Sept. 10, 2023

Washington State Transportation Commission

The Interstate Bridge Replacement Program's "Tunnel Concept Assessment" must be retracted. It is based on extremely incorrect estimates of excavation and dredging,

The report was issued July 15, 2021, and signed by thirteen professional engineers and four consultants and then used to disqualify an immersed tunnel. However, the report was not stamped by a professional engineer and official until April 19, 2023.

On Aug. 8, 2023, from a Public Disclosure Request I received "Earthwork Documentation Model Report" and "Earthwork Documentation Tunnel Plan Profile Section" then questioned the IBR's estimates. (See attachments)

On Sept. 8, 2023, the IBR admitted its estimates were incorrect. Stating: "error that may arise with third party software" and "Quantity errors like this are not uncommon" and "This error does result in a change in the quantity of excavation of material". (See following email)

My analysis shows estimates of excavation and dredging are extremely inaccurate and inflated.

Respectfully
Bob Ortblad MSCE, MBA
206 992-1111

*Comments on email:*

*To coverup its deceptive "Tunnel Concept Assessment" the IBR is claiming incompetence.*

*IBR admits report is incorrect but plans to ignore it and continue to disqualify an immersed tunnel solution.*

*Email should be sign by Greg Johnson, Program Administrator.*

To: Bob Ortblad Sept. 8, 2023
From: IBR Communications Team

Good afternoon,

Thank you for reaching out to the Interstate Bridge Replacement (IBR) program and for sharing your questions about the Cross Section areas. We are responding back to address your specific questions but want to be clear that this does not change that the tunnel still does not best address the needs of the I-5 bridge and the corridor.

Our team of engineers uses a variety of software tools, such as InRoads that you referenced. We have investigated your inquiry and were able to confirm an issue with the model. Duplication occurred in the model where some excavation quantities were counted more than once. We are working on making the correction in the report and uploading an updated version.

However, upon reviewing what you provided, it appears your representative diagram and excavation calculations at 87+00 do not account the construction need for laying back slopes during excavation (and the resulting surface property impacts), or the alternative to have temporary structural walls which come with an extremely high cost. As you know, one of these options must be accounted for to prevent the sides of the trench from caving in during construction of an ITT.

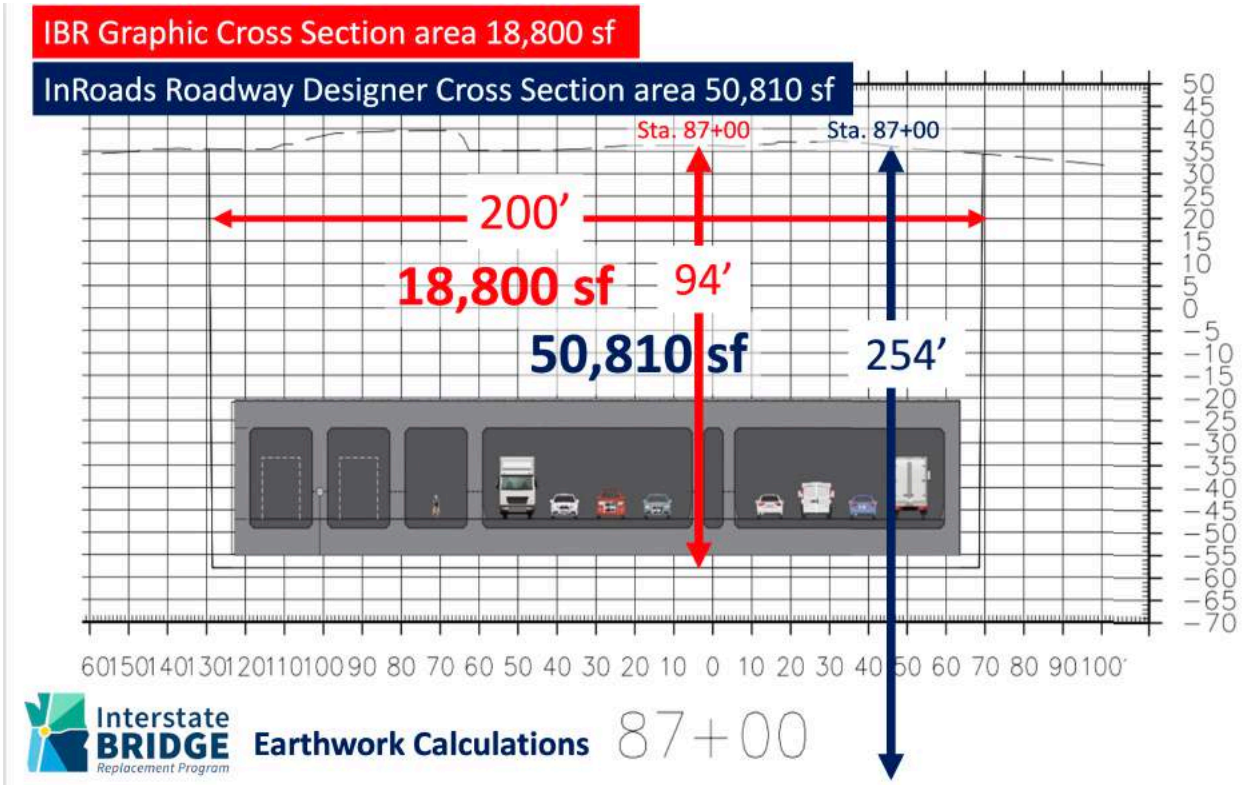
We conduct continuous quality checks and assurances to catch any errors that may arise with third party software and appreciate you flagging this. Quantity errors like this are not uncommon during the development of conceptual work. In a situation where plans are being constructed, the increasing level of detail completed as work advances would address potential calculation errors before moving to future steps.

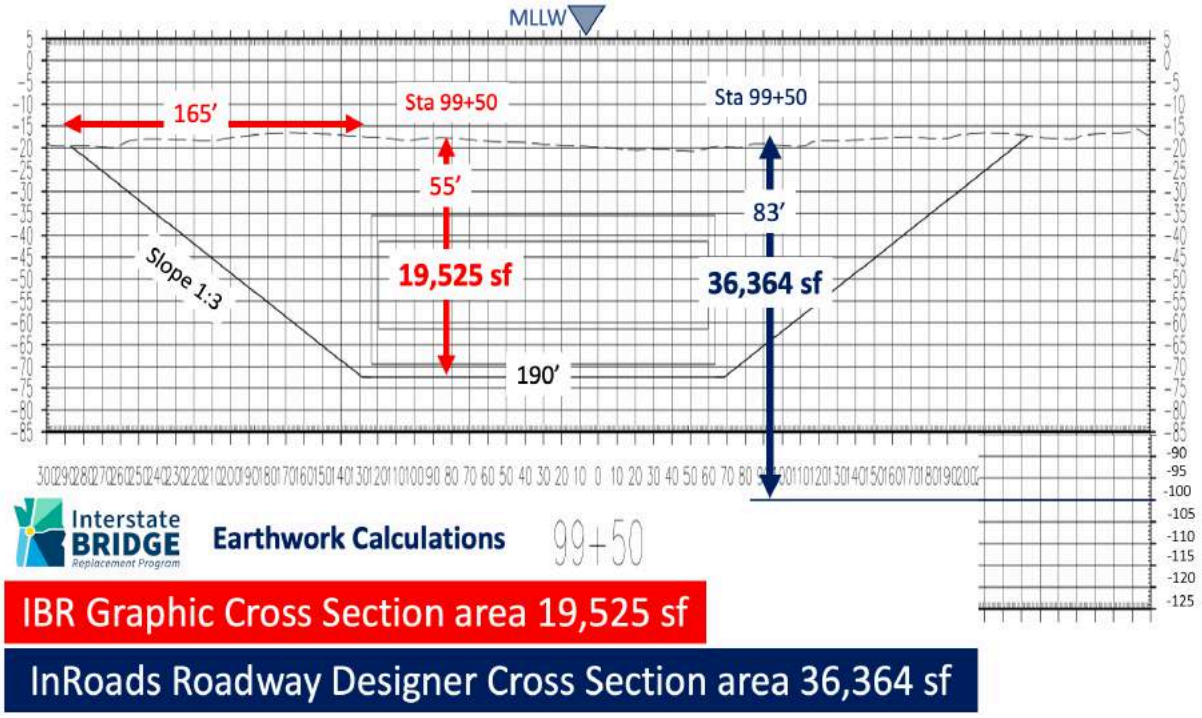
As we have extensively detailed and documented, a tunnel still results in out-of-direction travel, cannot tie into existing connections, potentially causes safety concerns for active transportation, has significant environmental impacts, and has a higher estimated cost. While this error does result in a change in the quantity of excavation of material, it does not change the decision, reached with agency partners, not to pursue a tunnel as a solution for the I-5 corridor as the multiple factors considered remain true.

We appreciate your understanding.

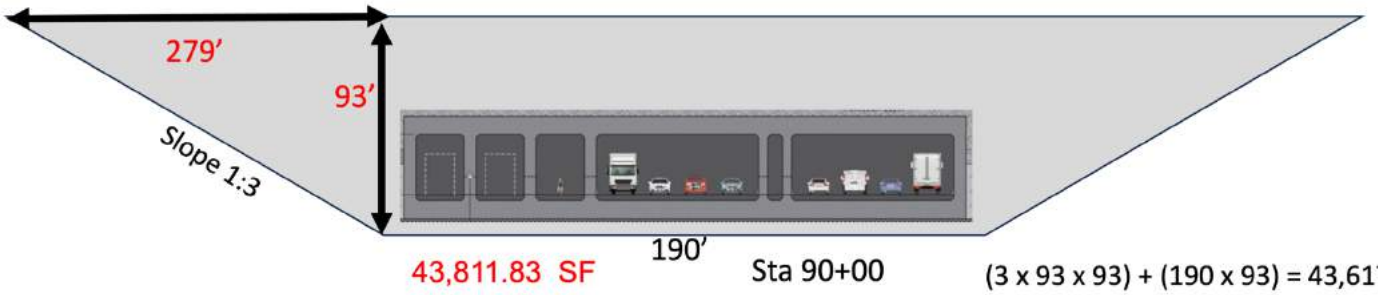
Sincerely,
Interstate Bridge Replacement program
Communications Team

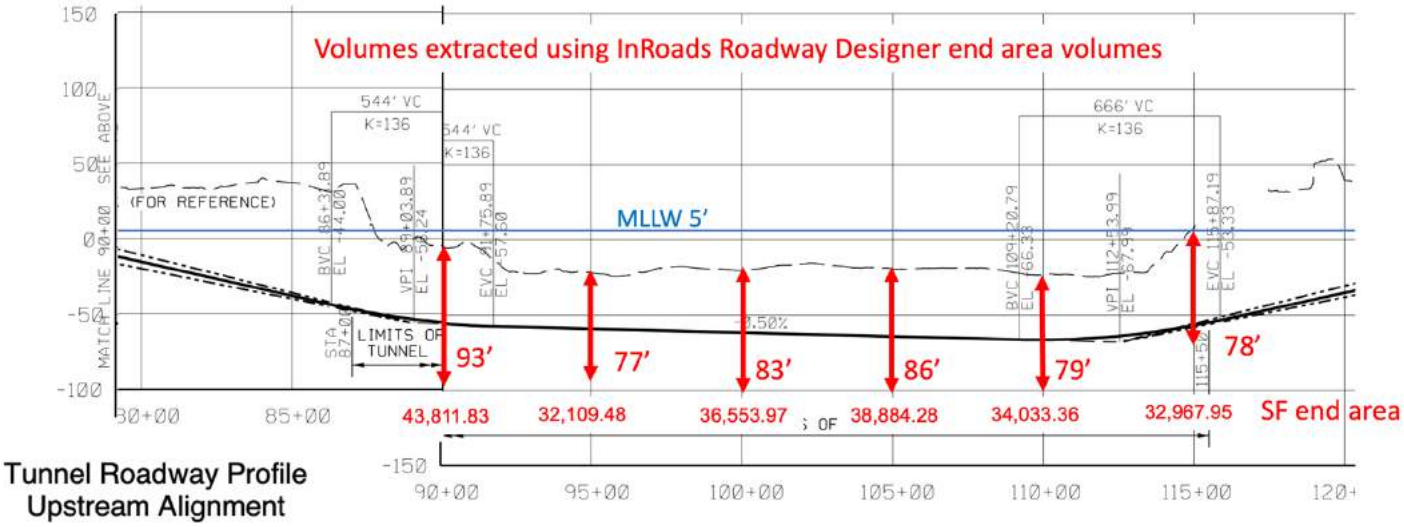
*Every Cross Section SF must equal InRoads SF, IBR's are wildly different.*



*The end areas SF used by the InRoads Roadway Designer require depths 30' to 40' deeper than IBR's Tunnel Roadway Profile.*



*Ridiculous and misleading quantities that require 200′ excavations & dredge depths of 80′. Realistic quantities are 1/4 as large and costly.*

Table 1. Preliminary Tunnel Excavation Quantities

| Location | Upstream Alignment | Realistic |
|---|---|---|
| Hayden Island (on land) | 1,800,000 $yd^3$ | *200,000 cy* |
| Columbia River (in water) | 3,800,000 $yd^3$ | *1,400,000 cy* |
| Vancouver (on land) | 2,300,000 $yd^3$ | *500,000 cy* |
| **Total** | **7,900,000 $yd^3$** | *2,100,000 cy* |
| | **100%** | **27%** |

Misleading

Interstate BRIDGE Replacement Program