



Meeting Notes

Subject: FY 2018-19 Package Constructability Review

Client: Iowa Department of Transportation

Meeting Location: Ames, IA Quality Inn Conference Center

Project: I-29 Sioux City Segment 2 Final Design

Project No: IM-29-6(168)146-13-97

Date: Wednesday, May 3, 2017

Notes By: David Meier, Ticha Rohan, HR Green

A Constructability Review meeting involving contractor and construction industry representatives, Iowa DOT staff, and the consultant design team regarding the I-29 Sioux City Project was held on Wednesday May 3, 2017 at the Ames, Iowa, Quality Inn Conference Center. The scope of the constructability review was the roadway construction package and nine bridges involved in the packages scheduled for construction during 2018 and 2019.

For simplicity in these notes, the construction package reviewed during the meeting will be referenced as follows:

- (50) Package – Southbound (SB) I-29 and bridges in Downtown from the Floyd River to Wesley Pkwy

A list of participants and contact information is at the end of the meeting notes.

Topics Discussed

An overview of the (50) construction package limits, adjacent and concurrent construction packages, significant construction elements, such as bridges, permanent retaining walls, geotechnical recommendations, and special items including the Perry Creek Conduit crossing constraints, the Virginia Street 72-inch storm sewer outfall, and maintenance of non-vehicular trails crossing the I-29 corridor were provided to participants by the District 3 Assistant Engineer and consultant team staff. An overview of the construction staging plan and key staging areas was also provided.

Additional details and commentary was provided regarding:

- MSE and pre-cast fascia panel walls
- Continuation of aesthetic theme from previous projects
- Expanded polystyrene (EPS) lightweight fill and ledge under fascia panel walls
- Details of fascia panel wall footing and panel connection to the load distribution slab above EPS
- Reinforced soils slope (RSS) areas
- Intermediate Foundation Improvements (IFI's)
- Drainage structures above and within the EPS
- Completion of NB bridges that are currently under construction and construction of SB bridges
- Permanent traffic signal installations
- Additional parcels available for staging areas
- Optional borrow site east of Sioux City

Other items noted:

- There will be a US Army Corps of Engineers (USACE) Section 408 Permission covering the bridge construction and roadway approach construction near and over the Perry Creek Conduit. The

permission will include a load restriction zone in the vicinity of the conduit and vibration monitoring during installation of bridge substructure piles.

- It is the DOT's intent to make the (50) Package letting plans available for bidders use eight weeks prior to letting.

The following are specific questions (Q), responses (A), and comments (C) noted during the constructability review. Follow up responses are designated by (FR).

[Unless specified otherwise, Questions were asked by a Contractor and Answers were provided by the DOT/Design Team. All comment providers are indicated.]

C (DOT) – Retaining walls and EPS fill will add complications and access will need to be thought about. DOT will allow limited, off-peak closure of one of the northbound two I-29 lanes. North of the Perry Creek crossing, access to the construction zone gets tighter. If the contractor wants to pave full width, concrete would need to be poured from the adjacent northbound lane during off peak hours or the pours would need to be staged.

C – If the contractor wants to finish the NB lanes in the EPS fill zone, there will be a need to partially construct the EPS with the pavement and the contractor will not be able to completely construct the EPS zone without cutting off construction zone access.

Q - What is the construction zone access for constructing the median barrier rail?

A – The contractor may request an opening in the barrier rail along the traffic lanes adjacent to the work zone for access. It is unlikely that the barrier can be constructed at the same time that the pavement is placed.

Q – Is the median barrier construction required in Stage 1?

A – The median barrier is anticipated to be built with the median pavement in Stage 1, but temporary barrier (TBR) could probably be placed instead to allow deferral of the median barrier to later.

Q – Will cranes be allowed on the EPS fill for bridge girder erection?

A – No. Piers will need to be constructed first. Available space for crane maneuvering will be tight. The contractor could step down the EPS fill just behind the bridge abutment to allow crane positioning as close as possible to the abutment.

Q - How are the south abutment and girders to be built for the I-29 bridges over Virginia St with the EPS fill both behind and in front of the abutment and the load restriction zone over the 72" storm sewer outfall? If the EPS fill is staged as mentioned in the response above, additional wire mesh walls will be needed to retain the granular backfill above the EPS load distribution slab. Would like to see those wire mesh walls added to the plans or a bid item for them.

FR – In consideration of the concerns noted by contractors, the extent of optional wire mesh walls will be estimated and added to the bid item for required wire mesh walls, with ERI note indication of the optional wall quantity. Both transverse and longitudinal load transfer slabs beneath the EPS fill will be permitted to allow more flexibility in staging the EPS fill placement, particularly near the bridge abutments. The plans will be modified to include details regarding the allowable placement of the optional load transfer slabs and the cost of implementing the optional slabs will be subsidiary to the EPS fill bid item.

Q – Request for further explanation of the Virginia St storm sewer outfall staging and restricted load zone.

A – The existing Virginia St storm sewer outfall flow must be shifted to the proposed outfall so that construction of the southbound I-29 bridge over Virginia St can proceed. Completion of the outfall is a critical path schedule item. Traffic will be operating on the nearby NB Frontage Road and Virginia Ramp D.

C – The restricted load zone impacts where cranes can be positioned for bridge girder placement.

A – The proposed restricted load zone will be further reviewed. Additional details may be added to the plans that could limit or more specifically define the extent of the load restrictions, such as use of a higher class of storm sewer pipe for the outfall and/or use of a different backfill for the sewer excavation or addition of a capping layer.

FR – The proposed Virginia St outfall storm sewer pipe has been revised to a Class V pipe. Construction equipment access within the restricted load zone will be permitted if the contractor establishes that the load limit criteria is satisfied.

Q (DOT) – Given the major construction items quantity information provided at this review meeting, is there concern regarding completion of the mandatory construction elements during the first year of construction?

A (Construction industry participants) - General consensus that there is a lot of work in the total construction package and some of the "optional" first year work will turn out to be necessary just to get all of the package completed during the two year duration. The contractor will likely utilize multiple crews working in multiple areas concurrently.

Q – What can be constructed during the winter of 2017-18?

A – Not very much, because of the need to keep traffic moving through the corridor during the winter months. Possibly some storm sewer, Dace Ave, and staging on Floyd Blvd Ramp C. Southbound I-29 traffic will be routed on the southbound frontage road in Stage 1, and the construction zone will be between NB and SB I-29 traffic.

C (DOT) – Several crews may be needed for the approximately 40,000 CY of EPS fill installation. Potential areas for storage and staging were pointed out.

C – EPS fill takes a lot of space to store and stage.

A – The area between I-29 and Gordon Drive, east of Nebraska St (north end of the former bank site) will probably not be a storage site. DOT is receiving pressure to sell back excess right of way. Other potential storage areas could be near Dace Ave and Virginia St. and the infield area by the Wesley Parkway bridge. The travelled way cannot be used for EPS storage.

Q – Is there an overlap between the Stage 1 optional construction area and the Stage 3 pavement quantity?

A – Yes.

Q – Is there any information available now on the earthwork balance?

A – Approximately 180,000 CY of earthwork is involved and this will be a borrow project, driven by the construction staging.

Q – Will DOT-provided borrow be available?

A – Yes. The DOT still needs to resolve what specific borrow areas will be available – the borrow will come from a site on the east side of Sioux City, but it may be on the north side or the east side of that site.

Q – How much borrow will be needed?

A - The borrow quantity will be several thousand cubic yards. There is a fair amount of excavation on-site.

Q – Can excavation be hauled to the borrow site?

A – Possibly, but it cannot be left there very long. The DOT is reluctant to allow the contractor to stockpile excavation from the first year of the construction in the borrow site, for use in the second year. DOT will consider further, but if allowed, it would be required that ALL stockpiled material be removed by the end of the contract period.

Q – Is temporary barrier (TBR) available for the project from the DOT’s TBR storage area?

A – There may be enough TBR at the DOT’s storage site near I-29 and Riverside Blvd. to cover the project needs. DOT will review the available quantity to confirm. The contractor may need to make repairs to some of the available TBR, mostly regarding barrier markers on the TBR being in good condition, per Standard Plan BA-401, Note 5.

C – The allowed closure time for the Pierce St Trail will need to be more than a four to six week duration to allow time for construction of the special square pier columns and associated application of the brick veneer and curing time.

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