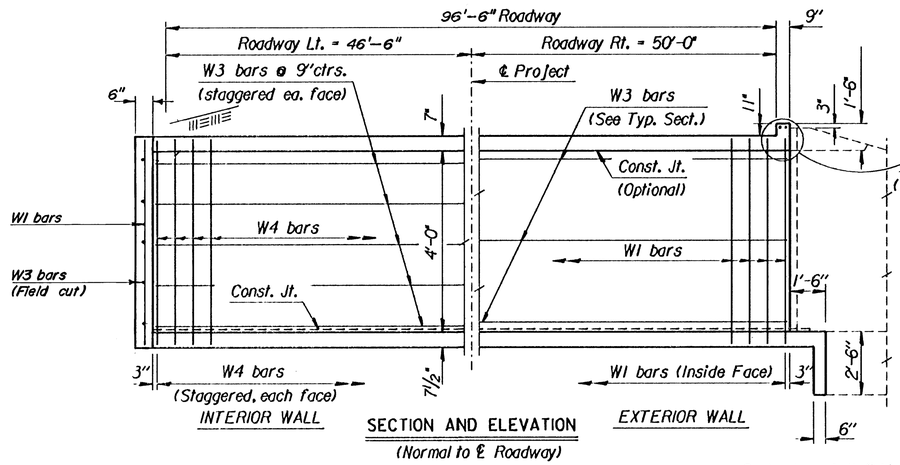
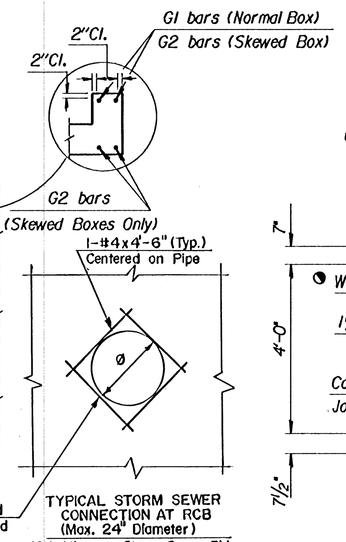
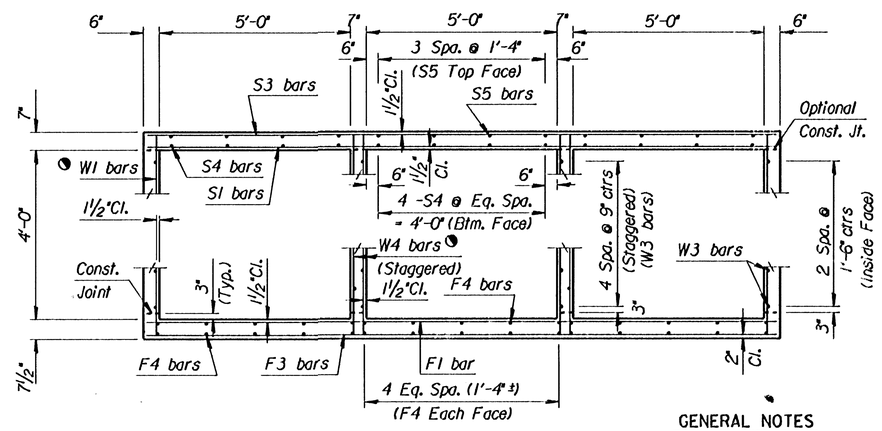
| FHWA REGION NO. | STATE | PROJECT NO. | YEAR | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| 7 | KANSAS | 87U-1362-01 | 1993 | 58 | 149 |



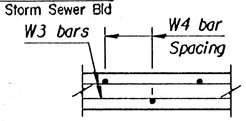

SECTION AND ELEVATION
(Normal to ℄ Roadway)



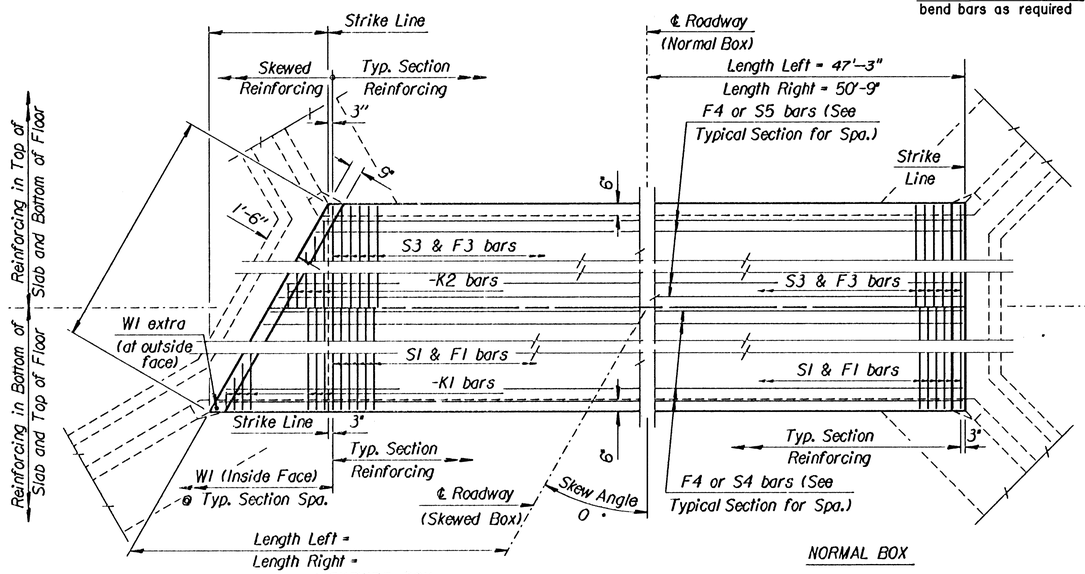

TYPICAL STORM SEWER CONNECTION AT RCB
(Max. 24" Diameter)
(Subsidiary to Storm Sewer Bid Item)




TYPICAL SECTION

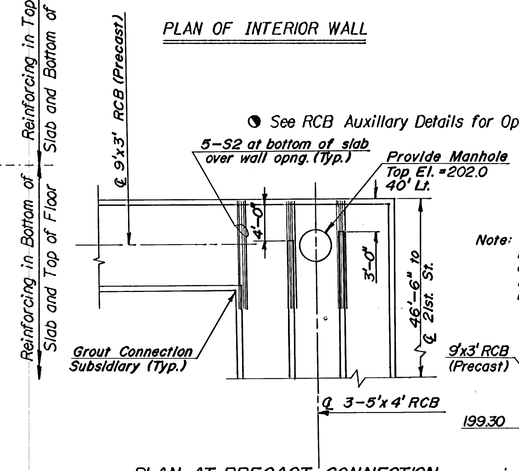



PLAN OF INTERIOR WALL



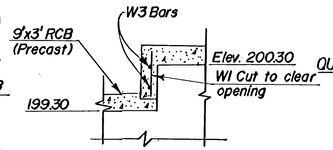

PLAN

See RCB Auxillary Details for Optional Splice.




PLAN AT PRECAST CONNECTION
(Some reinforcing not shown for clarity)

Note: Wall openings are subsidiary to Class AAA Concrete. No deduction in concrete or reinforcing has been made in bid items for openings.




SECTION AT PRECAST CONNECTION
(Some reinforcing not shown for clarity)

| Minimum Splice Lengths | |
|---|---|
| #4 | 1'-4" |
| #5 | 1'-8" |
| #6 | 2'-0" |

## GENERAL NOTES

LOADING: HS20-44 AASHTO Specifications, 1983 Edition.
UNIT STRESSES: Class AAA Concrete; f'c = 4,000 p.s.i.
Reinforcing Steel; fy = 60,000 p.s.i.
FILL HEIGHT: Unless otherwise noted, the Design Fill Height is measured from the riding surface at the culvert and shall include the surfacing.
CONCRETE: Class AAA Concrete shall be used throughout. Bevel all exposed edges with a ¾inch triangular moulding. Where Class AAA Concrete (AE) is specified, it shall be placed in the top slab above the Construction Joint.
REINFORCING: All reinforcing shall conform to ASTM A615, Grade 60. All dimensions relative to reinforcing steel shall be to centerline of bar unless otherwise noted.
EXCAVATION: Excavation for culverts less than bridge length shall not be paid for directly but shall be subsidiary to Class AAA Concrete. Excavation for RCB Bridges shall be paid for as Class III Excavation.
SEAL COURSE: A Seal Course may be required by the Engineer. The Seal Course shall be unreinforced Concrete (Commercial Grade) to a minimum depth of 3 inches or as determined by the Engineer. Concrete for the seal course shall be paid for at the unit price of Class AAA Concrete.
FOUNDATION STABILIZATION: Foundation Stabilization may be required as directed by the Engineer. The depth of Foundation Stabilization shall be determined by the Engineer. Foundation Stabilization shall be paid for at the determined Unit Price set for Foundation Stabilization. See Auxiliary Details.
QUANTITIES: The quantities shown in the Culvert Summary include apron and/or soil saver quantities when their construction is required by the plans. Payment for additional quantities that result from including seal course and/or floating apron, as a change in original plans, shall be made at the Unit Price bid for the various items involved. Wingwall quantities shown include all quantities outside the neat lines of the box.
GRANULAR BACKFILL (WINGWALLS): Special backfill procedures may be required at the direction of the Engineer. See Auxiliary Details Sheet.
STRIKE LINE: Wingwalls and that portion of the RCB outside the Strike Line shall be constructed level. Footing for wingwalls shall be constructed with the culvert floor. See wingwall detail sheet.

CULVERT SUMMARY

| Flow Line Elev. Lt. | Flow Line Elev. Rt. | Crown Gr. Elev. | Design Fill Ht. | Skew | Left Wings | Right Wings | Scour Apron | Soil Saver | Granular Backfill | Concrete Barrel (Cu.Yds.) | Concrete Wings (Cu.Yds.) | Concrete Total (Cu.Yds.) | Reinf. Steel (Gr. 60) Barrel (Lbs.) | Reinf. Steel (Gr. 60) Wings (Lbs.) | Reinf. Steel (Gr. 60) Total (Lbs.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 196.30 | 196.60 | 203.40 | 5 | 0 | FLARED | FLARED | YES | NO | NO | 94.76 | 8.96 | 103.72 | 12605.2 | 462.26 | 13067.5 |

* See Bending Diagram

BAR SCHEDULE S

| F1 Size | F1 Spa. | F1 No. | F1 Length | F3 Size | F3 Spa. | F3 No. | F3 Length | F4 Size | F4 No. | F4 Length | S1 Size | S1 Spa. | S1 No. | S1 Length | S2 Size | S2 Spa. | S2 No. | S2 Length | S3 Size | S3 Spa. | S3 No. | S3 Length | S4 Size | S4 No. | S4 Length | S5 Size | S5 No. | S5 Length |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4 | 9" | 132 | 16'-10" | - | - | - | - | 4 | 8½" | 140 | 16'-10" | 4 | 90 | 34'-0" | 4 | 9" | 132 | 16'-10" | 5 | 3" | 15 | 12'-0" | 4 | 8½" | 140 | 16'-10" | 4 | 36 | 34'-0" | 4 | 36 | 34'-0" |

| K1 Size | K1 Spa. | K1 No. | K1 Length | K2 Size | K2 Spa. | K2 No. | K2 Length | W1 Size | W1 Spa. | W1 No. | W1 Length | W3 Size | W3 No. | W3 Length | W4 Size | W4 Spa. | W4 No. | W4 Length | G1 Size | G1 No. | G1 Length | G2 Size | G2 No. | G2 Length |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| - | - | - | * | - | - | - | * | 4 | 9" | 286 | 4'-11" | - | - | - | 4 | 52 | 34'-0" | 4 | 9" | 262 | 4'-11" | 5 | 4 | 16'-10" |

SUMMARY OF QUANTITIES

| | | |
|---|---|---|
| Class AAA Concrete | 103.7 | C.Y. |
| Class AAA Concrete (AE) | 0.0 | C.Y. |
| Class III Excavation | | C.Y. |
| Reinforcing Steel (Gr. 60) | 13,070 | Lbs. |
| Reinforcing Steel (Epoxy Coated) | 0 | Lbs. |
| Foundation Stabilization (Set) | 1 | C.Y. |
| Granular Backfill (Wingwalls) (Set) | 1 | C.Y. |

| NO. | DATE | REVISIONS | BY | APP'D |
|---|---|---|---|---|

KANSAS DEPARTMENT OF TRANSPORTATION
Sta. 20+50
TRIPLE 5' x 4' RCB

~~Std. No. 3.05.04~~ SEDGWICK CO.

FHWA APPROVAL 6-5-91 APP'D KENNETH F. [illegible]
DESIGNED | DETAILED | QUANTITIES | TRACED
DESIGN CK. | DETAIL CK. | QUAN.CK. | TRACE CK.

DISC. FROM BLAD. | CO. CHECK | DESIGN | PROJ. | DESIGN | DATE | DETAIL | DATE | QUANT. | DATE | TRACING | DATE | RETRACED | DATE

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