South Carolina Department of Transportation

NON-CONFIDENTIAL DESIGN-BUILD QUESTIONS
Bridge Package 17 - Contract ID 4462250 - Union County

FINAL RFP - ROUND 2

Date Received: 2/21/2024

						SCDOT	
Question No.	Category	Section	Page / Doc No.	Question/Comment	Discipline	Response	Explanation
1	Attach_A	Exhibit 4e	4	RFP states to, “Provide a minimum 10 foot setback from the top of channel bank to the centerline of the pile or column on the overbanks.” Request confirmation of this criteria, Hydraulic Design Bulletin 2019-4 Table 2 on page 15 states the minimum pile bent setback to be 5'.	Hydrology	Revision	Exhibit 4e will be revised to follow design bulletin 2019-4 Table 2 for setback distances.
2	Attach_A	Exhibit_4c	2	Request clarification of why new pavement design Option 1 was removed from the final RFP. Will ATC's for alternative pavement designs on Package 17 be considered?	Pavement	No_Revision	District construction did not want a graded aggregate base course (GABC) pavement option. ATC's for alternative pavement designs will not be considered.
3	Attach_A	Exhibit 4e	3	Request the RFP requirement to have a proposed 1% AEP backwater less than the existing backwater (Exhibit 4e 2.2.1.4) be removed for SC 114 where the proposed 1% AEP backwater is well below 1.0 foot? The hydraulic model used to inform the SC 114 prep plans does not include the downstream control (Pacolet River) as required by Exhibit 4e section 2.2.2 of the RFP. The prep plans hydraulic memo does not mention anything about the Pacolet River floods impacting hydraulics results on Sandy Run Creek and the hydraulic model provided does not consider flooding from the Pacolet River. The provided hydraulic model utilizes a hydraulic slope as the downstream boundary condition which essentially tilts the model to inform hydraulic calculations, but if the Pacolet River floods were taken into account the downstream boundary condition would need to include multiple known Water Surface Elevations for different flood events. When the downstream control backwater effects are accounted for, the wide/ flat floodplain between SC 114 and the Pacolet River significantly inundates and raises the water surface elevations at SC 114 in the Natural, Existing, and Proposed Conditions. Due to the downstream inundation/ ponding, the existing conditions 1% AEP flood overtops the roadway, submerges the crossing, and produces similar water surface results to the natural/ unconstricted conditions. Hydraulic analysis is determining the existing 1% AEP backwater on SC 114 to be aproximately 0.07 feet. Given the RFP requirement to not cause an increase in backwater from the existing conditions, the proposed conditions will require a significantly oversized proposed bridge length. The discharges utilized for the Pacolet River were determined using coincidental occurrence guidance. Coincidental occurrence provides a comparison of storm magnitudes for the same storm occurring over different sized drainage areas. As the smaller drainage area (Sandy Run Creek) hydrograph reaches its peak flow, the larger drainage area (Pacolet River) hydrograph would still be on its rising limb and how far up the rising limb can be associated by the difference in drainage areas. With an approximate 10:1 ratio the Pacolet River basin is expected to experience a 50-year flood when the Sandy Run Creek basin experiences a 100-year flood, a 25-year flood when the Sandy Run Creek basin experiences a 50-year flood, etc. Supplamental hydraulic analysis measures were taken to include the most appropriate flood discharges and not overcompensated for by simply using equivalent storm events for the different basins. This analysis was able to produce WSEs and backwater results similar to the prep plan hydraulic model when the effects of the Pacolet River are removed from the hydraulic model, further indicating the downstream control was not included in the prep plans hydraulic model.	Hydrology	Revision	Exhibit 4e will be revised to state that freeboard and low chord elevation shall be set using the downstream control. Backwater shall be determined from Sandy Run Creek flows.
4	Attach_B	Survey	N/A	Request SCDOT confirm if water boundary located on southern portion of parcel 5 is a Juristictional Stream?	Environmental	No_Revision	Field delineations and preparation team documention indicates feature was not deemed to be a jurisdictional water. Much of the feature lies outside of the PSA.
5	PIP	Environmental	N/A	Can the USGS Stream Gage located adjacent to the existing SC 49 over Fairforest Creek structure be temporarily closed during construction?	Environmental	No_Revision	Team will need to coordinate with USGS.

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6	PIP	Environmental	N/A	The survey of SC 49 Fairforest Creek shows an H2O water boundary on parcel 5 to the south. This boundary is not reflected in the JD, request SCDOT confirm if this water boundary was included in the limits of jurisdictional delineation done by the Design Build Prep team and that it was not considered a jurisdictional tributary.	Environmental	No_Revision	There is no JD for this site, just field delineations. Most of the feature is outside the PSA and the portion within the PSA was determined not to be jurisdictional. A shift towards the feature would potentially require the team to delineate and determine if should be included in a JD request. A shift towards the feature would also likely trigger a re-evaluation and possible 4f recoordination.
7	RFP	4	4	For Projects that are detoured can a detour plan be submitted and approved by SCDOT prior to RFC roadway plans to allow advanced mobilization? Would this require an ATC?	Traffic	No_Revision	Th detour plan review occurs as part of plan submittals. Construction activities cannot begin until the TMP is approved and permanent construction signs are in place.

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