A

Executive Summary

A - Technical Proposal Organization

Technical Proposal

The Archer Western / Sundt Joint Venture's (AWS) Technical Proposal for the IH-35 Northeast Expansion South Project (the Project) is organized as per the RFP requirements Exhibit B, Technical Proposal Instructions, and includes:

- Executive Summary
- Proposer Information, Certifications, and Documents
- The Technical Solutions
  - → Project Management
  - → Quality Management
  - → Design, Construction, and Maintenance Plan
- Appendices

B - Changes to QS

AWS has no major changes to our team, other than the TxDOT approved change in personnel described in subsection C and the removal of Identified Subcontractor Arias & Associates, Inc. since submission of the QS.

C - Changes to Proposer's Organization

TxDOT approved AWS' substitution of Ahmad Hotri, PE as Lead Maintenance of Traffic (MOT) Design Engineer. The TxDOT approved letter is behind the tab labeled Letter(s) Approving Key Personnel.

D - Management Structure Summary

Eric Hiemke, Project Manager, leads our team and has experience managing large design-build (DB) projects. He is supported by design and construction professionals including:

- **Phillip Hanley**, PE, Design Manager
- **Philip Walker,** PE, Structural Engineer
- **Ahmad Hotri**, PE, Lead Maintenance of Traffic (MOT) Design Engineer
- **Randy Carraway**, PE, Professional Services Quality Assurance Manager
- **Mark Edwards**, PE, Independent Quality Firm Manager
- **Luis Diaz**, Construction Manager
- **Jack Drake**, Utility Manager

This team has authority to authorize resources and is supported by a JV Executive Committee. Figure 1 shows our Management Structure.

Commitment Statement

AWS and its Major Participants commit the individuals identified by name to the Project for the positions specified.

Figure 1: AWS Integrated Management Structure

* = DBE Firm

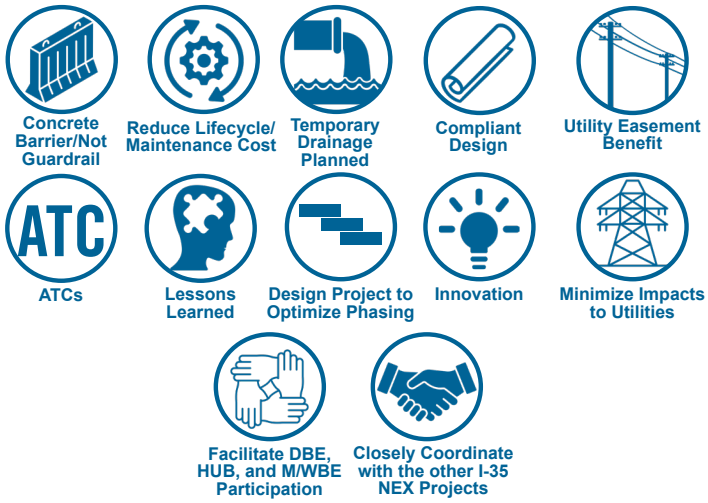
Decision Making and Day-to-Day Operational Structure

The responsibility for effective management, execution and decisions making primarily resides with three Key Personnel:

- Management decisions – Project Manager, **Eric Hiemke**
- Construction decisions – Construction Manager, **Luis Diaz**
- Design decisions – Design Manager, **Phillip Hanley, PE**

Our design and construction organization is integrated to provide informed decision-making at the proper levels; resulting in thoughtful solutions that are communicated throughout the organization. Decisions are collaborative, which is fostered through multi-discipline Technical Work Groups and interdisciplinary coordination to drive timely issue resolutions.

Value Added Solutions (VAS) Icons



TxDOT Goals Icons

E - Summary of Technical Solutions

Project Management

AWS has submitted numerous Value Added Solutions (VAS) that exceed the Project Management Plan requirements. Please see page 1 for more information.

Quality Management

AWS has submitted numerous VARS that exceed Quality Management requirements. Please see page 6 for more information.

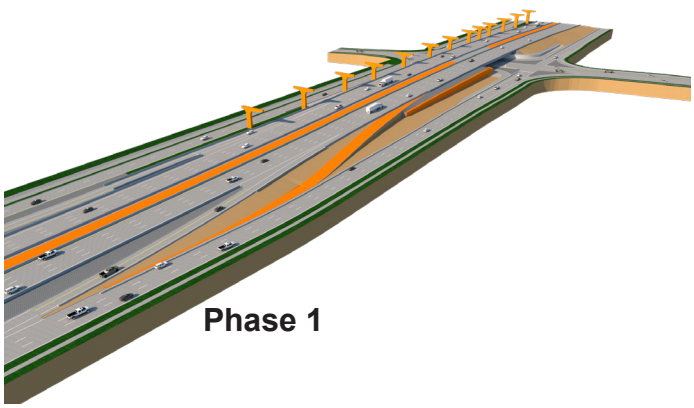
Design, Construction, and Maintenance Plan

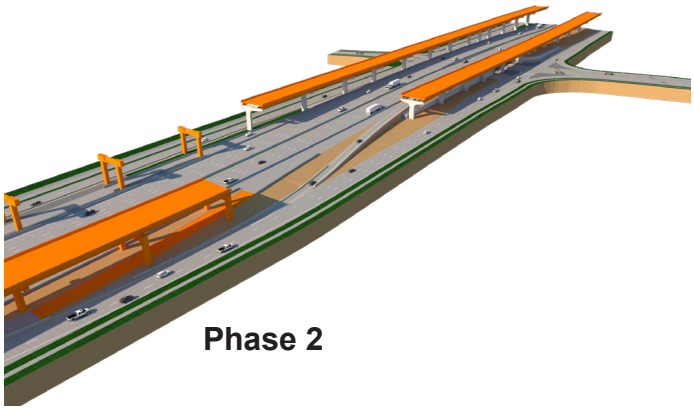
Our team brings highly experienced personnel with proven work history on DB projects, including TxDOT's IH-35E Phase I Project.

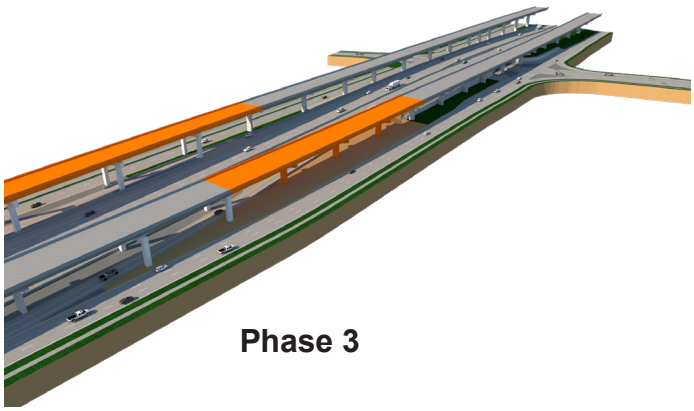
Construction Staging, Sequencing and Traffic Management Benefits:

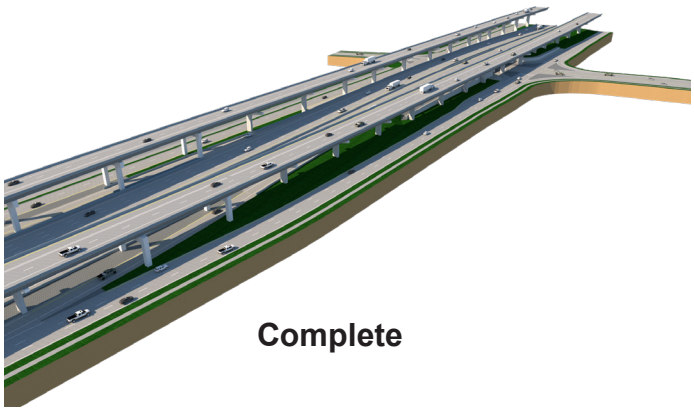
- **Figure 2** below highlights our Phasing Plan
- Four Approved ATCs
- **Desirable shoulder widths** along mainlines (ML) for safer workzones
- **Divided the project** to support four construction headings
- Use of temporary rails to reduce travel time

Figure 2: Phasing Overview









Bridges, Retaining Walls, Geotechnical and Earthwork Benefits:

- Three Approved ATCs
- **Straddle bent reduction** – reduces construction time, risks, and impacts to traffic
- **100% use of precast beams** improves constructability, aesthetics, and long-term maintenance
- **Use of service limit state checks** for columns with the use of offset single column bents to increase durability and reduces maintenance
- **Use of two shaft footings**, allows for adequate space to realign existing gas line to avoid relocating 550-ft of gas line
- **Use of soil nail walls** - more economical than concrete gravity walls

Roadway Benefits:

- Two Approved ATCs
- **Sign Structures** allows for elevated lane revisions, both horizontally and vertically, to lower the profile reducing substructure quantity
- **Elevated lanes horizontal and vertical revisions** provides less overhang on FR and ML to simplify construction, improves constructability with tolerances for formwork, towers, and access and avoids existing drainage and utility relocations
- **FR Shifts** provides space for elevated ML hammerhead bents, reduces number of straddle bents, and eliminates costly modifications to box culvert and nearby driveway at Walzem Creek
- **IH-35 FR NB and IH-410 FR SB Modification** Flattened radii improves geometrics and provides room to construct straddle bents and piers between FR and ML
- **IH-35 SB Ramp Modifications** slight shift of ramps provides room for column construction and ability to place hammerheads in gore areas
- **IH-35 FR SB** replace lane drop striping with barrier, allowing safe straddle bent placement and eliminating utility relocations
- **IH-410 Direct Connector (DC) Striping Modification** provides larger shoulder on low side of DC, increases stormwater capacity and improves sight distance
- **Single Span Crossover Structure** reduces cost, simplifies construction, and removes shoulder width deviation on ML at crossover location

Drainage Benefits:

- **Bridge Scupper Inlet Design** (Coordinated Design with NEENAH manufacturing) reduces number of scuppers and column downspouts and reduces future maintenance
- **Shift FR at Walzem Creek** - No Impact to existing bridge class culvert and existing FEMA floodplain or BFE
- **Performed existing system analysis** to reduce linear foot of pipe replacement
- **Modify DC striping** to provide larger shoulder on low side for drainage reduces scuppers, improves sight distance and reduces maintenance
- **Alignment and column placement** reduces replacement of existing drainage and major cross-culverts vs Schematic
- **Maximize storage in IH-410/IH-35 interchange** utilizes ROW to mitigate runoff and downstream flow increases and eliminates offsite ROW mitigation
- **Adjust drainage for TCP and constructability** reduces lanes closures, schedule, and impacts to the traveling public

Preliminary Baseline Schedule Benefits:

- Quadrant Project to interchange-east, interchange-west, NB-main, and SB-main to support four primary construction headings
- **Use Acellerated Design Package** to start bridge substructures in interchange-east area
- **RFC majority of design** in 15 months, allowing 40 months for construction

D&C Maintenance Benefits:

- **Use WIM's AMX** (Asset Management System) – readily expandable to CMC period, providing thorough and seamless MMS
- **Fernando Ojeda as Maintenance Manager** - consistency from D&C through CMC period

F - Approach to Satisfying DBE Requirements

AWS has a long history of exceeding the D/M/WBE goals on large transportation projects in Texas. This history has led to more than $1.5B of work subcontracted to D/M/WBE firms in the past ten years.

With this history and reputation, AWS commits to exceeding the stated DBE goal of 19.5% for Professional Services and 8.5% for Construction Work.