Lat. 1, Main 5, Northwest Interceptor Sewer
SANITARY SEWER IMPROVEMENTS
to serve
Liberty Park Addition - Phase 1
and Heritage Baptist Church Addition
CITY OF WICHITA, KANSAS

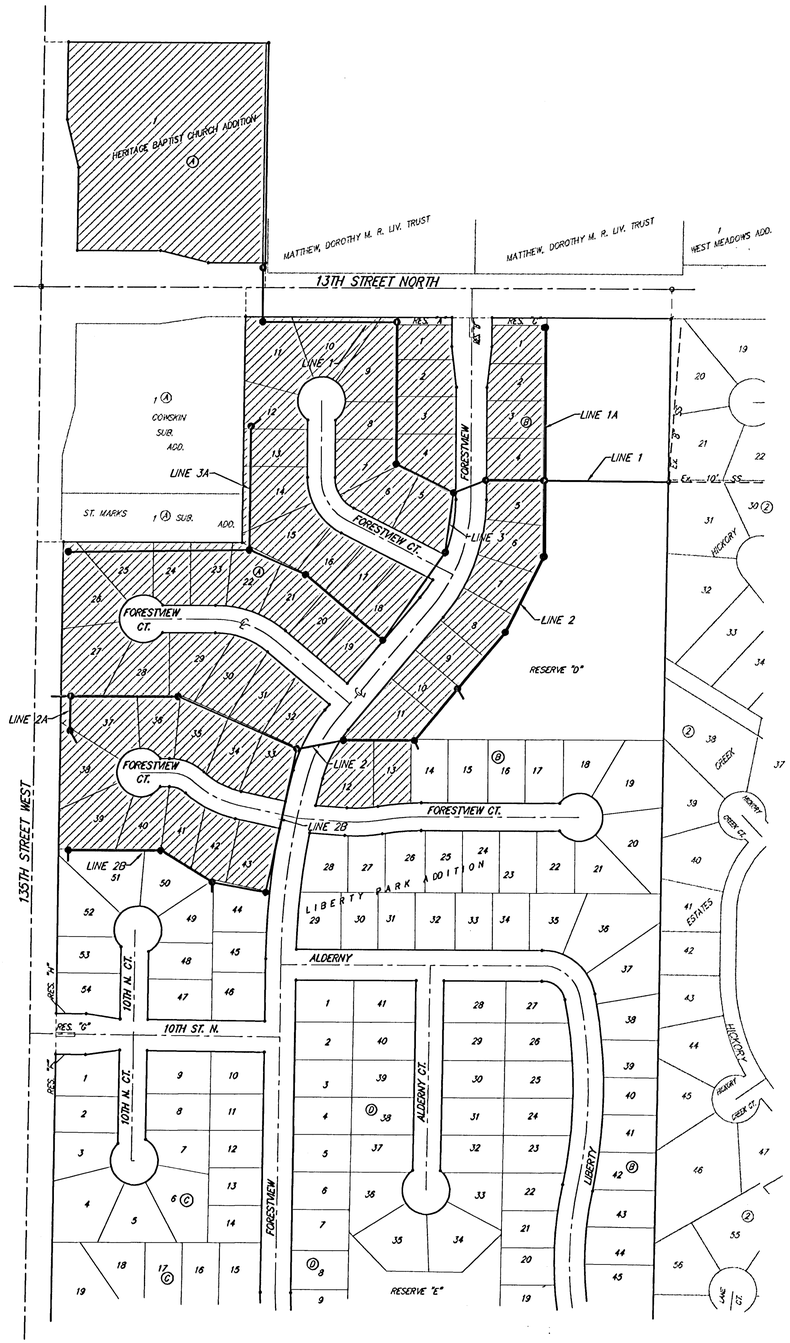
Neil D. Cable, P.E. City Engineer

Project Number

468-83528

OCA Number

743969



Scale: 1" = 150'

Benefit District

GENERAL NOTES:

1. Contractor will be required to provide notice to utility companies a minimum of twenty-four (24) hours prior to any excavation, as follows:

   Kansas One-Call 687-2470

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

Cox Communications	262-4270
Kansas Gas Service	1-888-482-4950
Westor Energy	383-8650
Aquila Energy	1-888-482-4950
Southwestern Bell	268-2245
City of Wichita Water Dept.	268-4563
City of Wichita Sewer Maint.	268-4024
City of Wichita Storm Sewer Maint.	268-4090
City of Wichita Traffic Maint.	268-4034
Conoco Pipeline Co.	1-800-231-2551
Williams Pipeline Co.	529-6600
Phillips Pipeline Co.	1-800-766-8230

2. Utility service lines, poles, valve boxes, meters, and etcetera are to be adjusted as necessary by others prior to construction unless the plans specifically call for their adjustment by the Contractor or unless the plans specifically identify a utility to be adjusted by its owner during construction. 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.

3. Rubble from the removal of miscelloneous 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 on site location. Locations, in the opinion of the Engineer, will leave an unsightly appearance will not be approved. All disposal sites must be approved by the Kansas Department of Health and Environment. Material either stockpiled or disposed of in a flood plain would require a Kansas State Board of Agriculture permit. Any material dumped in waters of the United States or wetlands is subject to U.S. Corps. of Engineers permitting regulations. Any material buried or stockpiled beyond approved construction limits would require additional archaeological investigations unless buried in a previously approved borrow location.

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 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 in accordance with state laws

7. When connecting to existing manhole or stub, the contractor shall reshape manhole bottom or adjust the existing stub's alignment or elevation as necessary. Cost shall be subsidiary to project.

8. The Contractor shall be responsible for maintaining continuous flow of sewage through construction. Contractor's proposed method for maintaining sewage flow shall be approved by the Engineer. Cost of maintaining flow of sewage through construction will not be paid for directly and this cost shall be considered as subsidiary to the other pay items of work.

9. Area will not be seeded with this project. Area will be seeded with the mass grading plan as part of the storm drain improvements.

10. No work shall begin on this project until Mass-Grading is Complete.

BENCHMARKS:

BM #1: C.O.W. benchmark disk.
56' E and 55' N of CL 135th St. W. & 13th St. N.
Elev. = 167.83 (City Datum)

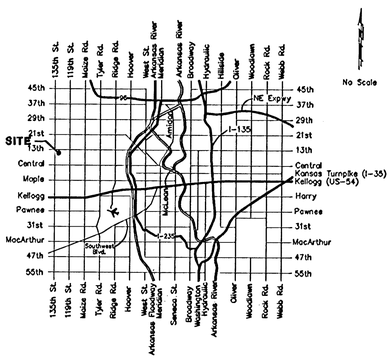
BM #2: 60D nail in HLP, 800' W & 31' N of the NE cor., NW1/4, Sec. 13, T-27-S, R-2-W.
Elev. = 162.68 (City Datum)

Sheet Index

Title Sheet	1
Line 1	2-3
Line 1A	4
Line 2	5
Line 2 & Line 2A	6
Line 2B	7
Line 3 & Line 3A	8
Line 3	9
Standard Manhole Detail	10
Ring & Cover Detail	11
Vertical Riser Detail	12
Copy of Plat	13

AS BUILT
11/06/03
~~9/22/03~~
RDL
.PDF

BRENT WOOTEN
LICENSED
8370
1/22/03
KANSAS
PROFESSIONAL ENGINEER



Vicinity Map

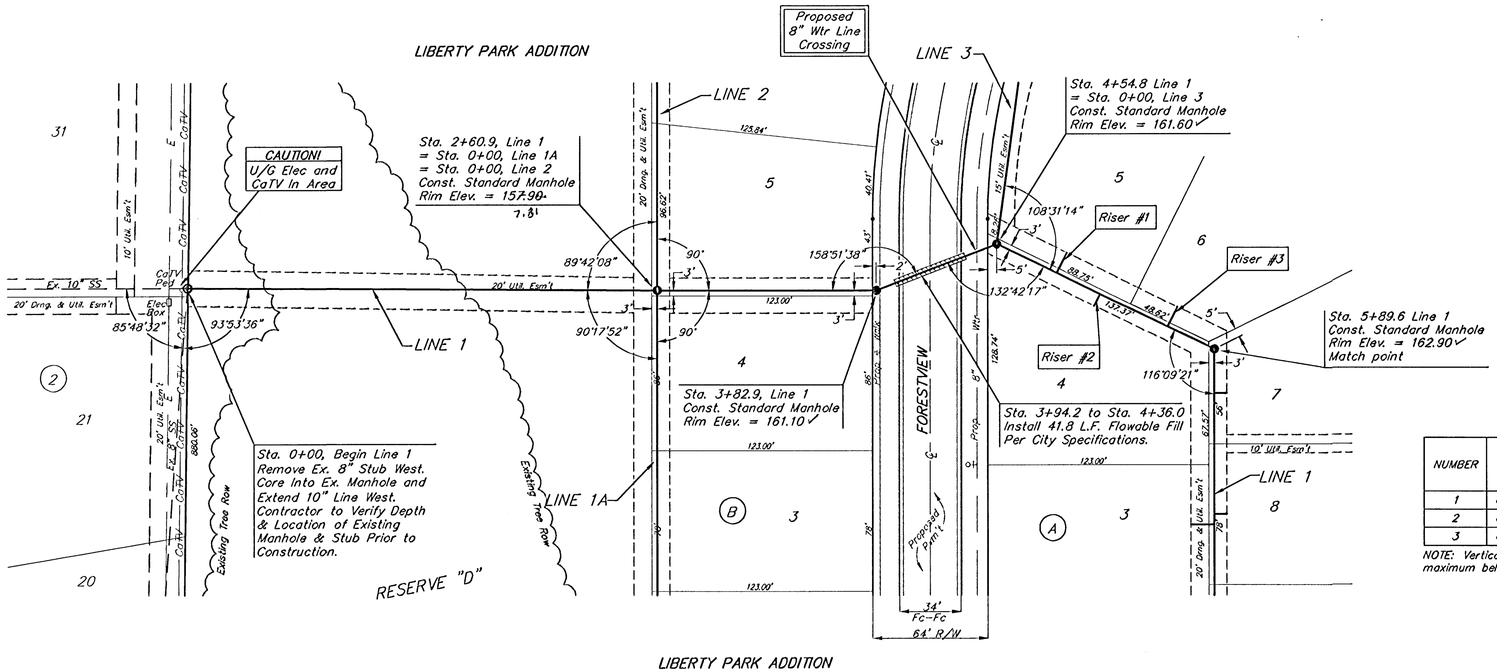
As Built 9/03 K&K Oct 2002

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

BENCHMARK:

135th St. W. & 13th St. N. – City of Wichita Benchmark Disc, SE corner of intersection.
56' East of Centerline
55' North of Centerline
Elev. = 1617.83 City Datum
(1355.23 NGVD29)

60d Nail in High Line Pole, 800' W. & 31' N. of the NE cor., NW1/4, Sec. 13, Twp. 27-S, R-2-W
Elev. = 1350.08 NGVD29
(162.68 City Datum)



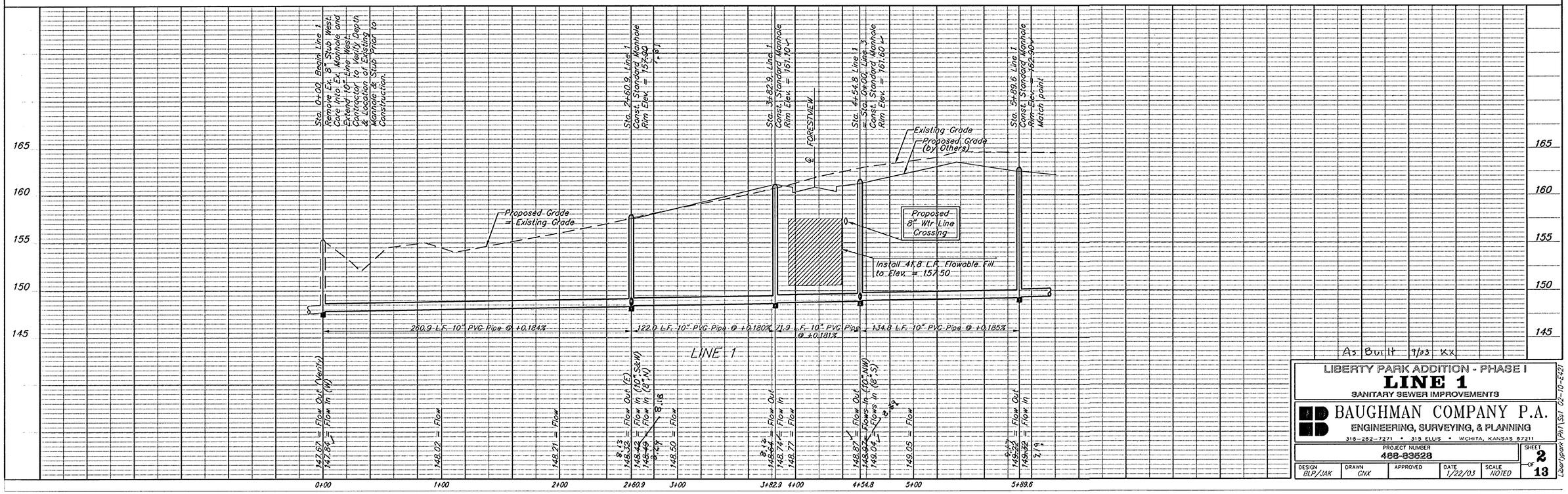
Scale: 1" = 40' Horizontal
1" = 5' Vertical
• = Iron

Remove Existing Trees only as necessary for construction. Cost to be included in Bid Item "Site Clearing & Restoration".

SEWER SERVICE TABLE

NUMBER	TYPE	LOCATION LOT NO.	LOCATION BLOCK NO.	LOCATION LINE NO.	STATION/ DIRECTION	FOR INFORMATION ONLY APPROXIMATE LENGTH 4" PIPE VERTICAL	FOR INFORMATION ONLY APPROXIMATE LENGTH 4" PIPE HORIZONTAL
1	8" X 4" Tee Saddle	5	A	1	4+92.1/Lt.	9.0'	13.0'
2	8" X 4" Tee Saddle	4	A	1	5+18.9/Rt.	10.0'	7.0'
3	8" X 4" Tee Saddle	6	A	1	5+60.8/Lt.	10.0'	12.5'

NOTE: Vertical Riser Pipe shall be extended to 2' minimum above ground water elevation and 4' maximum below proposed ground elevation.



As Built 9/03 KK

LIBERTY PARK ADDITION - PHASE I
LINE 1
SANITARY SEWER IMPROVEMENTS

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

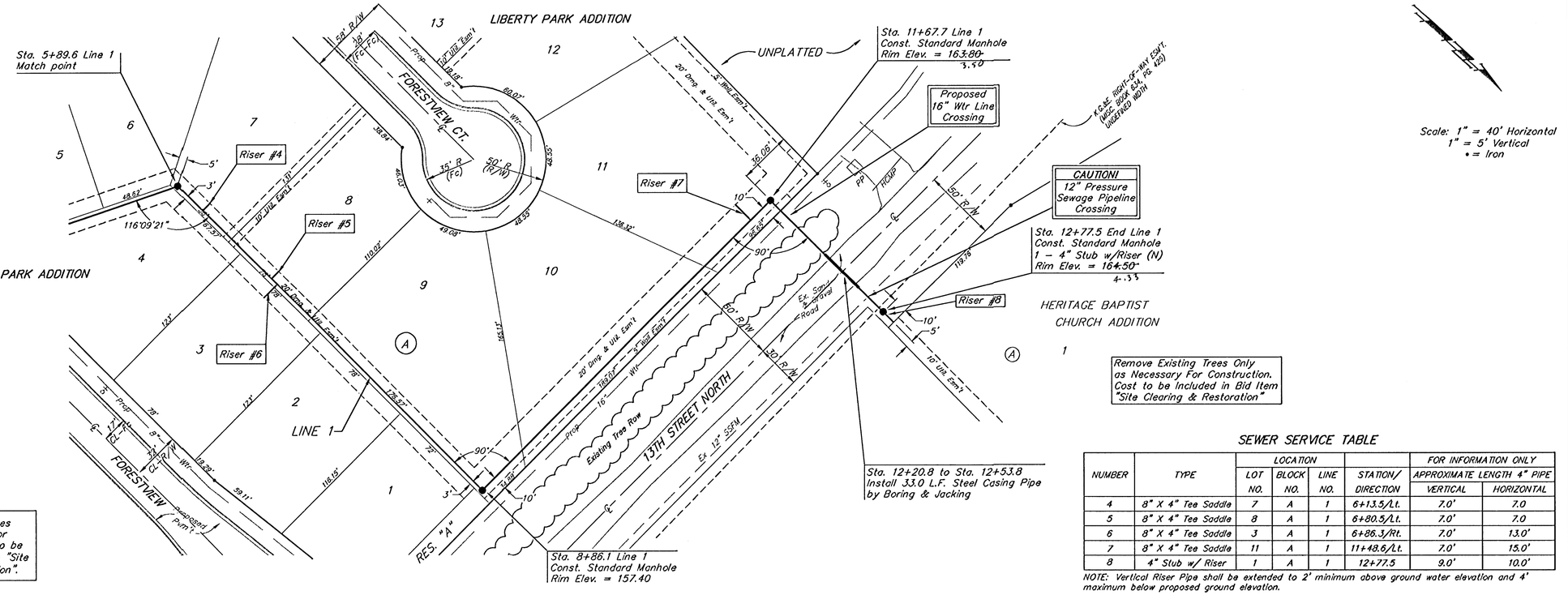
PROJECT NUMBER	SHEET
488-83528	2 of 13

DESIGN	DRAWN	APPROVED	DATE	SCALE
BLP/JAK	GNX		1/22/03	NOTED

L:\projects\Phil\Sht 02-10-6421

BENCHMARK:
135th St. W. & 13th St. N. – City of Wichita Benchmark Disc, SE corner of intersection.
56' East of Centerline
55' North of Centerline
Elev. = 1678.83 City Datum
(1355.23 NGVD29)

60d Nail in High Line Pole, 800' W. & 31' N. of the NE cor., NW1/4, Sec. 13, Twp. 27-S, R-2-W
Elev. = 1350.08 NGVD29
(162.68 City Datum)

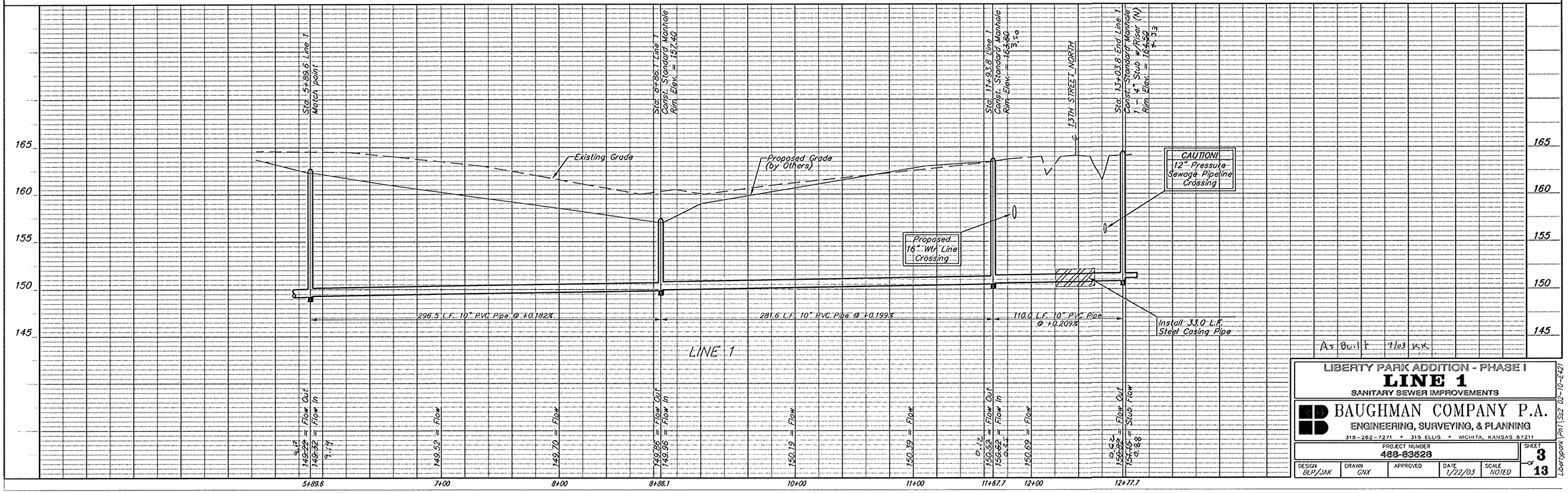


Scale: 1" = 40' Horizontal
1" = 5' Vertical
• = Iron

SEWER SERVICE TABLE

NUMBER	TYPE	LOCATION LOT NO.	LOCATION BLOCK NO.	LOCATION LINE NO.	STATION/ DIRECTION	FOR INFORMATION ONLY APPROXIMATE LENGTH 4" PIPE VERTICAL	FOR INFORMATION ONLY APPROXIMATE LENGTH 4" PIPE HORIZONTAL
4	8" X 4" Tee Saddle	7	A	1	6+13.5/Lt.	7.0'	7.0
5	8" X 4" Tee Saddle	8	A	1	6+80.5/Lt.	7.0'	7.0
6	8" X 4" Tee Saddle	3	A	1	6+86.3/Rt.	7.0'	13.0'
7	8" X 4" Tee Saddle	11	A	1	11+48.6/Lt.	7.0'	15.0'
8	4" Stub w/ Riser	1	A	1	12+77.5	9.0'	10.0'

NOTE: Vertical Riser Pipe shall be extended to 2' minimum above ground water elevation and 4' maximum below proposed ground elevation.



As Built 1/03 KK

LIBERTY PARK ADDITION - PHASE I
LINE 1
SANITARY SEWER IMPROVEMENTS

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER	SHEET
488-83628	3 OF 13

DESIGN	DRAWN	APPROVED	DATE	SCALE
BLP/JAK	GNX		1/22/03	NOTED

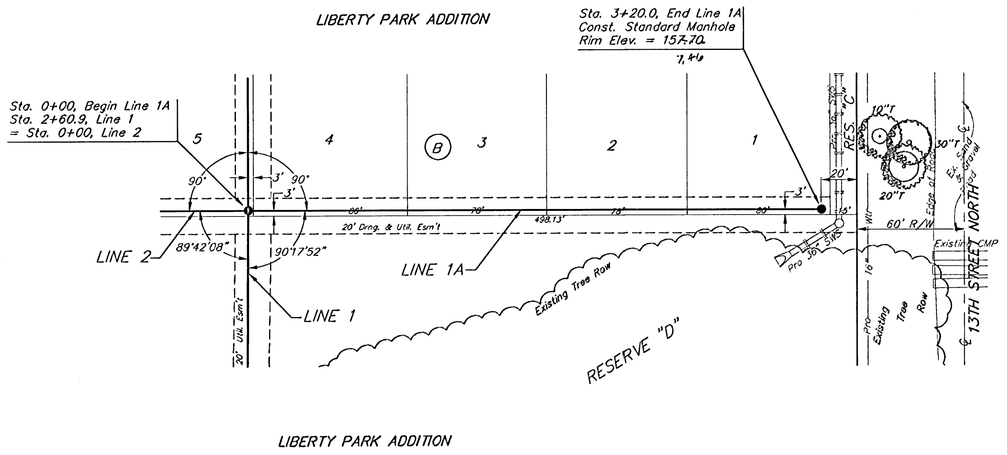
Libertypark\Ph1\Ss2 02-10-5421

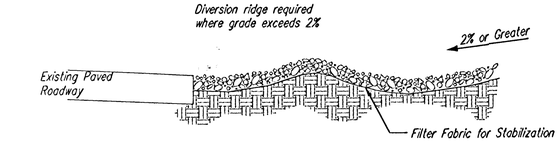
BENCHMARK:

135th St. W. & 13th St. N. – City of Wichita Benchmark Disc, SE corner of intersection.
56' East of Centerline
55' North of Centerline
Elev. = 167.83 City Datum
(1355.23 NGVD29)

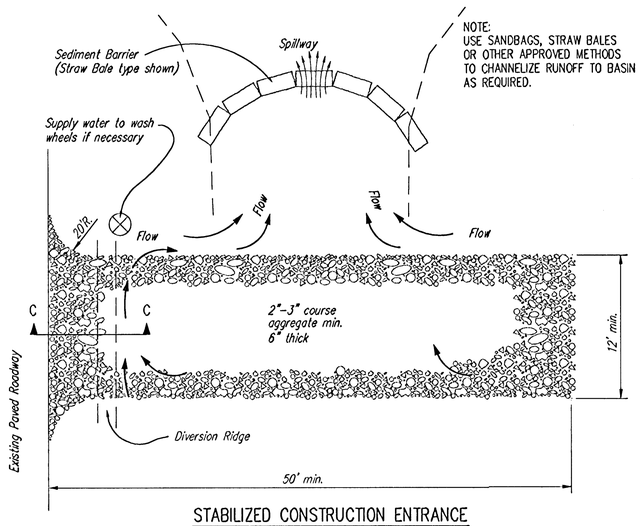
60d Nail in High Line Pole, 800' W. & 31' N. of the NE cor., NW1/4, Sec. 13, Twp. 27-S, R-2-W
Elev. = 1350.08 NGVD29
(162.68 City Datum)

Scale: 1" = 40' Horizontal
1" = 5' Vertical
• = Iron





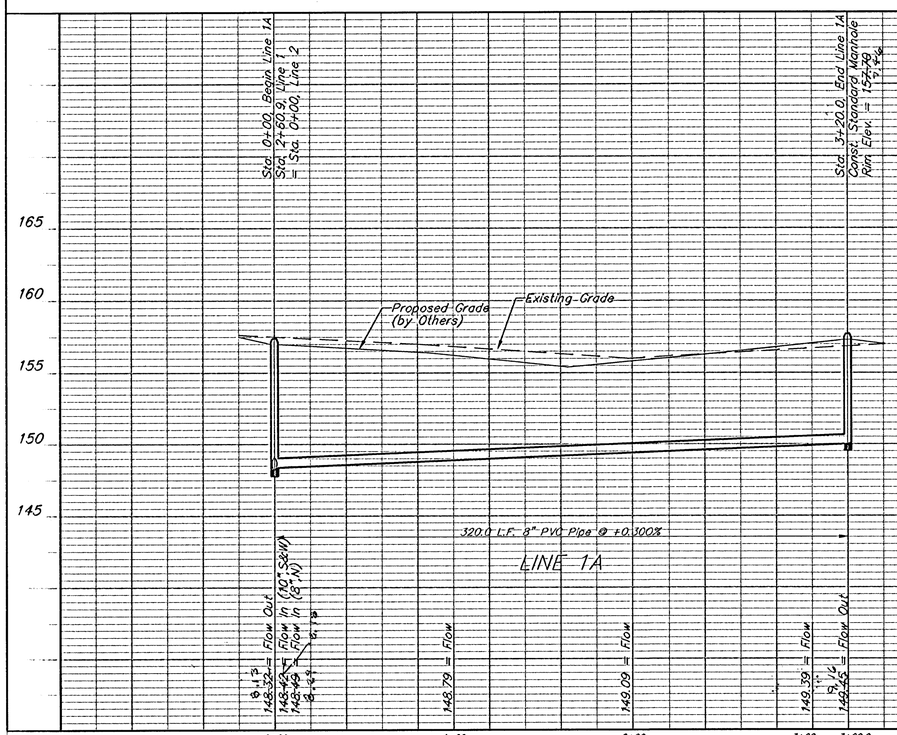
SECTION C-C



STABILIZED CONSTRUCTION ENTRANCE

NOTES:

1. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.
2. WHEN NECESSARY, WHEELS SHALL BE CLEANED PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY.
3. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN, AS SHOWN ABOVE.
4. DRIVE ENTRANCES ONTO RESIDENTIAL LOTS WILL NOT BE REQUIRED TO HAVE THE SEDIMENT BARRIER SHOWN, BUT WHEEL WASHING MAY BE REQUIRED IF STABILIZED ENTRANCE IS NOT SUFFICIENT TO KEEP MUD FROM BEING TRACKED ONTO ADJACENT STREET. ENTRANCE SHALL EXTEND FROM BACK OF CURB TO DWELLING.



As Built Work

LIBERTY PARK ADDITION - PHASE I
LINE 1A
SANITARY SEWER IMPROVEMENTS

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PROJECT NUMBER 488-83828 | SHEET 4 OF 13

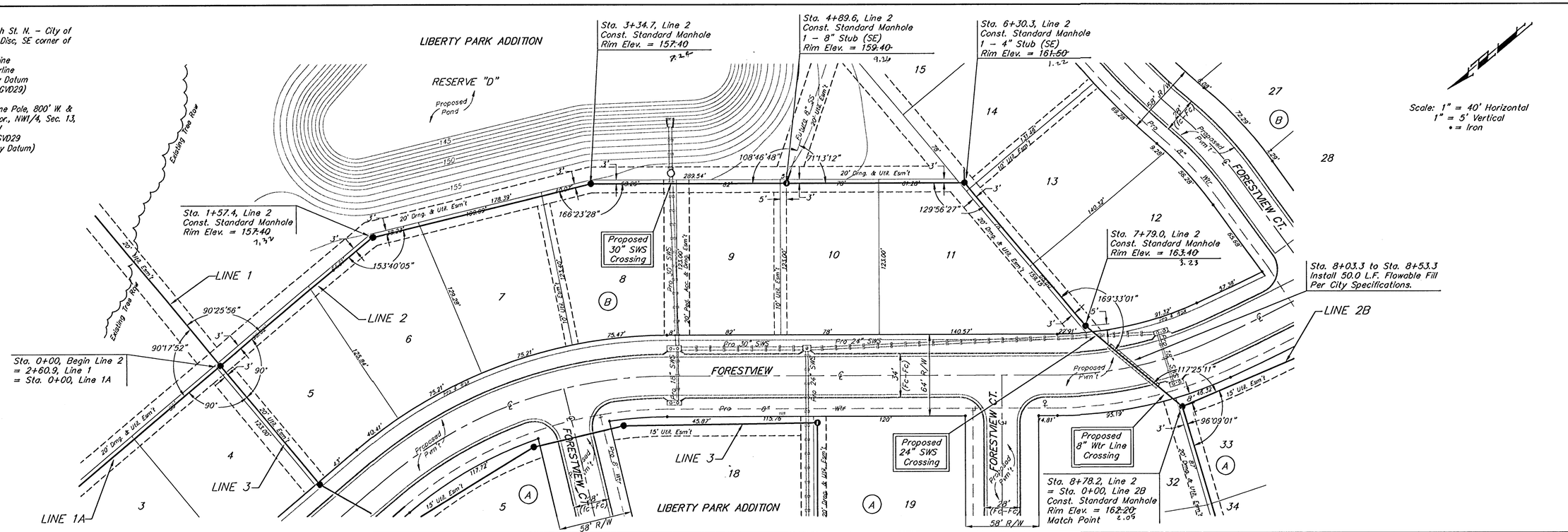
DESIGN	DRAWN	APPROVED	DATE	SCALE
BLP/JAK	CNK		1/22/03	NOTED

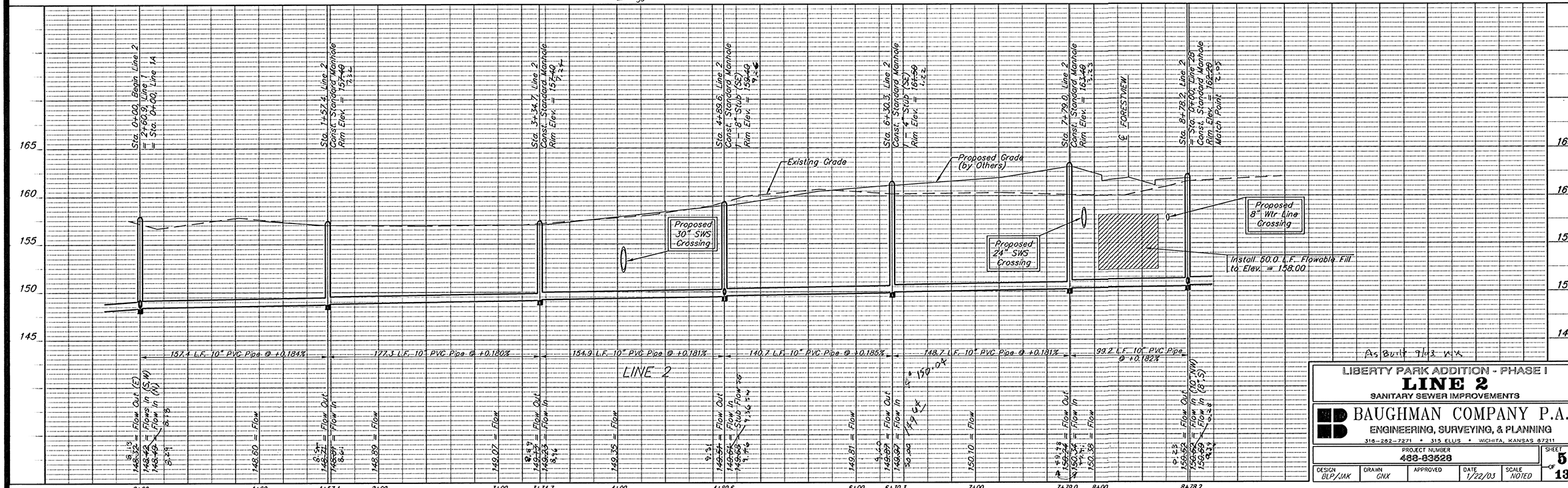
L:\Libertypark\Ph1\SS3 02-10-E421

BENCHMARK:

135th St. W. & 13th St. N. – City of Wichita Benchmark Disc, SE corner of intersection.
56' East of Centerline
55' North of Centerline
Elev. = 167.83 City Datum
(1355.23 NGVD29)

60d Nail in High Line Pole, 800' W. & 31' N. of the NE cor., NW1/4, Sec. 13, Twp. 27-S, R-2-W
Elev. = 1350.08 NGVD29
(162.68 City Datum)





LIBERTY PARK ADDITION - PHASE I

LINE 2

SANITARY SEWER IMPROVEMENTS

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ENGINEERING, SURVEYING, & PLANNING
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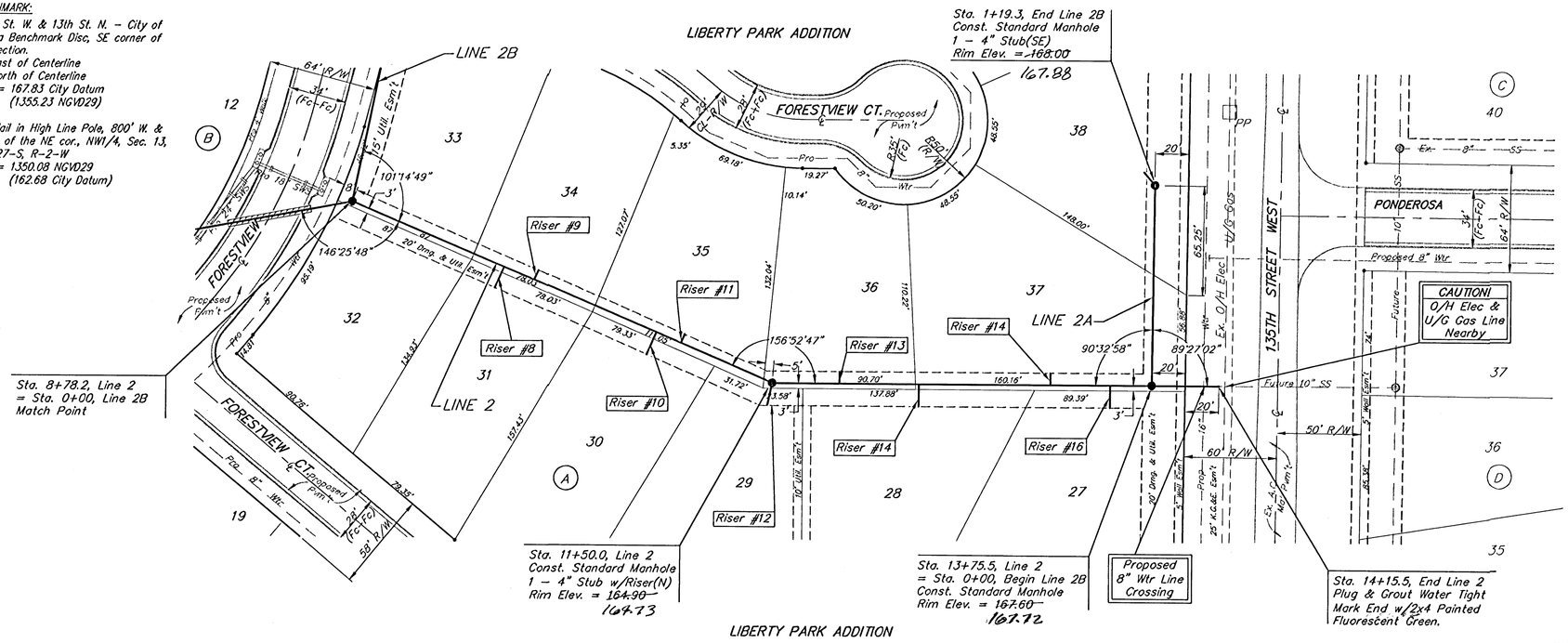
PROJECT NUMBER	SHEET
488-83528	5 OF 13

DESIGN	DRAWN	APPROVED	DATE	SCALE
BLP/JAK	GNX		1/22/03	NOTED

L:\projects\PH1\S14 02-10-2421

BENCHMARK:
135th St. W. & 13th St. N. – City of Wichita Benchmark Disc, SE corner of intersection.
56' East of Centerline
55' North of Centerline
Elev. = 167.83 City Datum
(1355.23 NGVD29)

60d Nail in High Line Pole, 800' W. & 31' N. of the NE cor., NW1/4, Sec. 13, Twp. 27-S, R-2-W
Elev. = 1350.08 NGVD29
(162.68 City Datum)

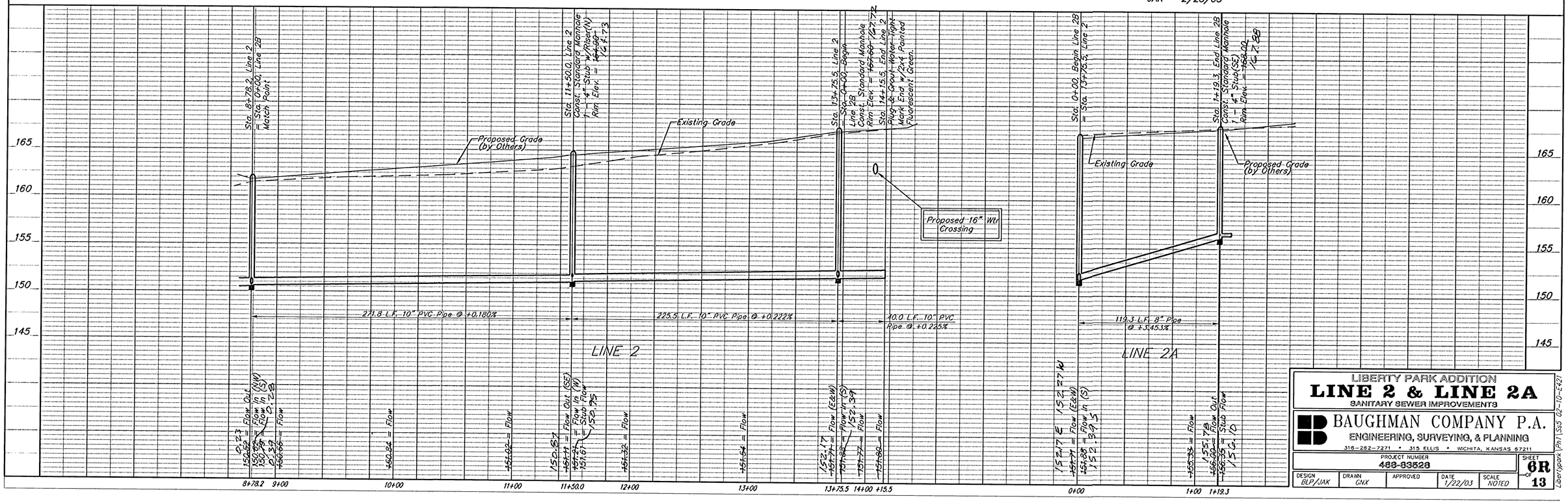


SEWER SERVICE TABLE

NUMBER	TYPE	LOCATION LOT NO.	LOCATION BLOCK NO.	LOCATION LINE NO.	STATION \ DIRECTION	FOR INFORMATION ONLY APPROXIMATE LENGTH 4" PIPE VERTICAL	FOR INFORMATION ONLY APPROXIMATE LENGTH 4" PIPE HORIZONTAL
8	8" X 4" Tee Saddle	31	A	2	9+76.7/Rt.	8.0'	14.0'
9	8" X 4" Tee Saddle	34	A	2	9+96.2/Lt.	8.0'	6.0'
10	8" X 4" Tee Saddle	30	A	2	10+74.9/Rt.	8.5'	14.5'
11	8" X 4" Tee Saddle	35	A	2	10+90.8/Lt.	9.0'	5.5'
12	4" Stub	29	A	2	11+50.0/Rt.	9.5'	13.0'
13	8" X 4" Tee Saddle	36	A	2	11+90.0/Lt.	9.5'	7.0'
14	8" X 4" Tee Saddle	28	A	2	12+37.2/Rt.	10.0'	13.0'
15	8" X 4" Tee Saddle	37	A	2	13+15.4/Lt.	10.5'	7.0'
16	8" X 4" Tee Saddle	27	A	2	13+50.8/Rt.	11.0'	13.0'

NOTE: Vertical Riser Pipe shall be extended to 2' minimum above ground water elevation and 4' maximum below proposed ground elevation.

REVISIONS:
Line 2A: End manhole relocated from Sta. 0+71.8, Line 2A to Sta. 1+19.3, Line 2A – JAK – 2/28/03



LIBERTY PARK ADDITION
LINE 2 & LINE 2A
SANITARY SEWER IMPROVEMENTS

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER 468-83528

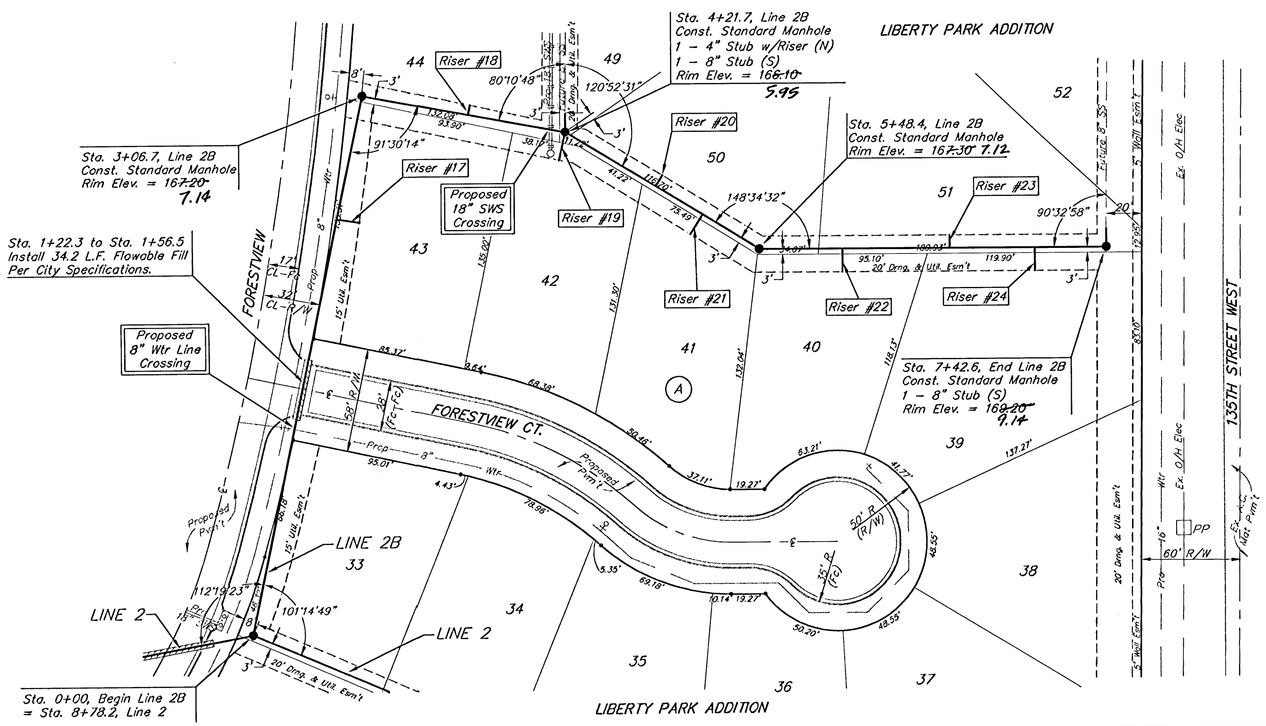
DESIGN	DRAWN	APPROVED	DATE	SCALE	SHEET
BLP/JAK	GNX		1/22/03	NOTED	6R OF 13

Liberlpark\Ph1\SS5 02-10-421

BENCHMARK:

135th St. W. & 13th St. N. – City of Wichita Benchmark Disc, SE corner of intersection.
56' East of Centerline
55' North of Centerline
Elev. = 167.83 City Datum
(1355.23 NGVD29)

60d Nail in High Line Pole, 800' W. & 31' N. of the NE cor., NW1/4, Sec. 13, Twp. 27-S, R-2-W
Elev. = 1350.08 NGVD29
(162.68 City Datum)



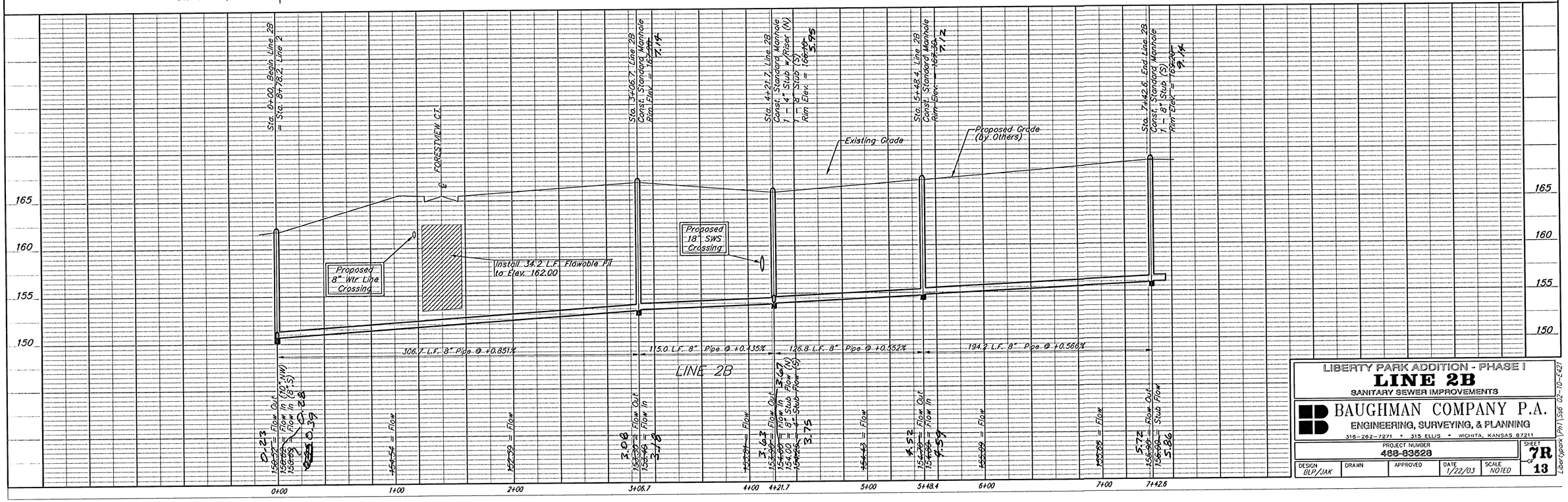
Scale: 1" = 40' Horizontal
1" = 5' Vertical
• = Iron

SEWER SERVICE TABLE

NUMBER	TYPE	LOCATION			STATION \ DIRECTION	FOR INFORMATION ONLY	
		LOT NO.	BLOCK NO.	LINE NO.		APPROXIMATE LENGTH 4" PIPE VERTICAL	HORIZONTAL
17	8" X 4" Tee Saddle	43	A	2B	2+37.0/Rt.	9.5'	9.5'
18	8" X 4" Tee Saddle	44	A	2B	3+67.0/Lt.	9.0'	5.0'
19	8" X 4" Tee Saddle	42	A	2B	4+22.3/Rt.	8.0'	16.0'
20	8" X 4" Tee Saddle	50	A	2B	4+81.5/Lt.	8.0'	7.0'
21	8" X 4" Tee Saddle	41	A	2B	5+12.2/Rt.	8.0'	13.0'
22	4" Stub w/ Riser	40	A	2B	5+95.8/Rt.	8.0'	13.0'
23	8" X 4" Tee Saddle	51	A	2B	6+55.7/Lt.	8.5'	7.0'
24	8" X 4" Tee Saddle	39	A	2B	7+03.3/Rt.	9.0'	13.0'

NOTE: Vertical Riser Pipe shall be extended to 2' minimum above ground water elevation and 4' maximum below proposed ground elevation.

REVISIONS:
Line 2B: Riser #20 relocated from Sta. 4+91.5, Line 2B to Sta. 4+81.5, Line 2B – JAK – 2/28/03



LIBERTY PARK ADDITION - PHASE I
LINE 2B
SANITARY SEWER IMPROVEMENTS

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 313 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER 468-83528

DESIGN	DRAWN	APPROVED	DATE	SCALE	SHEET
BLP/JAK			1/22/03	NOTED	7R of 13

02-10-E421
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LIBERTY PARK ADDITION

BENCHMARK:
135th St. W. & 13th St. N. - City of Wichita Benchmark Disc, SE corner of intersection.
56' East of Centerline
55' North of Centerline
Elev. = 1367.83 City Datum
(1355.23 NGVD29)

60d Nail in High Line Pole, 800' W. & 31' N. of the NE cor., NW1/4, Sec. 13, Twp. 27-S, R-2-W
Elev. = 1350.08 NGVD29
(162.68 City Datum)

Proposed 8" Wtr Line Crossing

Proposed 24" SWS Crossing

Sta. 1+24.7, Line 3
Const. Standard Manhole
Rim Elev. = 162.70

Sta. 3+50.6 Line 3
Const. Standard Manhole
Rim Elev. = ~~162.50~~ 162.35
Match Point 2.35

Sta. 0+00, Begin Line 3
= Sta. 4+54.8 Line 1

FORESTVIEW

FORESTVIEW Ct.

LINE 3

LINE 1

Sta. 1+42.4 to Sta. 1+75.8
Install 33.4 L.F. Flowable Fill
Per City Specifications.

LIBERTY PARK ADDITION

Scale: 1" = 40' Horizontal
1" = 5' Vertical
• = Iron

Sta. 0+00, Begin Line 3A
= Sta. 6+88.6, Line 3

Sta. 2+95.5, End Line 3A
Const. Standard Manhole
1 - 4" Stub (NE)
Rim Elev. = ~~164.70~~ 164.53
4.53

ST. MARK'S SUB ADDITION

COWSKIN SUB. ADDITION

LINE 3

LINE 3A

Proposed 18" SWS Crossing

LIBERTY PARK ADDITION

Scale: 1" = 40' Horizontal
1" = 5' Vertical
• = Iron

REVISIONS:
Line 3A: End manhole relocated from Sta. 2+57.5, Line 3A to Sta. 2+95.5, Line 3A - JAK - 2/28/03

Sta. 0+00, Begin Line 3
= Sta. 4+54.8 Line 1

Sta. 1+24.7, Line 3
Const. Standard Manhole
Rim Elev. = 162.70

FORESTVIEW Ct.

Sta. 3+50.6, Line 3
Const. Standard Manhole
Rim Elev. = 162.50
Match Point 2.35

Existing Grade

Proposed Grade (by Others)

Proposed 8" Wtr Line Crossing

Proposed 24" SWS Crossing

Install 33.4 L.F. Flowable Fill to Elev. 158.50

124.7 L.F. 8" Pipe @ +0.3.416%

225.9 L.F. 8" Pipe @ +0.456%

LINE 3

148.87 = Flow Out
149.02 = Flow In (10" NW)
149.32 = Flow In (8" S)
8.87

152.46 = Flow

152.40 = Flow Out
153.40 = Flow In

153.77 = Flow

154.25 = Flow

154.00 = Flow Out
154.66 = Flow In
8.97

0+00 1+00 1+24.7 2+00 3+00 3+50.6

Sta. 0+00, Begin Line 3A
= Sta. 6+88.6, Line 3

Sta. 2+95.5, End Line 3A
Const. Standard Manhole
1 - 4" Stub (NE)
Rim Elev. = ~~164.70~~ 164.53
4.53

Existing Grade

Proposed Grade (by Others)

Proposed 18" SWS Crossing

295.5 L.F. 8" Pipe @ +0.406%

LINE 3A

156.98 = Flow Out
157.36 = Flow In
7.42
7.08

157.71 = Flow

158.14 = Flow

158.25 = Flow Out (S)
158.56 = Stub Flow
8.14

0+00 1+00 2+00 2+95.5

LIBERTY PARK ADDITION - PHASE I
LINE 3 & LINE 3A
SANITARY SEWER IMPROVEMENTS

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER 468-83528
SHEET 8R OF 13

DESIGN	DRAWN	APPROVED	DATE	SCALE
BLP/JAK	GNX		1/22/03	NOTED

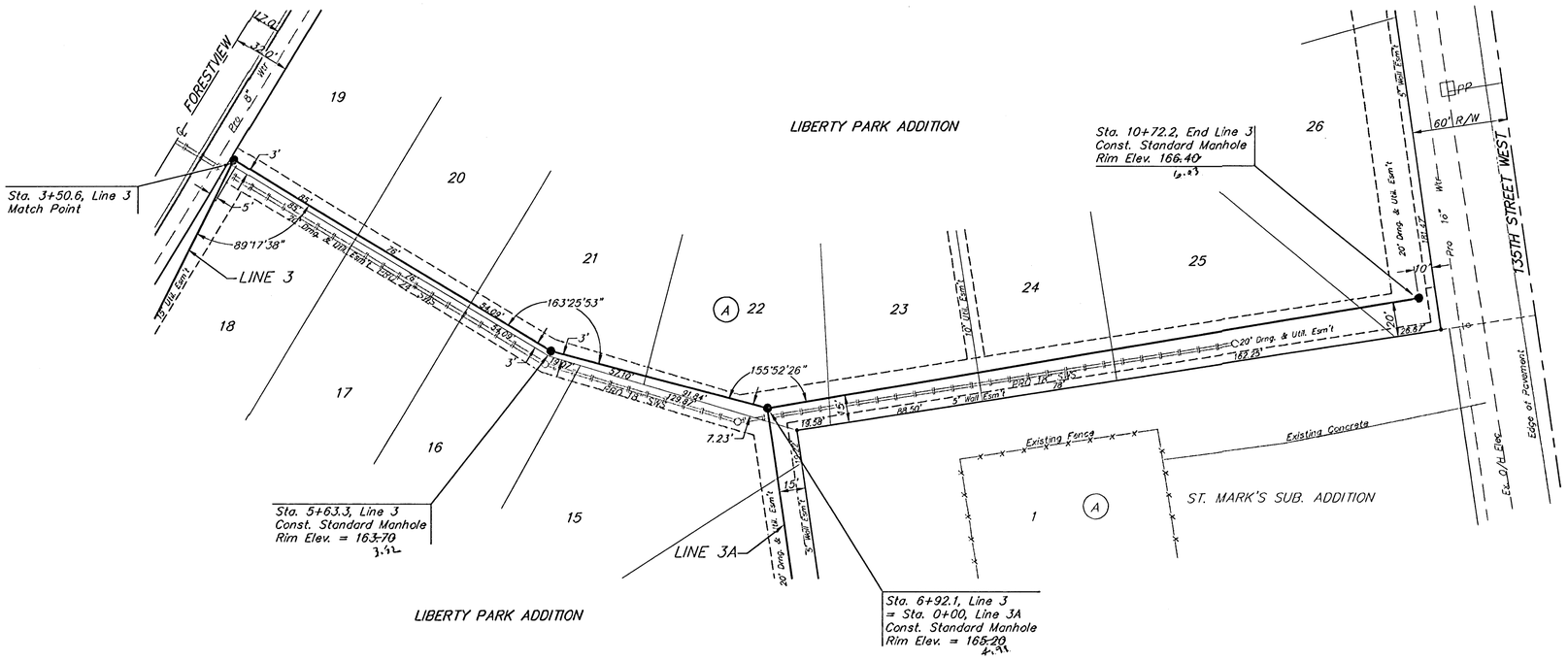
Liberty\pw\ [illegible] 02-10-E421

LAT 1 MAIN 5, NW1

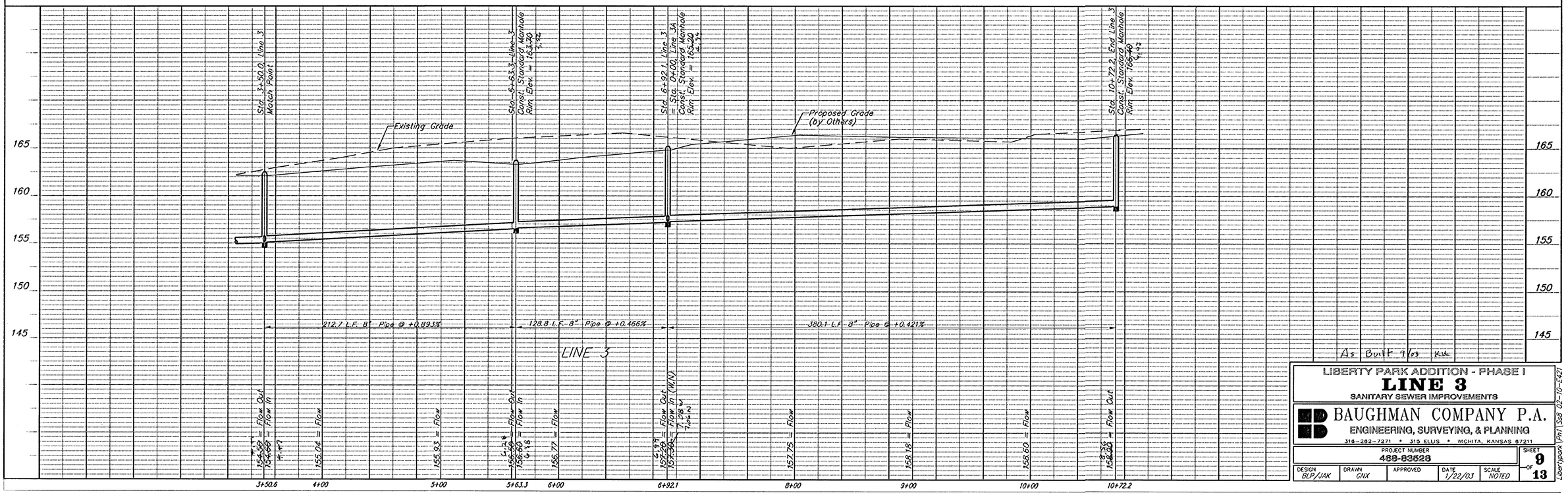
BENCHMARK:

135th St. W. & 13th St. N. – City of Wichita Benchmark Disc, SE corner of intersection.
56' East of Centerline
55' North of Centerline
Elev. = 167.83 City Datum
(1355.23 NGVD29)

60d Nail in High Line Pole, 800' W. & 31' N. of the NE cor., NW1/4, Sec. 13, Twp. 27-S, R-2-W
Elev. = 1350.08 NGVD29
(162.68 City Datum)



Scale: 1" = 40' Horizontal
1" = 5' Vertical
• = Iron



As Built 9/03 KJK

LIBERTY PARK ADDITION - PHASE I

LINE 3

SANITARY SEWER IMPROVEMENTS

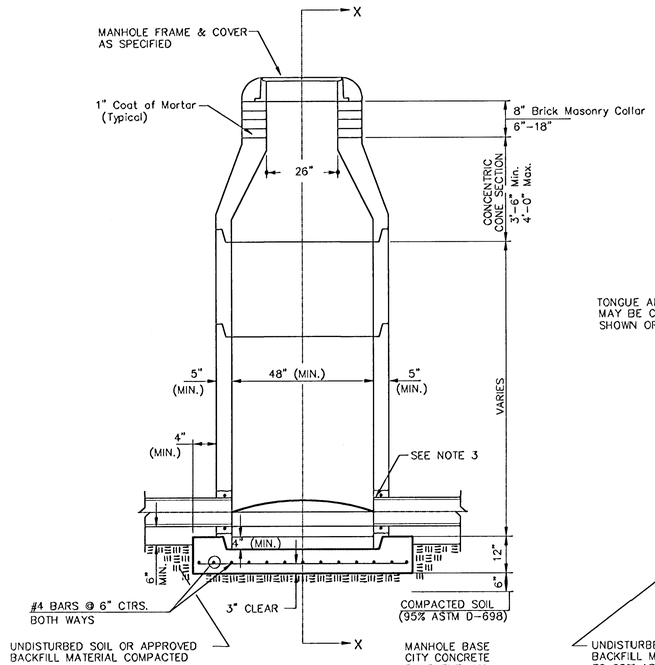
BAUGHMAN COMPANY P.A.
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PROJECT NUMBER	SHEET
468-83528	9 OF 13

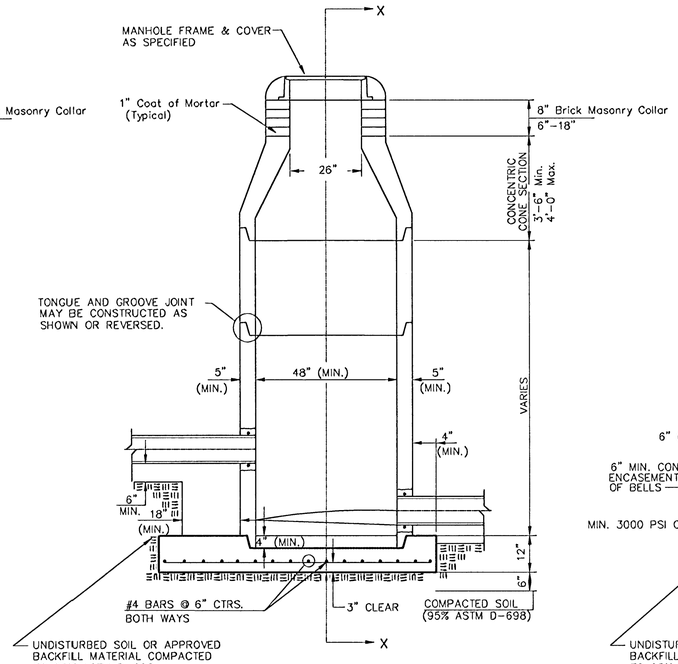
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Liberty\pan\Ph1\Sht 02-10-5421

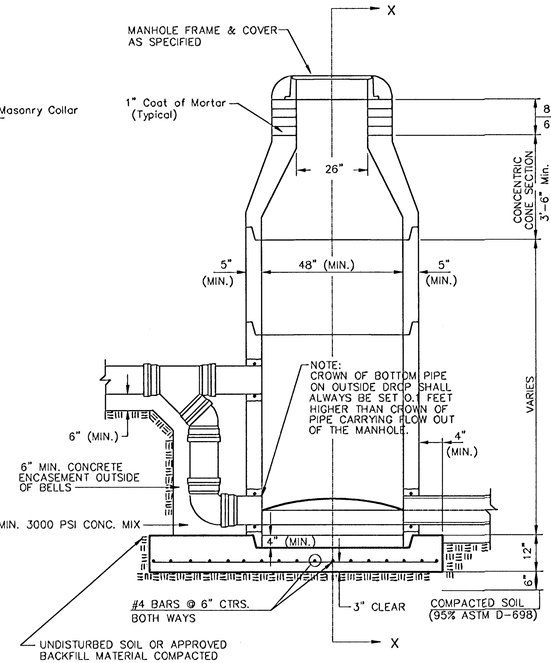
SEWER APPURTENANCES DETAILS



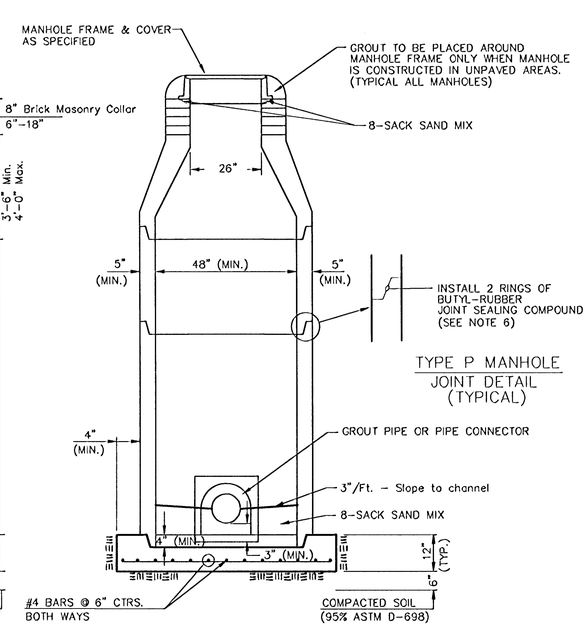
TYPE P STANDARD MANHOLE



TYPE P INSIDE DROP MANHOLE



TYPE P OUTSIDE DROP MANHOLE



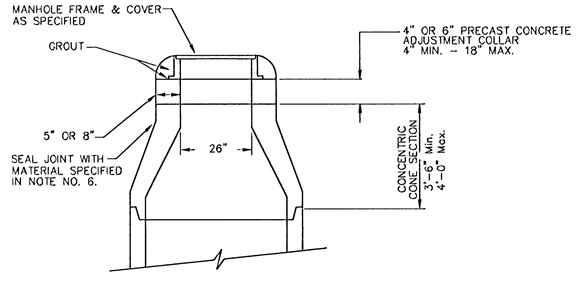
TYPE P MANHOLE
JOINT DETAIL
(TYPICAL)

SECTION X (TYPICAL)

GENERAL NOTES

PRECAST MANHOLE NOTES

1. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS 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 TNEMEC SERIES 66 HI-BUILD EPOXOLINE, DRY THICKNESS OF 8 MILS (MIN.)
5. EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS 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 NON-SHRINK 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 2' FOR INFLOWNG 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. THE USE OF PRE-CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.



ALTERNATE CONSTRUCTION
IN UNPAVED AREAS

STD. MANHOLE DETAILS
SEWER APPURTENANCES

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER	SHEET
488-83528	10 of 13

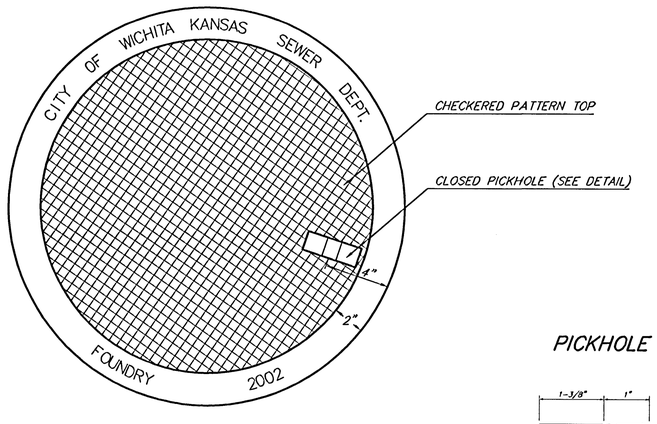
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STAFF	STAFF		1/22/03	NONE

Std. Manhole

MANHOLE FRAME AND COVER DETAIL

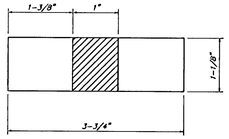
ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

MANHOLE COVER
Weight = 180 Lbs.

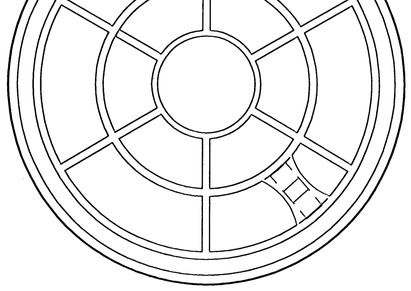


TOP VIEW

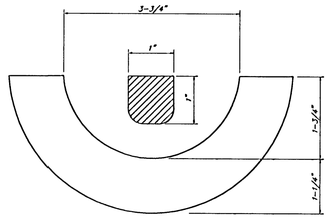
PICKHOLE DETAIL



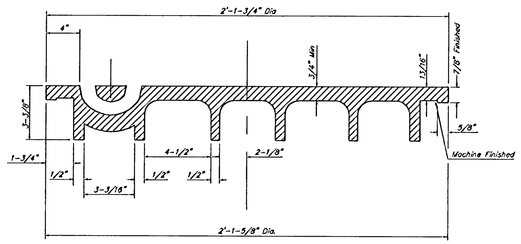
TOP VIEW



BOTTOM VIEW

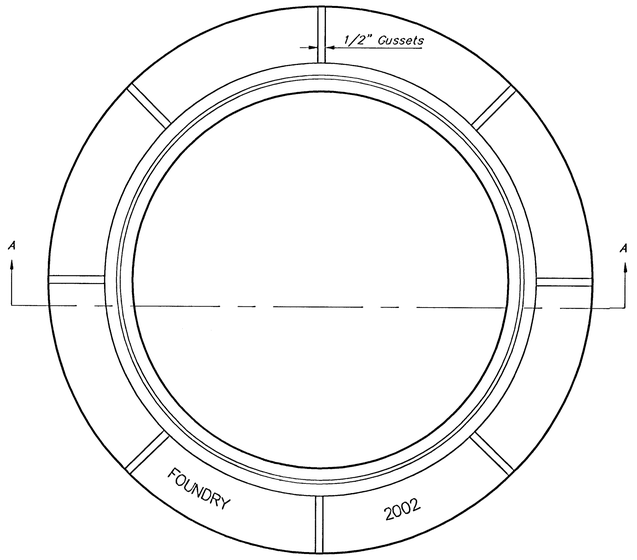


SECTION VIEW

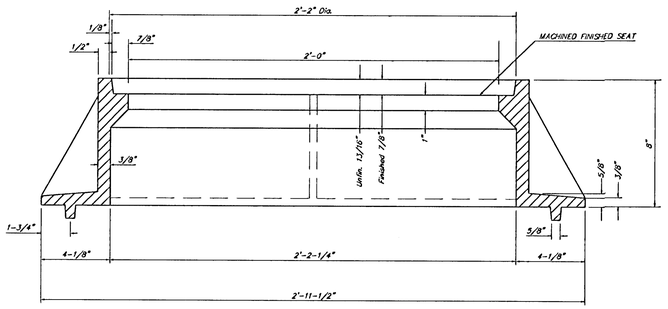


SECTION VIEW

MANHOLE FRAME
Weight = 145 Lbs.



TOP VIEW



SECTION A–A

GENERAL NOTES

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.

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

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.

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 AS THESE SURFACES SHALL MAKE FULL CONTACT FOR THEIR FULL CIRCUMFERENCE TO PRECLUDE THE COVER FROM ROCKING IN THE FRAME.

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 INCH 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.

MANHOLE FRAME AND COVER DETAIL
ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS

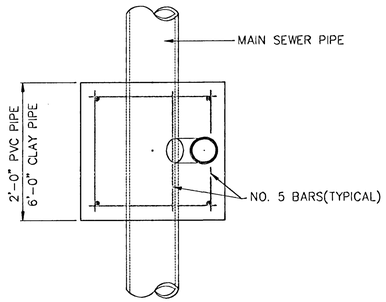
BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER	SHEET
488-83628	11 of 13

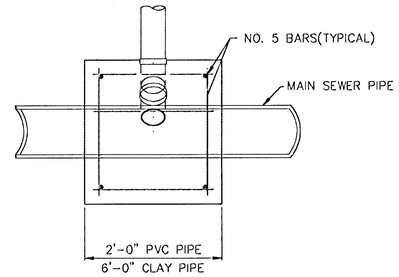
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STAFF	STAFF		1/22/03	NONE

L:Details\Manhole

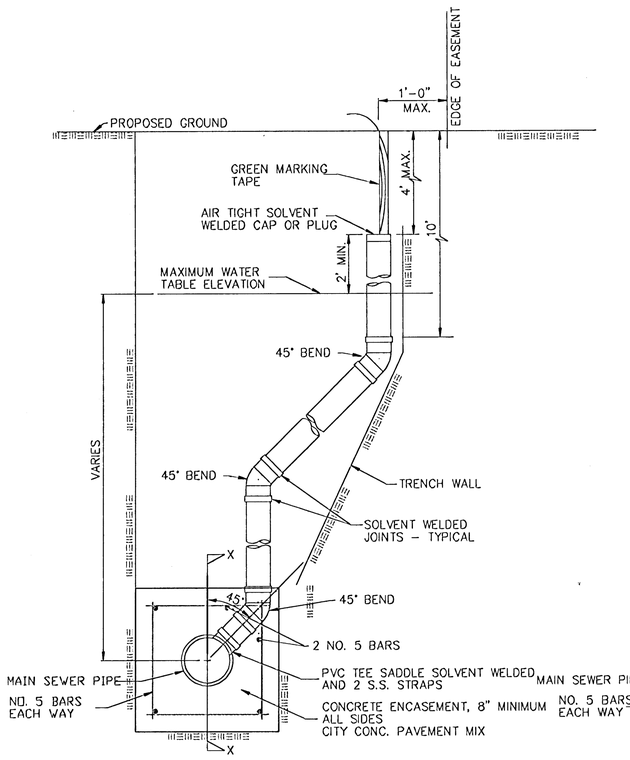
VERTICAL RISER DETAILS
ADOPTED AS STANDARD DESIGN
BY
CITY OF WICHITA, KANSAS
OCTOBER 1992



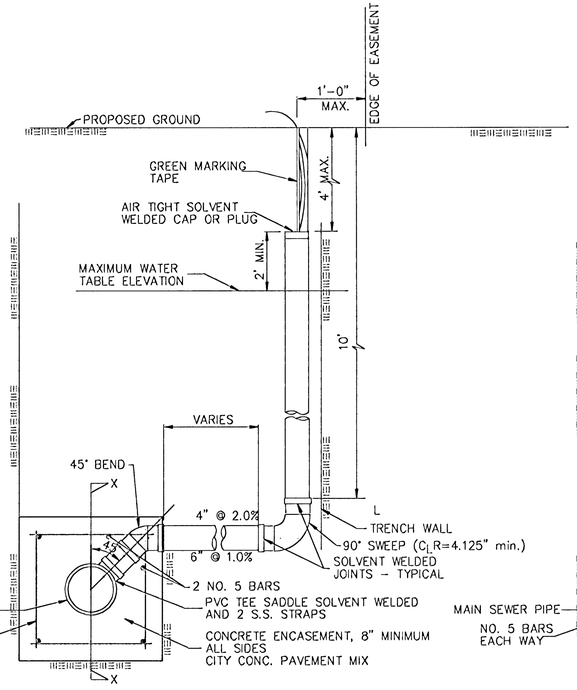
TYPICAL PLAN VIEW



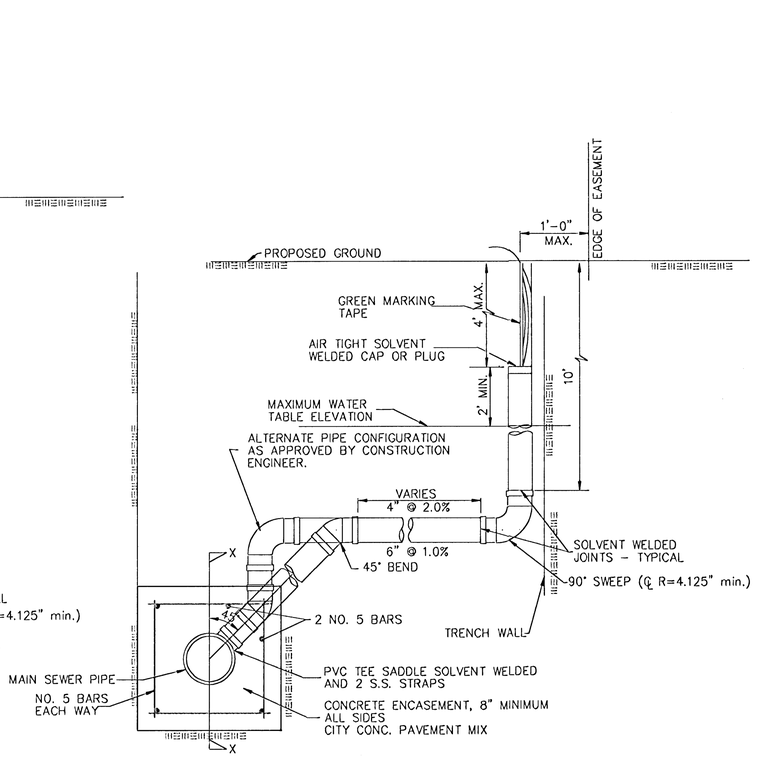
TYPICAL SECTION X–X



METHOD "A"



METHOD "B"



METHOD "C"

NOTE: RISER PIPE REQUIREMENTS AT MANHOLE STUBS SHALL BE SIMILAR TO THOSE SHOWN ABOVE.

GENERAL NOTES

1. RISERS. Risers shall be installed to serve all lots or tracts where the sanitary sewer main is below the water table. Risers shall also be installed to serve all lots and tracts where the sanitary sewer main depth is greater than 12 feet below the proposed ground elevation. Installation of risers because of field conditions shall be as approved by the Construction Engineer. The location of the risers to serve developed property shall be approved by the property owner and the Construction Engineer.

2. PIPE STUBS. Pipe stubs shall be installed in manholes where locations of manholes will provide satisfactory service connection as determined by the Construction Engineer. The vertical distance between the flowline of the manhole pipe stub and the flowline of the sanitary sewer main out of the manhole shall not exceed 2 feet. Risers shall be utilized at manhole pipe stubs as indicated in Note 1. Manhole pipe stubs shall be set such that the top of the stub is not lower than the top of the sanitary sewer main.

3. SIZING. Pipe stubs and risers shall be sized according to the plans and riser table where risers are indicated by the plans. Where risers or pipe stubs are required because of field conditions, the risers and stubs shall be six-inch diameter for commercial or industrial properties and 4" or 6" diameter for residential properties, based on lot size and sanitary sewer main depth. Sizing of risers and stubs shall be approved by the Construction Engineer prior to installation.

4. RISER OR STUB MATERIAL. Risers and stubs shall be constructed of Schedule 40 PVC Pipe, meeting the requirements of the latest revision of A.S.T.M. . All pipe joints shall be solvent welded.

5. REINFORCED CONCRETE ENCASEMENT. Riser connections to clay pipe sanitary sewers shall be reinforced concrete encased both ways from the riser centerline. The reinforced concrete encasement shall extend three feet from the riser centerline or stop at the first sanitary sewer pipe joint within three feet of the riser centerline. Riser connections to PVC Sanitary Sewer mains shall be reinforced concrete encased one foot each way from the riser centerline. The concrete encasement shall be reinforced using reinforcing steel as shown in the appropriate drawing. The concrete shall conform to the City Standard Specifications for concrete pavement.

6. BEDDING. Bedding around the sanitary sewer riser shall be compacted Pipe Bedding Type 1 or 2. The bedding shall be placed and compacted from the depth of the sanitary sewer main to the top of the sanitary sewer riser pipe. Compacted Pipe Bedding Type 1 or 2 shall be required for all risers whether constructed in vertical wall or sloped wall trenches. Bedding material and construction practices shall be approved by the Construction Engineer prior to installation.

7. SUPPORT OF RISERS. Sanitary sewer riser pipe shall be supported during trench backfill. The riser pipe shall be held in a vertical position at all times until trench backfill and compaction has been completed. Contractor's methods for supporting and backfilling the riser pipe shall be approved by the Construction Engineer.

8. PLUGGING. The ends of the riser pipes and manhole stubs shall be plugged using an airtight solvent welded cap or plug. Cap or plug fittings shall be approved by the Construction Engineer prior to installation. Caps or plugs which do not provide an airtight seal will not be accepted.

9. TOP OF THE RISER PIPE. The top elevation of the sanitary sewer riser pipe shall be built per plan elevations, unless otherwise directed by the Construction Engineer. Where riser elevations are not shown on the plans, the top of the risers shall be set at an elevation four feet below the proposed ground surface. If ground water is encountered, the top of the riser pipe shall be set at an elevation two feet (min.) above the maximum water table elevation, regardless of the riser elevation shown on the plans.

10. MARKING. Locations of the ends of the sanitary sewer riser pipe shall be marked by fastening green colored plastic tape to the end of the riser. The tape shall be supported by a length of wooden 2 x 4, extending from the top of the riser pipe to the proposed ground surface. The green tape shall be visible and extend one foot above the proposed ground surface. The green tape shall be 4 mil Polyethylene film with a minimum width of three inches, specifically manufactured for the purpose of identification of underground sewers.

11. LOCATION MEASURES. The project inspector shall record and document the location of all risers constructed as measured from the nearest manhole, indicating the direction from the manhole, the direction and distance from the main, riser size, and elevation of the top of the riser.

12. RISER LOCATION. The riser shall be located per plan if shown. If not shown on the plan, the riser shall be located at the center of the lot, within one foot of the property side of the easement for the lot being served. All riser locations shall be approved by the Construction Engineer prior to installation.

13. PAYMENT. "Sanitary sewer risers" shall be paid for at the contract unit price per each, which price shall be full compensation for all pipe, fittings, marking tape, length of wooden 2 x 4, reinforced concrete encasement, support during backfill, backfill, labor, site restoration, and any other items necessary to complete the work.

"Manhole stubs" shall be paid for at the contract unit price per each, which shall be full compensation for all labor, material, and incidentals necessary to complete the work including all pipe, fittings, reinforced concrete encasement, and all other items as required and listed for "Sanitary Sewer Risers".

City of Wichita Standard
Riser Details

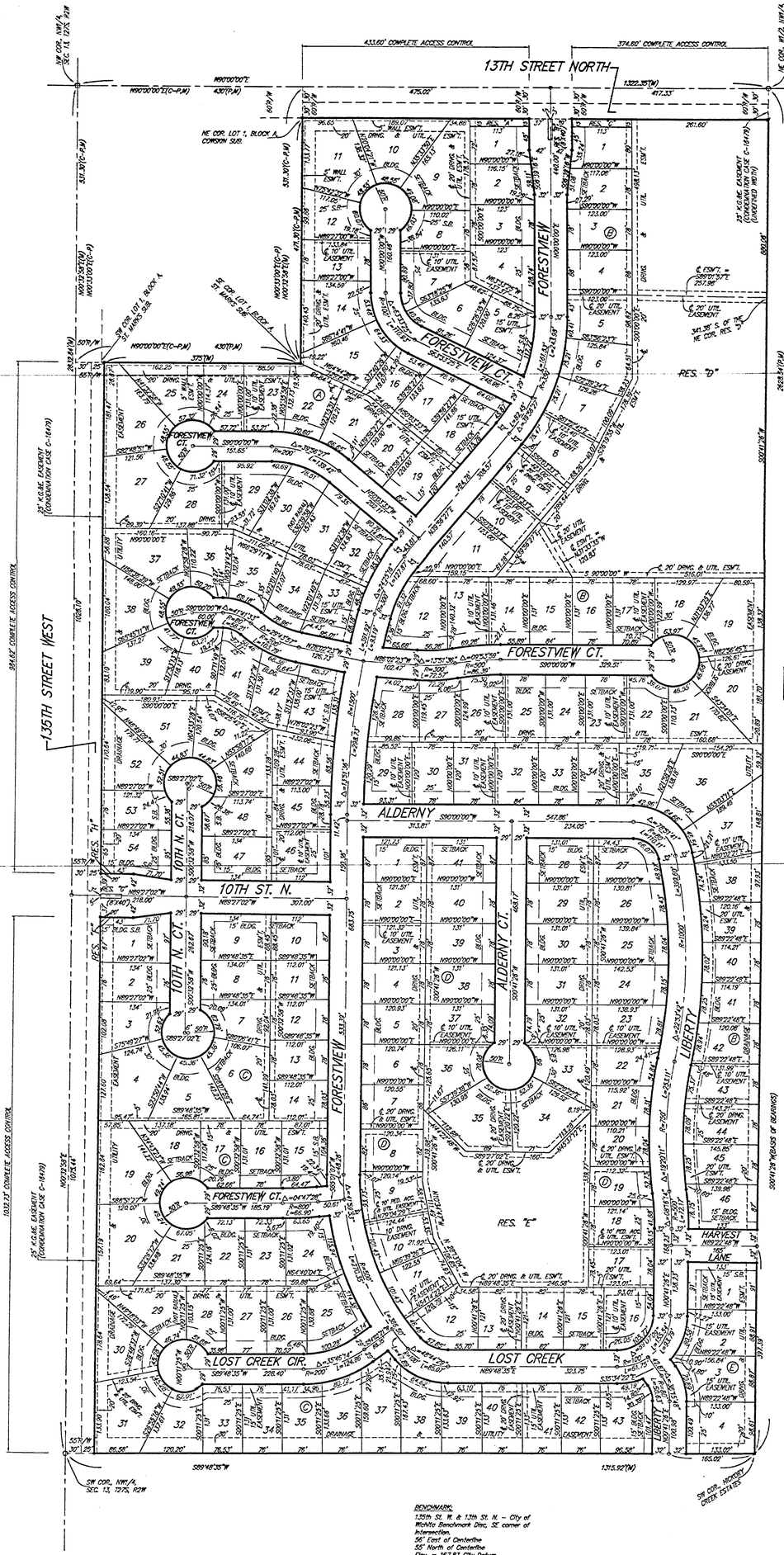
BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER	SHEET
468-83528	12 OF 13

DESIGN	DRAWN	APPROVED	DATE	SCALE
Staff	Staff		1/22/03	NONE

Details \ Riser.DGN

LIBERTY PARK
AN ADDITION TO WICHITA, SEDGWICK COUNTY, KANSAS


13TH STREET NORTH
135TH STREET WEST
FORESTVIEW
FORESTVIEW CT.
ALDERNY
ALDERNY CT.
10TH ST. N.
10TH N. CT.
LIBERTY
HARVEST LANE
LOST CREEK
LOST CREEK CIR.
RES. "D"
RES. "E"
RES. "I"
RES. "K"
433.60' COMPLETE ACCESS CONTROL
374.60' COMPLETE ACCESS CONTROL
394.60' COMPLETE ACCESS CONTROL
1033.25' COMPLETE ACCESS CONTROL
25' K.G.&E. EASEMENT (CONDEMNATION CASE C-14479)
23' K.G.&E. EASEMENT (CONDEMNATION CASE C-14479) (ASSUMED WIDTH)
NW COR., NW1/4, SEC. 13, T27S, R2W
NE COR., W1/2, NW1/4, SEC. 13, T27S, R2W
SW COR., NW1/4, SEC. 13, T27S, R2W
SW COR., MOONEY CREEK ESTATES
NE COR. LOT 1, BLOCK A, CONDON SUB.
SW COR. LOT 1, BLOCK A, ST. MARKS SUB.
S1/4 COR. LOT 1, BLOCK A, ST. MARKS SUB.
1322.35'(M)
1315.92'(M)
S89°46'35"W
N89°27'02"E
N00°00'00"E(C-P,M)
S00°00'00"E(C-P,M)
N89°27'02"E(C-P,M)
S89°27'02"W(C-P,M)
N00°32'58"W(C-P,M)
S00°32'58"E(C-P,M)
430'(P,M)
375'(P,M)
507'M
557'M
1026'(M)
1033.14'
1313.14'
1322.35'(M)
N00°32'58"W
S00°32'58"E
S89°46'35"W
S89°27'02"W
N89°27'02"E
S00°00'00"E
N00°00'00"W