SHEET NO.	TOTAL SHEETS
1	13

CITY OF WICHITA, KANSAS

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

STORM WATER SEWER NO. 396

REFLECTION RIDGE 4TH ADDITION

CITY OF WICHITA PROJECT NO. 468-76-245-82024-000-000-001

INDEX NO. : 79B126

INDEX OF SHEETS

1. TITLE SHEET
2. PLAT
3.-7. PLAN AND PROFILE-LINE NO. 1
8. STD. TYPE 1A CURB INLET (L=4'-4")
9. STD. TYPE 1A CURB INLET (L=11'-4")
10. STD. REINFORCED CONCRETE MANHOLE DETAILS
11. 36" HEADWALL AND MISCELLANEOUS DETAILS
12. SPECIAL AREA INLET DETAILS
13. MANHOLE FRAME AND COVER DETAILS

PROJECT SURVEY CONTROL

PROJECT DATUM : CITY OF WICHITA DATUM

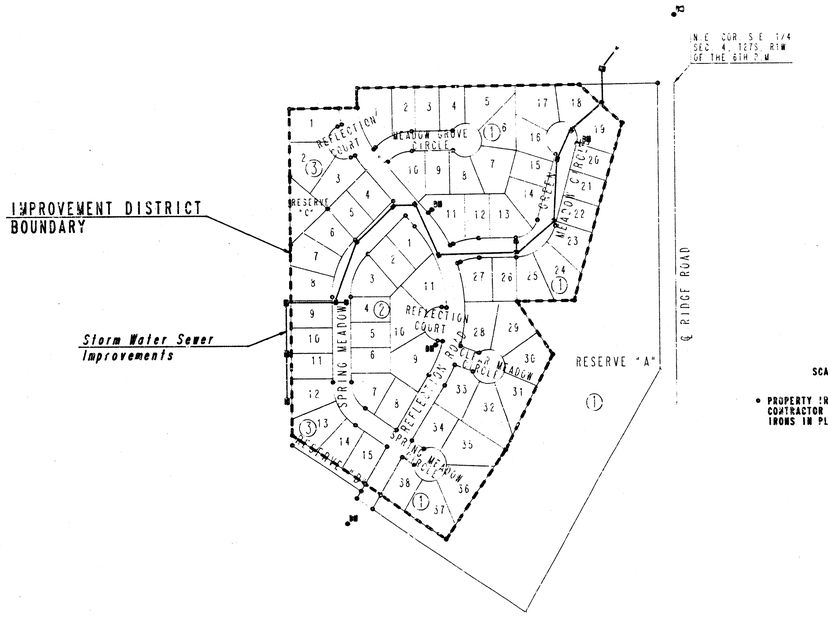
DATUM BENCH MARK: CHISELED "O" N.E. CORNER RCBC 200'± NORTH OF EAST 1/4 CORNER, SEC. 4, T27S, R1W. ELEV.=138.46

BENCH MARK : [illegible]OST 10'± EAST OF EAST P.C. GREEN MEADOW [illegible]RCLE (COMMON CORNER LOTS 19 AND 20, BLOCK 1). ELEV.=136.35

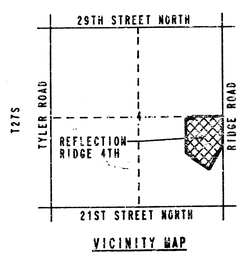
BENCH MARK : CHISELED "O" BACK OF CURB WEST SIDE REFLECTION ROAD 125'± SOUTH OF S.E. CORNER LOT 15, BLOCK 3. ELEV.=143.69

BENCH MARK : "T" POST 10'± SOUTH OF SOUTH P.C. REFLECTION COURT (LOT 9, BLOCK 2). ELEV.=142.355

BENCH MARK : "T" POST 10'± N.E. OF EAST P.C. REFLECTION ROAD (LOT 11, BLOCK 1). ELEV.=142.80



- PROPERTY IRONS IN PLACE AS OF FEB. 9, 1990. CONTRACTOR SHALL SATISFY HIMSELF AS TO IRONS IN PLACE AT TIME OF CONSTRUCTION.



VICINITY MAP

GENERAL NOTES

UNDERGROUND UTILITY SERVICE LINES AND OVERHEAD UTILITY POLE LINES ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR. EXISTING UTILITIES AND THEIR LOCATION, 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 CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.

RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES WHICH IS TO BE WASTED SHALL BE DISPOSED OF OFF SITES TO BE PROVIDED BY THE CONTRACTOR. THESE SITES SHALL BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE AND SITE LOCATION. LOCATIONS THAT, IN THE OPINION OF THE ENGINEER, WILL LEAVE AN UNSIGHTLY APPEARANCE WILL NOT BE APPROVED.

CONTRACTOR SHALL SATISFY HIMSELF OF SUBSURFACE CONDITIONS PRIOR TO CONSTRUCTION.

TREES AND SHRUBS IN PUBLIC RIGHT-OF-WAY WHICH ARE IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR WITH THE ENGINEER'S APPROVAL. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE.

PROPERTIES WITHIN THE PROJECT LIMITS MAY HAVE UNDERGROUND SPRINKLER SYSTEMS WHICH CONFLICT WITH NEW CONSTRUCTION. CONTRACTOR WILL BE REQUIRED TO REMOVE SUCH IMPROVEMENTS SHOULD THEY NOT BE REMOVED BY THEIR OWNER AT THE TIME OF CONSTRUCTION OF THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SALVAGE ALL SPRINKLER HEADS AND/OR VALVES AND GIVE SUCH MATERIAL TO THEIR OWNER. PORTIONS OF UNDERGROUND SPRINKLER SYSTEMS NOT IN CONFLICT WITH NEW CONSTRUCTION SHALL BE PROTECTED FROM DAMAGE AND SHALL REMAIN IN PLACE. ALL WORK IN CONNECTION WITH UNDERGROUND SPRINKLER SYSTEMS SHALL BE CONSIDERED AS SUBSIDIARY TO THE CONTRACT PAY ITEMS OF WORK. CONTACT MR. JOHN WRIGHT AT 721-9483 PRIOR TO REMOVAL OF ANY PORTION OF THE EXISTING IRRIGATION SYSTEM.

THE OPENING OF ALL INLETS LOCATED WITHIN FUTURE PAVEMENT LIMITS SHALL BE PLUGGED BY BOARDS, PLANKS OR OTHER APPROVED METHODS TO PREVENT SOIL FROM ENTERING THE STORM WATER SEWER. THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO OTHER WORK ITEMS.

CONTRACTOR WILL BE REQUIRED TO PROVIDE A MINIMUM ADVANCE NOTICE OF TWENTY-FOUR (24) HOURS TO UTILITY COMPANIES PRIOR TO STARTING ANY EXCAVATION AS FOLLOWS:

SOUTHWESTERN BELL TELEPHONE COMPANY	1-316-571-2611
CABLEVISION	262-4270 OR 263-2861
KPL GAS SERVICE	263-7511
KANSAS GAS & ELECTRIC	264-1141
CITY OF WICHITA WATER DEPARTMENT	268-4908
CITY OF WICHITA SEWER DEPARTMENT	268-4071
ARKLA GAS COMPANY	942-8350 OR 263-8161

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL 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 IN ACCORDANCE WITH STATE LAWS.

CONTRACTOR SHALL RESTRICT HIS CONSTRUCTION TO STREET RIGHTS-OF-WAY AND DEDICATED EASEMENTS IN ORDER TO PREVENT DAMAGE TO EXISTING GOLF COURSE. ANY DAMAGE TO THE GOLF COURSE OUTSIDE THE SPECIFIED LIMITS WHICH ARE CAUSED BY THE CONTRACTOR SHALL BE SUBJECT TO REPAIR AT THE CONTRACTOR'S EXPENSE.

EXCESS EXCAVATION FROM STORM WATER SEWER CONSTRUCTION SHALL BE STOCKPILED IN REFLECTION RIDGE 4TH ADDITION AS DIRECTED BY THE OWNER (REFLECTION RIDGE INC.). CONTRACTOR SHALL CONTACT MR. JOHN WRIGHT AT 721-9483 PRIOR TO PLACEMENT OF EXCESS MATERIAL.

CONTRACTOR SHALL EXPOSE PROPOSED 8" SANITARY SEWER LINES AT APPROX. S.W.S. STATIONS 1+67±, 11+53.5±, 12+31± AND 17+24± LINE NO. 1 TO VERIFY ACTUAL ELEVATIONS ON SANITARY SEWER IMPROVEMENTS PRIOR TO BEGINNING STORM WATER SEWER CONSTRUCTION.

CHARLES S. CHANEY LICENSED 7581 PROFESSIONAL ENGINEER KANSAS

Booked: 6-15-90, MCG

FEBRUARY, 1990

PLANS PREPARED BY
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

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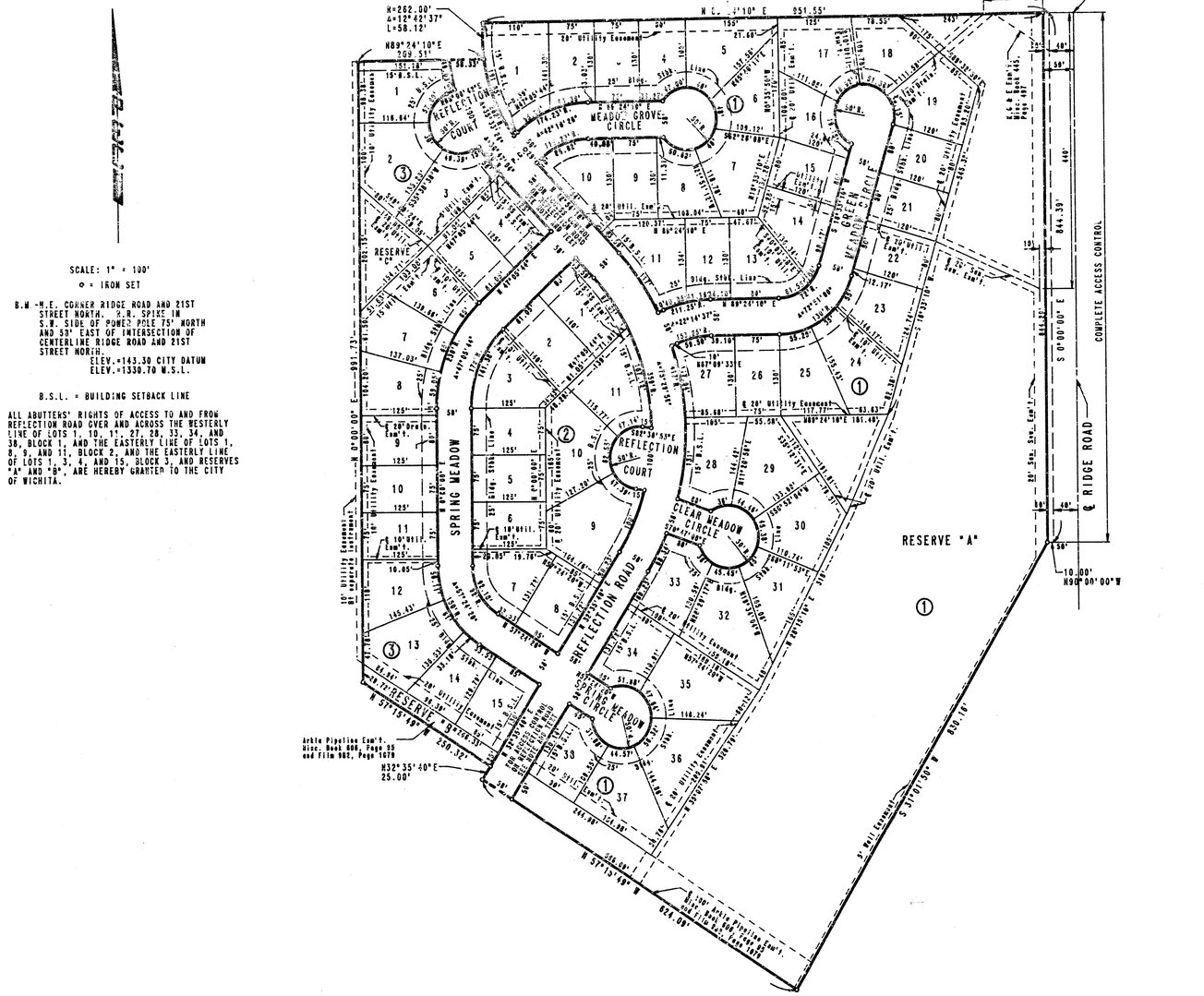
PROJECT NO.	SHEET NO.	TOTAL SHEETS
468-76-245-82024-000-000-001	2	13

REFLECTION RIDGE 4TH ADDITION

TO WICHITA, SEDGWICK COUNTY, KANSAS



SCALE: 1" = 100'

o = IRON SET

B.M. -N.E. CORNER RIDGE ROAD AND 21ST STREET NORTH. R.R. SPIKE IN S.W. SIDE OF POWER POLE 75' NORTH AND 53' EAST OF INTERSECTION OF CENTERLINE RIDGE ROAD AND 21ST STREET NORTH.
ELEV.=143.30 CITY DATUM
ELEV.=1330.70 M.S.L.

B.S.L. = BUILDING SETBACK LINE

ALL ABUTTERS' RIGHTS OF ACCESS TO AND FROM REFLECTION ROAD OVER AND ACROSS THE WESTERLY LINE OF LOTS 1, 10, 11, 27, 28, 33, 34, AND 38, BLOCK 1; AND THE EASTERLY LINE OF LOTS 1, 8, 9, AND 11, BLOCK 2, AND THE EASTERLY LINE OF LOTS 1, 3, 4, AND 15, BLOCK 3, AND RESERVES "A" AND "B", ARE HEREBY GRANTED TO THE CITY OF WICHITA.

STORM WATER SEWER NO. 396

PLAT

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

Designed by		Checked by	
Drawn by	DEP	Date FEB., 1990	Job No 32-89554-1

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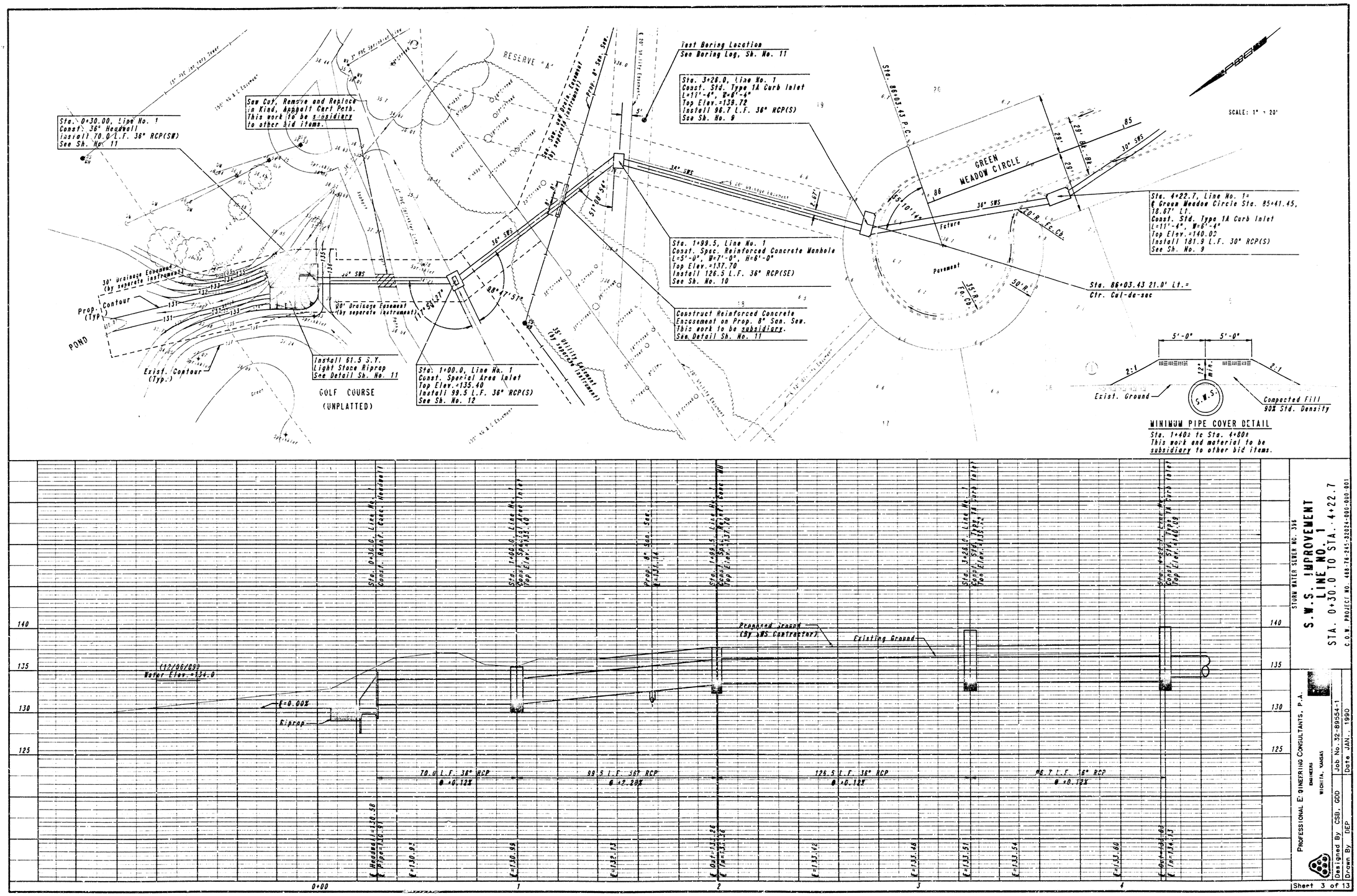

STORM WATER SEWER NO. 396

S.W.S. IMPROVEMENT LINE NO. 1

STA. 0+30.0 TO STA. 4+22.7

C.O.W. PROJECT NO. 468-78-245-32024-000-000-001

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

Designed By CSB, GDD
Drawn By DEP
Job No. 32-89554-1
Date JAN., 1990

Sheet 3 of 13

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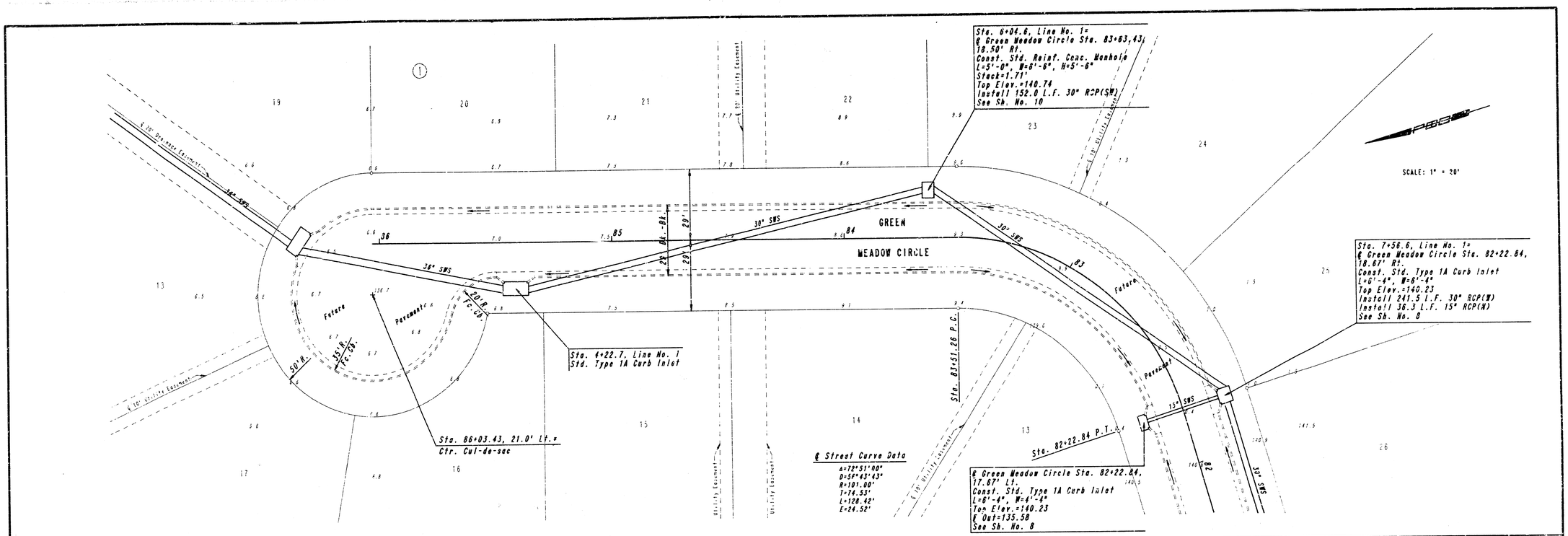

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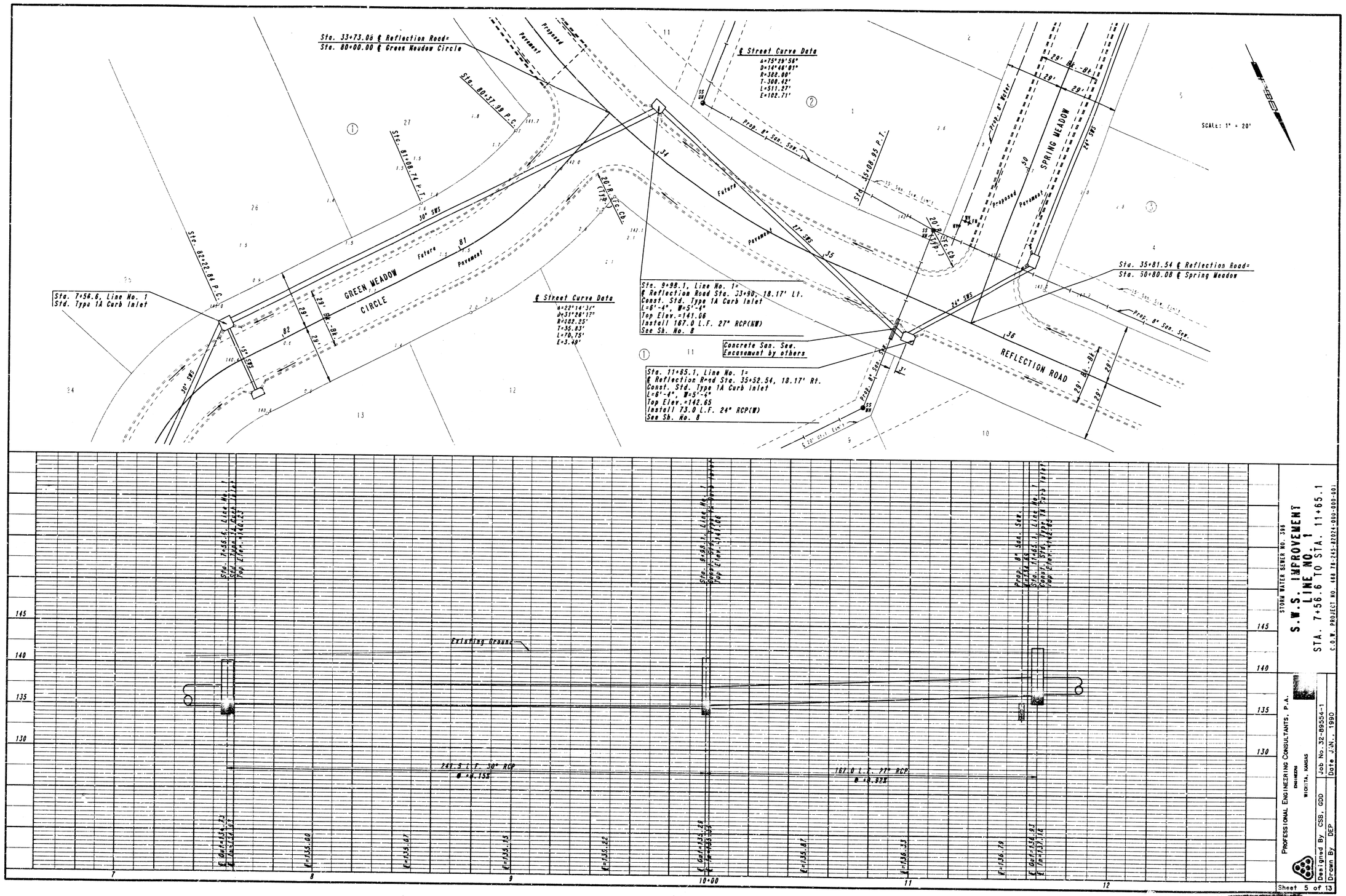

STORM WATER SEWER NO. 396

S.W.S. IMPROVEMENT
LINE NO. 1
STA. 7+56.6 TO STA. 11+65.1

C.O.W. PROJECT NO. 468 78-245-82024-000-000-001

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

Designed By CSB, GDD
Drawn By DEP
Job No. 32-89554-1
Date JAN., 1990

Sheet 5 of 13

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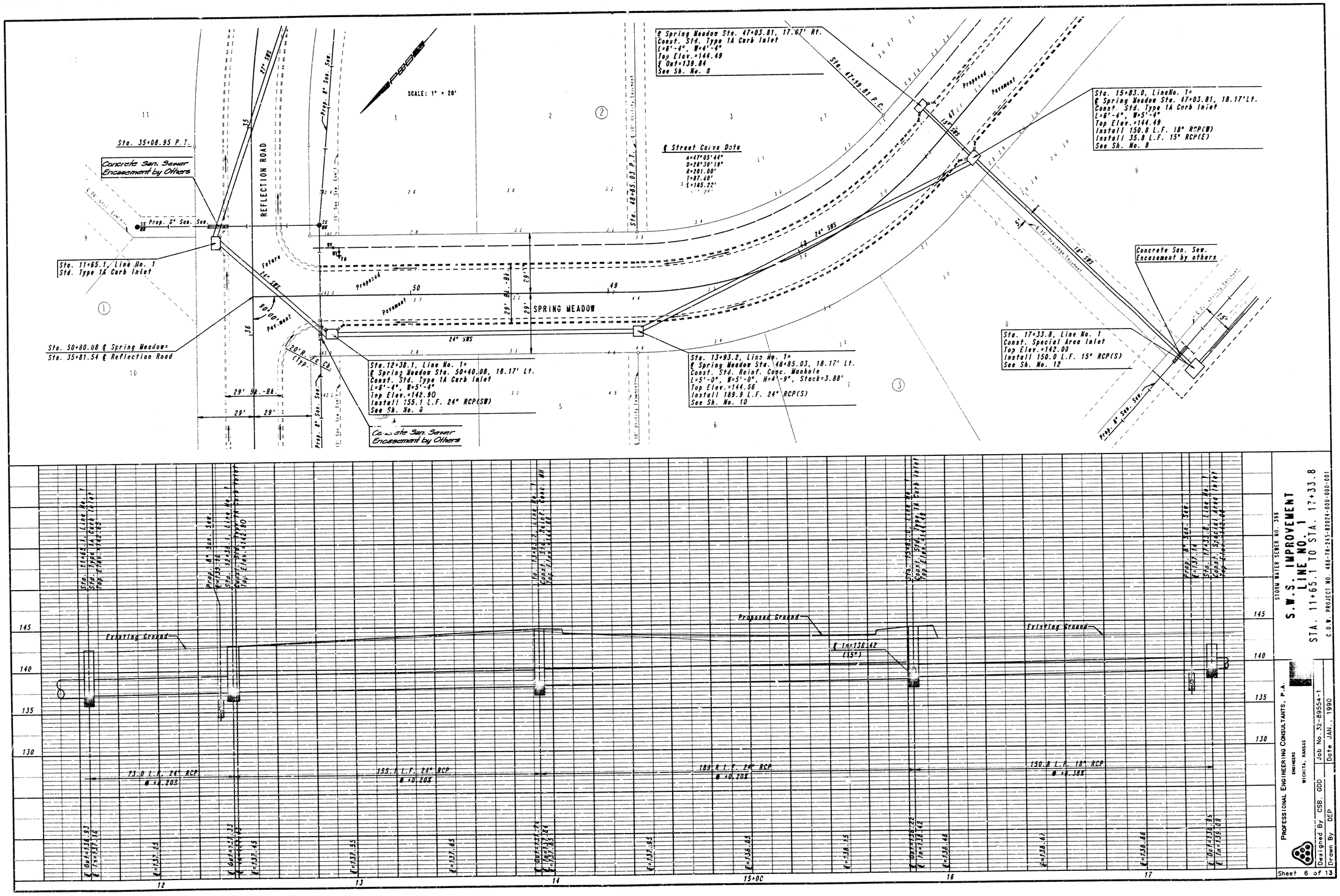

STORM WATER SEWER NO. 396

S.W.S. IMPROVEMENT LINE NO. 1

STA. 11+65.1 TO STA. 17+33.8

C.O.W. PROJECT NO. 468-78-245-82024-000-000-001

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

Designed By CSB GDD
Drawn By DCP
Job No. 32-89554-1
Date JAN., 1990

Sheet 6 of 13

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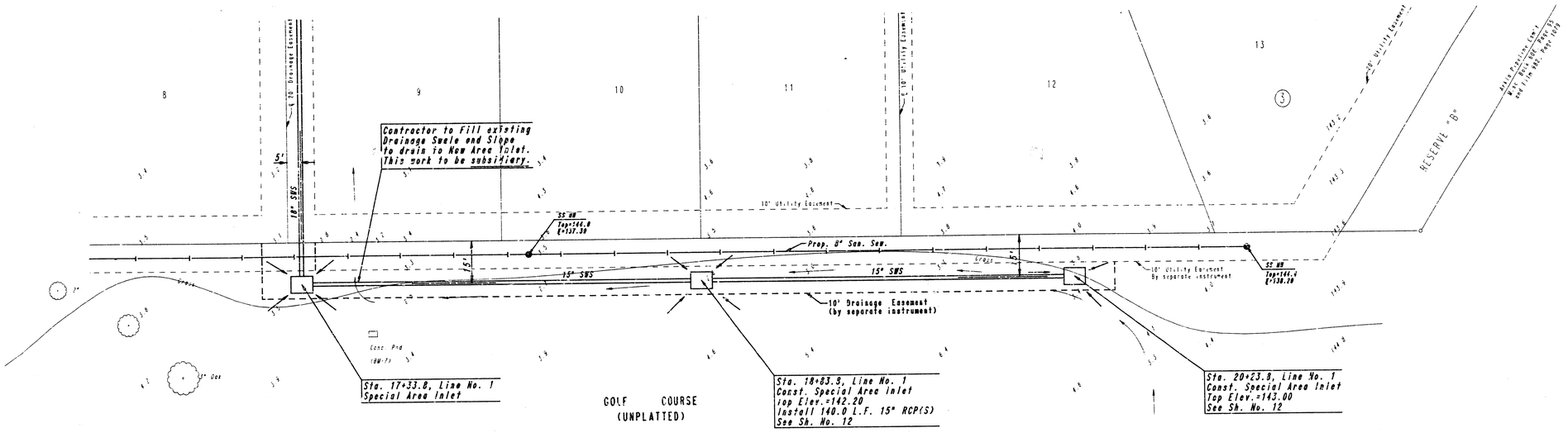
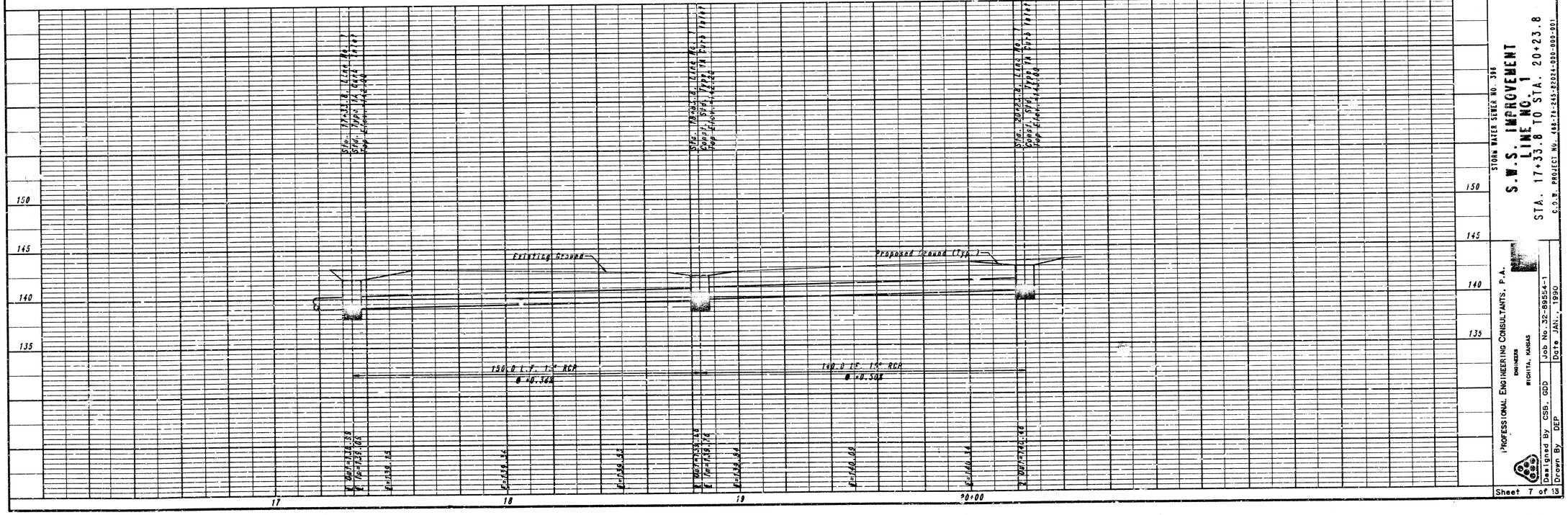


SCALE: 1" = 20'

NOTE: CONTRACTOR SHALL ROUGH GRADE AREAS ALONG STORM WATER SEWER, LINE NO. 1 AS SHOWN BY PROFILES. THIS WORK TO BE SUBSIDIARY. GOLF COURSE PERSONNEL WILL FINISH GRADE AND SEED AS REQUIRED.



STORM WATER SEWER NO. 396

S.W.S. IMPROVEMENT
LINE NO. 1
STA. 17+33.8 TO STA. 20+23.8

C.O.M. PROJECT NO. 448-74-245-82024-000-000-091

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

Designed By CSB, GDD | Job No. 3C-89554-1
Drawn By DEP | Date JAN., 1990

Sheet 7 of 13

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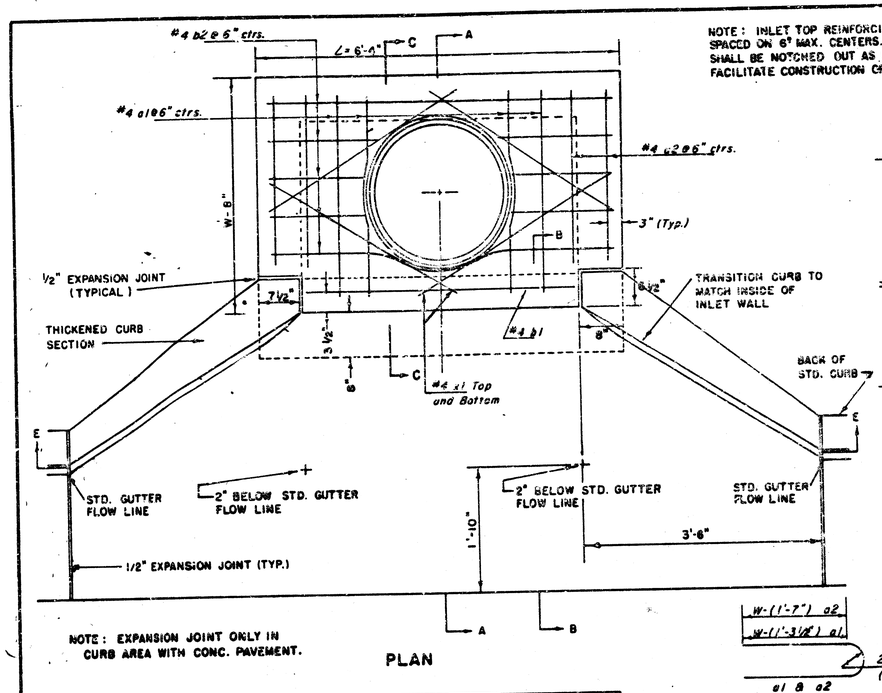
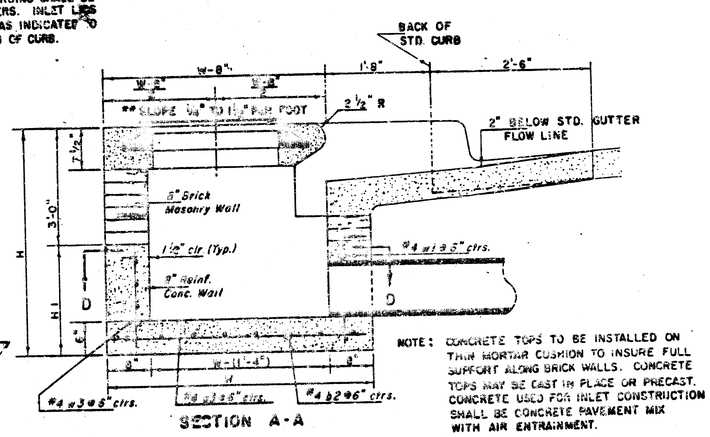


NOTE: EXPANSION JOINT ONLY IN CURB AREA WITH CONC. PAVEMENT.

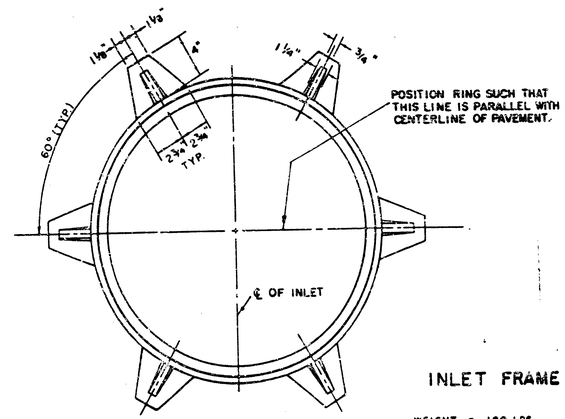
PLAN

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



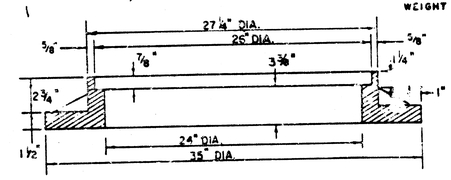
SECTION A-A

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 WITH AIR ENTRAINMENT.



INLET FRAME

WEIGHT = 180 LBS.



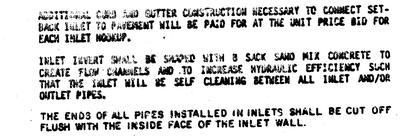
SEE CITY OF WICHITA STANDARD MANHOLE FRAME AND COVER DETAIL SHEET FOR COVER DETAILS TO BE USED WITH INLET FRAME.

PRECAST SLAB AND FLOOR REINFORCING												
		W=4'-8"		W=5'-8"		W=6'-8"		W=7'-8"		W=9'-8"		
Mark	Size	No.	Length	No.	Length	No.	Length	No.	Length	No.	Length	
a1	#4	5	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	8'-1"	35	8'-1"	41	8'-1"	47	8'-1"	
x1	#4	8	3'-10"	8	4'-2"	8	4'-5"	8	4'-10"	8	5'-2"	
WALL REINFORCING												
		W=4'-8"		W=5'-8"		W=6'-8"		W=7'-8"		W=9'-8"		
Mark	Size	No.	Length	No.	Length	No.	Length	No.	Length	No.	Length	
w1	#4	(1)	6'-1"	(1)	8'-1"	(1)	8'-1"	(1)	8'-1"	(1)	8'-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)	

o Field bend or cut reinforcing as required for clearance.

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

(2) H1-3"



BENDING DIAGRAM

STANDARD CURB INLET PRECAST TOPS			
W	PRE CAST TOP SIZE	PIPE SIZE	CU. YD. CONC.
4' 4"	5'6"x 6'4" x7 1/2"	21" & SMALLER	0.38 ±
5' 4"	6'6"x 6'4" x7 1/2"	24" & 30"	0.51 ±
6' 4"	5'6"x 6'4" x7 1/2"	36" & 42"	0.64 ±
7' 4"	6'6"x 6'4" x7 1/2"	48" & 54"	0.77 ±
8' 4"	7'6"x 6'4" x7 1/2"	60" & 66"	0.90 ±

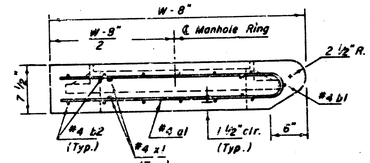
NOTE: CONTRACTOR SHALL HAVE THE OPTION OF CONSTRUCTING 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP ON THIS INLET WHEN W = 6'-8" AND H = 7'-0" OR LESS.

ADDITIONAL CURB AND GUTTER CONSTRUCTION NECESSARY TO CONNECT SET-BACK INLET TO PAVEMENT WILL BE PAID FOR AT THE UNIT PRICE BID FOR EACH INLET MOOKUP.

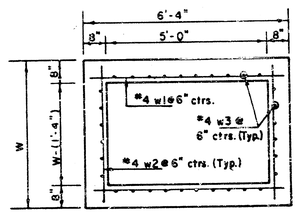
INLET INVERT SHALL BE SHAPED WITH 8 SACK SAND MIX CONCRETE TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.

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

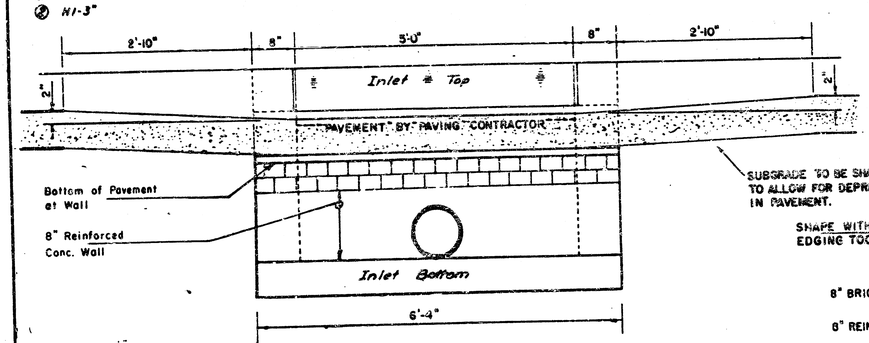
** NOTE: Slope of Inlet Tops to match Sidewalk or Parking Slopes within Limits indicated.



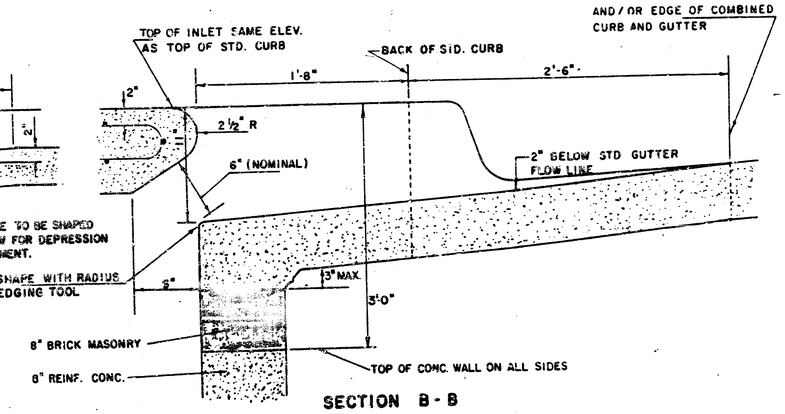
SECTION C-C



SECTION D-D



SECTION E-E



SECTION B-B

~~REVISED 11-30-1988~~

~~REVISED 12-31-1984~~

Revised 2-16-1989

DETAIL STANDARD TYPE IA CURB INLET

CITY OF WICHITA, KANSAS

INLET OPENING = 6" x 5'0"

L=6'-4"

JUNE 1984

Sheet No. 8 of 13

C.O.W. Proj. No. 468 76 245 82024 000 000 001

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PROJECT NO.	SHEET NO.	TOTAL SHEETS
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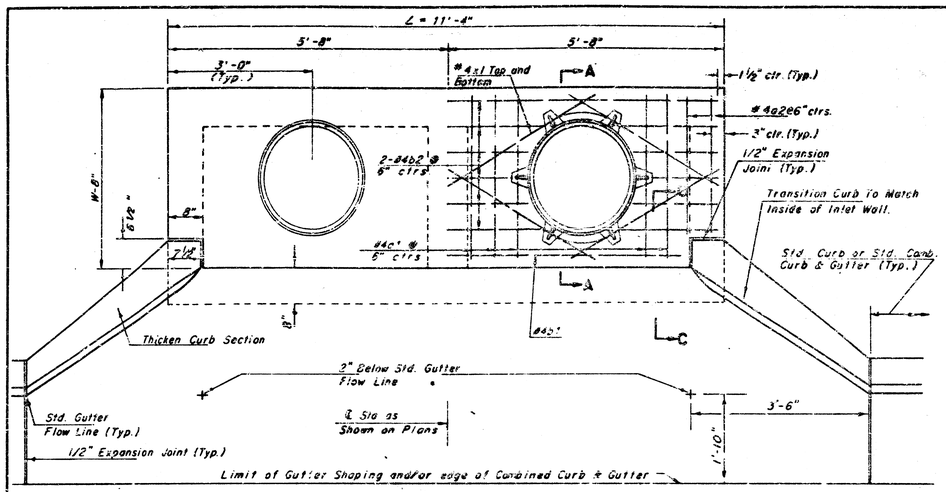
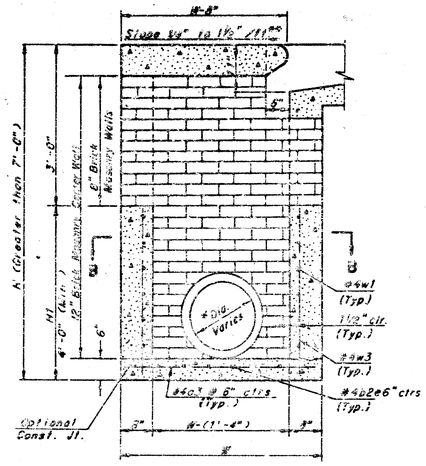


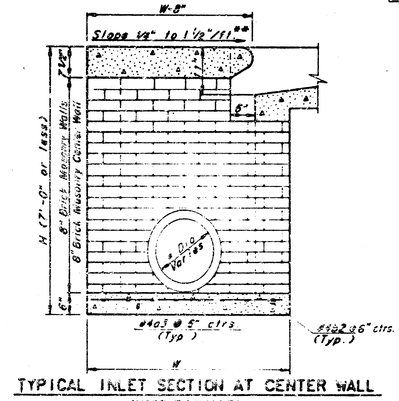
SLAB REINFORCING NOT SHOWN — SHOWING SLAB REINFORCING

PLAN

NOTE Expansion Joint only in Curb Area with Conc. Pavement.

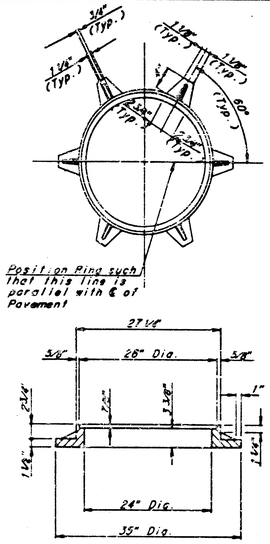


TYPICAL INLET SECTION AT CENTER WALL
(REINFORCED CONCRETE WALLS)



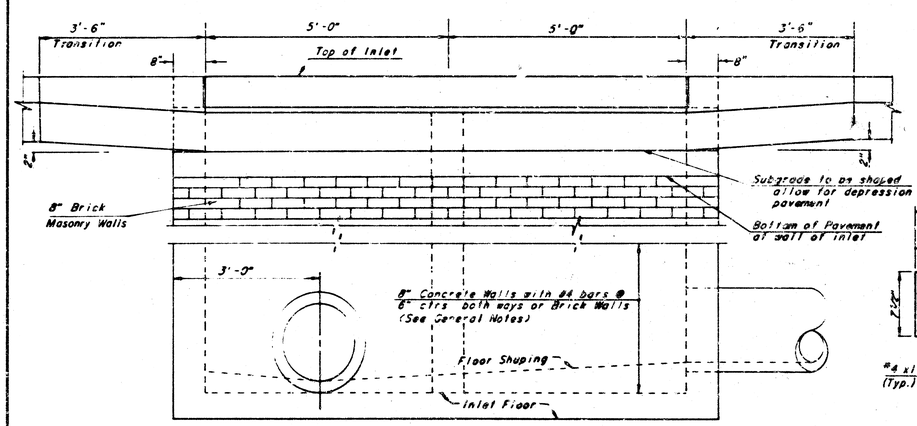
TYPICAL INLET SECTION AT CENTER WALL
(MASONRY WALLS)

* A center wall opening shall be provided by means of a section of reinforced concrete pipe. See Case I and Case II Below.

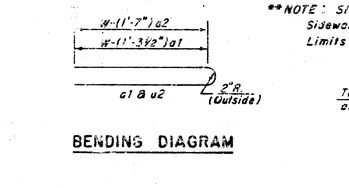


CAST IRON INLET RING
Wt.-180 lbs.

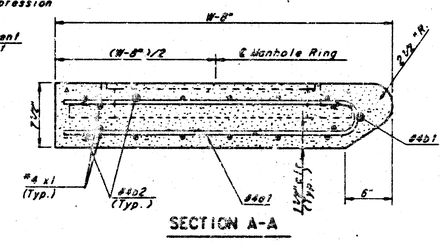
See City of Wichita Standard Manhole Frame and Cover Detail Sheet for Cover Details to be used with Inlet Frame.



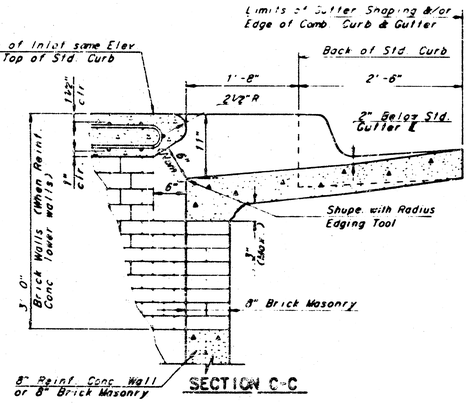
ELEVATION



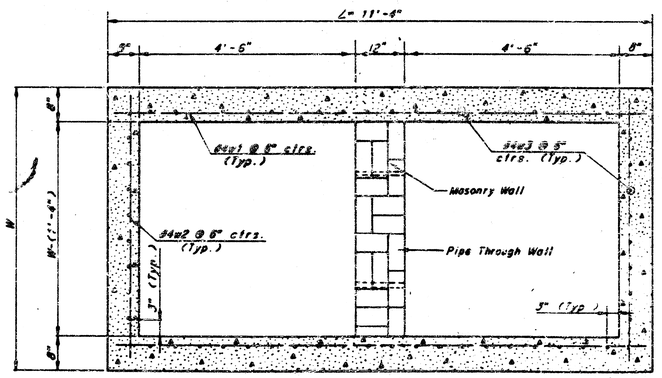
BENDING DIAGRAM



SECTION A-A



SECTION C-C



SECTION B-B

SLAB AND FLOOR REINFORCING

MARK	SIZE	W=4'-4" NO.	W=4'-4" LENGTH	W=5'-4" NO.	W=5'-4" LENGTH	W=6'-4" NO.	W=6'-4" LENGTH	W=7'-4" NO.	W=7'-4" LENGTH	W=8'-4" NO.	W=8'-4" LENGTH
#a1	#4	13	5'-7"	13	5'-7"	13	10'-7"	13	12'-7"	13	14'-7"
a2	#4	4	3'-9"	4	4'-9"	4	13'-0"	4	12'-0"	4	14'-0"
a3	#4	23	4'-1"	23	5'-1"	23	8'-1"	23	7'-1"	23	8'-1"
a1	#4	1	8'-9"	1	9'-9"	1	9'-9	1	9'-9"	1	9'-9"
#b2	#4	23	11'-1"	29	11'-1"	35	11'-1"	41	11'-1"	47	11'-1"
x1	#4	16	3'-10"	16	4'-2"	16	4'-6"	16	4'-10"	16	5'-2"

WALL REINFORCING

MARK	SIZE	W=4'-4" NO.	W=4'-4" LENGTH	W=5'-4" NO.	W=5'-4" LENGTH	W=6'-4" NO.	W=6'-4" LENGTH	W=7'-4" NO.	W=7'-4" LENGTH	W=8'-4" NO.	W=8'-4" LENGTH
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	52	②	56	②	60	②	64	②	68	②

* Field bend or cut Reinforcing as required for clearance
① ℄(H1-12") (H1-12") Rounded down to nearest 0.5'
② H1-3"

GENERAL NOTES

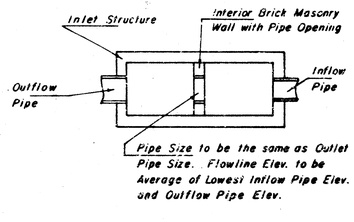
1. THE CONTRACTOR SHALL BE REQUIRED TO CONSTRUCT 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP ON THIS INLET WHEN W=8'-4" OR LESS AND W=7'-0" OR LESS WHEN W IS GREATER THAN 6'-0" AND H IS LESS THAN 7'-0". THE OUTSIDE INLET WALLS BELOW THE BRICK STACK SHALL BE REINFORCED CONCRETE CONSTRUCTION AND THE CENTER WALL SHALL BE OF MASONRY CONSTRUCTION AS SHOWN FOR THE CONTRACTOR'S OPTION.
2. INLET INVERT SHALL BE SHAPED WITH A 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.
3. 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.
4. INLET TOP REINFORCING SHALL BE SPACED ON 6" MAX. CENTERS. INLET LIDS SHALL BE NOTCHED OUT AS INDICATED TO FACILITATE CONSTRUCTION OF CURB. BARS IN INLET TOP TO BE FIELD BENT OR CUT TO CLEAR MANHOLE RING.
5. THE ENDS OF ALL PIPES INSTALLED IN INLETS SHALL BE CUT OFF FLUSH WITH THE INSIDE FACE OF THE INLET WALL.

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

STANDARD CURB INLET PRECAST TOPS

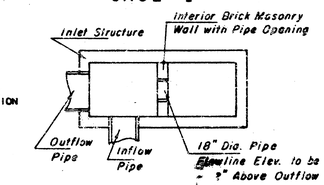
W	PRE-CAST TOP SIZE	SIDE OR INTERIOR WALL PIPE SIZE	CU YD. CONC.
4'-4"	5'-8" x 11'-4" x 7 1/2"	21" & SMALLER	0.85 ±
5'-4"	4'-8" x 11'-4" x 7 1/2"	24" & 30"	1.09 ±
6'-4"	5'-0" x 11'-4" x 7 1/2"	36" & 42"	1.35 ±
7'-4"	6'-3" x 11'-4" x 7 1/2"	48" & 54"	1.61 ±
8'-4"	7'-8" x 11'-4" x 7 1/2"	60" & 66"	1.87 ±

~~REVISED 4-3-89~~ Revised 2-16-89 ~~REVISED 12-21-84~~



Pipe Size to be the same as Outlet Pipe Size. Flowline Elev. to be Average of Lowest Inflow Pipe Elev. and Outflow Pipe Elev.

CASE I



Flowline Elev. to be 9" Above Outflow Inv.

CASE II

NOTE Center Wall Pipe Size shall be as Specified in Inlet Construction Note on the Plan/Profile Sheets for those Cases not shown here.

STANDARD TYPE 1A CURB INLET

INLET OPENING = 8" x 10'-0" at L = 11'-4"

WICHITA, KANSAS

Designed by	FFR, KJS, MRP	Checked by	MRP
Drawn by	JCP	Date	Nov., 1984

Job No.

9

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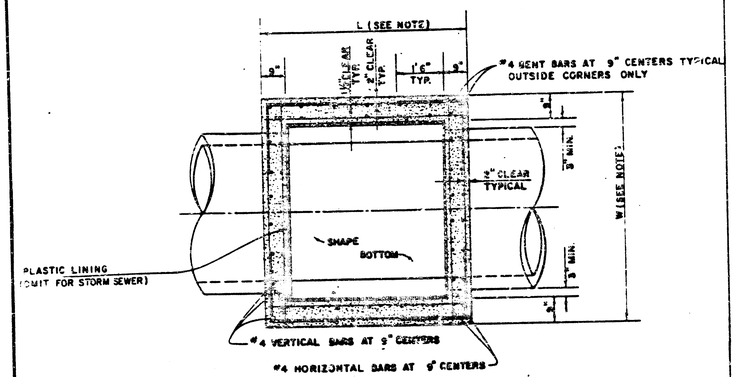
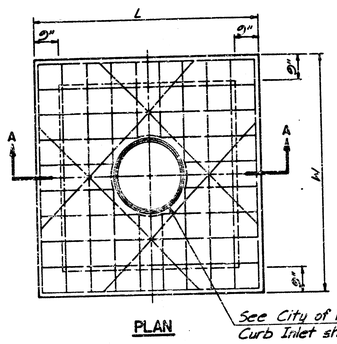
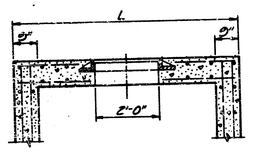


TOP VIEW



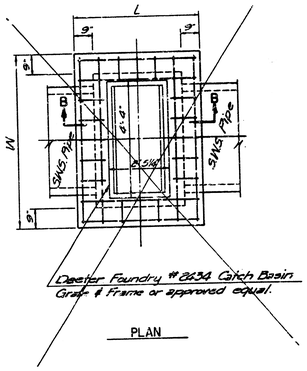
PLAN

See City of Wichita Detail Std. Type IA Curb Inlet sheet for Inlet Frame details.



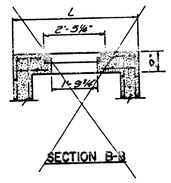
SECTION A-A

See Details below for Reinforcing



Deeter Foundry #2834 Catch Basin Grate & Frame or approved equal.

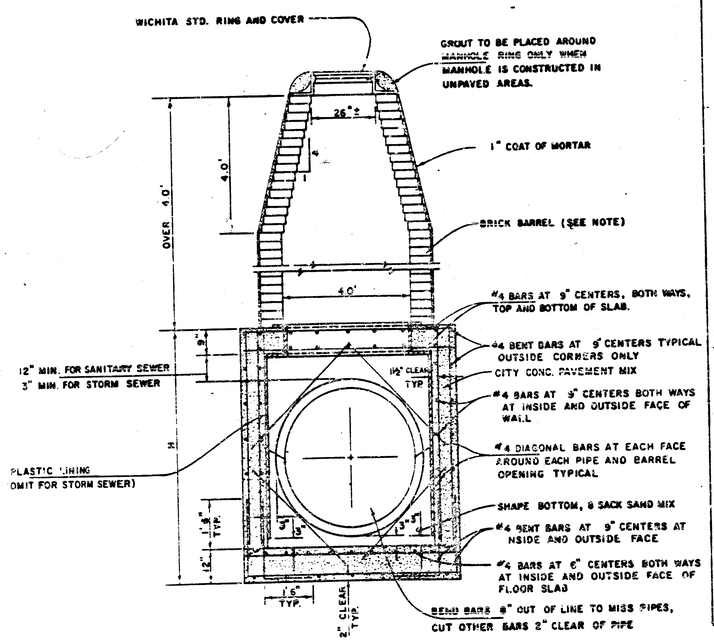
PLAN



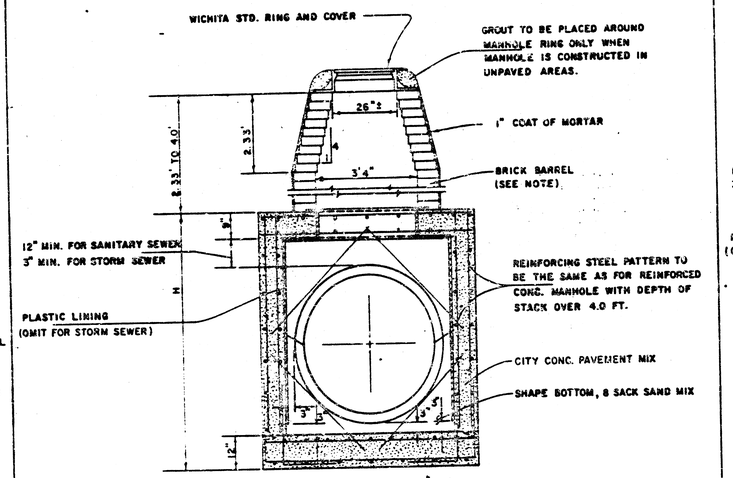
SECTION B-B

SPECIAL REINFORCED CONCRETE MANHOLE DETAILS

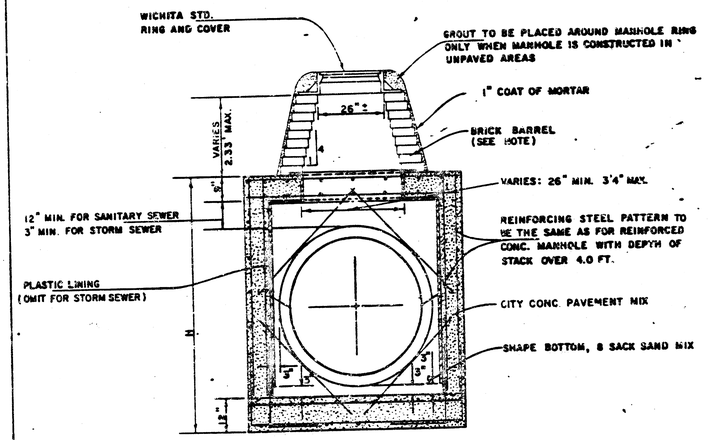
Sta. 1+99.5 Line No. 1



REINFORCED CONCRETE MANHOLE
DEPTH OF STACK: OVER 4.0'
SCALE 1" = 2'



REINFORCED CONCRETE MANHOLE
DEPTH OF STACK: 2.33' TO 4.0'
SCALE 1" = 2'



REINFORCED CONCRETE MANHOLE
DEPTH OF STACK: 0' TO 2.33'
SCALE 1" = 2'

NOTE :
BRICK BARRELS LESS THEN 16' DEEP SHALL HAVE 8" WALLS EXCEPT WHEN LOCATED WITHIN PUBLIC STREET OR ALLEY PAVEMENT THEN THE WALL SHALL BE 12" BRICK BARRELS MORE THEN 16' DEEP SHALL HAVE 12" WALLS. THE "L" AND "W" DIMENSIONS SHALL BE A MINIMUM OF 5'6" FOR BRICK BARRELS WITH 8" WALLS AND 6'2" FOR BRICK BARRELS WITH 12" WALLS WHEN THE BRICK BARRELS ARE OVER 4 FT. IN HEIGHT. COMLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATERTIGHT.

REVISIED 1-7-85 Project No. 468-76245-82024-000-000-001

STANDARD DETAILS
REINFORCED CONCRETE MANHOLES
CITY OF WICHITA

FEBRUARY 1984

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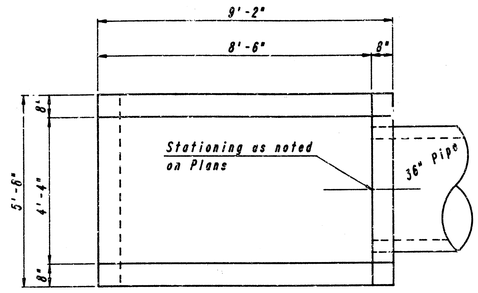
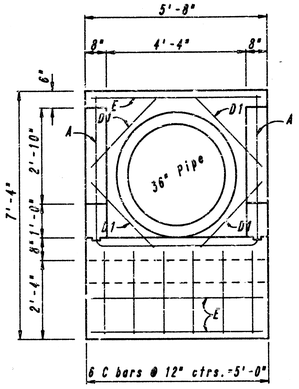
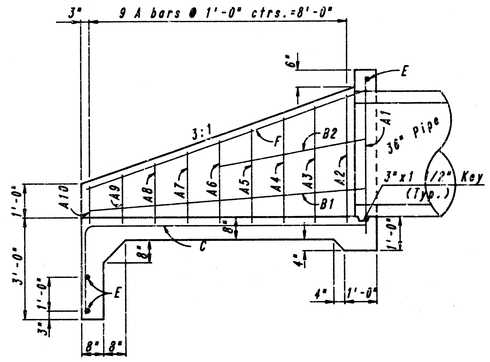
PROJECT NO.	SHEET NO.	TOTAL SHEETS
46A-76-245-82024-000-000-001	11	13



PLAN



FRONT



SECTION

RE-BAR SCHEDULE

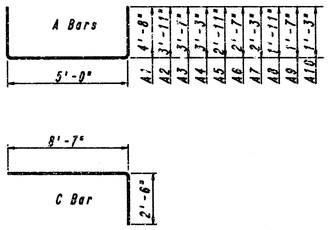
Mark	Shape	No.	Length	Weight
A1		1	9'-4"	9.57
A2		1	8'-10"	8.57
A3		1	12'-2"	8.13
A4		1	11'-6"	7.68
A5		1	10'-10"	7.24
A6		1	10'-2"	6.79
A7		1	9'-6"	6.35
A8		1	8'-10"	5.90
A9		1	8'-2"	5.46
A10		1	7'-6"	5.01
B1		2	8'-8"	11.58
B2		2	4'-8"	6.24
C		6	11'-1"	44.42
D1		4	3'-0"	8.02
E		3	5'-2"	10.35
F		2	9'-0"	12.02
Total Rebars			163	Lbs.
Concrete			3.08	C.Y.

CONCRETE HEADWALL NOTES

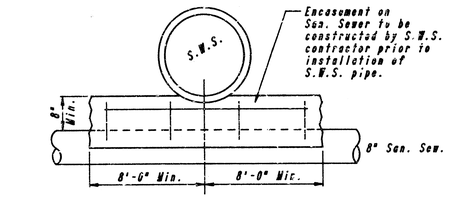
CONCRETE: BEVEL ALL EXPOSED EDGES WITH A 3/4" TRIANGULAR MOLDING OR FINISH WITH AN APPROVED EDGING TOOL. CONCRETE SHALL BE AS PER CITY OF WICHITA STANDARD SPECIFICATIONS FOR CONCRETE PAVING MIX EXCEPT THAT IT SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 4,000 P.S.I. ALL PIPES SHALL BE FLUSH CUT PRIOR TO BEING CAST INTO THE HEADWALL.

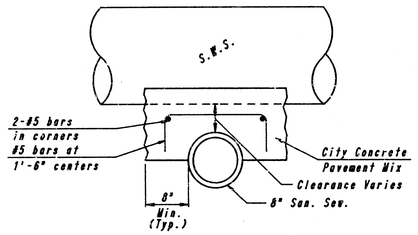
REINFORCING STEEL: ALL DIMENSIONS RELATIVE TO REINFORCING STEEL ARE TO CENTERLINE OF BAR UNLESS OTHERWISE NOTED. ALL REINFORCING STEEL SHALL CONFORM TO A.S.T.M. DESIGNATION A615 GRADE 60 AND SHALL BE EPOXY COATED.

PAYMENT: A DEDUCTION IN CONCRETE QUANTITIES HAS BEEN MADE FOR THE PIPE OPENING. THE "HEADWALL (36")(REINFORCED CONCRETE)" SHALL BE PAID FOR AT THE UNIT PRICE BID PER EACH IN PLACE INCLUDING CONCRETE, REINFORCING STEEL, EXCAVATION AND ALL OTHER MISCELLANEOUS MATERIALS, LABOR, TOOLS, EQUIPMENT AND INCIDENTALS NECESSARY TO COMLPETE THE WORK. QUANTITIES SHOWN ARE FOR INFORMATION ONLY.



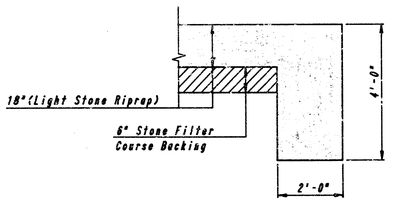
BENDING DIAGRAMS





REINFORCED CONCRETE ENCASEMENT DETAILS

Sta. 1+67± S.W.S. Line No. 1

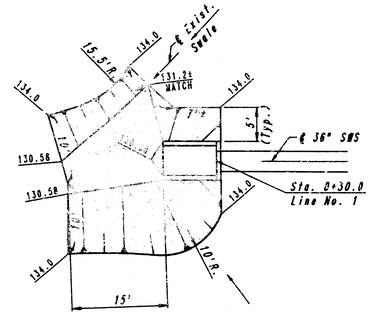


TYPICAL SECTION THRU TOEWALL

NO SCALE

NOTES

1. ALL RIPRAP FOR THIS PROJECT SHALL BE NATURAL STONE. NEITHER BROKEN CONCRETE, FABRIC ENVELOPE, NOR PREMIXED DRY PACKAGED CONCRETE BAG ALTERNATES WILL BE ALLOWED.
2. TOEWALLS SHALL BE INSTALLED ALONG ALL EDGES OF STONE RIPRAP.
3. GROUTING OF THE SURFACE OF THE RIPRAP SHALL NOT BE PERFORMED. GROUTING OF THE TOEWALLS SHALL BE PERFORMED PER CITY SPECIFICATIONS.



RIPRAP PLAN

SCALE: 1" = 10'

TEST BORING LOG

ALLIED LABORATORIES

REFLECTION RIDGE

BORING NO. 1 LOC. NORTH of GOLF CREEK West of RIDGE Rd

SCALE: 1IN= 1 FT. BORING DATE 12-11 BY RE LEVELS BY CHECKED

EL. WATER LEVEL DATE EL. DATE EL.

BM NO. LOC.

BS	HI	FS	EL.	REMARKS
				-2%F WSD FACTOR
				HAND AUGER

340 Ida
Wichita, Kansas 67211
(316) 262-6457

FM	LOG	ELEVATION	REMARKS	S NO.	TOOL	BPF	% M	WT. #/CU. FT.		
			TOP SOIL DK BR SANDY CLAY							
		1.5	LT. BR - TAN CLAYEY SAND FINE, MOIST, SOFT 75% + SAND							
		4.5	RUSTY REDDISH FN SAND DAMP							
		1.9	DK GRAY SANDY SILTS FINE - MED, VERY MOIST 75% + SAND SOFT							
		3.0	TAN - LT. BR SAND MED - COARSE SAT.							
		5.0	BOTTOM OF HOLE KEPT CAVING IN							

STORM WATER SEWER NO. 396

36" HEADWALL AND MISCELLANEOUS DETAILS

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

Designed by	RAS, CSB	Checked by	
Drawn by	DFP	Date JAN., 1990	Job No. 89554-1

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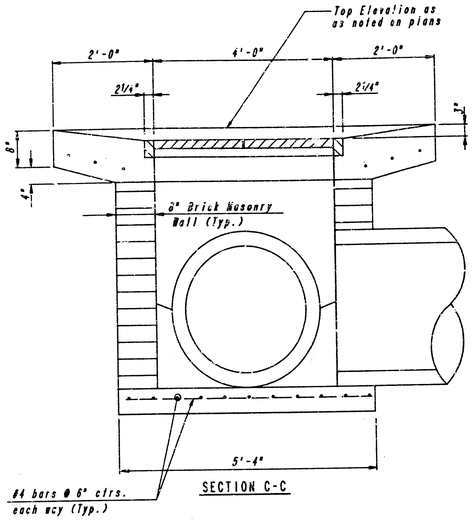
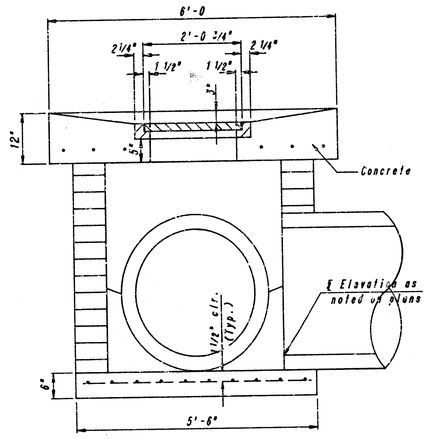
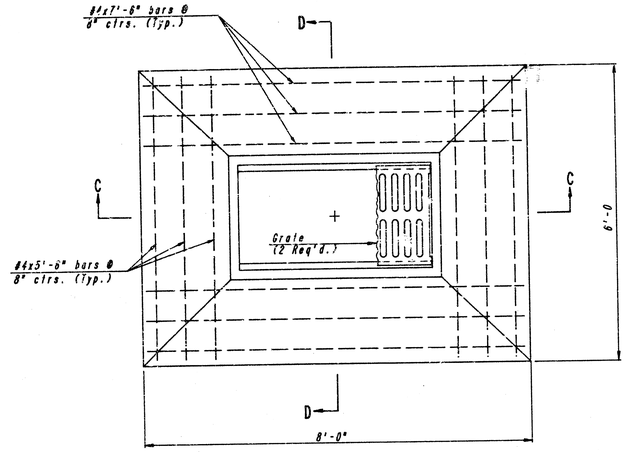
PROJECT NO.	SHEET NO.	TOTAL SHEETS
468-76-245-82024-000-000-001	12	13



SECTION C-C

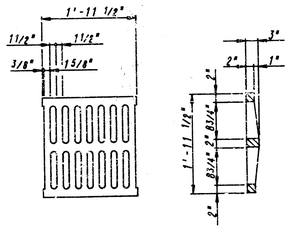


SECTION D-D

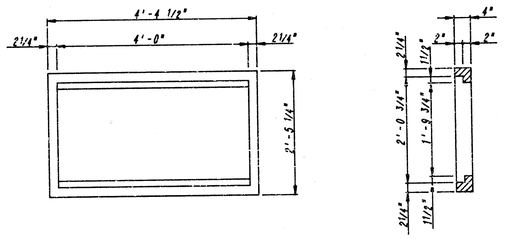


PLAN

SPECIAL AREA INLET



GRATE DETAIL
(Wt.=180 lbs.)
(2 Required)



FRAME DETAIL
(Wt.=460 lbs.)

GENERAL NOTES

CONCRETE SHALL BE C.O.W. STANDARD PAVING MIX. ALL EXPOSED EDGES SHALL BE FINISHED WITH AN APPROVED EDGING TOOL.

REINFORCING STEEL SHALL BE A MINIMUM GRADE 40, A.S.T.M. A615. ALL DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO THE CENTERLINE OF BARS UNLESS OTHERWISE NOTED.

INLET 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 EFFECTS.

CONSTRUCTION REQUIREMENTS AND MATERIALS FOR MASONRY WALLS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

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

SPECIAL AREA INLETS SHALL BE MEASURED AND PAID FOR AT THE CONTRACT UNIT PRICE BID PER EACH. THIS SHALL BE CONSIDERED FULL COMPENSATION FOR ALL EXCAVATION, BACKFILLING, MATERIALS, LABOR, CONNECTION TO EXISTING STRUCTURES (IF REQUIRED), EQUIPMENT, TOOLS, AND INCIDENTALS NECESSARY TO COMPLETE THE WORK.

PIPES ENTERING EXISTING STRUCTURE SHALL BE CENTERED ON INSIDE FACE OF WALL.

REFLECTION RIDGE 4TH ADDITION
PHASE I

SPECIAL AREA INLET DETAILS

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

Designed by	CSB, GDD	Checked by	
Drawn by	DEP	Date FEB., 1990	Job No. A9554-1

12

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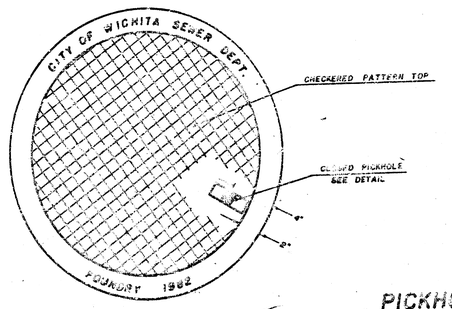
MANHOLE FRAME AND COVER DETAIL

ADOPTED AS STANDARD DESIGN

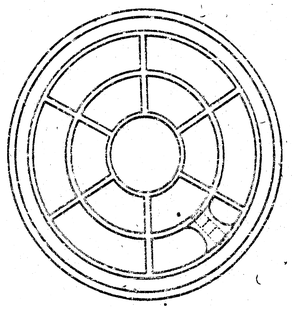
BY

City of Wichita, Kansas

MANHOLE COVER
Weight: 180 Lbs.

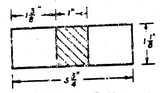


TOP VIEW

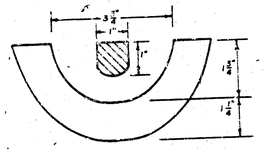


BOTTOM VIEW

PICKHOLE DETAIL

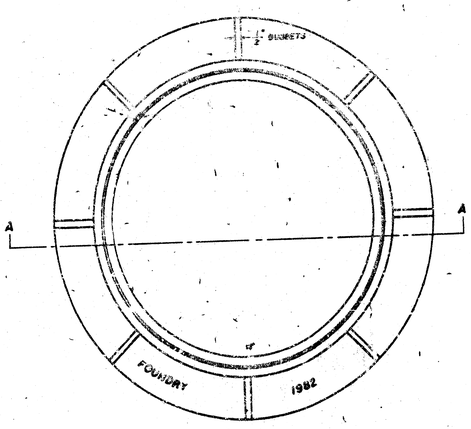


TOP VIEW

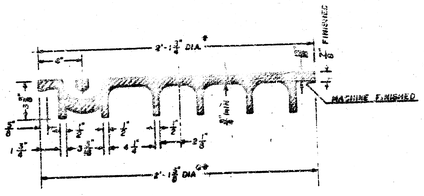


SECTION VIEW

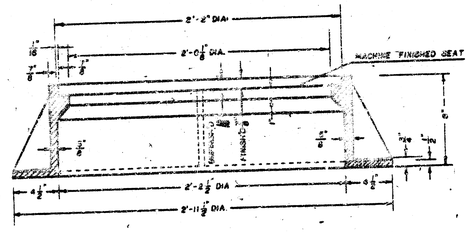
MANHOLE FRAME
Weight: 240 Lbs.



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 NEWBOLT 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 WORK 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.

JNL DEC. 1981

C.O.W. Proj. No. 468/76 245 82024 000 000 001

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