**DESIGN NOTES**

Specifications:

Earth loads:
- Earth pressures for two conditions
  - 50 psf for vert., 150 psf for horiz.
  - 100 psf for vert., 300 psf for horiz.

Unit covers:
- $f_e = 0.54 kPa$ for weld wire fabric
- $f_c = 0.55 kPa$ for cast-in-place fabric

Skeps:
- Based on
  - $V_e = (1.0 + 0.5k/600) \times b.d$ (pounds)
  - $V_c = 0.5V_e$ for frame members and $2.0V_e$ for simply supported members.

Inclusions:
- Axial loading on the members has not been considered.

**GENERAL NOTES**

Designations:
- Standard single or multiple precast box culverts are shown on the plans minus actual height with maximum cover over roof thus: 8' x 5' RCB 10'-0" or double 10' x 5' RCB with 20'-0" followed by alternatives.

Alternatives:
- Single cells
  - Standard dimensions of ASHTO Material Specification "M259" or "M273".
- Multiple cells
  - Constructed by piecing single cells adjacent to each other. Inlet and outlet ends of culvert will be rounded unless square ends are designated. Parapet will be shown unless designated in plans. Such designation may be different for inlet and outlet ends.

Limitations:
- Where the overfill is less than 12", PreCast RCB culverts are not to be used. Precast RCB culverts are not to be used in plan or pressured locations unless appropriate "water tight" jointing is provided.

Special reinforcement covers:
- Precast RCB culvert standard plans are not to be used in a corrosive environment or where there is a severe abrasive flow condition or freeze-thaw locations.

Special designs:
- Required for culvert with different conditions, loads or design bearing pressures greater than those given on these plans. Required for culvert where end detail is not shown in plans. Higher parapets or barrier sections.

**CONSTRUCTION NOTES**

Cutoff walls:
- 1/4" cutoff walls to be provided of inlet and outlet unless channel is lined and unless otherwise shown. These walls are to be extended to prevent condensation. See Standard Plans 084, 085 and 086.

Concrete:
- Wingwalls shall be cast-in-place and shall conform to standard plan details for box culvert wingwalls, See Standard Plans 084, 085 and 086.

Wingwalls:
- Multi-cell culverts are not to be used in a corrosive environment or where there is a severe abrasive flow condition or pressurized installations unless appropriate "water tight" jointing is provided.

Special reinforcement covers:
- Precast RCB culvert standard plans are not to be used in a corrosive environment or where there is a severe abrasive flow condition or freeze-thaw locations.

Special designs:
- Required for culvert with different conditions, loads or design bearing pressures greater than those given on these plans. Required for culvert where end detail is not shown in plans. Higher parapets or barrier sections.

For correct skew direction see plans.

For illustrative purposes only.

NO SCALE

* Reinforcing required for barrier parapet application only.

For well and invert reinforcement not shown, See "End Elevation" detail.

DEPARTMENT OF TRANSPORTATION

PRECAST REINFORCED CONCRETE BOX CULVERT MISCELLANEOUS DETAILS

NO SCALE

RSP D83B DATED JULY 18, 2014 SUPERSEDES STANDARD PLAN D83B