



Meeting Notes

Subject: FY 2016-17 Packages Constructability Review

Client: Iowa Department of Transportation

Meeting Location: Ames, IA Holiday Inn Conference Center

Project: I-29 Sioux City Segment 2 Final Design

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

Date: Thursday, April 30, 2015

Notes By: David A Meier

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 Thursday April 30, 2015 at the Ames, Iowa Holiday Inn Conference Center. The scope of the constructability review was the two roadway construction packages and seven bridges involved in the packages scheduled for construction during 2016 and 2017.

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

- (46) Package – Northbound (NB) I-29 and bridge from Wesley Pkwy to Segment 3
- (49) Package – NB 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 (46) and (49) construction package limits, adjacent and concurrent construction packages, significant construction elements, such as bridges, permanent retaining walls, preliminary geotechnical recommendations, and special items including the Perry Creek Conduit crossing constraints and the Hamilton Drainage Outfall Improvement System 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.

The following is a summary of the most significant items noted during the constructability review:

EPS Material and construction

- Supplier contacts may be needed to determine appropriate construction schedule allowances for block layout design and material availability and supply time.
- Need to determine if separate contract for EPS material procurement will be beneficial.
- Need to consider lead time for development and approval of EPS-related submittals in determining intermediate completion dates (unless a materials-only separate contract is used).
- Contractors expressed interest/concern over extent of details in the plans for coordination of EPS zones with various intrusion items (sewers, utilities, etc.).
- Concern for details and material specifications being more in synch with perceived industry standards than Third St project.

Mandatory tie for (46) and (49) packages

- No contractor objections expressed to a mandatory tie. It was noted that the size of a combined package should not be a problem for the contractors who participated in the meeting.

Availability of plans for contractor review and comment

- Strong interest in early release of plans, either Methods or Contracts plans, and/or extended advertising period, with expanded time window for contractor comments and questions.
- Interest in a second constructability review meeting after full sets of plans are available for review.

Other items:

- Concern for potential need to sequentially construct bridges and pave approaches due to limited access around bridge sites.
- Interest expressed in how drainage is to be addressed during construction.
- Steel noted as preferred material for Hamilton Drainage Outfall pipes under I-29.
- Suggested use of modified sub-base material to allow construction equipment traffic.

The following are the specific questions, responses and comments noted during the constructability review.

Q – What are the “temporary” wall conditions?

R – The temporary walls are more accurately identified as “staging” walls. Details and limits are still under development. In some cases the walls will be installed and removed in these contracts, but more commonly, the staging walls will be installed in these contracts and left in place to be integrated with final embankments constructed in the future contracts. Most of the staging walls are anticipated to be wire mesh without facing panels.

Q – What information is available about lightweight fill (EPS) suppliers, quantities, unit weights, and specifications?

R – EPS design details and specifications are still under development. It is intended that plan details and specifications will incorporate modifications implemented during construction of the Third Street project.

Q – How will poles, storm sewer inlet wells and pipes and other intrusions in the EPS zones be addressed?

R – The plans will provide location point information for intrusions in the EPS zones, similar to that provided in the Third Street project plans. The plans will also provide general details on how the intrusions are to be handled with regard to filling voids or gaps between the EPS material and an intrusion item, such as a pole foundation, inlet well or pipe. It should be understood that the EPS zones will need to be constructed around the intrusions in most cases rather than cut-outs in the EPS material being made for the intrusion items.

Q – Can the EPS blocks be easily picked up?

R – EPS block sizes will vary and although lightweight are not able to be picked up by a single worker.

Q – How will EPS material be protected from potential petroleum product spills during construction and through the staging process? What about potential heat (fire) or UV impacts?

R - The need for protection is being considered. A cover membrane may be specified in the plans if determined to be necessary for specific situations or locations.

C – EPS material should be unloaded and placed rather than stockpiled.

C – EPS construction requires space and logistics. A staging area is needed.

C – Providing lead time in the construction schedule for preparation and approval of EPS-related submittals is important.

Q (DOT) – What are the primary concerns regarding EPS construction?

R – Availability of laydown area; the somewhat fragile nature of the material.

Q (DOT) – Is a pre-purchase contract for EPS material needed? It would have to be competitively bid and could not impact the construction contracts letting schedule.

R – Not enough information available yet to know.

C – A three-month lead time could work (ie. normal letting).

Q (DOT) – Would having a separate contract for EPS material make it more difficult for the contractor to manage construction?

R – EPS and related materials would need to be delivered and available at a specified location and date.

C (DOT) – Should contact EPS manufacturers and describe extent of need and construction schedule for input on availability and logistics.

C – EPS placement may not be a critical path construction item.

Q – Why are both IFI's and EPS fill needed?

R – There are areas where the magnitude of anticipated settlement and duration of settlement time are too great for mitigation with IFI's.

Q – Have borings been obtained in the areas of the proposed IFI's?

R – Yes. Some of the borings indicate the presence buried rubble and the IFI's may not be easily installed in some areas.

Q – If there is rubble in the existing I-29 embankment, why is there a need for lightweight fill?

R – To address large and long term consolidation issues. The proposed EPS fills are expected to be less costly to build and maintain than lengthened bridges.

Q – Will driven piles be used for the Perry Creek Conduit crossings?

R – Yes. Piles will be pre-drilled to the bottom of the conduit elevation, and driven beyond – as was done for the Third Street bridge over Perry Creek. Vibration monitoring will also be required.

Q - Can the pre-drill include a casing pipe?

R-Yes, and then it would need to be filled with concrete.

Q (to contractors) – What pipe material would be suggested for the Hamilton Drainage Outfall pipes to be bored/jacked under I-29?

R – What are the soil conditions at the Hamilton Drainage Outfall crossing?

R – Generally a mix of sandy, silty material without evidence of rubble.

R - Steel pipes would be preferred because they would be less costly to drive. The described pipe size and length for boring are pushing practical limits and will involve construction risks. Would likely use casing pipes and leave in place, as was done recently on the Council Bluffs interstate project.

Q – Is there an opportunity to locate a receiving pit in the I-29 median? Minimizing the bore & jack length would reduce cost.

R – There is very limited room in the median.

Will concrete barriers be slab-tied, not dowelled?

R – Yes, for areas with a drop off.

Q – Do the NB I-29 concrete bridge over Virginia St and the Nebraska Ramp B steel bridge have separate abutments?

R – Yes.

Q - On the Virginia Bridge stub abutment, Is there an issue with CMP casing in MSE backfill with battered piles?

R-Battered piles in CMP tubes have been done in Iowa.

Q – Are the bridge foundations all driven piles?

R – Yes.

Q – Will the bridge abutment retaining walls have granular or EPS backfill?

R – The EPS backfill limits are still being identified.

Q – What kind of walls are anticipated for the staging walls?

R – Wire mesh MSE walls without face panels.

C - There will be two feet from the face of wire mesh MSE wall to the edge of new pavement.

Q – How will drainage during construction be handled?

R – Details are in development.

C – Having modified sub-base material to drive on would improve constructability if tight working areas are expected as described.

Q/C – If 24-foot wide pours are anticipated, will transport of full-size pavers across existing/proposed bridges be allowed? It appears that there will be little to no room to break down/move/set up the paving machine on either side of the proposed bridges. Anticipate approximately 100,000 lb. load.

Q/C – Will there be access around the proposed bridges to allow concurrent approach paving and bridge construction? If not, contractors and DOT should anticipate significant late season paving.

Q - Will zero-band smoothness be required on driving lanes and shoulders?

R – Yes, to facilitate future use of all available pavement to maintain traffic during maintenance activities.

C – Concern with potential need for hand-pour with smoothness restrictions along areas of permanent walls.

C - There are zero clearance pavers available in the market.

Q – Is there potential work that could be accomplished during the winter of 2015?

R – The staging plan indicates some opportunity, however depending on the time from award to notice to proceed, there could be limited time to accomplish early work.

Q (DOT) – Should the (46) and (49) packages be tied at letting?

C (DOT) – If the contract proposal will contain numerous intermediate completion dates, an optional tie between the packages will not be desirable.

C (DOT) – District 3 is inclined to favor a mandatory tie between the packages due to anticipated risk.

C – The size of a tied package should make no difference to the contractors represented in the constructability review.

Q – Will plans be made available to contractors more than 30 days in advance of the letting?

Q (DOT) – Can the designers deliver final plans ahead of schedule to allow an early release to contractors?

R – Current status of geotechnical recommendations development and staging/drainage design coordination does not appear to allow for an early submittal of final plans.

Q (DOT) – Could the Methods Review plans be made available to contractors for an early and longer review of final staging and other details?

R – Release of the Methods Review plans at the beginning of September is feasible and could allow the contractor review to begin about three months ahead of letting. Further discussion by DOT staff is needed.

A second constructability review based on the entire plan sets could be conducted after about two weeks after contractors are provided access to the Methods Review plans (mid-September).

Contractor comments and questions would need to be e-mailed directly to a contact at DOT, since the BidEx facility for questions and comments cannot be utilized until the plans are officially advertised. Contractors requested the ability to see questions and responses from all parties.

Final plans and a summary of significant changes made in response to contractor comments could be made available in late October.

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