LATERAL 219, SOUTHWEST INTERCEPTOR SEWER
SERVING

OUTSIDE CORPORATE LIMITS: ALL OF BLOCK A; LOTS 1 THROUGH 14, BLOCK B; LOTS 1 THROUGH 10, BLOCK C; LOTS 1 THROUGH 5, BLOCK D, SKYLINE HEIGHTS ADDITION, & ALSO A TRACT BEGINNING 415' N. OF THE S.W. COR. OF THE S.W. 1/4; THENCE E. 250'; N. 125'; W. 250'; S. TO BEGINNING, EXCEPT W. 50' FOR STREET R/W, SECTION 11, TOWNSHIP 28S., RANGE 1W. OF THE 6TH P.M., SEDGWICK CO., KANSAS.

CITY OF WICHITA, KANSAS

M.E. LINDEBAK CITY ENGINEER

CITY PROJECT NO. 468-76-245-81572-000-000-001.

JAN. 1987

B.M. #1 - NE Cor. Conc. Pad Tele. Cross Box @ NE Cor. Hoover & York. Elev. = 120.07

B.M. #2 - Top South Rim Existing MH, Force Main Sta. 9+34.09. Elev. = 121.88

B.M. #3 - Railroad Spike in P.P. @ SE Cor. Lot 2 Blk. "C". Elev. = 110.65

B.M. #4 - Top of Iron ℄ Hoover & 37th St. South (East). Elev. = 115.67

NOTES

1. 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:

   KANSAS ONE-CALL 1-800-344-7233

   THE CONTRACTOR MUST NOTIFY THE FOLLOWING IN CASE OF AN EMERGENCY:

CABLEVISION	262-4270 OR 263-2061
K.P. & L. GAS SERVICE COMPANY	263-7511
KANSAS GAS & ELECTRIC	264-1141
ARKLA GAS COMPANY	942-8350 OR 263-8161
SOUTHWEST BELL TELEPHONE COMPANY	1-571-2611
CITY OF WICHITA WATER DEPARTMENT	268-4608
CITY OF WICHITA SEWER MAINTENANCE	268-4071
CONTINENTAL PIPELINE	1-800-231-2551
WICHITA GAS UTILITY (GETTY GAS, AUGUSTA)	775-7533
KANSAS GAS SUPPLY	1-316-254-7243

2. INTERURBAN TRAFFIC GENERATED OUTSIDE THE PROJECT AREA IS NOT TO BE CARRIED THROUGH CONSTRUCTION. LOCAL BUSINESS OR APARTMENT TRAFFIC GENERATED WITHIN THE PROJECT AREA IS TO BE CARRIED THROUGH CONSTRUCTION.

3. 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. THE CONTRACTOR WILL BE REQUIRED TO WORK AROUND EXISTING UTILITIES WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.

4. 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.

5. THE CONTRACTOR SHALL NOTIFY PIPELINE COMPANIES AT LEAST 24 HOURS IN ADVANCE OF ANY WORK BEING PERFORMED ACROSS AND/OR ADJACENT TO PIPELINES.

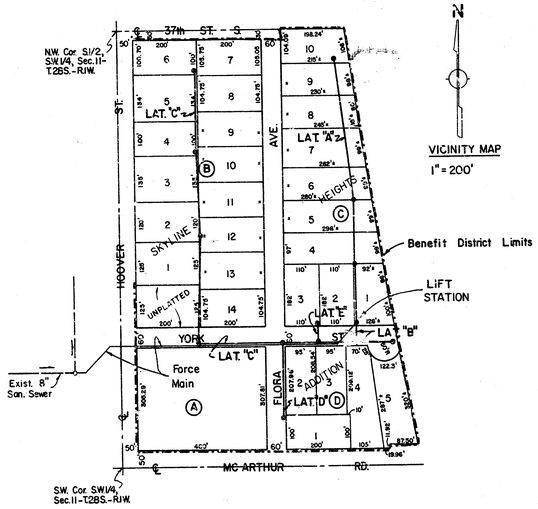
6. MAILBOXES WITHIN THE LIMITS OF THE PROJECT SHALL BE REMOVED AND REPLACED BY THE CONTRACTOR AS APPROVED BY THE ENGINEER. CONTRACTOR WILL BE REQUIRED TO MAKE SATISFACTORY PROVISIONS FOR MAIL DELIVERY TO PROPERTIES AFFECTED BY THIS PROJECT DURING ITS CONSTRUCTION.

7. 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.

8. 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.

9. CONTRACTOR TO INSTALL GRAVITY SEWER PRIOR TO INSTALLATION OF FORCE MAIN.

10. PAVEMENT REMOVAL AND/OR REPLACEMENT WILL BE MEASURED AND PAID FOR ON THE LINEAL FOOT BASIS AS MEASURED ALONG THE CENTERLINE OF THE SEWER REGARDLESS OF WIDTH OR THICKNESS. MINIMUM LIMITS OF SUCH PAVEMENT REMOVAL AND REPLACEMENT SHALL BE ONE FOOT BEYOND THE LIMITS OF THE EXCAVATION MADE FOR THE SEWER OR THE STRUCTURE, EXCEPT WHEN THE LINES OF REMOVAL ARE WITHIN THREE (3) FEET OF AN EXISTING JOINT THE LIMITS OF REMOVAL SHALL BE EXTENDED TO THE EXISTING JOINT. REMOVAL AND REPLACEMENT OF EXISTING PAVEMENT SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE CITY OF WICHITA STANDARD SPECIFICATIONS.



LEGEND -

W = Water Main
G = Gas Main
O.E. = Overhead Electric
U.E. = Underground Electric
O.T. = Overhead Telephone
U.T. = Underground Telephone
P. = Property Line
F.M. = Force Main
P.P. = Power Pole

AS BUILT 10-87 RD

INDEX

MOEHRING & ASSOCIATES
CONSULTING ENGINEERS
WICHITA

DON C. MOEHRING II LICENSED 3463 KANSAS PROFESSIONAL ENGINEER

1/13

N.E. Cor. Blk. D

227.00'

LAT. "C"

LAT. "B"

ST.

YORK

S.W. Cor. Lot 3, Blk. C, Skyline Heights

4" Force Main
See Sheet 6

BM #3

22.70'

10' Utility Esmt. (Platted)

Lot 2

3' Conc. Flume

182.00' R

OT

OE

Pole

Conc. Slab To Be Removed

CONFLICT
See Sheet 7 For Relocation Plan

5'

8'

6"

30'

4' Chainlink Fence to be Removed & Replaced

10' Sewer Esmt. By Separate Instrument

Lot 1

Const. New Slab

16'

9'

STA. 0+00 - LIFT STATION - CONSTR. STD. TYPE "D" (Modified) M.H. - See Detail, Sheet 7

30' x 40' Temp. Construction Easement by Separate Instrument

4' Chainlink Fence to be Removed & Replaced.

SW. Cor. Lot 4, Blk. C, Skyline Heights

SKYLINE

220.00'

225.0'

16' Platted Util. Esm't.

97'

Lot 4

Lot 5

1+85.3

STA. 1+81.00 - CONST. STD. TYPE "P" OR "S" MANHOLE.

4' Chainlink Fence to be Removed & Replaced.

HEIGHTS

LATERAL "A"

1" = 20' Horiz.
1" = 5' Vert.

S.W. Cor. Lot 6, Blk. C, Skyline Heights.

97'

97'

97'

4' Woven Wire Fence

℄ 20' San. Sewer Easement By Seperate Instrument.

170° 41' 54"

225.0'

10'

10'

10'

ADDITION

Lot 7

Lot 6

Pole

3+72.2

STA. 3+71.00 - CONST. STD. TYPE "P" OR "S" MANHOLE.

Top of Wet Well Elev. = 110.0

Top of Rim = 108.2 .12

Top of Rim = 107.2 .46

105

100

95

90

181 L.F. 8" P.V.C. @ 0.30%

190 L.F. 8" P.V.C. @ 0.30%

398.17 L.F. 8" P.V.C. @ 0.30%

F.L. Out W., 4" Force Main = 98.52

F.L. In S. = 97.68

F.L. In N. = 96.00

M.H. E = 90.45

F.L. 96.00 0

F.L. 96.31 1

F.L. 96.57 +81

F.L. 96.60 2

F.L. 96.88 3

F.L. 97.08 +71

F.L. 97.25 4

F.L. 97.80 5

S.W. Cor. Lot 10, Blk. C, Skyline Heights

98.27'

98.27'

98.27'

Lot 7

97.0'

Lot 8

Lot 9

Lot 10

℄ 20' Sewer Easement (By Separate Instrument)

CAUTION

161.45'

Split Rail Fence to be Removed & Replaced.

10'

10'

Shed

Pole

STA. 7+84.08 ℄

+67.9

STA. 7+69.14 - CONST. STD. TYPE "P" OR "S" MANHOLE.

4" Stub N.W.

LATERAL "A"

Top Rim = 106.7 .59

8" P.V.C. @ 0.30%

F.L. 97.52 5

F.L. 97.80 .81 6

F.L. 98.16 .12 7

F.L. 98.37 .34

F.L. 4" Stub NW 98.46

468.14

MOEHRING & ASSOCIATES —— CONSULTING ENGINEERS

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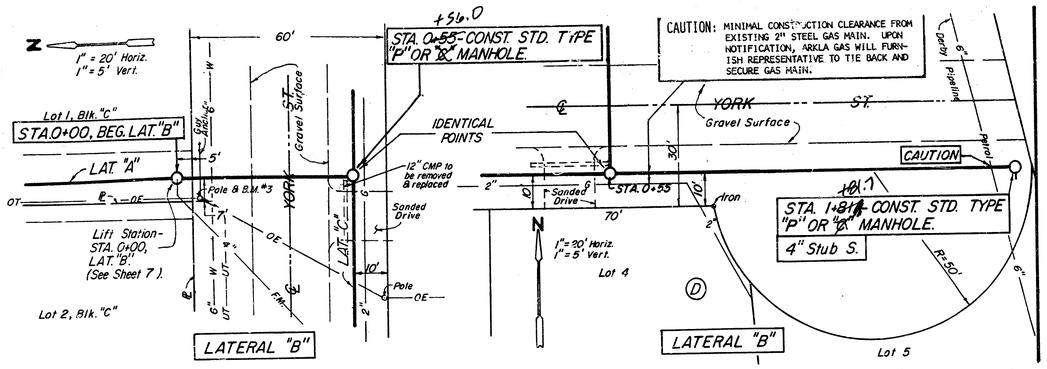
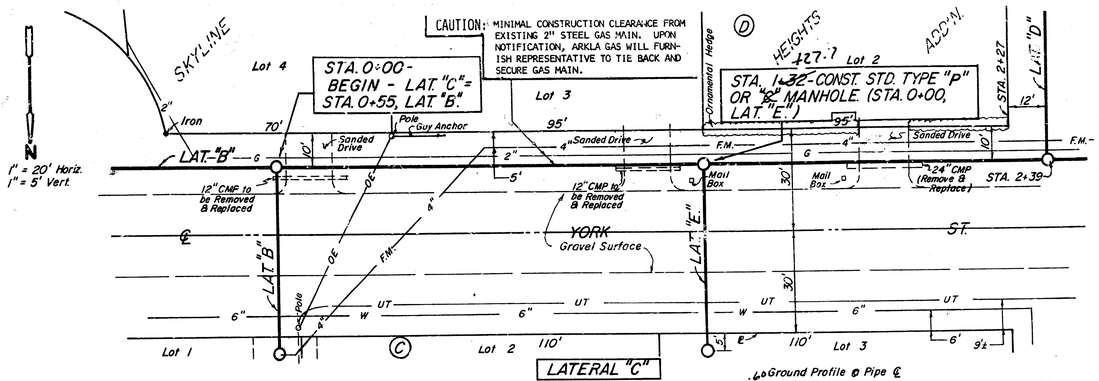
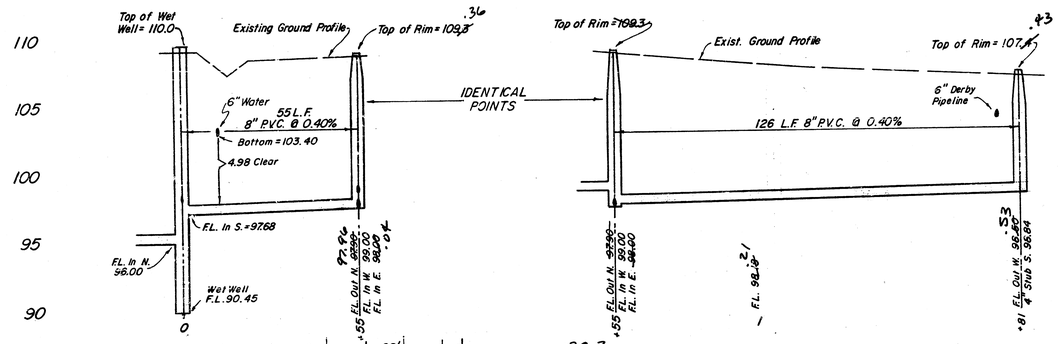
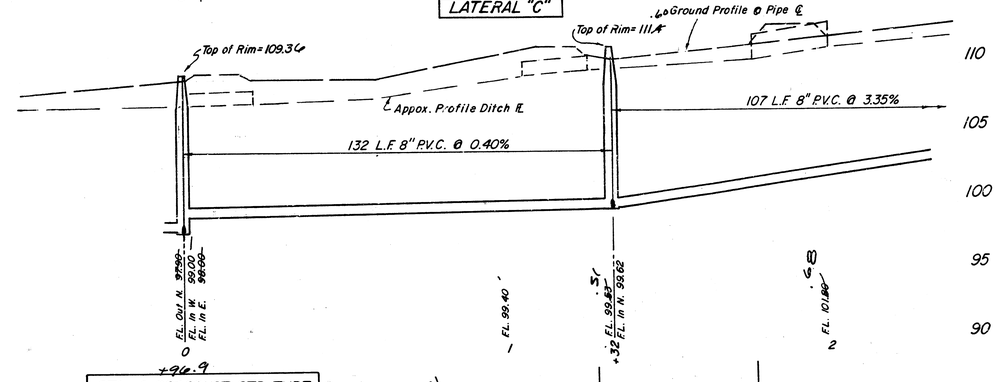
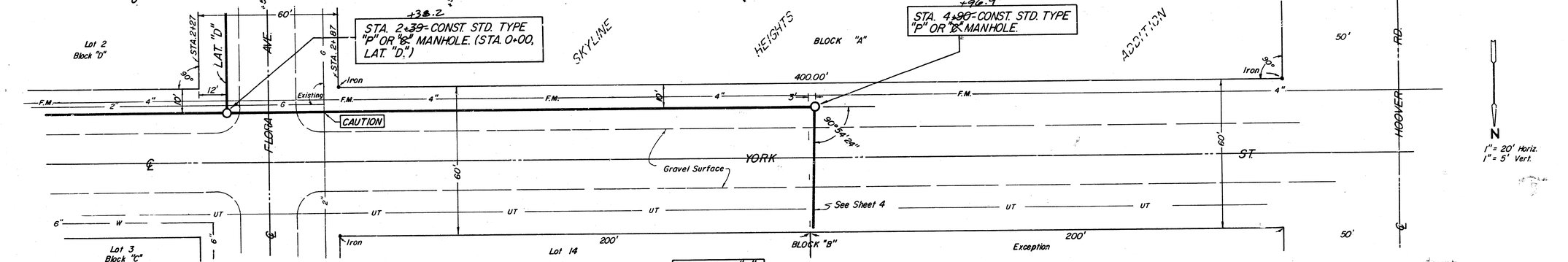
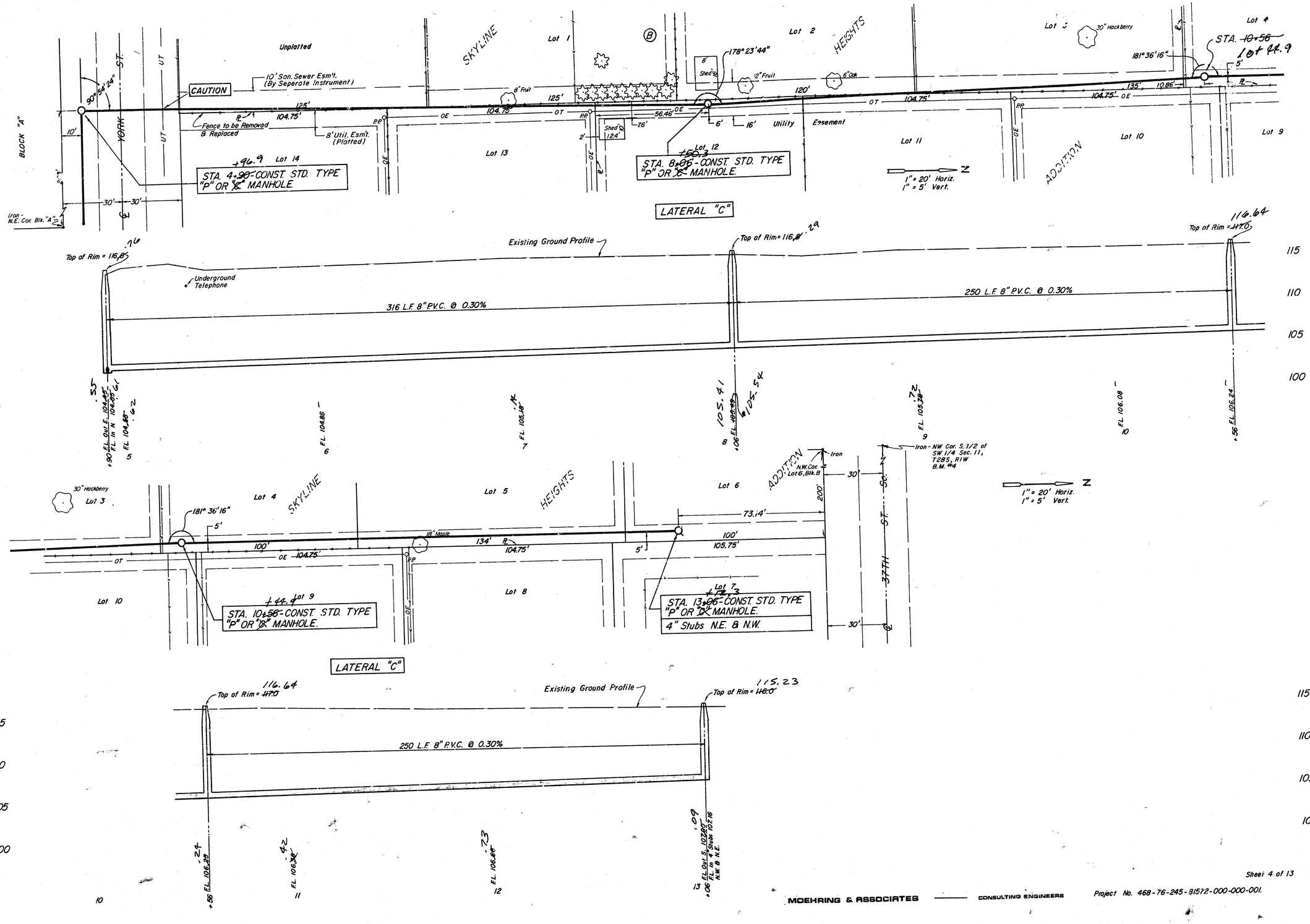

1" = 20' Horiz.
1" = 5' Vert.
60'
STA. 0+55 - CONST. STD. TYPE "P" OR "S" MANHOLE.
+56.0
CAUTION: MINIMAL CONSTRUCTION CLEARANCE FROM EXISTING 2" STEEL GAS MAIN. UPON NOTIFICATION, ARKLA GAS WILL FURNISH REPRESENTATIVE TO TIE BACK AND SECURE GAS MAIN.
Lot 1, Blk. "C"
STA. 0+00, BEG. LAT. "B"
LAT. "A"
Gravel Surface
YORK
ST.
IDENTICAL POINTS
12" CMP to be removed & replaced
Sanded Drive
Pole & B.M. #3
Lift Station - STA. 0+00, LAT. "B". (See Sheet 7).
LAT. "C"
Pole
OE
FM
UT
W
G
Lot 2, Blk. "C"
LATERAL "B"
STA. 0+55
Iron
STA. 1+81 - CONST. STD. TYPE "P" OR "S" MANHOLE.
4" Stub S.
+81.1
CAUTION
6" Derby Pipeline
R=50'
Lot 4
Lot 5
LATERAL "B"


1" = 20' Horiz.
1" = 5' Vert.
CAUTION: MINIMAL CONSTRUCTION CLEARANCE FROM EXISTING 2" STEEL GAS MAIN. UPON NOTIFICATION, ARKLA GAS WILL FURNISH REPRESENTATIVE TO TIE BACK AND SECURE GAS MAIN.
SKYLINE HEIGHTS ADD'N.
STA. 0+00 - BEGIN - LAT. "C" = STA. 0+55, LAT. "B"
STA. 1+32 - CONST. STD. TYPE "P" OR "S" MANHOLE. (STA. 0+00, LAT. "E.")
+27.7
Lot 4
Lot 3
Lot 2
Iron
Pole
Guy Anchor
Sanded Drive
4" Sanded Drive
Ornamental Hedge
STA. 2+27
LAT. "D"
LAT. "B"
LAT. "E"
12" CMP to be Removed & Replaced
24" CMP (Remove & Replace)
Mail Box
STA. 2+39
YORK
Gravel Surface
ST.
F.M.
OE
UT
W
G
Lot 1
Lot 2
Lot 3
LATERAL "C"


Top of Wet Well = 110.0
Existing Ground Profile
Top of Rim = 109.3
.36
6" Water
55 L.F. 8" P.V.C. @ 0.40%
Bottom = 103.40
4.98 Clear
FL. In S. = 97.68
FL. In N. 96.00
Wet Well F.L. 90.45
92.96
.55 FL. Out N. 97.50
FL. In W. 98.00
FL. In E. 98.00
.04
IDENTICAL POINTS
Top of Rim = 109.3
Exist. Ground Profile
Top of Rim = 107.1
.43
6" Derby Pipeline
126 L.F. 8" P.V.C. @ 0.40%
.55 FL. Out N. 97.50
FL. In W. 98.00
FL. In E. 98.00
FL. 98.18
.53
FL. Out W. 96.60
4" Stub S. 96.84
.81
110
105
100
95
90
0
1
2

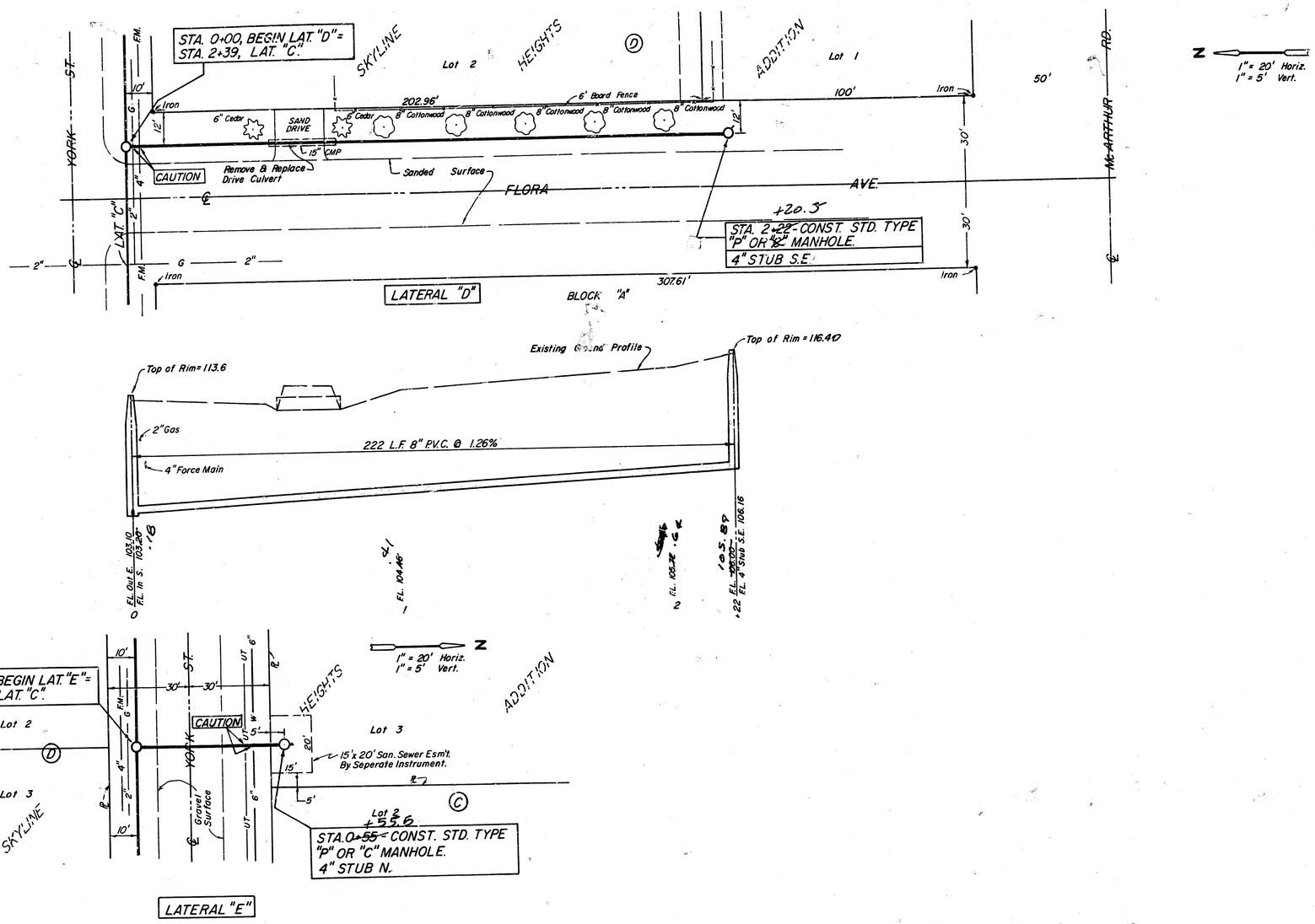

Top of Rim = 109.36
Ground Profile @ Pipe ℄
Top of Rim = 111.4
℄ Appox. Profile Ditch ℄
107 L.F. 8" P.V.C. @ 3.35%
132 L.F. 8" P.V.C. @ 0.40%
FL. Out N. 97.90
FL. In W. 98.00
FL. In E. 98.00
FL. 99.40
.32 FL. 99.62
FL. In N. 99.62
FL. 101.86
110
105
100
95
90
0
1
2


Lot 2 Block "D"
STA. 2+27
LAT. "D"
AVE.
FLORA
+38.2
STA. 2+39 - CONST. STD. TYPE "P" OR "S" MANHOLE. (STA. 0+00, LAT. "D.")
STA. 2+87
Iron
Existing
CAUTION
SKYLINE HEIGHTS BLOCK "A" ADDITION
+96.9
STA. 4+90 - CONST. STD. TYPE "P" OR "S" MANHOLE.
400.00'
90°54'24"
Gravel Surface
YORK
ST.
HOOVER RD.
See Sheet 4
Lot 3 Block "C"
Lot 14
BLOCK "B"
Exception
200'
60'
50'
F.M.
UT
W
LATERAL "C"
Top of Rim = 113.62
Existing Ground Profile
Top of Rim = 116.6
.70
251 L.F. 8" P.V.C. @ 0.54%
102.83 out
.39 FL. 103.10
FL. In S. 103.20
103.05 in
FL. 103.46
.41
FL. 103.88
.95
.90 FL. Out E. 104.80
FL. In N. 104.88
.61
115
110
105
100
95
2
3
4
5

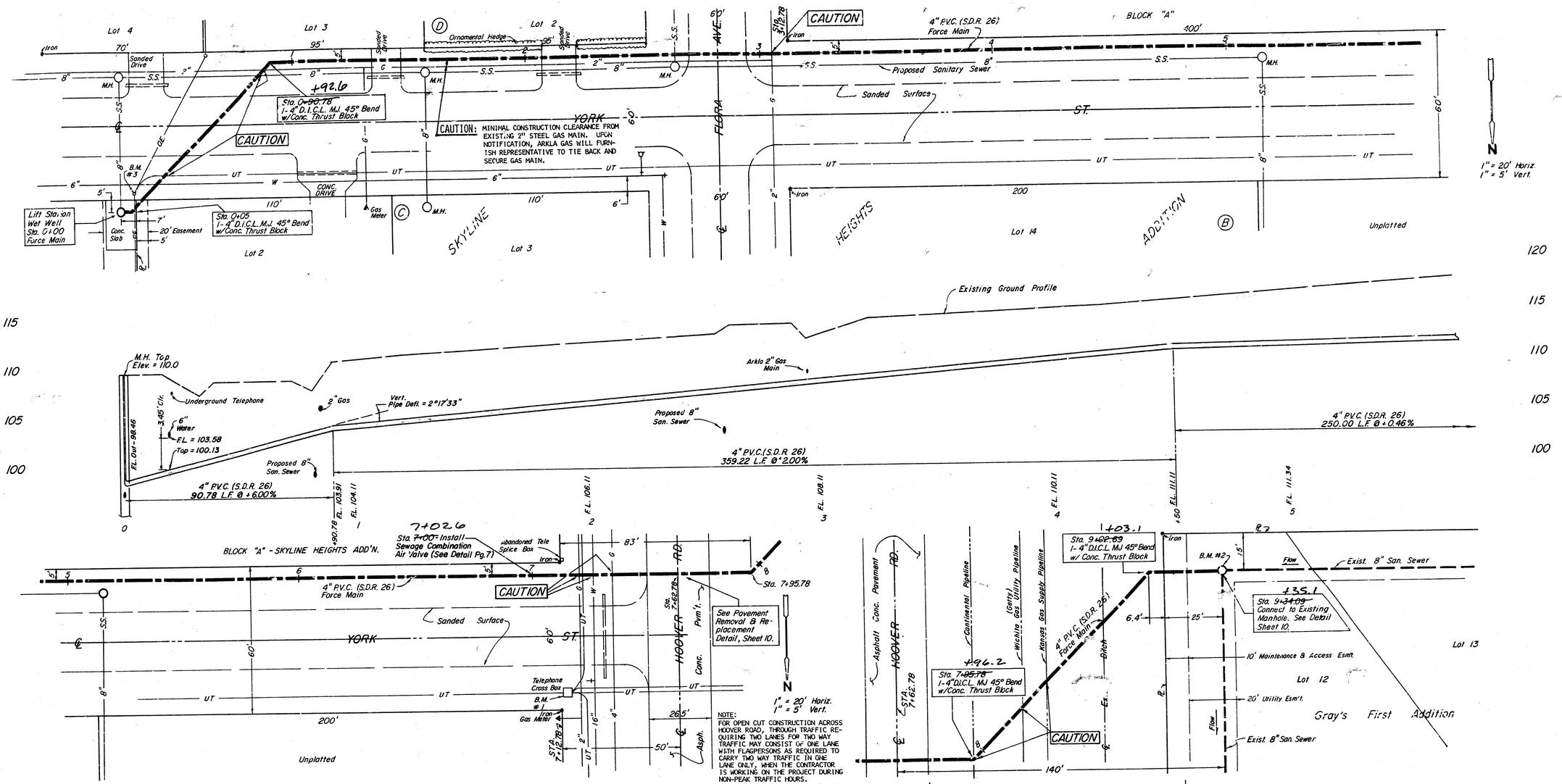


MOEHRING & ASSOCIATES — CONSULTING ENGINEERS

Project No. 468-76-245-31572-000-000-001.


STA. 0+00, BEGIN LAT. "D" = STA. 2+39, LAT. "C".
SKYLINE
HEIGHTS
ADDITION
Lot 2
Lot 1
YORK ST.
McARTHUR RD.
FLORA AVE.
LAT. "C"
F.M.
10'
6'
12'
4"
2"
Iron
6" Cedar
SAND DRIVE
6' Board Fence
8" Cottonwood
202.96'
100'
50'
30'
15" CMP
CAUTION
Remove & Replace Drive Culvert
Sanded Surface
+20.5
STA. 2+22 CONST. STD. TYPE "P" OR "S" MANHOLE.
4" STUB S.E.
307.61'
LATERAL "D"
BLOCK "A"
1" = 20' Horiz.
1" = 5' Vert.
Existing Ground Profile
Top of Rim = 113.6
Top of Rim = 116.40
2" Gas
222 L.F. 8" P.V.C. @ 1.26%
4" Force Main
115
110
105
100
FL. Out E. 103.10
FL. In S. 103.20
FL. 104.46
FL. 105.24
105.87
FL. 4" Stub S.E. 106.16
0
1
2
+22

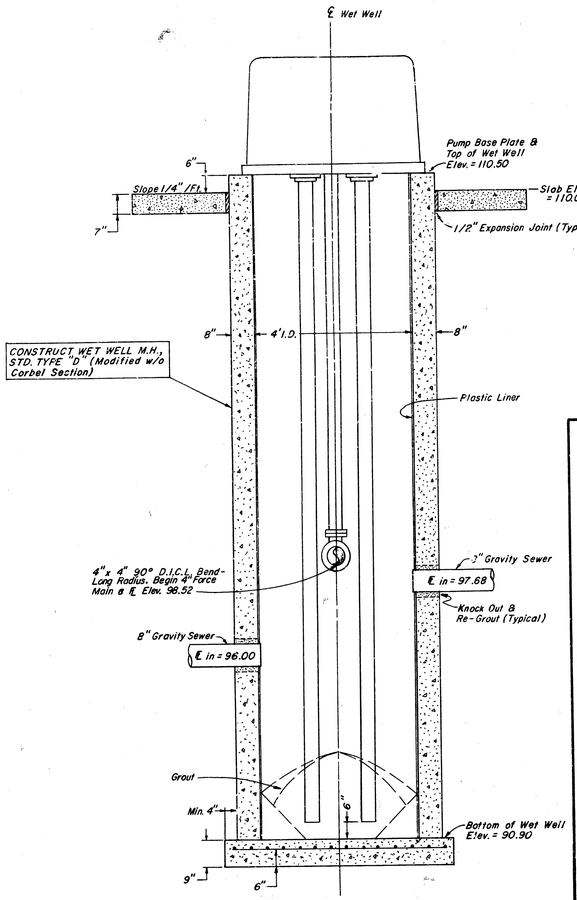
STA. 0+00, BEGIN LAT. "E" = STA. 1+32, LAT. "C".
Lot 2
Lot 3
SKYLINE
HEIGHTS
ADDITION
YORK ST.
10'
30'
6"
4"
2"
CAUTION
5'
20'
15'
15'x 20' San. Sewer Esm't. By Seperate Instrument.
Gravel Surface
STA. 0+55 CONST. STD. TYPE "P" OR "C" MANHOLE.
4" STUB N.
Lot 2 +55.6
LATERAL "E"
1" = 20' Horiz.
1" = 5' Vert.
115
110
105
100
Top of Rim = 110.8
Existing Ground Profile
Top of Rim = 110.64
Underground Telephone
55 L.F. 8" P.V.C. @ 0.4%
Bottom 6" Water = 105.50
5' Clear
FL. Out E. 99.32
FL. In N. 99.53
FL. Out S. = 99.84
FL. = 100.01
4" Stub N.
0
+33



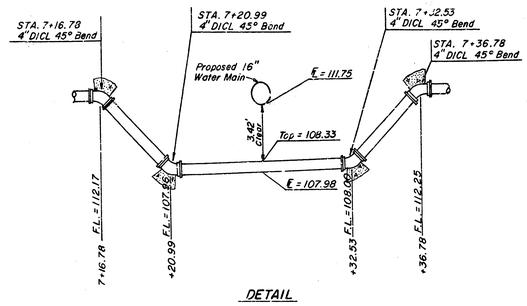
MOEHRING & ASSOCIATES ——— CONSULTING ENGINEERS

Sheet 6 of 13 6/13

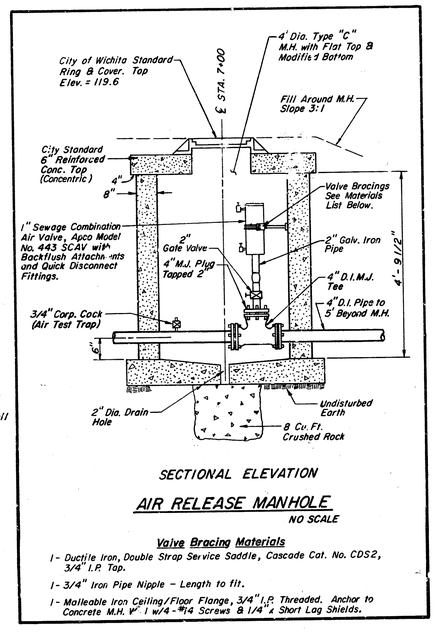
Project No. 468-76-245-81572-000-000-001.



LIFT STATION
SECTIONAL ELEVATION
NO SCALE



DETAIL
4" FORCE MAIN
UNDER 16" WATER MAIN
1"= 4'



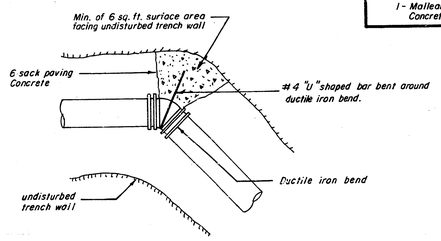
SECTIONAL ELEVATION
AIR RELEASE MANHOLE
NO SCALE

Valve Bracing Materials

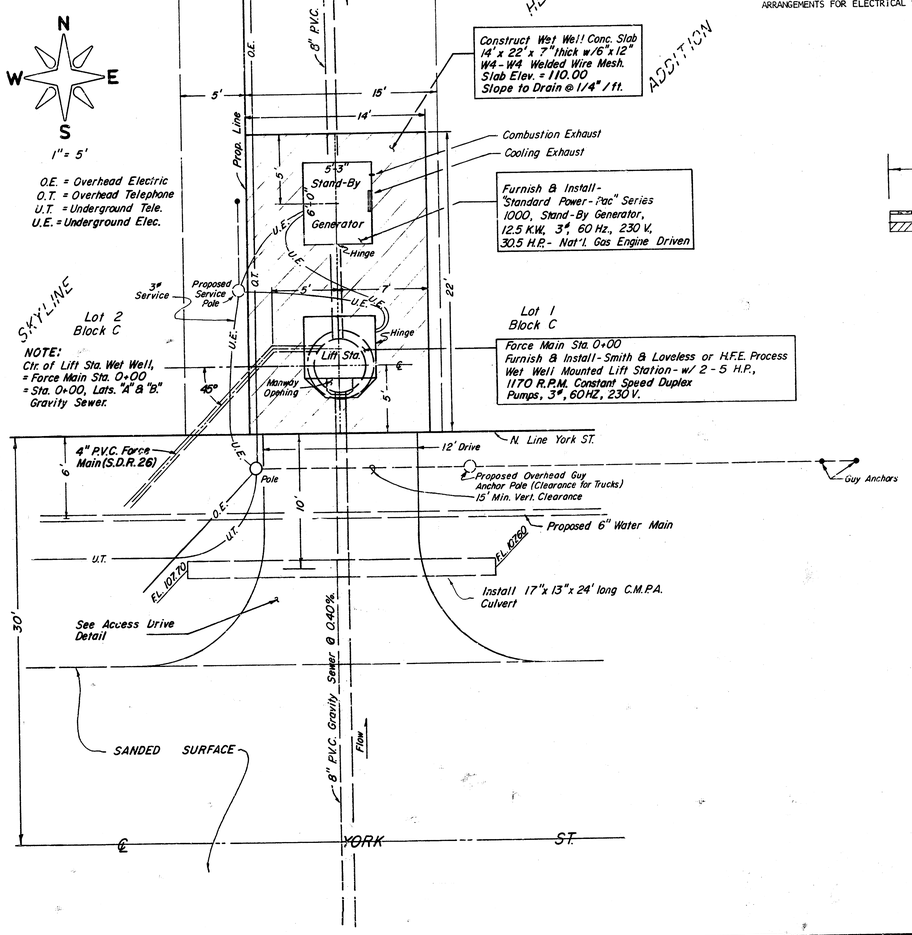
1- Ductile Iron, Double Strap Service Saddle, Cascade Cat. No. CDS2, 3/4" I.P. Tap.

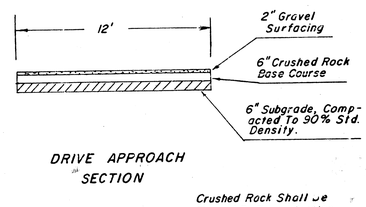
1- 3/4" Iron Pipe Nipple - Length to fit.

1- Malleable Iron Ceiling/Floor Flange, 3/4" I.P. Threaded. Anchor to Concrete M.H. W/ 1 w/4-#14 Screws & 1/4" x Short Lag Shields.



THRUST BLOCK DETAIL
NO SCALE





DRIVE APPROACH
SECTION

Crushed Rock Shall Be Type AB-3 per Section 1104, 1980 Edition of KDOT Std. Spec's.

NOTES:

1. THE LUMP SUM PRICE BID FOR FURNISHING AND INSTALLING LIFT STATION WITH STANDBY POWER AND MISCELLANEOUS APPURTENANCES COMPLETE IN PLACE SHALL INCLUDE ALL COSTS FOR FURNISHING AND INSTALLING THE LIFT STATION AND STANDBY POWER MODULE AS INDICATED ON THE SITE PLAN COMPLETE IN PLACE AND IN OPERATION. SUCH LUMP SUM BID SHALL INCLUDE THE COST OF CONSTRUCTING AND/OR INSTALLING COMPACTED SUBGRADE, CONCRETE PAD, ACCESS DRIVE, POWER POLE, ELECTRICAL CONDUIT, ELECTRICAL WIRING, DISCONNECT SWITCH, ELECTRICAL POWER SUPPLY, NATURAL GAS FUEL SUPPLY, FINISHED GRADING AND ANY OTHER INCIDENTALS NECESSARY TO COMPLETE THE WORK.

2. CONTRACTOR SHALL INSTALL A 10" X 12' CREOSOTED WOOD ELECTRIC SERVICE POLE IN A LOCATION APPROVED BY THE ENGINEER.

3. A 2" CONDUIT SHALL BE INSTALLED UNDERGROUND FROM THE DISCONNECT SWITCH LOCATED ON THE ELECTRIC SERVICE POLE TO THE LIFT STATION MODULE AND FROM THE LIFT STATION MODULE TO THE STANDBY POWER MODULE AND FROM THE STANDBY POWER MODULE TO THE DISCONNECT SWITCH LOCATED ON THE ELECTRIC SERVICE POLE. A 3/4" CONDUIT SHALL BE INSTALLED UNDERGROUND BETWEEN THE LIFT STATION MODULE AND THE ELECTRIC SERVICE POLE TO FACILITATE CONNECTION OF THE ALARM SYSTEM BY OTHERS. THE ELECTRICAL POWER SUPPLY TO THE METER BASE MUST BE UNDERGROUND. ALL ELECTRICAL WIRING SHALL CONFORM TO THE CITY OF WICHITA CODE.

4. A UL LISTED LIGHTNING ARRESTOR SHALL BE INSTALLED AFTER THE DISCONNECT SWITCH FOR VOLTAGE SURGE PROTECTION OF THE AUTOMATIC TRANSFER SWITCH AND ALL SECONDARY WIRING.

5. THE CRUSHED ROCK-GRAVEL DRIVE APPROACH TO THE LIFT STATION, COMPLETE WITH CULVERT, SHALL BE CONSTRUCTED AS INDICATED ON THE PLAN AND SHALL BE INCLUDED AS PART OF THE LUMP SUM PRICE BID FOR FURNISHING AND INSTALLING THE LIFT STATION.

6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ARRANGEMENTS WITH ARKLA GAS COMPANY (JERRY WATKINS, 942-8350) FOR EXTENSION OF GAS SERVICE TO THE LIFT STATION SITE, AND FOR PAYMENT OF COSTS OF SUCH EXTENSION AND METER SETTING. LOCATION OF METER TO BE ACCEPTABLE TO ARKLA GAS COMPANY AND TO THE CITY OF WICHITA SEWER MAINTENANCE DEPARTMENT.

7. THE CONTRACTOR SHALL CONTACT K.G. & E. (BOB CARSON, 261-6733) TO MAKE ARRANGEMENTS FOR ELECTRICAL SERVICE.

SITE PLAN & DETAILS
FORCE MAIN AND LIFT STATION

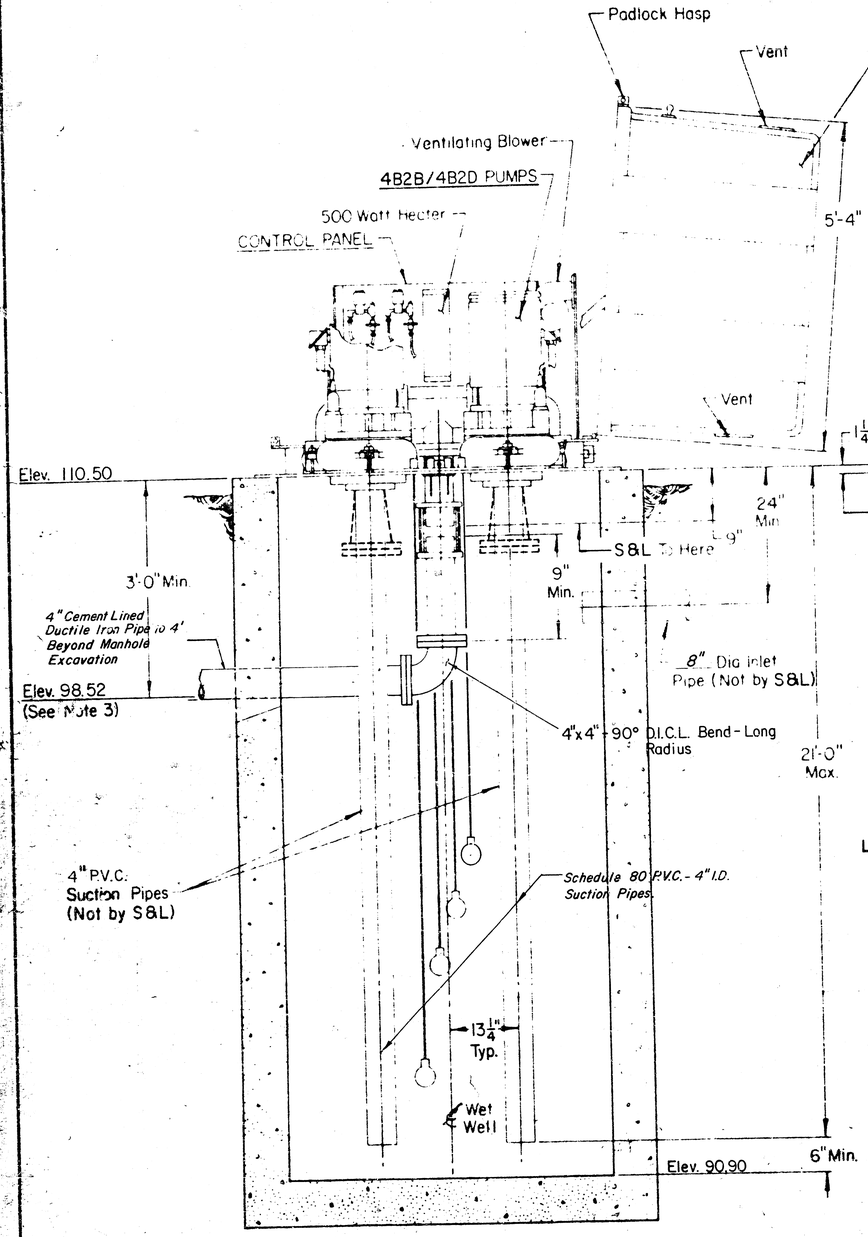
FOR

SKYLINE HEIGHTS ADDITION
TO SEDGWICK CO, KANSAS

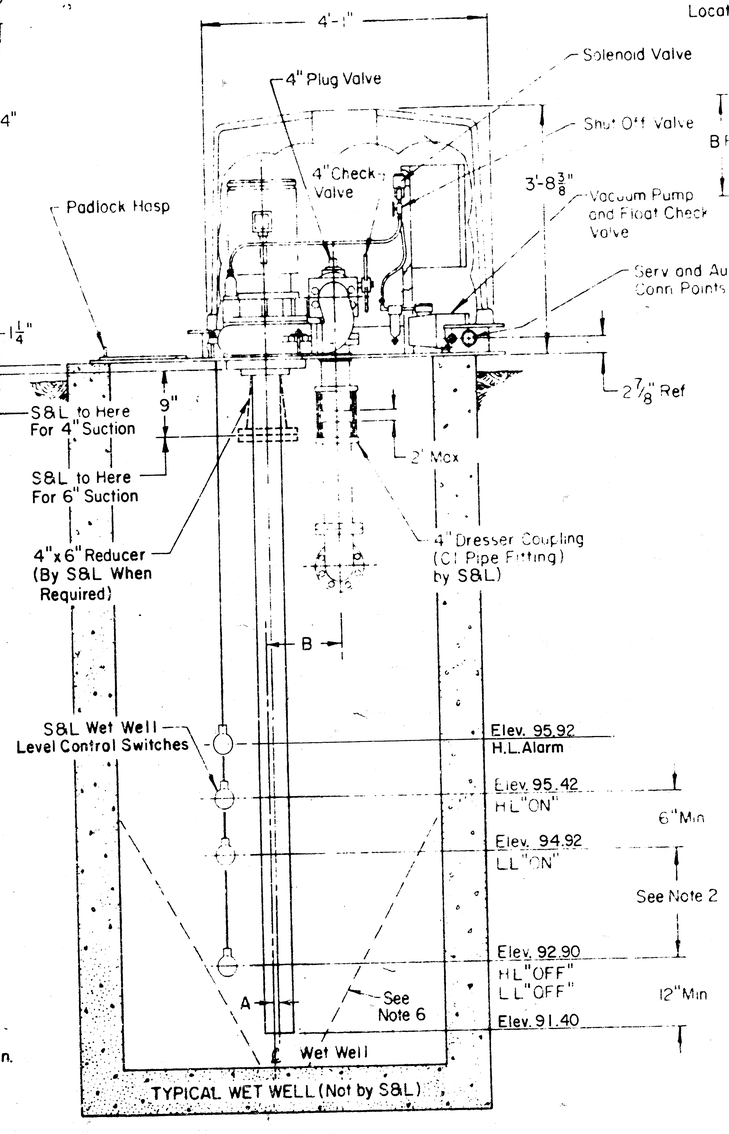
MOEHRING & ASSOCIATES
CONSULTING ENGINEERS
WICHITA

7/13

WET WELL DIAMETER	DIM. A	DIM. B	DIM. C	DIM. D	DIM. E	DIM. F	MANWAY G
4'-0"	4"	15 13/16"	33"	66"	27 7/8"	32 3/8"	14" x 24"
5'-0"	3"	19 13/16"	34"	68"	33 3/8"	37 7/8"	24 1/2" x 28"
6'-0"	2"	13 13/16"	40"	80"	27 7/8"	31 7/8"	24 1/2" x 28"

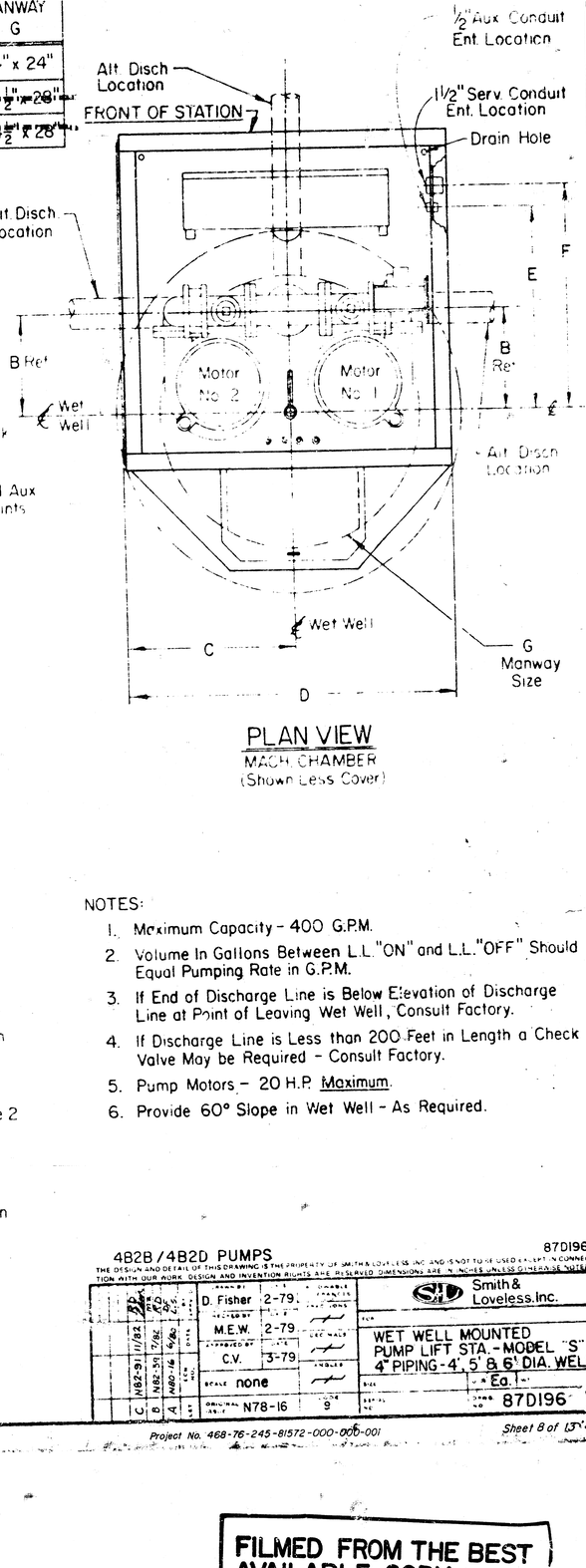


SECTIONAL ELEVATION



TYPICAL WET WELL (Not by S&L)

CROSS SECTION



PLAN VIEW
MACH. CHAMBER
(Shown Less Cover)

NOTES:

1. Maximum Capacity - 400 G.P.M.
2. Volume In Gallons Between L.L. "ON" and L.L. "OFF" Should Equal Pumping Rate in G.P.M.
3. If End of Discharge Line is Below Elevation of Discharge Line at Point of Leaving Wet Well, Consult Factory.
4. If Discharge Line is Less than 200 Feet in Length a Check Valve May be Required - Consult Factory.
5. Pump Motors - 20 H.P. Maximum.
6. Provide 60° Slope in Wet Well - As Required.

4B2B/4B2D PUMPS — 87D196

REV.	DATE	BY	CHK.
C	N82-91	11/82	RD
B	N82-39	7/82	RA
A	N80-16	5/80	DC

DRAWN BY	D. Fisher	2-79
TRACED BY	M.E.W.	2-79
PROVED BY	C.V.	3-79
SCALE	none	
ORIGINAL DWG. NO.	N78-16	9

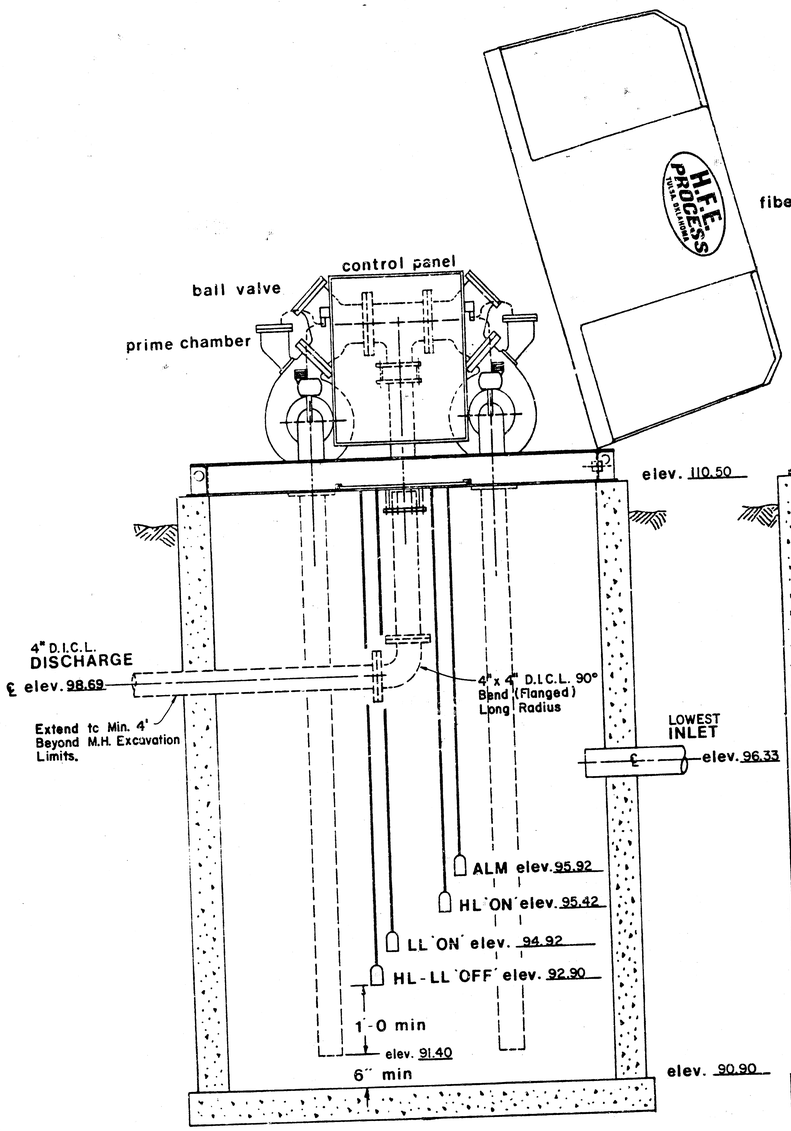
Smith & Loveless Inc.

WET WELL MOUNTED PUMP LIFT STA. - MODEL "S" 4" PIPING - 4', 5' & 6' DIA. WELL

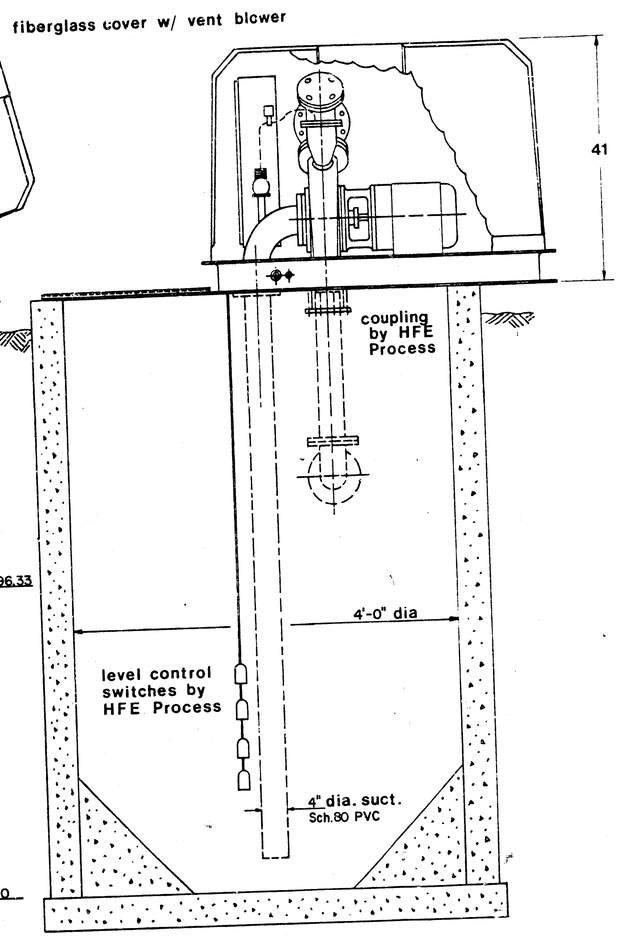
SIZE: Eq. | DWG. NO. 87D196 | REV. NO. 8/13

Project No. 468-76-245-81572-000-000-001

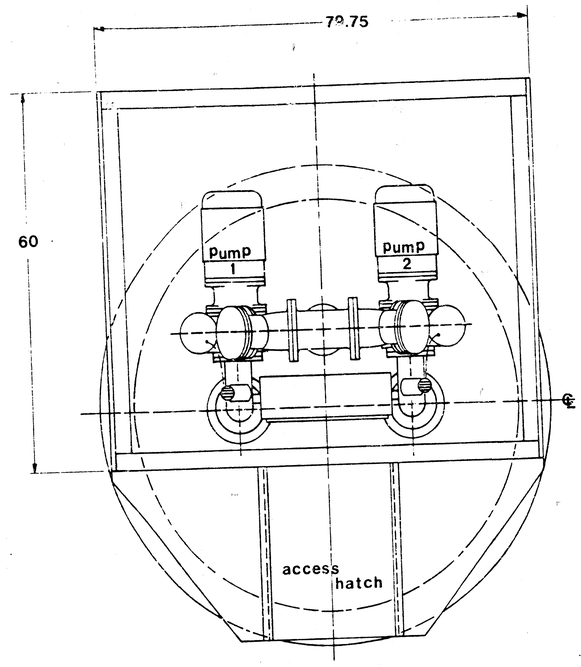
Sheet 8 of 13



FRONT ELEVATION



SIDE ELEVATION



PLAN VIEW

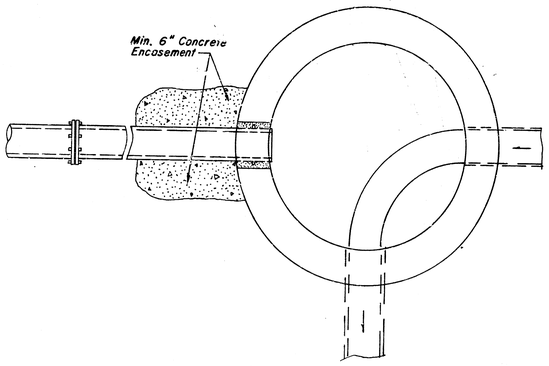
NOTES: 500 watt heater - std.
250 cfm vent fan - std.
1.5 & .75" service conn.

H.F.E. PROCESS TULSA, OKLAHOMA

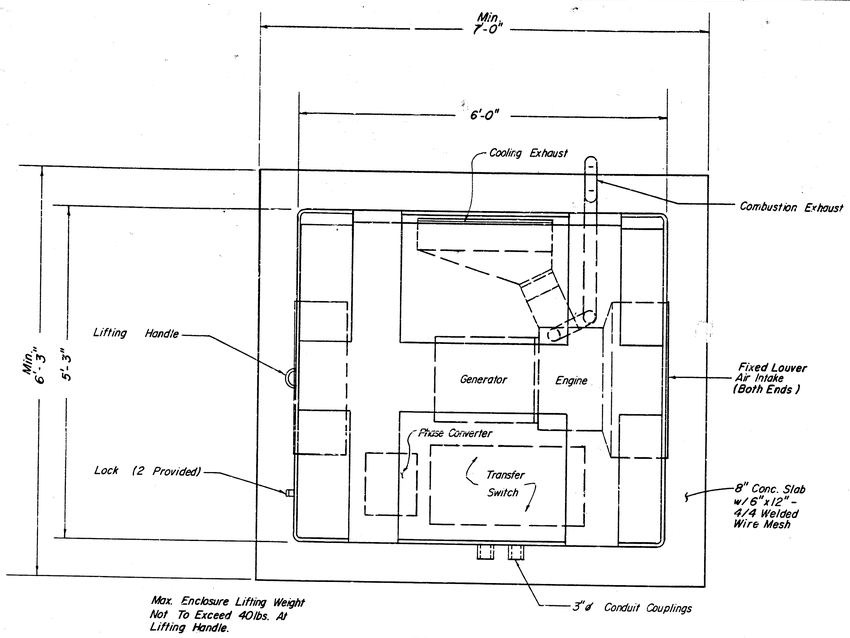
9/13

Project No. 468-76-245-81572-000-000-001

Sheet 9 of 13

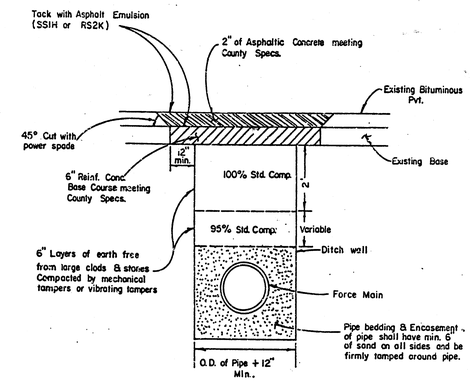


PLAN



Max. Enclosure Lifting Weight Not To Exceed 40lbs. At Lifting Handle.

TOP VIEW



SPECIAL NOTE TO CONTRACTOR:

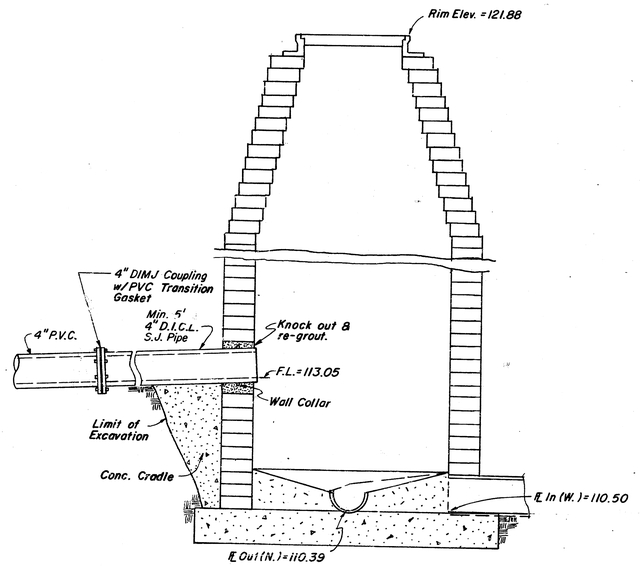
At each Street or Road Crossing, a minimun of one (1) Standard Density Test, as described in the latest addition of ASTM D 698, shall be performed to verify the above requirements to the Satisfaction of the Sedgwick County Director of Public Works. All testing cost shall be included in the unit price bid for the pipe in place.

PAVEMENT REMOVAL AND REPLACEMENT DETAIL

(N.T.S.)

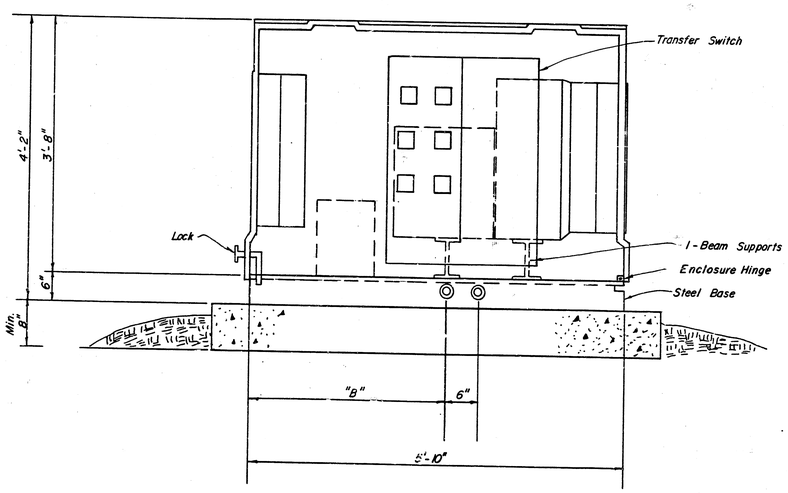
STAND-BY GENERATOR DETAILS
STANNARD POWER EQUIPMENT CO.
SERIES 1000

(N.T.S.)

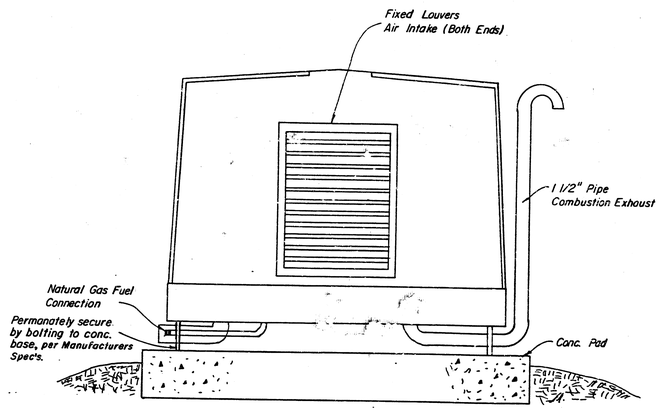


RECEIVING MANHOLE CONNECTION DETAIL

SECTION
3/4" = 1'



SECTIONAL ELEVATION

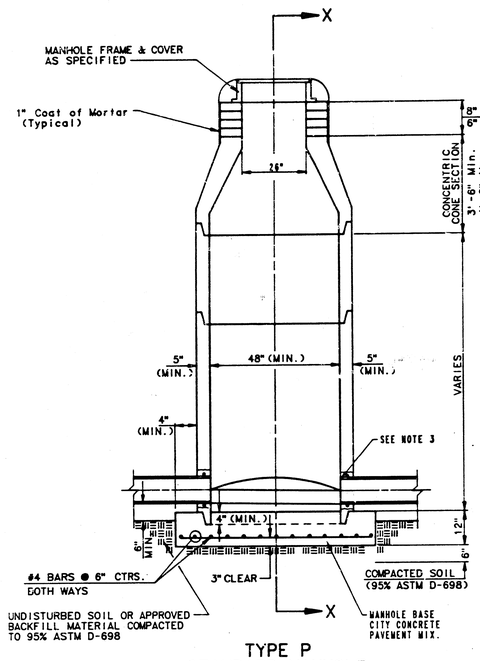


END VIEW

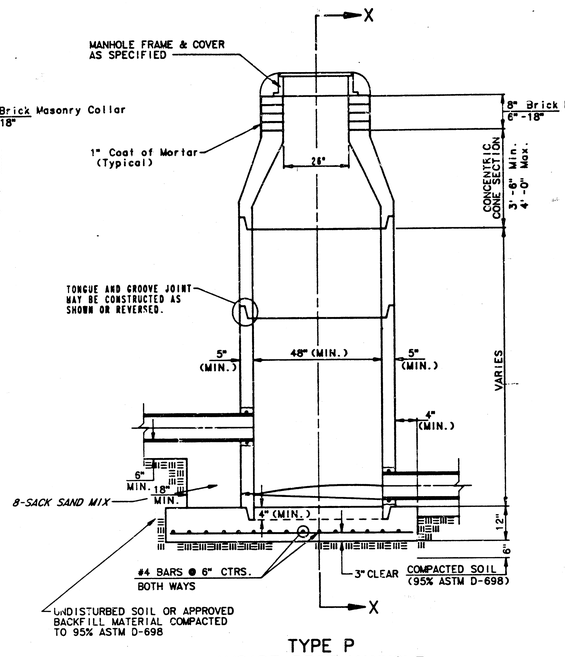
Project No. 468-76-245-81572-000-000-001

SEWER APPURTENANCES DETAILS

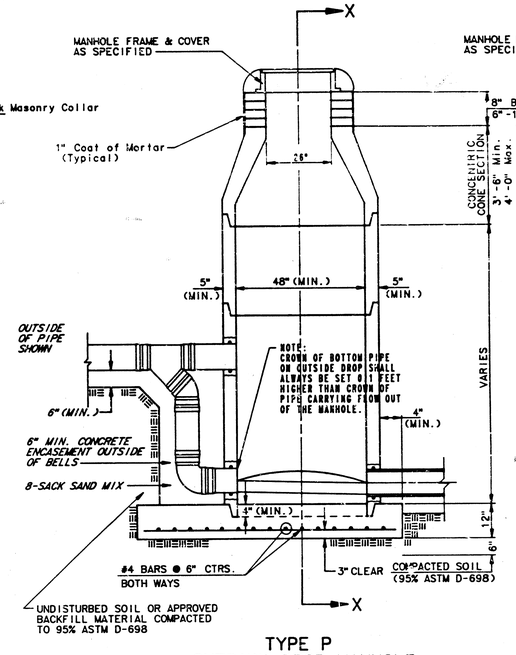
ADOPTED AS STANDARD DESIGN
BY
CITY OF WICHITA



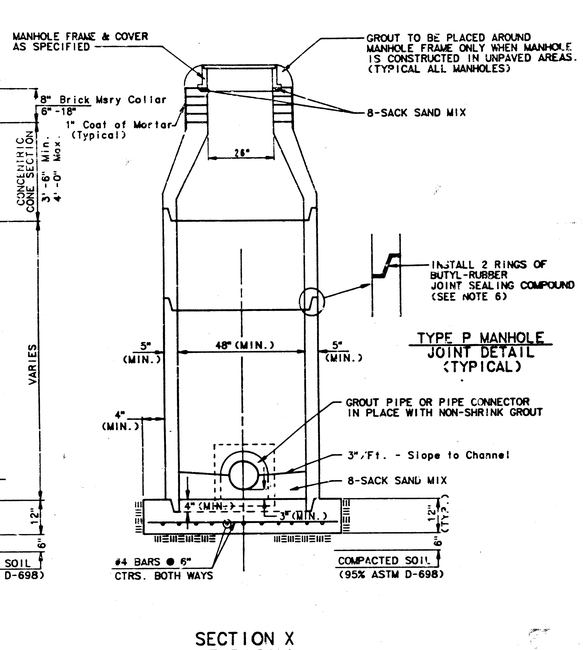
TYPE P
STANDARD MANHOLE



TYPE P
INSIDE DROP MANHOLE



TYPE P
OUTSIDE DROP MANHOLE



TYPE P MANHOLE
JOINT DETAIL
(TYPICAL)

SECTION X
(TYPICAL)

GENERAL NOTES

PRECAST MANHOLE NOTES

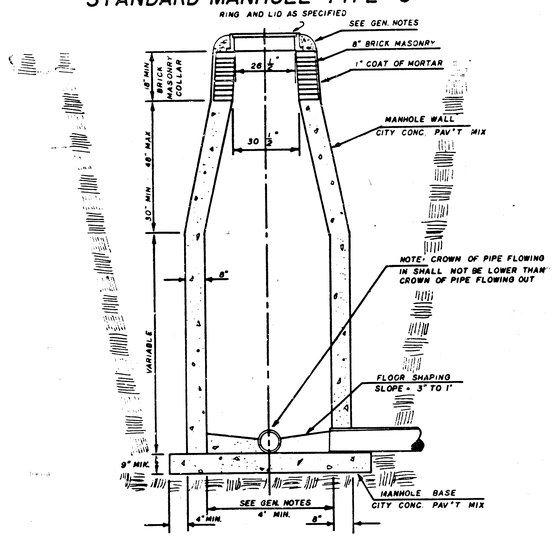
1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISION OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
2. NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
3. APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN A.B.S. COMPOSITE PIPE OR P.V.C. PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT. THE SEWER PIPE SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.
4. ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS THEWEC SERIES 66 HI-BUILD EPOXOLINE, DRY THICKNESS OF 8 MILS (MIN.)
5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINUS COATING.
6. JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
7. PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
8. TOP OF MANHOLE FLOOR SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF THE OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS OF SHAPED INVERT.
9. LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
10. MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4'. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE 24" OR LARGER SHALL HAVE AN INSIDE DIAMETER OF 5'. COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.
11. REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
12. OPENINGS SHALL BE CUT INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS CUT INTO EXISTING MANHOLES SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUTING THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. AND A.B.S. COMPOSITE PIPE. THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NONSHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. FLOOR OF MANHOLE SHALL BE MODIFIED TO FORM NEW FLOW CHANNEL FOR THE NEW CONNECTION AS INDICATED BY THE DRAWING. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR OUTSIDE DROP STACK CONSTRUCTED ON EXISTING MANHOLE.
13. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS EXCEPT FOR INSIDE DROP MANHOLES. FLOW CHANNELS FOR INSIDE DROP MANHOLES SHALL BE CONSTRUCTED AS INDICATED BY THE DRAWING. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
14. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE. THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
15. MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.
16. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 4' FOR INFLOWING PIPES SIZED 12" OR SMALLER AND 2' FOR INFLOWING PIPES LARGER THAN 12". THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
17. STANDARD MANHOLES AND STANDARD INSIDE DROP MANHOLES SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.
18. A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. THE COLLAR WILL HAVE 8" WALLS AND A VERTICAL HEIGHT OF 6" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR.

SEWER APPURTENANCES DETAILS

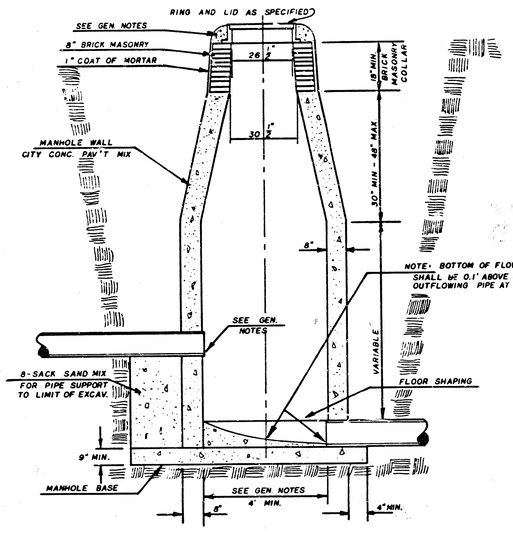
ADOPTED AS STANDARD DESIGN
BY

City of Wichita, Kansas

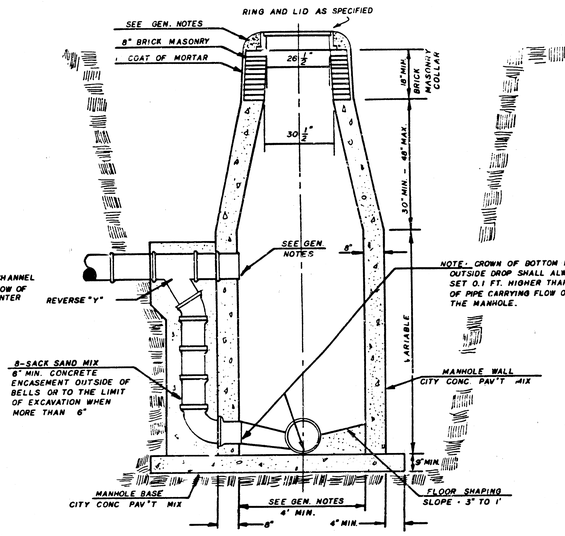
STANDARD MANHOLE TYPE "C"



INSIDE DROP MANHOLE TYPE "C"



OUTSIDE DROP MANHOLE TYPE "C"



GENERAL NOTES

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

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

3. AN OPENING SHALL BE CUT IN THE MANHOLE WALL FOR THE UPPER INLET PIPE FOR INSIDE AND OUTSIDE DROP MANHOLES. THE UPPER INLET PIPE SHALL BE GROUTED INTO THIS OPENING WITH NON-SHRINK GROUT. THE EXTERIOR OF THIS COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT.

4. THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS EXCEPT FOR INSIDE DROP MANHOLES. FLOW CHANNELS FOR INSIDE DROP MANHOLES SHALL BE CONSTRUCTED AS INDICATED BY THE DRAWING. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.

5. PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE. THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.

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

7. THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 4' FOR INFLOWING PIPES SIZED 12" OR SMALLER AND 2' FOR INFLOWING PIPES LARGER THAN 12". THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.

8. STANDARD MANHOLES TYPE "C" AND STANDARD INSIDE DROP MANHOLES TYPE "C" SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES TYPE "C" SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.

JNL JAN. 1982

12/13

MANHOLE FRAME AND COVER DETAIL

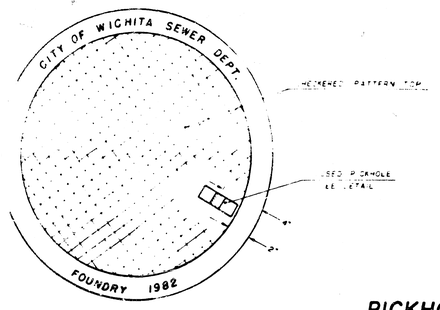
ADOPTED AS STANDARD DESIGN

BY

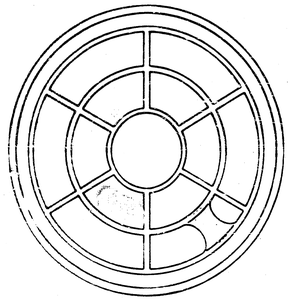
City of Wichita, Kansas

MANHOLE COVER

Weight: 180 Lbs.

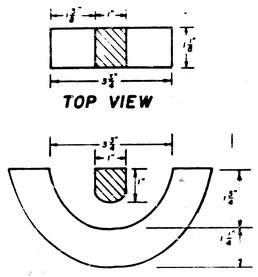


TOP VIEW



BOTTOM VIEW

PICKHOLE DETAIL

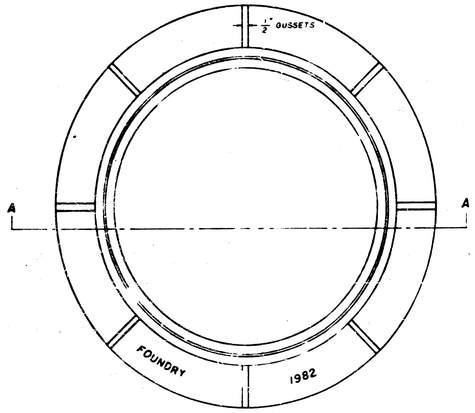


TOP VIEW

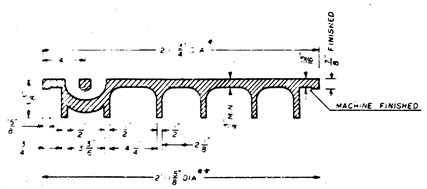
SECTION VIEW

MANHOLE FRAME

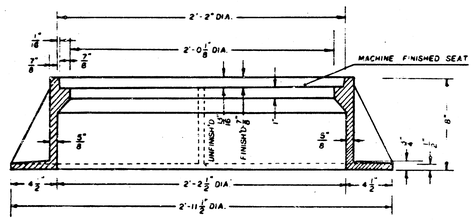
Weight: 240 Lbs.



TOP VIEW



SECTION VIEW



SECTION A-A

* OUTSIDE DIA. TOP OF COVER

** OUTSIDE DIA. BOTTOM OF COVER

GENERAL NOTES

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

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

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

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

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

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