

ABC in Arizona so far:

- 2011 Mescal Road/J-Six Ranch Road Bridge
 - Emergency Bridge Replacement
 - Federal funding from Emergency Relief Funds
 - 3 span; 220.67 total bridge length
 - 35 precast adjacent box beams



- 2015 Gila River/Sacaton Road Bridge
 - Bridge Slide
 - 2, 70' spans CIP deck on AASHTO Type III mod girders
 - SHRP2 project
 - 9 day closure vs 6 month closure



- Sacramento Wash Crossing at Oatman Highway (Historic Route 66)
 - 87 Hour ABC closure time
 - 4 modular decked beam units with precast abutment caps, abutment backwalls and approach slabs



Future ABC Projects

I-40 Meteor City

- Currently scheduled for construction in 2019
- Geosynthetic Reinforced Soil – Integrated Bridge System (GRS-IBS)
 - Under FHWA there are over 200 GRS Bridges in 44 States since 2010
 - There are only a few GRS Bridges currently on Interstates
- Precast Box Beams with a Polyester Polymer Concrete (PPC) topping and Precast Barrier
- All I-40 traffic closures limited to 25 calendar days

Existing Structure

- 3 Span Bridge with Integral T Girders
- Each Pier has 2 Columns on Independent Spread Footings and a Pier Cap Integral with the T Girders
- Due to the Pier configuration Phasing is not an option
- A Crossover is required for conventional construction



Maintenance of Traffic

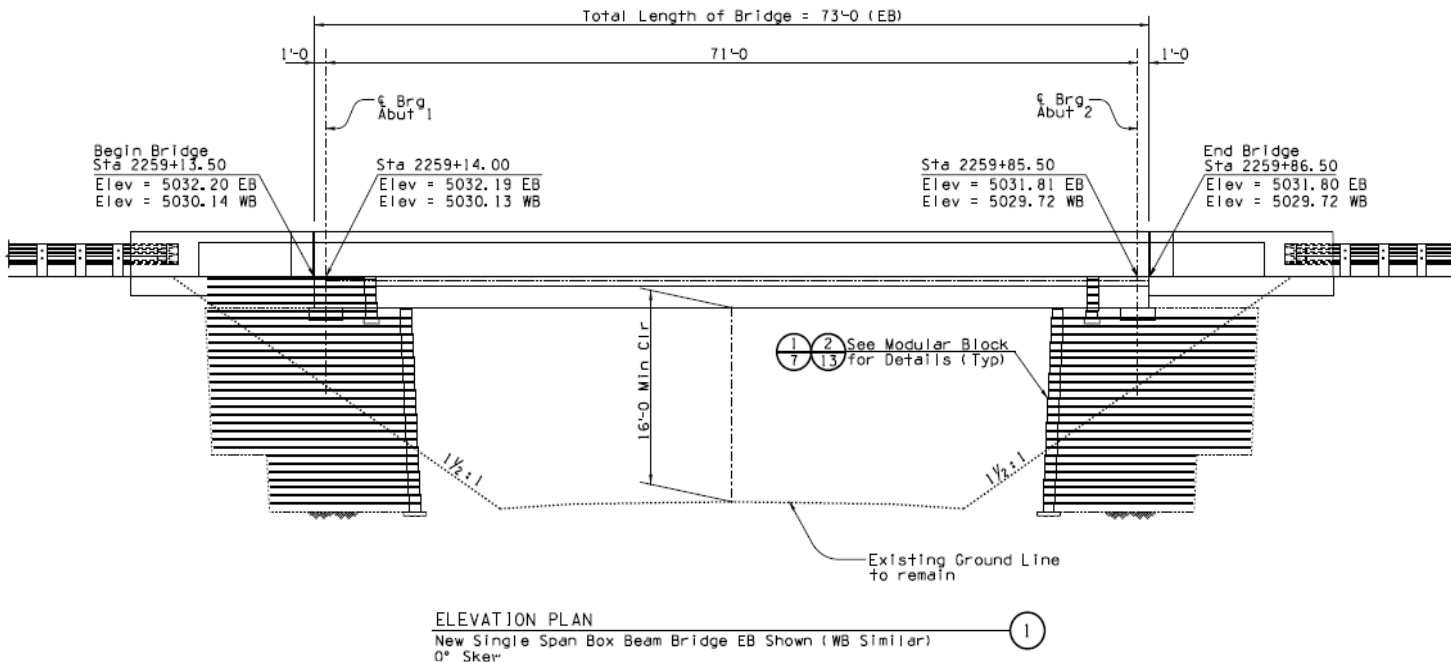
- Both EB and WB Bridges to be replaced Simultaneously
- I-40 traffic routed to ramps – crossroad closed
- I-40 ramps are being modified for 25 day I-40 mainline closure
- 25 Calendar days to complete work with incentives and disincentives

Why ABC GRS-IBS Here?

- Sedimentary Bedrock Foundation
- No Scour
- Reduction in future Maintenance
- No local commercial concrete or aggregates –
Long travel distances for materials
- Short work season due to weather
- Heavy De-Icing salt use

Abutment Design

- Two phase wall construction
- Design as MSE wall with foundation loads at top



ADOT's Modifications to FHWA Guidelines

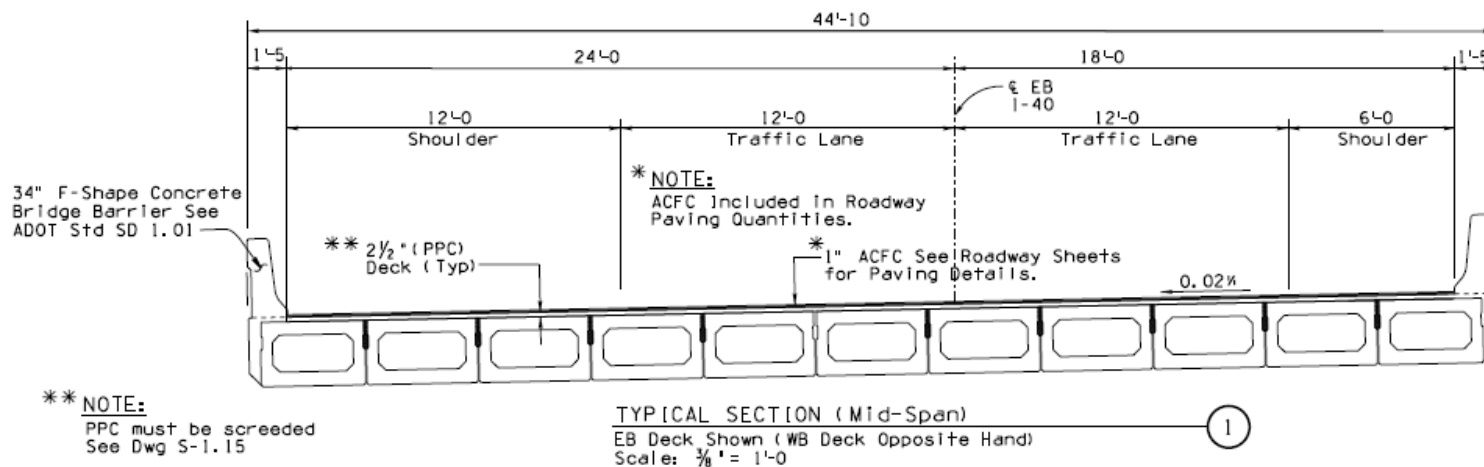
- Utilize geogrid instead of geotextile
- Batter of wall facing
- Setback of foundation loads from wall facing
- Mechanical connection of wall facing to reinforcements
- Restrict geogrid products to NTPEP

GRS Abutment

- Utilize Existing Industry
 - Segmental Wall Facing – Allan, Keystone, Mesa, etc.
 - Geogrid – Miragrid, Stratagrid, Acegrid, Synteen, etc.
- No construction phase testing of structural backfill
 - Utilize #57 Coarse Aggregate
 - Method specification for compaction
- Segmental block wall industry produces uniform spacing and alignment of wall facing blocks

Superstructure

- 11 B1-48 Box Beams with precast barrier
 - 2 ½" PPC screeded overlay and 1" ACFC
 - No Reinforcing steel or Concrete (PCC)
- ## Quantity Item



Going Forward

- New ADOT Guidelines Available
 - Decision Making Matrix
 - Decision Flowchart
- ADOT is Looking for ways to Reduce our Impacts to travelers while decreasing Future Maintenance Expenditures