CITY OF WICHITA, KANSAS

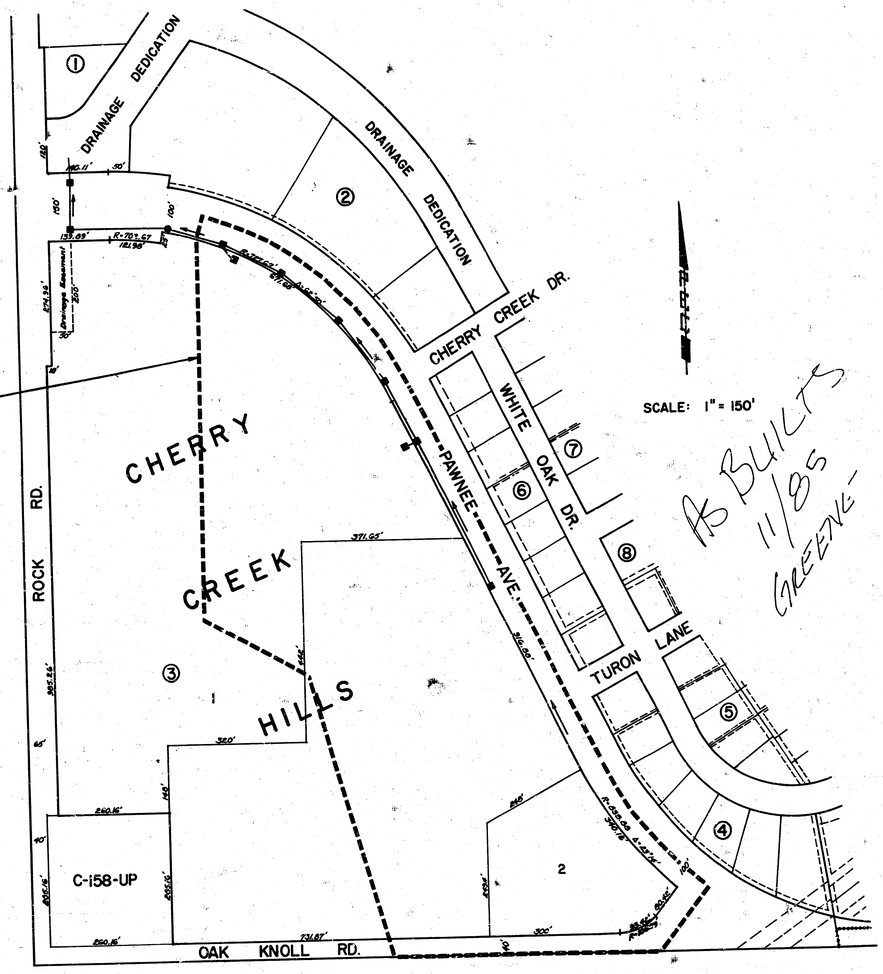
STORM WATER SEWER NO. 261

(CHERRY CREEK HILLS)

PROJECT NO. 468-76-245-81342-000-000-001

INDEX OF SHEETS

1. Title Sheet
2-4. Plan & Profile
5. Detail Standard Type I Curb Inlet (5' Opening)
6. Type I Curb Inlet (10' Opening)
7. Flume Inlet (Type I)
8. Trench Inlet Details
9. Shallow Type "B" Manhole
10. Manhole Frame and Cover Detail



LEGEND

- BENEFIT DISTRICT BOUNDARY
- DRAINAGE FLOW DIRECTION
- PROPOSED INLET
- PROPOSED MANHOLE

As Builts 11/85 Greene

GENERAL NOTES

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR SHALL BE REQUIRED TO RE-ESTABLISH ANY PROPERTY IRONS WHICH ARE DAMAGED OR DESTROYED BY HIS CONSTRUCTION OPERATIONS. SUCH IRONS SHALL BE RE-ESTABLISHED BY A LICENSED LAND SURVEYOR OR A LICENSED PROFESSIONAL ENGINEER IN ACCORDANCE WITH APPLICABLE STATE LAWS.

UTILITIES: EXISTING UTILITIES AND THEIR LOCATIONS, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM THE VARIOUS UTILITY COMPANIES AND IS EITHER FROM COMPANY RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE PLAN LOCATIONS SHOWN ARE NOT GUARANTEED. ADDITIONAL EXISTING UTILITIES MAY ALSO BE ENCOUNTERED.

PRIVATE UTILITY SERVICE LINES, POLES, VALVE BOXES, METERS, ETC. ARE TO BE ADJUSTED BY OTHERS UNLESS THE PLANS CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES AT LEAST TWENTY-FOUR (24) HOURS IN ADVANCE OF COMMENCEMENT OF WORK AND SHOULD REQUEST THAT ANY EXISTING LINES BE FLAGGED:

WICHITA WATER DEPARTMENT MR. BILL OTTEN 268-4217	KANSAS GAS & ELECTRIC CO. MR. BOB BLEVINS 261-6421	SOUTHWESTERN BELL TEL. CO. MR. DAN CLEVENGER 263-2895
GAS SERVICE COMPANY MR. GENE CURLESS 263-7511 (EXT. 311)	MULTIMEDIA CABLEVISION MR. DON SHUE 269-2336	

THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHILE EXCAVATING ALONGSIDE THE EXISTING 12-INCH WATER MAIN STA. 1+38 TO STA. 9+85. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF SAID WATER MAIN, AND THE COSTS ASSOCIATED WITH ITS REPAIR AND/OR REPLACEMENT DUE TO DAMAGE SHALL BE BORNE BY THE CONTRACTOR.

INLET OPENINGS WHICH ARE NOT ADJACENT TO EXISTING PAVEMENT ARE TO BE TEMPORARILY BRICKED SHUT. COST OF THIS SHALL BE CONSIDERED AS INCIDENTAL TO THE INLETS. THE PAVEMENT CONTRACTOR WILL REMOVE THE BRICK AND ADJUST THE INLETS TO FINAL GRADE.

NEW COMBINED CURB AND GUTTER ABUTTING EXISTING CURB AND GUTTER SHALL HAVE THE SAME SECTION AS THE EXISTING CURB AND GUTTER.

EXISTING COMBINED CURB AND GUTTER REMOVAL AND REPLACEMENT IS REQUIRED TO CONSTRUCT THE CURB INLETS AT STA. 6+47.45, STA. 8+16.07, STA. 9+84.80, STA. 11+34.52, AND STA. 14+96.52. THE CURB AND GUTTER SHALL BE REMOVED TO A MINIMUM OF 1'-4" BEYOND EACH OUTSIDE FACE OF INLET WALLS. IF RESULTING LENGTHS TO NEAREST EXISTING JOINTS ARE LESS THAN FIVE (5) FEET, REMOVAL TO THE NEAREST EXISTING JOINT WILL BE REQUIRED. THE MAXIMUM REMOVAL REQUIRED WOULD BE INLET LENGTH PLUS 2'-8" PLUS 8'-0". THE MINIMUM REMOVAL REQUIRED WOULD BE INLET LENGTH PLUS 2'-8". 20'-0" REMOVAL AND REPLACEMENT HAS BEEN SHOWN AT EACH OF THE LISTED INLETS. PAYMENT, HOWEVER, WILL BE MADE ONLY FOR THAT AMOUNT ACTUALLY REMOVED AND REPLACED. SAW CUTS REQUIRED FOR CURB AND GUTTER REMOVAL SHALL BE SUBSIDIARY TO THE BID ITEM "COMBINED CURB AND GUTTER REMOVED".

SAW CUTS SHALL BE MADE AS NECESSARY FOR REMOVAL OF DRIVEWAYS AND STREET. THE ENGINEER SHALL DETERMINE THE AMOUNTS OF REMOVAL AND LOCATION OF SAW CUTS. SAW CUTS SHALL BE CONSIDERED AS SUBSIDIARY TO THE VARIOUS REMOVAL ITEMS.

ALL DISTURBED AREAS SHALL BE SEEDED AND FERTILIZED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY OF WICHITA STANDARD SPECIFICATIONS FOR SANITARY AND STORM SEWERS. THIS WORK SHALL NOT BE MEASURED OR PAID FOR DIRECTLY, BUT SHALL BE SUBSIDIARY TO OTHER ITEMS IN THE CONTRACT.

CONSTRUCTION TRAFFIC CONTROL:

A. THE CONTRACTOR SHALL MAINTAIN APPROPRIATE TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE CITY OF WICHITA BARRICADE MANUAL AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

B. A MINIMUM OF TWO-LANE, TWO-WAY TRAFFIC SHALL BE MAINTAINED ON PAWNEE AVENUE AT ALL TIMES. LOCAL TRAFFIC SHALL BE CARRIED THROUGH CONSTRUCTION.

C. THE CONTRACTOR WILL BE PERMITTED TO CLOSE THE DRIVES RT. STA. 55+45 AND STA. 61+79, BUT BOTH DRIVES SHALL NOT BE CLOSED SIMULTANEOUSLY.

MICHAEL E. LINDEBAK, P.E., CITY ENGINEER

JULY, 1984

BARY D. SCHOCK LICENSED 6838 KANSAS PROFESSIONAL ENGINEER

No.	Revision	By	Date

TITLE SHEET
STORM WATER SEWER NO. 261

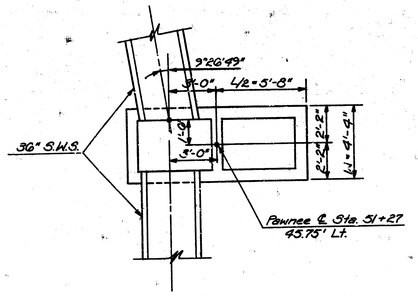
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by | Job No. 84278 | Sht. 1 of 10
Drawn by | Date

1/10

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PROJECT NO.	SHEET NO.	TOTAL SHEETS
468-76-245-81342-000-000-001	2	10



LOCATION SKETCH
Type 1 Curb Inlet (Sta. 0+56.87)

LEGEND

- Tree Removal
- Pavement Removal
- Asphalt Pavement

UTILITIES

CTV	Multimedia Cablevision
Sanitary Sewer & Water	City of Wichita
Gas	Gas Service Co.
Power	Kansas Gas & Electric
Telephone	Southwestern Bell

B.M. #8 - Chis. "O" in Top N. Curb Pawnee between the West & ctr. Inlets of 3 Inlets together 24.5' Lt. Sta. 50+89 Elev. 165.91

CURVE DATA BASED ON ℄ RADIUS Δ/2 = 31°22'51.5"
R = 776.37' T = 473.54' L = 850.44'

STATION	ARC LENGTH	CHORD LENGTH	℄ DEFLECTION ANGLE	℄ TOTAL ANGLE
52+16.18	0	0	0	0
52+50	33.82	33.82	1°14'52.6"	1°14'52.6"
53+00	50	49.99	1°50'41.9"	3°05'34.5"
53+25	25	25.00	0°55'21.0"	4°00'55.5"
53+50	"	"	"	4°56'16.5"
53+60	10	10.00	0°22'08.4"	5°18'24.9"
53+64.04	4.04	4.04	0°10'16.4"	5°28'41.3"
54+00	35.36	35.36	1°18'17.2"	6°46'58.5"
54+50	50	49.99	1°50'41.9"	8°37'40.4"
55+00	"	"	"	10°28'22.3"
55+45	45	44.99	1°39'37.7"	12°08'00.0"
55+50	5	5.00	0°11'04.2"	12°19'04.2"
56+00	50	49.99	1°50'41.9"	14°09'46.1"
56+50	"	"	"	16°00'28.0"
57+00	"	"	"	17°51'09.9"
57+50	"	"	"	19°41'51.6"
58+00	"	"	"	21°32'33.7"
58+25	25	25.00	0°55'21.0"	22°27'54.7"
58+50	"	"	"	23°23'15.7"
59+00	50	49.99	1°50'41.9"	25°18'57.6"
59+50	"	"	"	27°04'39.5"
60+00	"	"	"	28°55'21.4"
60+50	"	"	"	30°46'03.3"
60+66.02	16.02	16.02	0°35'47.8"	31°22'51.1"

* REVISED: 5-9-85

AS BUILT PLAN 11-5-85 GREENE

STORM WATER SEWER NO. 261
STA. 0+00 TO STA. 3+00

PLATE 1-SINGLE PLAN AND PROFILE-FULL TIME
HIGHWAY FEDERAL AID SHEET
TELEDYNE
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PROJECT NO.	SHEET NO.	TOTAL SHEETS
468-76-245-81342-000-000-001	3	10

Scale: 1"=20'

Sta. 3+68.10
= ℄ Sta. 53+60 Pawnee Ave, 24.49' Rt.
Remove 16.7 S.Y. Asphalt Pavement
Construct Type B Shallow Manhole
(Dia. = 5'-0", Stack = 0.41')
Install 135.13 L.F. 30" RCP Storm Sewer (ESE)
Install 11.1 S.Y. 10" Asphaltic Concrete Pavement (8" Bit. Base)
Construct 20 L.F. Comb. Curb & Gutter and Shape Around Manhole Ring
See Sheet No. 9

Sta. 5+04.28
= ℄ Sta. 55+00, 29.42' Rt.
Construct Type I Curb Inlet
(L = 6'-4", W = 6'-4")
Install 144.28 L.F. 36" RCP Storm Sewer (ESE)
Install 7.2 L.F. 18" RCP Storm Sewer (SE)
See Sheet No. 5

℄ Sta. 55+45, 24' Rt. to 37' Rt.
Remove 448 S.F. Drive
Const. 30 S.Y. Temp. Asphalt Surface, 4"

℄ Sta. 55+45, 55' Rt.
Remove 300 Sq. Ft. Asphalt Parking Lot
Construct Trench Inlet
L = 29'-4", W = 3'-7", H_1 = 3'-7"
H_2 = 2'-0", Ft. Out (18") = 1167.05
Install 22 S.Y. 6" Asphalt Surface (4" Bit. Base)
See Sheet No. 8

Sta. 6+48.56 = ℄ Sta. 56+50, 26.67' Rt.
Remove 20' L.F. Comb. Curb & Gutter
Construct Type I Curb Inlet
(L = 6'-4", W = 6'-4")
Install 168.62 L.F. 36" RCP Storm Sewer (SE)
Construct 20 L.F. Comb. Curb & Gutter
See Sheet No. 5

Sta. 8+17.18 = ℄ Sta. 58+25, 26.50' Rt.
Remove 20 L.F. Comb. Curb & Gutter
Construct Type I Curb Inlet
(L = 6'-4", W = 6'-4")
Install 168.73 L.F. 30" RCP Storm Sewer (SE)
Construct 20 L.F. Comb. Curb & Gutter
See Sheet No. 5

Shape Curb Around Manhole Ring. Additional Gutter Width shall be Subsidiary.

℄ Manhole Cover = ℄ Sta. 55+60 Pawnee Ave. 30.49' Rt.

℄ Curve Data
P.I. Sta. 56+89.72 BK =
Sta. 55+93.08 Ahd
Δ = 62°45'43"
D = 7°22'48"
R = 776.37
T = 473.54
L = 850.44
E = 133.02

Future P.I. E.P. Curve Data
P.I. 57' Rt. ℄ Sta. 55+89.71
P.C. ℄ Sta. 53+64.64, 30.89' Rt.
Δ = 27°18'21"
D = 15°32'03"
R = 671.36
T = 163.08
L = 319.96
E = 19.52

CURB SHAPING DETAIL
Sta. 3+68.10

UTILITIES

CTV	Multimedia Cablevision
Sanitary Sewer & Water	City of Wichita
Gas	Gas Service Co.
Power	Kansas Gas & Electric
Telephone	Southwestern Bell

AS BUILT PLAN 11-5-85 GAS-LINE

STORM WATER SEWER NO. 261
STA. 3+00 TO STA. 9+00

PLAN

PROFILE

PLATE I-SINGLE PLAN AND PROFILE-FULL LINE
HIGHWAY FEDERAL AID SHEET
3M TELEDYNE
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PROJECT NO.	SHEET NO.	TOTAL SHEETS
468-76-245-81342-000-000-001	4	10

℄ P.T. Sta. 60+66.62
1. Nail & Shnr. @ P.T.
2. Chis. "X" on Back S. Curb Cherry Creek Rd. @ ℄ Sidewalk — 50.29' N.E.
3. Chis "X" on Back W. Curb Pawnee just E of Ball Jct. Box — 32.11' N.W.
4. Chis "X" on Back E. Curb Pawnee N. of ℄ Cherry Creek Rd. — 44.04' S.E.

℄ P.O.T. Sta. 68+61.67
1. Nail & Shnr. @ P.O.T.
2. No References

Scale: 1" = 20'

Sta. 9+85.81 = ℄ Sta. 60+00, 20.00' Rt.
Remove 20 L.F. Comb. Curb & Gutter
Construct Type I Curb Inlet
(L=6'-4", W=5'-4")
Install 149.72 L.F. 30" RCP Storm Sewer (SE)
Construct 20 L.F. Comb. Curb & Gutter
See Sheet No. 5

Sta. 61+79 ℄ Pawnee
Remove & Replace 340 S.F. 6" Conc. Drive

Sta. 14+97.63 = ℄ Sta. 65+14, 26.00' Rt.
Remove 20 LF Comb. Curb & Gutter
Construct Type I Curb Inlet
(L=6'-4", W=5'-4")
Construct 20 LF Comb. Curb & Gutter
See Sheet No. 5

Sta. 11+35.63 = ℄ Sta. 61+52, 26.00' Rt.
Remove 20 LF Comb. Curb & Gutter
Construct Type I Curb Inlet (L=6'-4", W=5'-4")
Install 362 L.F. 30" RCP Storm Sewer (SE)
Install 292 L.F. 15" RCP Storm Sewer (SW) 362 L.F.
Construct 20 L.F. Comb. Curb & Gutter
See Sheet No. 5

℄ Sta. 61+51.04, 57.14' Rt.
Remove 30 Sq. Ft. Asphalt Parking Lot
Construct Type I Flume Inlet
Install 12 L.F. Comb. Curb & Gutter
Top 1874.55 IE. Out = 171.31
H=3'-6", L=11'-4", W=4'-4", W1=5'-3⅞"
Install 3.3 S.Y. 6" Asphalt Surface
(4" Bit. Base)
See Sheet No. 7

UTILITIES

CTV	Multimedia Cablevision
Telephone	Southwestern Bell
Sanitary Sewer & Water	City of Wichita

BM #30 - Chis. "X" N. Rim Sanitary Sewer Manhole "M11" Sta. 60+58 55' Lt. Elev. = 172.16

BM #31 - Nail & Shiner @ Sta. 66+00 ℄ Pawnee Elev. = 179.21

BM #21 - USGS Brass Cap in Concrete (Disturbed) 39'S ℄ Oak Knoll & 1760' E ℄ Rock Rd. Elev. = 198.97

AS BUILT PLAN 11-5-85 GRL

PLAN — SHOWS: ALIGNMENT CIRCLED; RT. OF WAY CHECKED

PROFILE — SHOWS: GRADE LINE; NOTE BOOK, GRADE CHECKED; No. ; EXISTING ROADWAYS CHECKED

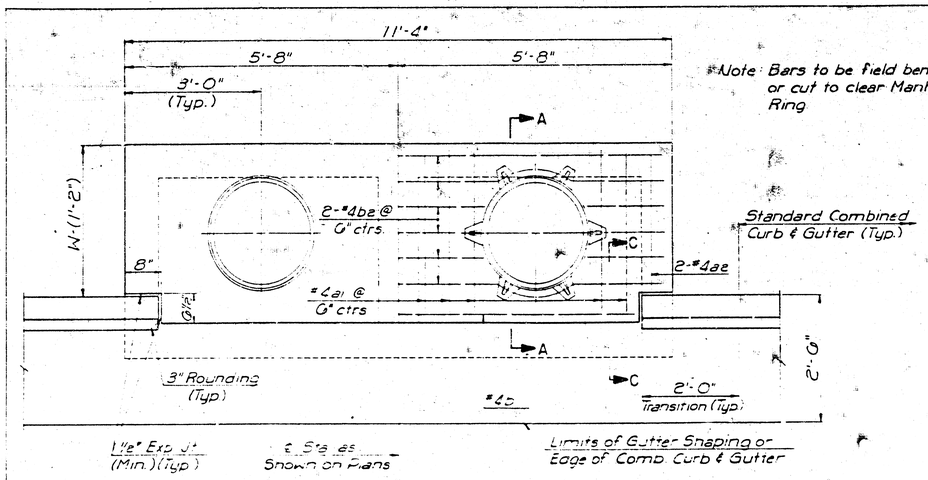
STORM WATER SEWER NO. 261
STA. 9+00 TO STA. 14+96.52

HIGHWAY FEDERAL AID SHEET
PLATE 1-SINGLE PLAN AND PROFILE-FULL LINE
TO TELEXPAK
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PROJECT NUMBER	SHEET NO	TOTAL SHEETS
468-76-245-81342-000-000-001	5	10

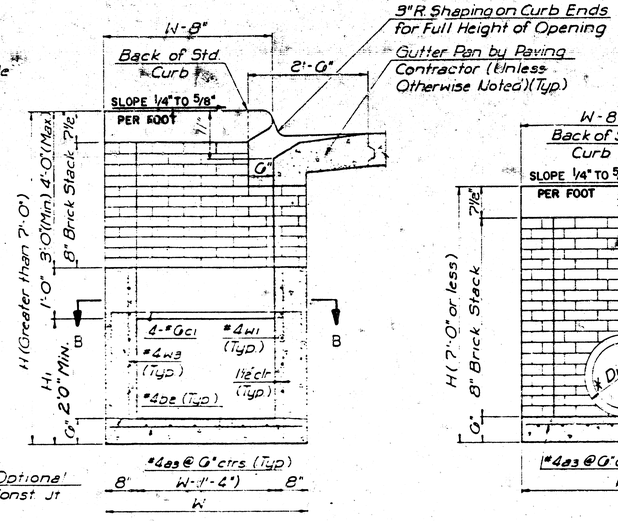


Note: Bars to be field bent or cut to clear Manhole Ring

Standard Combined Curb & Gutter (Typ.)

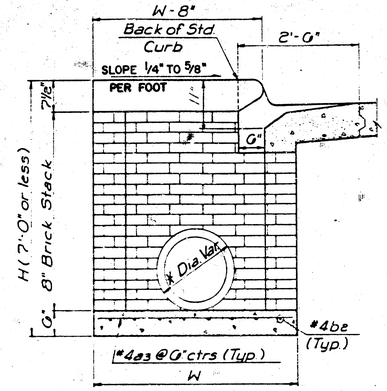
SLAB REINFORCING NOT SHOWN — SHOWING SLAB REINFORCING

PLAN



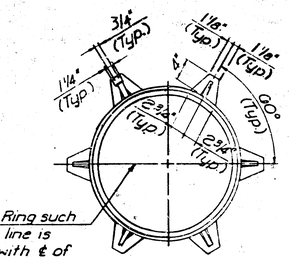
TYPICAL INLET SECTION AT CENTER WALL

(Reinforced Concrete Walls)

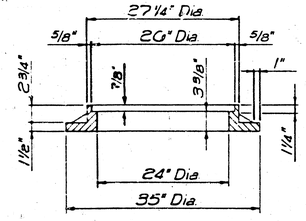


TYPICAL INLET SECTION AT CENTER WALL

(Masonry Walls)

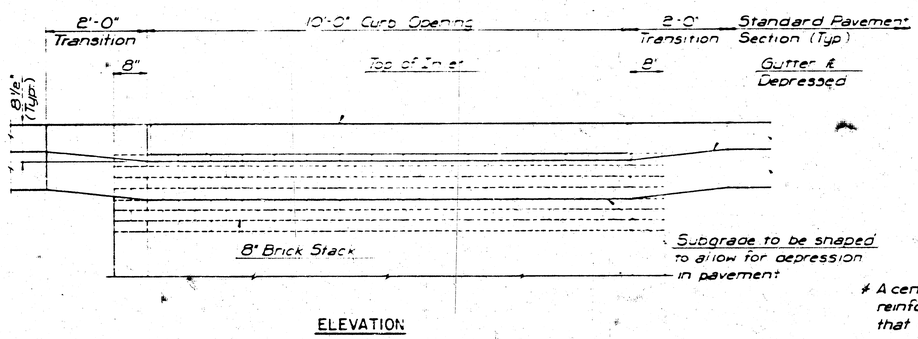


Position Ring such that this line is parallel with ℄ of Pavement

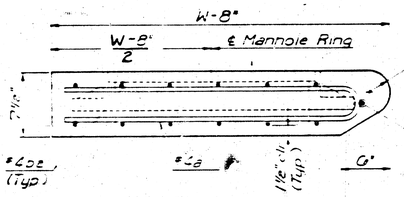


INLET FRAME (Weight = 180 LBS.)

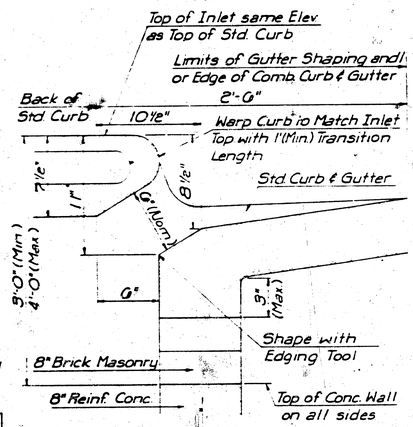
SEE CITY OF WICHITA STANDARD MANHOLE FRAME AND COVER DETAIL SHEET FOR COVER DETAILS TO BE USED WITH INLET FRAME.



ELEVATION



SECTION A-A



SECTION C-C

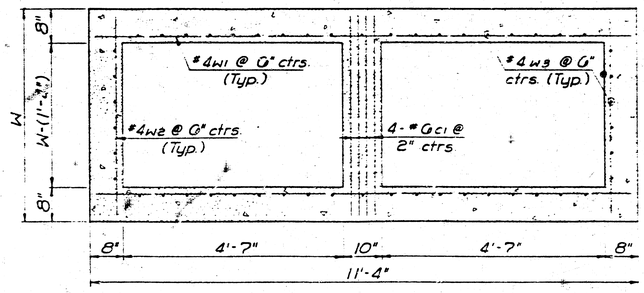
Note: Concrete top to be installed on thin mortar cushion to insure full support along walls

SLAB AND FLOOR REINFORCING											
		W=4'-4"		W=5'-4"		W=6'-4"		W=7'-4"		W=8'-4"	
Mark	Size	No	Length	No	Length	No	Length	No	Length	No	Length
a1	#4	13	6'-7¼"	13	8'-7¼"	13	10'-7¼"	13	12'-7¼"	13	14'-7¼"
ae	#4	2	6'-0"	2	8'-0"	2	10'-0"	2	12'-0"	2	14'-0"
a3	#4	20	4'-1"	20	5'-1"	20	6'-1"	20	7'-1"	20	8'-1"
b1	#4	1	0'-8"	1	0'-8"	1	0'-8"	1	0'-8"	1	0'-8"
*be	#4	18	11'-1"	24	11'-1"	30	11'-1"	36	11'-1"	42	11'-1"

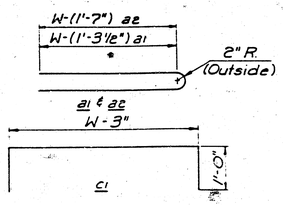
WALL REINFORCING											
		W=4'-4"		W=5'-4"		W=6'-4"		W=7'-4"		W=8'-4"	
Mark	Size	No	Length	No	Length	No	Length	No	Length	No	Length
c1	#6	4	6'-1"	4	7'-1"	4	8'-1"	4	9'-1"	4	10'-1"
w1	#4	1	11'-1"	1	11'-1"	1	11'-1"	1	11'-1"	1	11'-1"
w2	#4	1	4'-1"	1	5'-1"	1	6'-1"	1	7'-1"	1	8'-1"
w3	#4	2	3	2	3	2	3	2	3	2	3

*: Field bend or cut Reinforcing as required for clearance

① 4 (Hi-6") ② 40+4 (W-1) ③ Hi-(10")



SECTION B-B



BENDING DIAGRAMS

GENERAL NOTES

Concrete shall be COW Standard Paving Mix All exposed edges shall be finished with an edging tool. Reinforcing Bars shall be field bent or cut to clear pipes. All bars are #4 bars at 6" Spacing and shall have a minimum clearance of 1½" unless otherwise noted. Floors of inlet shall be shaped with 8 Sack Sand Mix Concrete to increase hydraulic efficiency such that the inlet will be self cleaning between all inlet and/or outfall pipe(s). The Contractor will be required to construct 8" Brick Masonry Walls between the concrete inlet base and top on this inlet when H=7'-0" or less and W=6'-4" or less.

THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.

REVISED 12-21-1984

DETAIL STANDARD TYPE I CURB INLET

INLET OPENING = 6" x 10'-0"

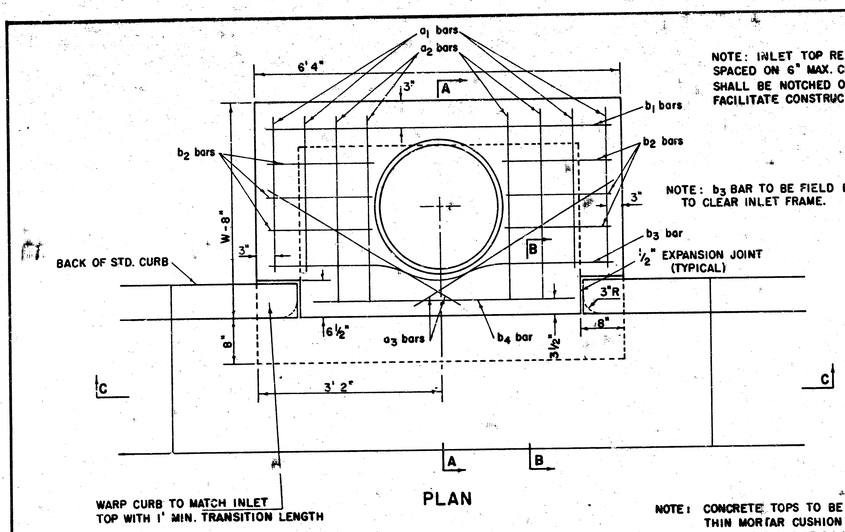
CITY OF WICHITA

M. E. LINDEBAK, CITY ENGINEER

OCTOBER 1984

[redacted] 5/10

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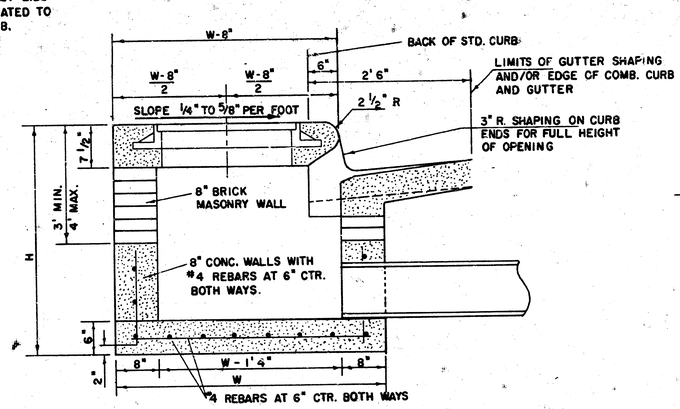
PLAN

WARP CURB TO MATCH INLET TOP WITH 1' MIN. TRANSITION LENGTH

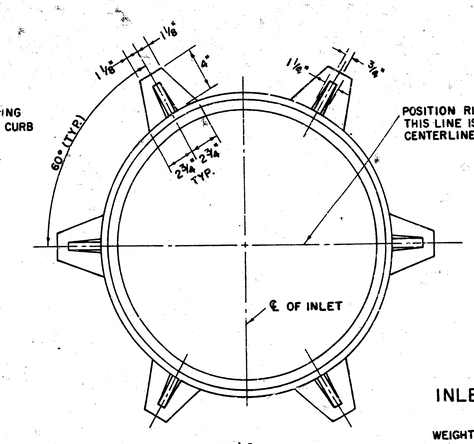
NOTE: INLET TOP REINFORCING SHALL BE SPACED ON 6" MAX. CENTERS. INLET LIDS SHALL BE NOTCHED OUT AS INDICATED TO FACILITATE CONSTRUCTION OF CURB.

NOTE: b_3 BAR TO BE FIELD BENT TO CLEAR INLET FRAME.

NOTE: CONCRETE TOPS TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK WALLS. CONCRETE TOPS MAY BE CAST IN PLACE OR PRECAST. CONCRETE USED FOR INLET CONSTRUCTION SHALL BE CONCRETE PAVEMENT MIX.

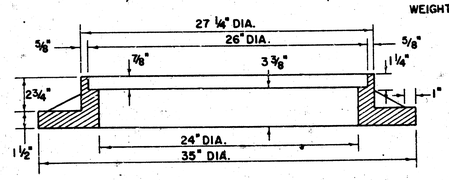


SECTION A-A



INLET FRAME

WEIGHT = 180 LBS.



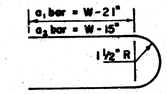
SEE CITY OF WICHITA STANDARD MANHOLE FRAME AND COVER DETAIL SHEET FOR COVER DETAILS TO BE USED WITH INLET FRAME.

STEEL SCHEDULE

BAR		a_1	a_2	a_3	b_1 W=4'4"	b_1 W=5'4"	b_1 W=6'4"	b_1 W=7'4"	b_1 W=8'4"	b_2	b_3	b_4	WT. LBS.
NUMBER		4	4	2	1	3	5	7	9	6	1	1	
SIZE		#4	#4	#4	#8	#4	#4	#4	#4	#4	#4	#6	
LENGTH	W=4'4"	5'7"	6'7"	4'0"	6'1"	-	-	-	-	1'9"	6'2"	4'8"	60±
	W=5'4"	7'7"	8'7"	5'0"	-	6'1"	-	-	-	1'9"	6'2"	4'8"	81±
	W=6'4"	9'7"	10'7"	6'0"	-	-	6'1"	-	-	1'9"	6'2"	4'8"	101±
	W=7'4"	11'7"	12'7"	7'0"	-	-	-	6'1"	-	1'9"	6'2"	4'8"	121±
	W=8'4"	13'7"	14'7"	8'0"	-	-	-	-	6'1"	1'9"	6'2"	4'8"	141±

NOTE: a_3 BARS TO BE PLACED APPROX. 2" BELOW TOP OF INLET COVER.

STANDARD CURB INLET PRECAST TOPS				
W	PRE-CAST TOP SIZE		PIPE SIZE	CU. YD. CONC.
4' 4"	5'0"	6' 4" 7 1/2"	21" & SMALLER	0.38±
5' 4"	6'8"	6' 4" 7 1/2"	24" & 30"	0.51±
6' 4"	8'8"	6' 4" 7 1/2"	36" & 42"	0.64±
7' 4"	6'8"	6' 4" 7 1/2"	48" & 54"	0.77±
8' 4"	7'8"	6' 4" 7 1/2"	60" & 66"	0.90±

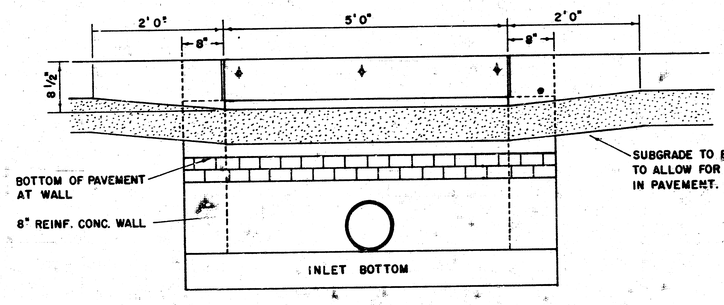


BENDING DIAGRAM

NOTE CONTRACTOR SHALL HAVE THE OPTION OF CONSTRUCTING 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP ON THIS INLET WHEN W = 6'4" AND H = 7'0" OR LESS.

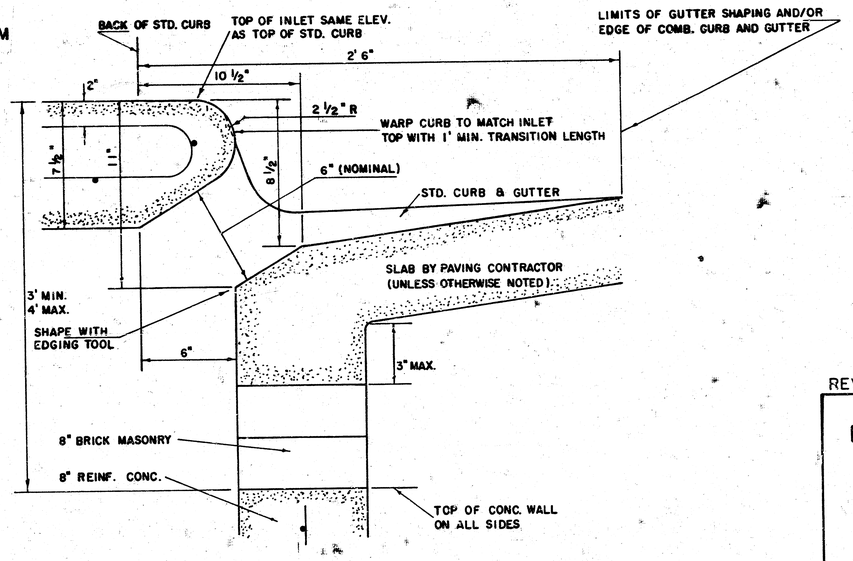
INLET INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.

THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.



SECTION C-C

SECTION B-B



REVISED 12-21-1984

468-76-245-81342-000-000-001

DETAIL STANDARD TYPE I CURB INLET

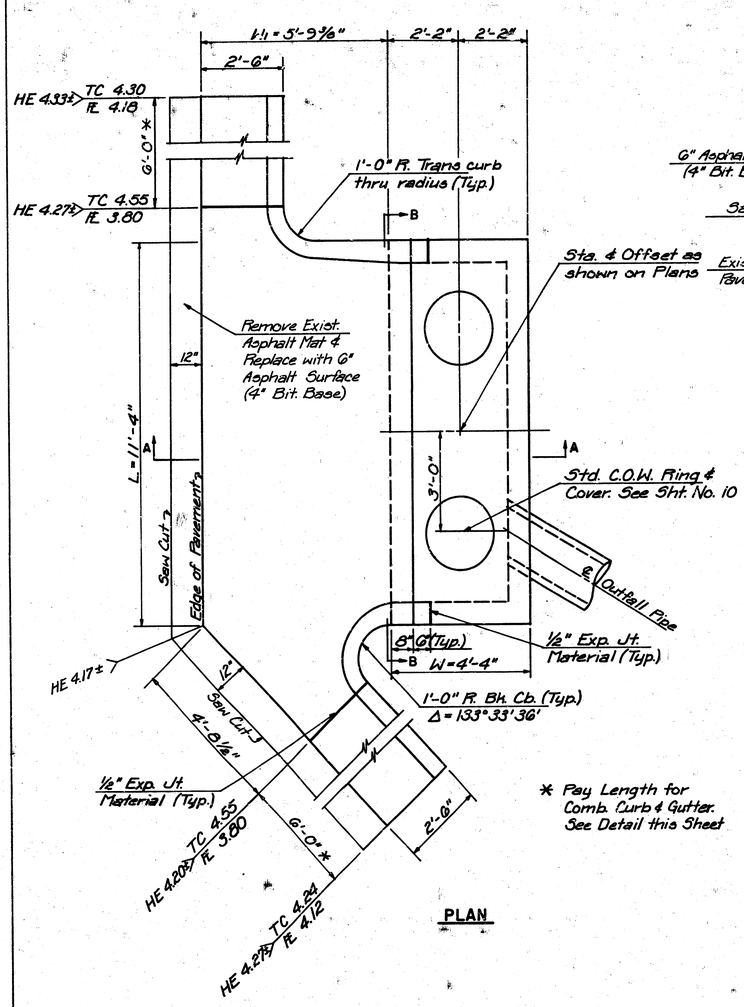
CITY OF WICHITA, KANSAS

INLET OPENING = 6" × 5'0"

JUNE 1984

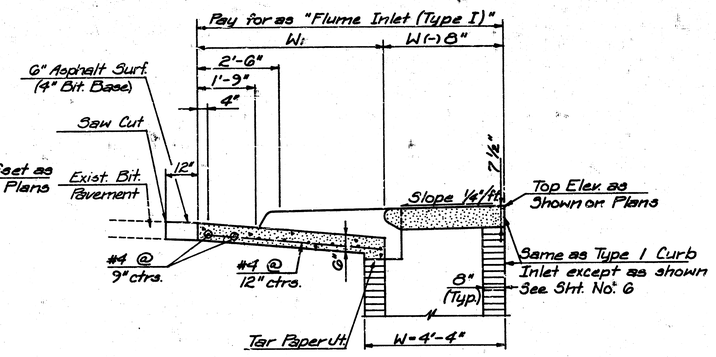
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PROJECT NO.	SHEET NO.	TOTAL SHEETS
468-76-245-81342-000-000-001	7	10

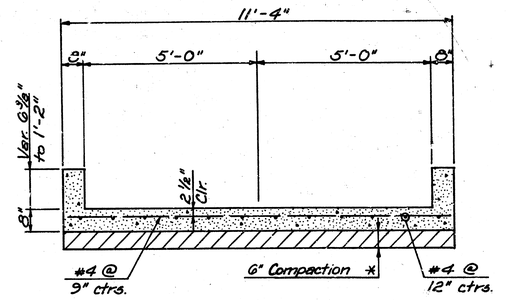


PLAN

* Pay Length for Comb. Curb & Gutter. See Detail this Sheet

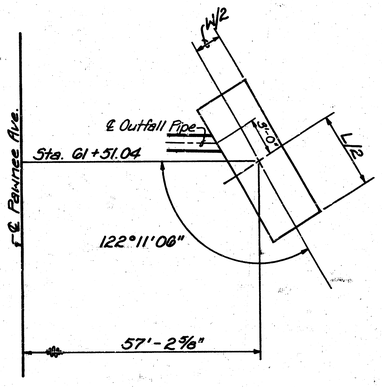


SECTION A-A

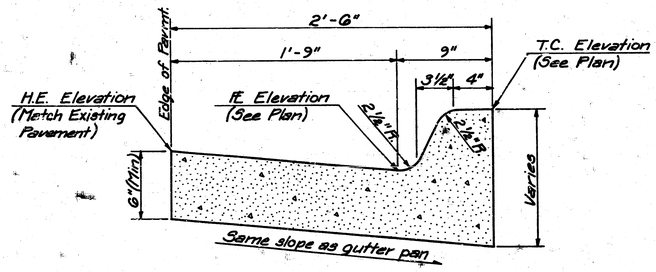


SECTION B-B

* To be Subsidiary to the unit price bid per each for "Flume Inlet (Type I)".



LOCATION SKETCH



TYPICAL SECTION

COMBINED CURB & GUTTER
(For Flume Inlet Only)

Notes:
City of Wichita Standard Paving Mix shall be used throughout. All exposed edges shall be finished with an approved edging tool.

Expansion Joints shall be constructed of ½" Premolded Joint Filler (Non-Extruding, Type B).
All dimensions relative to placement of reinforcing steel are to centerline of bars unless otherwise noted.
Flume Inlets shall be measured and paid for per each complete and in place for the various sizes and types as shown on the plans. No separate measurement or payment will be made for materials, labor, tools, excavation, backfill, or incidentals necessary to complete the work.

FLUME INLET (TYPE I)

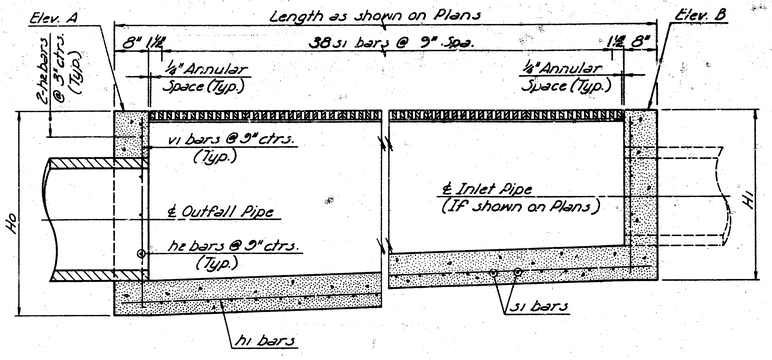
FLUME INLET (TYPE I)

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

7
10

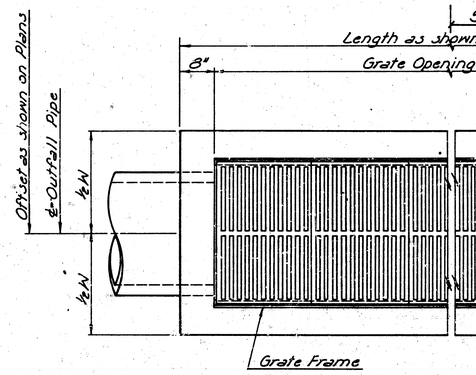
Designed by	MWB	Checked by	
Drawn by	ERG	Date	July 1984
		Job No.	84278

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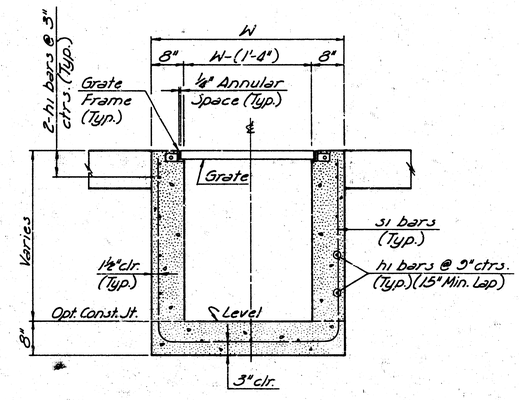


OUTFALL END CLOSED OR INLET END

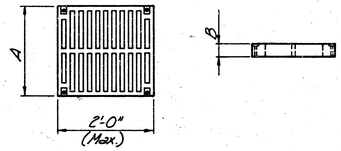
SECTION AT ℄ TRENCH INLET



PLAN

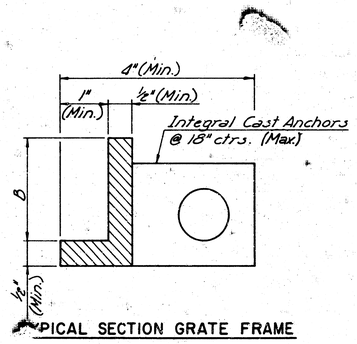


TYPICAL TRENCH SECTION



PLAN END VIEW

GRATE DETAIL



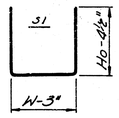
TYPICAL SECTION GRATE FRAME

GRATE DIMENSIONS, TYPES & REINFORCING

Inlet Dimens. W (In.)	Inlet Dimens. Ho (Min.) (In.)	Outfall Pipe Dia. (In.)	Approved Grates: Neenah Foundry Co. Catalog No.	Neenah Foundry Co. Grate Dim. A (In.)	Neenah Foundry Co. Grate Dim. B (In.)	Clay & Bailey Mfg. Co. Catalog No.	Clay & Bailey Mfg. Co. Grate Dim. A (In.)	Clay & Bailey Mfg. Co. Grate Dim. B (In.)	Jeeter Foundry Co. Catalog No.	Jeeter Foundry Co. Grate Dim. A (In.)	Jeeter Foundry Co. Grate Dim. B (In.)	Reinforcing: #5* Size & Spa.	#4 Size & Spa.	#6** Size & Spa.	#6** Size & Spa.
28	36	12	R-4990-D	14	2	2143-D	14	2	3990-D	14	2	#4@12"	#4@9"	#4@9"	#4@9"
31	39½	15	R-4990-E	17	2	2143-E	17	2	3990-E	17½	2	#4@12"	#4@9"	#4@9"	#4@9"
34	43	18	R-4990-F	20	2	2143-F	20	2	3990-F	20½	2	#4@12"	#4@9"	#4@9"	#4@9"
37	46½	21	R-4990-G	23	2	2143-G	23	2	3990-G	23	2	#4@12"	#4@9"	#4@9"	#4@9"
40	50	24	R-4990-H	26	2	2143-H	26	2	3990-H	26	2	#4@12"	#4@9"	#4@9"	#4@9"
43	53½	27	R-4990-J	30	2¼	2143-J	30	2¼	———	—	—	#4@9"	#4@9"	#4@9"	#4@9"
46	57	30	R-4990-K	33	2¼	———	—	—	3990-K	32½	2¼	#5@12"	#4@9"	#4@9"	#4@9"
52	64	36	R-4990-M	39	2½	———	—	—	3990-M	39	2½	#5@9"	#4@9"	#4@9"	#4@9"
58	71	42	R-4990-N	45	3	———	—	—	———	—	—	#5@6"	#4@9"	#4@9"	#4@9"
64	78	48	R-4990-O	51	3	———	—	—	———	—	—	#5@6"	#4@9"	#4@9"	#4@9"

* Field Cut bars at shallow end for vertical clearance.
** Field Cut or Bend for clearance.

PROJECT NO.	SHEET NO.	TOTAL SHEETS
468-76-245-81342-000-000-001	8	10



\# For Information only

Station	DIMENSIONS W (In.)	Ho (In.)	Hi (In.)	L	ELEVATIONS A	B	PIPE SIZE Outfall Pipe Size (In.)	Inlet Pipe Size (In.)	REINFORCING #5* Size & Spa.	#5* No.	#5* Length	#4 Size & Spa.	#4 No.	#4 Length	#6** Size & Spa.	#6** No.	#6** Length	#6** Size & Spa.	#6** No.	#6** Length	QUANTITIES # Conc. (Cu.Yds.)	Reinf. (Lbs.)	Exc. (Cu.Yds.)	Cast Iron ## (Lbs.)
55+45, 55' Rt.	43	43	24	20'-6"	1639.75	1639.75	18	—	#4@9"	38	3'-9"	#4@9"	16	29'-1"	#4@9"	3	3'-4"	#4@9"	8	3'-4"	5.85	600	18.1	##

Weights vary w/ Manufacturer

GENERAL NOTES

1. THE TRENCH GRATE AND FRAME SHALL BE AS SHOWN ABOVE OR APPROVED EQUAL. THE GRATE SHALL BE THE HEAVY DUTY TYPE WITH A DESIGN LOADING OF H20-44 AND SHALL BE BICYCLE SAFE.

   THE GRATE AND FRAME MATERIAL SHALL BE GRAY CAST IRON CONFORMING TO THE REQUIREMENTS OF THE "STANDARD SPECIFICATIONS FOR GRAY-IRON CASTINGS", ASTM A 48, GRADE 30.
2. City of Wichita Standard Paving Mix to be used throughout.
3. BEVEL ALL EXPOSED EDGES OF THE CONCRETE WITH A 3/4" TRIANGULAR MOLDING.
4. ALL REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF "STANDARD SPECIFICATIONS FOR DEFORMED AND PLAIN BILLET-STEEL BARS FOR CONCRETE REINFORCEMENT". ASTM A616, GRADE 40 OR GRADE 50.

TRENCH INLET DETAILS

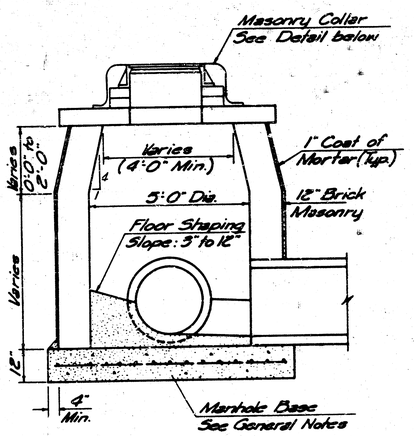
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

8/10

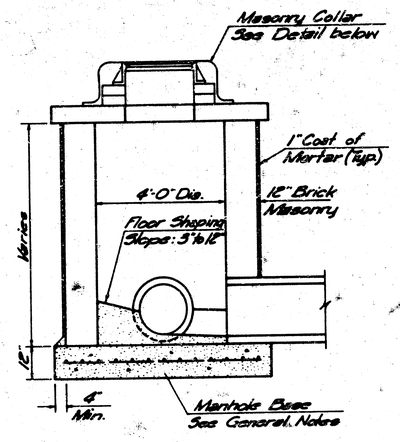
Designed by	K.J.S.	Checked by	K.J.S.	
Drawn by	W.L.L.	Date		Job No. 84278

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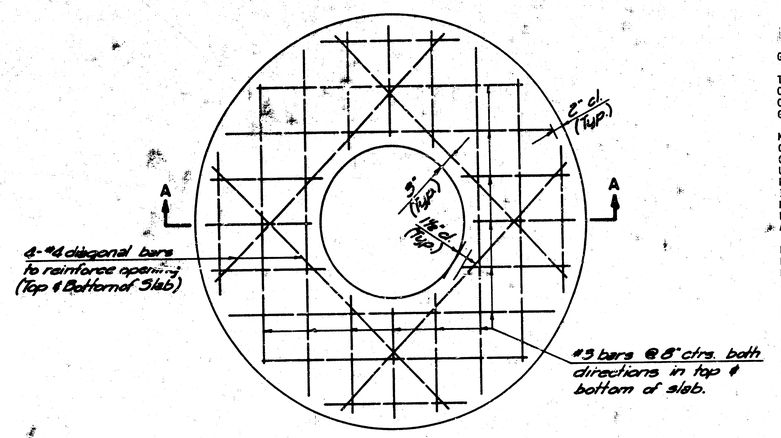
PROJECT NO	SHEET NO	TOTAL SHEETS
168-78-245-81342-000-000-001	9	10



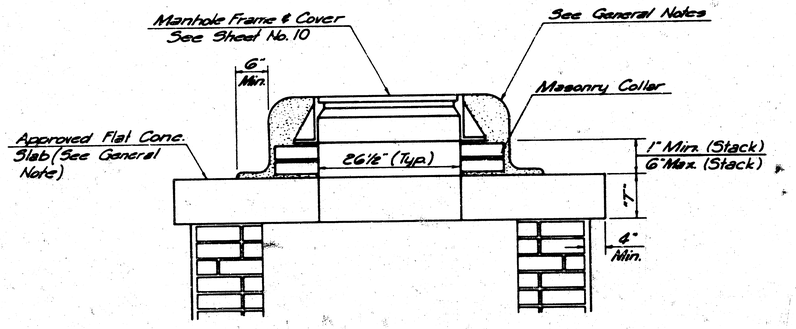
SHALLOW TYPE "B" MANHOLE (5' DIA.)



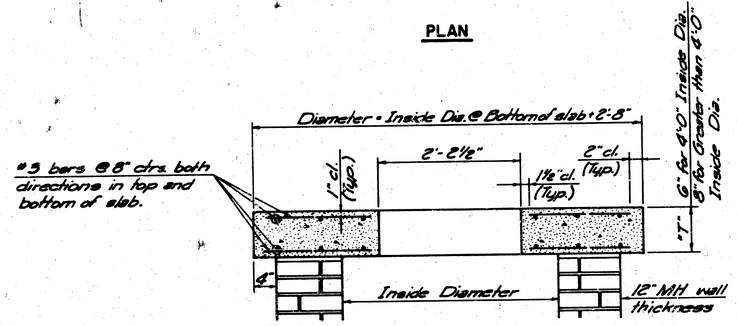
SHALLOW TYPE "B" MANHOLE (4' DIA.)



PLAN



MASONRY COLLAR DETAIL



SECTION A-A

FLAT CONCRETE SLAB DETAILS

GENERAL NOTES:

TOPS OF MANHOLES LOCATED IN PAVED AREAS SHALL BE SET FLUSH WITH THE PAVEMENT. TOPS OF MANHOLES LOCATED IN GRASSED AREAS SHALL BE SET FLUSH WITH THE FINISHED GRADE. TOPS OF MANHOLES LOCATED IN UNPAVED TRAVEL WAYS SHALL BE SET SIX INCHES (6") BELOW FINISHED GRADE.

MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4'. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE 24" OR LARGER SHALL HAVE AN INSIDE DIAMETER OF 5'. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.

REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED 6" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

BRICK USED SHALL CONFORM TO THE REQUIREMENTS SPECIFIED FOR GRADE MS IN A.S.T.M. C 32-73 OR GRADE SW IN A.S.T.M. C 62-69.

ALL BRICK SHALL BE LAID WITH SHOVE JOINTS. THE ENTIRE OUTSIDE SURFACE OF THE MANHOLE SHALL BE PLASTERED WITH A MINIMUM OF ONE INCH (1") OF THE CEMENT MORTAR. ALL CONTACT SURFACES BETWEEN BRICK MASONRY, FLAT CONCRETE SLABS, AND CAST IRON RINGS SHALL BE SEALED WITH A LAYER OF THE CEMENT MORTAR. BACKFILL SHALL NOT BE ACCOMPLISHED UNTIL THE MORTAR HAS CURED FOR TWENTY-FOUR (24) HOURS.

CEMENT USED FOR MORTAR SHALL BE TYPE I COMPLYING WITH THE REQUIREMENTS OF THE LATEST REVISION OF A.S.T.M. DESIGNATION C-150.

FINE AGGREGATE USED FOR MORTAR SHALL CONFORM TO THE SAME REQUIREMENTS AS REQUIRED FOR CONCRETE PAVEMENT, EXCEPT THAT IS SHALL HAVE A GRADATION FACTOR OF NOT LESS THAN 2.75 AND SHALL BE FREE FROM DUST, LOAM OR DIRT.

AN APPROVED TYPE OF FLAT CONCRETE SLAB, CONFORMING TO THE REQUIREMENTS OF A.S.T.M. C-478, SHALL BE USED TO SUPPORT THE MANHOLE RING AND COVER. A ONE INCH (1") MINIMUM TO SIX INCH (6") MAXIMUM MASONRY COLLAR CONFORMING TO THE SAME TYPE OF CONSTRUCTION AS SPECIFIED ABOVE SHALL BE INSTALLED BETWEEN THE MANHOLE RING AND THE FLAT CONCRETE SLAB TO FACILITATE MINOR ADJUSTMENTS IN ELEVATIONS.

THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE DEBRIS COULD BE DEPOSITED AS WATER FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS.

MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.

SHALLOW MANHOLES TYPE "B" SHALL BE BID PER EACH FOR THE DIAMETER INDICATED. SAID PRICE BID SHALL BE FULL PAYMENT FOR FURNISHING ALL MATERIALS, FOR ALL EXCAVATION, BACKFILLING, AND FOR ALL LABOR, EQUIPMENT, TOOLS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

Note: Manhole Frame & Covers on this project shall not be grouted to stack. Final adjustment to finish grade shall be made by paving contractor.

SHALLOW TYPE "B" MANHOLE (FOR STORM SEWERS)

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by	B.E.R.	Checked by		
Drawn by	D.D.	Date	Job No	84278

26 9/10

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MANHOLE FRAME AND COVER DETAIL

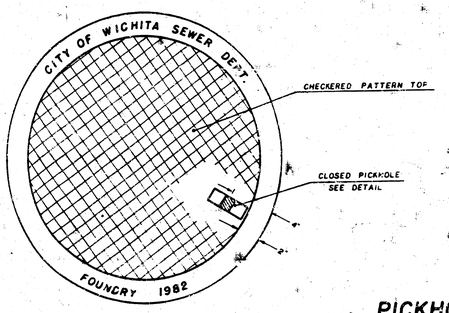
ADOPTED AS STANDARD DESIGN

BY

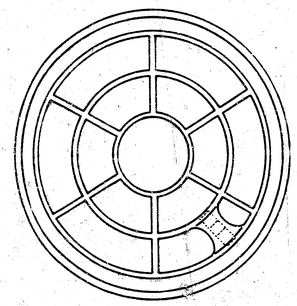
City of Wichita, Kansas

MANHOLE COVER

Weight: 180 Lbs.

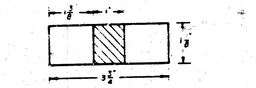


TOP VIEW

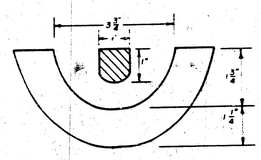


BOTTOM VIEW

PICKHOLE DETAIL



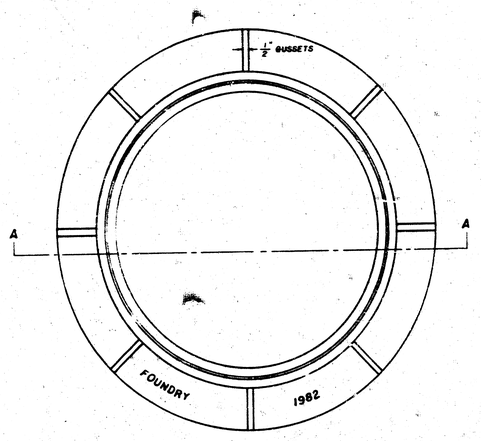
TOP VIEW



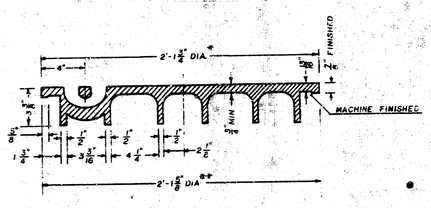
SECTION VIEW

MANHOLE FRAME

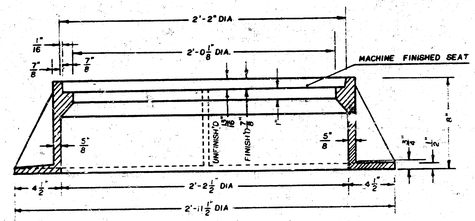
Weight: 240 Lbs.



TOP VIEW



SECTION VIEW



SECTION A-A

* OUTSIDE DIA TOP OF COVER
** OUTSIDE DIA BOTTOM OF COVER

GENERAL NOTES

1. MANHOLE CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.

2. MANHOLE CASTINGS SHALL BE COATED WITH AN ASPHALT PAINT RESULTING IN A SMOOTH, TOUGH AND TENACIOUS COATING WHICH IS NOT BRITTLE OR TACKY.

3. MANHOLE CASTINGS SHALL BE MANUFACTURED SUCH THAT A COVER MANUFACTURED BY ANY ONE FOUNDRY WILL FIT INTERCHANGEABLY INTO A FRAME MANUFACTURED BY ANOTHER FOUNDRY AND STILL MEET ALLOWABLE CLEARANCES AND NON-ROCKING REQUIREMENTS. THIS WILL REQUIRE MANUFACTURING OF THE MATCHING FACES ON THE COVER AND THE FRAME TO CLOSE TOLERANCES.

4. THE OUTSIDE CIRCUMFERENCE OF THE VERTICAL FACE OF THE COVER AND THE INSIDE CIRCUMFERENCE OF THE VERTICAL FACE IN THE FRAME RECESS SHALL BE MANUFACTURED TO TOLERANCES SUCH THAT THE CLEARANCE BETWEEN THE COVER AND FRAME WILL NOT EXCEED 1/8" AT ANY POINT AROUND THE CIRCUMFERENCE OF THE COVER. THE SEATING SURFACES BETWEEN THE COVER AND FRAME SHALL BE MACHINED SUCH THAT THESE SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.

5. THE MANHOLE FRAME AND COVER SHALL BE MARKED WITH LETTERING INDICATING THE NAME OF THE MANUFACTURER AND THE YEAR WHEN THE COVER OR FRAME WAS CAST. THE COVER SHALL BE FURTHER IDENTIFIED WITH REGARDS TO OWNERSHIP USING LETTERS AT LEAST 1" IN HEIGHT. THIS IDENTIFICATION SHALL BE "CITY OF WICHITA SEWER DEPARTMENT". THE WORD DEPARTMENT MAY BE ABBREVIATED. THE TEXTURE OF THE TOP SURFACE OF THE COVER SHALL BE MANUFACTURED IN A CHECKERED PATTERN DESIGN AS INDICATED ON THE DRAWINGS. SMOOTH BLOCKOUTS SHALL BE UTILIZED TO HIGHLIGHT THE LETTERING ON THE COVER SURFACE. THE TOTAL AREA OF SMOOTH SURFACE BLOCKOUT SHALL NOT EXCEED THE AREA AS INDICATED ON THE DRAWING. POSITIONING OF SMOOTH BLOCKOUTS AND LETTERING MAY VARY FROM THAT SHOWN ON THE DETAILED DRAWING.

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