

Project:	C9727 - I-405, Brickyard to SR 527 Improvement Project	
Document Name:	BY-CRE-00552_009727_SUB_17.01_Segment 3 Preliminary Structures 103E-W	
Submittal Date:	5/1/2024	
Due Date:	5/22/2024	COB
Reviewer:	Terry Bondy (TB), Dan Scheil - AWWD (DS), Minako McWreath (MM)	
Document Lead:		

Formal Design Review
Form RCSR (Review Comment Summary and Resolution)

CODES	
A	Accept Comment - Correct, Add to, or Clarify document
D	Dismiss Comment - no change needed on document
C	Clarify / Discuss and resolve before next design phase
R	Resolve comment in the next submittal phase
T	Transfer to a different submittal

COMMENT (WSDOT, City, Checker)		
No.	Report or Sheet No.	Comment By
1	All	TB Please be sure the at information required in the Preliminary Plan Check list is provided (2.13.17.1.1.) Grading contours missing, structure type, barrier wall face treatments (App L2), location of temporary barrier, to name a few.
2	BF06	TB Add a locations of temporary barrier to the Typical Section near the edge of the bridge where the existing barrier is to be removed. (2.13.7.1.1)
3	BF06	TB The typical section shows a 10'-0" lane on the far right side of the bridge, but no shoulder. Is this correct? Sheet BF18 shows this as a 10'-0" shoulder.
4	BF18; Calcs page 15 of 313	TB Sheet BF18 shows 0.25 ft of HMA overlay, while Calcs page 15 of 313 shows 1.5 inches of HMA overlay. Please confirm which is accurate and revise as necessary. Update values to meet minimum deck thickness and deck protection system.
5	BB14; Calcs page 49 of 313	TB Sheet BG14 shows 0.25 ft of HMA overlay, while Calcs page 49 of 313 shows 1.5 inches of HMA overlay. Please confirm which is accurate and revise as necessary. Update values to meet minimum deck thickness and deck protection system.
6	BF18	TB 6.5" deck thickness does not meet minimum deck thickness. Per BDM 15.5.5A, The minimum bridge deck thickness shall be 5" for slab and deck bulb-tee prestressed concrete girder superstructures, 7.5" for other concrete superstructures, 8.0" for steel girder superstructures, and 8.5" (including 3.5" stay-in-place deck panel and 5" CIP concrete deck) for superstructures with SIP deck panels. This minimum thickness may be reduced by 0.5" for bridges with Deck Protection Systems 2, 3 and 5. For bridge deck overhangs that support traffic barriers, the minimum thickness shall be 8".
7	BF18	TB Call out HMA with waterproofing membrane. The deck protection system is required to meet 5.7.4B. Suggest early evaluation of existing deck reinforcing and how it is to align with new deck reinforcing to meet deck protection system. 5.7.4.B.1
8	BF18	TB Sewer line is called out. Is it a storm sewer or sewer? Call out ductile iron and size.
9	BF06	TB Please explain why a closure pour in the cap and pier wall is not shown between the widened and existing portions of the bridge. What bearing pressures and settlements are anticipated for the new spread footings? In addition to bridge superstructure loading, the backfill of the deep excavation will cause settlements that further increase the differential between old and new portions. Per BDM 15.2.10, Differential settlement between the new and existing structures shall be taken into account...if the widening requires additional girders or substructure, a closure strip shall be provided. Per BDM 15.4.3B3, The designer shall evaluate the potential for differential settlement between the existing structure and widening structure. Additional geotechnical measures may be required to limit differential settlements to tolerable levels for both static and seismic conditions. The bridge designer shall evaluate, design, and detail all elements of new and existing portions of the widened structure for the differential settlement warranted by the Geotechnical Engineer. Angular distortions between adjacent foundations shall not exceed 0.008 (RAD) in simple spans and 0.004 (RAD) in continuous spans.
10	BF05	TB Show and callout bridge security fencing, which is required per 2.13.4.1.13
11	BF05	TB Callout concrete slope protection, which is required per 2.13.4.1.8.
12	BF05	TB Left side of elevation view shows final grade leveling out at the abutment. The horizontal bench shown shall be omitted. Per BDM 15.2.11B, Horizontal graded landform shelves at the abutment face beneath superstructures shall be omitted and leader for existing grade pointing towards final.
13	BF04	TB Storm inlets shown are too close to the ends of the bridge. Per BDM 15.10.6, Bridge runoff at the abutments shall be carried off and collected at least 10 feet beyond the bridge approach slab.
14	BF06	TB Will bolsters or seat length extensions be provided (intermediate piers or abutments)? (2.13.4.1.2)
15	BF06	TB Preliminary plans do not capture scope of work. Will additional girderstops or girderstop extension be provided, such as at the abutments? Per 2.13.4.1.2, Provide full width transverse girder stops between each girder at each girder support. As build plans to do not show girder stops are full width and between each girder.

RESPONSE TO COMMENT (Skanska, Originator of Document)		
Disposition Code	Response By	ACTION TAKEN / Remarks
A	ST	Noted. Will check and add grading contours, add PC Girder (W58G) (discussion with WSDOT is needed for W58G as it will reduce the vertical clearance). Will add architectural treatment and check against Preliminary Plan Check list
A	ST	Noted. In the final submittal, will add a temporary barrier in the construction staging drawing.
A	ST	Will revise "lane" to "shoulder".
A	ST	New HMA is 0.25'. Will revise calculations.
A	ST	New HMA is 0.25'. Will revise calculations.
A	ST	will revise to 7.5" for deck thickness and 8" at edge of deck overhang
A	ST	will revise to "New 0.25' HMA overlay with waterproofing membrane (TYP)". The actual concrete cover of the existing deck will be known when the existing deck is removed, but will provide details to ensure the widening portion of the deck meets Type 1 deck protection.
	ST	The new storm drain pipe on the NB 405 bridge extension will be an 18" ductile iron pipe. Please note that final conveyance calcs have not yet been performed for this pipe run so this is subject to change. Also, there will be a new 12" ductile iron pipe hung from the existing SB 405 228th bridge. Please note that final conveyance calcs have not been performed for this pipe run so this is subject to change. The existing 18" pipe on the opposite side for the SB 405 228th bridge will remain. New bridge inlets will be needed on both sides of the existing SB 405 228th bridge due to narrower shoulders being proposed and the need to keep flow spread within the narrow shoulders. The bridge drain locations have not been determined yet.
C	ST	A closure strip will be provided in the deck slab. For the substructure, the new widening portion will be separate from the existing structure using a 1/2" pre-molded joint filler to control and minimize differential settlement.
C	ST	Per 2.13.4.1.13, security fencing is required for widened bridges with a clear height of 10 feet or less from the ground line to the girder seat. The security fencing may not be required for this bridge as the height is likely to exceed 10 feet.
A	ST	will show and call out "slope protection at widened portion only.
A	ST	will revise and omit berm.
	ST	We will adjust the storm drain inlets so that are no closer than 10' to the approach slab.
C	ST	Seat extensions will be provided in the abutments, but not in the intermediate piers where the superstructure is pin-connected to the cross beams.
A	ST	will provide full width girder stops at abutments in final design submittal.


RESPONSE TO RESPONSE (WSDOT, City, Checker)		Skanska CLOSE
WSDOT Disposition Code	Comments / Action Items	Final Disposition Code
A	Comment addressed. WSDOT understands that this information will be included in the Final submittal.	
A	Comment addressed.	
A	Comment addressed.	
A	Comment addressed.	
A	Comment addressed.	
A	Comment addressed.	
A	Comment addressed.	
D	Comment addressed. WSDOT understands that this information will be included in the Final submittal.	
A	Comment addressed. Please show closure pour in FIN submittal.	
D	Comment addressed. WSDOT understands that the decision to include or not include bridge security fencing will be finalized prior to the Final submittal.	
A	Comment addressed.	
A	Comment addressed.	
A	Comment addressed.	
D	Comment addressed.	
A	Comment addressed.	

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COMMENT (WSDOT, City, Checker)			
No.	Report or Sheet No.	Comment By	Comment
16	BF06	TB	Preliminary plans do not capture scope of work. How is strengthening of the existing spread footings be provided? As builts show only a bottom mat of rebar in the footings. Per 2.13.4.1.2, Provide foundation strengthening below top of existing footings to resist seismic inertial demands. Existing shallow spread footings at the intermediate piers shall be made continuous to form a catenary or deep beam across the pier. Calculations contain illustrations of top reinforcing added and thickening of the spread footing, but submitted plans do not.
17	BF35	TB	Construction work zone is shown at or beyond culvert outlet and inside OHW. How has the extents of the work zone been vetted with environmental permits and methods to support and protect the pipe been establish?
18	BF05	TB	What are the plans to address the blunt end hazard of the noise wall on the barrier?
19	BG02	TB	Light poles are shown being added to the bridge approximately mid span. Per 2.13.4.8, Overhead lighting, sign bridges, cantilever sign structures, signal bridges, and overhead cantilever traffic signals mounted on bridges shall be attached either to the bridge substructure elements (e.g., crossbeam extensions) or to the bridge superstructure at piers locations. Suggest moving the light pole off the bridge if possible or locating at pier. Please request deviation if needed. Vibration and frequency will need to be evaluated. Given the barrier is existing, connecting the light pole will need to meet App L2 and BDM requirements for attachment of utilities. Does existing barrier have capacity for attachment? How will power be routed?
20	BG sheets	TB	Scope of retrofit work not captured in plans. See comments above for BF sheets and 2.13.4.1.14.
21	BG sheets	TB	Some of the above comments apply to BF sheets.

RESPONSE TO COMMENT (Skanska, Originator of Document)		
Disposition Code	Response By	ACTION TAKEN / Remarks
A	ST	Will provide a footing overlay retrofit with drilled and bonded dowel connections. The new footing will be integral with the existing footing through these dowels.. The combined new and existing footing will be checked for anticipated loadings.
A/R	ST	The proposed new footing, as shown in the image, will be outside the culvert OHW. We will revise the construction zone to ensure it is also outside the culvert OHW 
A	ST	For final design, the noise wall is positioned on top of retaining wall 26.34 along the length the approach slab, and has been positioned outside the zone of intrusion to avoid a blunt end collision. The noise wall tapers in beyond the approach slab to align immediately behind the barrier but still avoids the blunt end impact
A	ST	will work with civil/sign team to either move the pole out of bridge or locate it in pier location
A	ST	Noted
A	ST	Noted

RESPONSE TO RESPONSE (WSDOT, City, Checker)		Skanska CLOSE
WSDOT Disposition Code	Comments / Action Items	Final Disposition Code
A	Comment addressed.	
A	Comment addressed.	
A	Comment addressed.	
A	Comment addressed. WSDOT understands that the pole location will be finalized in the Final submittal.	
A	Comment addressed.	
A	Comment addressed. WSDOT understands that the revisions described in the comment responses above will be made for both BF and BG sheets as applicable.	