

# UDOT Structures - Roadway and Hydraulics Support

## Roadway Design Support:

- Horizontal and vertical alignments for bridge.
- Minimum vertical clearance calculations.
- Design criteria & PDC approval for bridge lane, shoulder, and barrier offset widths.
- Parapet to quardrail & barrier transition design.
- Roadway, utility, and MOT cost estimates.
- Under deck and overhead lighting design.
- Retaining wall plan, profile, and typical section.
- Grading design for slope paving and wing walls.

# Structure Type Selection Report:

- Coordination with UDOT Traffic for user costs, MOT scenarios, and construction phasing.
- Roadway and MOT cost comparisons for multiple structure types and MOT scenarios.
- Coordination with planning and design to accommodate bridge widths for future widening.
- Utility impact analysis and cost comparisons.

#### Bridge and Box Culvert Hydraulics:

- Prepare Hydrology and Hydraulics Report.
- HEC-RAS river modeling.
- Freeboard calculations and scour analysis.
- Countermeasure design (Riprap).
- Approach slab drain design.
- Erosion control plans.
- Stream alteration permits and coordination.

## MOT and Limitation of Operations (555):

- Maintenance of traffic plans for detour routes.
- Prepare limitation of operations specification.
- Coordination with traffic engineers at the Region and Traffic Operations Center.

### **Project Management and Advertising:**

- Coordination with Structures and Region PMs.
- Manage project schedule & milestone reviews.
- Prepare specs, M&P, & Masterworks Estimate.
- Coordination with Region & Central Advertising.
- Constructability review coordination.

#### **Utility and Railroad Coordination:**

- Utility relocation agreements coordination.
- Coordination with UPRR and UTA.
- Prepare railroad & utility special provisions.

# Interdisciplinary Coordination:

- Environmental document coordination.
- Right of way and geotechnical coordination.
- Design support during construction.

# **Perkins - Structures Support Projects**

### Region 4

I-15 over Serv Nichols Rd Coor Replace D-762 Road

Services: MOT Plans and Coord. For I-15 Closure, PM, Roadway & Drainage Design

SR-118 over Sevier River Replace D-272 Services: Bridge Hydraulics and Riprap Design, PM, Roadway Design, Utility coord.. Advertising, MOT

# Region 3

SR-311 over Strawberry River Replace C-72



Services: Bridge Hydraulics, Freeboard, Scour analysis, Riprap Design, PM, Roadway Design, Utility Coordination, Advertising, and MOT

### Region 2

### **Emergency Repair Projects:**

- SR-32 over Weber River Scour Protection
- 1700 East over I-80 Girder Repair
- US-40 over SR-248 Girder Repair

SR-65 over Weber River, I-84, & UPRR Henefer Bridge Preservations and Replacement at 5 Locations Services: PM, Advertising, MOT Detour Plans, and 555

Salt Lake Area I-15, I-80, I-215, SR-201 TBPO & Pothole Patch 38 Bridge Locations Services: MOT Plans, Coordination with Traffic Engineers, 555 Limitations, and Advertising

#### Region 1

4300 North Over UPRR Preservation 029007F Services: Railroad and Utility Coordination, PM, Roadway Design, Advertising, MOT Detour Plans, and 555

I-84 over Deep Creek Services: PM, Parapet to Guardrail Transition Design,

Preserv. F-279 Advertising.