STORM SEWER IMPROVEMENTS
FOR
CASEY'S GENERAL STORE
IN
LOT 8, BLOCK 1,
SOUTH SENECA GARDENS FOURTH ADDITION
WICHITA, SEDGWICK COUNTY, KANSAS

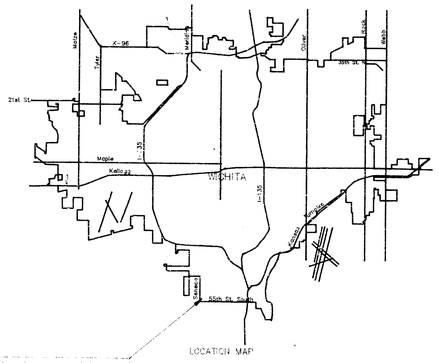
CITY OF WICHITA PRIVATE PROJECT NO. 609 PPS(607861)

MIKE LINDEBAK, P.E., CITY ENGINEER

JANUARY, 1996

1" = 100'

BOOKED
12-14-00
MCG
D-491



INDEX OF SHEETS

1. Title Sheet
2. Plan-Profile Sheet
3. Curb Inlet Detail
4. Manhole Detail

PROJECT LOCATED IN
SOUTH SENECA GARDENS FOURTH ADDITION BUSINESS PARK

1-25-96
As-Built 2-11-97
Harlan O. Farber

APPROVED AS NOTED
By CITY ENGINEER OF WICHITA

Sanitary Sewers _____
Storm Sewers VAH 1/25/96
Driveway Approaches _____
Water Mains _____
Paving _____

NOTE TO CONTRACTOR

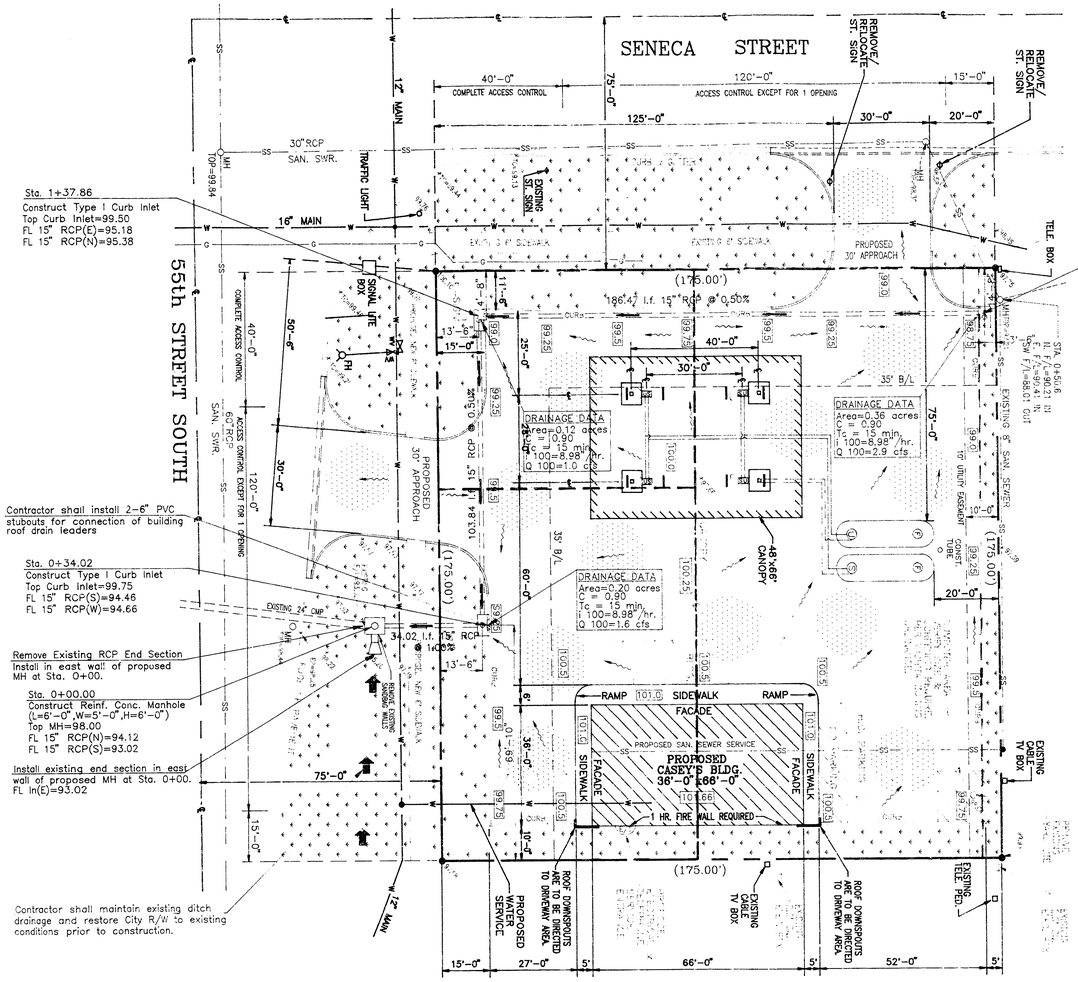
INSPECTION AND TESTING FOR THIS PROJECT IS TO BE PROVIDED BY A LICENSED CONSULTING ENGINEERING FIRM UNDER CONTRACT WITH THE OWNER/DEVELOPER. SAID INSPECTION TO BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD CONSTRUCTION ENGINEERING PRACTICES AND CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER. NO WORK SHALL BE PERFORMED IN DEDICATED EASEMENTS OR THE PUBLIC RIGHT-OF-WAY BY THE CONTRACTOR WITHOUT SUCH INSPECTION NOR SHALL ANY WORK BE COMMENCED IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY WITHOUT WRITTEN AUTHORIZATION BY THE CITY ENGINEER.

COW PRIV. PROJ. NO. 609 PPS(607861)

CERTIFIED ENGINEERING DESIGN

CED
235 NORTH OHIO
WICHITA, KANSAS 67214
(316) 262-8808

SHEET 1
TOTAL



1" = 20'

BENCHMARK

Floor Elevation of New Building
Elev.=101.66

UTILITIES SHOWN REPRESENT THE BEST INFORMATION AVAILABLE FOR DESIG. ADDITIONAL UTILITIES MAY BE PRESENT ON THIS PROJECT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, DEPTH AND SIZE OF ALL UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE LIABLE FOR ANY DAMAGE CAUSED BY THE FAILURE TO DO SO.

GENERAL NOTES

1. The Contractor shall provide a minimum advance notice of 48 hours to utility companies prior to starting construction as follows:

   KANSAS ONE CALL 1-800-344-7233 or 687-2470(LOCAL WICHITA)

   The Contractor must notify the following in the event of an emergency:

Southwestern Bell Telephone	1-571-2115
Kansas Gas Service Company	262-0661
Kansas Gas & Electric	263-7511
Arkla Gas Company	264-1141
Multimedia Cablevision	262-0661
City of Wichita Water & Sewer	268-4908

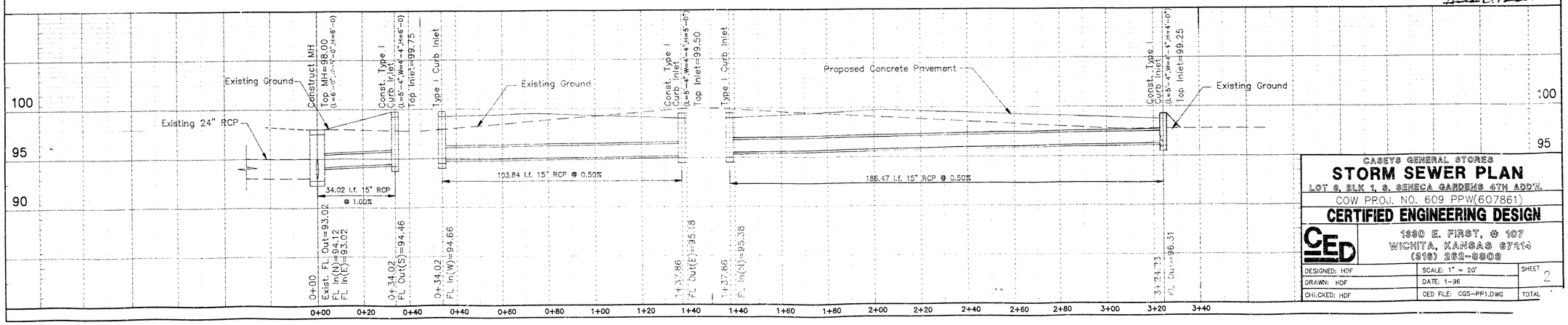
2. Pavement grades shown are to the top of pavement.
3. Existing elevations were provided by others. Contractor shall verify existing grades and notify Engineer of any discrepancies. Elevations are based on City Datum.
4. Contractor shall be responsible for establishing and protecting Benchmark throughout construction.
5. Contractor shall strip site of topsoil(6" min.) and stockpile this material to be used in grassed areas.
6. Compaction of fill material and subgrade stablization shall comply with Geotechnical Engineering Report.
7. The Contractor shall not start work on the project until the project inspector assigned to the project is present on the site. The project inspector is Certified Engineering Design, 235 N. Ohio, Wichita, KS, (316)262-8808. All work done without inspection will be required to be uncovered for inspection. The contractor shall notify the inspector for the project 48 hours prior to beginning construction.
8. The Contractor shall restore City right-of-way to conditions which existed prior to the commencement of work shown on this plan.

LEGEND:

SS	SANITARY SEWER	WV	WATER VALVE
G	GAS LINE	FH	FIRE HYDRANT
W	WATER LINE	●	PROPERTY PIN
	PROPERTY LINE	⊕	STREET SIGN
℄	CENTER LINE	○	SAN. SEWER MANHOLE

Parking Summary
Total Parking: 12
(1 H.C. Stall)

Ac-Built 2-11-97
Harlan C. Faber



CASEYS GENERAL STORES

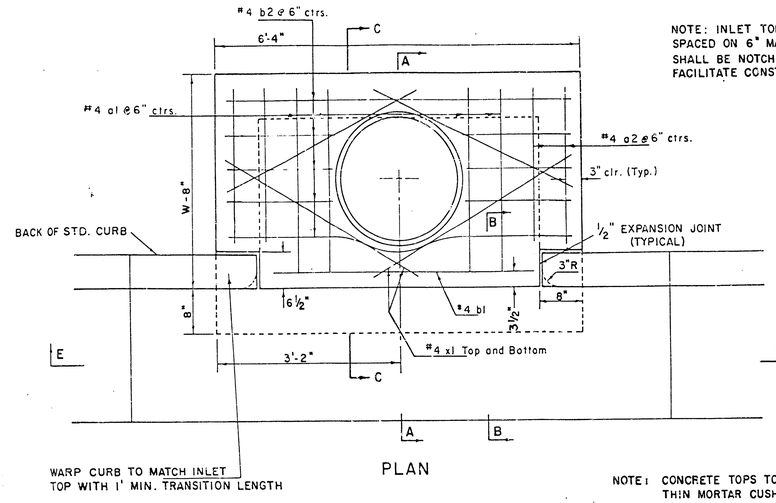
STORM SEWER PLAN

LOT 3, BLK 1, 3, SENECA GARDENS 4TH ADD'N.

COW PROJ. NO. 609 PPW(607861)

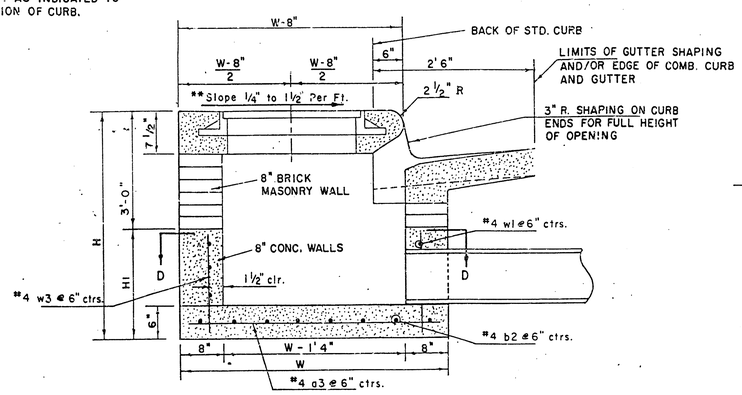
CERTIFIED ENGINEERING DESIGN
1330 E. FIRST, # 107
WICHITA, KANSAS 67214
(316) 262-8808

DESIGNED: HDF	SCALE: 1" = 20'	SHEET 2
DRAWN: HDF	DATE: 1-96	
CHECKED: HDF	CED FILE: CGS-PP1.DWG	TOTAL



PLAN

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



SECTION A-A

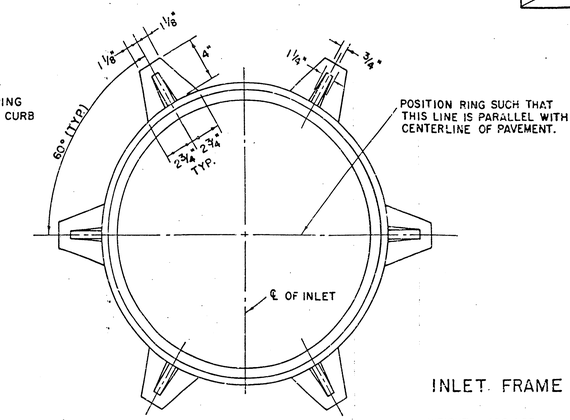
NOTE: CONCRETE TOPS TO BE INSTALLED ON THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK WALLS. CONCRETE TOPS MAY BE CAST IN PLACE OR PRECAST. CONCRETE USED FOR INLET CONSTRUCTION SHALL BE CONCRETE PAVEMENT MIX.

** NOTE: Slope of Inlet Tops to match Sidewalk or Parking Slopes within Limits Indicated.

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.

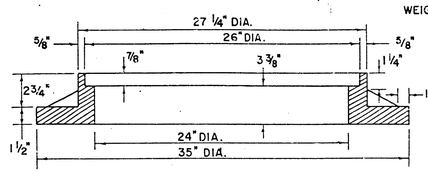
INLET INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.

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



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.

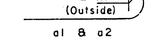
PRECAST SLAB AND FLOOR REINFORCING											
		W = 4'-4"		W = 5'-4"		W = 6'-4"		W = 7'-4"		W = 8'-4"	
Mark	Size	No.	Length	No.	Length	No.	Length	No.	Length	No.	Length
a1	#4	6	6'-7"	6	8'-7"	6	10'-7"	6	12'-7"	6	14'-7"
a2	#4	4	6'-0"	4	8'-0"	4	10'-0"	4	12'-0"	4	14'-0"
a3	#4	13	4'-1"	13	5'-1"	13	6'-1"	13	7'-1"	13	8'-1"
b1	#4	1	4'-9"	1	4'-9"	1	4'-9"	1	4'-9"	1	4'-9"
*b2	#4	23	6'-1"	29	6'-1"	35	6'-1"	41	6'-1"	47	6'-1"
x1	#4	8	3'-10"	8	4'-2"	8	4'-6"	8	4'-10"	8	5'-2"
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
w1	#4	①	6'-1"	①	6'-1"	①	6'-1"	①	6'-1"	①	6'-1"
w2	#4	①	4'-1"	①	5'-1"	①	6'-1"	①	7'-1"	①	8'-1"
w3	#4	32	②	36	②	40	②	44	②	48	②

* Field bend or cut Reinforcing as required for clearance.

① 4(H1-12"); (H1-12") Round down to nearest 0.5'

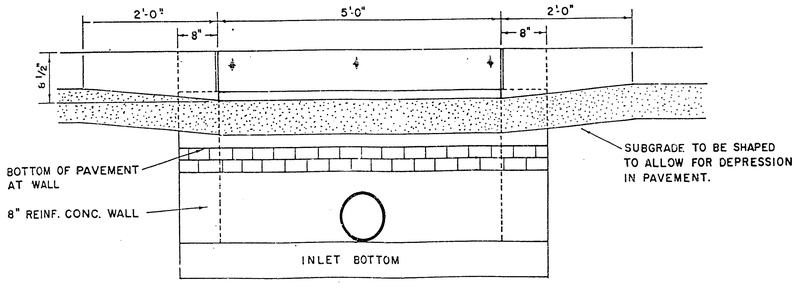
② H1-3"

STANDARD CURB INLET PRECAST TOPS			
W	PRE-CAST TOP SIZE	PIPE SIZE	CU. YD. CONC.
4' 4"	3'8" 6'4" 7 1/2"	21" & SMALLER	0.38 ±
5' 4"	4'8" 6'4" 7 1/2"	24" & 30"	0.51 ±
6' 4"	5'8" 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 ±



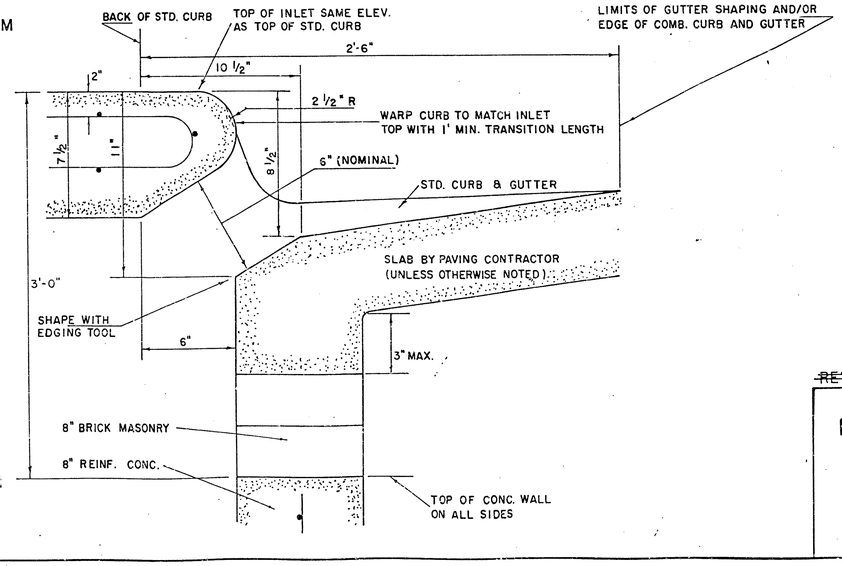
a1 & a2

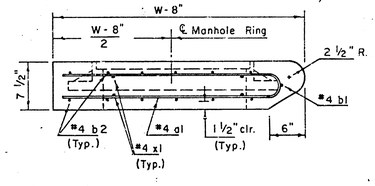
BENDING DIAGRAM



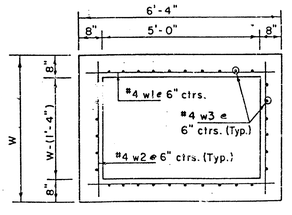
SECTION E-E

SECTION B-B





SECTION C-C



SECTION D-D

~~REVISED 12-21-1984~~ REVISED 2-15-1989

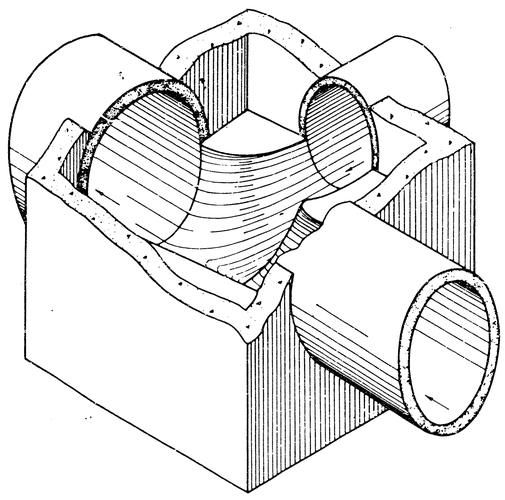
DETAIL STANDARD TYPE I CURB INLET

CITY OF WICHITA, KANSAS

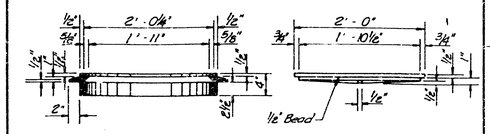
INLET OPENING = 6" × 5'0"

JUNE 1984

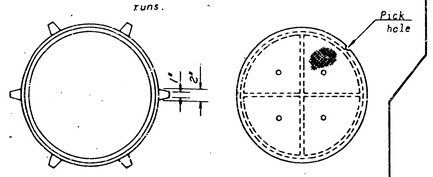
FHWA REGION NO.	STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
7	KANSAS		19	4	4



SECTIONAL VIEW (EXAMPLE IV)
Showing Floor Shaping



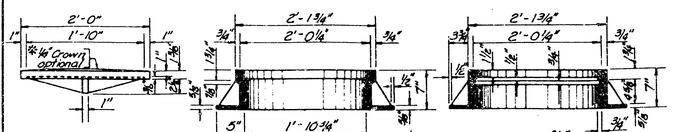
NOTE: Weight of castings includes no allowance for fillets and over-runs.



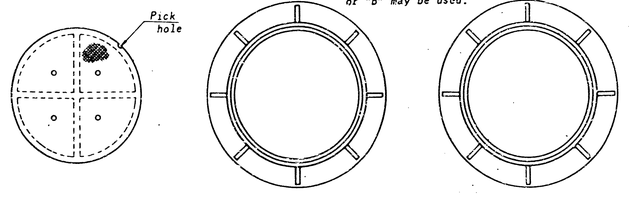
TYPE C
CAST IRON MANHOLE RING Weight=53 lbs
CAST IRON MANHOLE COVER Weight=64 lbs.

LIGHT TYPE MANHOLE COVER & RING

*Rings with four equally spaced lugs will be permitted



NOTE: Either Type "A" or "B" may be used.



TYPE A & B
CAST IRON MANHOLE COVER Weight=134 lbs.

TYPE A
CAST IRON MANHOLE RING Weight=192 lbs.

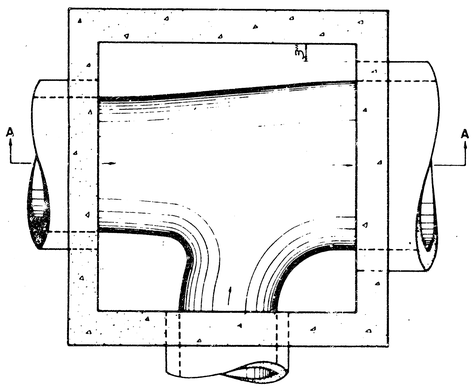
TYPE B
CAST IRON MANHOLE RING Weight=198 lbs.

*NOTE: The weight without ¼" crown shall be 9 lbs. less than shown above.

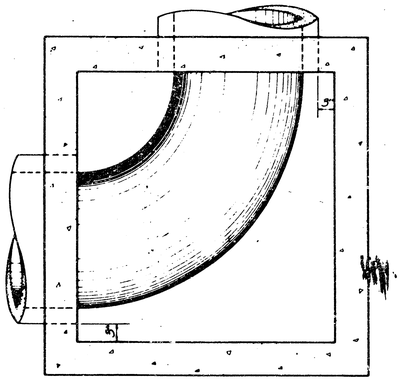
HEAVY TYPE MANHOLE COVER & RING

TYPICAL EXAMPLES OF VARIOUS PIPE COMBINATIONS

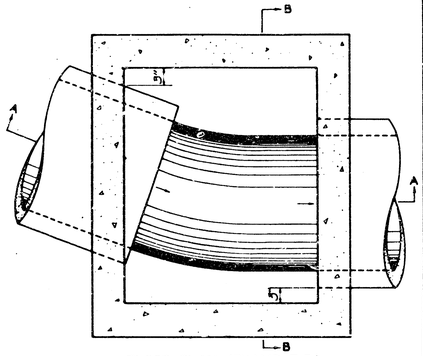
Showing method of shaping floor of manholes to provide increased hydraulic efficiency.
For reinforcing & other features see "PLAN" and "SECTION"



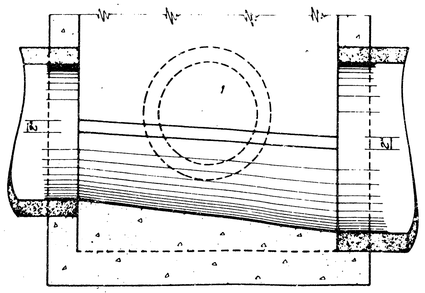
FLOOR PLAN (EXAMPLE IV)



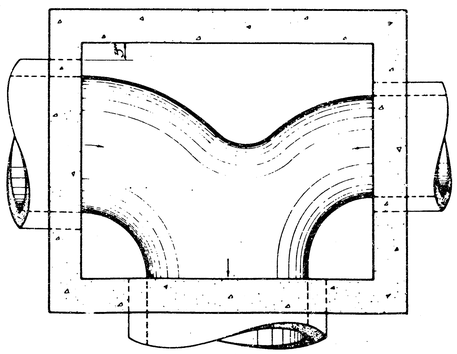
FLOOR PLAN (EXAMPLE II)



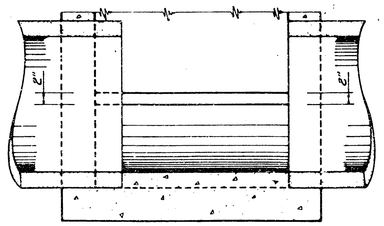
FLOOR PLAN (EXAMPLE I)



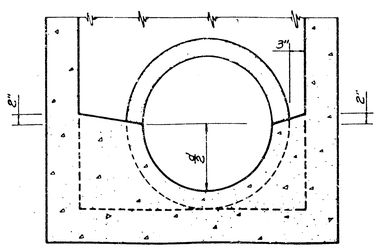
SECTION A-A (EXAMPLE IV)



FLOOR PLAN (EXAMPLE III)



SECTION A-A (EXAMPLE I)



SECTION B-B (EXAMPLE I)

NOTE: Use class A Concrete throughout. All exposed edges shall be finished with an edging tool.

At the contractors option Class A Concrete (AE) or mix used in Conc. Pvt. may be used throughout.

In general, pipes will enter and leave the manhole at various positions. Where possible bend bars around pipes.

Floor of manhole to be shaped as shown in various "EXAMPLES" with unreinforced Class "A" concrete.

Manhole opening and steps, where used, shall be placed to afford easy access to top of shaped invert. Top reinforcing bars to be adjusted accordingly.

All castings shall be gray iron and shall comply with the Standard Specifications.

All exposed cast iron surfaces (rings & covers) not subjected to traffic, shall be painted either in the shop or in the field with one coat of a zinc dust paint, followed by two field coats of aluminum paint.

No deductions in concrete quantities shall be made for pipe openings.

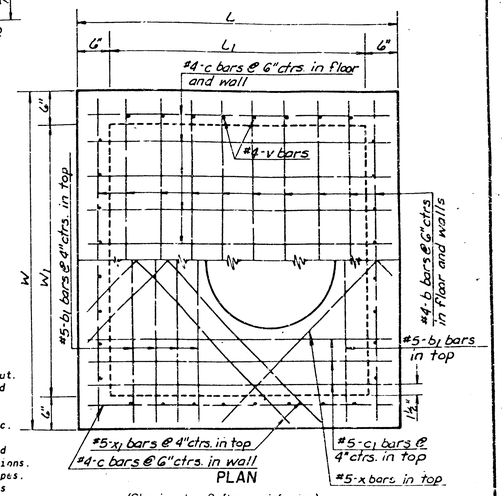
No additions in concrete quantities shall be made for shaping floor of Manholes.

When so ordered by the Engineer, the top of the manhole shall be sloped slightly to approximately fit the ground line or other conditions.

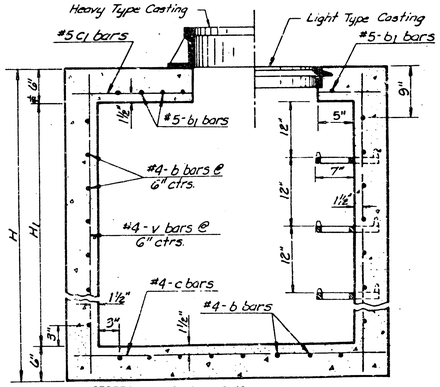
Dimensions and weights of cast iron as shown on this sheet are minimum. Larger dimensions and/or heavier weights of cast iron may be used.

NOTE: Contractor has the option of using precast manholes, as approved by the Engineer (See Special Provision). Payment of quantities shall be on a cast-in-place basis.

Where dimension "L" or "W" is greater than 6', use 8" slab thickness.



PLAN
(Showing top & floor reinforcing)



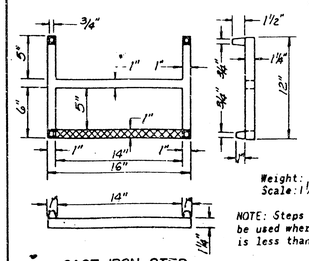
SECTION (Exclusive of floor shaping)

As an alternate to the cast iron step shown, either an aluminum or a plastic coated steel step complying with the same minimum clear opening dimensions may be used. The minimum length of rung shall be 14 inches and the minimum distance of rung from wall shall be 6 inches.

The solid aluminum extruded bar (¾" minimum) shall comply with the Standard Specifications (ASTM B 221 Alloy 6005-T5).

The plastic coated step shall be made from a No. 3 steel reinforcing bar encapsulated in plastic to provide a minimum cross section of 1 inch by 1 inch and shall comply with the special provision

The rung shall be designed so the foot cannot slide off the end.



Weight: 18 lbs.
Scale: 1½" = 1'

NOTE: Steps not to be used where "H" is less than 6 feet.

CAST IRON STEP

NO	DATE	REVISIONS	BY	APP'D
26	9-28-82	Rev. step from 16" to 14" clear opening	W.L.H.	L.R.P.
25	8-19-80	Revised to Standard Specs.	W.L.H.	L.R.P.
24	4-2-80	Labeled bars same as Steel table	W.L.H.	L.R.P.

KANSAS DEPARTMENT OF TRANSPORTATION

REINFORCED CONCRETE MANHOLE

STD. NO. 633 4-5-44

SHEET NO.	OF	SCALE 1"=1'	APP'D L.R.P. General	
DESIGNED F.A.R.		DETAILED W.A.B.	QUANTITIES	TRACED W.A.B.
DESIGN CK. W.L.H.		DETAIL CK. W.L.H.	QUAN. CK.	TRACE CK. W.L.H.

Master