SHEET NO.	TOTAL SHEETS
1	13

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E., CITY ENGINEER

STORM WATER SEWER

IN

GOLDEN HILLS 5TH ADDITION

CITY OF WICHITA PROJECT NO. 468-76-245-80001-000-000-161

INDEX OF SHEETS

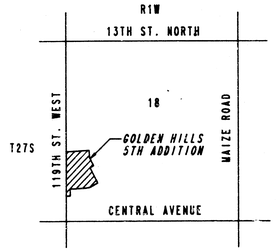
1. TITLE SHEET
2. PLAT
3.-6. LINE NO. 1 PLAN/PROFILE
7. LINE NO. 2 PLAN/PROFILE
8. HEADWALL AND RIPRAP DETAILS
9. REINFORCED CONCRETE MANHOLE DETAILS
10. STD. TYPE 1A CURB INLET DETAILS (11'-4")
11. STD. TYPE 1A CURB INLET DETAILS (8'-4")
12. SPECIAL TYPE 1A CURB INLET DETAILS
13. STD. MANHOLE RING AND COVER DETAILS

PROJECT SURVEY CONTROL

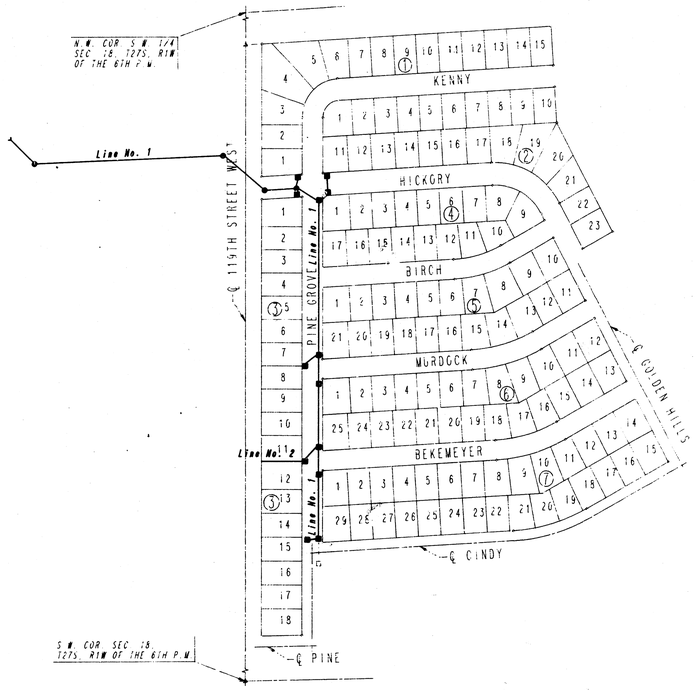
CITY OF WICHITA DATUM

DATUM BENCH MARK: CITY OF WICHITA BENCH MARK DISC 40' EAST AND 40' SOUTH OF INTERSECTION OF ℄'S CENTRAL AND 119TH STREET WEST.
ELEV.=156.93

BENCH MARK: 8" SPIKE IN NW FACE 18" CEDAR ON SOUTH SIDE CENTRAL AT GOLDEN HILLS STREET.
ELEV.=160.27



VICINITY MAP



SCALE: 1" = 150'

GENERAL NOTE.

1. 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.
2. RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES AND EXCESS EXCAVATION WHICH IS TO BE WASTED SHALL BE DISPOSED OF ON 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.
3. CONTRACTOR SHALL SATISFY HIMSELF OF SUBSURFACE CONDITIONS PRIOR TO CONSTRUCTION.
4. 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.
5. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY DIRECTLY ABUTTING THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION.
6. 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 OR A LICENSED PROFESSIONAL ENGINEER IN ACCORDANCE WITH STATE LAWS.
7. 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 263-2081
KPL GAS SERVICE	263-7511
KANSAS GAS & ELECTRIC	264-1141
CITY OF WICHITA WATER DEPARTMENT	268-4908
CITY OF WICHITA SEWER DEPARTMENT	268-4671
ARKLA GAS COMPANY	942-8350 OR 263-8161

8. 119TH STREET SHALL REMAIN OPEN TO TRAFFIC THROUGH CONSTRUCTION. DURING DAYLIGHT HOURS THE STREET SHALL BE REDUCED TO ONE-LANE WITH TRAFFIC CONTROLLED BY FLAGMEN. DURING NON-WORKING HOURS, THE STREET MUST BE OPENED TO TWO-LANE, TWO-WAY TRAFFIC. ALL SIGNING AND BARRICADES NECESSARY TO PROPERLY CONTROL THE TRAFFIC SHALL BE IN ACCORDANCE WITH THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES", LATEST EDITION.

NOTE TO CONTRACTOR

THIS PROJECT WILL BE CONSTRUCTED UNDER THE SUPERVISION OF THE CITY ENGINEER AND CONFORMING TO THE SPECIFICATIONS OF THE CITY OF WICHITA. THE CONTRACTOR WILL PAY THE CITY OF WICHITA FOR ALL COSTS OF PLAN REVIEW, INSPECTION AND BOOKING PER CONTRACT.

APPROVED AS NOTED
BY CITY ENGINEER OF WICHITA

SANITARY SEWERS _____
STORM SEWERS VRH 4/4/88
DRIVEWAY APPROACHES _____
WATER MAINS _____
PAVING _____

CHARLES E. BROWN LICENSED 7581 KANSAS PROFESSIONAL ENGINEER

1/13

MARCH, 1988

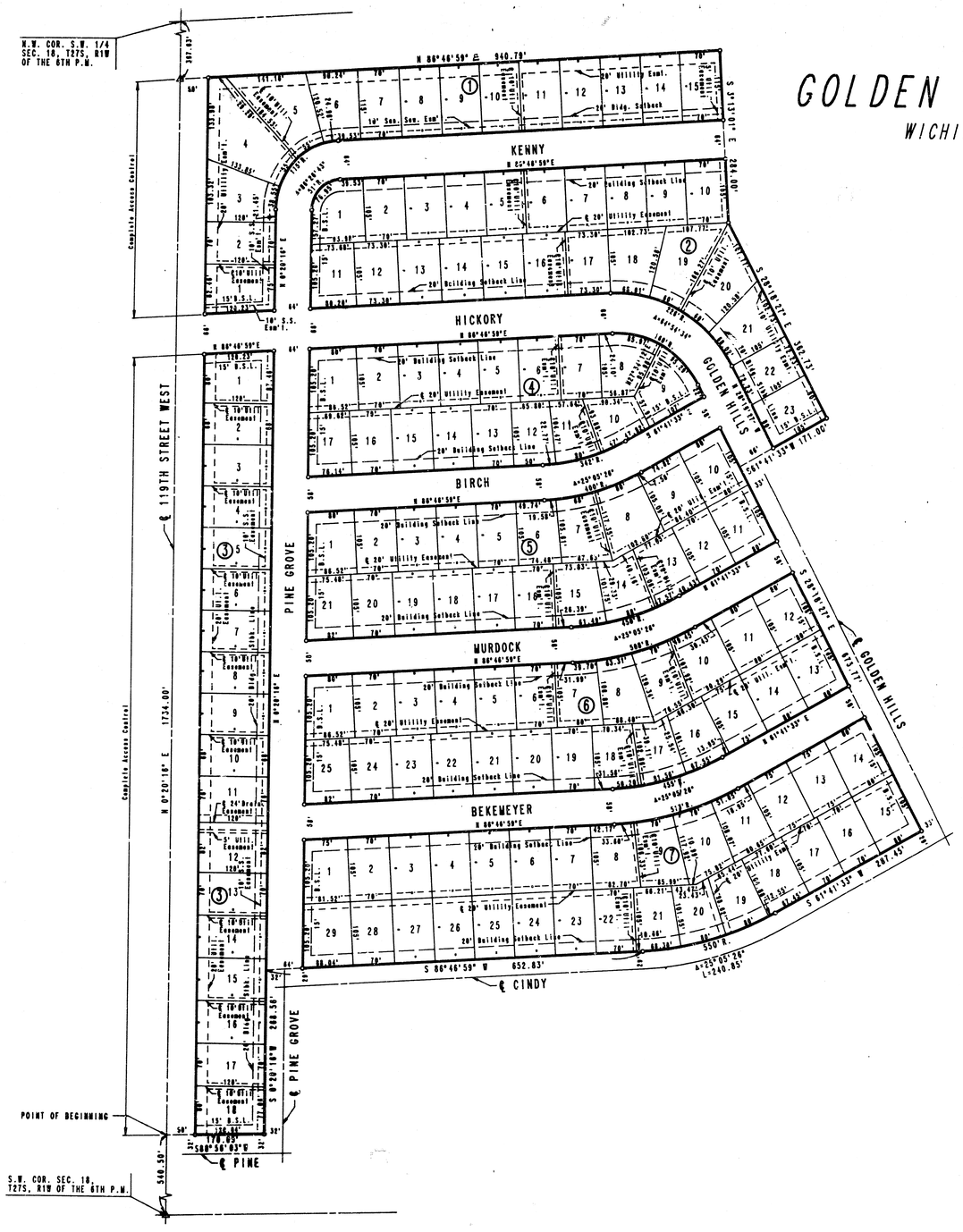
PLANS PREPARED BY
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

FILMED FROM THE BEST AVAILABLE COPY....

PROJECT	SHEET	TOTAL
468-76-245-80001-000-000-161	2	13

GOLDEN HILLS 5TH ADDITION

WICHITA, SEDGWICK COUNTY, KANSAS



SCALE: 1" = 100'

o = IRON SET

B.S.L.=BUILDING SETBACK LINE

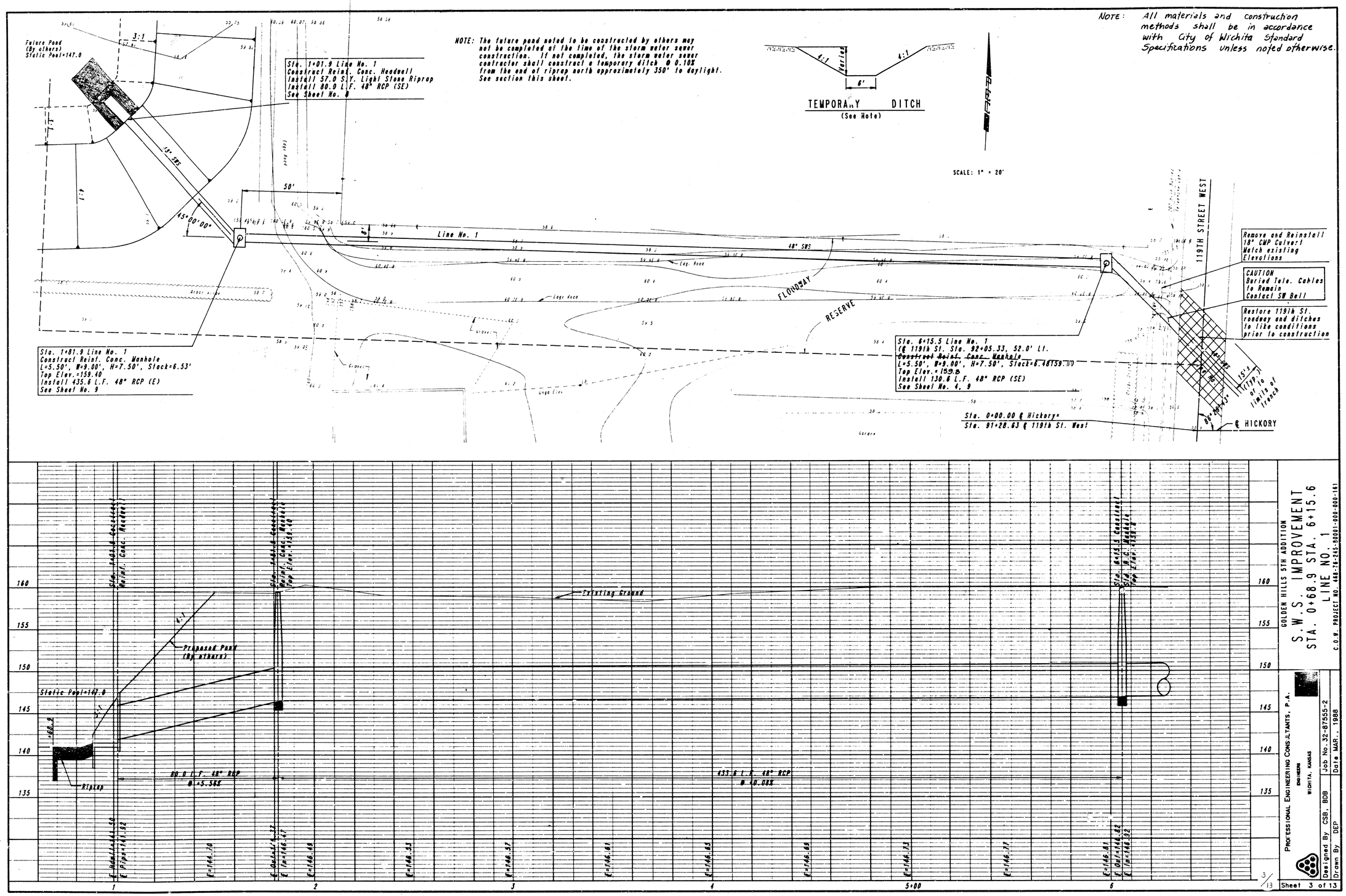
B.M. - CITY OF WICHITA STD. B.M. DISC 40 FT. EAST AND 46 FT. SOUTH OF INTERSECTION OF CENTERLINES OF CENTRAL AND 119TH STREET WEST. ELEV.=1156.53 CITY DATUM

PLAT

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

2/13

FILMED FROM THE BEST AVAILABLE COPY....



GOLDEN HILLS 5TH ADDITION

S.W.S. IMPROVEMENT
STA. 0+68.9 STA. 6+15.6
LINE NO. 1

C.O.W. PROJECT NO. 468-76-245-80001-000-000-161

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

Designed By CSB, BDB | Job No. 32-87555-2
Drawn By DEP | Date MAR., 1988

3/13

Sheet 3 of 13

FILMED FROM THE BEST AVAILABLE COPY....

Line No. 1 Sta. 6+15.5 =
℄ 119th St. Sta. 92+05.33, 52.0' Lt.
Reinf. Conc. Manhole
See Sh. No. 3, 9

CAUTION
Buried Tele. Cables
to Remain
Contact SW Bell

CAUTION
8" Steel Gas Line
Contact KPL Gas Service

Sta. 0+00.00 ℄ Hickory
Sta. 91+28.63 ℄ 119th St.

Line No. 1 Sta. 7+46.1=
℄ Hickory Sta. 0+49.6, 8.0' Rt.
Const. Reinf. Conc. Manhole
L=5.50', W=9.00', H=7.50', Stack=5.15'
Top Elev.=158.67
Install 100.6 L.F. 48" RCP (E)
See Sh. No. 9

* NOTE: "CONTRACTOR TO INSTALL 2'X2'X1/16" FIBERGLASS BOARD (TO BE SUPPLIED BY KPL GAS SERVICE) BETWEEN THE SWS AND GAS. KPL GAS SERVICE REPRESENTATIVE TO BE ON SITE DURING SWS EXCAVATION AT EXISTING GAS LINE LOCATION. CONTACT DON FRIMAN AT 263-9895."

℄ Hickory Sta. 1+54.28, 21.67' Lt.
Const. Std. Type 1A Curb Inlet
L=6'-4", W=4'-4"
Top Elev.=158.59
℄ Out=151.28
See Sh. No. 11

℄ Hickory Sta. 1+48.32, 21.67' Rt.
Const. Std. Type 1A Curb Inlet
L=6'-4", W=4'-4"
Top Elev.=158.61
℄ Out=150.96
See Sh. No. 11

CAUTION
Prop. 8" Water
Contact City Water Dept.

Sta. 33+50.79 ℄ Pine Grove=
Sta. 2+02.39 ℄ Hickory

Line No. 1 Sta. 8+48.7=
℄ Hickory Sta. 1+50.20, 8.0' Rt.
Const. Reinf. Conc. Manhole
L=5.50', W=8.00', H=7.50', Stack=3.92
Top Elev.=158.35
Install 84.1 L.F. 48" RCP(SE)
Install 30.0 L.F. 15" RCP(N)
Install 13.8 L.F. 15" RCP(S)
℄ In 15"(N)=150.68
℄ In 15"(S)=150.68
See Sh. No. 9

℄ Hickory Sta. 2+56.46, 21.67' Lt.
Const. Std. Type 1A Curb Inlet
L=6'-4", W=4'-4"
Top Elev.=159.08
℄ Out=152.55
See Sh. No. 11

℄ Hickory Sta. 2+50.50, 21.67' Rt.
Const. Std. Type 1A Curb Inlet
L=6'-4", W=4'-4"
Top Elev.=159.05
Install 43.8 L.F. 15" RCP(N)
℄ In 15"(N)=151.67
℄ Out 18"(SW)=151.42
See Sh. No. 11

Drainage Easement
By Separate Instrument

Proposed 8" Water
Top Pipe= 155.13

Line No. 1 Sta. 9+30.8=
℄ Pine Grove Sta. 32+99.12, 22.17' Rt.
Const. Special Type 1A Curb Inlet
L=7'1"-4", W=7'-4"
Top Elev.=158.96
Install 44.8.0 L.F. 48" RCP(S)
Install 40.9 L.F. 18" RCP(NE)
℄ In 18"(NE)=150.60
See Sh. No. 5, 12

N19TH STREET WEST
PINE GROVE
HICKORY
Prop. 8" San. Sew.
Prop. 8" Water
48" SWS
18" SWS
15" SWS
Existing Ground
Proposed Ground
Exist. 18" Culvert
Buried Telephone Cable
Fulwiler 10" Sanitary Sewer
Top Pipe=1143.53
E Out=1138.03
Top Pipe=1132.53
Sta. 6+15.5
W.C. Manhole
Top Elev.=1152.97
E Out=1144.62
E In=1144.52
E=1146.95
E=1146.66
Sta. 7+46.1 Construct
W.C. Manhole
Top Elev.=1152.97
E Out=1144.62
E In=1144.52
E=1147.41
Sta. 8+48.7 Construct
W.C. Manhole
Top Elev.=1152.35
Prop. 8" Sanitary Sewer
Top Pipe=1143.53
E Out=1144.53
E In=1144.43
E=1146.07
Prop. 8" Water
Top Pipe=1153.01
Sta. 9+30.8 Construct
Special Type 1A Curb Inlet
Top Elev.=1158.96
E In=1150.60
E=1146.10
E=1146.26
E In=(18")
150.60
E In=(15")=
150.68
130.8 L.F. 48" RCP
@ +0.08%
100.6 L.F. 48" RCP
@ 0.71%
84.1 L.F. 48" RCP
@ +0.08%
6
7
8
9
10+00
160
155
150
145

GOLDEN HILLS 5TH ADDITION
S.W.S. IMPROVEMENT
STA. 6+15.6 TO STA. 9+28.3
LINE NO. 1
C.O.W. PROJECT NO. 448-78-245 80021-000-000

SCALE: 1" = 20'

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS
Designed By CSB, BDB
Drawn By DEP
Job No. 32-27555-2
Date MAR., 1988
Sheet 4 of 13

FILMED FROM THE BEST AVAILABLE COPY....

Sta. 33+50.79 ℄ Pine Grove=
Sta. 2+02.39 ℄ Hickory

Line No. 1 Sta. 9+30.8
℄ Pine Grove Sta. 32+99.12, 22.17' Rt.
Spec. Type 1A Curb Inlet
See Sheet No. 4, 12

SCALE: 1" = 20'

Line No. 1 Sta. 13+79.8=
℄ Pine Grove Sta. 28+50.11, 22.17' Rt.
Const. Std. Type 1A Curb Inlet
L=6'-4", W=7'-4"
Top Elev.=158.46
Install 76.1 L.F. 42" RCP(S)
Install 52.2 L.F. 15" RCP(SW)
℄ In 15"(SW)=151.31
See Sheet No. 6, 11

HICKORY
BIRCH
MURDOCK
PINE GROVE

37' Bk.-Bk.
33'
33'
29' Bk.-Bk.
29'
29'
35' Bk.-Bk.
32'
32'

30'R. FcCb (Typ.)
20'R. FcCb (Typ.)

15" SWS
18" SWS
48" SWS
42" SWS
Line No. 1

Drainage Easement
By Separate Instrument

Prop. 8" Water
Prop. 8" San. Sew.
BOV
SS MH

Future Pavement

86°26'43"
93°33'17"
93°33'17"

Sta. 30+78.27 ℄ Pine Grove=
Sta. 50+00.0 ℄ Birch

℄ Pine Grove Sta. 28+20.29, 20.67' Lt.
Const. Std. Type 1A Curb Inlet
L=6'-4", W=4'-4"
Top Elev.=158.30
℄ Out=152.35
See Sheet No. 11

Sta. 28+09.75 ℄ Pine Grove=
Sta. 60+00.0 ℄ Murdock

Existing Ground

℄ In(15")=
151.31

444'-0 L.F. 48" RCP
@ +0.08%

9 10+00 11 12 13 14

160 155 150 145

GOLDEN HILLS 5TH ADDITION
S.W.S. IMPROVEMENT
STA. 9+28.3 STA. 13+79.8
LINE NO. 1

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

Designed By CSB, BDB
Drawn By DEP
Job No. 32-87555-2
Date MAR., 1988

Sheet 5 of 13

5/13

FILMED FROM THE BEST AVAILABLE COPY....

Line No. 1 Sta. 13+79.8=
℄ Pine Grove Sta. 28+50.11, 22.17' Rt.
Std. Type 1A Curb Inlet
See Sheet No. 5, 11

Line No. 1 Sta. 14+55.9=
℄ Pine Grove Sta. 27+73.98, 21.67' Rt.
Const. Std. Typ: 1A Curb Inlet
L=6'-4", W=6'-4"
Top Elev.=158.44
Install 189.9 L.F. 42" RCP(S)
See Sh. No. 11

Line No. 1 Sta. 16+45.8=
Line No. 2 Sta. 0+00.0=
℄ Pine Grove Sta. 25+84.10, 21.67' Rt.
Const. Std. Type 1A Curb Inlet
L=11'-4", W=6'-4"
Top Elev.=158.28
Install 81.1 L.F. 36" RCP(S)
See Sh. No. 7, 10

Sta. 25+41.24 ℄ Pine Grove=
Sta. 70+00.0 ℄ Bekemeyer

SCALE: 1" = 20'

Line No. 1 Sta. 17+26.9=
℄ Pine Grove Sta. 25+02.47, 21.17' Rt.
Std. Type 1A Curb Inlet
L=11'-4", W=5'-4"
Top Elev.=158.25
Install 187.9 L.F. 30" RCP(S)
See Sh. No. 10

Line No. 1 Sta. 19+14.8=
℄ Pine Grove Sta. 23+15.08, 21.17' Rt.
Const. Std. Type 1A Curb Inlet
L=6'-4", W=5'-4"
Top Elev.=158.29
Remove Exist. 24" RCP as required
Install 41.8 L.F. 15" RCP(W)
See Sh. No. 11

WURDOCK

BEKEMEYER

CINDY

PINE GROVE

48" SWS
42" SWS
42" SWS
Line No. 1
36" SWS
30" SWS
Line No. 1
15" SWS
24" SWS
Line No. 2
20 ft. Radius (Typ.)
Exist. 24" RCP

29' Bk.-Bk.
29'
29'
35' Bk.-Bk.
32'
32'

93°33'17"
93°33'17"
93°33'17"

Future Pavement
Future Pavement
Future Pavement
Pavement
Exist.

Sta. 28+09.75 ℄ Pine Grove=
Sta. 60+00.0 ℄ Murdock

Line No. 1 Sta. 19+56.6=
℄ Pine Grove Sta. 23+15.08, 20.67' Lt.
Const. Std. Type 1A Curb Inlet
L=6'-4", W=4'-4"
Top Elev.=158.29
See Sh. No. 11

Sta. 22+72.72 ℄ Pine Grove=
Sta. 40+00.0 ℄ Cindy

℄ 10' Utility Easement
℄ 20' Utility Easement
℄ 24' Drainage Easement
5' Utility Easement
℄ 10' Utility Easement

Sta. 13+79.8
Const. Type 1A Curb Inlet
Top Elev.=158.44

Sta. 14+55.9 Const. Type 1A Curb Inlet
Top Elev.=158.44

Sta. 16+45.8 Const. Type 1A Curb Inlet
Top Elev.=158.28

Sta. 17+26.9 Const. Type 1A Curb Inlet
Top Elev.=158.25

Sta. 19+14.8 Const. Type 1A Curb Inlet
Top Elev.=158.29

Sta. 19+56.6 Const. Type 1A Curb Inlet
Top Elev.=158.29

Existing Ground

℄ Int/Line No. 2 24"
150.93

℄ Int/Exist. 24"
152.44

76.1 L.F. 42" RCP
@ +0.10%

189.9 L.F. 42" RCP
@ +0.10%

81.1 L.F. 36" RCP
@ +1.00%

187.9 L.F. 30" RCP
@ +0.44%

41.8 L.F. 15" RCP
@ +0.50%

℄ Out=149.36
℄ In=149.04
℄=149.08
℄=149.13
℄ Out=149.14
℄ In=149.24
℄=149.68
℄=149.33
℄ Out=149.43
℄=149.93
℄=149.36
℄ Out=150.14
℄=151.24
℄=150.47
℄=151.39
℄=151.74
℄=152.43
℄ Out=152.44
℄ In=153.14
℄=152.93
℄ Out=153.04

160
155
150
150
160
155
150
145

14
15+00
16
17
18
19

GOLDEN HILLS 5TH ADDITION

S.W.S. IMPROVEMENTS
STA. 13+79.8 TO STA. 19+56.6
LINE NO. 1

Project No. 468-76-245-80021-000-000-161

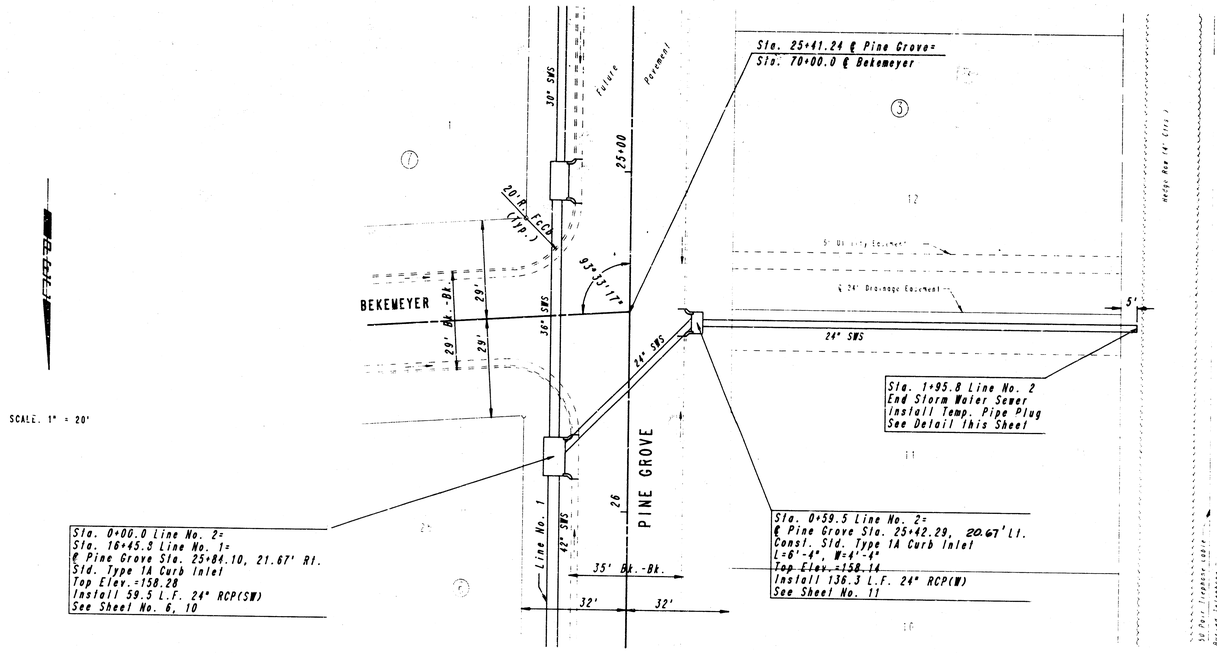
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

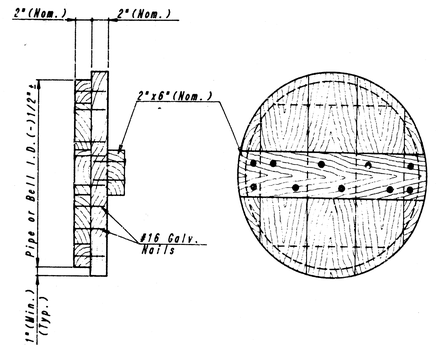
Designed By CSB, BOB
Drawn By DEP
Job No. 32-87555-2
Date MAR., 1988

Sheet 6 of 13

6/13

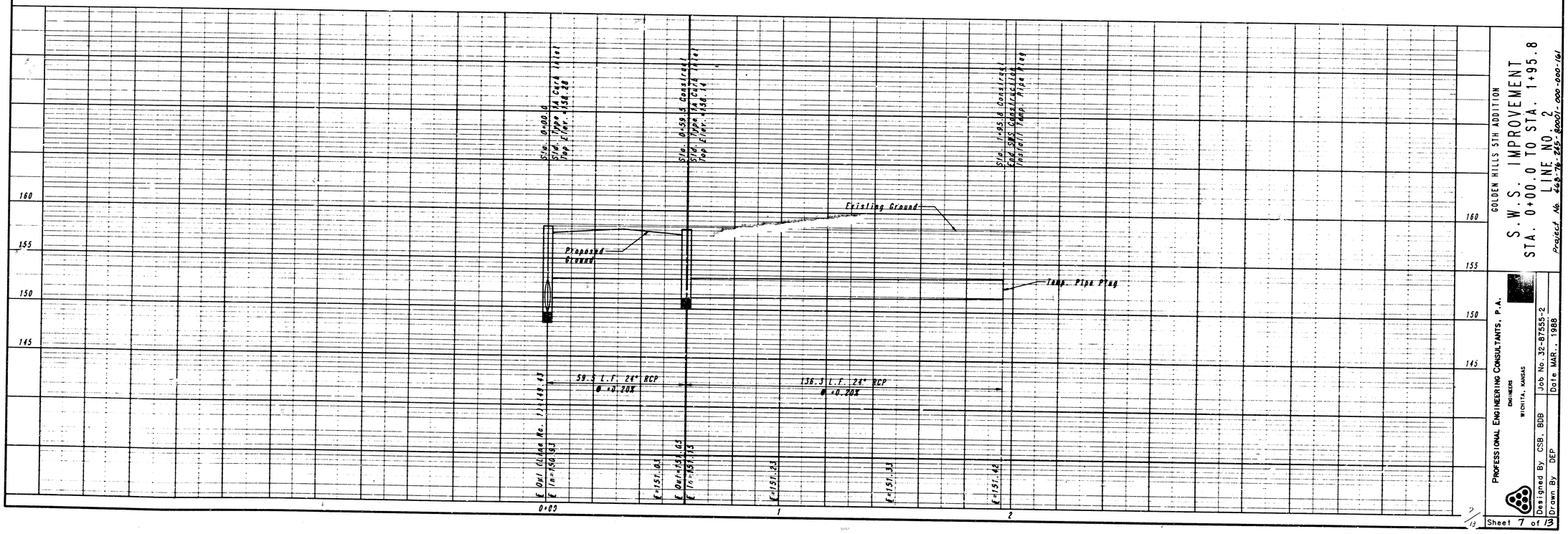
FILMED FROM THE BEST AVAILABLE COPY....





TEMPORARY REDWOOD PIPE PLUG DETAILS

THE FREE END OF ALL PIPE STUBS INSTALLED SHALL BE PLUGGED WITH A REDWOOD PLUG AS SHOWN. THE PLUGS SHALL BE CONSTRUCTED WITH CONSTRUCTION GRADE REDWOOD AND SECURELY NAILED TOGETHER WITH #16 GALVANIZED NAILS. PIPE PLUGS SHALL BE CONSIDERED SUBSIDIARY TO THE PIPE INSTALLATION.



GOLDEN HILLS 5TH ADDITION

S.W.S. IMPROVEMENT STA. 0+00.0 TO STA. 1+95.8 LINE NO. 2

Project No. 468-76-245-8000I-000-000-161

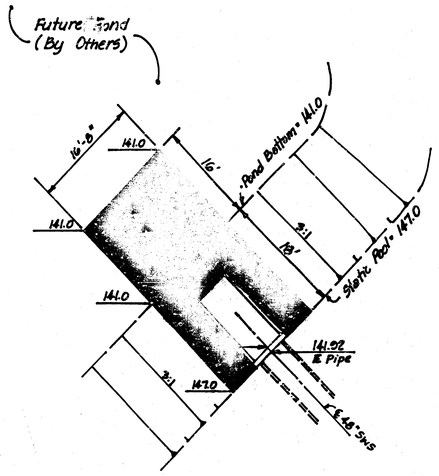
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed By CSB, BDB | Job No. 32-87555-2
Drawn By DEP | Date MAR., 1988

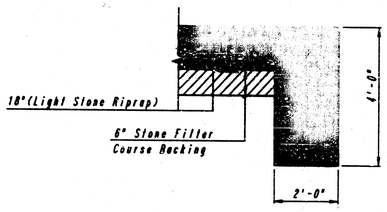
Sheet 7 of 13

FILMED FROM THE BEST AVAILABLE COPY....

PROJECT NO	SHEET NO	TOTAL SHEETS
468-76-245-80001-000-000-161	8	13



PLAN
1"=10'

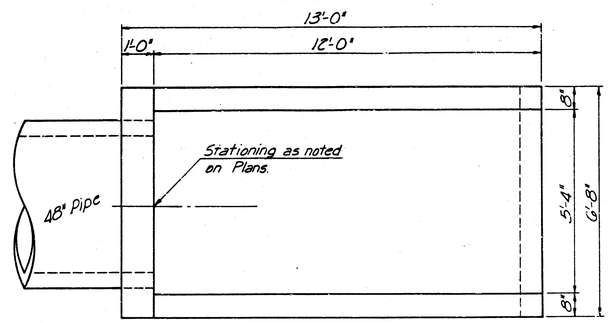


TYPICAL SECTION THRU TOEWALL
NO SCALE

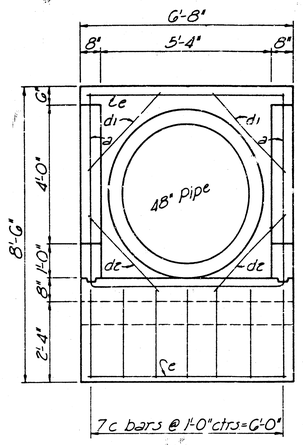
RIPRAP GENERAL NOTES

1. ALL RIPRAP FOR THIS PROJECT SHALL BE NATURAL STONE. NEITHER THE 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 DETAILS

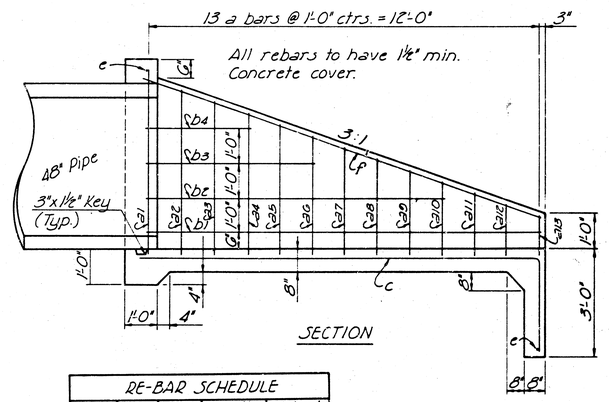


PLAN



7c bars @ 1'-0" ctrs=6'-0"

FRONT



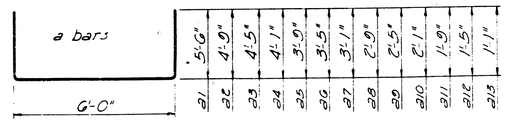
SECTION

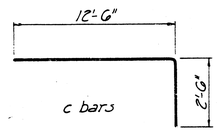
RE-BAR SCHEDULE

Bar	Shape	No.	Length	Weight
a1		1	17'-0"	11.36
a2		1	15'-6"	10.35
a3		1	14'-10"	9.91
a4		1	14'-2"	9.46
a5		1	13'-6"	9.02
a6		1	12'-10"	8.57
a7		1	12'-2"	8.13
a8		1	11'-6"	7.68
a9		1	10'-10"	7.24
a10		1	10'-2"	6.79
a11		1	9'-6"	6.35
a12		1	8'-10"	5.90
a13		1	8'-3"	5.51
b1	—	2	12'-3"	16.37
b2	—	2	9'-3"	12.36
b3	—	2	5'-3"	7.01
b4	—	2	3'-3"	4.34
c		7	15'-0"	70.14
d1	—	2	3'-10"	5.12
d2	—	2	2'-6"	3.34
e		2	6'-2"	8.24
f	—	2	12'-11"	17.26
Total Rebars			251	Lbs.
Concrete			5.13	C.Y.

All Concrete Reinforcement to be #4 bars.

Note:
Pipes shall be miter cut to fit flush with the headwall prior to being cast into the headwall.





HEADWALL FOR 48" PIPE

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.

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.

PIPE: PIPE SHALL BE MITER CUT PRIOR TO BEING CAST INTO THE HEADWALL.

Golden Hills 5th Add.

HEADWALL & RIPRAP DETAILS

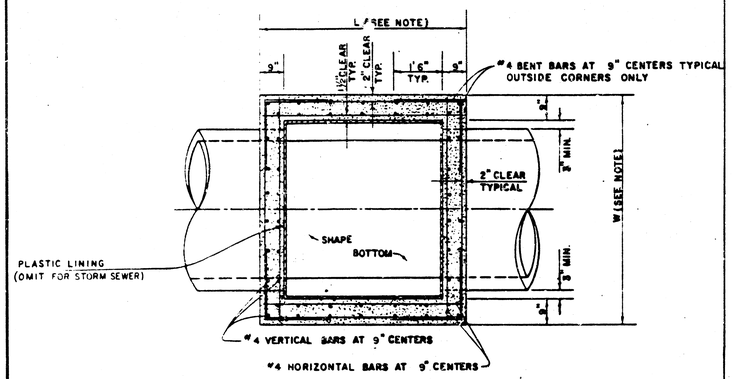
Project No. 468-76-245-80001-000-000-161

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

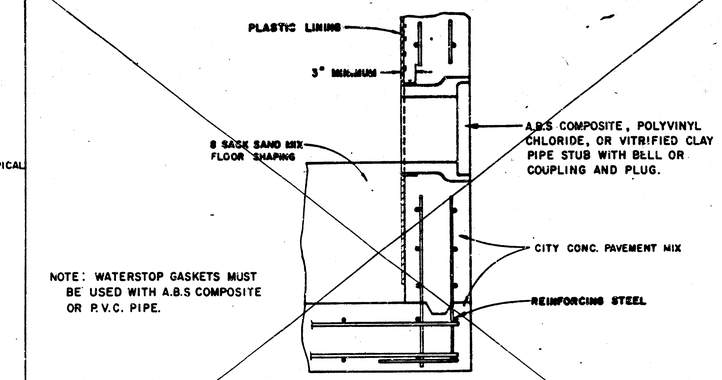
8/13

RAS, CSB
NLL, CSB
Mar 1988
87555-2

FILMED FROM THE BEST AVAILABLE COPY

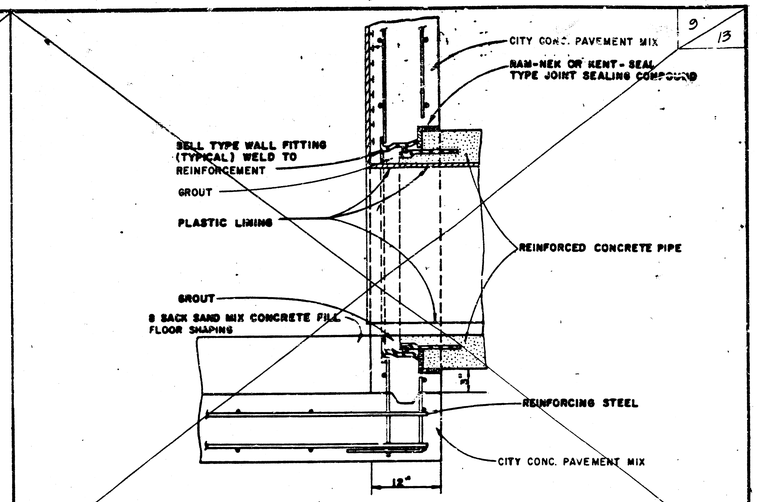


TOP VIEW

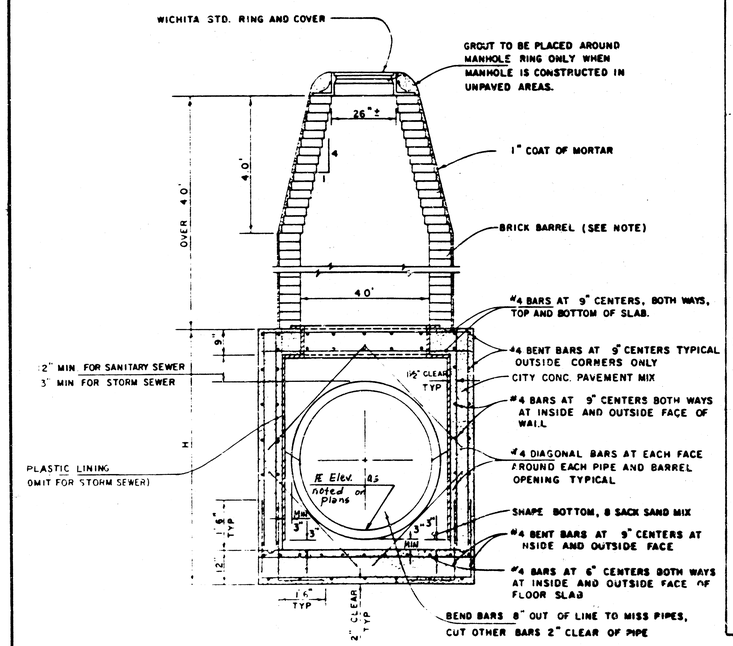


NOTE: WATERSTOP GASKETS MUST BE USED WITH A.B.S COMPOSITE OR P.V.C. PIPE.

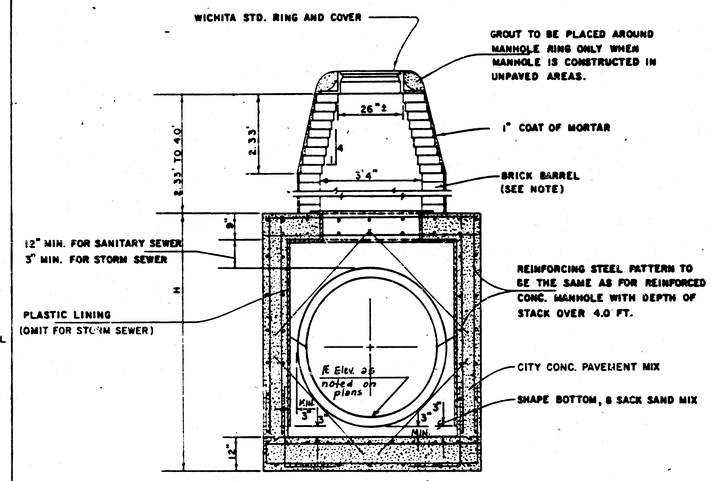
PIPE STUB DETAIL
SANITARY SEWER ONLY



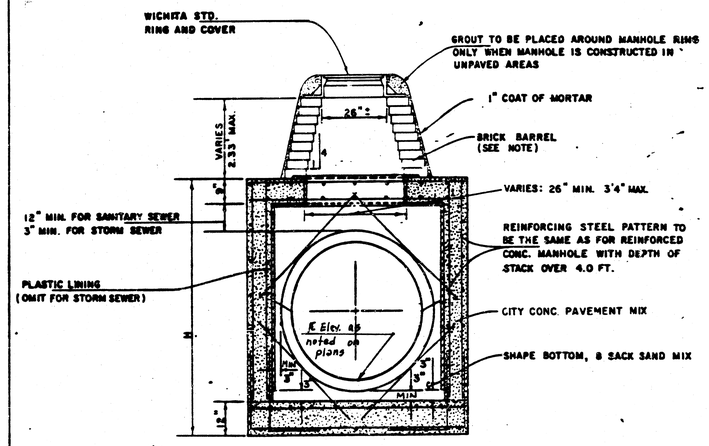
R.C.P. CONNECTION DETAIL
SANITARY SEWER ONLY



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 Proj. No. 468-76-245-80001-000-000-161

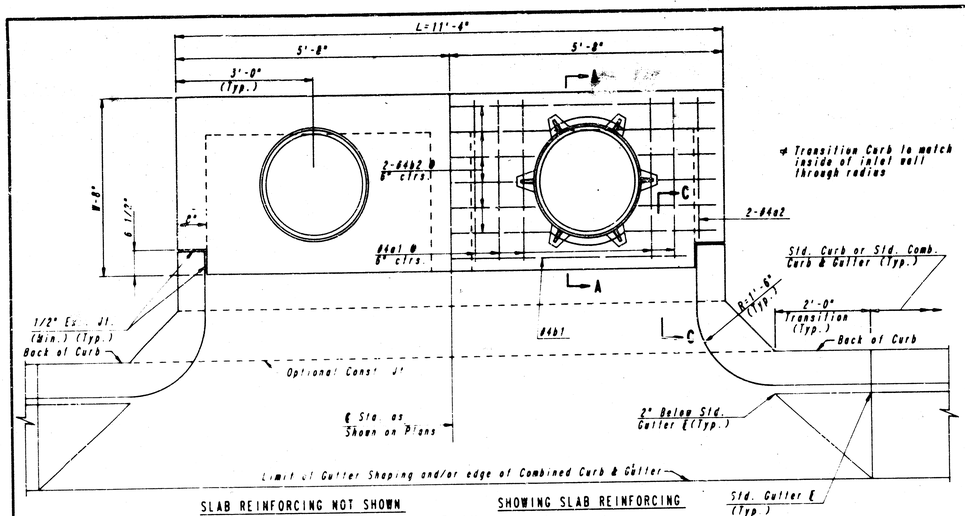
STANDARD DETAILS
REINFORCED CONCRETE MANHOLES
CITY OF WICHITA

FEBRUARY 1984

9/13

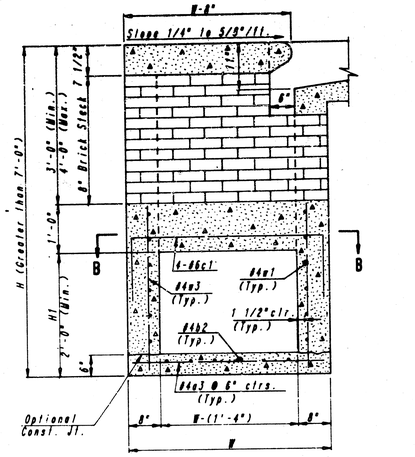
FILMED FROM THE BEST AVAILABLE COPY....

PROJECT NO.	SHEET NO.	TOTAL SHEETS
46B-76-245-80001-000-000-101	10	13

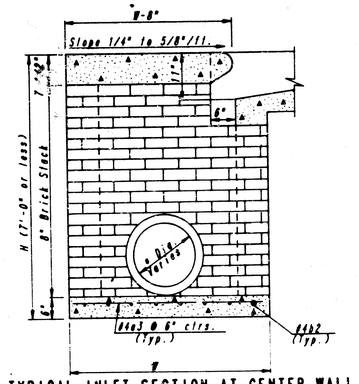


SLAB REINFORCING NOT SHOWN SHOWING SLAB REINFORCING

PLAN

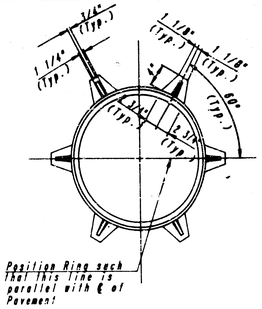


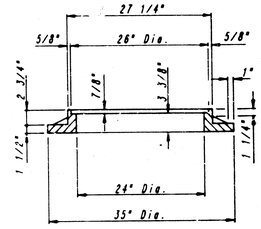
TYPICAL INLET SECTION AT CENTER WALL
(REINFORCED CONCRETE WALLS)



TYPICAL INLET SECTION AT CENTER WALL
(MASONRY WALLS)

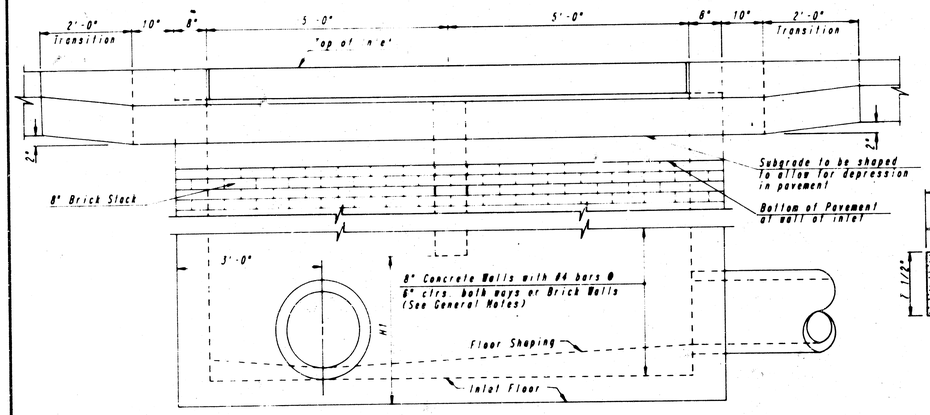
* A center wall opening shall be provided by means of a section of reinforced concrete pipe. The minimum diameter used shall be that of the outlet pipe.



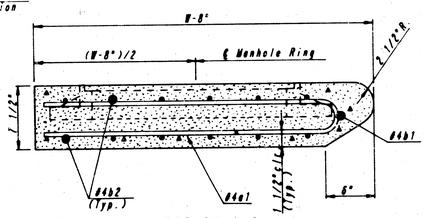


CAST IRON INLET FRAME
Wt.=180 lbs.

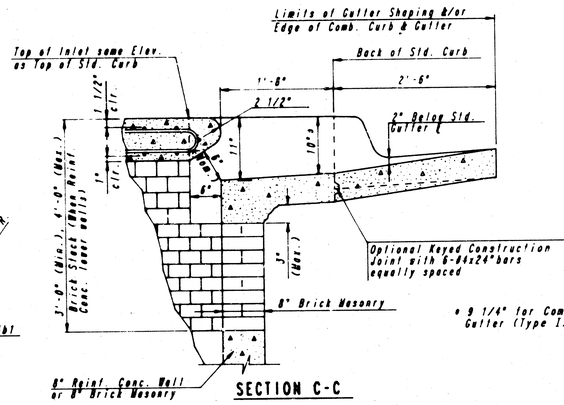
See City of Wichita Standard Manhole Frame and Cover Detail Sheet for Cover Details to be used with Inlet Frame.



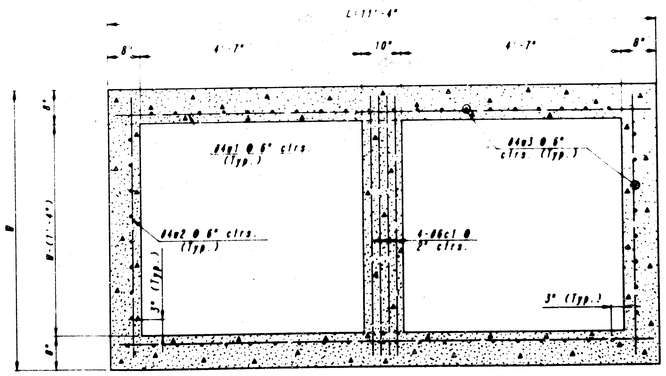
ELEVATION



SECTION A-A



SECTION C-C



SECTION B-B

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'-7 1/4"	13	8'-7 1/4"	13	10'-7 1/4"	13	12'-7 1/4"	13	14'-7-1/4"
a2	#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	9'-8"	1	9'-8"	1	9'-8"	1	9'-8"	1	9'-8"
*b2	#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"
a1	#4	①	11'-1"	①	11'-1"	①	11'-1"	①	11'-1"	①	11'-1"
a2	#4	②	4'-1"	②	5'-1"	②	6'-1"	②	7'-1"	②	8'-1"
a3	#4	③	①	③	①	③	①	③	①	③	①

* Field bend or cut Reinforcing as required for clearance
① 4(H1-6")+4 (H1-6") Rounded down to nearest 0.5'
② 40+6(W - 16") ③ H1+(9")

GENERAL NOTES

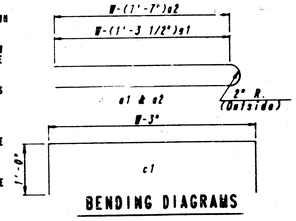
THE CONTRACTOR WILL BE REQUIRED TO CONSTRUCT 8" BRICK MASONRY WALLS BETWEEN THE CONCRETE INLET BASE AND TOP ON THIS INLET WHEN W=8'-4" OR LESS AND H=7'-0" OR LESS. WHEN W IS GREATER THAN 8'-4" AND H IS LESS THAN 7'-0", THE OUTSIDE WALLS BELOW THE BRICK STACK SHALL BE REINFORCED CONCRETE CONSTRUCTION AND THE CENTER WALL SHALL BE OF MASONRY CONSTRUCTION AS SHOWN FOR THE MASONRY WALL OPTION.

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-CLEARING BETWEEN ALL INLET AND/OR OUTLET PIPES.

CONCRETE SHALL BE CITY OF WICHITA STANDARD PAVING MIX. ALL EXPOSED EDGES SHALL BE FINISHED WITH AN EDGING TOOL. INLET TOPS ARE TO BE PLACED ON A THIN MORTAR CUSHION TO INSURE FULL SUPPORT ALONG BRICK WALLS. CONCRETE TOPS MAY BE PRECAST OR CAST IN PLACE. INLET TOPS SHALL BE NOTCHED OUT AS INDICATED TO FACILITATE CONSTRUCTION OF CURB.
UNLESS OTHERWISE NOTED, ALL BARS ARE #4 OR 6" MAX. CENTERS AND SHALL HAVE A MINIMUM CLEARANCE OF 1-1/2". BARS SHALL BE FIELD BENT OR CUT TO CLEAR MANHOLE RINGS AND PIPE OPENINGS.

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

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



BENDING DIAGRAMS

CITY OF WICHITA, KANSAS

DETAIL STANDARD TYPE 1A CURB INLET

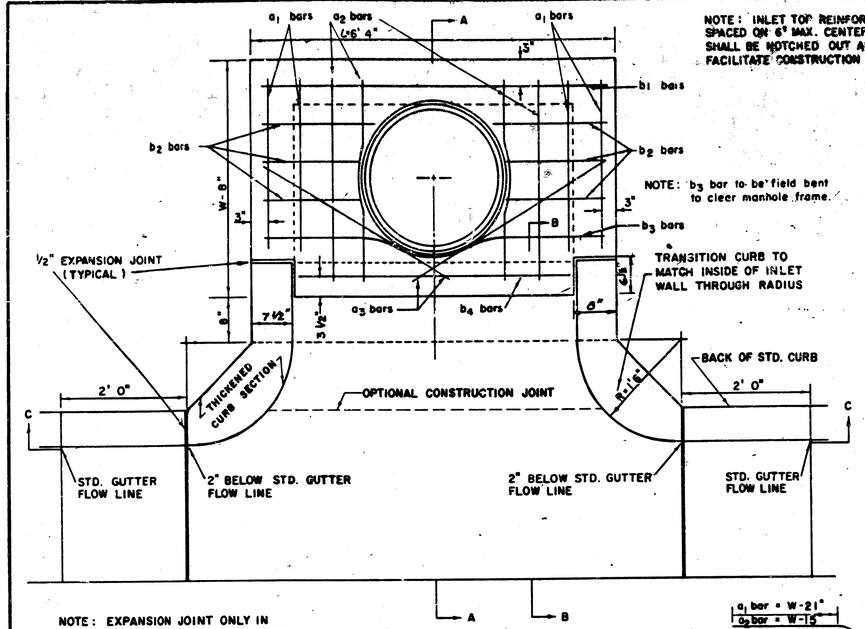
INLET OPENING = 8'X10'-8" (L=11'-4")

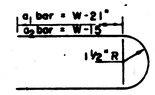
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

Designed by		Checked by		10/13
Drawn by		Date	Job No.	

Original

FILMED FROM THE BEST AVAILABLE COPY....



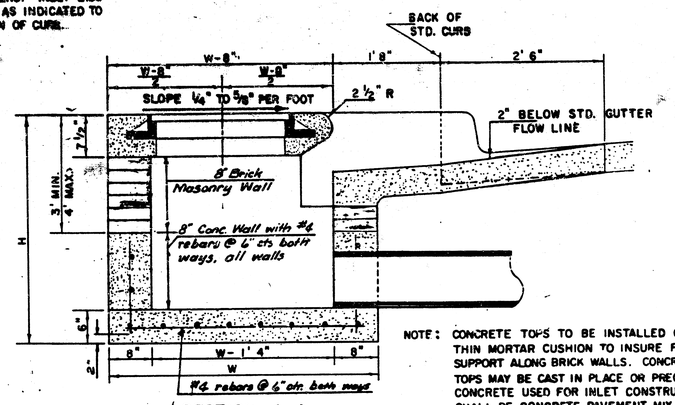


BENDING DIAGRAM

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	#4	#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"	80±
LENGTH W=5'4"	7'7"	8'7"	5'0"	–	6'1"	–	–	–	1'9"	6'2"	4'8"	81±
LENGTH W=6'4"	9'7"	10'7"	6'0"	–	–	6'1"	–	–	1'9"	6'2"	4'8"	101±
LENGTH W=7'4"	11'7"	12'7"	7'0"	–	–	–	6'1"	–	1'9"	6'2"	4'8"	121±
LENGTH 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



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: 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.

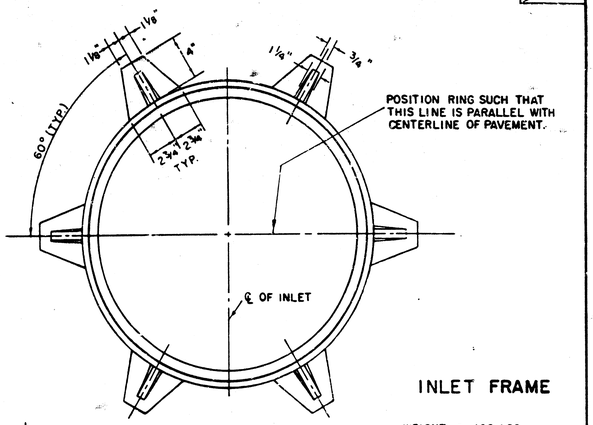
ADDITIONAL CURB AND GUTTER CONSTRUCTION NECESSARY TO CONNECT SET-BACK INLET TO PAVEMENT WILL BE PAID FOR AT THE UNIT PRICE BID FOR EACH INLET HOOKUP.

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.

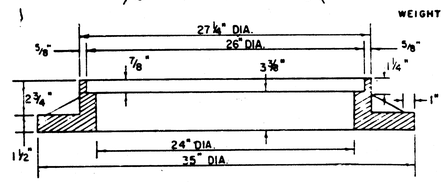
STANDARD CURB INLET PRECAST TOPS

W	PRE-CAST T. SIZE	PIPE SIZE	CU. YD. CONC.
4' 4"	3'6" x 6'4" x 7 1/2"	21" & SMALLER	0.38 ±
5' 4"	4'6" x 6'4" x 7 1/2"	24" & 30"	0.51 ±
6' 4"	5'6" x 6'4" x 7 1/2"	36" & 42"	0.64 ±
7' 4"	6'6" x 6'4" x 7 1/2"	48" & 54"	0.77 ±
8' 4"	7'6" x 6'4" x 7 1/2"	60" & 66"	0.90 ±

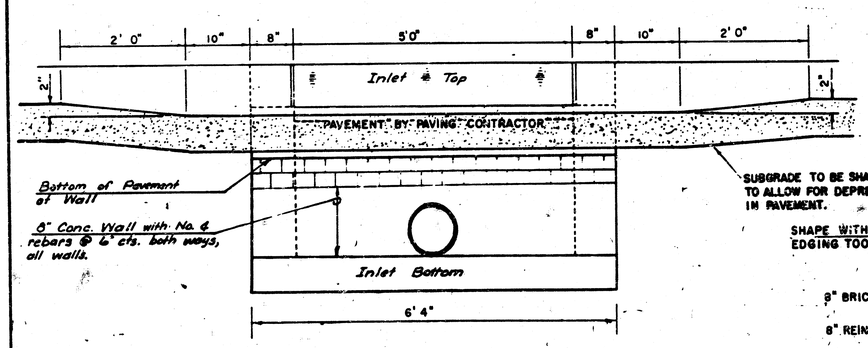


INLET FRAME

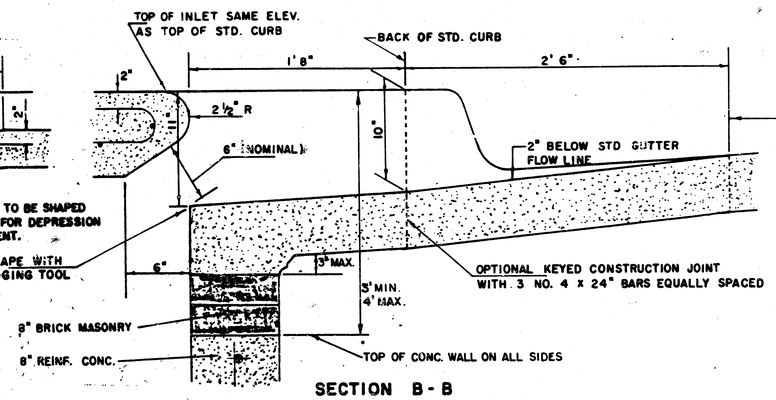
WEIGHT = 180 LBS.



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



SECTION C-C



SECTION B-B

REVISED 12-21-1984 Proj. No. 468-76-285-80001-000-000-161

DETAIL STANDARD TYPE IA CURB INLET

CITY OF WICHITA, KANSAS

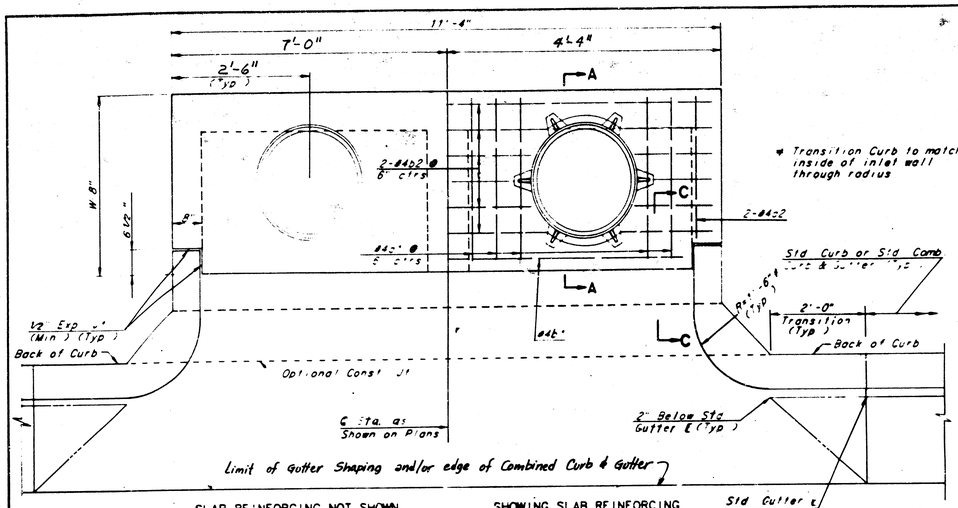
INLET OPENING = 6" x 5' 0"
(L=6'-4")

JUNE 1984

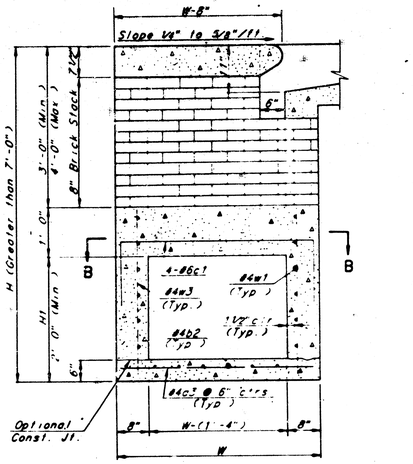
11/13

FILMED FROM THE BEST AVAILABLE COPY

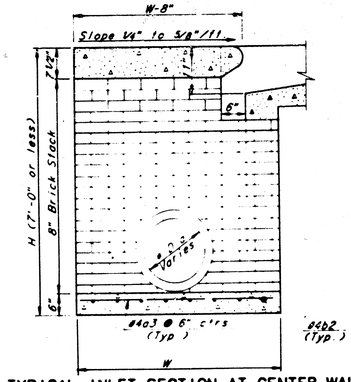
PROJECT NO.	SHEET NO	TOTAL SHEETS
46B-76 - 245-80001-000-000-161	12	13



PLAN

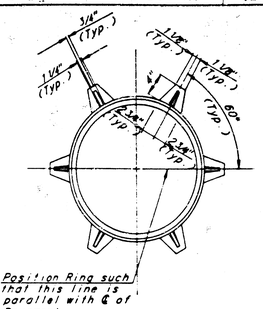


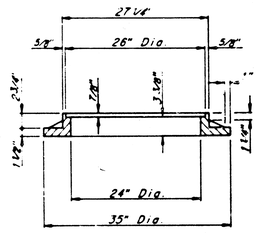
TYPICAL INLET SECTION AT CENTER WALL
(REINFORCED CONCRETE WALLS)



TYPICAL INLET SECTION AT CENTER WALL
(MASONRY WALLS)

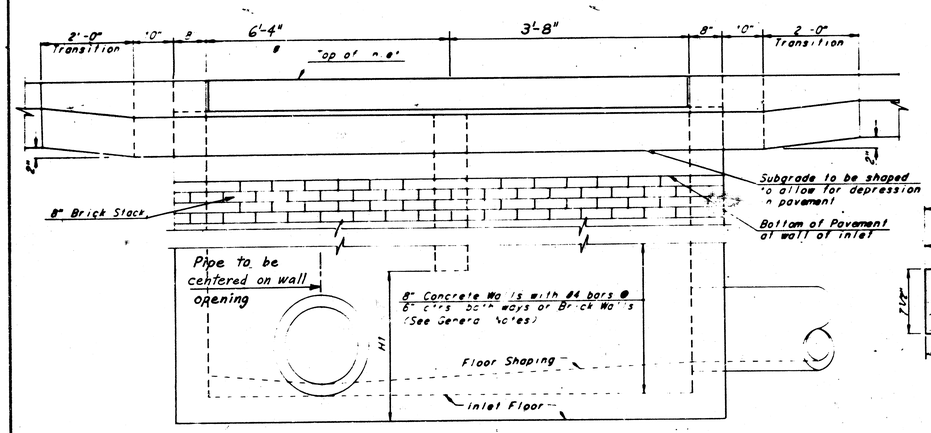
* A center wall opening shall be provided by means of a section of reinforced concrete pipe. The minimum diameter used shall be that of the outlet pipe.



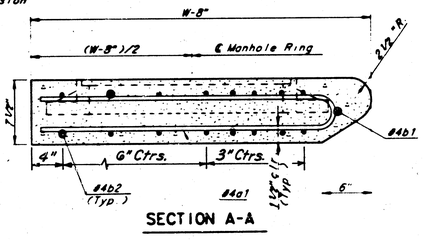


CAST IRON INLET RING
Wt.-180 lbs.

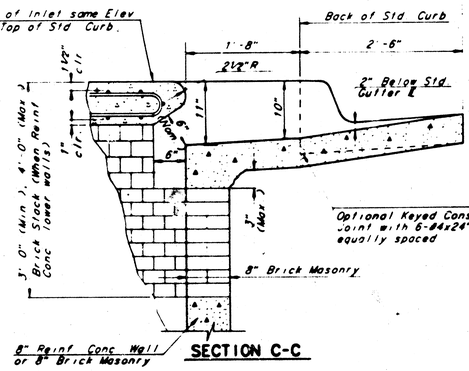
See City of Wichita Standard Manhole Frame and Cover Detail Sheet for Cover Details to be used with Inlet Frame.



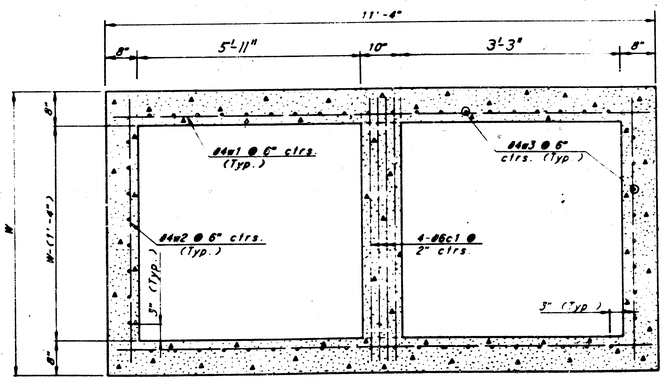
ELEVATION



SECTION A-A



SECTION C-C



SECTION B-B

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'-7 1/4"	13	8'-7 1/4"	13	10'-7 1/4"	13	12'-7 1/4"	13	14'-7 1/4"
a2	#4	2	6'-0"	2	8'-0"	2	10'-0"	2	12'-0"	2	14'-0"
a3	#4	20	7'-1"	20	9'-1"	20	11'-1"	20	7'-1"	20	8'-1"
b1	#4	1	9'-8"	1	9'-8"	1	9'-8"	1	9'-8"	1	9'-8"
b2	#4	18	11'-1"	24	11'-1"	36	11'-1"	40	11'-1"	40	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	④	②	⑤	②	⑤	②	⑤

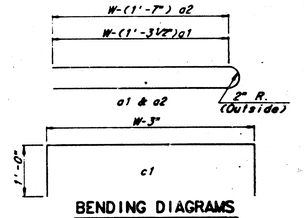
* Field bend or cut Reinforcing as required for clearance

① 4(H1-6")+4 (H1-8") Rounded down to nearest 0.5'

② 40+4(W - 16") ③ H1+(9")

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=6'-4" OR LESS AND H=7'-0" OR LESS. WHEN W IS GREATER THAN 6'-4" 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 MASONRY WALL OPTION.
2. 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.
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.



BENDING DIAGRAMS

REVISED 12-21-84

SPECIAL TYPE 1A CURB INLET

INLET OPENING = 6" x 10'-0"

WICHITA, KANSAS

12/13

Designed by	BER, KJS, MMB	Checked by	MMB
Drawn by	JGP	Date Nov., 1984	Job No. 87599-1

FILMED FROM THE BEST AVAILABLE COPY

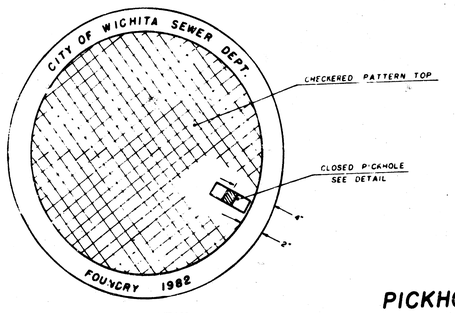
MANHOLE FRAME AND COVER DETAIL

ADOPTED AS STANDARD DESIGN BY

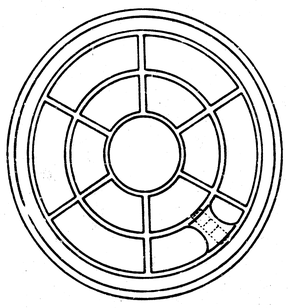
City of Wichita, Kansas

MANHOLE COVER

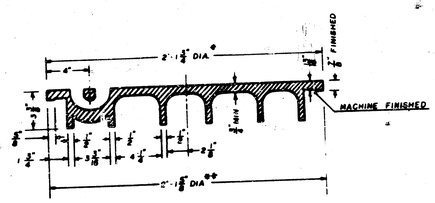
Weight: 180 Lbs.



TOP VIEW



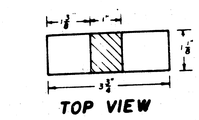
BOTTOM VIEW



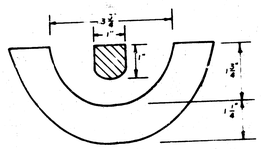
SECTION VIEW

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

PICKHOLE DETAIL



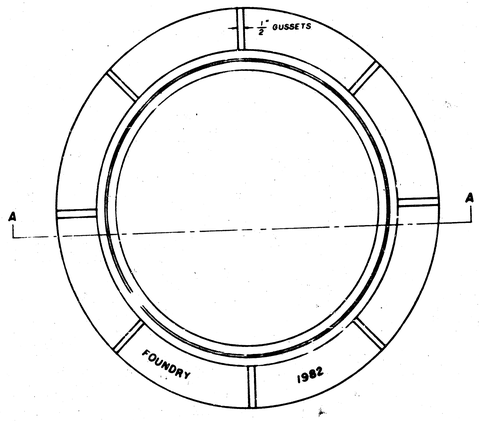
TOP VIEW



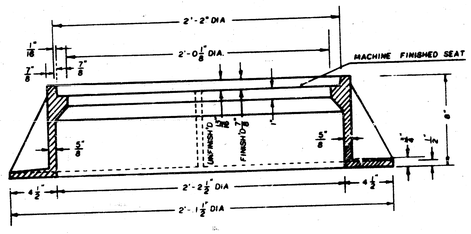
SECTION VIEW

MANHOLE FRAME

Weight: 240 Lbs.



TOP VIEW



SECTION A-A

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.

Project No. 468-76-245-80001-000-000-161

JNL DEC 1981

FILMED FROM THE BEST AVAILABLE COPY