



March 24, 2026

Letter No. 384
BY-CRE-05031

Washington State Department of Transportation
I-405/SR 167 Program
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

Subject: Notice of Protest 019 – Supplemental - Issue SKA-0303 – Juanita Creek Lateral Migration

Reference:

1. Skanska Letter No. 337 (BY-CRE-04589), Request for Direction - Juanita Creek Fish Passage - Lateral Migration Design Requirements (January 30, 2026)
2. WSDOT Serial Letter No. 9727-280, Interpretive Engineering Decision - Juanita Creek Fish Passage (February 24, 2026)
3. Skanska Letter No. 372, Notice of Protest - PCN-00153 (March 10, 2026)
4. AECOM Notice of Protest Supplemental Information, PCN-00153 - Juanita Creek Lateral Migration (March 20, 2026)
5. Contract Section 2.30.5.2.1 - Certain Structure and Channel Design Characteristics
6. Contract Table 2.30-B - Structure and Channel Design Characteristics
7. General Provisions Section 1-04.5 - Procedure, Protest, and Dispute by the Design-Builder

NOTICE OF PROTEST SUPPLEMENTAL INFORMATION

Dear Ms. Pao:

Skanska USA Civil ("Skanska" or "Design-Builder") submits this Supplement to Notice of Protest in accordance with General Provisions Section 1-04.5(2). This supplement is provided in response to WSDOT's grant of a 14-day extension and supplements our Notice of Protest dated March 10, 2026.

Skanska hereby incorporates by reference the attached AECOM Notice of Protest Supplemental Information dated March 20, 2026, including Attachment 1 - PCN 153 Detailed Project Record. The AECOM supplemental provides a comprehensive timeline of events and supporting documentation, which Skanska adopts and supplements with the additional information set forth below.

a. The date and nature of the protested order, direction, instruction, interpretation, determination:

Date of Protested Order: February 24, 2026

Nature of Protested Order: The Design-Build team protests WSDOT's assertion in letter SL No. 9727-280 that after review of Skanska Serial Letter 337, WSDOT believes "No Owner-Initiated Change is warranted based on the information presented."

Skanska maintains that WSDOT's response does not constitute a proper Interpretive Engineering Decision under Contract Section 1-03.5. Instead of providing a Contract interpretation, WSDOT's letter

denies liability for RCSR comments that functioned as directive instructions requiring lateral migration analysis beyond Contract requirements.

b. A full discussion of the circumstances which caused the protest, including names of Persons involved, time, duration and nature of the Work involved, and a review of the Contract Documents/Design Documents referenced to support the protest:

The attached AECOM supplemental provides the detailed project record and timeline. Skanska supplements that record with the following legal and factual analysis:

1. Contract Requirements Established Low Lateral Migration Risk

Contract Table 2.30-B expressly designates the Juanita Creek crossing (I-405 MP 21.94) as having "low" lateral migration risk (Structural). Per Section 2.30.5.2.1, Table 2.30-B takes precedence where conflicts exist with other Contract requirements. A "Yes" designation for low lateral migration means 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 (Page 2.30-13, Line 30).

2. WSDOT Issued Directive Comments Using Mandatory "Shall" Language

Despite the Contract's clear designation, WSDOT issued RCSR comments that directed the Design-Builder to incorporate lateral migration analysis. The structural comments on the East Portal (Comments 3 and 4, HQH) used mandatory language:

- **Comment 3 (HQH):** "See BDM 8.1.10 Scour of Retaining Walls... Please confirm bottom of wall is 2 feet below total scour at check flood elevation; **including lateral migration (structural).**"
- **Comment 4 (HQH):** "The foundation for all walls constructed along rivers and streams **shall** be evaluated during design... Also see **Figure 8.1.10-2**" (the figure WITH lateral migration).

Under WAC 162-08-017, "'Shall' expresses a command." These comments therefore constituted direction to incorporate lateral migration, not mere suggestions or requests for clarification.

3. Comment 196 Directly Contradicted Table 2.30-B

FHD Comment 196 (DJS) explicitly stated that "the risk of lateral migration is NOT low," in direct conflict with Table 2.30-B's designation. This comment required revision of the design documentation to incorporate lateral migration analysis as a condition of comment resolution.

4. WSDOT's RCSR Comments Constituted Constructive Direction

WSDOT's RCSR comments constituted constructive direction because they: (a) used mandatory "shall" language; (b) required incorporation of lateral migration as a condition of comment resolution and RFC; (c) left the Design-Builder no practical discretion to proceed under the original Contract framework; and (d) resulted in increased scope and cost. WSDOT cannot disclaim responsibility for the cost and time impacts of that direction by invoking Section 1-02.1 after the fact.

5. Section 1-02.1 Does Not Insulate WSDOT from Directive Comments

WSDOT's letter asserts that per Section 1-02.1, "comments from WSDOT during the design review process do not modify or amend Contract requirements." While true as a general principle, Section 1-02.1 does not immunize WSDOT from issuing comments that function as direction. When WSDOT conditions RFC approval on incorporation of requirements beyond the Contract, those comments constitute direction regardless of how they are labeled.

6. The Design-Builder Had No Practical Discretion

WSDOT's letter claims the Design-Builder retained "full discretion" to design per Table 2.30-B. This assertion is contradicted by the project record, which shows:

- WSDOT rejected AECOM's initial approach using BDM Figure 8.1.10-1 (without lateral migration)
- WSDOT rejected multiple AECOM methodologies for calculating lateral migration without providing alternatives
- Comment resolution was conditioned on incorporation of lateral migration
- The structural design could not proceed to RFC without lateral migration analysis

7. WSDOT Reversed Position After Design Was Substantially Complete

On July 15, 2025, WSDOT reversed its position at the Fish Passage Task Force meeting and stated that since the Contract defines lateral migration as low, limits of migration do not need to be determined. On July 28, 2025, WSDOT consultant Sonia Berriz closed the RCSR comments related to lateral migration. This reversal came after the wingwall and headwall design was substantially complete, and after significant resources had been expended incorporating lateral migration at WSDOT's prior direction.

8. Design and Construction Impacts

The incorporation of lateral migration at WSDOT's direction 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). This impacted:

- **Wingwall and Headwall Design:** Up to 15 feet additional depth requirements, increased fascia wall dimensions, upsized beams, micropile shoring, additional excavation, backfill, and tie-backs
- **Buried Riprap Countermeasures:** Potential scour countermeasures to protect the existing MSE wall outside the limits of the structural span zone
- **Tunnel Design:** Scour extended to full width and depth due to lateral migration, resulting in increased footing depths and tunnel quantities

c. The estimated dollar cost, if any, of the protested Work and a detailed breakdown showing how that estimate was determined:

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

Description	Amount
Additional Construction - Wingwalls, Headwalls, Tunnel	\$4,015,454
Buried Riprap Countermeasures	\$474,624
Design Costs (AECOM) - See AECOM Supplemental	\$125,544
Overall Impact Due to Lateral Migration	\$4,615,622

d. An analysis of the progress schedule showing the schedule change or disruption if the Design-Builder is asserting a schedule change or disruption:

The complete extent of the schedule impact cannot be determined at this time. As documented in the attached AECOM supplemental, the delay resulting from WSDOT's lateral migration direction could be as long as 6 months. A fully detailed schedule analysis is underway and will be delivered once complete. It should be noted that this issue is likely to affect the Critical Path and unnecessarily re-directed resources better spent on completion of the base Contract design.

Requested Relief

Skanska respectfully requests that WSDOT:

SKANSKA

- a. Reconsider its determination in SL No. 9727-280 and acknowledge that WSDOT's RCSR comments constituted direction to incorporate lateral migration requirements beyond the Contract scope
- b. Process an Owner-Initiated Change (OIC) for the costs and time impacts resulting from the directed design changes, in the amount of \$4,615,622 as detailed in Section c above
- c. 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 an opportunity for potential cost mitigation

Reservation of Rights

Skanska will continue to perform the Work as directed while this matter is being resolved. This letter is without prejudice to, and with a full reservation of, Skanska's rights, remedies, causes of action, and defenses under the Contract, at law, in equity, or otherwise. Nothing in this letter shall be interpreted as a modification or waiver, or an estoppel of Skanska's right to assert the same.

Should this matter remain unresolved following WSDOT's determination, Skanska reserves the right to refer this dispute to the Disputes Review Board in accordance with Section 1-04.5(1).1.

If you have any questions or require additional information, please contact me.

Regards,



Patrick Prendergast, Vice President

Skanska USA Civil
18911 N Creek Parkway S
Suite 300
Bothell, WA 98011

Attachments:

1. AECOM Notice of Protest Supplemental Information, PCN-00153 - Juanita Creek Lateral Migration (March 20, 2026)
2. Attachment 1 - PCN 153 Detailed Project Record



AECOM Technical Services, Inc.
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aecom.com

3/20/2026

Via E-mail

Patrick Prendergast
Contractor's Representative
Skanska USA Civil West California District Inc.
18911 N Creek Pkwy, Suite 300
Bothell, WA 98011
Patrick.Prendergast@skanska.com

Project: I-405, Brickyard to SR 527 Improvement Project
Contract No: 009727
RE: Notice of Protest: PCN-00153 – Juanita Creek Lateral Migration

I am writing on behalf of AECOM in response to WSDOT's Serial Letter No. 9727-280, dated February 24, 2026. In accordance with the protest procedures outlined in Section 1-04.5 of the RFP: Procedure, Protest, and Dispute by the Design-Build, AECOM hereby disputes WSDOT's statement that after review of Skanska Serial Letter Skanska LTR 337, dated January 30, 2026, "No Owner-Initiated Change is warranted based on the information presented." As required per the agreement between Skanska USA Civil West California District Inc. ("Skanska") and AECOM Technical Services, Inc. ("AECOM"), dated October 25, 2022 (the "Design Subcontract"), please forward this to WSDOT as soon as possible, but no later than the deadline provided by WSDOT of March 24, 2026.

As a supplement to AECOM's Notice of Protest, dated March 9, 2026 entitled, "PCN-00153 – Juanita Creek Lateral Migration," AECOM provides additional information as requested by WSDOT, as follows:

a. The date and nature of the protested order, direction, instruction, interpretation, determination:

Date of Protested Order: February 24, 2026

Nature of Protested Order: The Design-Build team is protesting WSDOT's assertion in letter SL No. 9727-280 that after review of Skanska Serial Letter 337, WSDOT believes "No Owner-Initiated Change is warranted based on the information presented."

b. A full discussion of the circumstances which caused the protest, including names of Persons involved, time, duration and nature of the Work involved, and a review of the Contract Documents/Design Documents referenced to support the protest.

Below is a summary of the project record and the circumstances which caused the protest:

1. In January 2025, the Design Build team investigated the possibility of decreasing depth of wingwalls at the Juanita Creek Fish Passage. At the time wingwall design was developing, the tunnel width had increased and wingwalls were angled away from the stream. Therefore, reducing the depth of the wingwalls was both benefit to the project and logical approach, as the RFP documents indicate a low likelihood of lateral migration. This in turn allows for the bottom of the wingwalls' fascia embedment to be consistent with the elevation determined by scour depth.
2. From January to February of 2025, there were discussions with WSDOT on whether to use the scour prism width in Bridge Design Manual (BDM) Figure 8.1.10-1 Scour Without Lateral Migration or

Figure 8.1.10-2 Scour with Lateral Migration. AECOM's approach was to use Figure 8.1.10-1 which assumes the width of the scour prism is equal to the extents of the check flood (greater of either the 500-year or the 2080 100-year flood extents). Figure 8.1.10-2 requires a lateral migration analysis to determine the "catch point," i.e., width of the scour prism. AECOM's use of figure 8.1.10-1 meets the contract requirements, and the overall design of this structure has continuously met Contract requirements, despite the multiple iterations of analysis required by WSDOT.

- WSDOT's interpretation of the design was that even though Table 2.30-B of the project Technical Requirements state that the risk of lateral migration is low, it is not negligible. Therefore, WSDOT insisted the DB team use the BDM Figure 8.1.10-2, not Figure 8.1.10-1, and required the DB team to determine the width of lateral migration at Juanita Creek.

Figure 8.1.10-1 Scour without Lateral Migration

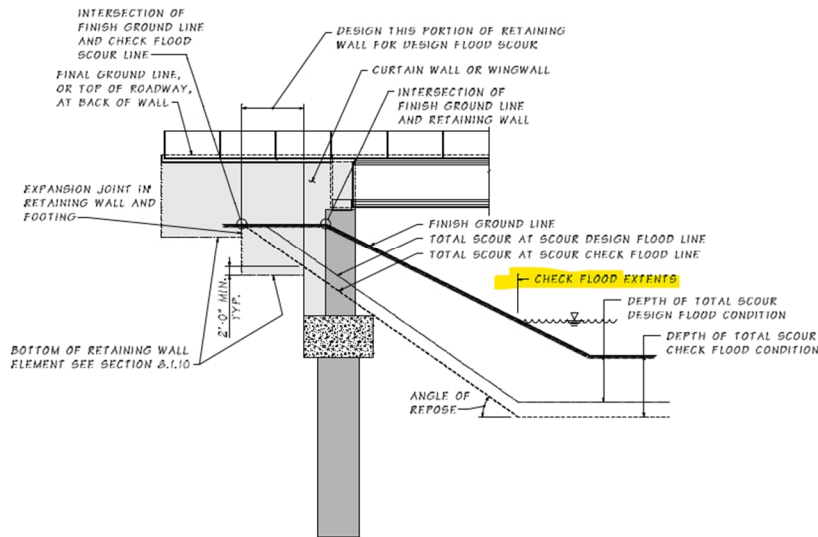
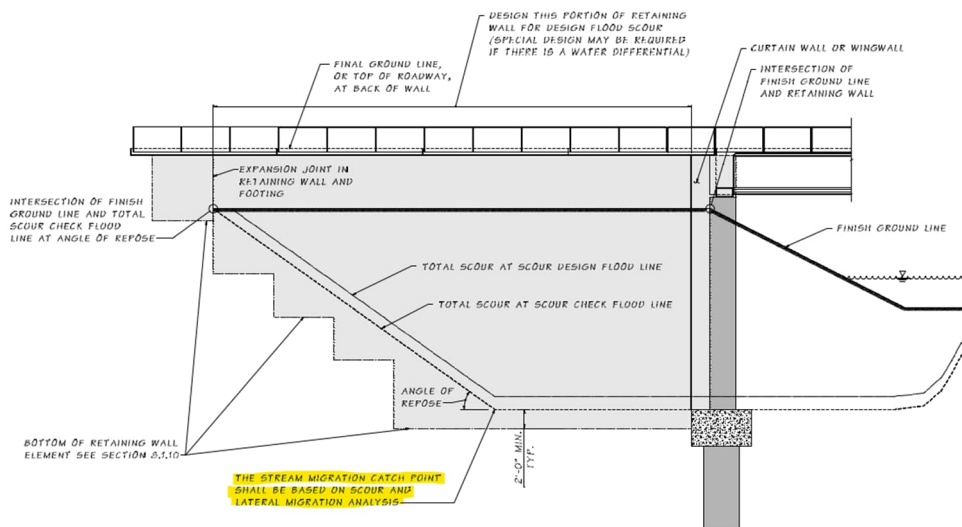


Figure 8.1.10-2 Scour WITH Lateral Migration



4. WSDOT consultant (G. Ng) recommended AECOM use the “valley width” approach for estimating lateral migration. The DB team followed this guidance and calculated the lateral migration extents using the valley width approach and determined a conservative lateral migration width of 60 feet. This was presented to WSDOT and subsequently rejected. WSDOT stated that there was variability in the estimated valley width at various cross sections. Arriving at this impasse, the design team requested input or direction on what other approaches would be accepted. This included using the 500-year flood extents (the Contract stipulated requirement found in the WSDOT Hydraulics Manual), which WSDOT again rejected. Still at an impasse, and without clear direction, the DB team requested additional guidance for what approaches WSDOT would accept. AECOM also requested examples of how WSDOT typically calculates lateral migration at fish passage culverts. WSDOT did not provide direction, guidance, or relevant samples of engineering approaches for AECOM’s use, leaving design completion in an indeterminate state.
5. At the end of February 2025, AECOM and Skanska met to confirm that, without the ability to provide a lateral migration calculation acceptable to WSDOT, the wing walls could not be designed to reduce the wingwall depth. The team was therefore required to revert to the baseline design, which is a conservative approach (i.e., full scour depth). WSDOT accepted the approach to use the baseline design and thus the need to determine the width of lateral migration was, for the time being, no longer necessary.
6. In April 2025, AECOM received, via Preliminary design Comment Review, a comment regarding scour protection at wingwalls and the existing mechanically stabilized earth (MSE) wall from WSDOT. The comment (J. Pang, WSDOT consultant) stated that, in order to achieve an approved design, WSDOT would require a scour prism. Without an established methodology of determining the lateral migration, the scour prism cannot be determined. To date, AECOM had attempted the “valley width” approach, recommended by WSDOT, and the 500-year flood extents method to calculate lateral migration, both of which had been rejected by WSDOT. This again left AECOM with a bottleneck and no established path forward.
7. From April through June of 2025, AECOM continued discussions with WSDOT attempting to arrive at an acceptable resolution. The 500-year extents were proposed and rejected. AECOM then provided an updated “Valley Width” approach, which provided a lateral migration value of 46 feet. WSDOT accepted this value on June 18, 2025, which allowed AECOM to continue with design.
8. At the end of June 2025, the design build team reiterated its concern to WSDOT that the requirement to include lateral migration calculations was unnecessary and was imposing a requirement that in turn necessitates larger wingwalls. The team reiterated that there is no explicit Contract requirement to provide specific in-depth lateral migration calculations because the proposed smaller wingwalls meet the Contract requirements insofar as they still account for the potential scour for this area of Juanita Creek.
9. On June 28, 2025, WSDOT, in an apparent reversal, closed all RCSR comments related to lateral migration. AECOM subsequently selected BDM Figure 8.1.10-1 to estimate a scour prism in order to provide a scour countermeasure. This utilizes the 500-year extent and arrives at a width of approximately 38 feet. It should be noted this was AECOM’s original plan, meets Contract requirements, and includes scour countermeasures in the design.
10. See *Attachment 1 – PCN 153 Detailed Project Record* for a detailed record of design history.



be delivered once complete. It should be noted that this issue is likely to affect the Critical Path and unnecessarily re-directed resources better spent on completion of the base Contract design.

In closing, the project record demonstrates AECOM diligence in design and the numerous attempts to provide a rational and logical approach to Lateral Migration based on WSDOT's own published guidance and direction. Despite AECOM's persistence, WSDOT has repeatedly rejected substantiated methodologies for Lateral Migration without any tangible alternatives or analytical rationale for said rejections. This issue is demonstrative of WSDOT's continued inequitable interpretation of Contract requirements, the lack of qualified WSDOT design review inputs, and general interference with design progress. The project history recorded in this letter justifies AECOM's position that PCN 153 qualifies as an Owner Initiated Change per 1-04.4(1) as WSDOT added new work, modified the scope of work, and revised terms and conditions of the Contract Documents.

This letter is without prejudice to, and with a full reservation of, AECOM's rights, remedies, causes of action, and defenses under the Subcontract, at law, in equity, or otherwise. Nothing in this letter shall be interpreted as a modification or waiver, or an estoppel of AECOM's right to assert the same.

I appreciate your prompt attention to this matter. If you have any questions, please do not hesitate to contact me directly.

Yours sincerely,

AECOM Technical Services, Inc.

A handwritten signature in black ink, appearing to read "Jon Guerrero".

Jon Guerrero, PE
M: 206.579.0292
E: jon.guerrero@aecom.com

Attachment: Attachment 1 – PCN 153 Detailed Project Record

cc: Evan Grant (AECOM), Richard Patterson (AECOM)

3/20/2026

Project: I-405, Brickyard to SR 527 Improvement Project
Contract No: 009727
RE: Notice of Protest: PCN-00153 – Juanita Creek Lateral Migration

Attachment 1 – PCN 153 Detailed Project Record

See timeline and visual exhibits below:

- **7/3/2024** – Draft Final Hydraulic Design Report (FHD) for the Juanita Creek crossing submitted by the DB team to WSDOT, as part of the preliminary design package 8.

The following language was included in the Draft FHD, which was carried over from the WSDOT Draft PHD: “Historical aerial imagery suggests it is generally stable and is not subjected to extreme lateral migration [Section 2.7.2 Channel Geometry].... Upstream of the I-405 crossing, Juanita Creek flows through a forested ravine with low to moderate channel migration potential, until it reaches the inline detention facility. There is also limited channel migration potential immediately downstream of the crossing as the stream flows through a narrow, vegetated area within a housing development. Further downstream, the creek continues to flow through pipes and developed areas with little opportunity for significant channel migration [Section 2.7.4 Channel Migration].”
- **7/29/2024** – DB team received comments on the Draft Final Hydraulic Report (FHD) for the Juanita Creek crossing, from WSDOT, and cities of Bothell, Kirkland. No comments related to lateral migration were received at this time.
- **1/7/2025** – Final Hydraulic Design Report (FHD) for the Juanita Creek crossing submitted by the DB team to WSDOT, as part of the final design package 8.
- **1/7/2025** – Fish Passage SEM Tunnel Task Force notes:
 - BDM Chapter 7.17 walls adjacent to structures. Defines limits of scour.
 - ACTION: Design team to review and apply.
- **1/13/2025** – Erin Gaffney at Skanska followed up meeting minutes with an email regarding clarification on which version of the BDM AECOM referenced and requesting AECOM provide the stream migration catch point based on the scour and lateral migration analysis.
- **1/14/2025** – Fish Passage Task Force Meeting notes:
 - BDM Figure 8.1.10-1 provides wall depth requirements for Scour without Lateral Migration
 - BDM Figure 8.1.10-2 provides wall depth requirements for Scour WITH Lateral Migration
 - ACTION: design team to review and apply to wing walls at fish passages.
- **2/11/2025** – Fish Passage Task Force Meeting. Discussion on lateral migration. WSDOT noted that even though the contract states that the risk of lateral migration is low, it is not zero. WSDOT then directed the DB team to provide lateral migration calculations. Gabe Ng (WSDOT consultant) directed AECOM to utilize a “valley width” approach to estimate lateral migration extents. Meeting notes:

- Retaining wall and scour adjacent to new streams
 - Smaller scale:
 - Measure valley width and historic flood plains to determine geomorphic properties.
 - Can be discussed specific by site.
 - ACTION: Design to consider input from WSDOT in wing wall scour design.
- **2/11/2025 – 2/21/25** – DB team conducted research and developed a number of approaches for estimating lateral migration and quantifying stream stability:
 - Reviewed WSDOT Hydraulics Manual Lateral Migration Risk Assessment Process.
 - Reviewed Rapid Channel Stability Assessment developed for FHD.
 - Reviewed [WA Ecology Framework for Delineating Channel Migration Zones](#), which recommends using historical imagery analysis. DB team attempted historical imagery analysis for Juanita Creek using all available historic images. Since imagery resolution is low and there has historically been heavy tree cover, this approach was unsuccessful in determining defensible lateral migration extents based on historical imagery.
 - The WA Ecology guidance also recommends investigating soils and geologic layers to help determine historic floodplain extent. These were reviewed for Juanita Creek, however the GIS soils and geologic data for Juanita Creek are too coarse to be used to assess historic floodplain extent.
 - It was determined that since the expected lifespan of the structure is 75 years, the chance of more than one 500-year event occurring over any given 75-year period is approximately 1%. Thus, even if the 500-year event were to ever occur, the channel would likely still remain within the extents modeled by the SRH-2D hydraulic model. Thus, the DB team tried to justify that using the 500-year extents – which have a similar extent to the width of the structure – was a defensible estimate for lateral migration extents. WSDOT rejected this approach.
 - The DB team considered a stream power vs erodibility index approach, as recommended by WSDOT trainings. AECOM determined that the typical approach is not appropriate at this fish passage, as it is intended for systems with bedrock (Juanita Creek is an alluvial substrate).
 - The WSDOT documents and training state that there is ongoing WSDOT research related to the development of a stream power vs erodibility index for all geomaterials. AECOM attempted to determine erodibility based the chart provided in the WSDOT training documents. However, since it is a simplistic approach for determining potential for scour, it does not provide the ability to determine dimensions that would be useful for design inputs.
 - Per Gabe Ng's direction at the 2/11/25 Task Force meeting, the "valley width" approach was conducted for Juanita creek, analyzing changes in valley slope at various cross sections upstream and downstream of the structure.
 - **2/21/2025** – Meeting with Gabe Ng to discuss valley width approach results. DB team estimated a conservative valley width of 60 feet as a proxy for lateral migration extents. This analysis was not accepted by WSDOT.
- 2/25/2025** – Fish Passage Task Force Meeting. Based on meeting with Gabe Ng and the difficulty in getting acceptance for lateral migration extents, DB team could not recommend a reduction in wing wall depth. Meeting notes:
- No reduction of wing wall depth at Juanita
 - Design to provide description of remaining fish passages for path forward.

- **2/20/2025** – DB team receives comments on the Draft Final Hydraulic Report (FHD) for the Juanita Creek crossing. Comments related to lateral migration include #41 (Gabe Ng), #196 (DJS)

41	28	G.Ng		While anthropogenic features can control and limit channel migration they are not a basis for assessing low or limited migration. Heavy vegetation, like mature trees would be signs of lateral/banks stability as well as steep banks with coarser gravels/boulders if they are present. Bolstering this section will better support the retaining wall designs.
196	Section 7.1 last paragraph	DJS		a) Could you make your conclusion clear and complete based on the info you have, 2) Pleased the term "NOT low" is used. Based on what I read, it seems like this should be your summary. "Based on the available geologic and geomorphic understanding described in section 2, the risk of lateral migration is NOT low. The existing sediments/soils in the bed and banks are considered erodible. Beavers/beavers dams are present in the watershed. It is possible that the channel could shift or change. We were not able to determine the amount the channel has changed historically." if this is not

- **3/11/2025** – Fish Passage Task Force Meeting Minutes:
 - No historical data for stream scour
 - No way of proving if wingwalls can be determined to outside of scour range for wingwall height optimization
- **3/24/2025** – Preliminary structural design for Juanita Creek crossing, East Portal submitted by the DB team to WSDOT
- **4/2/2025** – Preliminary structural design for Juanita Creek crossing, West Portal submitted by the DB team to WSDOT
- **4/16/2025** comments received from WSDOT on preliminary structural design for Juanita Creek East Portal. There were two comments, #3 and #13, referring to lateral migration and scour depth requirements to be met by the wingwalls. The DB team confirmed that the requirements were met and that design approach included considerations for lateral migration.

3	FP5-18	HQH	BDM 8.1.10	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).	A	IR (Originator)	Yes, the bottom of the fascia wall is 2 ft below total scour at the check flood elevation. This is reflected in the drawings as per comment #13. 09/08/2025: Drawings updated for East Portal final submission.
13	FP5-18&21	JP	8.1.5D	Embedment depth of wall fascia could not be verified for compliance. Please provide dimensions of water elevations, scour, thalweg	A	IR (Originator)	Comment noted, items requested to be added to allow for verification. 09/08/2025: Noted.

The status for the comments was "R", referring to changes in scour in final response to comment #13.

Will review in final. I understand open items with the hydraulic design may lend to scour changes. FHD needs to be finalized and RFCed for structure to be released per 2.28.3.4	R
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- **4/23/2025** – Comments received from WSDOT on preliminary structural design for Juanita Creek West Portal. Comment #25 referring to scour requirements in the existing MSE wall. As per the East Portal, but in this case stated directly in the response, the DB team responded that the portal design was based on "a conservative lateral migration and scour assumption".

25	FP5-26	XL/JP	BDM 7.1.7	At the joint between the wingwall and existing MSE wall at both wingwall ends scour requirements for the new and old portion of the MSE apply.	D, C	IR (Originator)	Comment noted. Further clarification required on this comment. The wingwalls' fascia toe level is set to the depth of the total scour + 2ft – the same depth as the tunnel walls; they help to prevent scour and channel migration from continuing past the wingwalls. Also, the MSE wall is perpendicular to the stream alignment and is not expected to be in contact with streamflow (they are beyond the 500-year inundation extents), nor affected by potential bank erosion. We believe the requirements in BDM 8.1.10 are not intended to consider this area as subject to scour. 09/01/2025: The scour requirements in that area are being reviewed by the Hydraulics team. The scour protection elements are going to be defined in the stream design package. The current portal design is based in a conservative lateral migration and scour assumption and will not be affected by this refined assessment undertaken in the area beyond the wingwalls.
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The status for this comment was also set to "R". Note the comment was resolved with the agreement of this status by September 2025.

R	<p>Discuss, scour requirements apply. Per 2.13.4, Minimum foundation cover requirements for scour shall be in accordance with the WSDOT Bridge Design Manual. Existing structure foundations including spread footings, pile caps, shaft caps (or bottom of seal if used), and wall elements (including fascia panels, lagging, leveling pads, and footings) affected by the Work shall meet the minimum foundation cover requirements or be protected against scour to that level.</p> <p>9/9/25: Discussion would be good. I understand the channel and scour design is in flux.</p> <p>9/15/25: Code change. Will review changes in final.. I understand scour and grading in the works and a portion of the wingwall (south) will be shaded not for construction.</p>	R
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Due to Jason Pang's (WSDOT consultant) comment on Juanita Creek West Portal Preliminary Design, the topic of lateral migration arises again. The DB team was directed to calculate lateral migration to understand extent of scour potential at MSE and to design scour protection accordingly.

- **6/13/2025** – Yacoub Raheem at AECOM provided email documentation to WSDOT proposing that the 500-year extents be considered the extent of lateral migration. That email states that, based on a structural comment from Jason Pang, AECOM is required to protect the MSE wall at Juanita Creek and is therefore required to quantify potential extent of lateral migration:

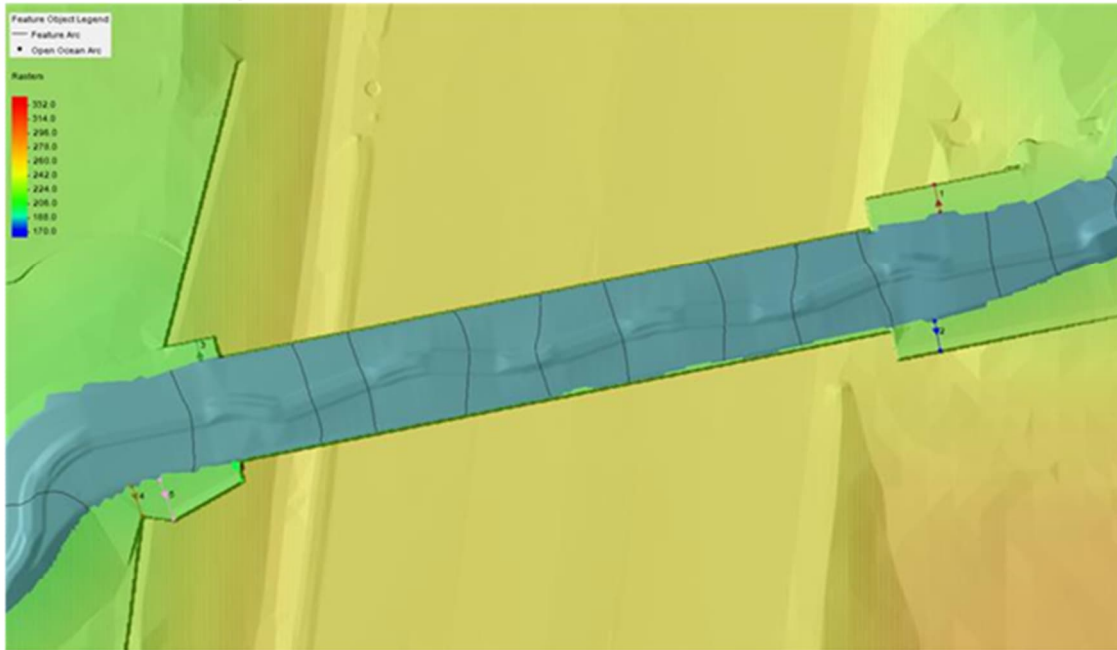
From: Raheem, Yacoub <yacoub.raheem@aecom.com>
Sent: Friday, June 13, 2025 12:24 PM
To: Alex Strom <astrom@hntb.com>; Ng, Gabe <Gabe.Ng@jacobs.com>
Cc: Jarosz, Katherine <katherine.jarosz@aecom.com>; Cote, Meredith <Meredith.Cote@aecom.com>; Gentzler, Seth <seth.gentzler@aecom.com>; Mcneely, Steve <steven.mcneely@aecom.com>; Jones, Curtis <Curtis.Jones@aecom.com>
Subject: [EXTERNAL] RE: I405 BY: RSCR Comment Follow Up

Hi Gabe and Alex,

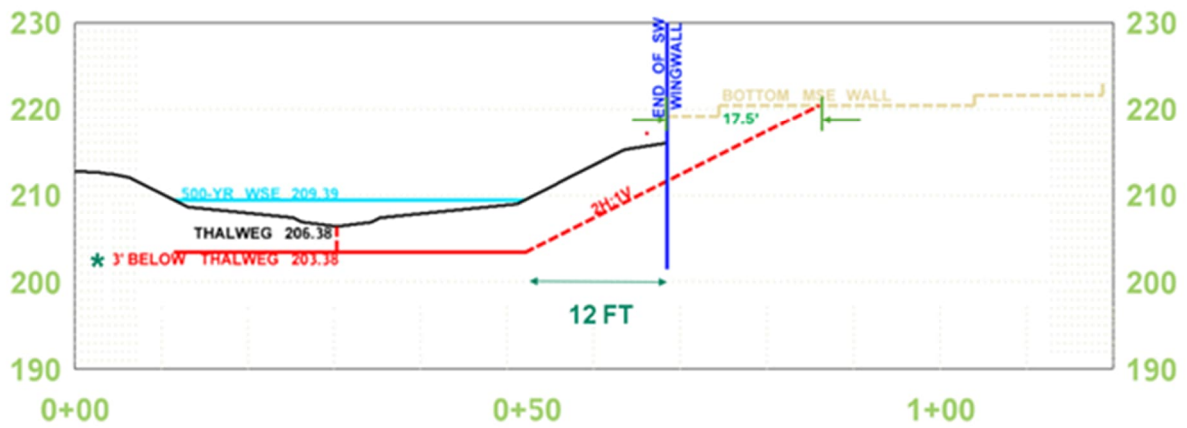
We look forward to speaking with you soon. In case you had a little bit of time before the call, we wanted to send along some bullet points we would like to discuss. In response to a structural comment from Jason Pang related to protection of the downstream MSE at Juanita Creek, we need to quantify potential extent of lateral migration. Up until now, we have found it difficult to develop an exact value for lateral migration, and thus, designed tunnel and wingwalls for full scour depth:

- Dense vegetation and tree cover, poor aerial imagery resolution, make it difficult to delineate features such as the top of bank and stream centerline, and thus it is **not possible to define the extents of channel migration based on historical imagery**.
- Based on **geotechnical information**, there are **no non-erodible geologic features or cohesive materials that could limit the extents** of lateral migration of the stream channel.
- Since this is a **new channel**, some historical features (e.g. trees or vegetation on the banks) may not be entirely relevant. Also there is **no historical imagery** upon which to estimate lateral migration of future conditions.
- The risk of lateral migration may only be low to moderate; however, to be conservative, **lateral migration was assumed when conducting scour analysis** (it is assumed that thatweg can migrate to wall for new structures).
- Regarding the structures, **both tunnel and wingwalls are designed for full scour depth**. FHD did not include scour countermeasures to be provided on top of that.
- During preliminary design, WSDOT measured the **meander belt width to be 30 feet**; this was used to size this width of the tunnel during preliminary design. Since then, **the tunnel has been widened to 37.8 feet**.
- The flood prone width (which is defined as the water surface width at twice the bankfull depth or the width at the 50-year to 100-year flood) can be considered as a proxy for the channel migration zone and the extents of lateral migration. The FPW was calculated as 18.1 ft in the upstream reach and 17 feet in the downstream reach, based on the 100-yr model results.
- We propose that the modeled **500yr extents be considered the extent of lateral migration**.

Junita Creek 500-yr extents:



Juanita scour prism at MSE wall:



- **6/13/2025** – Gabe Ng responds, requesting validation to meander width and valley width, to support historic migration limits:

From: Ng, Gabe <Gabe.Ng@jacobs.com>
Sent: Friday, June 13, 2025 1:03 PM
To: Raheem, Yacoub <yacoub.raheem@aecom.com>; Alex Strom <astrom@hntb.com>
Cc: Jarosz, Katherine <katherine.jarosz@aecom.com>; Cote, Meredith <Meredith.Cote@aecom.com>; Gentzler, Seth <seth.gentzler@aecom.com>; Mcneely, Steve <steven.m.cneely@aecom.com>; Jones, Curtis <Curtis.Jones@aecom.com>
Subject: RE: I405 BY: RSCR Comment Follow Up

Thanks Yacoub,

I have similar comments/concerns. One of my added comments is to understand where/how the 30' meander width was estimated; and why the tunnel was additionally widened.

I didn't see any validation to the meander width or valley width in the updated FHD to support the outer limits of what the historic migration limits would be.

Depending on where the walls are located; I believe you could use a countermeasure to mitigate total scour but I have to double check which manual that is in.

Talk soon,

Gabe Ng, PE
WSDOT HQ Hydraulics
(consultant)
206-718-5252 mobile

- **6/13/2025** – Virtual meeting was held with WSDOT to further discuss topics in emails sent on 6/13/25.
- **6/17/2025** – Fish Passage Task Force Meeting notes:
 - Juanita Creek:
 - Scour Limits:
 - Lateral migration extent:
 - To be determined with valley width calculation for outer limit
 - Meander belt width assessment to be included in FHD.
 - ACTION: Design team to send over the shoulder analysis to WSDOT for concurrence, 6/17/25.
- **6/18/2025** – After further analysis by AECOM, Yacoub Raheem sent a follow up email to WSDOT recommending a lateral migration width of 46 feet based on and updated “valley width” approach. The tunnel and wingwalls were designed for full scour depth and do not require scour protection. Proposed to use lateral migration extents to design scour protection for the MSE wall, using extents to determine how much of the MSE wall would need to be protected:

From: Raheem, Yacoub <yacoub.raheem@aecom.com>
Sent: Wednesday, June 18, 2025 12:49 AM
To: Ng, Gabe <Gabe.Ng@jacobs.com>; Alex Strom <astrom@hntb.com>
Cc: Cote, Meredith <Meredith.Cote@aecom.com>; Gentzler, Seth <seth.gentzler@aecom.com>; Mcneely, Steve <steven.m.cneely@aecom.com>; Jones, Curtis <Curtis.Jones@aecom.com>
Subject: [EXTERNAL] RE: I405 BY: RSCR Comment Follow Up

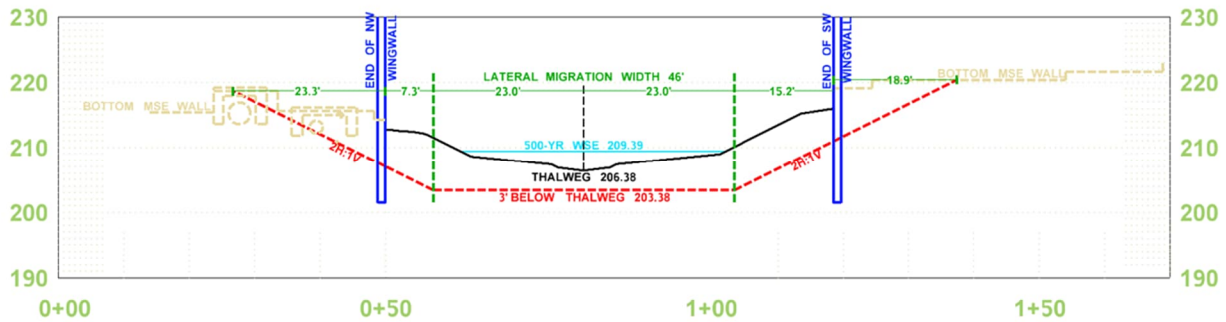
Hi Gabe and Alex,

We would like to come to a consensus on lateral migration extents for Juanita Creek as soon as possible, since this impacts other disciplines. We performed an updated valley width analysis for Juanita Creek, something we discussed with Gabe several months ago (Alex, I don't think you were on that call). We looked at cross sections in the design reference reach and estimated a conservative average width of **46.0 feet**. We propose to use this value for lateral migration extents. This is wider than the 30-foot meander belt width estimated by WSDOT for preliminary design, wider than the proposed tunnel width (37.8 feet), and wider than proposed 500-year extents downstream near the MSE wall.

Here is some additional text we would add to Section 2.7.5. Channel Migration:

To determine the lateral migration extents for Juanita Creek, valley width measurements were estimated for the design reference reach. Cross sections were cut for the nine upstream BFW locations (the most downstream BFW location was not used because it is near the bend in the creek where the valley floor widens in the wetland area). Valley width extents were estimated by analyzing grade breaks on the banks of the cross sections. They indicate the horizontal extent of the valley floor, which includes the river channel and associated floodplains and terraces. These are indicative of the extents that the channel could potentially migrate. The average valley width for the nine cross sections is 46.0 feet. This value will be used as a conservative estimate for the lateral migration extents. The figure below shows lines connecting the valley width extents for the 9 cross sections through the design reference reach. Appendix N [attached spreadsheet] shows the cross sections for each of these locations along with the valley widths.

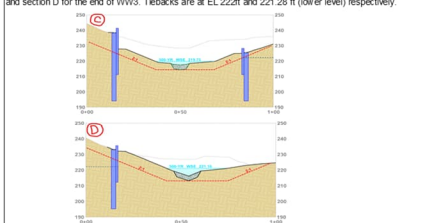
- **6/18/2025** – Gabe Ng agrees with lateral migration extents and documentation, requests information to be included in the final FHD.
- **6/18/2025** – Yacoub Raheem responds by email with updated section view of the scour prism at the downstream end of the wingwalls (West Portal), to be used as a guide to design buried riprap following HEC-23 to protect the MSE wall. The width of the scour prism assumes 46 feet based on lateral migration analysis, as approved by WSDOT.



- **7/1/2025** – Fish Passage Task Force Meeting Minutes. WSDOT reiterates that *low* lateral migration does not mean *no* lateral migration, and thus limits of migration still need to be determined:
- Parcel at Juanita West:
 - Structure or other utilized in scour protection calculations cannot be left in place without permanent easement.
 - Juanita Creek Lateral Migration:
 - Table 3.20B - states that risk of lateral migration is low
 - WSDOT notes that lateral migration defined as low in Chapter 2 still requires the limits to be determined.
 - Skanska to look into and follow up.
- **7/15/2025** – Fish Passage Task Force Meeting Minutes. WSDOT reverses stance on lateral migration and stated that since contract defines lateral migration as low, limits of migration do not need to be determined:
 - Scour protection at MSE wall at downstream side, Comment 25.
 - Contract defines lateral migration at Juanita Creek as low and will be followed.
 - ACTION: Design to send WSDOT latest RCSR form.
 - WSDOT to provide updates to comments related to lateral migration.
 - ACTION: WSDOT to discuss internally direction on lateral migration.
 - Wing walls and tunnel are design for full scour protection.
 - Stream measures (i.e. alignment, wood material) could reduce scour risk for existing MSE wall even lower at downstream left bank.
 - Oversizing streambed material does not meet injunction requirements.
 - HEC23 scour countermeasure manual allows for biotechnical scour protection. Provides additional lateral stability.
- **7/28/2025** – AECOM in receipt of email from Sonia Berriz (WSDOT consultant), closing RCSR comments related to lateral migration. Thus, instead of the scour prism width being 46 feet, based on the valley width approach for estimating lateral migration, the scour prism width will be set to the width of the 500-year flood extents (approximately 38 feet). This follows BDM Figure 8.1.10-1 instead of BDM Figure 8.1.10-2.
- **8/5/2025** – Final structural design for the Juanita Creek crossing, East Portal submitted by the DB team to WSDOT. The depth of wingwalls were the same as presented in Preliminary Design, as the design and drawing were completed before the resolution of the lateral migration consideration was achieved. The submission is rejected by WSDOT due to disposition codes not accepted by WSDOT in all comments in RCSR.
- **9/16/2025** – Final structural design for the Juanita Creek crossing, East Portal submitted by the DB team to WSDOT, this time with updated RCSR responses. The wingwalls depth were the same as presented in Preliminary Design.
- **9/17/2025** – Final structural design for the Juanita Creek crossing, West Portal submitted by the DB team to WSDOT. The wingwalls depth were the same as presented in Preliminary Design.

10/10/2025 – Comments received from WSDOT on the final structural design for both Juanita Creek East Portal and West Portal. For the East Portal, there was a comment (i.e., Comment #16) related to scour at the end of the wingwalls. The DB team noted the review made in the scour considerations.

16	FP5-18	TB/JP	Z.28	At the end of wingwall 3 and 4, is the scour depth 10'-20ft as shown? Does that mean the anchors near the ends of the wingwalls will get exposed when scour occurs following angle of repose beyond the hydraulic width?	C	IR	The scour line has been reviewed by the hydraulic team and it extends above the ground anchors level for Wingwall 4, so no ground removal occurs under the ground anchor location. For Wingwall 3 the upper level tieback would be exposed. Further analyses noted that the tieback can be removed in the permanent condition, so it will only be working during the temporary stage. Refer to section below. C for the end of WW4 and section D for the end of WW3. Tiebacks are at EL 222ft and 221.25 ft (lower level) respectively.
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For the West Portal, there were comments on the impact of the scour at the MSE wall interface area (Comment #10).

10	FP5-26	JP/TB	Cited in Comment	Understood that the design builder has not completed design of the grading at the end of the wing walls and MSE wall tie-ins. Please complete the design and submit for review, as required per 2.28.3.4.3. Expand shaded RFC boxes at both MSE tie in and MSE wall panel removal. On the right gap in grading and undermining of MSE wall is shown for at least 3 more columns of panels to the right. On the left, gap in grading and undermining of MSE wall shown for at least 4 more columns of panels to the left. Current standards for MSE wall, including wall embedment and scour, shall be met for the existing per 2.6.6.3.1, 2.13.4.	A T	IR	Comment noted. Updated grading to be included. 12/18/2025: Grading updated in elevation and plan view. Scour countermeasures as per hydraulic design, to be included in plan view when available as H2C. 01/19/2026: As discussed in the meeting on 01/16, shaded areas will be added in the MSE wall interface pending completing the hydraulic design. This comment is set to status "T".
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The topics of the grading, scour protection, and impact on the MSE wall were in discussion for several months. Eventually it was agreed with WSDOT reviewers that this item was not directly related to the wingwalls design and to transfer this comment to the hydraulic design. For the purpose of the RFC submission, it was agreed to shade the corners of the MSE wall interface area.

Please share the updated details for how the new and old wall interface and requirements for panel lap joints and filter fabric.	T
1/20/26: Code changed to T. Need FHD RFC.	

- **12/31/2025** – RFC structural design for the Juanita Creek crossing, East Portal submitted by the DB team to WSDOT. The depth of the wingwalls were not reviewed and show the same depth as presented in Final Design.
- **1/30/2026** – SKANSKA sends Letter No. 337 BY-CRE-04589 regarding the Interpretive Engineering Decision – Juanita Creek Fish Passage – Lateral Migration Requirements (Issue SKA-0303).
- **2/23/2026** – RFC structural design of the Juanita Creek crossing, West Portal submitted by the DB team to WSDOT. The wingwalls depth were not reviewed and show the same depth as presented in Final Design. The grading was updated with latest review of the stream banks grading design. The corners of the MSE wall interface area were shaded.
- **2/24/2026** – WSDOT sends SL No. 9727-280 regarding the Interpretive Engineering Decision – Juanita Creek Fish Passage – Lateral Migration Requirements (Issue SKA-0303).