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January 30, 2026

Letter No. 337
BY-CRE-04589

Washington State Department of Transportation
I-405/SR 167Program
18911 N Creek Pkwy S, Suite 150
Bothell, WA 98011

Attention: Evelyn Pao, P.E.
Project Director

Project: I-405/Brickyard to SR 527 – Improvement Project
Contract No.: 009727

Request for Direction – Juanita Creek Fish Passage – Lateral Migration Design Requirements (Issue SKA-0303)

References:

1. Contract Chapter 2, Section 2.30.5.2.1 – Certain Structure and Channel Design Characteristics
2. Contract Table 2.30-B – Structure and Channel Design Characteristics
3. WSDOT Bridge Design Manual (BDM), Section 8.1.10
4. Juanita Creek Final Hydraulics Design (FHD) Document, Section 7.1
5. WSDOT RCSR Comments (Nos. 40, 41, 129, 188, 191, 195, 196)
6. AECOM Sediment Depth Discussion Presentation, dated January 16, 2026

Dear Ms. Pao:

Skanska USA Civil ("Skanska" or "Design-Builder") hereby provides this written notice of dispute and request for direction pursuant to Contract Section 1-04.5(1) regarding WSDOT's direction to incorporate Lateral Migration (Structural) requirements into the Juanita Creek Fish Passage design (I-405 MP 21.94). The Contract expressly designates this location as having "low" lateral migration risk in *Table 2.30-B – Structure and Channel Design Characteristics*, , which per Section 2.30.5.2.1 takes precedence over conflicting requirements. Notwithstanding this clear designation, WSDOT review comments directed inclusion of lateral migration analysis, creating requirements beyond the Contract and resulting in significant additional scope and cost. Accordingly, Skanska seeks WSDOT's written direction on how to proceed.

1. CONTRACT REQUIREMENTS

Contract Section 2.30.5.2.1 establishes the controlling hierarchy for design characteristics and expressly assigns precedence to Table 2.30-B where conflicts exist:

> *"The Design-Builder shall comply with the requirements of Table 2.30-B. Except as otherwise specified, where a conflict exists between Table 2.30-B and another Contract requirement, the requirements of Table 2.30-B shall take precedence."*

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Table 2.30-B explicitly identifies Lateral Migration for the Juanita Creek crossing (I-405 MP 21.94):

Table 2.30-B Characteristic	I-405 MP 21.94 (Juanita Creek)
Is the risk of Lateral Migration (Structural) low?	**Yes**

A "Yes" designation establishes that lateral migration is not required to be considered in the scour analysis for this location. The Contract further clarifies that the “not low” lateral migration determination applies specifically to the Sammamish River and not to Juanita Creek.

Accordingly, the Contract establishes that lateral migration is not a required design consideration for Juanita Creek.

2. WSDOT DIRECTION TO INCLUDE LATERAL MIGRATION

Despite the Contract's clear designation of "low" lateral migration risk for Juanita Creek, WSDOT's RCSR comments directed he Design-Builder and its designer to incorporate lateral migration into the design. The following FHD comments specifically required lateral migration analysis prior to RFC:

- Comment 41 (G.Ng): Directed inclusion of anthropogenic features and lateral migration considerations
- Comment 196 (DJS): Explicitly stated that "the risk of lateral migration is NOT low" and directed revision to incorporate lateral migration, in direct conflict with Table 2.30-B
- Comments 40, 129, 188, 191, 195: Directed lateral migration calculations and resubmittal to WSDOT before RFC

Additionally, two comments were made on the Package 9 – Structures – Juanita Creek Fish Passage (FP5) East Portal_REV01 specifically directing the Design-Builder to incorporate lateral migration:

- Comment 3 (HQH) - See BDM 8.1.10 Scour of Retaining Walls. These wing walls (both 3 & 4) are parallel to the stream alignment and are subject to total scour along the entire length of the wall. Please confirm bottom of wall is 2 feet below total scour at check flood elevation; ***including lateral migration (structural)*.**
- Comment 4 (HQH) - BDM 8.1.10 Scour of Retaining Walls - The foundation for all walls constructed along rivers and streams **shall** be evaluated during design by the Hydraulics Engineer for total scour in accordance with LRFD-BDS and Hydraulic Engineering Circular No. 23 (HEC-23). The bottom of the wall foundation and bottom of wall elements such as, the fascia panel, lagging, leveling pad, footing, pile cap or shaft cap **shall** be located a minimum of 2 feet below the total scour at the check flood. Also see ***Figure 8.1.10-2***

Several of these comments used mandatory “shall” language and required incorporation of lateral migration as a condition of comment resolution and RFC. In practice, these directives left the Design-Builder no discretion and functioned as direction to proceed with a more conservative and more costly approach than required by the Contract.

The Juanita Creek FHD Section 7.1 (Lateral Migration), as submitted after WSDOT review, states:

> *"Scour countermeasures are not provided to prevent lateral migration because the structure and wing walls are designed to account for the migration of the full scour depth to the infrastructure components."*

This statement confirms that lateral migration was incorporated into the structural as a direct result of WSDOT’s review direction rather than the Contract specifications.

3. DESIGN IMPACT

The inclusion of lateral migration resulted in the use of BDM Figure 8.1.10-2 (Scour WITH Lateral Migration) rather than Figure 8.1.10-1 (Scour without Lateral Migration). Per AECOM's January 16, 2026 presentation, this has had the following impacts:

a) Wingwall and Headwall Design: The scour depth resulting from the required lateral migration analysis directly in turn affected the fascia elevation, which impacted headwall, wingwall design and associated structural components. The final design of the wingwalls and headwall was completed in response to WSDOT direction to include lateral migration.

b) Buried Riprap Scour Countermeasures: The scour countermeasures design was developed at WSDOT’s direction to protect an existing MSE wall outside the limits of a structural span zone for the Juanita Fish Passage. These scour countermeasures constitute additional scope and related to both lateral migration and a criteria WSDOT is enforcing related to protecting new Structures. Scour Countermeasures are not required for existing structures only for new structures and this location is not subject to lateral migration in accordance with the low lateral migration contractual determination. Accordingly, requiring scour countermeasures to protect an existing structure constitutes additional scope attributable to Owner direction. WSDOT’s Letter 233 asserts that the Design-Builder must obtain a subsurface easement or other property rights for the countermeasures. Under a Contract-compliant interpretation, such easements or property rights would not be required.

c) Wing Wall Depth: The requirement change imposed by WSDOT’s direction created additional design depth requirements of up to 15 feet to the head wall and wing walls to accommodate lateral migration scour requirements. In order to apply figure 8.1.10-2 in accordance with WSDOT Direction the Design-Builder had to greatly increase the depth of the fascia wall resulting in increased fascia wall dimensions, upsizing of beams, undermining the MSE wall requiring shoring and micropiles, additional excavation, backfill and additional tie-backs.

d) Interfaces with the Tunnel Portal and overall depth of the tunnel: Scour within the tunnel have was extended to full width and full depth of the tunnel due to lateral migration, resulting in increased footing depths and tunnel quantities.

4. TIMELINE OF EVENTS

- WSDOT RCSR comments were issued directing incorporation of lateral migration analysis and related scour considerations as a condition of comment resolution.
- In reliance on these directives, the Design-Builder progressed the design incorporating lateral migration and associated countermeasures.
- On 12/31/2025, the RFC design for the East Portal headwall and wingwalls was released with a notable increase in scope reflecting the increased scope attributable to lateral migration requirements.
- Following RFC release, Skanska authorized material procurement and fabrication based on the approved design.
- As a result, the majority of costs associated with the current design became committed and are not practically mitigable.

5. COST IMPACT

The following costs are directly attributable to incorporation of lateral migration at WSDOT's direction and represent scope beyond that contemplated by the Contract for the Juanita fish passage as follows:

Description	Amount
Additional Construction of Structural Elements – Wingwalls, Headwalls and Tunnel	$4,015,454
Design for Additional Structural and Shoring Elements	$815,892
Buried Riprap Countermeasures	$474,624
Design for Buried Riprap Countermeasures	$160,423
Overall Impact Due to Lateral Migration	**$5,466,392**

6. SKANSKA'S POSITION

Skanska maintains that:

a) Per Contract Section 2.30.5.2.1, Table 2.30-B takes precedence where conflicts exist with other Contract requirements. Table 2.30-B designates Juanita Creek as having "low" lateral migration risk.

b) WSDOT's RCSR comments directed the incorporation of lateral migration analysis as a condition of comment resolution and RFC, thereby creating a design requirement that exceeded the Contract scope and conflicted with Table 2.30-B.
c) By requiring lateral migration to be treated as “not low” despite the Contract’s express designation, WSDOT effectively imposed a more conservative standard that influenced the design outcome.
d) This approach resulted in design rework, additional scope, and cost impacts beyond those contemplated by the Contract.
e) Because comment resolution was conditioned on incorporation of these requirements, the Design-Builder had no practical ability to proceed under the original Contract framework.
f) The Contract establishes a clear and intentional “low” and “not low” for lateral migration risk. For example, the Sammamish River is expressly treated as “not low,” and WSDOT has directed the Design-Builder to apply that standard at that location.
g) In contrast, Juanita Creek is expressly designated as “low” in Table 2.30-B; however, WSDOT nevertheless required the Design-Builder to apply lateral migration analysis consistent with a “not low” determination as a condition of comment resolution and RFC.
h) This results in application of a “not low” methodology at a location the Contract defines as “low,” creating an inconsistency between the Contract’s risk classifications and the applied design criteria.

7. POTENTIAL SAVINGS

The structural elements have been released for construction (RFC), and materials have been released for fabrication. As a result, the majority of the associated costs are committed and not practically recoverable.

One potential mitigation measure available at this stage is revision or reduction of the scour countermeasures intended to protect the existing MSE wall. Skanska recommends WSDOT evaluate this opportunity for potential savings.

8. REQUEST FOR DIRECTION

Skanska respectfully requests that WSDOT:

a) Acknowledge that the direction to incorporate lateral migration was issued through the RCSR process and exceeded the Contract requirements established in Table 2.30-B, and process an Owner-Initiated Change (OIC) for the costs and time impacts resulting from the directed design changes and the RFC design, in the amount of $5,466,392 as detailed in Section 5
b) Provide written direction on whether to proceed with or modify the buried riprap scour countermeasures intended to protect the existing MSE wall, as this represents the only remaining opportunity for potential cost mitigation as described in Section 7.

Skanska remains committed to progressing the Work in a cooperative and commercially reasonable manner and to supporting timely delivery of the Project. However, the impacts described herein arise from direction that extends beyond the Contract requirements and have resulted in material cost and schedule

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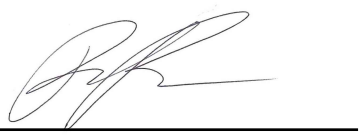
consequences to the Design-Builder. Skanska therefore respectfully requests WSDOT's prompt written direction and equitable resolution of the associated impacts through the Owner-Initiated Change process.

Skanska will continue to perform the Work as directed while this matter is being resolved. Nothing in this correspondence, nor any continued performance, shall be construed as a waiver, release, or relinquishment of any rights, remedies, or entitlements available to Skanska under the Contract or at law. Skanska expressly reserves all such rights and remedies, including the right to pursue additional compensation and/or time through the dispute resolution provisions of the Contract should this matter remain unresolved.

Please contact me if you have any questions or require additional information.

Regards,



Patrick Prendergast, Vice President

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Attachments:
AECOM Sediment Depth Discussion Presentation (January 16, 2026)

1

I405 Brickyard Sediment Sizing Discussion
Agenda

- Scour Elements
- Sediment Depth
- Structure Depth

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I405 Brickyard Sediment Sizing Discussion

Agenda

- Scour Elements
- Sediment Depth
- Structure Depth

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I405 Brickyard Sediment Sizing Discussion

Scour Elements

3.2 TOTAL SCOUR

Total scour at a highway crossing considers three primary components:

1. **Long-term degradation** of the river bed
2. **Contraction scour** at the bridge
3. **Local scour** at the piers or abutments

These three scour components are added to obtain the total scour at a pier or abutment. This assumes that each component occurs independent of the other. Considering the components additive adds some conservatism to the design. In addition, there are **other types of scour** that occur in specific situations as well as **lateral migration** of the stream that must be assessed when evaluating total scour at bridge piers and abutments.

Excerpt from HEC-18

- **Long term aggradation/degradation** – "Long-term bed elevation changes may be the natural trend of the stream or the result of some modification to the stream or watershed. The streambed may be aggrading, degrading, or in dynamic equilibrium above, below, or in the vicinity of the bridge crossing. […] These long-term changes are the result of modifications to the stream or watershed. Such changes may be the result of natural processes or human activities." – *HEC-18*
- **Contraction Scour – "**Contraction scour results from contraction (or constriction) of the flow, which results in removal of material from the bed across all or most of the channel width." – *HEC-18*
- **Local scour** – "Local scour involves removal of material from around piers, abutments, spurs, and embankments. It is caused by an acceleration of flow and resulting vortices induced by obstructions to the flow." – *HEC-18*
- **Other Types of Scour** – "Other scour conditions such as flow around a bend where the scour may be concentrated near the outside of the bend, scour resulting from stream planform characteristics, scour at confluences, or a variable downstream control can also influence the total scour in a bridge reach." – *HEC-18*
- **Lateral Migration** - Per Contract, risk of lateral migration at fish passage crossings is LOW and is excluded from this analysis

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I405 Brickyard Sediment Sizing Discussion
Scour Elements

- **Long term aggradation/degradation** - ranges from 0.0 to 0.2 for all sites. *Consistent with page 2 of the RFE scour analysis memo.*
- **Contraction Scour –** 0 for all sites. *Consistent with page 6 of the RFE scour analysis memo for all sites other than NFP, which went from 0.32 in the RFE phase to 0 currently*.
- **Local scour** – Local scour is 0 for all sites, due to the lack of bridge piers in the structures. *Consistent with the page 4 of the RFE*.
- **Bend scour** – During the RFE phase, bend scour was only estimated for Stream 25.0L due to the 90-degree bend the stream takes prior to entering the structure. In further coordination with WSDOT, bend scour is included in the total scour calculation at all sites; however, note that the bend scour at Stream 25.0L has gone from the original estimate of 3.25 ft to 0.7 ft, while other sites' bend scour is at or below 1.0 ft.

	Scour Design Flood					Scour Check Flood				
	Long Term Degradation (ft)	Contraction Scour (ft)	Local Scour (ft)	Bend Scour (ft)	**Total Scour (ft)**	Long Term Degradation (ft)	Contraction Scour (ft)	Local Scour (ft)	Bend Scour (ft)	**Total Scour (ft)**
NFPC	0.21	0.00	0.00	0.34	**0.55**	0.21	0.00	0.00	0.34	**0.55**
QB405	0.10	0.00	0.00	0.90	**1.00**	0.10	0.00	0.00	0.90	**1.00**
QB527	0.10	0.00	0.00	0.70	**0.80**	0.10	0.00	0.00	0.70	**0.80**
Juanita*	0.36	0.00	0.00	0.20	**0.56**	0.36	0.00	0.00	0.20	**0.56**
25L	0.00	0.00	0.00	0.70	**0.70**	0.00	0.00	0.00	0.70	**0.70**

*final sediment gradation still to be determined

Summary of scour components, all sites (Scour Design Flood + Scour Check Flood)

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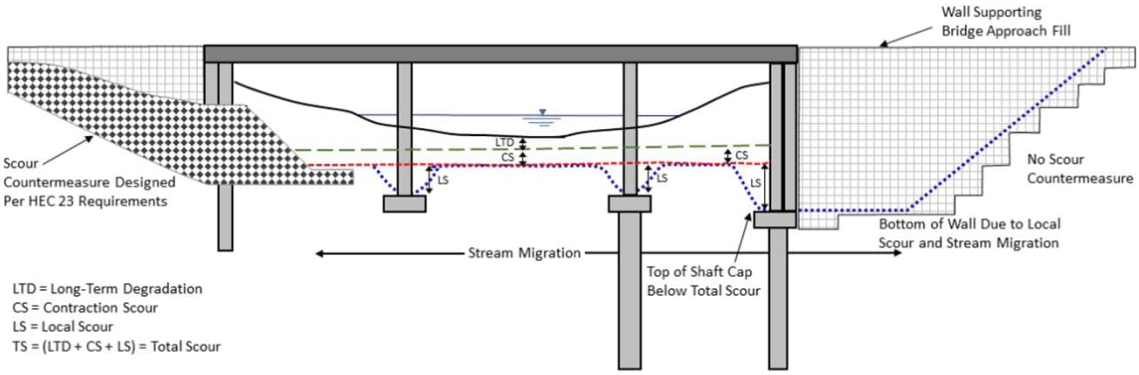
I405 Brickyard Sediment Sizing Discussion
Scour Elements

Figure 7-6 **Total Scour Components with Channel Migration and Abutments**



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I405 Brickyard Sediment Sizing Discussion

Scour Elements

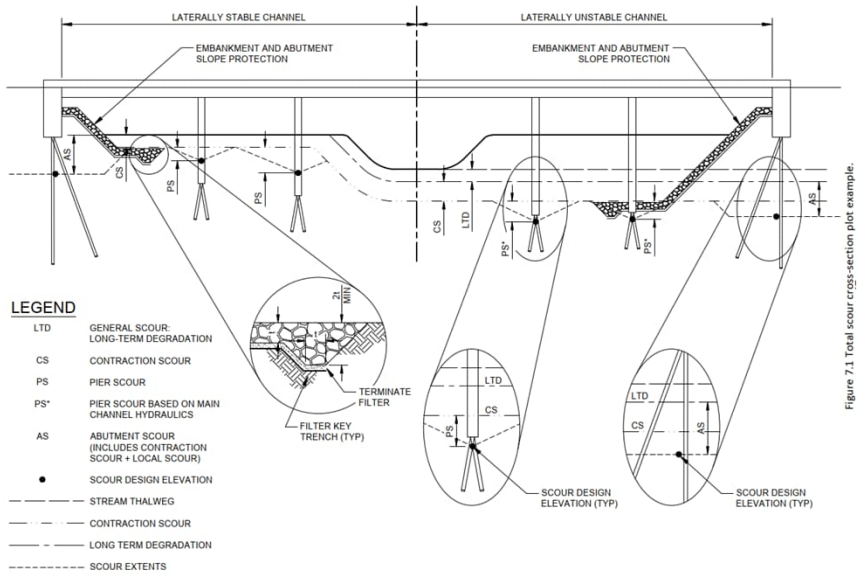

Figure 7.1 Total scour cross-section plot example.

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I405 Brickyard Sediment Sizing Discussion

Agenda

- Scour Elements
- Sediment Depth
- Structure Depth

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I405 Brickyard Sediment Sizing Discussion

Sediment Depth – Inside Structure

Where a culvert or buried structure(s) is allowed and is proposed by the Design-Builder, the minimum thickness of streambed aggregate, between the interior structure bottom and the lowest point of the channel cross section, shall equal a minimum of the Total Scour from the Scour Check Flood plus 2 feet.

Page 2.30-13 from Chapter 2

		Scour Check Flood				
	Long Term Degradation (ft)	Contraction Scour (ft)	Local Scour (ft)	Bend Scour (ft)	**Total Scour (ft)**	**Total Scour (ft) + 2 ft**
NFPC	0.21	0.00	0.00	0.34	**0.55**	**2.55**
QB405	0.10	0.00	0.00	0.90	**1.00**	**3.00**
QB527	0.10	0.00	0.00	0.70	**0.80**	**2.80**
Juanita*	0.36	0.00	0.00	0.20	**0.56**	**2.56**
25L	0.5	0.00	0.00	0.20	**0.70**	**2.70**

*final sediment gradation still to be determined

AECOM Calculated Scour Values, Scour Check Flood

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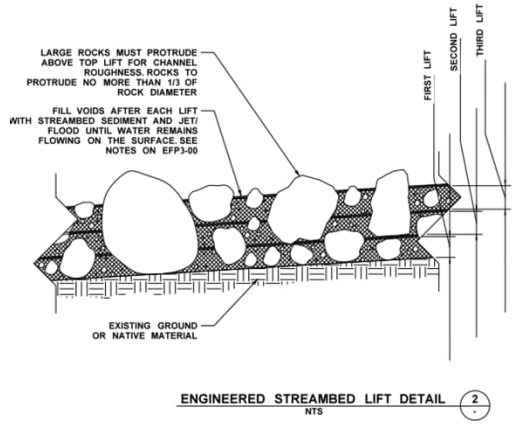
I405 Brickyard Sediment Sizing Discussion

Sediment Depth – Outside Structure



Excerpt from AECOM Construction Plans (NFPC, QB405, 25.0L, Juanita, QB527)

- The depth of streambed sediment outside of the structure is driven by the **maximum specified diameter of the material**.
- For **North Fork Perry Creek, Queensborough I-405, Queensborough at 527 and Juanita Creek**, the maximum sediment size is specified to be **28-inch**, the high end of the range for Type 2 Streambed Boulders that make up the gradation. For these creeks, the streambed must be constructed as shown in the engineered streambed lift detail and described in notes on our construction drawings where larger boulder and cobble pieces are placed in the stream at varying depths and filled with smaller material in lifts. To allow for placing the largest boulder size at varying depths, a **3 ft minimum depth is currently specified for the streambed sediment**.
- At **Stream 25.0L**, the maximum particle size for the streambed was estimated to be smaller than the other creeks, for the preliminary design. Upstream of the crossing the maximum depth of sediment was specified to be 8” and downstream of the crossing, 5”. Because of the smaller particle size, preliminary construction documents specified the depth of the streambed sediment to be a **depth of 2 ft**.

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I405 Brickyard Sediment Sizing Discussion

Sediment Depth – Outside Structure

- As a potential solution to reduce the depth of streambed material outside of the structure, AECOM could discuss a 100-foot-long transition from a 3-foot depth of material required inside the structure extents to a 2 ft depth with WSDOT. This would allow for the maximum gradation size of 28” to extend a maximum of 1/3 above the top lift as depicted in our engineered streambed lift detail.
- At **North Fork Perry, and Queensborough at I-405**, the potential reduction of streambed material is quite low, therefore, **we had not intended to pursue additional coordination this material reduction**.
- At **Queensborough at 527 and Juanita Creek**, the material reduction is higher. **We are prepared to discuss and further coordinate a material reduction**.

	Maximum Sediment Size (in)	Length of Regrade US (ft)	Length of Regrade DS (ft)	Bankfull (ft)	Potential Reduction Streambed Sediment (cyd)
NFPC	28	115	71	11.2	9
QB405	28	98	130	10.1	17
QB527	28	247	67	10.1	82
Juanita	28	178	130	12.0	203

Potential reduction in streambed material

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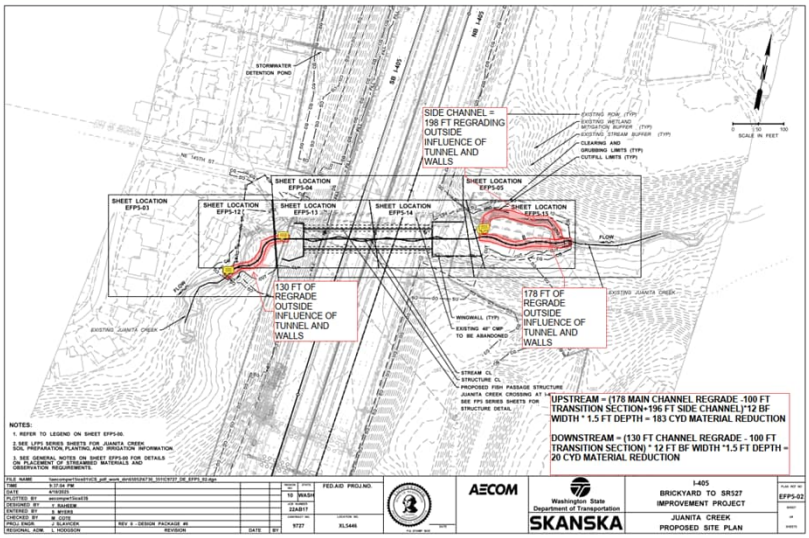
I405 Brickyard Sediment Sizing Discussion

Sediment Depth – Outside Structure



Potential reduction in streambed material – Juanita Creek

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I405 Brickyard Sediment Sizing Discussion

Agenda

- Scour Elements
- Sediment Depth
- Structure Depth

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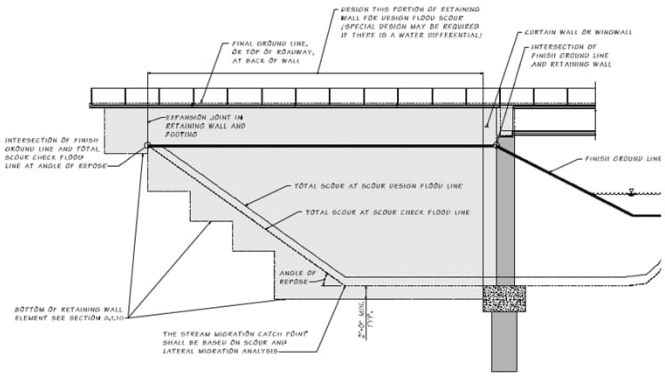
I405 Brickyard Sediment Sizing Discussion

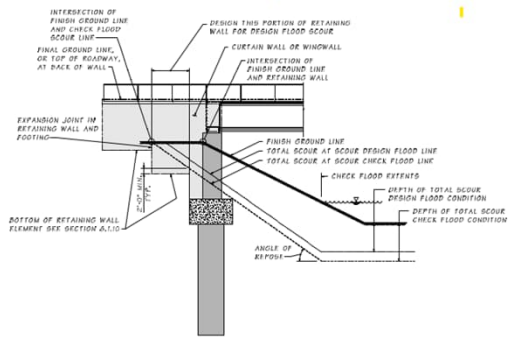
Structure Depth

Figure 8.1.10-2 Scour WITH Lateral Migration



WSDOT Bridge Design Manual, contract version

Figure 8.1.10-1 Scour without Lateral Migration



WSDOT Bridge Design Manual, contract version

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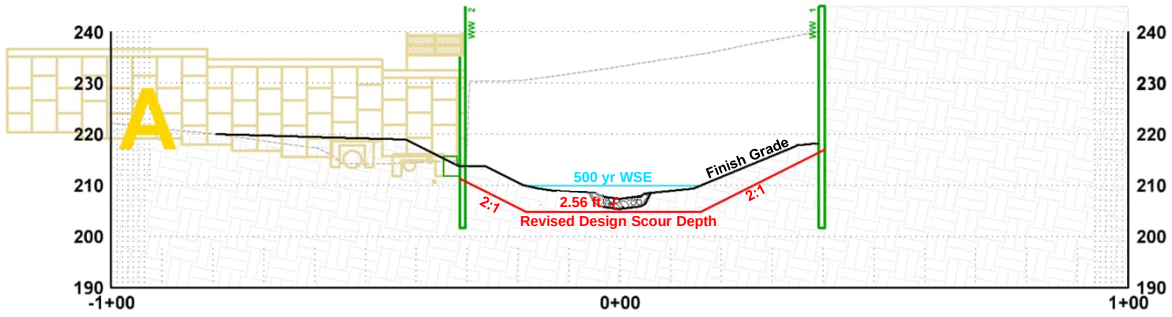
I405 Brickyard Sediment Sizing Discussion

Scour Prism



Note: Section Cut looking upstream at the structure

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I405 Brickyard - Juanita

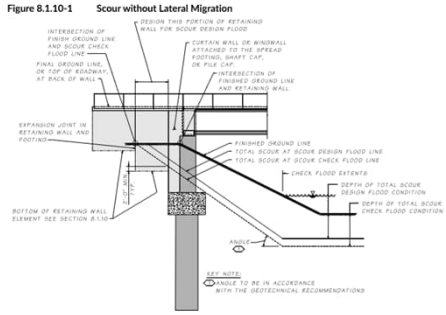
Skanska's Email Questions

Why was lateral migration included here? We fought so hard to not include lateral migration at the Sammamish River but seemed to accept it here. Please explain.

- The version of the FHD cited in the email was from before we received guidance to ignore lateral migration. This section of the FHD will be updated.
- Sonia closed RCSR comments on lateral migration on July 28, 2025

What was the calculation for scour depth including lateral migration versus not including lateral migration inside the tunnel?

- Scour depth within the tunnel is not affected by whether lateral migration is included
- Fig 8.1.10-1 Scour without Lateral Migration, shows bottom of scour prism = check flood extents; check flood reaches tunnel walls --> ignoring lateral migration doesn't impact sediment depth
- Final sediment gradation has not been finalized
- Assuming final D50 is approx. 4", scour depth is less than 1 foot
- Min. thickness streambed sediment = total scour + 2 ft



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I405 Brickyard - Juanita

Skanska's Email Questions

How much did this affect wingwall design in AECOM's opinion?

- The scour depth directly impacted the fascia elevation, which impacted headwall design
- The final design of the wingwalls and headwall was completed before we received guidance to ignore lateral migration
- Significant effort would have been required to redesign wingwalls and headwall once guidance to ignore lateral migration was provided
- Structures team kept submittal schedule as it was uncertain when/if scour and lateral migration issue could be resolved.
- Today, it is uncertain if/how much wingwall depth could be decreased without requiring additional structural support for headwalls
- Extent and cost of downstream scour protection (buried riprap) would increase if wingwall depth decreased, since wingwalls provide scour protection for MSE wall

Would like AECOM to review the attached and included information and depict in AECOM's opinion how WSDOT influenced the design here on the lateral migration front. From our vantage point it was significant but need to hear AECOM's perspective.

- Did not impact depth of sediment in tunnel
- Did impact wingwall design; design may have been different if received guidance on lateral migration sooner
- Did impact buried riprap design; ignoring lateral migration allowed for a smaller footprint

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I405 Brickyard - Juanita

Structure Free Zone

Structure Free Zone (SFZ) – An imaginary, rectangular prism of infinite length both upstream and downstream, that is horizontally centered on the Bearing of Stream, parallel to the Bearing of Stream, and which represents the minimum boundary within which no part of the fish passage structure, including footings, shall be allowed unless meeting the criteria for an allowable exception in this paragraph. The SFZ is bounded on top and bottom by the CTE and the CBE respectively, with minimum interior width equal to the minimum SFZ Width specified in Table 2.30-B. Allowable exceptions are as follows: Fillets or arches may be inside the SFZ provided all three of the following are true: (1) the sum of all fillet areas (or arch encroachment areas) in a given cross section is less than 2 percent of the area calculated as the SFZ Width multiplied by the SFZ Height, (2) all fillet and arch encroachments are entirely above the elevation of the Hydraulic Design Flood plus the Hydraulic Design Flood Freeboard, and (3) all fillet and arch encroachments are entirely above the highest ground elevation within the limits of the Hydraulic Width plus Maintenance Clearance.

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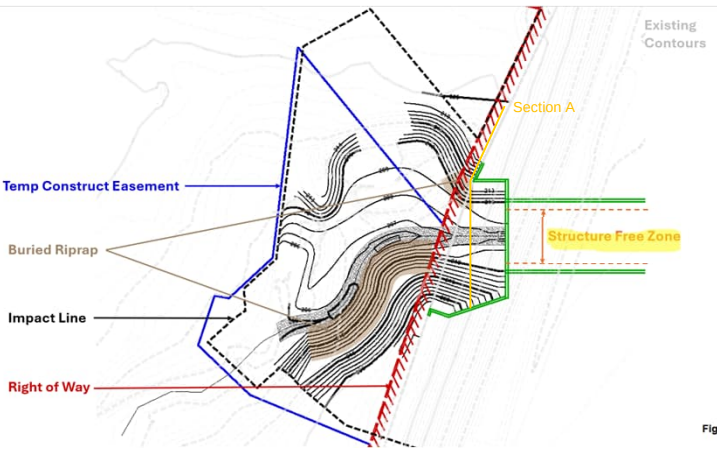
Structure Free Zone



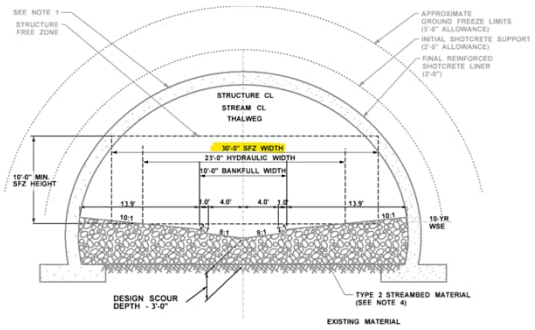


Figure 4-4: Minimum hydraulic opening illustration

- The 30-foot wide SFZ zone is defined as “infinitely long” however this buried riprap is not connecting to or protecting the new structure.
- It is protecting an existing MSE wall downstream of the structure.

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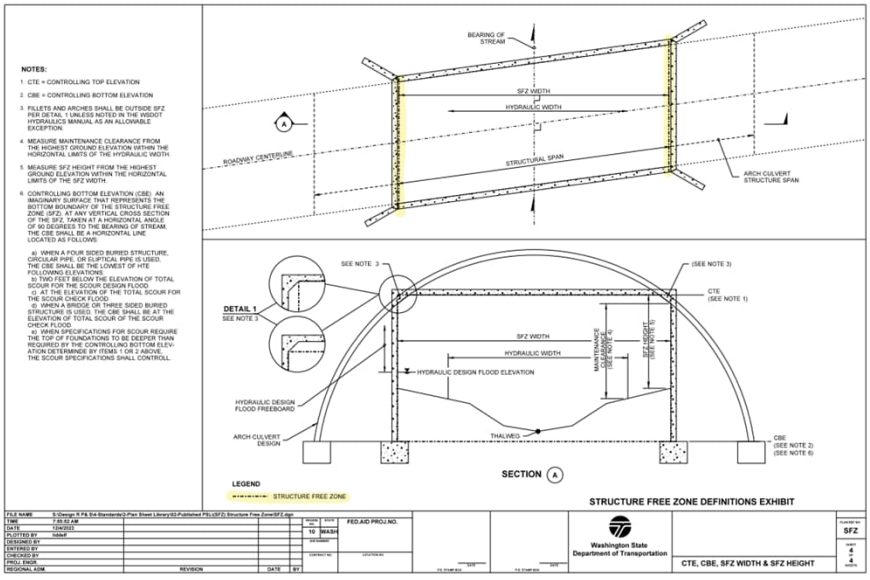
I405 Brickyard - Juanita

Structure Free Zone



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