MAIN STORM WATER DRAIN # 8 - PHASE I

E.L. I-35W TO E.L. LOT 39, PARKMORE 2ND ADDN.

CITY OF WICHITA, KANSAS

B.E. SMITH CITY ENGINEER

DATE: June ,1970 PROJECT No: C 20-8

GENERAL NOTES:

1. ALL ELEVATIONS REFER TO CITY DATUM.
2. USE CITY OF WICHITA TYPICAL DRAWINGS FOR STD. 2'x5' INLET AND STD. 30" COMB. CURB AND GUTTER. FLOWLINE OF GUTTER AS SHOWN ON PLANS.
3. "8-inch CMP with FLAP GATE" SHALL BE A PAY ITEM AND INCLUDES A 6" TO 9" LENGTH OF 16-GAUGE *AASHO M-36-60* 8"CMP AND ONE *ARMCO MODEL 10C* FLAP GATE OR APPROVED EQUAL. THE UNIT SHALL BE FACTORY ASSEMBLED. THE SPIGOT BACK OF GATE SHALL BE EMBEDDED IN THE CONCRETE WALL, THE FREE PIPE END SHALL BE CUT FLUSH WITH WALL SURFACE, AND CONCRETE FORMS SHALL RECESS WALL AS REQUIRED FOR PROPER OPERATION OF GATE LINK.
4. THE 15" FLAP GATES SHALL BE *ARMCO MODEL 10C* OR APPROVED EQUAL. THE 15" CMP SHALL BE 16-GAUGE *AASHO M-36-60.*
5. "PREPARATION AND CLEAN-UP" SHALL BE A LUMP SUM PAY ITEM AND SHALL INCLUDE ALL REQUIRED OR INDICATED POST, TREE, AND DEBRIS REMOVAL; REMOVAL AND REPLACEMENT OF NORTH-SOUTH FENCES WITH NEW END POST AT CHANNEL WALL AS REQUIRED; PLUGGING WELL; AND RESHAPING AND RESEEDING DISTURBED AREAS TO THE QUALITY OF THE ORIGINAL; AND THE REPLACEMENT OF ANY DAMAGED WALKS OR DRIVES.
6. CONSTRUCT NEW FENCE ALONG NORTH CHANNEL WALL THENCE SOUTH AT EXISTING RCB HEADWALLS TO A POINT 2' SOUTH OF HEADWALL. FENCE SHALL BE 4' *9 GAUGE, 2" MESH, ASTM 392 CLASS I CHAINLINK FABRIC* WITH LINE POST 6' LONG, 2"O.D. (2.79 lbs/ft) AT 10' CENTERS WITH 1'-6" OF POST CAST IN PLACE IN WALL OR SLEEVES PROVIDED TO ACCOMMODATE POSTS. END POSTS SHALL BE $2\frac{3}{8}$"O.D. (3.65 lbs/ft) AND SHALL BE 6' LONG CAST IN WALL OR 7' LONG OUTSIDE OF WALL. TOP RAIL SHALL EXTEND FULL LENGTH OF FENCE AND SHALL BE $1\frac{5}{8}$ O.D. (2.29 lbs/ft). ALTERNATE LOCATIONS TO FENCE LAND ADJACENT TO CHANNEL TO BE DETERMINED BY FIELD ENGINEER.

INDEX OF SHEETS

1. COVER SHEET
2. PLAN STA. 4131 TO STA. 9155
3. PLAN STA. 9155 TO STA. 15+00
4. PLAN STA. 15+00 TO STA. 21+00
5. PLAN STA. 21+00 TO STA. 27+00
6. PLAN STA. 27+00 TO STA. 28+04, BARRICADE DETAIL
7. TYPICAL SECTIONS, PAVED CHANNEL
8. EXPANSION JOINT DETAIL
9. CONNECTION DETAIL TO EXISTING CULVERTS

10-13 CROSS SECTIONS

Survey by L. Krug & Dick Lee
W. S. Kerby
Aug. 4, 1967
Checked

B.M. #1 Top ½" reinf. rod, S.E. Wingwall end Murdock Bridge over Canal. Elev. 116.03

B.M. #2 Railroad spike south face power-pole in alley west of Minneapolis and north of railroad. Elev. 110.615

B.M. #3 "9" in 1952 at end of curb, east side of Minneapolis, north of railroad. Elev. 110.77

Special Outlet Section See Sheet of

Channel FL +0.296%

3+43 FL 105.390

4+00 FL 105.567

4+38.23 FL 105.680

P.C. 4+74.44 FL 105.980

+8 FL 106.482

+20 FL 106.576

P.T. +20 FL 106.576

4+50 FL 106.732

7+00 FL 106.848

8+00 FL 107.048

9+00 FL 107.340

F.C. +13.44 FL 107.703

Gravel Roadway to Murdock Ave. by Others. Temporary Construction Entrance Improvements by Contractor

Posts and locked chain by Others

Extend channel slab and walls as shown. Wall height varies from 6'0" at channel to 11'0" at north end. Slab elev. at north end 109.83

Install 24" pipe sleeve through wall with wooden bulkhead, Sta. 3+89, FL 104.22

Construct Special Section, See Sheet of

Outlet structure, See Sheet of

Install dumped riprap

BEGIN PROJECT (Improvements west of Sta. 4+31 not in this contract) (Begin paving transverse to channel centerline at Sta. 4+31)

Install 3-8' C.M.P. with flap gates through wall at 5' cts. FL 108.00, center pipe at Sta. 5+08

Install 8' C.M.P. with flap gate through wall. FL 109.00, Sta. 6+00

Install 31 L.F. Std. 30" Comb. Cb (Gtr.

Install 2 units Class II Barricade

Existing Street Std. 30" Comb. Cb (Gtr. - Curb removed at chute location

7' ± Paved Chute

Channel wall notched at chute

Round all exposed edge with ¾" R.

5-#4 x 36" bars at 6" cts.

1' Exp. Material all sizes

SECTION AT ℄

PAVED CHUTE

Scale: 1"=2'

CROSS-SECTION

7 L.F. Paved Chute each side (See above)

Install 8' CMP with flap gate

Sta.	8+00 FL 109.00
Sta.	8+50 FL 109.05
Sta.	9+00 FL 109.00
Sta.	9+50 FL 108.50

Bldg

Bldg

Bldg

B.M. #3

90°03'

90°

90°

P.C. 4+09.29

Drainage Easement

Temporary Construction Entrance Improvements and Clean up by Contractor

ALLEY

Manhole

Property Pin

Signal Box

Existing R.R. Bridge

existing sheet piling

Existing 54" Sanitary Sewer

℄ FUTURE PAVED CANAL

Existing Canal Bank

FUTURE INTERSTATE HIGHWAY I35-W

℄ St. Louis-San Francisco Railroad

Telegraph Line & Poles Removed by Others

Note: Field Engineer to set "New Bench Marks" before old ones are destroyed.

Curve segments from Sta. 4+31 to Sta 5+20 equals 10° maximum.

Install 18" pipe sleeve through wall with wooden bulkhead, Sta. 3+94, FL 106.30

NOTE:

Contractor is to grade temporary channel transition between Sta. 3+50 & Sta. 4+30. Use all conc. on this project for dumped rip-rap in channel west of Sta. 4+31.

SCALE 1"=20'

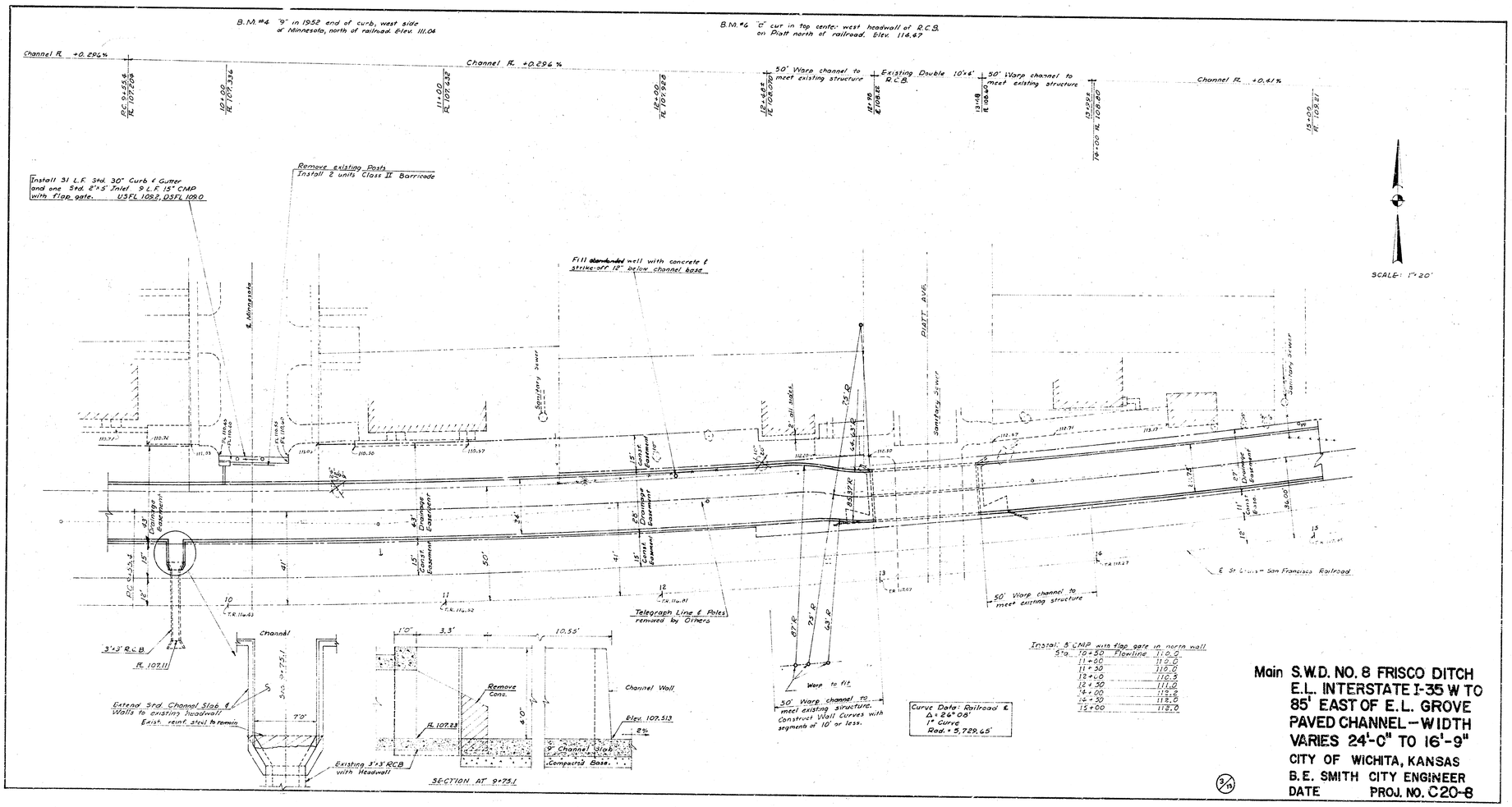
Main S.W.D. NO. 8 FRISCO DITCH E.L. INTERSTATE I-35W TO 85' EAST OF E.L. GROVE PAVED CHANNEL--WIDTH VARIES 24'-0" TO 16'-9"

CITY OF WICHITA, KANSAS

B.E. SMITH CITY ENGINEER

DATE PROJ. NO. C20-8

5/15



Main S.W.D. NO. 8 FRISCO DITCH
E.L. INTERSTATE I-35 W TO
85' EAST OF E.L. GROVE
PAVED CHANNEL – WIDTH
VARIES 24'-0" TO 16'-9"
CITY OF WICHITA, KANSAS
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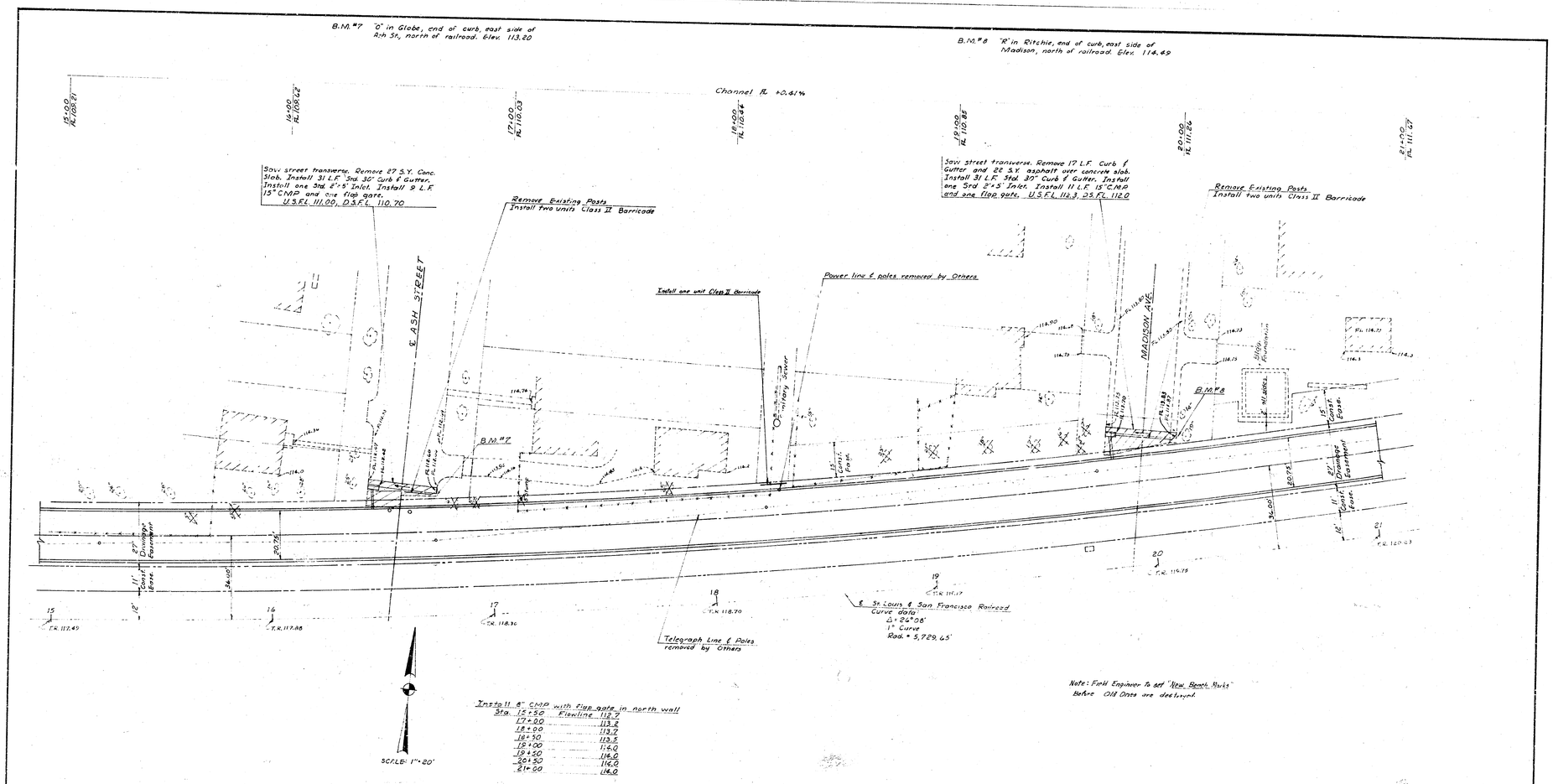
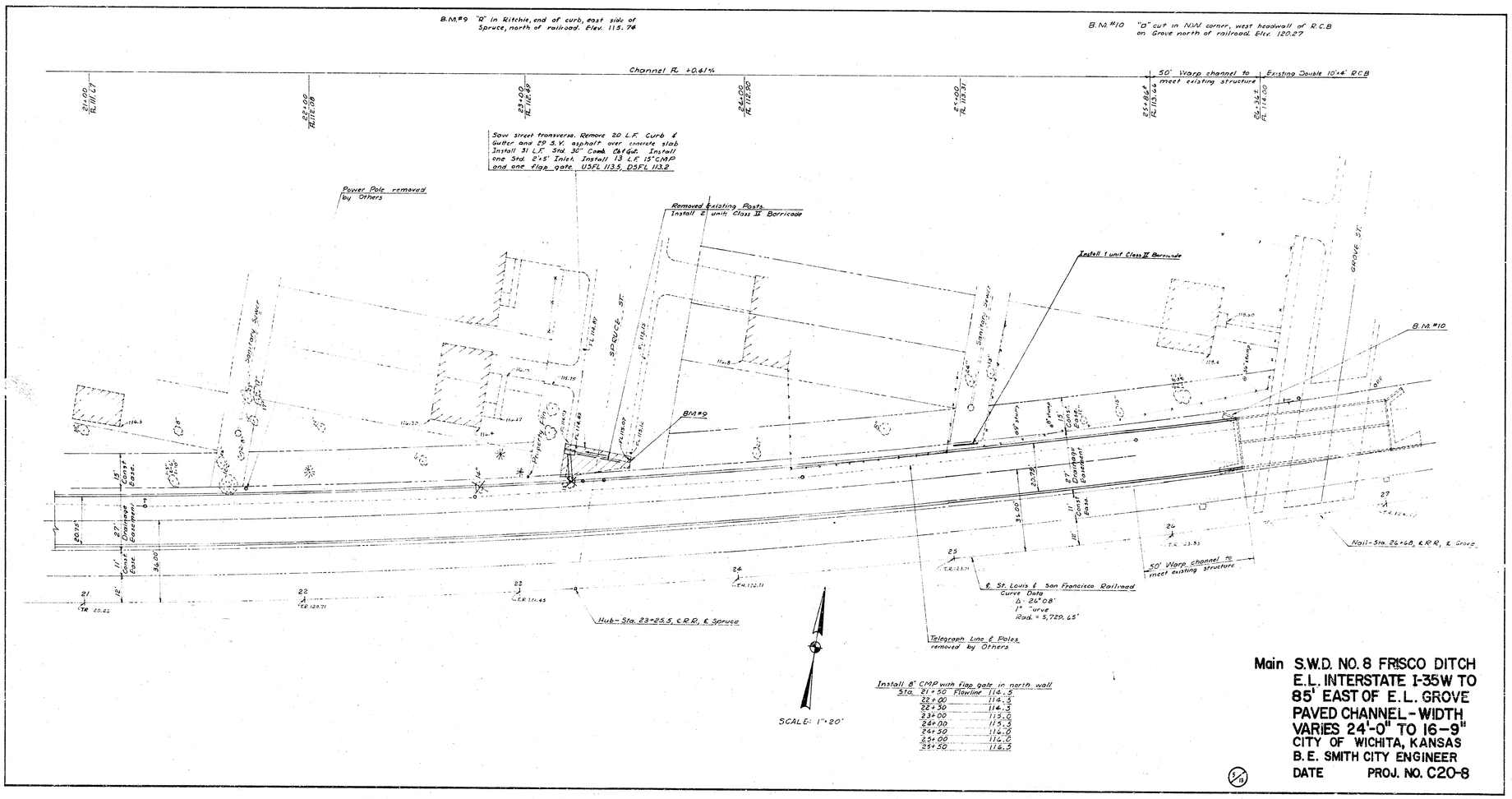


Install 8" CMP with flap gate in north wall

Sta.	Flowline
15+50	112.7
17+00	113.2
18+00	113.7
18+50	113.5
19+00	114.0
19+50	114.0
20+50	114.0
21+00	114.0

Main STORM WATER DRAIN #8
PROJECT No. C20-8



Install 8" CMP with flap gate in north wall

Sta.	Flowline
21+50	114.5
22+00	114.5
22+50	114.5
23+00	115.0
24+00	115.5
24+50	116.0
25+00	116.0
25+50	116.5

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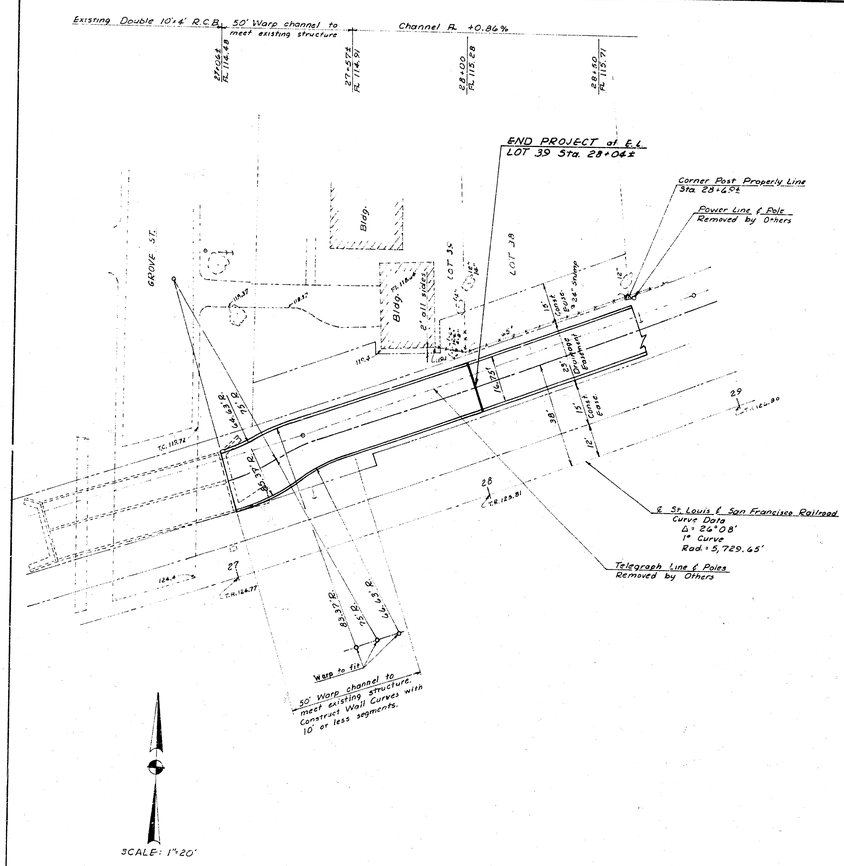
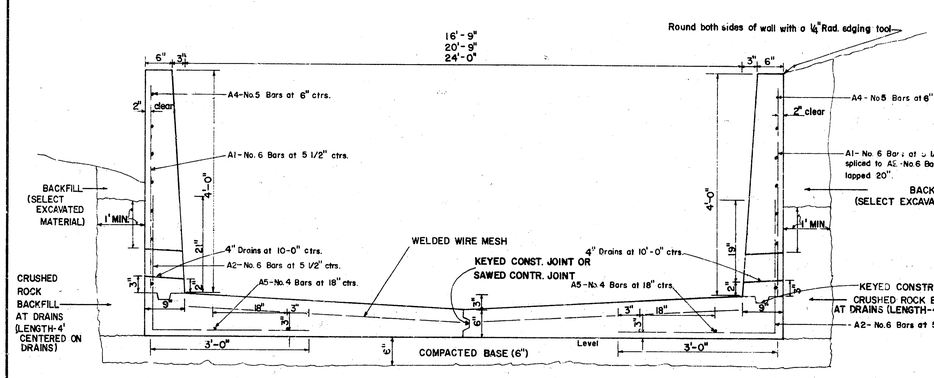

Existing Double 10'x6' R.C.B.
50' Warp channel to meet existing structure
Channel Fl. +0.86%
27+57.4 FL 114.61
27+57.4 FL 114.51
28+00 FL 115.28
28+50 FL 115.97
END PROJECT at E.L. LOT 39 Sta. 28+06.2
Corner Post Property Line Sta. 28+6.02
Power Line & Pole Removed by Others
GROVE ST.
Bldg.
Bldg. FL 116.4
8" Oil Inlet
LOT 38
LOT 39
Asphalt Pavement
Concrete Curb & Gutter
TC 116.74
TC 116.74
TC 116.74

CHAIN LINK FENCE SPECIFICATIONS

4' CHAIN LINK FENCE NO. 9 GAGE, 2" MESH, ASTM 392 CLASS I TO BE INSTALLED.
LINE POSTS AT 10' CENTERS, 6'-0" LONG, 2" O.D., 2.79 lbs./ft., EMBEDDED 1'-6" IN WALL.
END POSTS 6'-0" LONG IN WALL, 7'-0" OUTSIDE OF WALL, 2 3/8" O.D., 3.65 lbs./ft.
TOP RAIL 1 5/8" O.D., 2.27 lbs./ft.
LINE POSTS MAY BE CAST IN PLACE IN WALL OR SLEEVES MAY BE PROVIDED TO ACCOMMODATE POSTS. POSTS NOT INSTALLED IN WALL OF CHANNEL SHALL HAVE A CONCRETE FOOTING 10" IN DIAMETER AND 3'-0" DEEP. THESE POSTS TO BE EMBEDDED 2'-6" IN CONCRETE FOOTING.
METHOD OF INSTALLATION AND TYPE OF ASSEMBLY TO BE APPROVED BY THE ENGINEER.

NOTE TO FIELD ENGINEER & CONTRACTOR

1. CONTRACTOR TO HAVE OPTION OF CONSTRUCTING SLAB FULL WIDTH WITH A 2" DEEP SAWED CONTRACTION JOINT AT ℄, OR HALF WIDTH POUR WITH KEYED CONSTRUCTION JOINT AT ℄ OF SLAB WITH NO. 4 DOWEL BARS 3'-0" LONG AT 30" CENTERS.
2. CONCRETE SHALL CONFORM TO CITY OF WICHITA SPECIFICATIONS FOR CONCRETE PAVEMENT.
3. RAIL-STEEL CONCRETE REINFORCEMENT BARS OR BILLET-STEEL CONCRETE REINFORCEMENT BARS OF AN INTERMEDIATE GRADE SHALL BE USED.
4. WELDED WIRE MESH SHALL BE NO. 1 GAGE WIRE SPACED 6" LONGITUDINALLY & NO. 4 GAGE WIRE SPACED 12" TRANSVERSALLY WEIGHING 61 lbs. per 100 sq. ft. WIRE MESH TO BE PLACED 3" FROM THE TOP OF THE CONCRETE CHANNEL FLOOR SLAB. WIRE MESH REINFORCEMENT IN FLOOR SLAB OF CHANNEL IS TO RUN CONTINUOUS THROUGH CONTRACTION JOINTS BUT IS NOT TO RUN THROUGH EXPANSION OR KEYED JOINTS.
5. CONTRACTION JOINTS ARE TO BE SAWED EVERY 30' PERPENDICULAR TO THE ℄ OF THE CHANNEL EXCEPT WHERE EXPANSION JOINT DEVICES ARE INSTALLED.
6. CONTRACTOR TO HAVE OPTION OF INSTALLING LACLEDE OR ANKORTITE TYPE EXPANSION JOINT DOWEL ASSEMBLIES CONFORMING TO STANDARDS OF THE STATE HIGHWAY COMMISSION OF KANSAS. THE 6" SIZE CONCRETE DOWEL ASSEMBLIES SHALL BE USED. EXPANSION JOINTS ARE TO BE CONSTRUCTED AT 150' SPACING AND SHALL BE FILLED WITH JOINT FILLER OF EITHER REDWOOD BOARD 3/4" IN THICKNESS OR PREMOLDED ASPHALTIC JOINT MATERIAL 3/4" IN THICKNESS. ALL EXPANSION JOINT MATERIAL USED SHALL CONFORM TO THE SECTION OF SLAB AS SHOWN ON PLANS.
7. CHANNEL TO TRANSITION FROM TYPICAL SECTION TO SPECIAL SECTION AT BOX CULVERTS IN 50'.
8. ALL REINFORCING STEEL BARS SHALL BE LAPPED A MINIMUM OF 18" UNLESS OTHERWISE SPECIFIED.
9. SELECT BACKFILL FROM EXCAVATED MATERIAL IS TO BE USED AS BACKFILL FOR CHANNEL WALLS AND FILL ADJACENT TO CHANNEL CONSTRUCTION. BACKFILL TO BE COMPACTED TO ORIGINAL CUT DENSITY OR GREATER AS DETERMINED BY THE FIELD ENGINEER.
10. CONTRACTION JOINTS IN WALLS TO CONFORM TO THE SAWED CONTRACTION JOINTS IN THE BASE OF THE CHANNEL SPACED AT 30' CENTERS PERPENDICULAR TO THE ℄ OF THE CHANNEL.

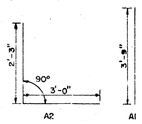


TYPICAL SECTION

TYPICAL SECTION CENTERLINE WHEN PARALLEL TO RAILROAD CURVE VARIES WITH A 5,688.65' TO 5,693.65' RADIUS CURVE. CURVE SEGMENTS TO BE 50' MAX.

SPECIAL SECTION AT BOX CULVERTS

CHANNEL VARIES FROM TYPICAL SECTION TO SPECIAL SECTION IN 50 L.F WITH SMOOTH CONTINUOUS CURVES. USE CURVE SEGMENTS OF 10' MAX. WHEN RADIUS OF CURVE IS LESS THAN 100'. FORM MARKINGS OR VOIDS WITH A THICKNESS OF 0.1" OR LARGER WITHIN EXPOSED CONCRETE SHALL BE ERADICATED TO PROVIDE A SMOOTH SURFACE.



NOTE:
Channel variation from Typical Section to Special Section to be paid for as if a continuation of the typical section.

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PAVED CHANNEL - WIDTH VARIES 24'-0" TO 16'-9"
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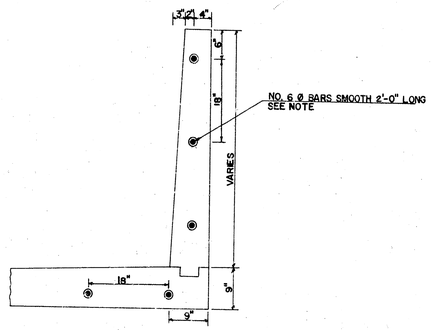
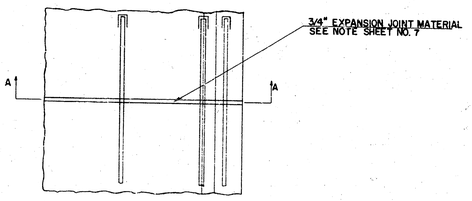
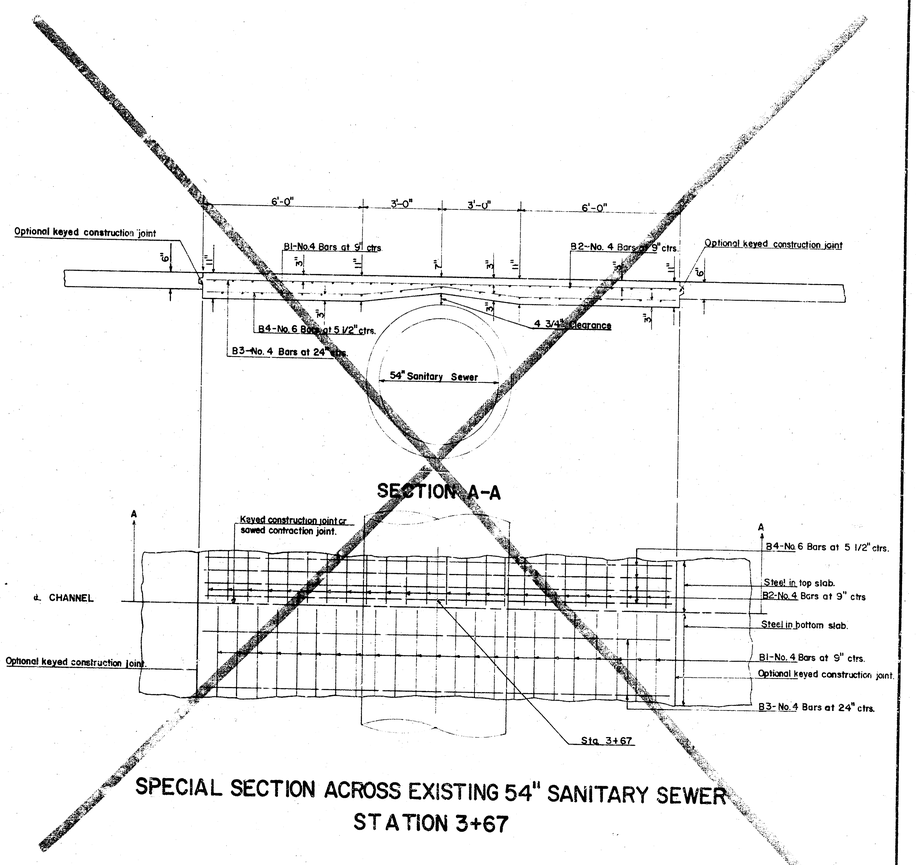
NOTE:
NO. 6 Ø BARS ARE TO BE COATED WITH HARD GREASE & CAPPED ON ONE END WITH THE SAME CAP & HARD GREASE AS SPECIFIED FOR EXPANSION JOINTS IN FLOOR OF CHANNEL. ℄ OF BAR MUST BE PLACED PARALLEL TO LINE & GRADE OF CHANNEL.



SECTION A-A



EXPANSION JOINT DETAIL IN VERTICAL WALLS OF CHANNEL STRUCTURE



SPECIAL SECTION ACROSS EXISTING 54" SANITARY SEWER STATION 3+67

Main STORM WATER DRAIN #8
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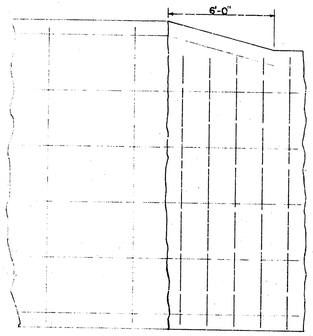
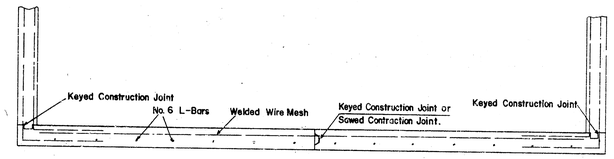


SECTION C-C



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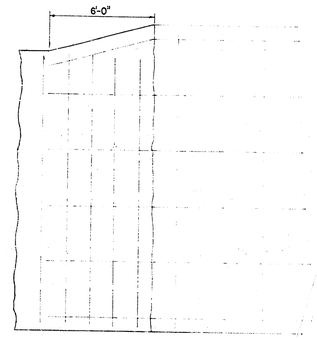
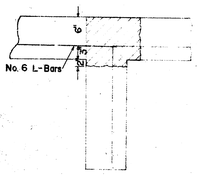
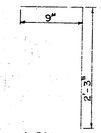


SECTION B-B



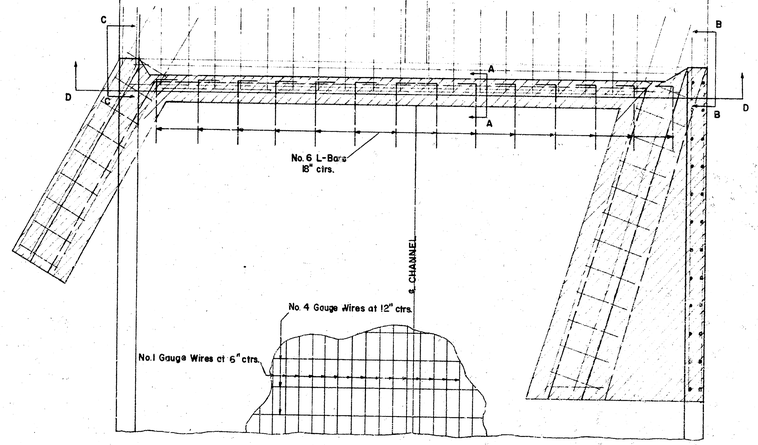
SECTION A-A



L-BAR

NOTES TO FIELD ENGINEER & CONTRACTOR

1. CROSS HATCHED PORTIONS ARE TO BE REMOVED AT THE END OF EACH OF THE BOX CULVERTS. "L" BARS FROM BASE OF BOX TO TOEWALL ARE TO REMAIN IN PLACE. L-BARS TYING FLOOR OF FLOOD CONTROL CHANNEL TO BE TIED TO EXISTING "L" BARS IN TOEWALL & BASE.
2. CONCRETE ON EXISTING TOEWALL TO BE REMOVED A MINIMUM OF 2" BELOW BOTTOM SLAB OF BOX CULVERTS. EXISTING APRON ON BOX CULVERTS TO BE REMOVED A MINIMUM OF 12" BEHIND EDGE OF APRON.
3. WINGWALLS ARE TO BE REMOVED AT EXISTING BOX CULVERTS. STEEL FROM WINGWALLS TO BE BE STRAIGHTENED & TIED INTO WALLS OF DRAINAGE CANAL STRUCTURE.
4. CONCRETE TO BE SLOPED FROM THE TOP OF THE EXISTING HEADWALL TO THE TOP OF THE CHANNEL WALL IN 6'.



TIE-IN OF DRAINAGE CANAL STRUCTURE TO BOX CULVERTS

Main S.W.D. NO. 8 FRISCO DITCH
E.L. INTERSTATE I-35W TO 85' EAST OF E.L. GROVE
PAVED CHANNEL - WIDTH VARIES 24'-0" TO 16'-9"
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3-16