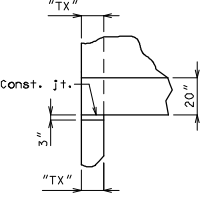
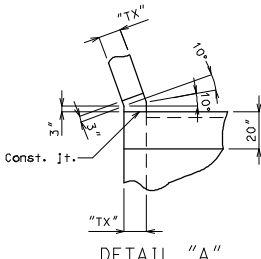
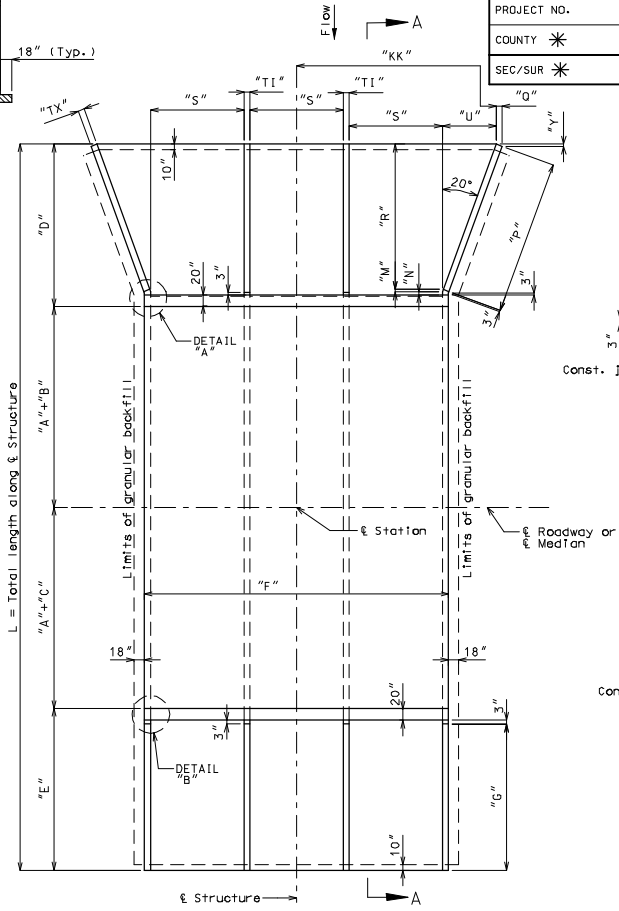
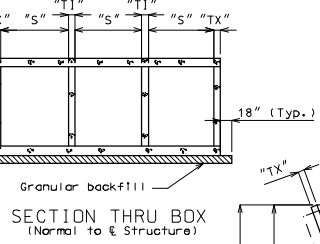
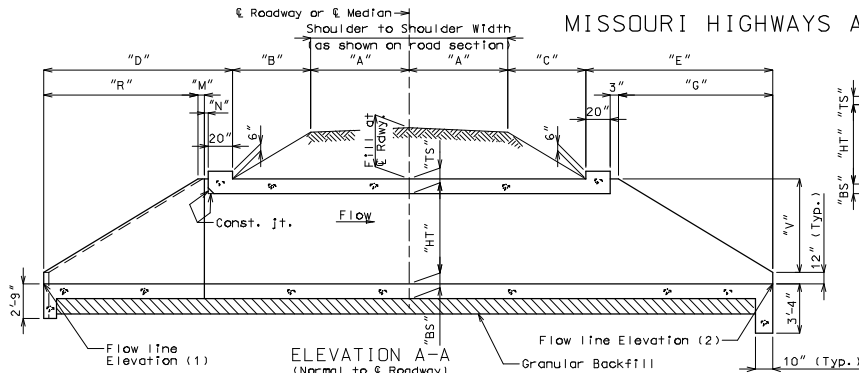


MISSOURI HIGHWAYS AND TRANSPORTATION COMMISSION

|              |       |          |           |
|--------------|-------|----------|-----------|
| ROUTE        | STATE | DISTRICT | SHEET NO. |
| *            | MO    | BR       | *         |
| JOB NO. *    |       |          |           |
| CONTRACT ID. |       |          |           |
| PROJECT NO.  |       |          |           |
| COUNTY *     |       |          |           |
| DATE         |       |          |           |
| SEC/SUR *    |       | TWP *    | RGE *     |

"THIS MEDIA SHOULD NOT BE CONSIDERED A CERTIFIED DOCUMENT."



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 DATA TABLE |                         |      |      |
|--------------------|-------------------------|------|------|
| VARIABLE           | EQUATION                | DIM. | DIM. |
| "S"                | ---                     |      |      |
| "HT"               | ---                     |      |      |
| "TS"               | ---                     |      |      |
| "BS"               | ---                     |      |      |
| "TX"               | ---                     |      |      |
| "TI"               | ---                     |      |      |
| "A"                | ---                     |      |      |
| "B"                | ---                     |      |      |
| "C"                | ---                     |      |      |
| "D"                | $R + M + N + 20$        |      |      |
| "E"                | $G + 23$                |      |      |
| "F"                | $3S + 2TX + 2TI$        |      |      |
| "G"                | $2V$                    |      |      |
| "L"                | $2A + B + C + D + E$    |      |      |
| "M"                | $N(\cos 20^\circ)$      |      |      |
| "N"                | $3 + TX(\tan 10^\circ)$ |      |      |
| "P"                | $2V(\sec 20^\circ)$     |      |      |
| "Q"                | $TX(\cos 20^\circ)$     |      |      |

| VARIABLE | EQUATION                 | DIM. |
|----------|--------------------------|------|
| "R"      | $P(\cos 20^\circ)$       |      |
| "U"      | $(R + M)(\tan 20^\circ)$ |      |
| "V"      | $HT + TS - 12$           |      |
| "Y"      | $TX(\sin 20^\circ)$      |      |
| "KK"     | $(3/2)S + U + TI$        |      |

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

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

|                               |
|-------------------------------|
| ± Sta. =                      |
| Pr. Gr. Elev. at ± Sta. =     |
| Fill at ± Rdw. at ± Station = |

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

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>2</sup> (Min.) - 60 #/ft.<sup>2</sup> (Max.)

All elevations shown are in feet unless otherwise noted.

The box shown below indicating whether a precast or ctp 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 headwall, 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.

| 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)    |

PLAN SHOWING LAYOUT DIMENSIONS

LOCATION SKETCH

B. M.  
BRIDGE  
STATE ROAD  
ABDUT  
STA.

|       |
|-------|
| STD.  |
| STD.  |
| STD.  |
| STD.  |
| BOX10 |

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