORING TERMINATED
- BORING CONTINUES

BORING LOGS ARE PROVIDED FOR INFORMATION ONLY AND ARE TAKEN FORM REPORT TITLED PRELIMINARY GEOTECHNICAL REPORT TOKUL CREEK BRIDGE #271B REPLACEMENT TOKUL ROAD SE (NEAR SE 53RD WAY) KING COUNTY, WASHINGTON DATED 10/7/2019.

811 Know what's below. Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	D. FOSTER	12/2020
DESIGNED:	A. CHARNESKI	12/2020
CHECKED:	E. FERLUGA	12/2020
SUPERVISOR:	S. SOISETH	12/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

PRELIMINARY

FED. AID No. N/A

PROJECT No. 1135999

SURVEY No. TBD

MAINTENANCE DIVISION No. 2

JOANN H. KOSA, STATE OF WASHINGTON, 34413, REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES

JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B BRIDGE REPLACEMENT PROJECT

BORING LOGS 1 OF 2

King County

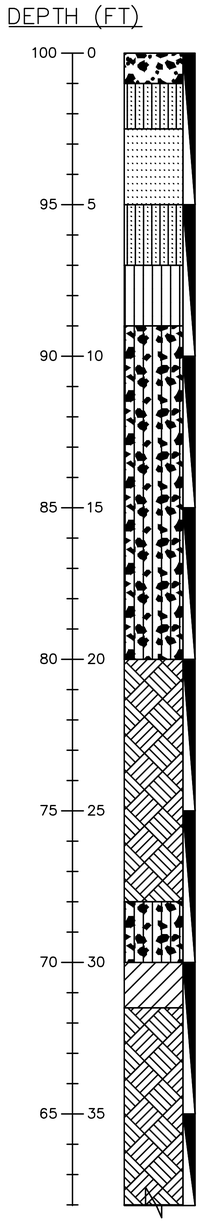
SHEET 22 OF 33 SHEETS

320-90 (EB04)

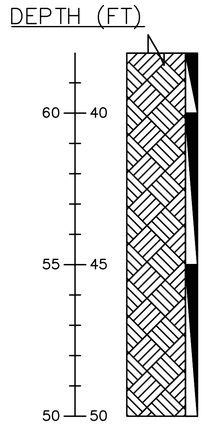
Drfo 12/02/20 3:28pm – P:\K\KCOX0000063\0400CAD\EB\SHEETS\EB-PR-003-KCOX0063.dwg

B6

DATE OF BORING: 10/15/20



- CRUSHED SURFACING BASE COURSE (RECENTLY PLACED FILL FOR DRILL PAD).
- DARK BROWN, LOOSE, SILTY FINE SAND WITH GRAVEL, NON-PLASTIC, MOIST (FILL).
- LIGHT BROWN, WELL GRADED SAND WITH SILT AND GRAVEL, MOIST (FILL).
- REDDISH BROWN, SILTY SAND WITH GRAVEL, NON-PLASTIC, MOIST (FILL).
- GRAY SILT WITH FINE SAND, OXIDIZED ROOT ZONES,LOW PLASTICITY, MOIST.
- REDDISH BROWN, SILTY GRAVEL WITH SAND, COBBLES AND BOULDERS, NON- PLASTIC, MOIST.
- GRAY, VERY DENSE, WEATHERED BASALT.
- BROWN, DENSE, SILTY GRAVEL WITH SAND AND COBBLES, NON-PLASTIC, MOIST.
- GRAY, MEDIUM PLASTICITY CLAY WITH SOME GRAVEL, MOIST, WET.
- GRAY, VERY DENSE, WEATHERED BASALT.



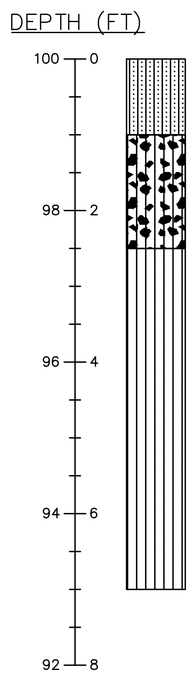
B6 (CONTINUED)

DATE OF BORING: 10/15/20

- GRAY, VERY DENSE, WEATHERED BASALT.

TP-1

DATE OF BORING: 10/9/20

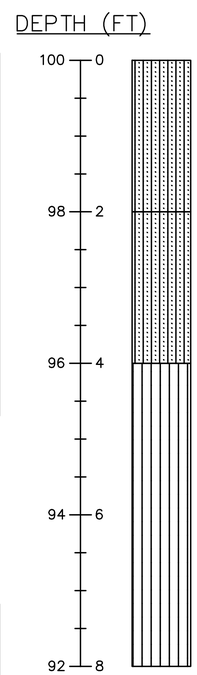


- FOREST DUFF, ROOTS AND BROWN, LOOSE, SILTY SAND WITH GRAVEL, NON-PLASTIC, MOIST (FILL).
- LIGHT BROWN, LOOSE, SILTY GRAVEL WITH SAND, COBBLES AND OCCASIONAL SMALL BOULDERS, NON-PLASTIC, MOIST (FILL?).
- REDDISH BROWN, MEDIUM DENSE, SILT WITH SAND, GRAVEL, COBBLES AND 1' – 3' BOULDERS, NON-PLASTIC TO LOW PLASTICITY, MOIST.

TEST PIT TERMINATED AT 7'.

TP-2

DATE OF BORING: 10/9/20

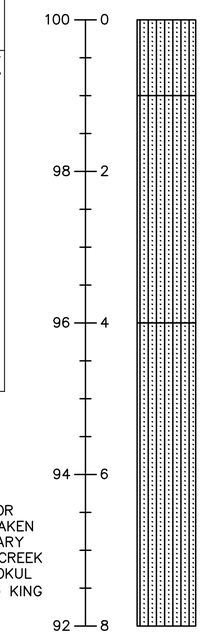


- FOREST DUFF, ROOTS AND BROWN, LOOSE, SILTY SAND WITH GRAVEL, NON-PLASTIC, MOIST (FILL?).
- BROWN, LOOSE, SILTY SAND WITH GRAVEL, COBBLES AND FEW BOULDERS, NON-PLASTIC, MOIST.
- YELLOWISH BROWN, MEDIUM DENSE, SANDY SILT WITH GRAVEL, COBBLES AND 1' – 3' BOULDERS, NON-PLASTIC TO LOW PLASTICITY, MOIST.

TEST PIT TERMINATED AT 8'.

TP-3

DATE OF BORING: 10/9/20

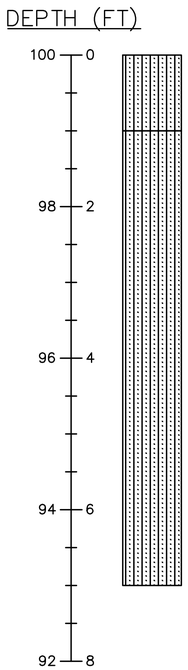


- FOREST DUFF, ROOTS AND BROWN, LOOSE SILTY SAND WITH GRAVEL AND COBBLES, NON-PLASTIC, MOIST
- REDDISH BROWN, LOOSE, SILTY SAND WITH GRAVEL, SOME COBBLES AND FEW 1' – 2' BOULDERS, NON-PLASTIC, MOIST (FILL?).
- REDDISH BROWN, MEDIUM DENSE, SILTY SAND WITH GRAVEL, SOME COBBLES AND 1' – 3' BOULDERS, NON-PLASTIC, MOIST.

TEST PIT TERMINATED AT 8'.

TP-4

DATE OF BORING: 10/9/20



- FOREST DUFF, ROOTS AND BROWN, LOOSE SILTY SAND WITH GRAVEL AND COBBLES, NON-PLASTIC, MOIST (FILL?)
- BROWN BECOMING REDDISH BROWN, LOOSE, SILTY SAND WITH GRAVEL, SOME COBBLES AND 1' – 3' BOULDERS, NON-PLASTIC, MOIST (FILL TO 4'?).

TEST PIT TERMINATED AT 7'.

NOTES:

1. THE BORINGS WERE DRILLED BETWEEN JANUARY 23, AND JANUARY 24, 2003 WITH A TRUCK-MOUNTED MOBILE B61 DRILL. A DOWN THE HOLE PERCUSSION DRILL EQUIPPED WITH AN ODEX SYSTEM BIT WAS USED TO ADVANCE BORING.
2. GROUNDWATER WAS ENCOUNTERED IN BORING 3 DURING DRILLING.
3. BORING LOCATIONS WERE TAPED FROM THE EXISTING BRIDGE ABUTMENTS. THE ELEVATION OF THE TOPS OF THE BORINGS WAS REFERENCED FROM THE BRIDGE DECK, WHICH WAS ASSUMED TO BE 100 FEET FOR DRAFTING PURPOSES.
4. RESULTS OF TESTS CONDUCTED ON SAMPLES RECOVERED ARE REPORTED ON THE LOGS.
5. THESE LOGS ARE SUBJECT TO THE LIMITATIONS, CONCLUSIONS, AND RECOMMENDATIONS CONTAINED IN THIS REPORT.
6. BORING B-4 WAS ADVANCED TO A DEPTH OF 44.5' USING A GEOPROBE 8140 LC DRILL RIG. THE REMAINDER OF THE BORING WAS CORED TO A DEPTH OF 56.8 FEET USING A DIEDRICH DRILL RIG WITH NX TOOLING.
7. BORING B-5 WAS ADVANCED TO A DEPTH OF 10.25' USING A GEOPROBE 8140 LC DRILL RIG.
8. BORING B-6 WAS ADVANCED TO A DEPTH OF 50' USING A TERRASONIC DRILL RIG.
9. TEST PITS TP-1, TP-2, TP-3 AND TP-4 WERE EXCAVATED TO DEPTHS OF 7' TO 8' USING A JOHN DEERE 856 TRACK-HOE.
10. NO GROUNDWATER WAS ENCOUNTERED IN THE BORINGS.

LEGEND:

SOIL SAMPLERS

- ROCK CORE
- BULK/GRAB SAMPLE
- STANDARD PENETRATION TEST

MISC. SYMBOLS

- BORING TERMINATED
- BORING CONTINUES

BORING LOGS ARE PROVIDED FOR INFORMATION ONLY AND ARE TAKEN FORM REPORT TITLED PRELIMINARY GEOTECHNICAL REPORT TOKUL CREEK BRIDGE #271B REPLACEMENT TOKUL ROAD SE (NEAR SE 53RD WAY) KING COUNTY, WASHINGTON DATED 10/7/2019.

811 Know what's below. Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	D. FOSTER	12/2020
DESIGNED:	A. CHARNESKI	12/2020
CHECKED:	E. FERLUGA	12/2020
SUPERVISOR:	S. SOISETH	12/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

PRELIMINARY

FED. AID No. N/A

PROJECT No. 1135999

SURVEY No. TBD

MAINTENANCE DIVISION No. 2

JOANN H. KOSA ENG. STATE OF WASHINGTON 34413 REGISTERED PROFESSIONAL ENGINEER

PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES

JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B BRIDGE REPLACEMENT PROJECT

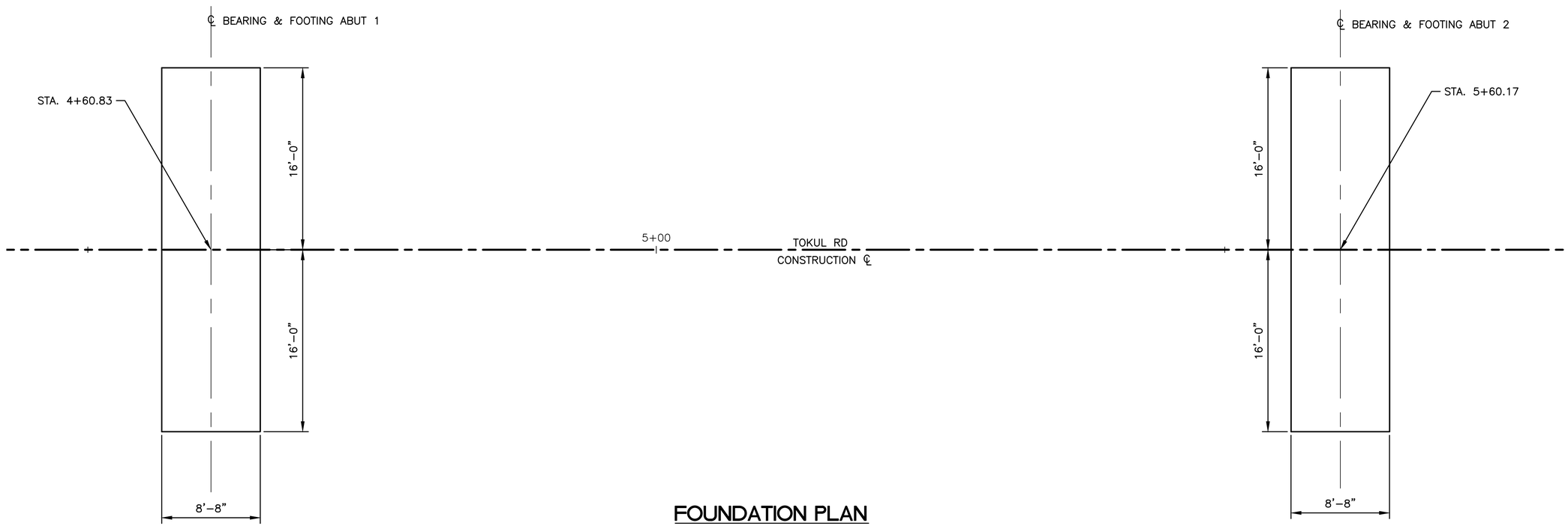
BORING LOGS 2 OF 2

King County

SHEET 23 OF 33 SHEETS

320-90 (EB05)

Drfo 12/02/20 3:28pm – P:\K\KCOX00000063\0400CAD\EB\SHEETS\EB-PR-004-KCOX0063.dwg



FOUNDATION PLAN

BEARING OF ABUTMENTS ARE NORMAL TO TOKUL RD CONSTRUCTION ℄

Know what's below.
Call before you dig.

SURVEY JOB NO: 19030	05/2019			
CHECKED: J. EVANS	08/2019			
CAD ENTERED: D. FOSTER	12/2020			
DESIGNED: A. CHARNESKI	12/2020			
CHECKED: E. FERLUGA	12/2020			
SUPERVISOR: S. SOISETH	12/2020			
		NUM. REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

JACQUES PIERRE MAYNARD — STATE OF WASHINGTON — 52801 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER — PRELIMINARY

FED. AID No. N/A

PROJECT No. 1135999

SURVEY No. TBD

MAINTENANCE DIVISION No. 2

JOANN H. KOSA — STATE OF WASHINGTON — 34413 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

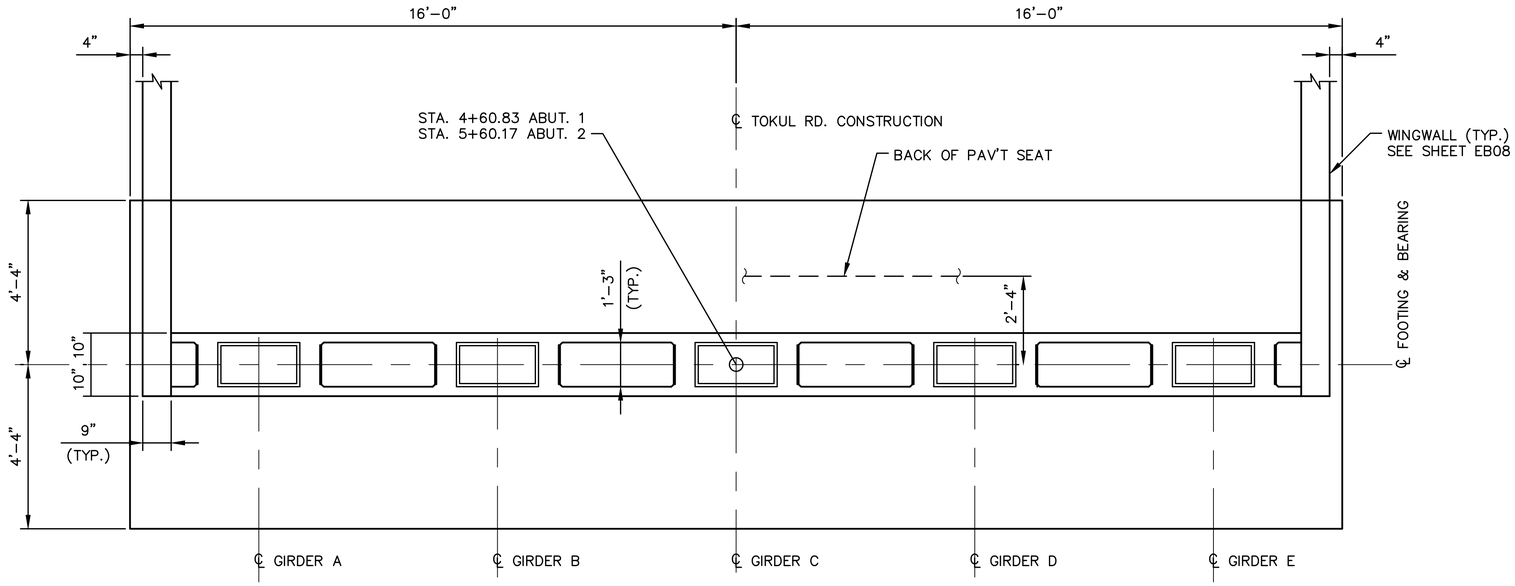
FOUNDATION LAYOUT

King County

SHEET 24 OF 33 SHEETS

320-90 (EB06)

Drfo 12/02/20 3:29pm – P:\K\KCOX00000063\0400CAD\EB\SHEETS\EB-FP-001-KCOX0063.dwg

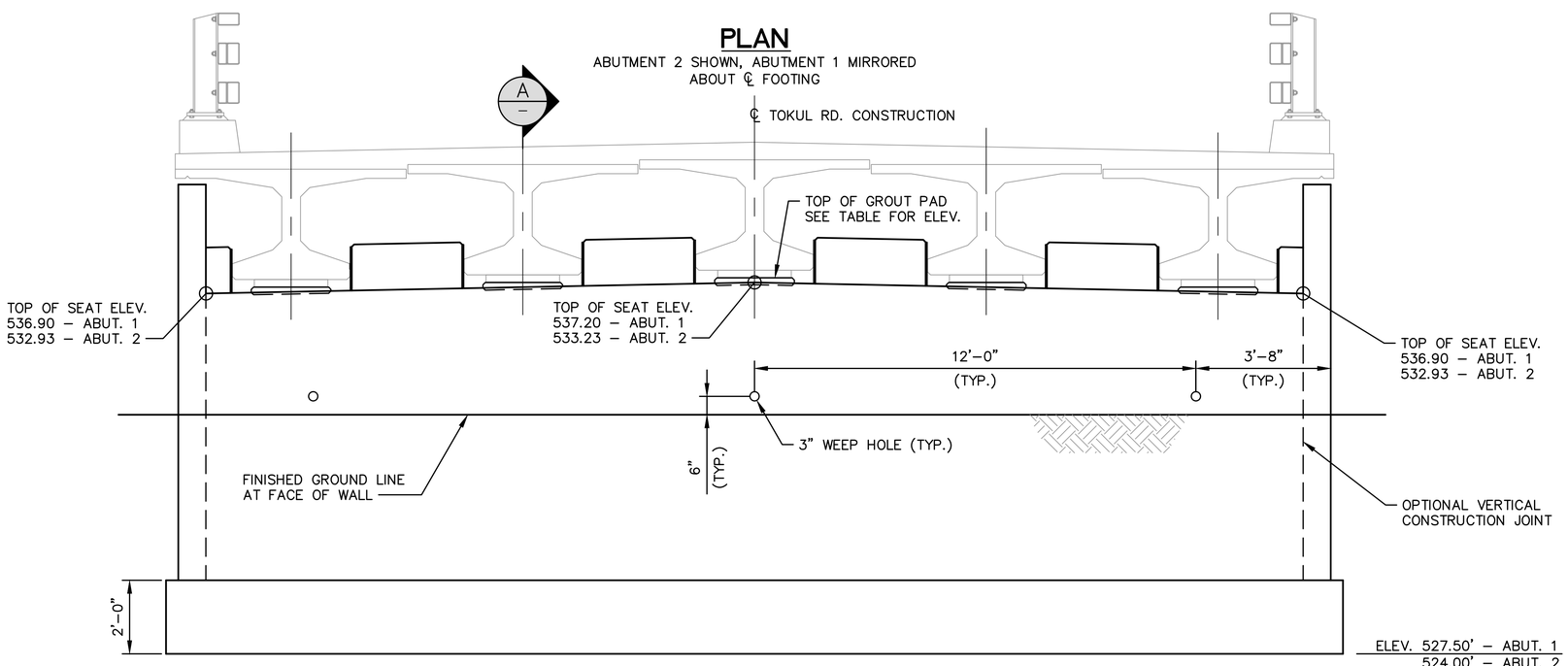


PLAN

ABUTMENT 2 SHOWN, ABUTMENT 1 MIRRORED
ABOUT ℄ FOOTING

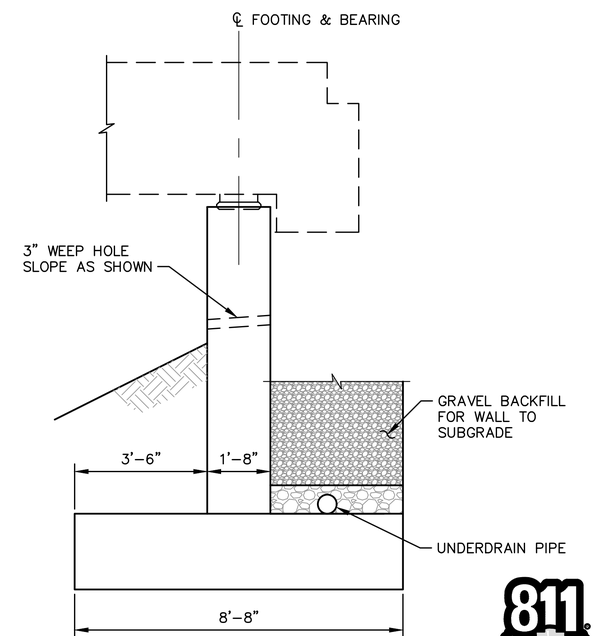
TOP OF GROUT PAD ELEVATION

GIRDER	ABUT. 1 ELEV.	ABUT. 2 ELEV.
A	537.08'	533.10'
B	537.20'	533.23'
C	537.33'	533.35'
D	537.20'	533.23'
E	537.08'	533.10'



ELEVATION

ABUTMENT 2 SHOWN, ABUTMENT 1 MIRRORED ABOUT ℄ BRIDGE
(LOOKING BACK ON STATIONING)



SECTION A

811 Know what's below. Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	D. FOSTER	12/2020
DESIGNED:	A. CHARNESKI	12/2020
CHECKED:	E. FERLUGA	12/2020
SUPERVISOR:	S. SOISETH	12/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

JACQUES PIERRE MAZARD — STATE OF WASHINGTON — 38801 — PROFESSIONAL ENGINEER — PRELIMINARY

FED. AID No. N/A
PROJECT No. 1135999
SURVEY No. TBD
MAINTENANCE DIVISION No. 2

JOANN H. KOSA — STATE OF WASHINGTON — 34413 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B BRIDGE REPLACEMENT PROJECT

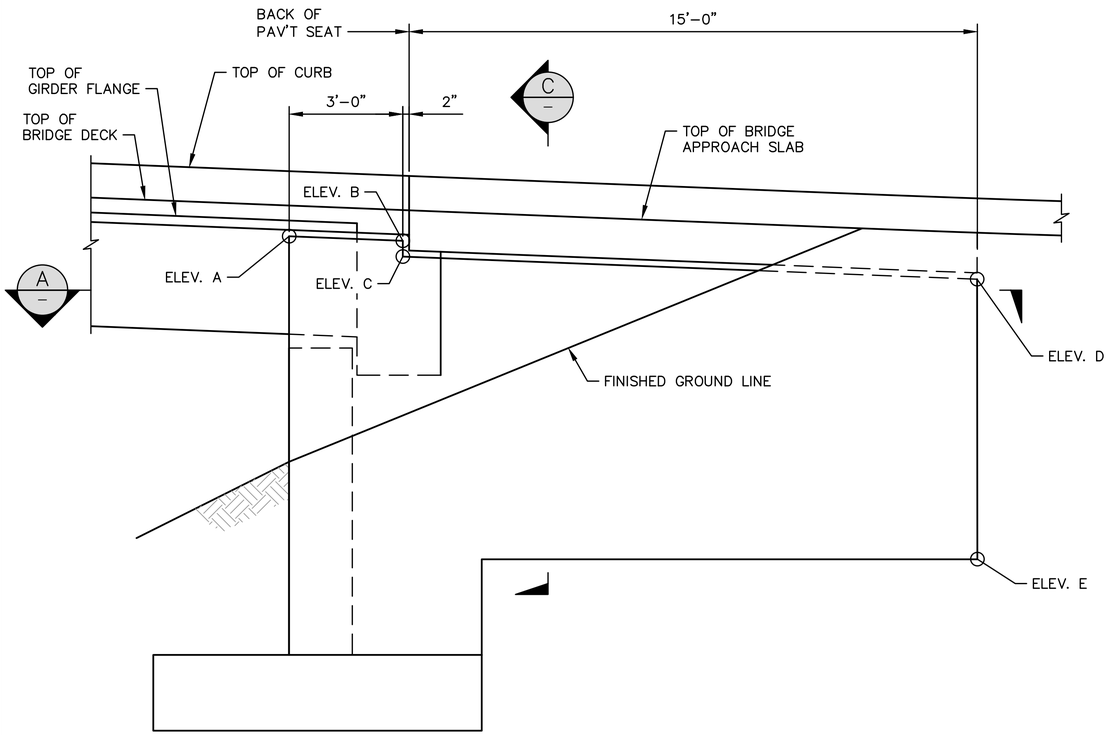
ABUTMENT DETAILS 1 OF 2

King County

SHEET 25 OF 33 SHEETS

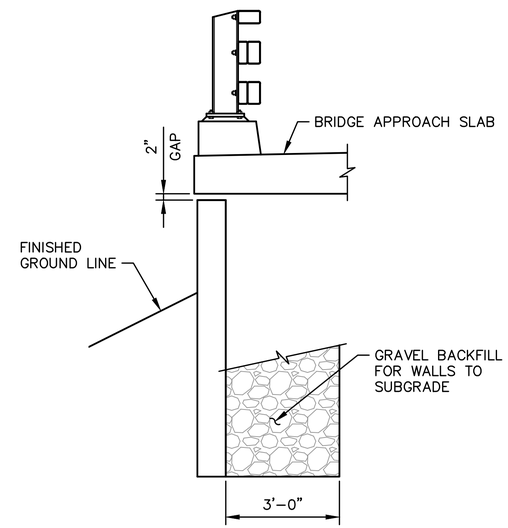
320-90 (EB07)

Drfo 12/02/20 3:29pm – P:\K\KCOX00000063\0400CAD\EB\SHEETS\EB-PR-001-KCOX0063.dwg

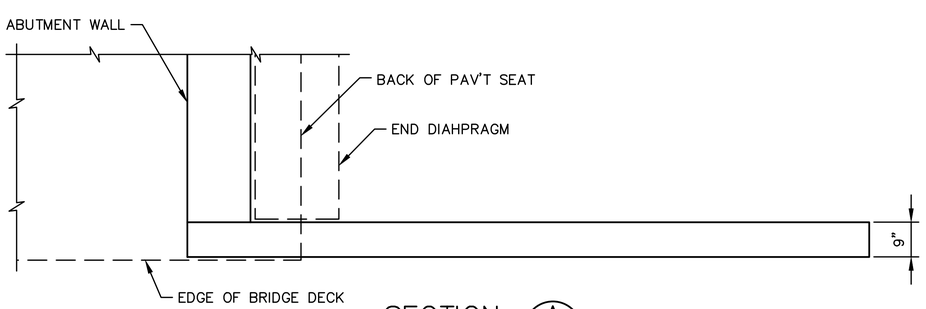


WINGWALL ELEVATION

ABUTMENT 2 RIGHT SHOWN, OTHERS SIMILAR



SECTION C



SECTION A

WING WALL ELEVATIONS

LOCATION	ELEV. A	ELEV. B	ELEV. C	ELEV. D	ELEV. E
ABUT. 1 LEFT	XXX.XX	XXX.XX	XXX.XX	XXX.XX	XXX.XX
ABUT. 1 RIGHT	XXX.XX	XXX.XX	XXX.XX	XXX.XX	XXX.XX
ABUT. 2 LEFT	XXX.XX	XXX.XX	XXX.XX	XXX.XX	XXX.XX
ABUT. 1 RIGHT	XXX.XX	XXX.XX	XXX.XX	XXX.XX	XXX.XX

WINGWALL ELEVATIONS MEASURED AT FAR FACE OF WALL

811 Know what's below. Call before you dig.

Drfo 12/02/20 3:30pm – P:\K\KCOX00000063\0400CAD\EB\SHEETS\EB-PR-002-KCOX0063.dwg

SURVEY JOB NO:	19030	05/2019			
CHECKED:	J. EVANS	08/2019			
CAD ENTERED:	D. FOSTER	12/2020			
DESIGNED:	A. CHARNESKI	12/2020			
CHECKED:	E. FERLUGA	12/2020			
SUPERVISOR:	S. SOISETH	12/2020			
			NUM. REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

JACQUES PIERRE MAZARD — STATE OF WASHINGTON — 25601 — PROFESSIONAL ENGINEER — PRELIMINARY

FED. AID No. N/A

PROJECT No. 1135999

SURVEY No. TBD

MAINTENANCE DIVISION No. 2

JOANN H. KOSA — STATE OF WASHINGTON — 34413 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES

JOHN TAYLOR, DIRECTOR

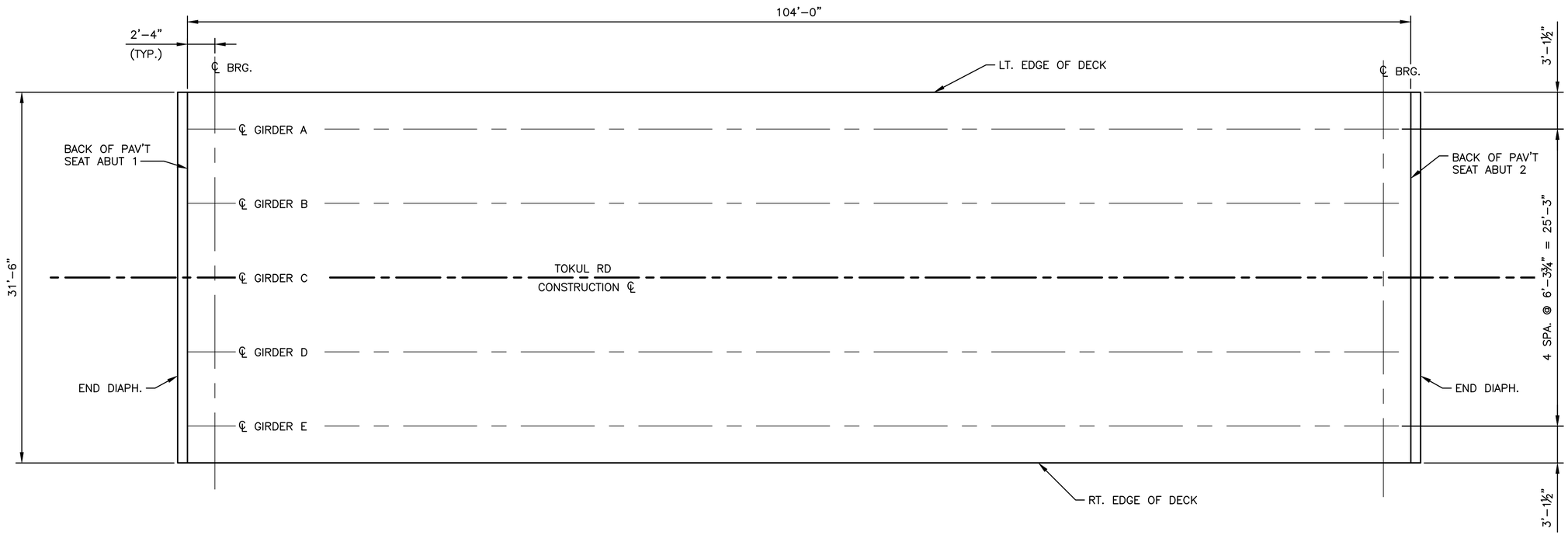
UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

ABUTMENT DETAILS 2 OF 2

King County

SHEET 26 OF 33 SHEETS

320-90 (EB08)



FRAMING PLAN

BEARINGS OF PIERS ARE NORMAL TO TOKUL RD. CONSTRUCTION ℄

Know what's below.
Call before you dig.

SURVEY JOB NO: 19030	05/2019			
CHECKED: J. EVANS	08/2019			
CAD ENTERED: D. FOSTER	12/2020			
DESIGNED: A. CHARNESKI	12/2020			
CHECKED: E. FERLUGA	12/2020			
SUPERVISOR: S. SOISETH	12/2020			
		NUM. REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

JACQUES PIERRE MAZARD — STATE OF WASHINGTON — 22801 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

FED. AID No. N/A

PROJECT No. 1135999

SURVEY No. TBD

MAINTENANCE DIVISION No. 2

JOANN H. KOSA — STATE OF WASHINGTON — 34413 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES

JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

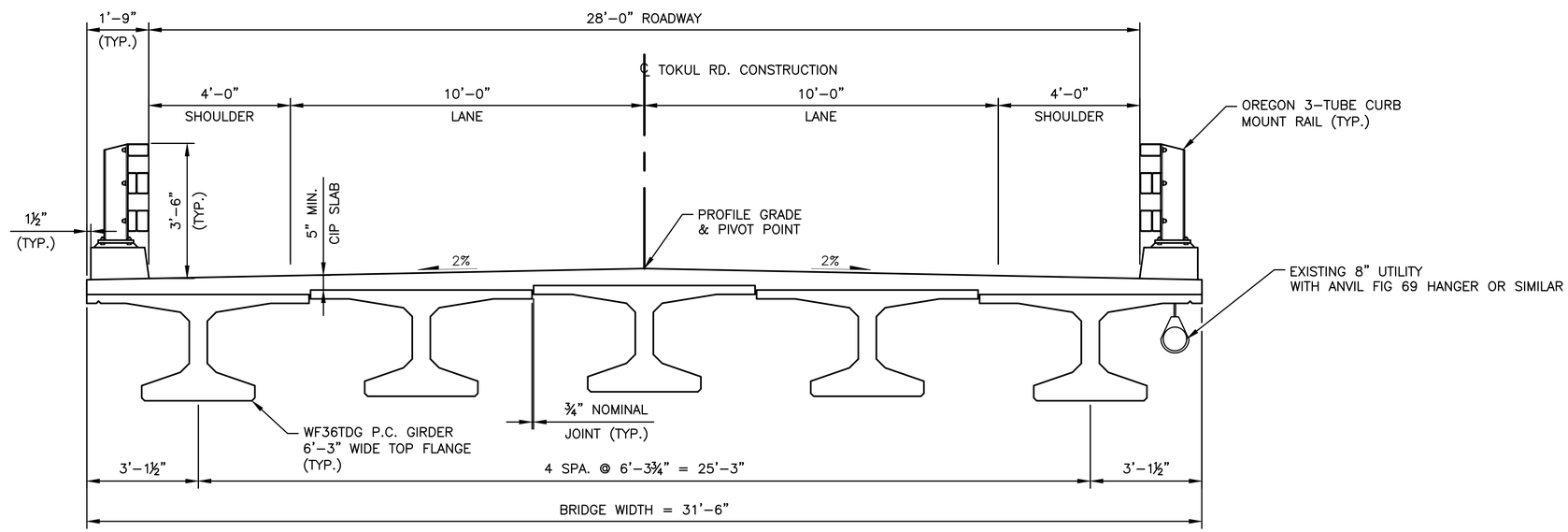
FRAMING PLAN

King County

SHEET 27 OF 33 SHEETS

320-90 (EB09)

Drfo 12/02/20 3:30pm – P:\K\KCOX00000063\0400CAD\EB\SHEETS\EB-FR-001-KCOX0063.dwg



BRIDGE TYPICAL SECTION

SHOWN NEAR MIDSPAN

Know what's below.
Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	D. FOSTER	12/2020
DESIGNED:	A. CHARNESKI	12/2020
CHECKED:	E. FERLUGA	12/2020
SUPERVISOR:	S. SOISETH	12/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

JACQUES PIERRE MAYARD — STATE OF WASHINGTON — 22807 — REGISTERED PROFESSIONAL ENGINEER

FED. AID No. N/A

PROJECT No. 1135999

SURVEY No. TBD

MAINTENANCE DIVISION No. 2

JOANN H. KOSAKA — STATE OF WASHINGTON — 34413 — REGISTERED PROFESSIONAL ENGINEER

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES

JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

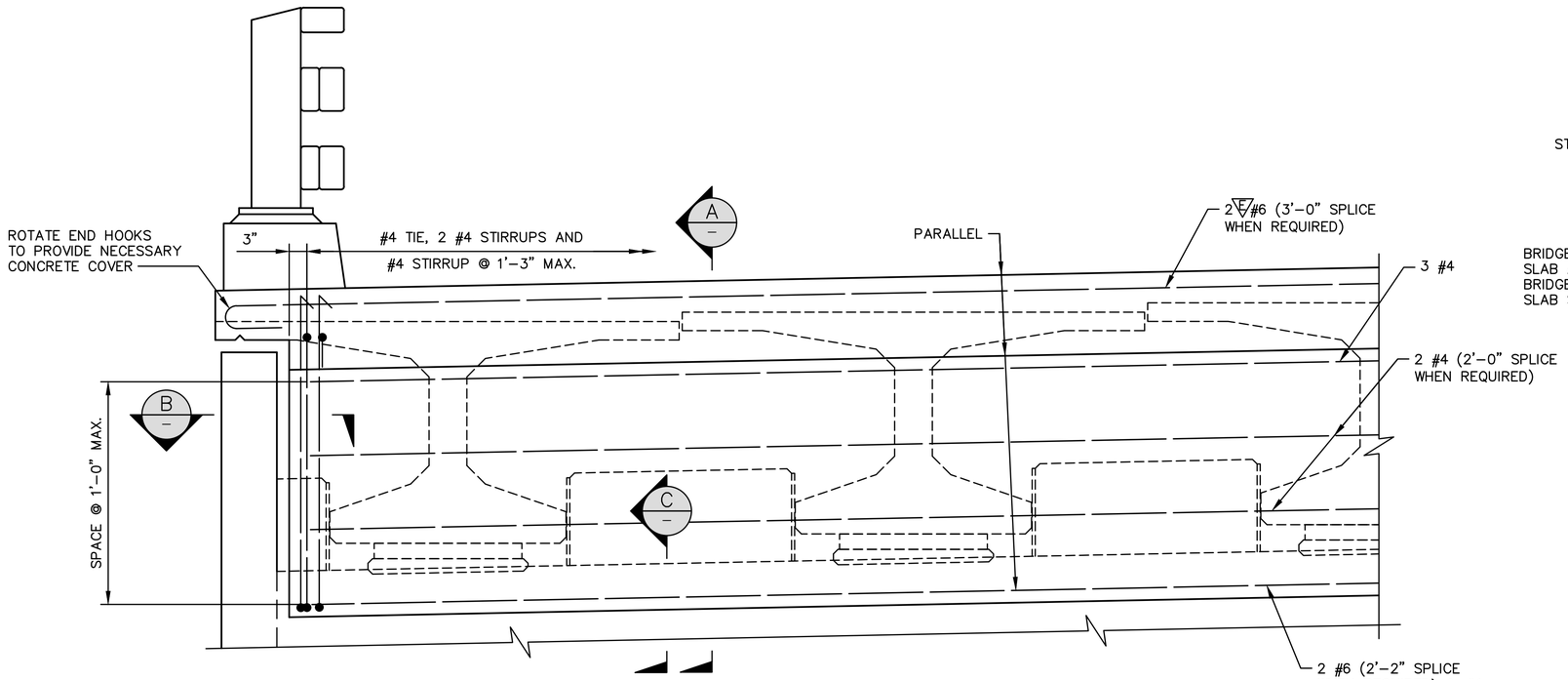
TYPICAL SECTION

King County

SHEET 28 OF 33 SHEETS

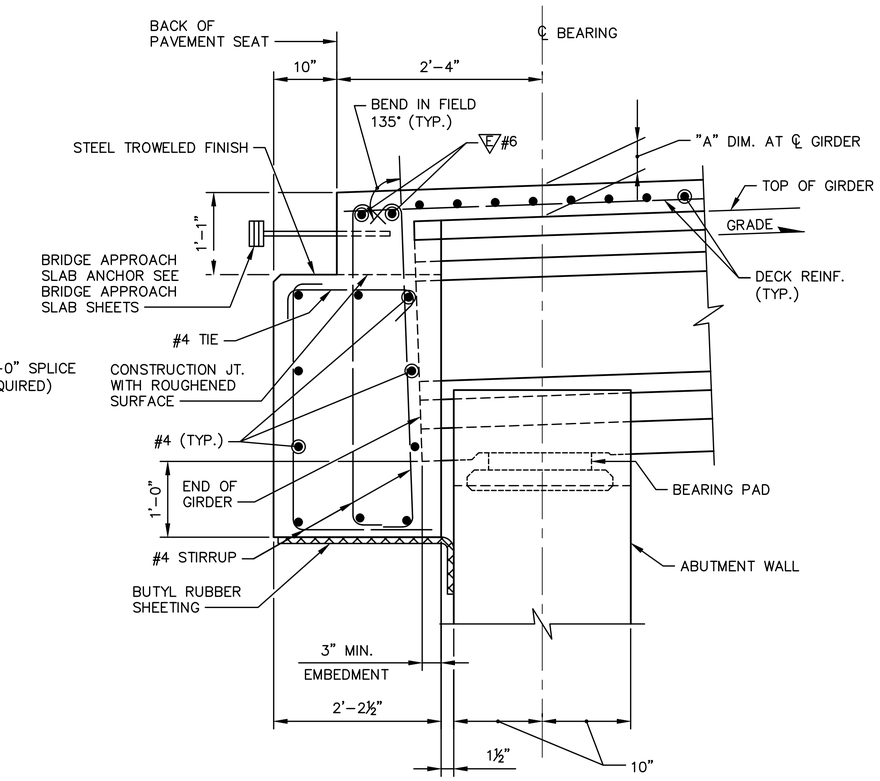
320-90 (EB10)

Drfo 12/02/20 3:31pm – P:\K\KCOX0000063\0400CAD\EB\SHEETS\EB-TS-001-KCOX0063.dwg



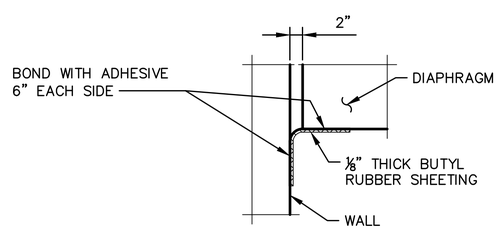
ELEVATION
END DIAPHRAGM

DIMENSIONS ARE ALONG ℄ DIAPHRAGM

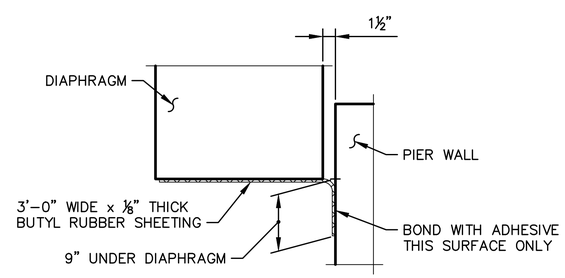


SECTION A

SEE GIRDER SHEETS FOR DIMENSION "A".
ALL LONGITUDINAL DIMENSIONS ARE NORMAL TO PIER WALL.



SECTION B



SECTION C

DIAPHRAGM NOTES:

1. GIRDERS SHALL BE HELD RIGIDLY IN PLACE WHEN DIAPHRAGMS ARE PLACED.
2. CUT/RELEASE GIRDER TEMPORARY STRANDS BEFORE CASTING DIAPHRAGM. SEE TEMPORARY STRAND CUTTING SEQUENCE.
3. EXTENDED STRANDS AND GIRDER REINFORCING NOT SHOWN FOR CLARITY.

811 Know what's below. Call before you dig.

SURVEY JOB NO: 19030	05/2019			
CHECKED: J. EVANS	08/2019			
CAD ENTERED: D. FOSTER	12/2020			
DESIGNED: A. CHARNESKI	12/2020			
CHECKED: E. FERLUGA	12/2020			
SUPERVISOR: S. SOISETH	12/2020			
		NUM. REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

JACQUES PIERRE MARDIRAGA, STATE OF WASHINGTON, 22801, PROFESSIONAL ENGINEER — PRELIMINARY

FED. AID No. N/A
PROJECT No. 1135999
SURVEY No. TBD
MAINTENANCE DIVISION No. 2

JOANN H. KOSA, STATE OF WASHINGTON, 34413, REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

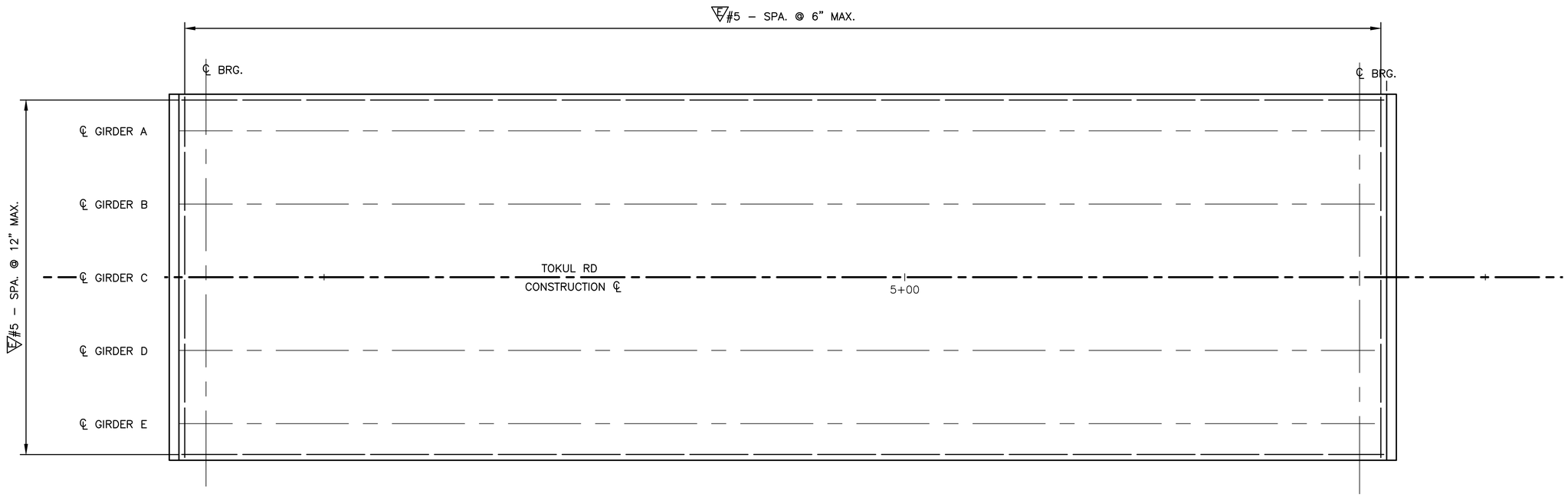
END DIAPHRAGM DETAILS

King County

SHEET 29 OF 33 SHEETS

320-90 (EB11)

Drfo 12/02/20 3:31pm – P:\K\KCOX00000063\0400CAD\EB\SHEETS\EB-DF-001-KCOX0063.dwg



BRIDGE DECK REINFORCEMENT PLAN

Know what's below.
Call before you dig.

SURVEY JOB NO: 19030	05/2019			
CHECKED: J. EVANS	08/2019			
CAD ENTERED: D. FOSTER	12/2020			
DESIGNED: A. CHARNESKI	12/2020			
CHECKED: E. FERLUGA	12/2020			
SUPERVISOR: S. SOISETH	12/2020			
		NUM. REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

JACQUES PIERRE MAZARD — STATE OF WASHINGTON — 22801 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER — PRELIMINARY

FED. AID No. N/A

PROJECT No. 1135999

SURVEY No. TBD

MAINTENANCE DIVISION No. 2

JOANN H. KOSA — STATE OF WASHINGTON — 34413 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

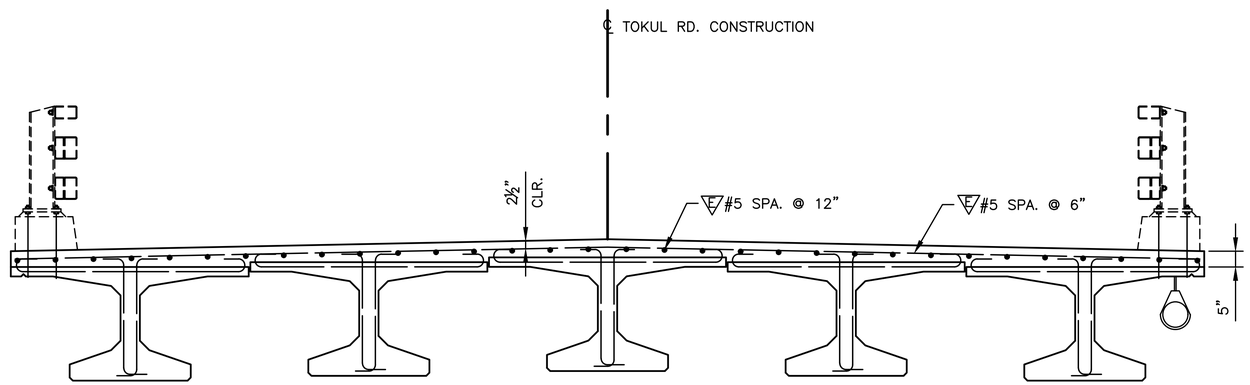
DECK REINFORCING PLAN

King County

SHEET 30 OF 33 SHEETS

320-90 (EB12)

Drfo 12/02/20 3:32pm – P:\K\KCOX00000063\0400CAD\EB\SHEETS\EB-DP-001-KCOX0063.dwg



BRIDGE DECK TYPICAL SECTION

Know what's below.
Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	D. FOSTER	12/2020
DESIGNED:	A. CHARNESKI	12/2020
CHECKED:	E. FERLUGA	12/2020
SUPERVISOR:	S. SOISETH	12/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

JACQUES PIERRE MAZARD — STATE OF WASHINGTON — 25601 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER — PRELIMINARY

FED. AID No. N/A

PROJECT No. 1135999

SURVEY No. TBD

MAINTENANCE DIVISION No. 2

JOANN H. KOSA — STATE OF WASHINGTON — 34413 — REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

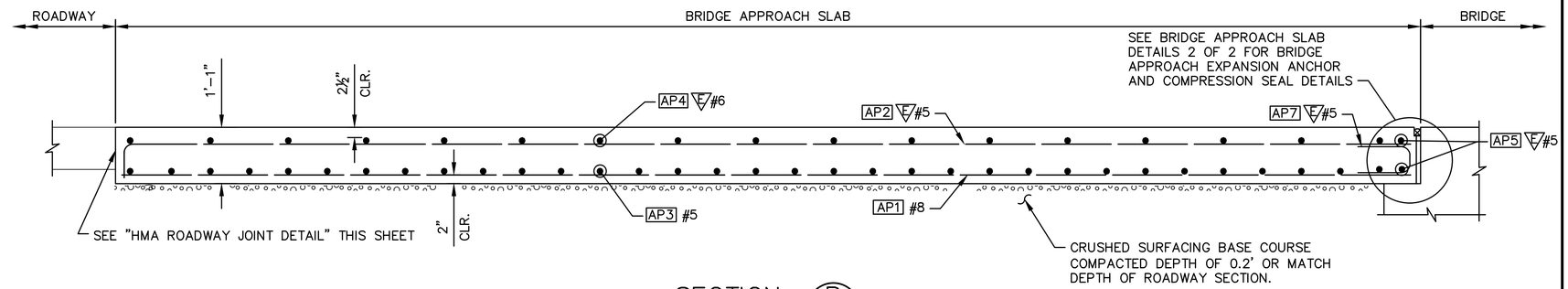
DECK REINFORCING SECTION

King County

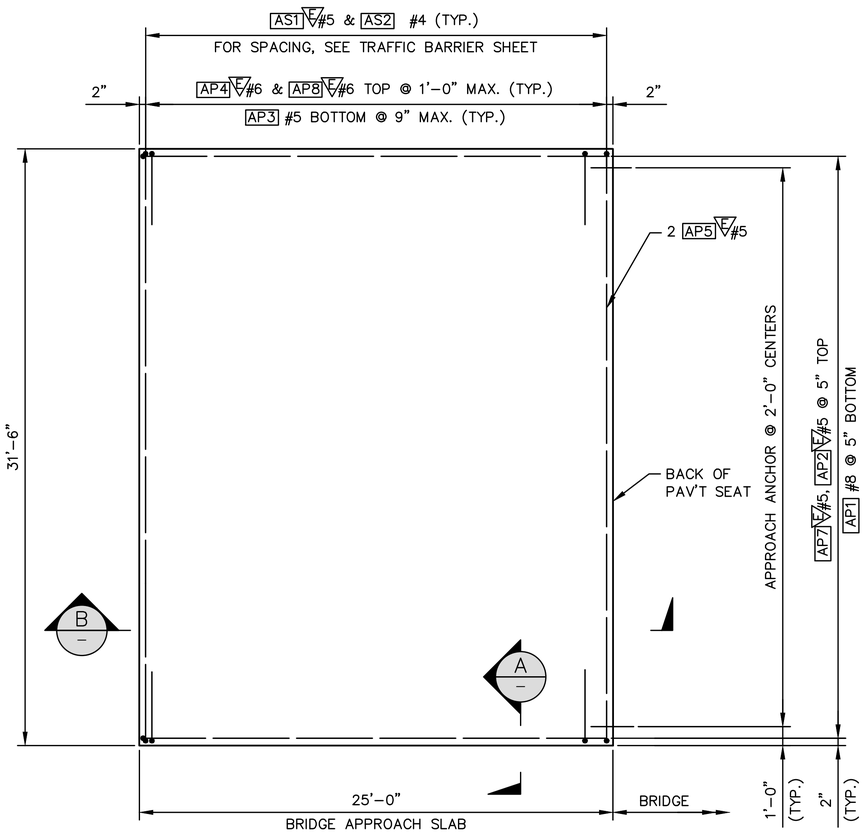
SHEET 31 OF 33 SHEETS

320-90 (EB13)

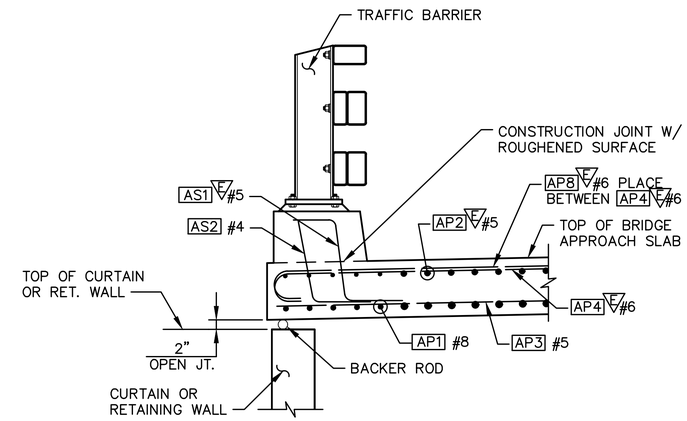
Drfo 12/02/20 3:32pm – P:\K\KCOX00000063\0400CAD\EB\SHEETS\EB-DD-001-KCOX0063.dwg



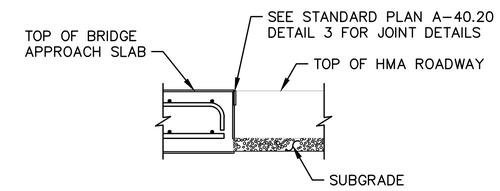
SECTION B



PLAN



SECTION A

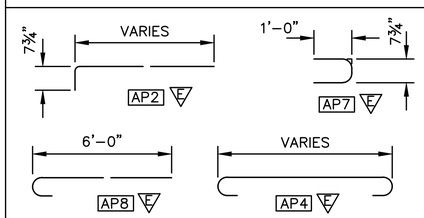


HMA ROADWAY JOINT DETAIL

GENERAL NOTES:

1. ALL EDGES OF BRIDGE APPROACH SLAB SHALL HAVE ½" RADIUS EXCEPT AT LONGITUDINAL JOINTS AND ADJACENT TO L-TYPE ABUTMENTS.
2. THE MINIMUM LAP SPLICE OF #5 IS 2'-0", E #5 IS 2'-6", E #6 IS 3'-0", AND #8 IS 3'-3". ALL LAP SPLICES SHALL BE STAGGERED SO THAT NO MORE THAN 50% OF REBAR IS SPLICED AT THE SAME LOCATION. LAP SPLICES SHALL BE LOCATED WITHIN THE MIDDLE HALF OF THE BRIDGE APPROACH SLAB. OPTIONAL SPLICES ARE ALLOWED FOR AP4 E #6.
3. FOR TRAFFIC BARRIER DETAILS, INCLUDING ANY BRIDGE APPROACH SLAB BLOCKOUT INFORMATION, SEE TRAFFIC BARRIER SHEETS.

BENDING DIAGRAM



E = EPOXY COATED REINFORCING STEEL
NOTE: ALL DIMENSIONS ARE OUT TO OUT

811 Know what's below. Call before you dig.

Drfo 12/02/20 3:33pm – P:\K\KCOX00000063\0400CAD\EB\SHEETS\EB-EP-001-KCOX0063.dwg

SURVEY JOB NO: 19030	05/2019				
CHECKED: J. EVANS	08/2019				
CAD ENTERED: D. FOSTER	12/2020				
DESIGNED: A. CHARNESKI	12/2020				
CHECKED: E. FERLUGA	12/2020				
SUPERVISOR: S. SOISETH	12/2020				
		NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

PROFESSIONAL ENGINEER — JACQUES PIERRE MAYNARD — STATE OF WASHINGTON — 22801 — PRELIMINARY

FED. AID No. N/A
PROJECT No. 1135999
SURVEY No. TBD
MAINTENANCE DIVISION No. 2

PROFESSIONAL ENGINEER — JOANN H. KOSA — STATE OF WASHINGTON — 34413 — REGISTERED — PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

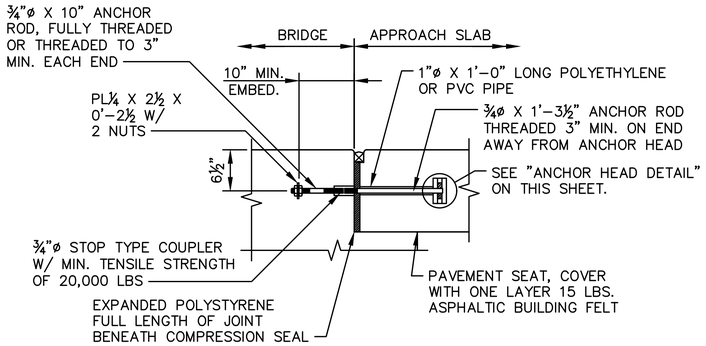
UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

BRIDGE APPROACH SLAB DETAILS 1 OF 2

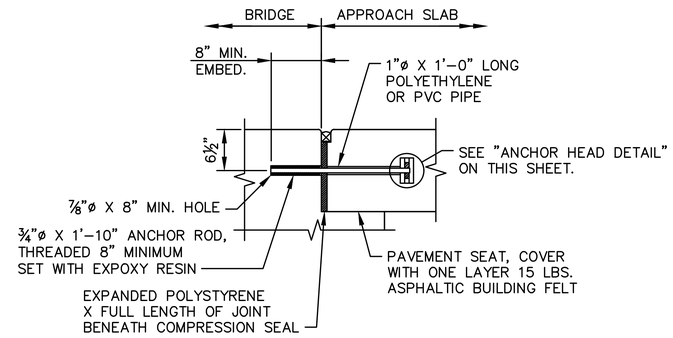
King County

SHEET 32 OF 33 SHEETS

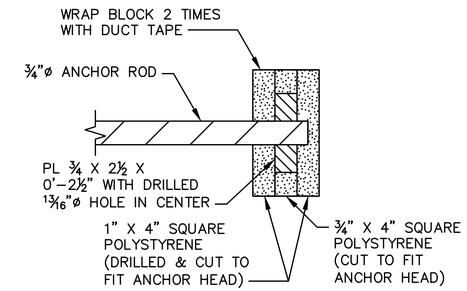
320-90 (EB14)



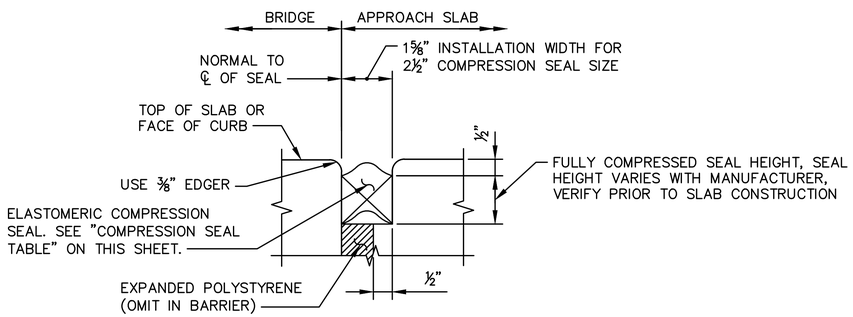
APPROACH ANCHOR - METHOD A



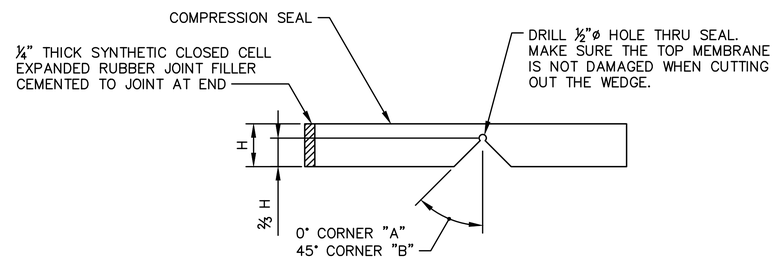
APPROACH ANCHOR - METHOD B



ANCHOR HEAD DETAIL



COMPRESSION SEAL DETAIL

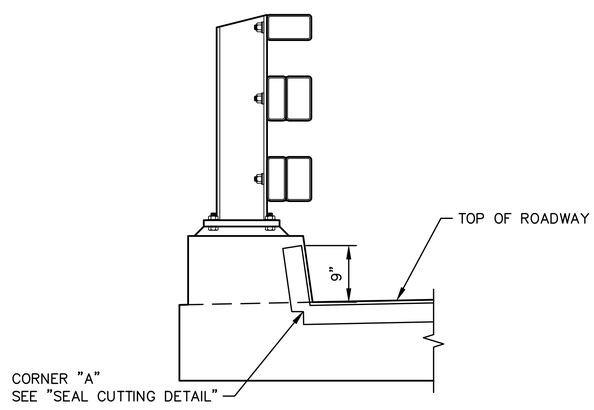


SEAL CUTTING DETAIL

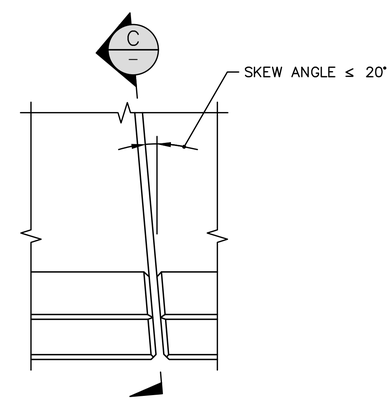
COMPRESSION SEAL TABLE

D.S. BROWN		WATSON BOWMAN ACME	
SEAL	WIDTH	SEAL	WIDTH
CV-2502	2½"	WA-250	2½"

TESTING SHALL BE PER ASTM D 2628 PRIOR TO USE.



SECTION C



PLAN
EXPANSION JOINT

Know what's below.
Call before you dig.

SURVEY JOB NO:	19030	05/2019
CHECKED:	J. EVANS	08/2019
CAD ENTERED:	D. FOSTER	12/2020
DESIGNED:	A. CHARNESKI	12/2020
CHECKED:	E. FERLUGA	12/2020
SUPERVISOR:	S. SOISETH	12/2020

NUM.	REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

PROFESSIONAL ENGINEER

FED. AID No. N/A
PROJECT No. 1135999
SURVEY No. TBD
MAINTENANCE DIVISION No. 2

PRELIMINARY

60% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

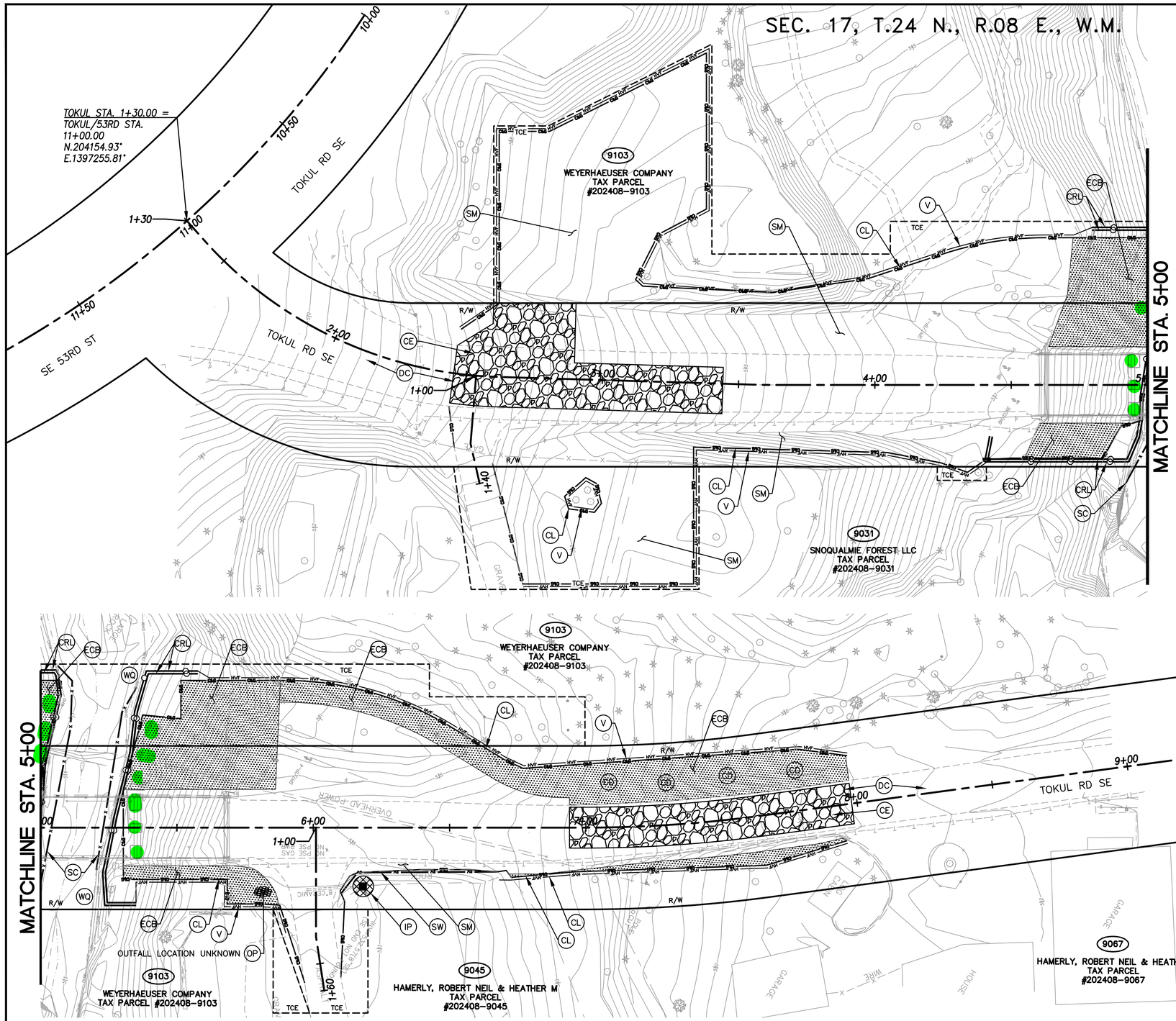
BRIDGE APPROACH SLAB DETAILS 2 OF 2

King County

SHEET 33 OF 33 SHEETS

320-90 (EB15)

Drfo 12/02/20 3:33pm – P:\K\KCOX00000063\0400CAD\EB\SHEETS\EB-EP-002-KCOX0063.dwg



EROSION CONTROL SYMBOLS

- (CD) CHECK DAM
- (CE) TEMPORARY STABILIZED CONSTRUCTION ENTRANCE
- (CL) CLEARING LIMIT
- (CRL) COIR LOG
- (DC) DUST CONTROL MEASURES
- (ECB) BIODEGRADABLE EROSION CONTROL BLANKET
- (IP) CULVERT INLET PROTECTION
- (OP) QUARRY SPALL OUTLET PROTECTION
- (SC) SILT CURTAIN
- (SM) STRAW MULCH
- (SW) STRAW WATTLE
- (V) HIGH VISIBILITY FENCE
- (WQ) WATER QUALITY SAMPLING LOCATION

EROSION CONTROL LEGEND

- HIGH VISIBILITY FENCE
- STRAW WATTLE
- COIR LOG
- SILT CURTAIN
- CUT (PERMANENT)
- FILL (PERMANENT)
- TCE LINE
- ORDINARY HIGH WATER
- STABILIZED CONSTRUCTION ENTRANCE
- BIODEGRADABLE EROSION CONTROL BLANKET

GENERAL NOTES

1. SEE SHEETS 12–13 FOR EROSION CONTROL DETAILS AND NOTES.
2. SEE SHEET 9 FOR SITE PREPARATION PLAN. CONTRACTOR SHALL PROTECT ALL TREES NEAR WORK ACTIVITIES THAT ARE TO REMAIN. SEE SITE PREPARATION PLAN FOR TREE REMOVALS.
3. SEE SHEETS 6–8 FOR DIVERSION ROADWAY PLAN.
4. SEE SHEETS 14–17 FOR RESTORATION PLANS.
5. CONTRACTOR SHALL KEEP ALL CONSTRUCTION ACTIVITIES OUTSIDE OF THE TOKUL CREEK AND THE ORDINARY HIGH WATER LIMITS UNLESS STATED ON PLANS.
6. SEE SHEETS 6–7 FOR TCE LIMITS ON DIVERSION ROADWAY PLAN.

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91

DATUM

N.G.V.D. 88

20 10 0 20 40
SCALE IN FEET

811
Know what's below.
Call before you dig.

SURVEY JOB NO: 19030	05/2019			
CHECKED: J. EVANS	08/2019			
CAD ENTERED: D. FOSTER	12/2020			
DESIGNED: R. KOESTER	12/2020			
CHECKED: S. SOISETH	12/2020			
SUPERVISOR: S. SOISETH	12/2020			
		NUM. REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

RENEE A. KOESTER, STATE OF WASHINGTON, REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

FED. AID No. N/A

PROJECT No. 1135999

SURVEY No. TBD

MAINTENANCE DIVISION No. 2

PRELIMINARY

90% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B BRIDGE REPLACEMENT PROJECT

EROSION CONTROL PLAN

King County

SHEET 11 OF 33 SHEETS

320-90 (EC01)

SEC. 17, T.24 N., R.08 E., W.M.

EROSION CONTROL NOTES

1. CONSTRUCTION SEQUENCE TO BE APPROVED:
   A. CONDUCT PRE-CONSTRUCTION MEETING.
   B. FLAG OR FENCE CLEARING LIMITS.
   C. POST SIGN WITH NAME AND PHONE NUMBER OF TESC SUPERVISOR.
   D. INSTALL CATCH BASIN PROTECTION IF REQUIRED.
   E. INSTALL PERIMETER PROTECTION, SILT FENCE, BRUSH BARRIER, ETC.
   F. MAINTAIN TESC MEASURES IN ACCORDANCE WITH KING COUNTY 2016 SURFACE WATER DESIGN MANUAL AND MANUFACTURER'S RECOMMENDATIONS.
   G. RELOCATE TESC MEASURES OR INSTALL NEW MEASURES SO THAT AS SITE CONDITIONS CHANGE, THE TESC IS ALWAYS IN ACCORDANCE WITH WSDOT TESC MINIMUM REQUIREMENTS.
   H. STABILIZE ALL AREAS THAT REACH FINAL GRADE WITHIN 7 DAYS.
   I. SEED OR SOD ANY AREAS TO REMAIN UNWORKED FOR MORE THAN 30 DAYS.
   J. UPON COMPLETION OF THE PROJECT, ALL DISTURBED AREAS MUST BE STABILIZED AND BEST MANAGEMENT PRACTICES REMOVED IF APPROPRIATE.

2. THE LOCATION AND USE OF TESC BMP'S IS FOR REFERENCE ONLY. THE IMPLEMENTATION OF THIS TESC PLAN AND THE CONSTRUCTION, MAINTENANCE, REPLACEMENT, AND UPGRADING OF THESE TESC FACILITIES IS THE RESPONSIBILITY OF THE PERMITTEE/CONTRACTOR UNTIL ALL CONSTRUCTION IS APPROVED.

3. THE TESC FACILITIES SHOWN ON THIS PLAN MUST BE CONSTRUCTED PRIOR TO OR IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES IN SUCH A MANNER AS TO ENSURE THAT SEDIMENT-LADEN WATER DOES NOT ENTER TOKUL CREEK OR VIOLATE APPLICABLE WATER STANDARDS. WHEREVER POSSIBLE, MAINTAIN NATURAL VEGETATION FOR EROSION CONTROL.

4. THE TESC FACILITIES SHOWN ON THIS PLAN ARE THE MINIMUM REQUIREMENTS FOR ANTICIPATED SITE CONDITIONS. DURING THE CONSTRUCTION PERIOD, THESE TESC FACILITIES SHALL BE UPGRADED, FOR EXAMPLE, ADDITIONAL SUMPS, RELOCATION OF DITCHES AND SILT FENCES, ETC, AS NEEDED FOR UNEXPECTED STORM EVENTS. ADDITIONALLY, MORE TESC FACILITIES MAY BE REQUIRED TO ENSURE COMPLETE SEDIMENT CONTROL. THEREFORE, DURING THE COURSE OF CONSTRUCTION IT SHALL BE THE OBLIGATION AND RESPONSIBILITIES OF THE CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY HIS ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES OVER AND ABOVE THE MINIMUM REQUIREMENTS AS MAY BE NEEDED.

5. THE TESC FACILITIES TO BE INSPECTED BY THE CONTRACTOR IN ACCORDANCE WITH THE CONSTRUCTION STORMWATER GENERAL PERMIT AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING. IN ADDITION, ALL TEMPORARY EROSION CONTROLS TO BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED AND PERMANENT DRAINAGE FACILITIES ARE OPERATIONAL.

6. THE TESC FACILITIES ON INACTIVE SITES TO BE INSPECTED AND MAINTAINED A MINIMUM OF ONCE A MONTH OR WITHIN 48 HOURS FOLLOWING A STORM EVENT.

7. ALL DENUDED SOILS MUST BE STABILIZED WITH AN APPROVED TESC METHOD, FOR EXAMPLE, SEEDING, MULCHING, PLASTIC COVERING, CRUSHED ROCK, WITH THE FOLLOW TIMELINES:
   - MAY 1 TO SEPTEMBER 30 – SOILS MUST BE STABILIZED WITHIN 7 DAYS OF GRADING.
   - OCTOBER 1 TO APRIL 30 – SOILS MUST BE STABILIZED WITHIN 2 DAYS OF GRADING.
   - STABILIZE SOILS AT THE END OF THE WORKDAY PRIOR TO A WEEKEND, HOLIDAY, OR PREDICTED RAIN EVENT.

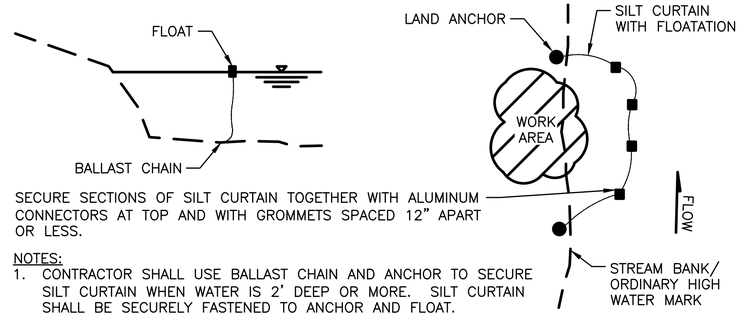
8. A COPY OF THE TESC PLANS MUST BE ON THE JOB SITE WHENEVER CONSTRUCTION IS IN PROGRESS.

9. IF ANY PART(S) OF THE CLEARING LIMIT BOUNDARY OR TEMPORARY EROSION/SEDIMENTATION CONTROL PLAN IS/ARE DAMAGED, IT IS TO BE REPAIRED IMMEDIATELY.

10. ALL PROPERTIES ADJACENT TO THE PROJECT SITE TO BE PROTECTED FROM SEDIMENT DEPOSITION AND RUNOFF.

11. PRIOR TO OCTOBER 1 OF EACH YEAR, AT THE BEGINNING OF THE WET SEASON, ALL DISTURBED AREAS SHALL BE REVIEWED TO IDENTIFY WHICH ONES CAN BE SEEDED IN PREPARATION FOR THE WINTER RAINS. THE IDENTIFIED DISTURBED AREA TO BE SEEDED WITHIN ONE WEEK AFTER OCTOBER 1. A SITE PLAN DEPICTING THE AREAS TO BE SEEDED AND THE AREAS TO REMAIN UNCOVERED SHALL BE SUBMITTED TO THE ENGINEER. THE ENGINEER CAN REQUIRE SEEDING OF ADDITIONAL AREAS IN ORDER TO PROTECT SURFACE WATERS, ADJACENT PROPERTIES, OR DRAINAGE FACILITIES.

12. DURING THE WET SEASON, OCTOBER 1 – APRIL 30, CONTRACTOR SHALL:
   - PROTECT STOCK PILES AND STEEP CUT AND FILL SLOPES IF UNWORKED FOR MORE THAN 12 HOURS.
   - STOCKPILE COVER MATERIAL SUFFICIENT TO COVER ALL DISTURBED AREAS ON SITE.
   - STOCKPILE FIFTY LINEAR FEET OF SILT FENCE PER ACRE OF DISTURBANCE ON SITE.
   - INCREASE THE FREQUENCY OF MAINTENANCE REVIEW FROM MONTHLY TO WEEKLY.

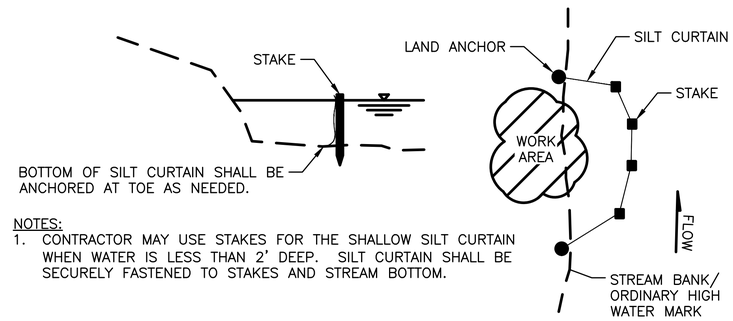


SECURE SECTIONS OF SILT CURTAIN TOGETHER WITH ALUMINUM CONNECTORS AT TOP AND WITH GROMMETS SPACED 12" APART OR LESS.

NOTES:
1. CONTRACTOR SHALL USE BALLAST CHAIN AND ANCHOR TO SECURE SILT CURTAIN WHEN WATER IS 2' DEEP OR MORE. SILT CURTAIN SHALL BE SECURELY FASTENED TO ANCHOR AND FLOAT.

2. INSTALL BALLAST CHAIN AND FLOATATION PER MANUFACTURER'S RECOMMENDATION.

DEEP CURTAIN OPTION



NOTES:
1. CONTRACTOR MAY USE STAKES FOR THE SHALLOW SILT CURTAIN WHEN WATER IS LESS THAN 2' DEEP. SILT CURTAIN SHALL BE SECURELY FASTENED TO STAKES AND STREAM BOTTOM.

SHALLOW CURTAIN OPTION

NOTES:
1. SILT CURTAIN SHALL BE 45 MIL THICK OR MORE WITH A MIN. WEIGHT OF 18 OZ PER SY AND MIN. TENSILE STRENGTH OF 300 LBS. CURTAIN HEIGHT SHALL BE 20% GREATER THAN THE DEPTH OF WATER TO ACCOUNT FOR WATER LEVEL FLUCTUATIONS. ALL SEAMS SHALL BE THERMALLY WELDED OR SEWN. CONTRACTOR SHALL INSTALL CURTAIN ORIENTED PARALLEL TO THE DIRECTION OF FLOW.

2. FLOTATION DEVICES SHALL BE FLEXIBLE AND BUOYANT UNITS CONTAINED IN AN INDIVIDUAL FLOTATION SLEEVE OR COLLAR ATTACHED TO THE CURTAIN. BUOYANCY PROVIDED BY THE FLOTATION UNITS MUST BE SUFFICIENT TO SUPPORT THE WEIGHT OF THE CURTAIN AND MAINTAIN A FREEBOARD OF AT LEAST 3 INCHES ABOVE THE WATER SURFACE LEVEL.

3. LOAD LINES SHALL CONNECT TO THE BOTTOM AD TOP OF SILT CURTAIN. THE BOTTOM LOAD LINE SHALL CONSIST OF A CHAIN INCORPORATED INTO THE BOTTOM HEM OF THE BARRIER WITH ENOUGH WEIGHT TO SERVE AS BALLAST TO HOLD THE CURTAIN IN A VERTICAL POSITION. SUPPLEMENTAL ANCHORS SHALL BE INSTALLED AS NEEDED BASED ON WATER LEVELS AND FLOWS.

4. CONTRACTOR SHALL SECURELY ANCHOR SILT CURTAIN IN PLACE AND INSTALL AS CLOSE TO WORK ZONE AS POSSIBLE TO REMOVE OLD BRIDGE FOOTINGS.
   4.1. LAND ANCHORS SHALL BE MARINE GRADE UNIVERSAL CONNECTOR, SOME POLY ROPE AND A 15" OR 30" GROUND AUGER ANCHOR.
   4.2. WATER ANCHORS SHALL CONSIST OF AN ANCHOR, A LEADER CHAIN, SOME NYLON ROPE, A HEAVY DUTY MARKER BUOY AND 6 FEET OF PAINTED LINE. THE ANCHOR SHALL DIN INTO THE BOTTOM OF WATER BODY. THE NYLON ROPE SHALL ACT AS AN ANCHOR LINE BETWEEN THE ANCHOR AND BUOY.

5. CONTRACTOR SHALL INSPECT SILT CURTAIN DAILY AND REPAIR OR REPLACE IMMEDIATELY AS NEEDED. PRIOR TO REMOVAL OF SILT CURTAIN, CONTRACTOR SHALL REMOVE AND DISPOSE OF ANY DEBRIS TRAPPED BEHIND CURTAIN. ALL CONSTRUCTION MATERIALS SHALL BE REMOVED SO THEY CANNOT ENTER THE WATER BODY.

SILT CURTAIN (1)

GENERAL NOTES

1. SEE SHEET 11 FOR EROSION CONTROL PLAN.
2. SEE SHEET 13 FOR ADDITIONAL EROSION CONTROL DETAILS.

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91
DATUM
N.G.V.D. 88

Know what's below.
Call before you dig.

SURVEY JOB NO: 19030	05/2019			
CHECKED: J. EVANS	08/2019			
CAD ENTERED: D. FOSTER	12/2020			
DESIGNED: R. KOESTER	12/2020			
CHECKED: S. SOISETH	12/2020			
SUPERVISOR: S. SOISETH	12/2020			
		NUM. REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

RENEE A. KOESTER, STATE OF WASHINGTON, 35594, REGISTERED PROFESSIONAL ENGINEER — PRELIMINARY

FED. AID No. N/A
PROJECT No. 1135999
SURVEY No. TBD
MAINTENANCE DIVISION No. 2

PRELIMINARY

90% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

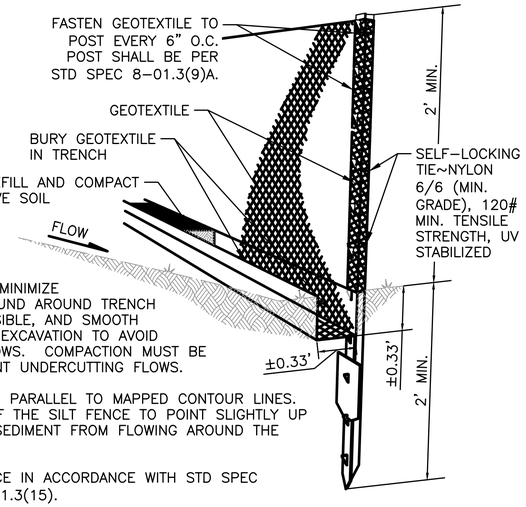
UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

EROSION CONTROL DETAILS AND NOTES

King County

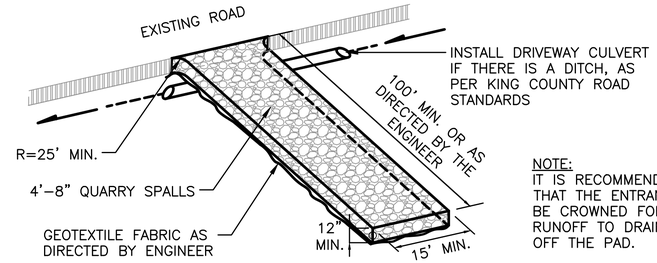
SHEET 12 OF 33 SHEETS

320-90 (EC02)



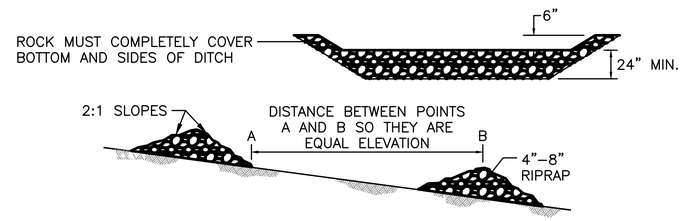
NOTES:
1. DURING EXCAVATION, MINIMIZE DISTURBING THE GROUND AROUND TRENCH AS MUCH AS IS FEASIBLE, AND SMOOTH SURFACE FOLLOWING EXCAVATION TO AVOID CONCENT-RATING FLOWS. COMPACTION MUST BE ADEQUATE TO PREVENT UNDERCUTTING FLOWS.
2. INSTALL SILT FENCING PARALLEL TO MAPPED CONTOUR LINES. INSTALL THE ENDS OF THE SILT FENCE TO POINT SLIGHTLY UP SLOPE TO PREVENT SEDIMENT FROM FLOWING AROUND THE ENDS OF THE FENCE.
3. PERFORM MAINTENANCE IN ACCORDANCE WITH STD SPEC 8-01.3(9)A AND 8-01.3(15).
4. SPLICES SHALL NEVER BE PLACED IN LOW SPOTS OR SUMP LOCATIONS. IF SPLICES ARE LOCATED IN LOW OR SUMP AREAS, THE FENCE MAY NEED TO BE REINSTALLED UNLESS THE PROJECT ENGINEER APPROVES THE INSTALLATION.

SILT FENCE (2)
NOT TO SCALE

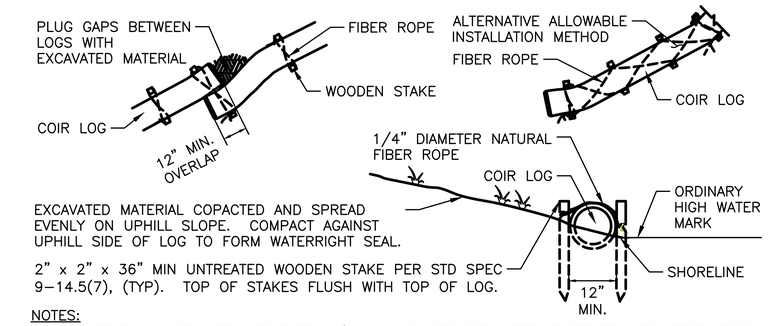


NOTE:
IT IS RECOMMENDED THAT THE ENTRANCE BE CROWNED FOR RUNOFF TO DRAIN OFF THE PAD.

TEMPORARY STABILIZED CONSTRUCTION ENTRANCE (4)
NOT TO SCALE

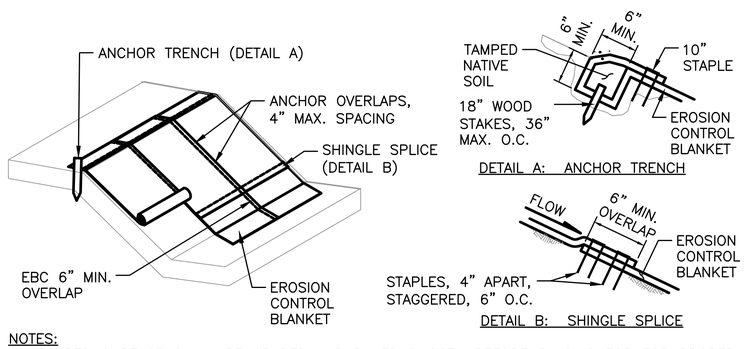


CHECK DAM (5)
NOT TO SCALE



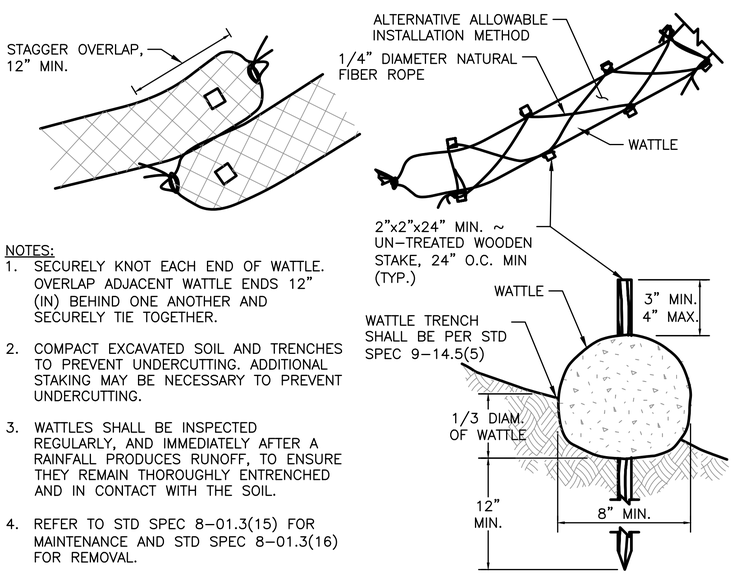
NOTES:
1. STAKES SHALL BE INSTALLED EVERY 4' O.C. AND SECURELY TIED TOGETHER WITH FIBER ROPE USING DOUBLE WRAP AROUND EACH WOODEN STAKE. OVERLAP ADJACENT COIR LOG ENDS 12" BEHIND ONE ANOTHER.
2. COIR LOGS SHALL BE 12" MINIMUM AND EMBEDED 3" TO 4" INTO THE GROUND.

COIR LOG (7)
NOT TO SCALE



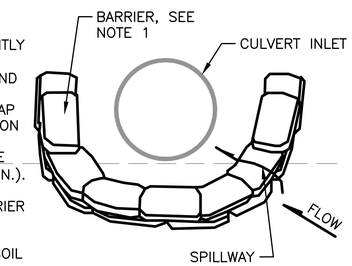
NOTES:
1. SLOPED SURFACE SHALL BE GRADED AND RAKED SMOOTH BEFORE PLACING ECB FOR PROPER SOIL CONTACT. PLACE TOPSOIL AND HYDROSEED BEFORE INSTALLING ECB.
2. ECB SHALL BE BIODEGRADABLE. DO NOT STRECH ECB TIGHT – ALLOW FABRIC TO CONFORM TO SLOPE IRREGULARITIES.
3. IF THERE IS A BERM AT TOP OF SLOPE, ANCHOR UPSLOPE OF THE BERM.
4. WOOD STAKES SHALL BE DOUGLAS FIR, 1"x2"x18", WITH A POINTED TIP. STAPLES TO SECURE ECB SHALL BE 8-GUAGE WIRE, U-SHAPED, AND 10" LONG. ADDITIONAL STAPLES MAY BE REQUIRED ON SLOPES STEEPER THAN 3:1.
5. INSTALL PER MANUFACTURER'S RECOMMENDATIONS. REFER TO WSDOT STD PLAN I-60.10-01.

BIODEGRADABLE EROSION CONTROL BLANKET (3)
NOT TO SCALE



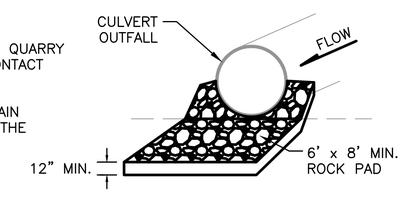
NOTES:
1. SECURELY KNOT EACH END OF WATTLE. OVERLAP ADJACENT WATTLE ENDS 12" (IN) BEHIND ONE ANOTHER AND SECURELY TIE TOGETHER.
2. COMPACT EXCAVATED SOIL AND TRENCHES TO PREVENT UNDERCUTTING. ADDITIONAL STAKING MAY BE NECESSARY TO PREVENT UNDERCUTTING.
3. WATTLES SHALL BE INSPECTED REGULARLY, AND IMMEDIATELY AFTER A RAINFALL PRODUCES RUNOFF, TO ENSURE THEY REMAIN THOROUGHLY ENTRENCHED AND IN CONTACT WITH THE SOIL.
4. REFER TO STD SPEC 8-01.3(15) FOR MAINTENANCE AND STD SPEC 8-01.3(16) FOR REMOVAL.

STRAW WATTLE (6)
NOT TO SCALE



NOTES:
1. BARRIER MATERIALS SHALL BE ONE OF THE FOLLOWING:
   1.1. GRAVEL FILLED SANDBAGS CONSISTING OF TIGHTLY WOVEN GEOTEXTILE THAT HAS UV STABILITY OF 70% (MIN.) FILLED WITH 2/3 GRAVEL, 1/3 SAND WHERE SAND CANNOT PASS THROUGH THE TEXTILE. LAYERS OF SANDBAGS SHALL OVERLAP AT JOINTS. A SANDBAG GAP SHALL BE LEFT ON THE UPPER LEVEL AT THE SPILLWAY.
   1.2. STRAW WATTLE ANCHORED WITH WOODEN STAKE EVERY 24". WATTLES SHALL OVERLAP 12" (MIN.).
2. CONTRACTOR SHALL REPLACE AND MAINTAIN BARRIER FOR THE DURATION OF THE PROJECT.
3. BARRIER SHALL MAKE FULL CONTACT WITH THE SOIL AROUND THE CULVERT.

INLET PROTECTION (8)
NOT TO SCALE



NOTES:
1. ROCK PAD SHALL BE 6' BY 8' MADE OF QUARRY SPALLS. BARRIER SHALL MAKE FULL CONTACT WITH THE SOIL AROUND THE CULVERT.
2. CONTRACTOR SHALL REPLACE AND MAINTAIN QUARRY SPALLS FOR THE DURATION OF THE PROJECT.

OUTFALL PROTECTION (9)
NOT TO SCALE

MERIDIAN
W.S.L.G.N.Z.
NAD 83/91
DATUM
N.G.V.D. 88

811
Know what's below.
Call before you dig.

SURVEY JOB NO: 19030	05/2019			
CHECKED: J. EVANS	08/2019			
CAD ENTERED: D. FOSTER	12/2020			
DESIGNED: R. KOESTER	12/2020			
CHECKED: S. SOISETH	12/2020			
SUPERVISOR: S. SOISETH	12/2020			
		NUM. REVISION	BY	DATE

DAVID EVANS AND ASSOCIATES INC.

RENEE A. KOESTER, STATE OF WASHINGTON, 35594, REGISTERED PROFESSIONAL ENGINEER
PRELIMINARY

FED. AID No. N/A
PROJECT No. 1135999
SURVEY No. TBD
MAINTENANCE DIVISION No. 2

PRELIMINARY

90% DESIGN (NOT FOR CONSTRUCTION)

KING COUNTY DEPT. OF LOCAL SERVICES
JOHN TAYLOR, DIRECTOR

UPPER TOKUL CREEK BRIDGE #271B
BRIDGE REPLACEMENT PROJECT

EROSION CONTROL DETAILS AND NOTES

King County

SHEET 13 OF 33 SHEETS

320-90 (EC03)

King County Local Services

PERMITS

SEPA Greenhouse Gas (GHG) Emissions Worksheet

Introduction

The Washington State Environmental Policy Act (SEPA) requires environmental review of development proposals that may have a significant adverse impact on the environment. If a proposed development is subject to SEPA, the project proponent is required to complete the SEPA Checklist. The Checklist includes questions relating to the development's air emissions. The emissions that have traditionally been considered cover smoke, dust, and industrial and automobile emissions. With our understanding of the climate change impacts of greenhouse gas (GHG) emissions, King County requires the applicant to also estimate these emissions.

Emissions created by development

GHG emissions associated with development come from multiple sources:

- The extraction, processing, transportation, construction and disposal of materials and landscape disturbance (Embodied Emissions)
- Energy demands created by the development after it is completed (Energy Emissions)
- Transportation demands created by the development after it is completed (Transportation Emissions)

GHG emissions worksheet

King County has developed a GHG Emissions Worksheet that can assist applicants in answering the SEPA Checklist question relating to GHG emissions.

The SEPA GHG Emissions worksheet estimates all GHG emissions that will be created over the life span of a project. This includes emissions associated with obtaining construction materials, fuel used during construction, energy consumed during a buildings operation, and transportation by building occupants.

The SEPA GHG Emissions worksheet estimates all GHG emissions that will be created over the life span of a project. This includes emissions associated with obtaining construction materials, fuel used during construction, energy consumed during a buildings operation, and transportation by building occupants.

The SEPA GHG Emissions worksheet should not be used to estimate GHG emissions from large, complex projects, such as urban planned developments, major infrastructure projects, or projects that require an Environmental Impact Statement (EIS).

Using the Worksheet

1. Descriptions of the different residential and commercial building types can be found on the second tabbed worksheet ("Definition of Building Types"). If a development proposal consists of multiple projects, e.g. both single family and multi-family residential structures or a commercial development that consists of more than on type of commercial activity, the appropriate information should be estimated for each type of building or activity.
2. For paving, estimate the total amount of paving (in thousands of square feet) of the project.
3. The Worksheet will calculate the amount of GHG emissions associated with the project and display the amount in the "Total Emissions" column on the worksheet. The applicant should use this information when completing the SEPA checklist.
4. The last three worksheets in the Excel file provide the background information that is used to calculate the total GHG emissions.
5. The methodology of creating the estimates is transparent; if there is reason to believe that a better estimate can be obtained by changing specific values, this can and should be done. Changes to the values should be documented with an explanation of why and the sources relied upon.
6. Print out the “Total Emissions” worksheet (page 1) and attach it to the SEPA checklist. If the applicant has made changes to the calculations or the values, the documentation supporting those changes should also be attached to the SEPA checklist.

Resources

Department of Local Services, Permitting Division

Permit application forms listed by packet

See the SEPA packet

Greenhouse Gas (GHG) worksheet

Hours and location