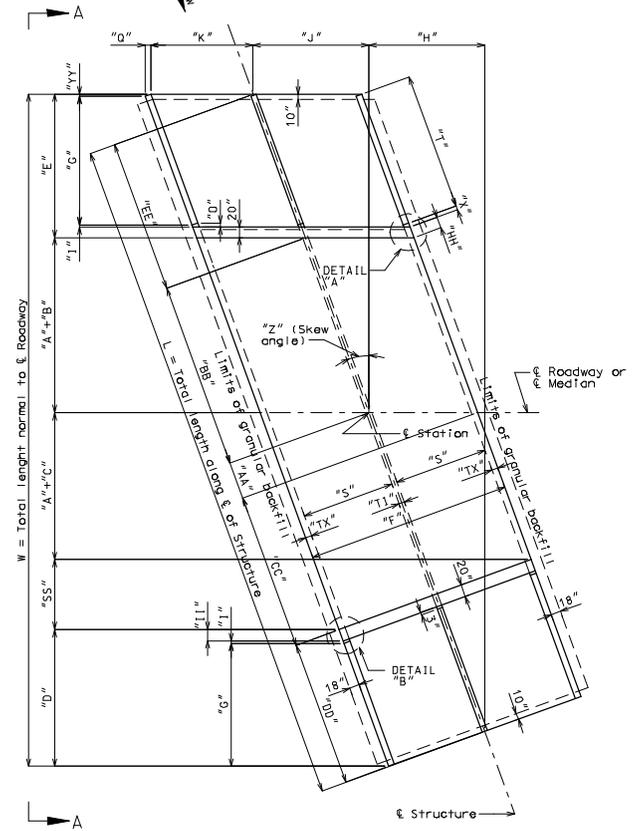
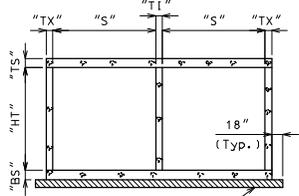
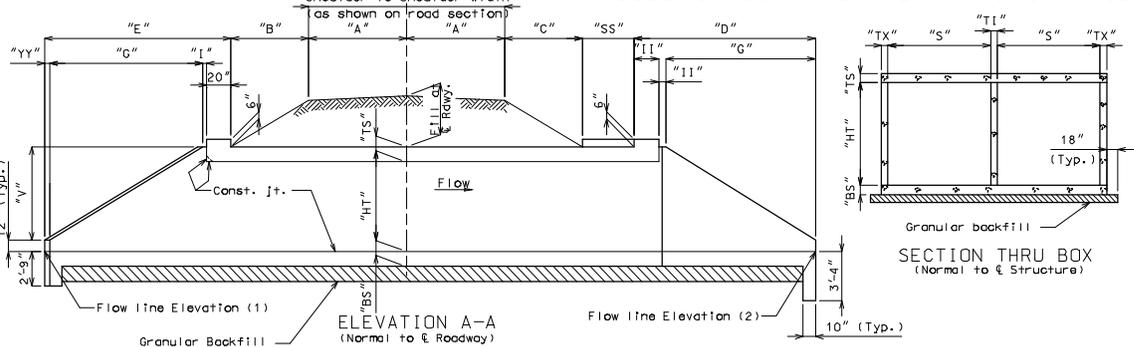


MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

SEC/SUR \* TWP \* RGE \*



Note: Slope of bottom slab shall be placed at natural stream gradient.  
If unsuitable material is encountered, excavation of unsuitable material and furnishing and placing of granular backfill shall be in accordance with Sec 206.

**GENERAL NOTES:**  
Design Specifications: 2002 - AASHTO 17th Edition Load Factor Design  
Design Unit Stresses: Class B-1 concrete  $f_c = 4,000$  psi; Reinforcing steel (Grade 60),  $f_y = 60,000$  psi  
Design Loading: HS20-44 HS20 Modified  
Earth 120 #/ft.<sup>3</sup>; Equivalent fluid pressure 30 #/ft.<sup>3</sup> (Min.) - 60 #/ft.<sup>3</sup> (Max.)  
All elevations shown are in feet unless otherwise noted.  
The box shown below indicating whether a precast or c/p box was used should be checked by MODOT construction personnel:  
 Precast Box used  
 Cast-In-Place Box used  
When alternate precast box sections are used, the minimum barrel length measured along the shortest wall from the first joint to the outside of the roadway, shall be 3'-2". Reinforcement and dimensions for the wings and headwalls shall be in accordance with Missouri Standard Plans drawing.  
Minimum clearance to reinforcing steel shall be 1 1/2", unless otherwise shown.  
"Sec" refers to the sections in the standard and supplemental specifications unless specified otherwise.

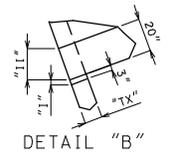
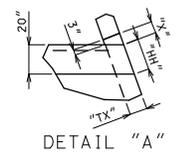
| GENERAL DATA TABLE |                          |      |          |                           |      |
|--------------------|--------------------------|------|----------|---------------------------|------|
| VARIABLE           | EQUATION                 | DIM. | VARIABLE | EQUATION                  | DIM. |
| "S"                | --                       |      | "Q"      | $TX(\cos Z)$              |      |
| "HT"               | --                       |      | "T"      | $G(\sec Z)$               |      |
| "TS"               | --                       |      | "V"      | $HT + TS - 12"$           |      |
| "BS"               | --                       |      | "W"      | $2A + B + C + D + E + SS$ |      |
| "TX"               | --                       |      | "X"      | $3" + TX(\tan Z)$         |      |
| "TI"               | --                       |      | "Z"      | Skew Angle                |      |
| "A"                | --                       |      | "AA"     | $(F/2)(\tan Z)$           |      |
| "B"                | --                       |      | "BB"     | $(A + B)(\sec Z)$         |      |
| "C"                | --                       |      | "CC"     | $(A + C)(\sec Z)$         |      |
| "D"                | $G + I + II$             |      | "DD"     | $D(\sec Z)$               |      |
| "E"                | $G + D + 20"$            |      | "EE"     | $E(\sec Z)$               |      |
| "F"                | $25 + 2TX + TI$          |      | "HH"     | $20"(\sec Z)$             |      |
| "G"                | $2V$                     |      | "II"     | $20"(\cos Z)$             |      |
| "H"                | $(AA + CC + DD)(\sin Z)$ |      | "SS"     | $F(\sin Z)$               |      |
| "I"                | $3"(\cos Z)$             |      | "YY"     | $TX(\sin Z)$              |      |
| "J"                | $(A + B + E)(\tan Z)$    |      |          |                           |      |
| "K"                | $(S + TI/2)(\sec Z)$     |      |          |                           |      |
| "L"                | $AA + BB + CC + DD + EE$ |      |          |                           |      |
| "O"                | $I + YY$                 |      |          |                           |      |

Design Fill (\*):  
Elev. (1) feet  
Elev. (2) feet

\* Design fill height is the distance from top of earth fill or roadway to the top of the top slab.

& Sta. =  
Pr. Gr. Elev. at & Sta. =  
Fill at & Rdwy. at & Station =

| HYDROLOGIC DATA                      |           |
|--------------------------------------|-----------|
| Drainage Area =                      | (sq. mi.) |
| Design High Water (DHW) Elev. =      |           |
| Design High Water Frequency =        | (year)    |
| Design High Water Discharge =        | (cfs)     |
| Backwater/Base Flood Data (100 year) |           |
| High Water Elev. =                   |           |
| Design Discharge =                   | (cfs)     |
| Estimated Backwater =                | (ft)      |
| Outlet Velocity =                    | (ft/sec)  |
| Roadway Overtopping                  |           |
| Design Elev. (1' below shoulder) =   |           |
| Design Discharge =                   | (cfs)     |
| Design Frequency =                   | (year)    |



| ESTIMATED QUANTITIES                 |          |  | FINAL QUANTITIES |
|--------------------------------------|----------|--|------------------|
| Class 4 Excavation                   | cu. yard |  |                  |
| Removal of Bridges                   | ump sum  |  |                  |
| Class B-1 Concrete (Culverts-Bridge) | cu. yard |  |                  |
| Reinforcing Steel (Culverts-Bridge)  | pound    |  |                  |

B.M.

BRIDGE

STATE ROAD

ABDUT

STA.

|      |
|------|
| STD. |
| STD. |
| STD. |
| STD. |

Designed  
Detailed  
Checked

Note: This drawing is not to scale. Follow dimensions. Sheet No. of

THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT.

DATE PREPARED 07/29/2008  
ROUTE STATE MO  
DISTRICT BR SHEET NO. \*  
COUNTY \*  
JOB NO. \*  
CONTRACT ID. \*  
PROJECT NO. \*  
BRIDGE NO. BOX6A

DATE DESCRIPTION

MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

105 WEST CAPITOL JEFFERSON CITY, MO 65102 1-888-ASK-MODOT (1-888-275-6636)

IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.