

4MC-068

BUREAU OF PUBLIC SERVICES

SEDGWICK COUNTY, KANSAS



SANITARY SEWER IMPROVEMENTS
FOR

BELLE TERRE SECOND ADDITION

SERVING

- Lot 1, Block 1
- Lots 1-6, Block 2
- Lots 1-5, Block 3
- Lots 9-16, Block 4
- Lots 1-18, Block 5

Phase II

NET LENGTH OF PROJECT 3174 FT. 0.60 MILES

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6. SANITARY SEWER LINE 67-5
7. EASEMENT GRADING PLAN
8. PRECAST MANHOLE DETAILS
9. BACKFILL DETAILS
10. SERVICE CONNECTION DETAILS
11. PLAT OF BELLE TERRE SECOND ADDITION

APPROVED:

Doug C. Amos
COUNTY ENGINEER / DIRECTOR OF PUBLIC SERVICES
DATE: 1/29/96

APPROVED:

Thomas Winters
CHAIRMAN, BOARD OF COUNTY COMMISSIONERS
DATE: 1-30-96

FILED IN THE OFFICE OF THE SEDGWICK COUNTY CLERK:

Brent S. Hester
DEPUTY COUNTY CLERK
DATE: 2/2/96

PLANS PREPARED BY:

BAUGHMAN COMPANY P. A.
ENGINEERING, SURVEYING & PLANNING
316/282-7271 • 315 ELLIS • WICHITA, KANSAS 67211



4MC-068

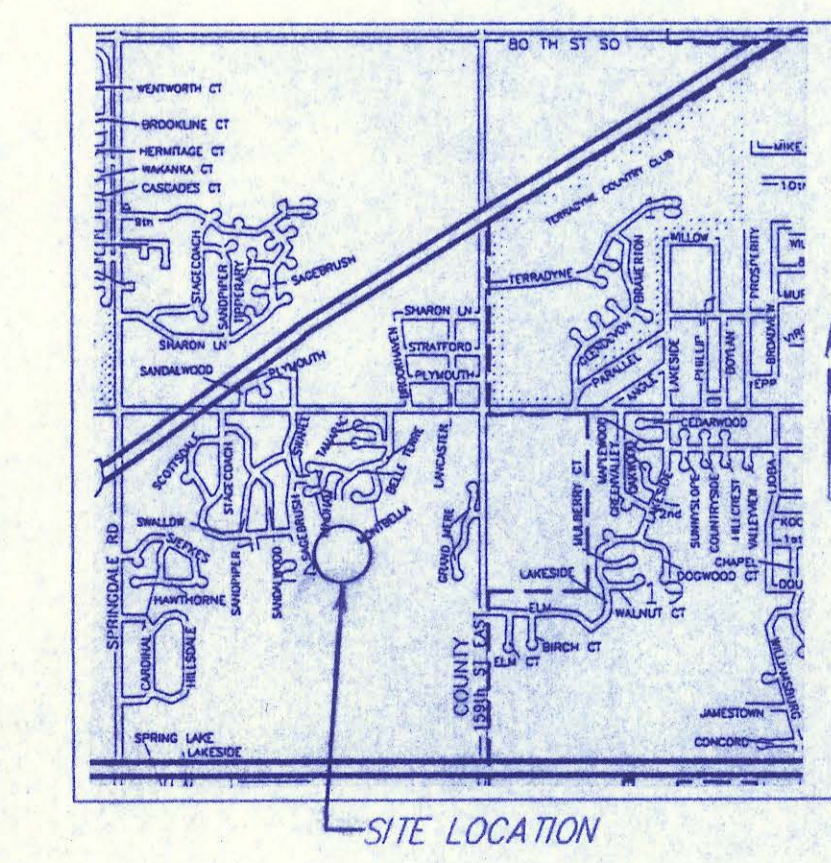
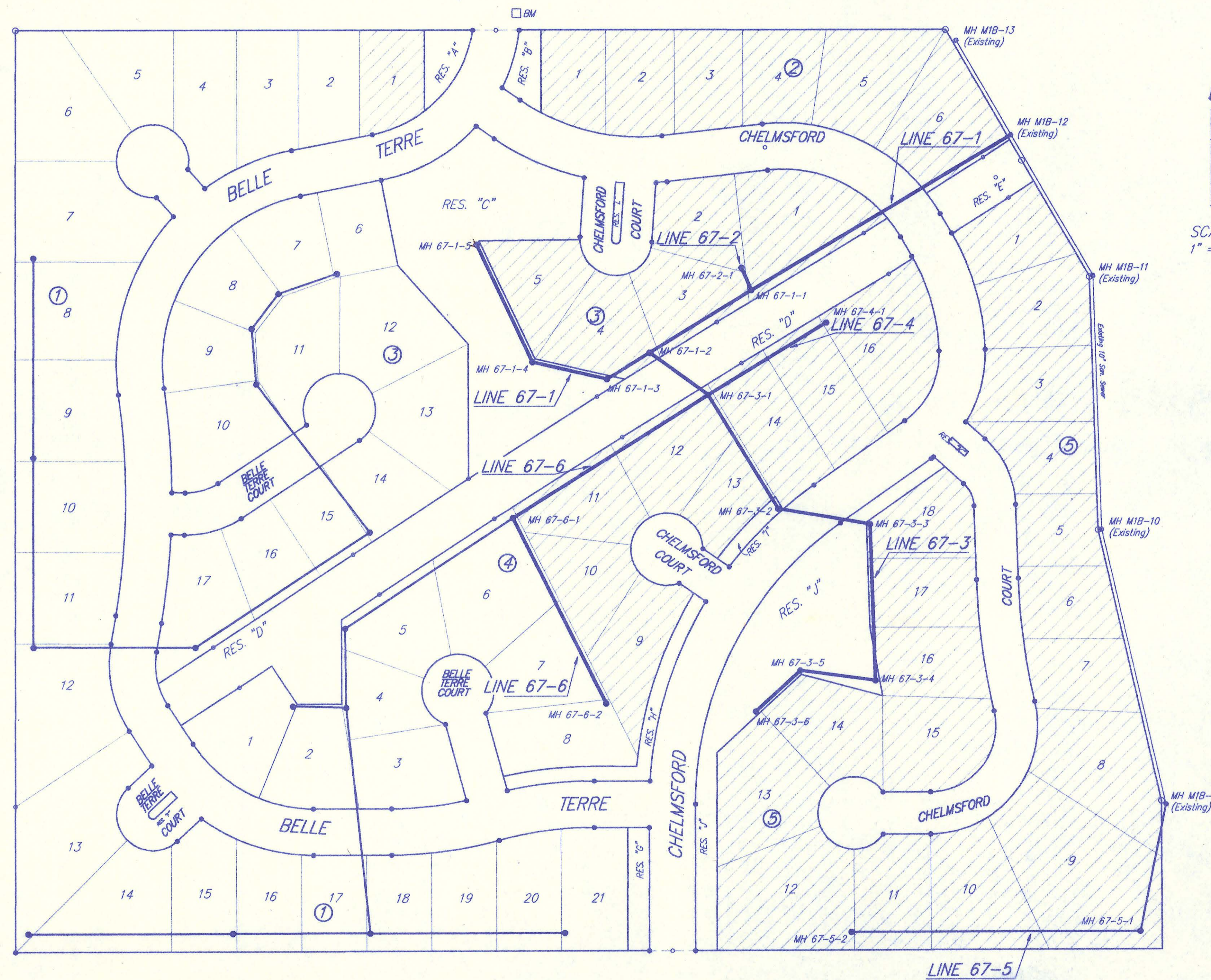
SANITARY SEWER

GENERAL NOTES

BELLE TERRE SECOND ADDITION SEDGWICK COUNTY, KANSAS.

- All Elevations shown are USGS Datum.
- At least 72 hours prior to beginning any excavation (excluding weekends and holidays), the Contractor shall contact the Kansas-One-Call system, a utility location service, at 687-2470 to request the following utility companies to locate any existing lines within the project area: Multimedia Cable TV, Wichita Water, Southwestern Bell Telephone, K.G.&E. Gas and K.G.&E. Electric. Request location of the existing high pressure gas line from Williams Natural Gas Company, 524-0491.
- The buried utilities as shown on the plans are approximate locations only. It should be noted that other buried lines and cables may exist which are not shown on these plans. The Contractor shall exercise extreme caution during trenching operations to avoid damaging these lines. Any lines damaged shall be replaced or repaired immediately as directed by the Engineer at the Contractor's expense.
- The Contractor shall contact the Sedgwick County Eastern Sewer District (733-0202) at least 24 hours before connecting new sewer pipe to the existing sewer system. The Contractor shall keep any construction debris from entering the existing sanitary sewer during construction. A mechanical plug shall be installed and maintained to isolate the existing sewer from the new construction until the new construction is cleaned, televised, and has been accepted to prevent water or debris from entering the existing sewer. The water used for cleaning shall not be added to the flow of the existing sewer. The cleaning or otherwise accumulated water shall be pumped or otherwise removed prior to televising.
- All manholes stubs shall be Schedule 40.
- All pipe joints shall be layed and pushed "full home", with the beveled end of the spigot making full contact with the chamfered area at the throat of the bell or socket, with no separation between them. If separation is determined, the pipe shall be excavated and relaid according to specifications at the Contractor's expense.
- Excess excavation material and other debris shall be wasted on sites to be provided by the Contractor as approved by the Engineer at no additional cost to the Owner.
- 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. 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.
- 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 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.
- 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.
- 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 County. 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.
- The Contractor shall be responsible for preserving property irons. The Contractor shall 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. Prior to start of construction, the contractor shall flag and return all property corners that may be disturbed by construction operations, and verify these in the field in the presence of the Engineer and the Contractor's surveyor. After construction and before final inspection, a letter signed and sealed by the licensed land surveyor certifying replacement of all disturbed property corners shall be submitted to the Engineer.
- The Contractor shall contain his operation to permit traffic through and across construction at existing roadways at all times. The Contractor shall erect warning signs, flashing lights, and barricades in compliance with the manual on uniform traffic control devices to ensure safety as directed in the general conditions. The Contractor shall limit the extent of trench to remain open overnight and weekends to less than 50 feet.
- The Contractor shall restore all ditches, swales, road shoulders, and banks to their original slopes and grades except where new grades are established by the Easement Grading plan. Where existing entrance pipe, drainage pipe, signs, fences, etc., conflict with the proposed work herein, they shall be removed and replaced or reset. The replacement of all the aforementioned items, including seeding, fertilizer and mulching shall be considered subsidiary to the project.
- Easements and right-of-ways provided by the owner for the project are shown in the plans. The Contractor shall be responsible for the acquisition of any additional temporary easements or right-of-ways that he desires to use in completing the work.
- Positive drainage shall be provided for all areas on or near spoil areas. Natural drainage ways shall be maintained.
- The Contractor shall provide positive drainage away from all manhole covers.
- The Contractor shall give all property owners and/or tenants of developed property abutting the construction of this project a minimum of 10 days advance notice prior to start of construction in the vicinity of the affected property.
- All trench backfill shall be either type I or type III unless noted otherwise.
- Top elevations for manholes are approximate only. Top elevations for manholes shall be set as follows:
 - Outside of traveled ways, 0.4 feet above finish grade.
 - Paved traveled ways, flush with finish grade.
 - Unpaved traveled ways, as directed by the Engineer.
- The Contractor shall also contact the following at least 72 hours prior to beginning construction to advise them of the intended work and of his proposed schedule:

Sedgwick County Bureau of Public Services
1250 S. Seneca
Wichita, KS. 67213
Mr. Jim Weber
(316) 383-7901
- It shall be the responsibility of the Contractor to satisfy himself as to the existence of unusual subsurface conditions, and to allow for such conditions in his bid.
- Contractor shall follow Best Management Practice as described in the project Storm Water Pollution Prevention Plan (SWPPP), a copy of which may be obtained from the engineer.
- All methods of construction and construction materials shall be in accordance with the Sedgwick County Standard Specifications.



**BELLE TERRE SECOND ADDITION
GENERAL NOTES
& PROJECT AREA**

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

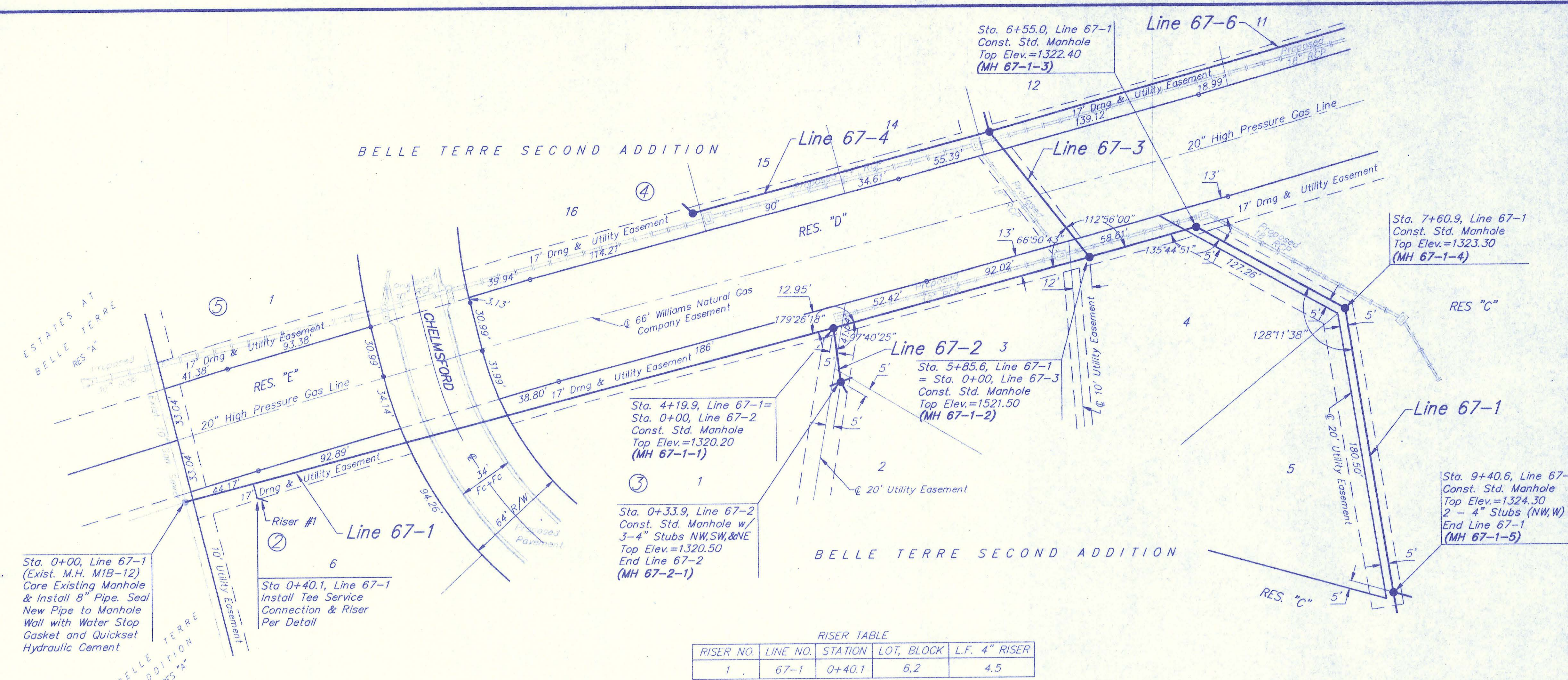
PROJECT NUMBER: Sedgwick County, Kansas

DESIGN: DRAWN: D1 APPROVED: DATE: 1/96 SCALE: As Shown SHEET: 2 OF 11

BENCHMARK:

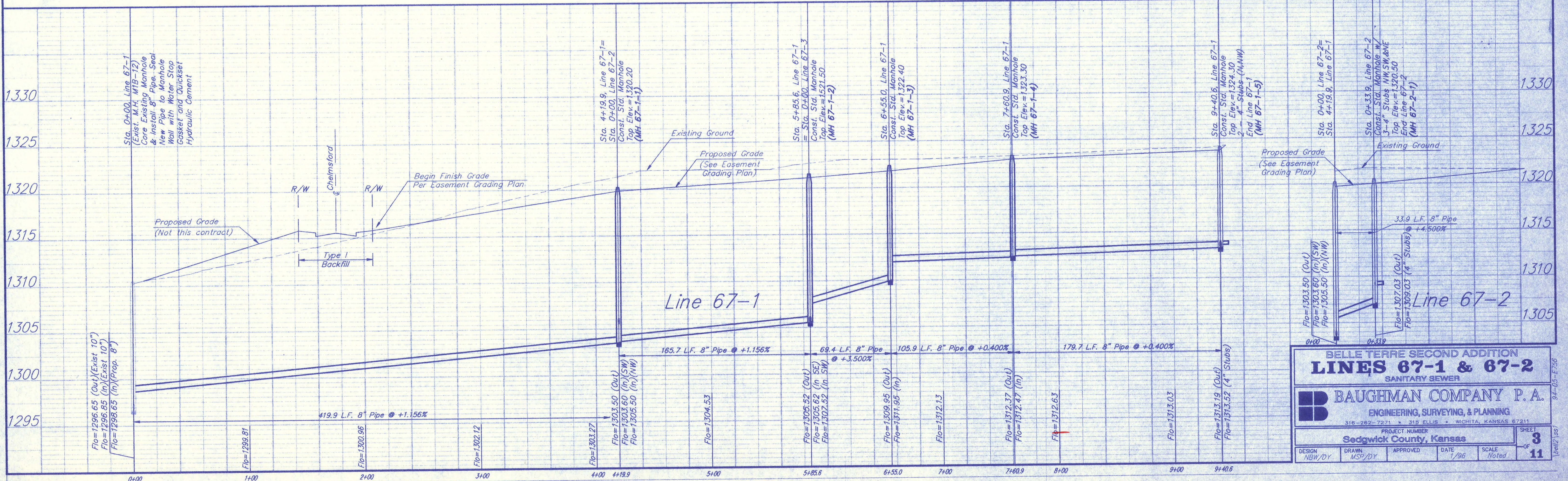
"□" Top of Curb on the East side of Belle Terre Street, 27± North of the South Property Line of Belle Terre Addition. Elev. = 1323.91 MSL

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



RISER TABLE

| RISER NO. | LINE NO. | STATION | LOT, BLOCK | L.F. 4" RISER |
|-----------|----------|---------|------------|---------------|
| 1 | 67-1 | 0+40.1 | 6.2 | 4.5 |



BELLE TERRE SECOND ADDITION
LINES 67-1 & 67-2
SANITARY SEWER

BAUGHMAN COMPANY P. A.
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316-282-7271 • 315 ELLIS • WICHITA, KANSAS 67211

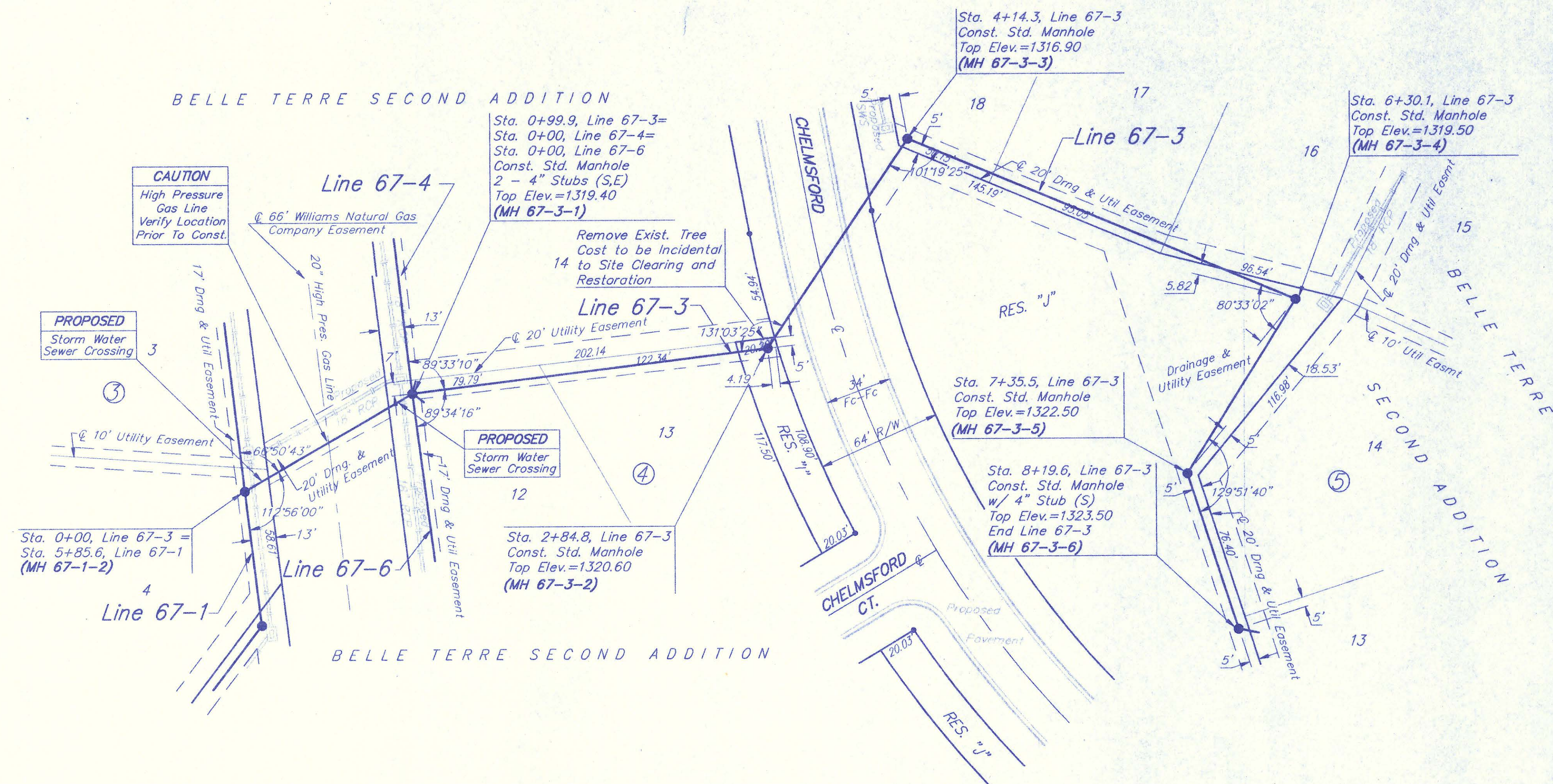
PROJECT NUMBER
Sedgwick County, Kansas

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| DESIGN NEW/DY | DRAWN MSP/DY | APPROVED | DATE 1/96 | SCALE Noted | SHEET 3 |
| | | | | | OF 11 |

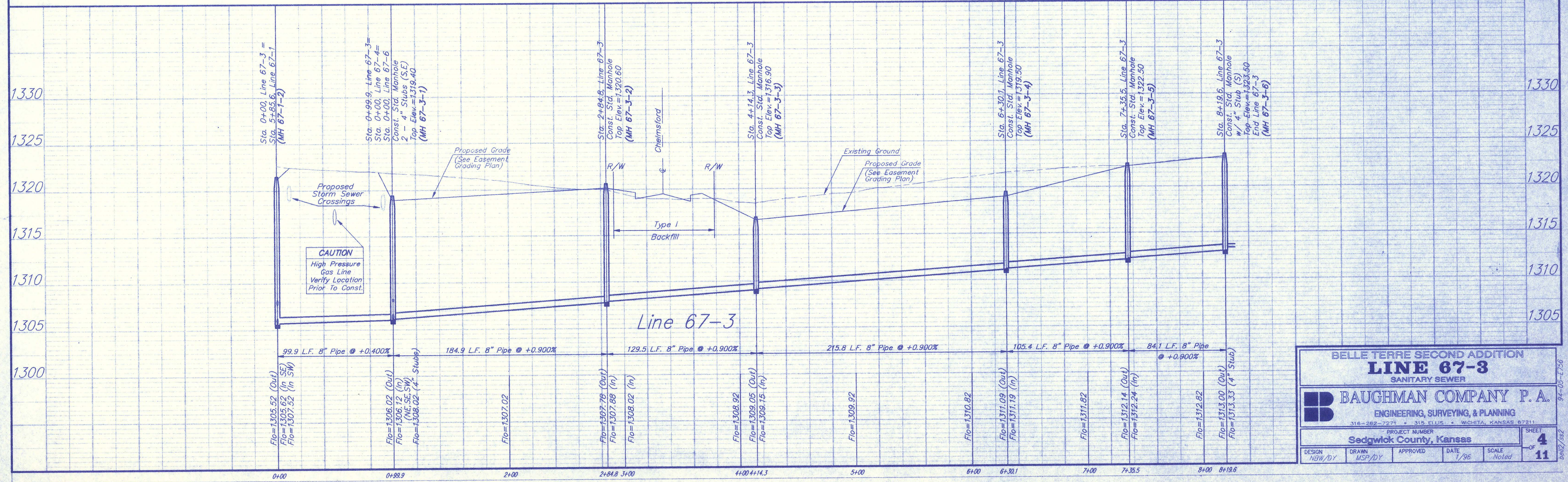
94-05-E-756
Vet/2 JWS

BENCHMARK:

"□" Top of Curb on the East side of Belle Terre Street, 27± North of the South Property Line of Belle Terre Addition. Elev. = 1323.91 MSL



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



BELLE TERRE SECOND ADDITION
LINE 67-3
SANITARY SEWER

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

PROJECT NUMBER: Sedgwick County, Kansas

DESIGN: NBW/DY DRAWN: MSP/DY APPROVED: DATE: 1/96 SCALE: Noted

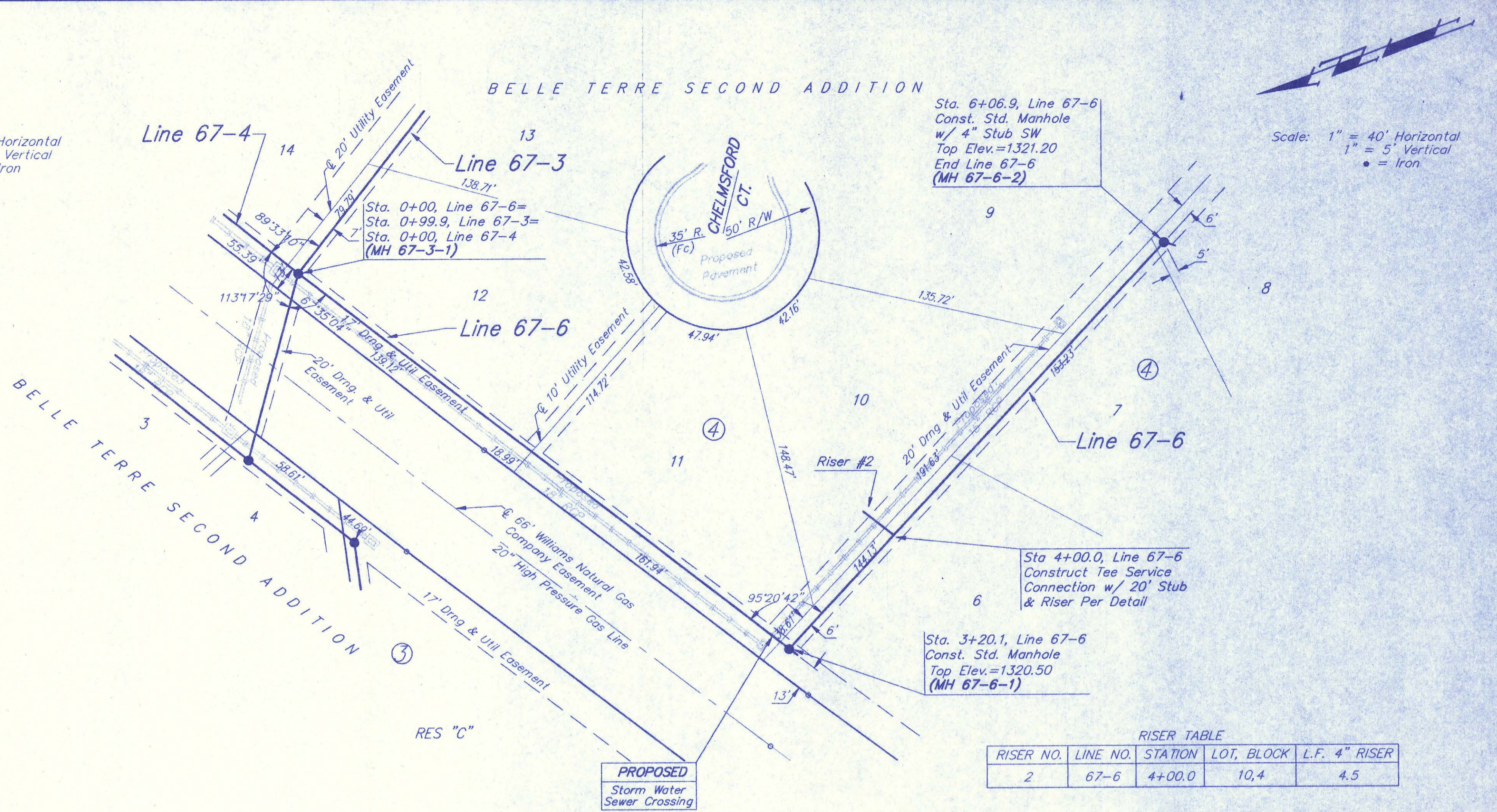
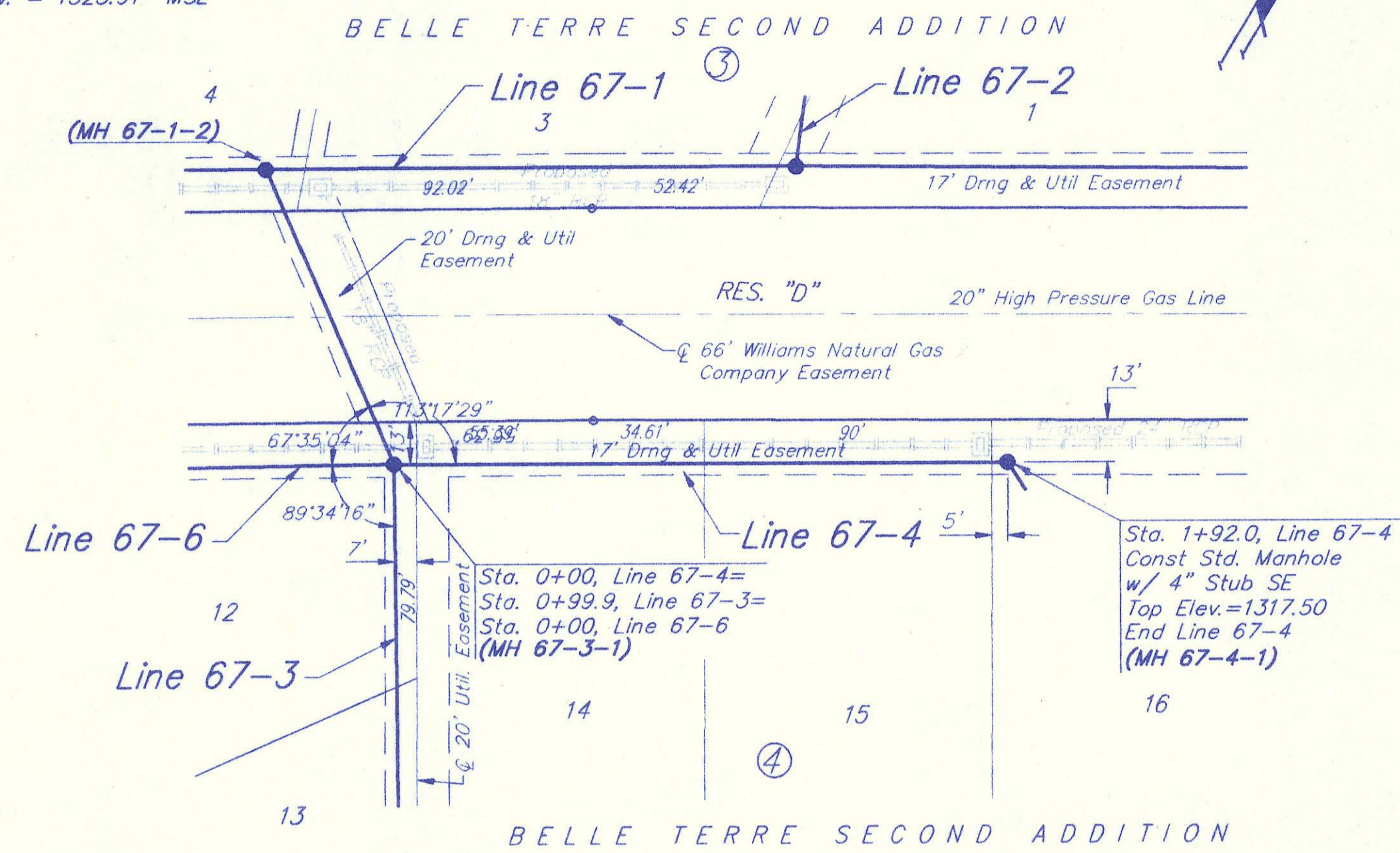
SHEET 4 OF 11

BENCHMARK:

"□" Top of Curb on the East side of Belle Terre Street, 27± North of the South Property Line of Belle Terre Addition. Elev. = 1323.91 MSL

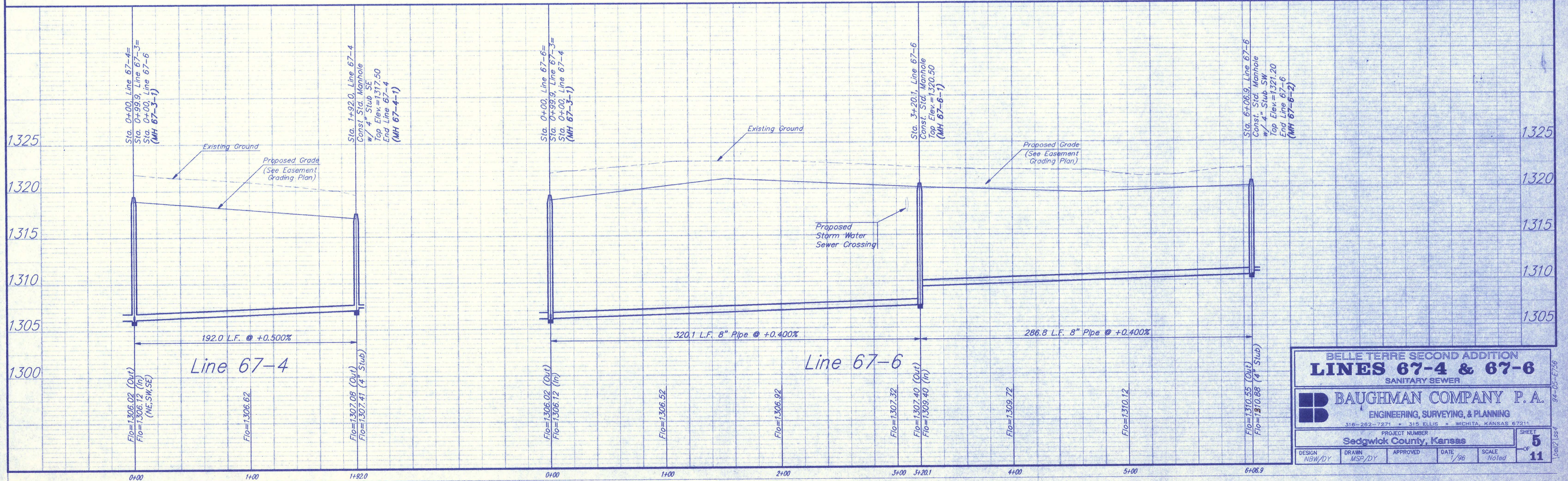
Scale: 1" = 40' Horizontal
1" = 5' Vertical
• = Iron

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



RISER TABLE

| RISER NO. | LINE NO. | STATION | LOT, BLOCK | L.F. 4" RISER |
|-----------|----------|---------|------------|---------------|
| 2 | 67-6 | 4+00.0 | 10,4 | 4.5 |



BELLE TERRE SECOND ADDITION
LINES 67-4 & 67-6
SANITARY SEWER

BAUGHMAN COMPANY P.A.
ENGINEERING, SURVEYING, & PLANNING
316-282-7271 • 315 ELLIS • WICHITA, KANSAS 67211

PROJECT NUMBER: Sedgwick County, Kansas
SHEET 5 OF 11

DESIGN: NBW/DY
DRAWN: MSP/DY
APPROVED: [Signature]
DATE: 1/96
SCALE: Noted

BENCHMARK:

"□" Top of Curb on the East side of Belle Terre Street, 27± North of the South Property Line of Belle Terre Addition. Elev. = 1323.91 MSL

NOTE:
Remove existing hedgerow only as necessary for construction. Cost incidental to Site Clearing & Restoration bid item.

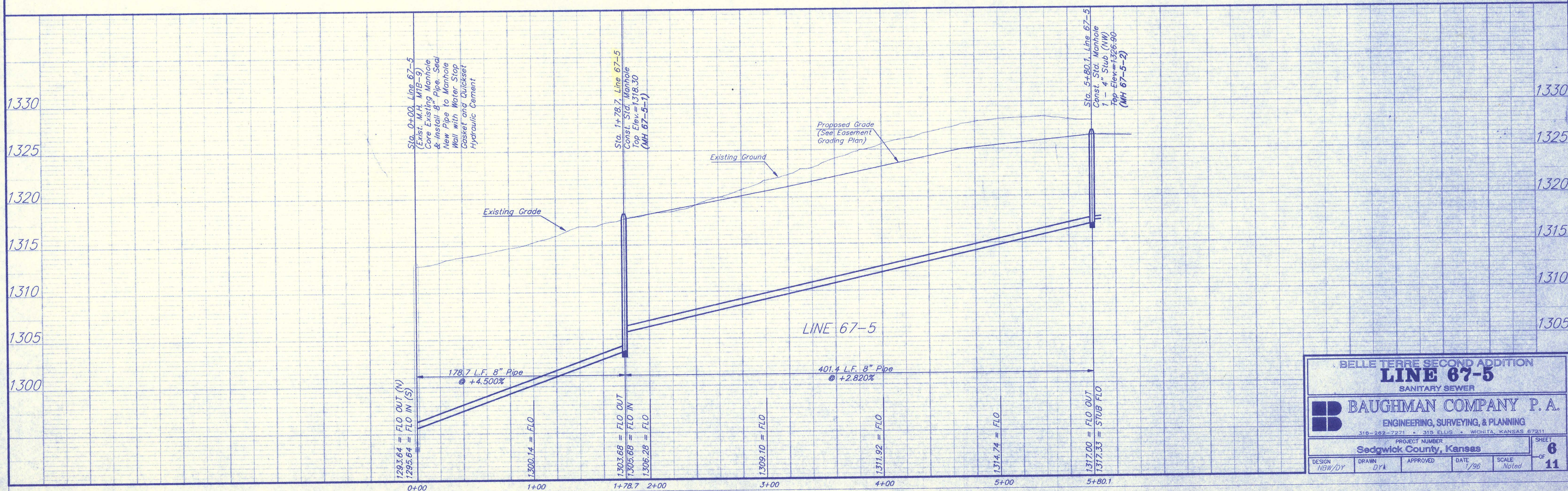
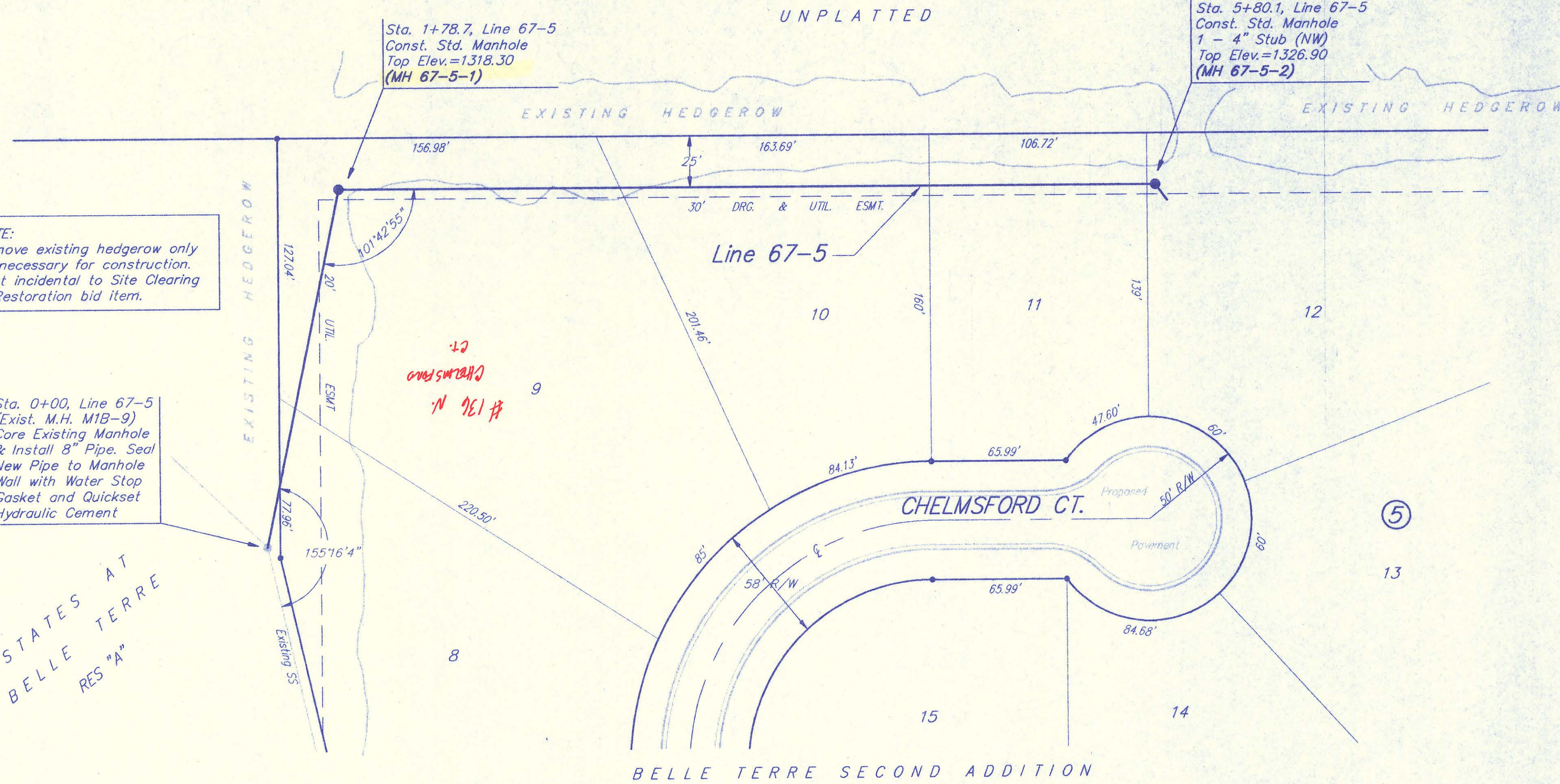
Sta. 0+00, Line 67-5 (Exist. M.H. M1B-9) Core Existing Manhole & Install 8" Pipe. Seal New Pipe to Manhole Wall with Water Stop Gasket and Quickset Hydraulic Cement

ESTATES AT BELLE TERRE RES "A"

Sta. 1+78.7, Line 67-5 Const. Std. Manhole Top Elev.=1318.30 (MH 67-5-1)

Sta. 5+80.1, Line 67-5 Const. Std. Manhole 1 - 4" Stub (NW) Top Elev.=1326.90 (MH 67-5-2)

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



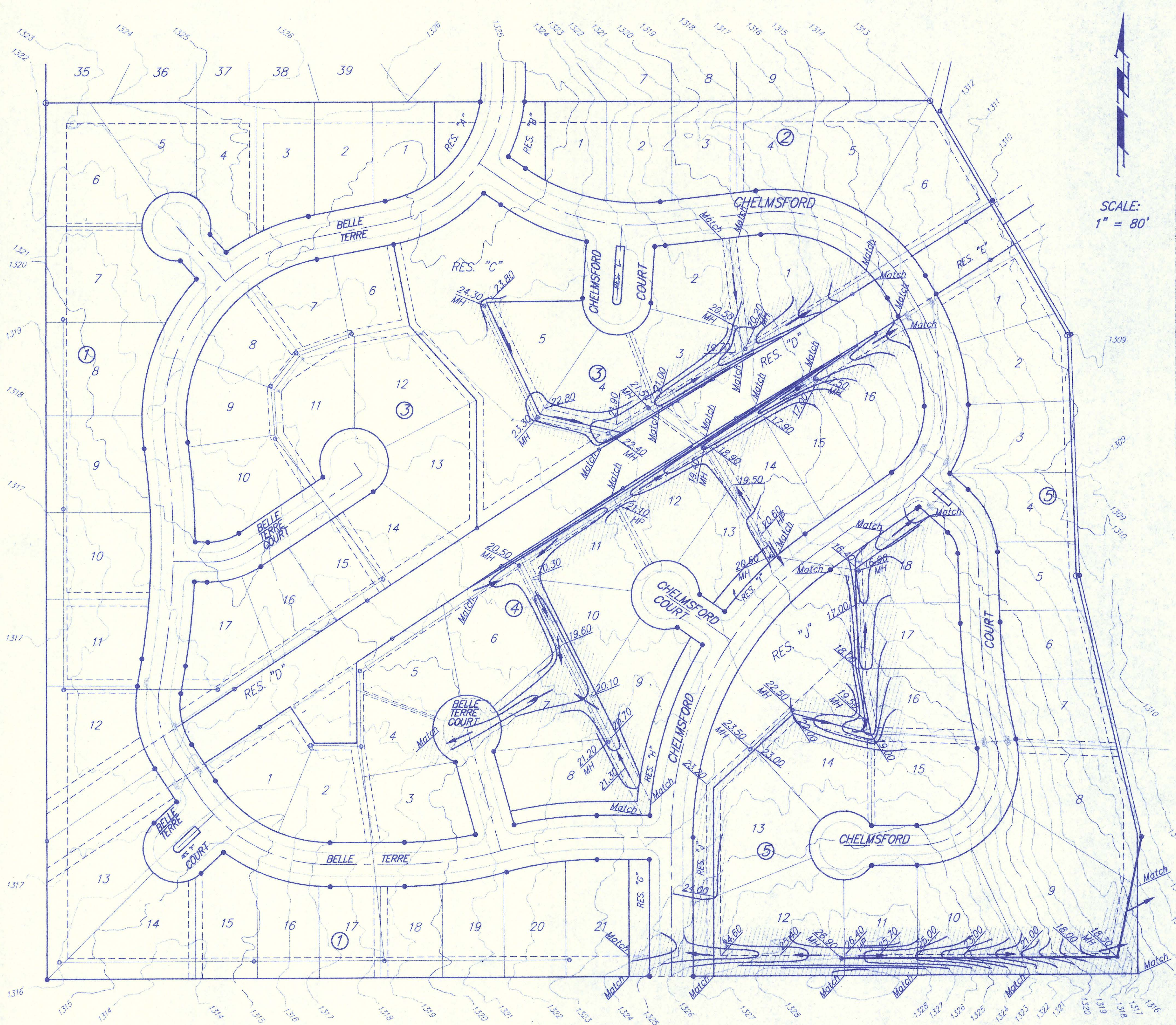
BELLE TERRE SECOND ADDITION
LINE 67-5
SANITARY SEWER

BAUGHMAN COMPANY P. A.
ENGINEERING, SURVEYING, & PLANNING
310-262-7271 • 315 ELLIS • WICHITA, KANSAS 67211

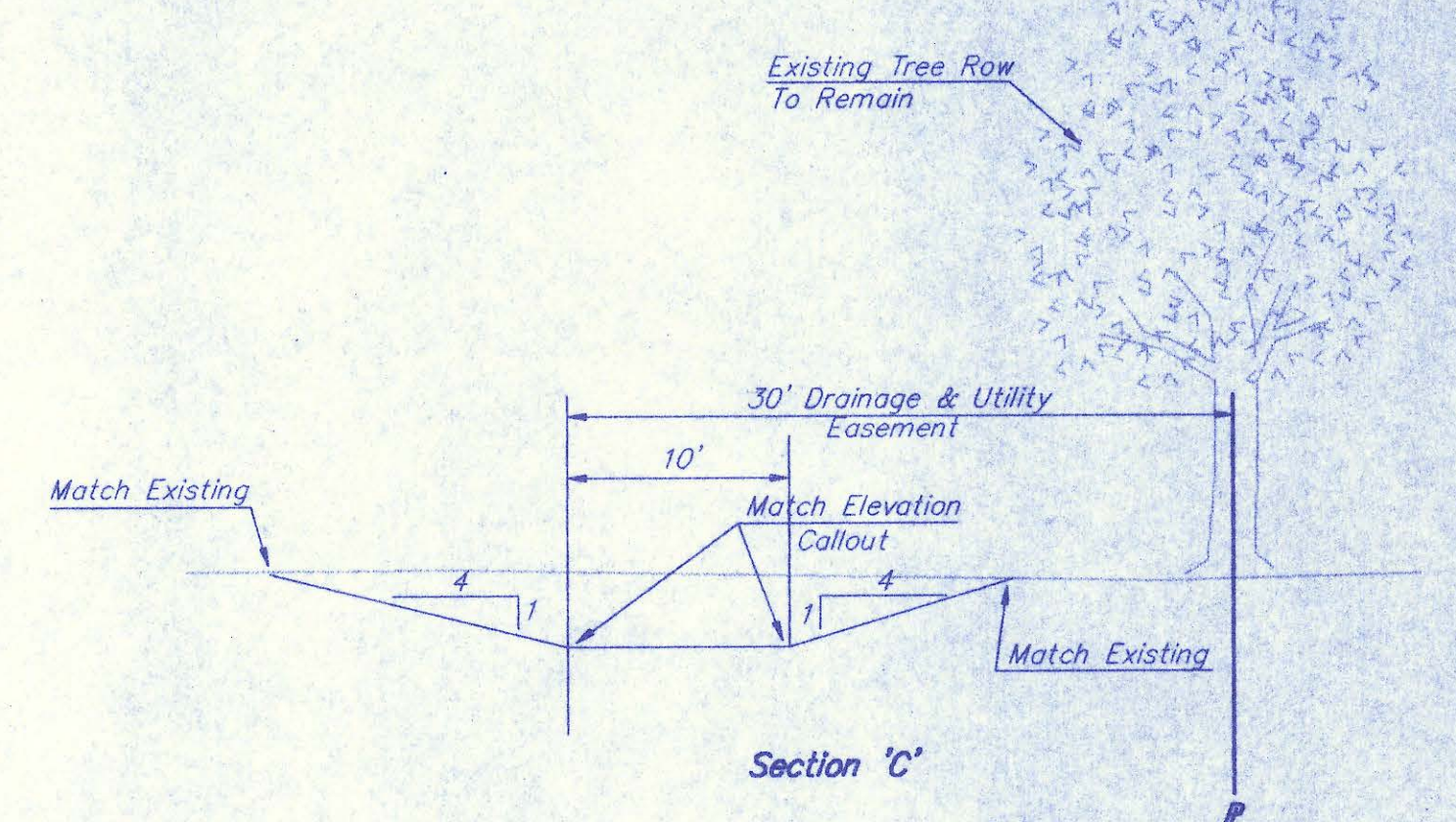
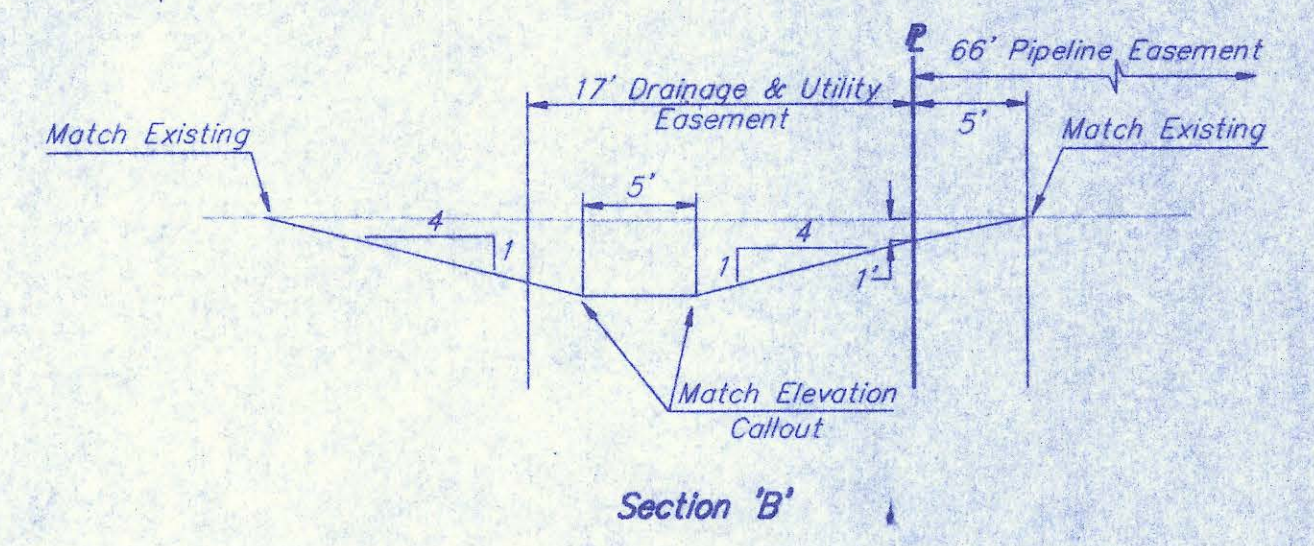
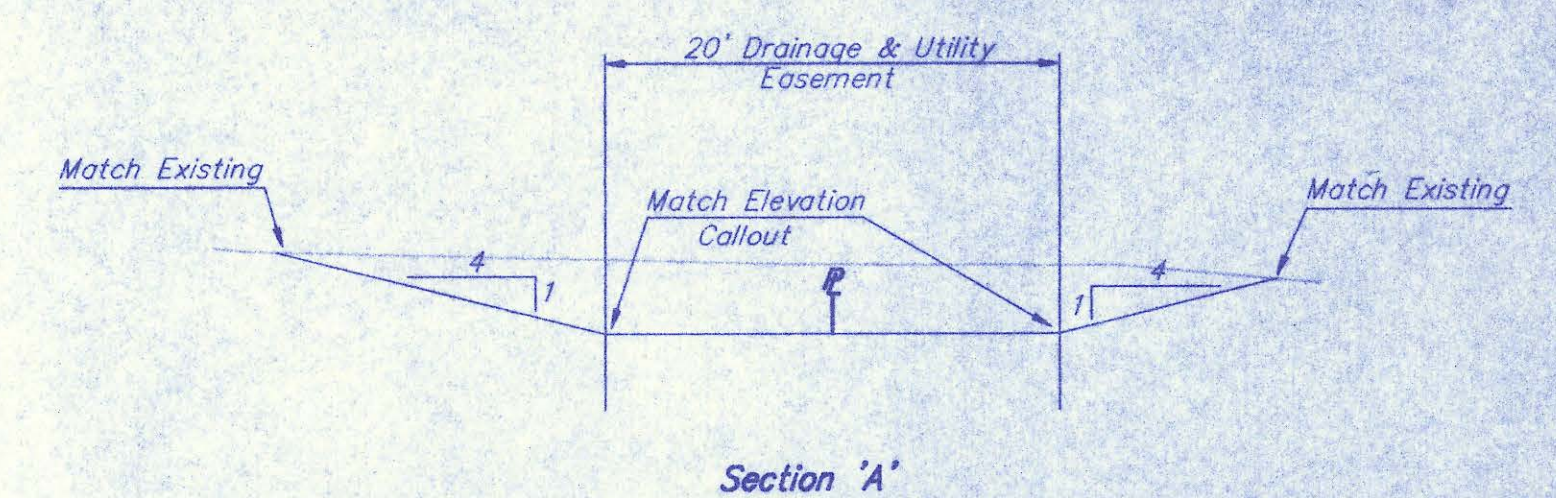
PROJECT NUMBER: Sedgwick County, Kansas

| | | | | |
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| DESIGN: NBW/DY | DRAWN: DYA | APPROVED: | DATE: 1/96 | SCALE: Noted |
|----------------|------------|-----------|------------|--------------|

SHEET 6 OF 11



SCALE:
1" = 80'



Legend

- Limits of Earthwork
- Existing Contours
- Proposed Contours
- 23.00 Finish Easement Grade
- 21.00/MH Manhole Rim Elevation
- 22.00/HP Finish Easement Grade (Highpoint)
- Match Existing Ground

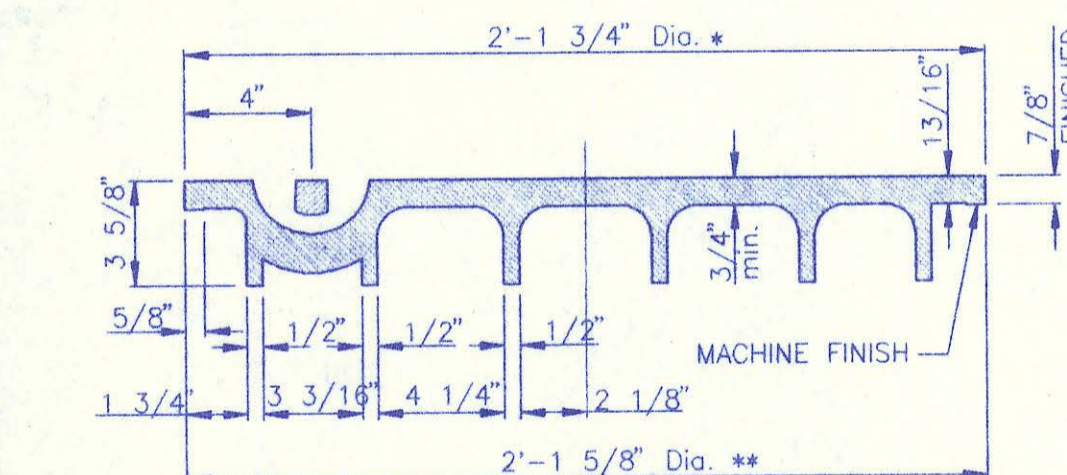
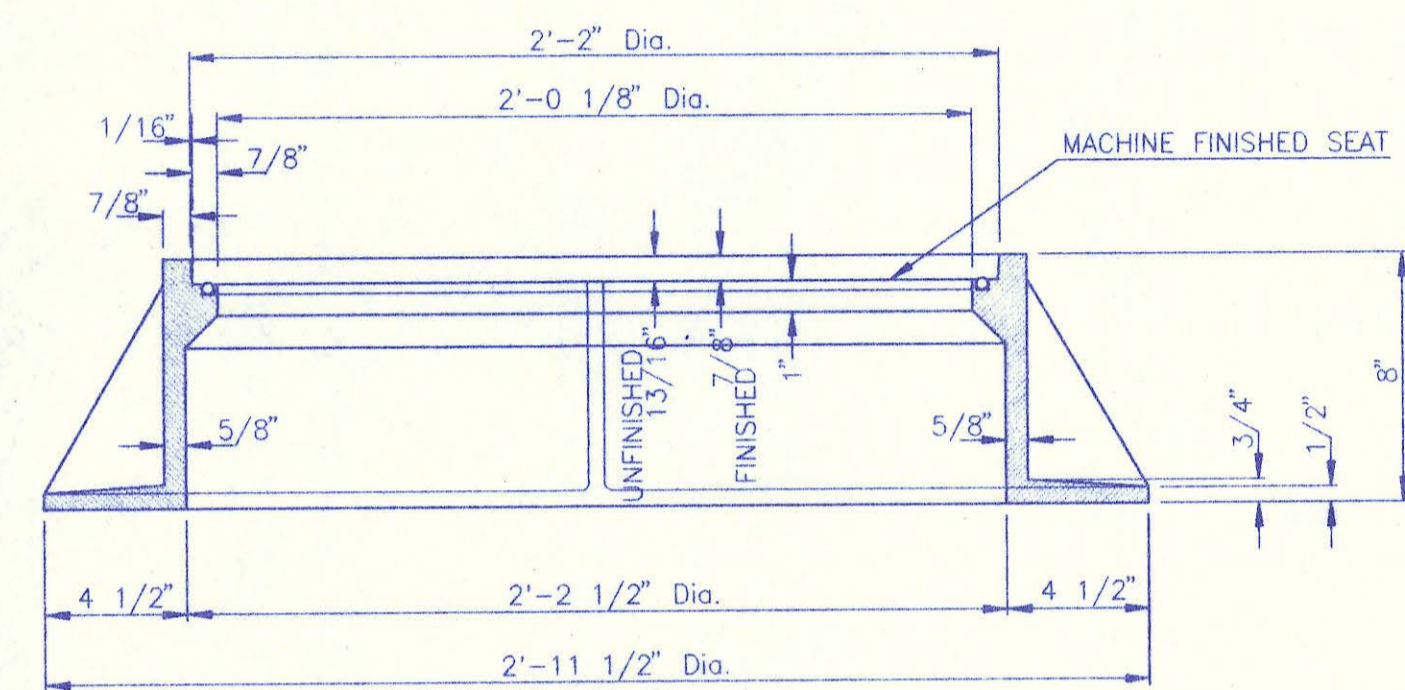
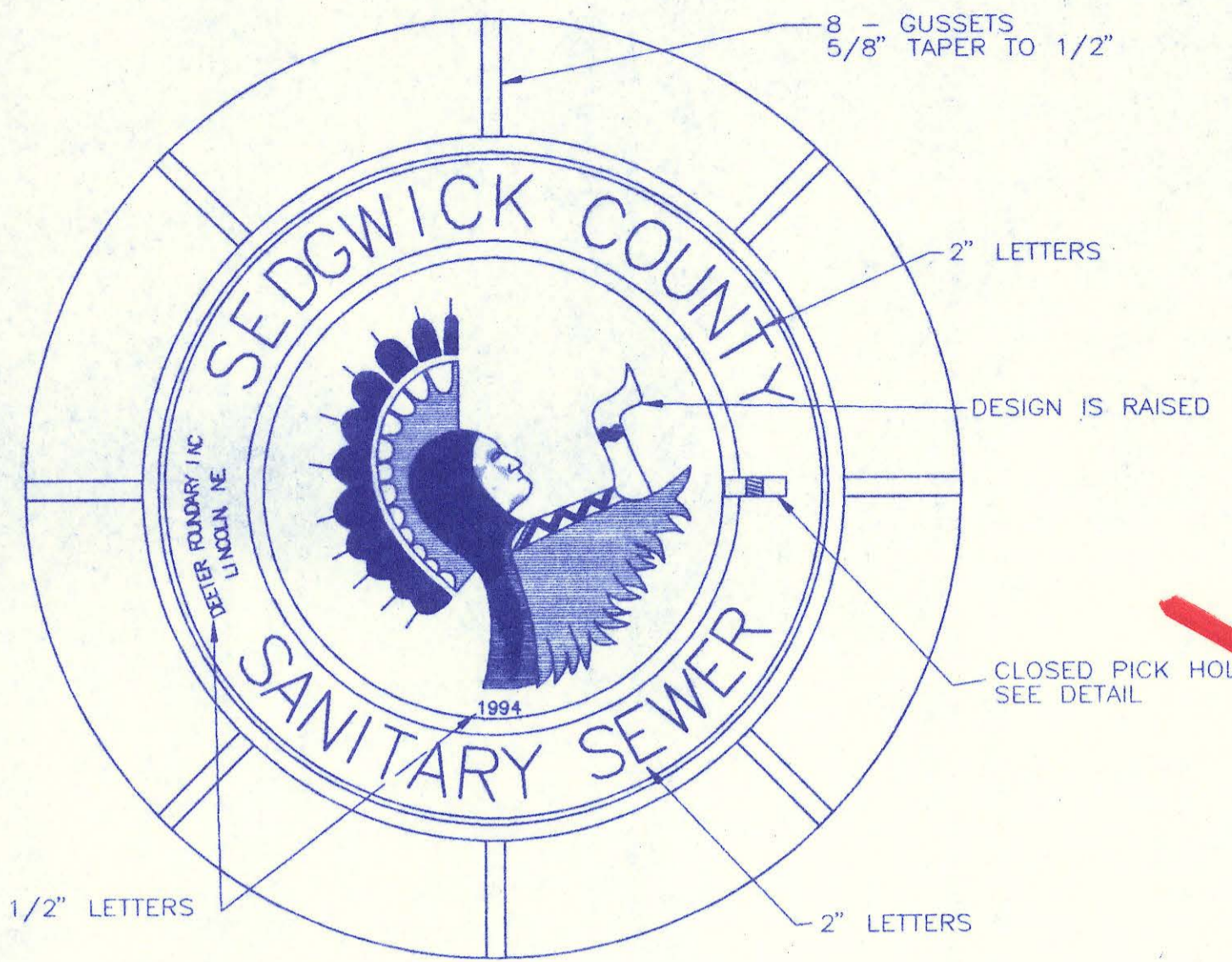
Estimated Excavation = 3800 C.Y.
 Estimated quantity is given for information only. The contractor shall bid Easement Grading and all related costs as lump sum. Contractor shall grade the alignments as per the appropriate typical section to the grades shown on the plan. All areas disturbed by grading operations shall be reseeded per county specifications following finish grading. Cost of reseeded operations shall be incidental to the Site Clearing & Restoration bid item. Excess excavation material shall be stored on site at locations directed by the field engineer.

BELLE TERRE SECOND ADDITION
Easement Grading

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

PROJECT NUMBER
Sedgwick County, Kansas

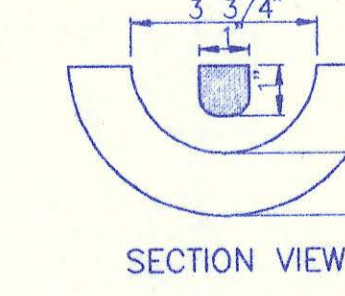
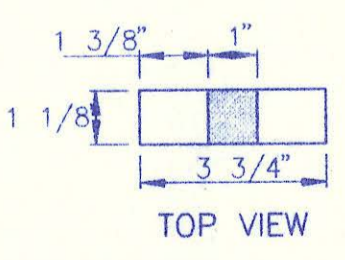
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| DESIGN NEW/DY | DRAWN DY | APPROVED | DATE 1/96 | SCALE Noted | SHEET 7 OF 11 |
|------------------|-------------|----------|--------------|----------------|------------------------|



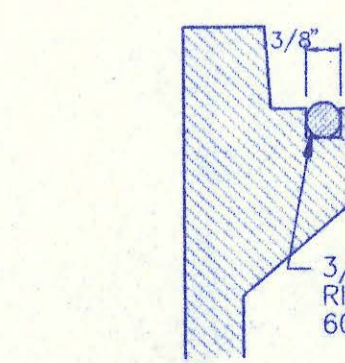
MANHOLE FRAME AND COVER
(TOTAL WEIGHT = 430 LBS.)

MANHOLE FRAME AND COVER NOTES

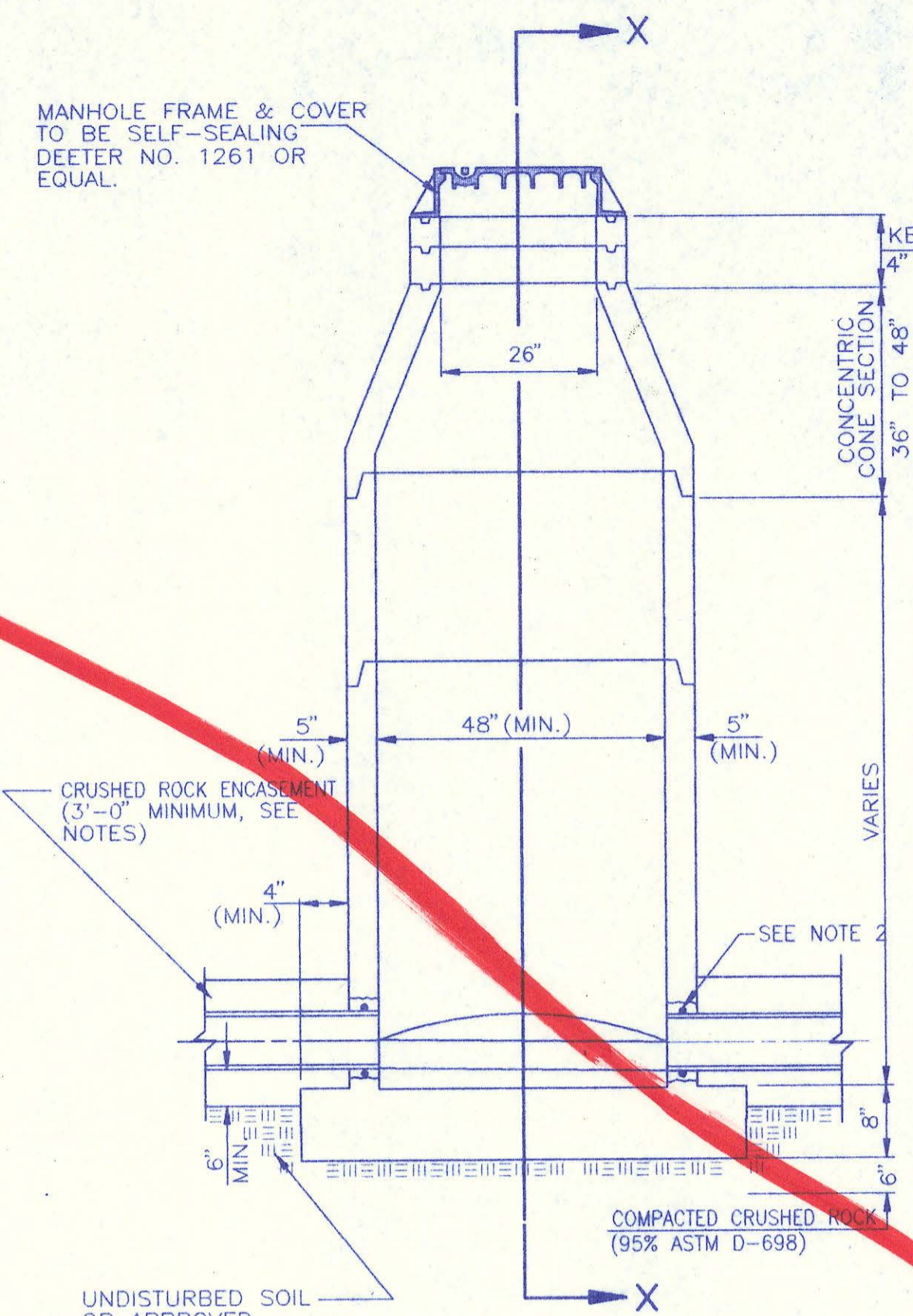
1. CAST IRON MANHOLE FRAME AND COVER SHALL CONFORM TO ASTM A-48, CLASS 35B, OR BETTER.
2. CASTINGS ARE TO BE MANUFACTURED TRUE TO PATTERN AND WITH SATISFACTORY FIT OF COMPONENT PARTS. CASTINGS SHALL BE FREE OF DEFECTS AND ALL BURRS SHALL BE GROUND SMOOTH. DIMENSIONS AS DETAILED ON PLAN SHALL NOT DEVIATE BY $\frac{1}{16}$ " PER FOOT.
3. NO OTHER LETTERING OR MARKINGS OTHER THAN THOSE DETAILED ON PLAN WILL BE PERMITTED ON CASTINGS.
4. CASTINGS MUST BE DOMESTICALLY MANUFACTURED IN THE UNITED STATES OF AMERICA.
5. THE FRAMES AND COVERS SHALL BE FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACES SO FITTING PARTS WILL NOT RATTLE OR ROCK UNDER TRAFFIC.
6. MANHOLE CASTINGS SHALL BE SELF-SEALING DEETER NO. 1261 OR EQUAL, UNLESS OTHERWISE SPECIFIED IN THE SPECIAL CONDITIONS. (MINIMUM WT.=430 LBS.). ALL MANHOLE CASTINGS SHALL BE CONSIDERED SUBSIDIARY TO THE UNIT PRICES BID FOR THE VARIOUS MANHOLE TYPES.
7. THE MANUFACTURER SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL PRIOR TO MANUFACTURE. THE ENGINEER SHALL RETAIN THE RIGHT TO REJECT CASTINGS NOT CONFORMING TO THE SPECIFICATIONS OR THE APPROVED SHOP DRAWINGS.
8. THE MANHOLE FRAME SHALL BE FURNISHED WITH AN APPROVED CONTINUOUS "O" RING GASKET GROOVED INTO THE BEARING SURFACE OF THE MANHOLE FRAME (PER DETAIL). THE "O" RING GASKET SHALL BE FACTORY INSTALLED IN THE MANHOLE FRAME WITH 100% SILICON SEALANT-DOW CORNING OR EQUAL.



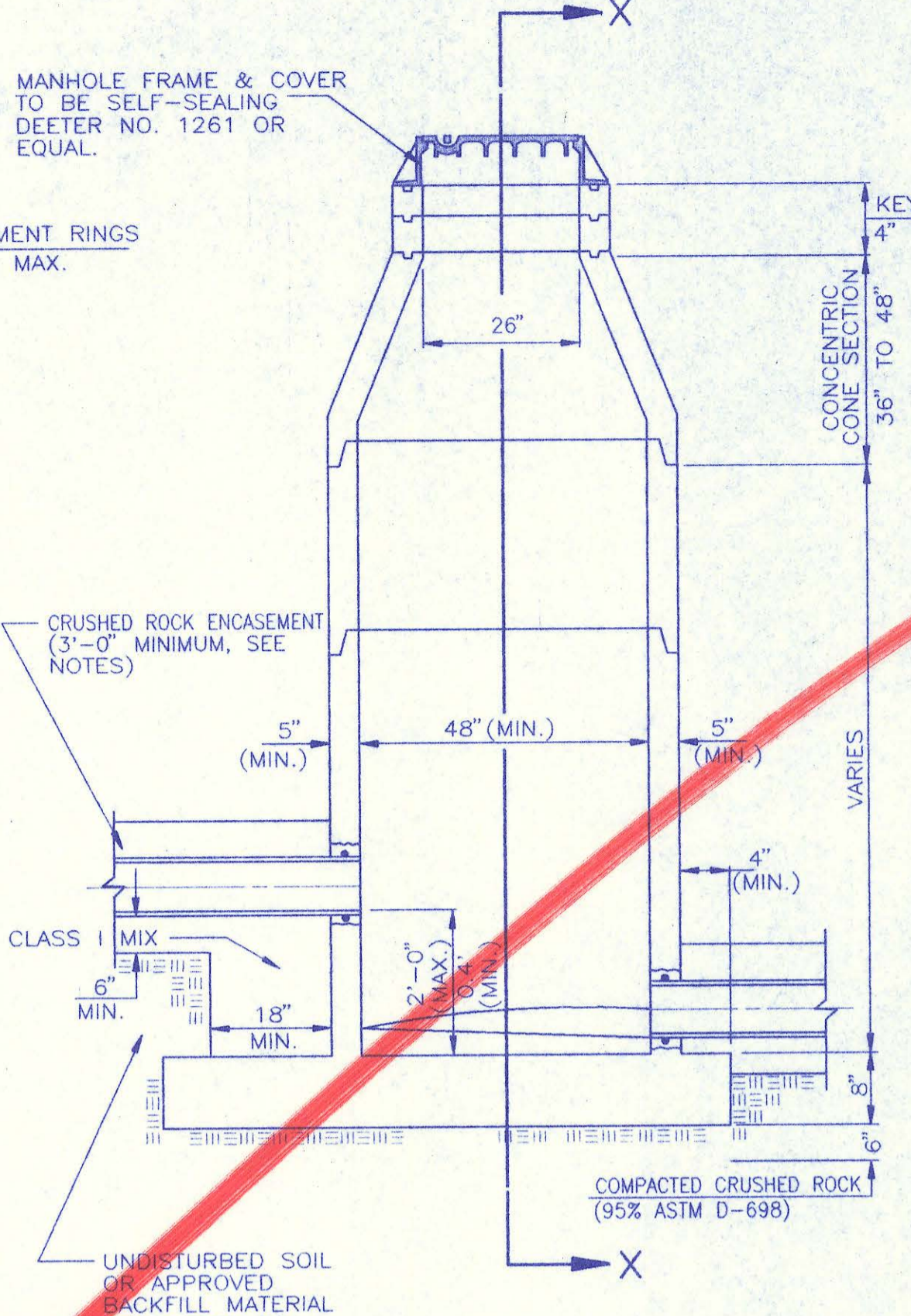
PICK HOLE DETAIL



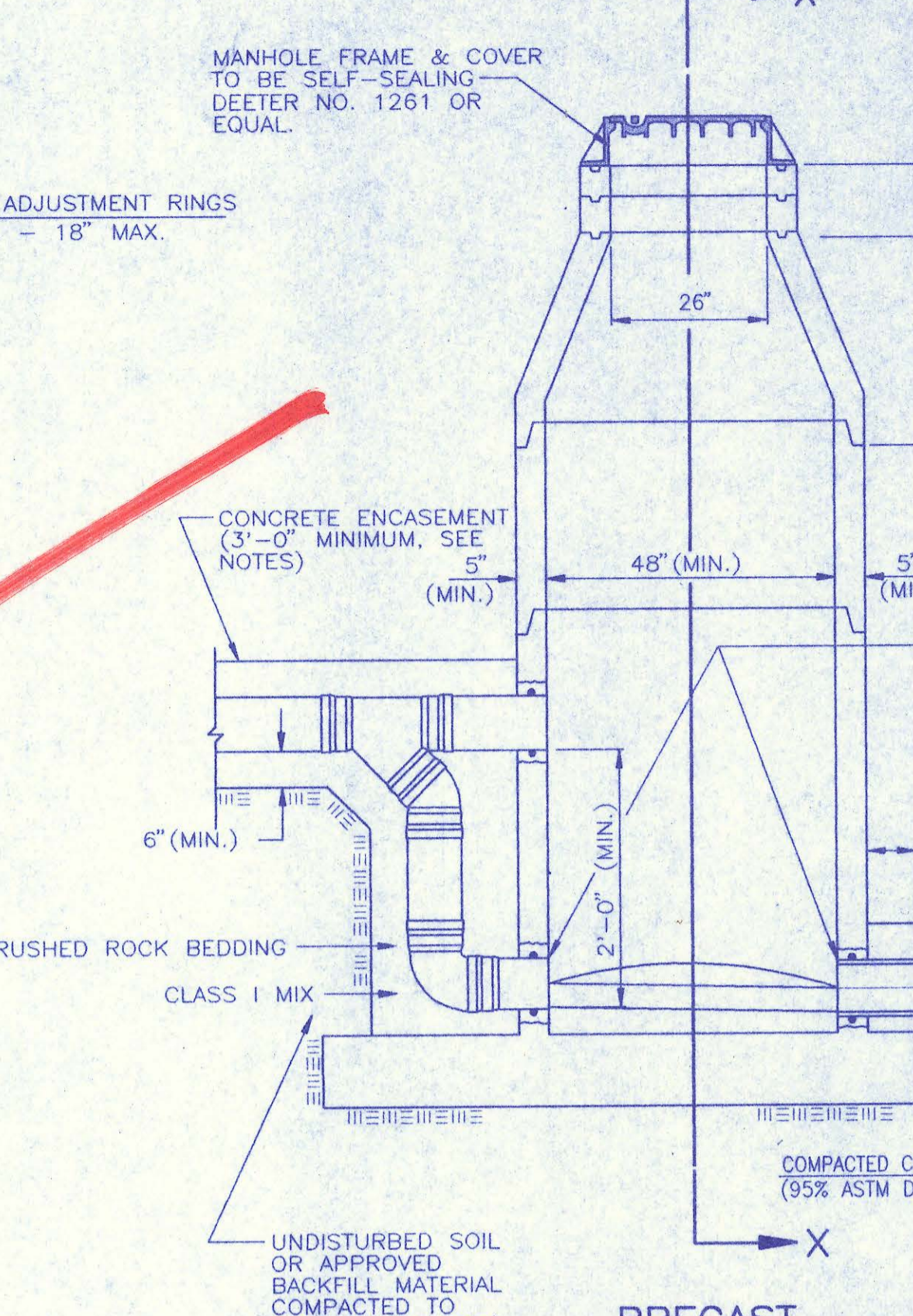
FRAME GROOVING DETAIL (TYPICAL ALL MANHOLES)



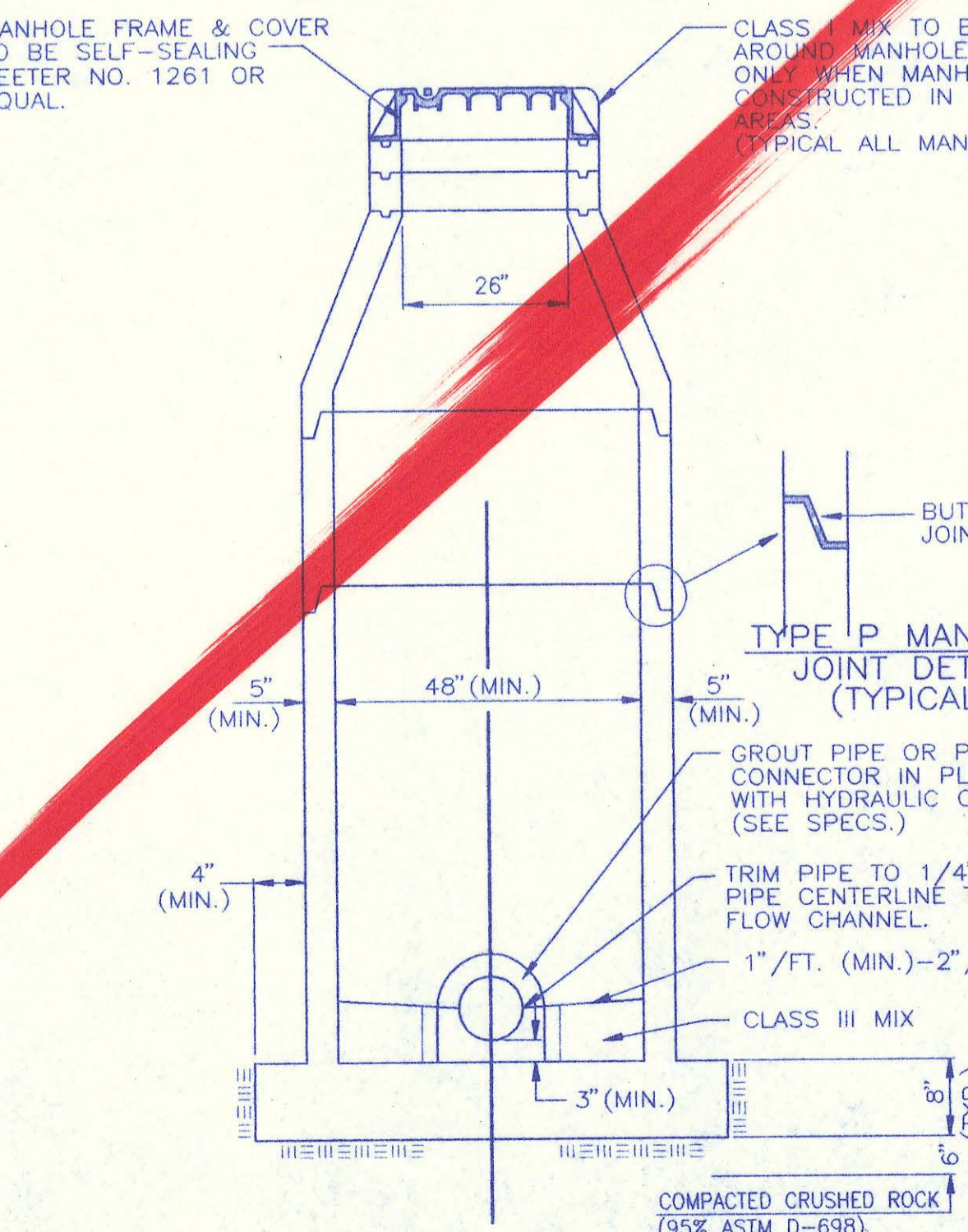
PRECAST STANDARD MANHOLE TYPE "A"



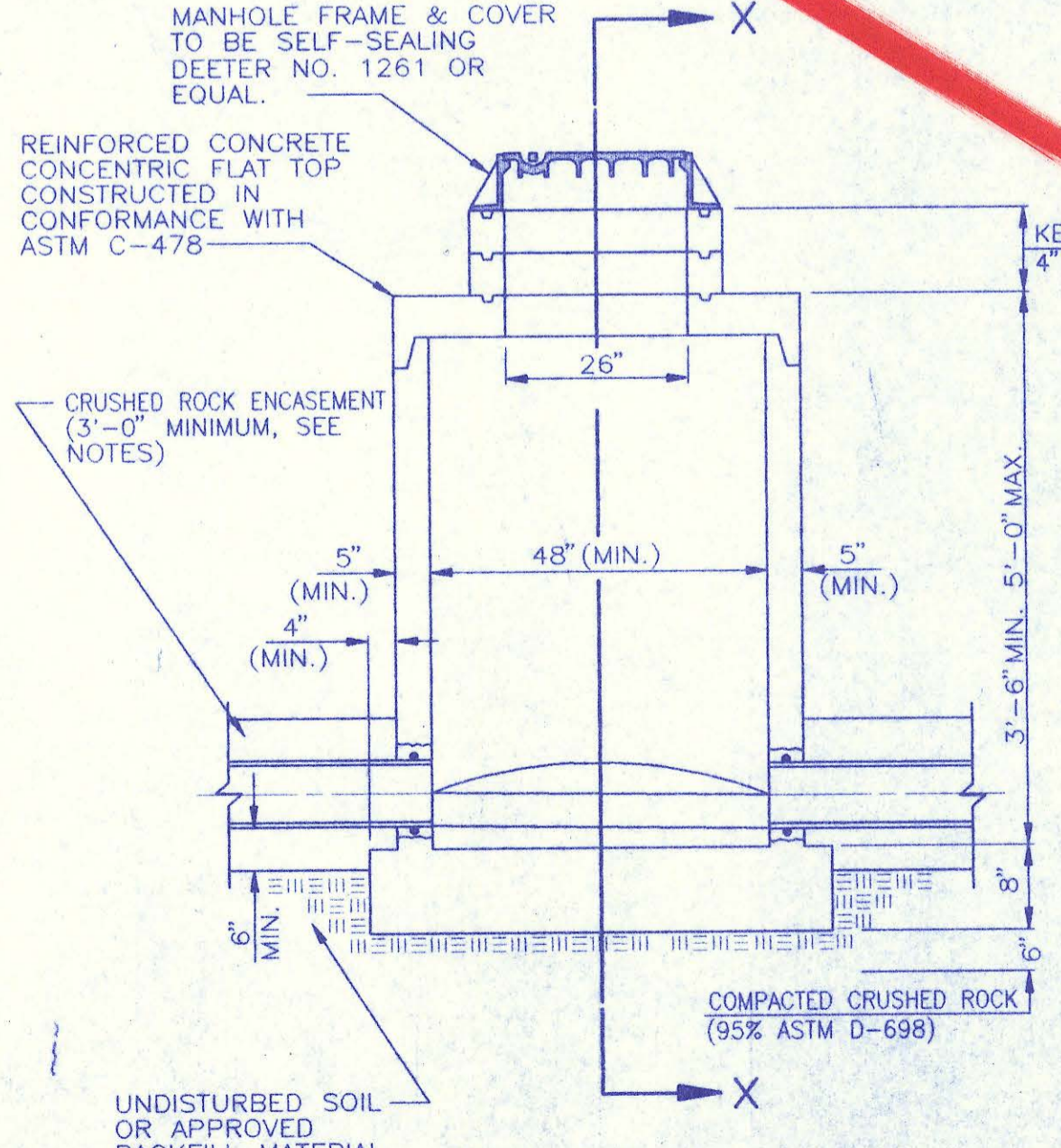
PRECAST INSIDE DROP MANHOLE TYPE "B"



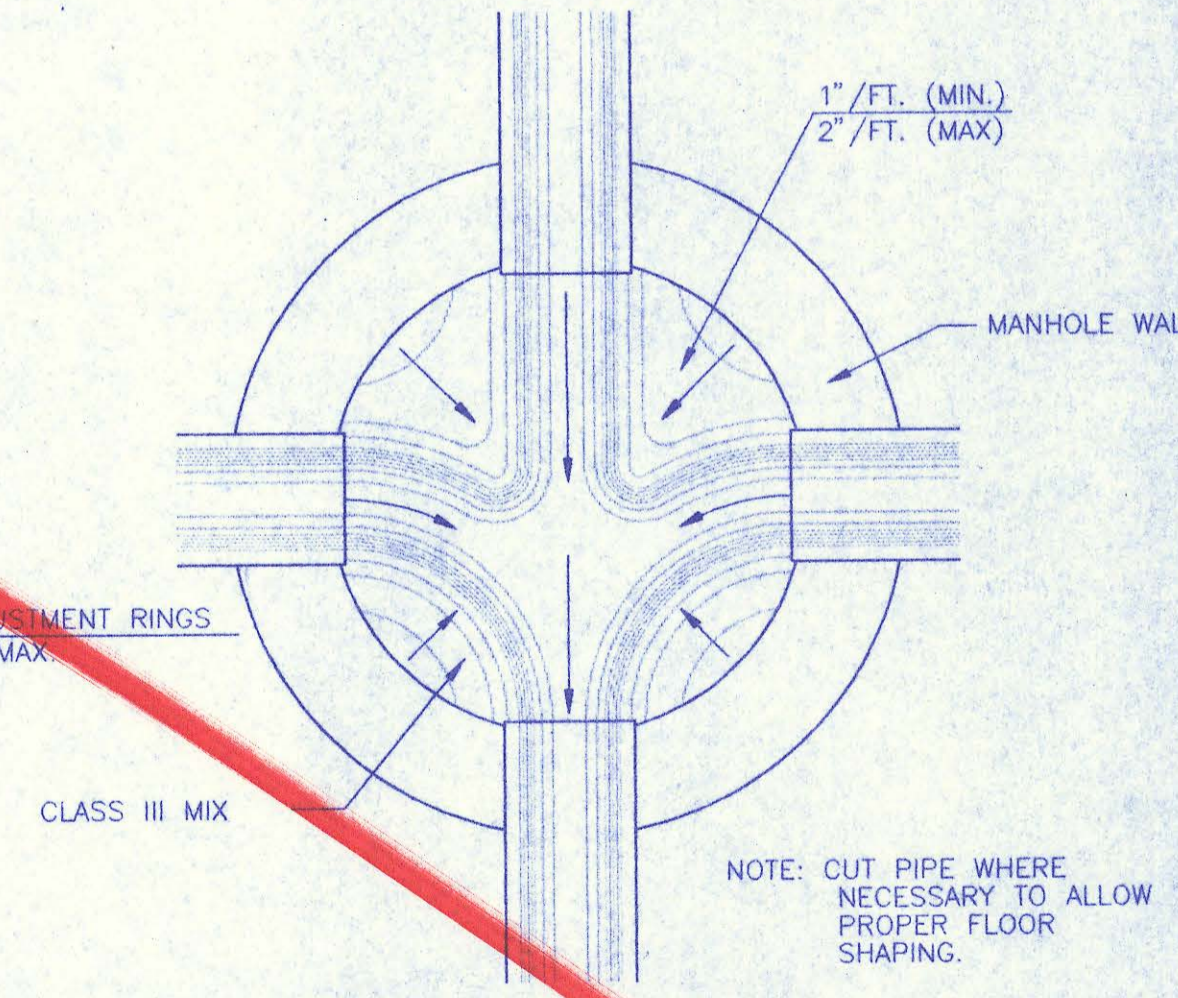
PRECAST OUTSIDE DROP MANHOLE TYPE "C"



SECTION X (TYPICAL)



PRECAST SHALLOW MANHOLE TYPE "D"



TYPICAL MANHOLE FLOOR SHAPING

NOTE: TOP OF BOTTOM PIPE ON OUTSIDE DROP SHALL ALWAYS BE SET 0.1 FEET HIGHER THAN TOP OF PIPE CARRYING FLOW OUT OF THE MANHOLE.

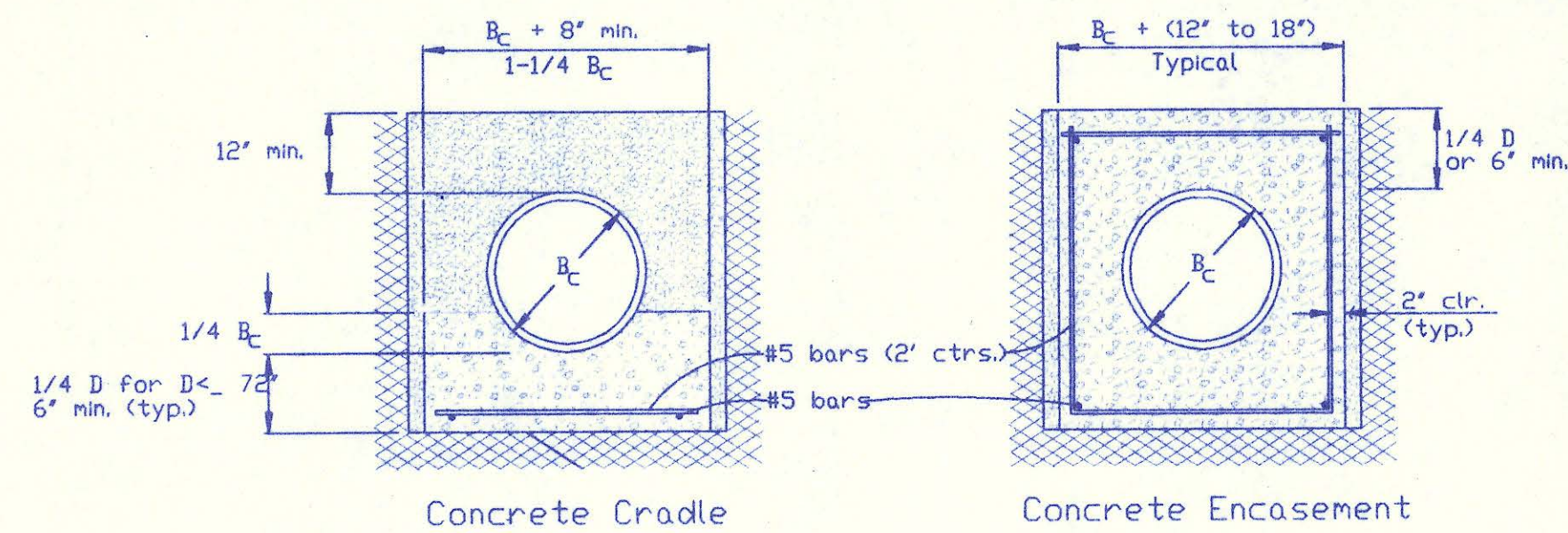
PRECAST MANHOLE NOTES

1. IF, IN THE OPINION OF THE ENGINEER, THE MANHOLE SUBGRADE APPEARS UNSTABLE, THE CONTRACTOR WILL OVER EXCAVATE TO A SUITABLE SUBGRADE CONDITION AND CRUSHED ROCK SHALL BE PLACED AND COMPACTED TO THE REQUIRED GRADE.
2. "ALOK" OR APPROVED EQUAL FLEXIBLE WATER-STOP GASKETS WHICH MEET OR EXCEED THE TEST REQUIREMENTS OF ASTM E-923 SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL SEWER PIPES EXTENDING FROM AN APPROVED BUTYL-RUBBER SEALANT TO PROVIDE A WATER-TIGHT SEAL BETWEEN THE MANHOLE ADJUSTMENT RING AND THE MANHOLE FRAME.
3. THE MANHOLE FRAME SHALL BE SEATED ON AN APPROVED BUTYL-RUBBER SEALANT TO PROVIDE A WATER-TIGHT SEAL BETWEEN THE MANHOLE ADJUSTMENT RING AND THE MANHOLE FRAME.
4. GASKETED PIPE CAPS SHALL BE PROVIDED BY THE PIPE SUPPLIER, GLOUED OR CEMENTED CAPS WILL NOT BE ACCEPTED.
5. ALL MANHOLE CONSTRUCTION SHALL BE WATER TIGHT.
6. 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 SHARP INVERT.
7. MANHOLES WITH PIPE SIZES 24" AND LARGER SHALL HAVE 5" INSIDE DIAMETER (MIN.).
8. INSIDE DIAMETER OF FIVE-FOOT DIAMETER PRECAST MANHOLES SHALL REMAIN CONSTANT TO THE LOCATION OF THE REDUCING FLAT TOP WHICH CONNECTS THE FOUR-FOOT DIAMETER CONE SECTION TO THE FIVE-FOOT DIAMETER MANHOLE BARREL.
9. MANHOLES SHALL BE SUPPLIED WITH PRECAST MONOLITHICALLY CAST BASE SECTIONS UNLESS OTHERWISE APPROVED. ALL PRECAST CONCRETE MANHOLE SECTIONS AND BASES SHALL CONFORM TO THE LATEST REVISION OF ASTM C478 AS MODIFIED BY THE SPECIFICATIONS.
10. WHERE MANHOLE STUBS ARE SHOWN ON THE PLANS, THE STUB SHALL EXTEND AT LEAST 5 FEET FROM THE INSIDE WALL OF THE MANHOLE. 4" STUBS SHALL BE SET AT 2.0% GRADE. 6" STUBS SHALL BE SET AT 1.0% GRADE.
11. MANHOLE SECTIONS SHALL BE SUPPLIED WITH RECESSED LIFTING EYES. LIFTING EYE RECESSES SHALL BE GROUTED FLUSH TO THE MANHOLE WALL WITH HYDRAULIC CEMENT AFTER THE MANHOLE IS IN PLACE. LIFTING HOLES THROUGH THE MANHOLE WALL WILL NOT BE ACCEPTED.
12. WHERE A-LOK GASKETS ARE REQUIRED, THE CONTRACTOR SHALL UTILIZE A CRUSHED ROCK BEDDING MATERIAL. THE ROCK BEDDING MATERIAL SHALL EXTEND TO 3 FEET FROM THE MANHOLE WALL AND SHALL BE COMPACTED IN PLACE FROM THE BOTTOM OF THE DISTURBED AREA TO 1 FOOT ABOVE THE TOP OF THE PIPE. THE CRUSHED ROCK WHICH IS PLACED BELOW THE PIPE BEDDING ZONE SHALL BE COMPACTED TO 95% (ASTM D-698).
13. WHERE MANHOLES ARE TO BE BUILT OVER EXISTING SANITARY SEWER LINES, SEWER PIPES SHALL BE SUPPORTED WITH CLASS I CONCRETE ENCASEMENT A MINIMUM OF 3 FEET OUTSIDE THE MANHOLE WALL.

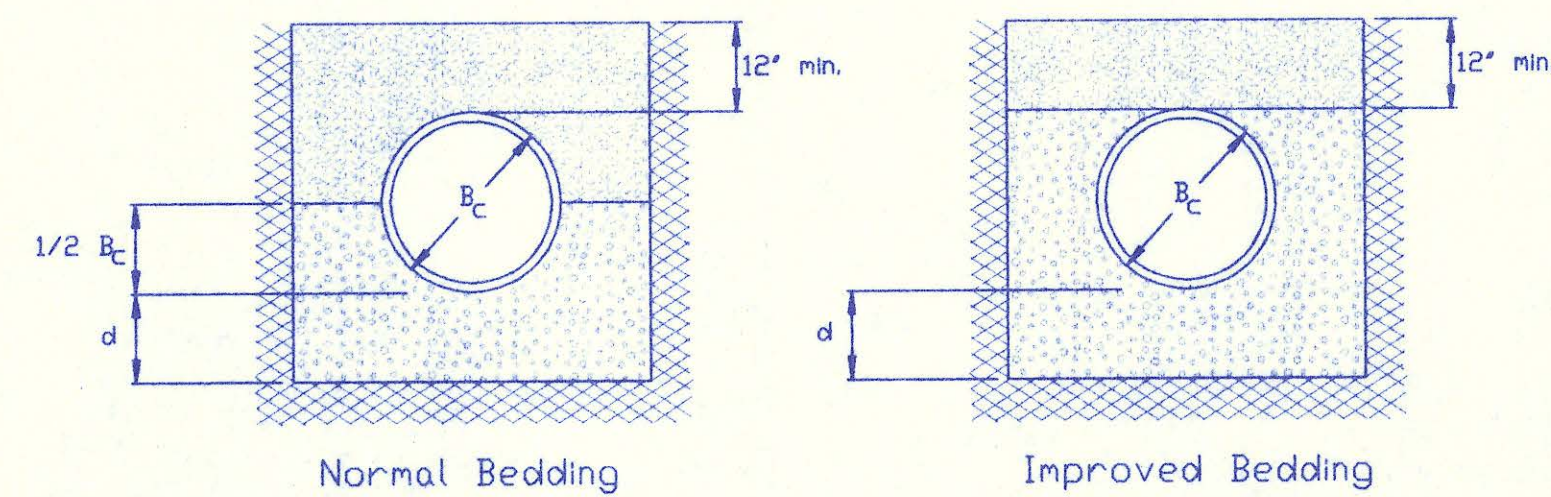
| | | |
|-----|--|------------|
| 5 | Change concrete encasement to crushed rock encasement | 3/9/94 |
| 4 | Precast Bases, Precast Manhole Notes, Manhole Frame and Cover Notes, Keyed Adjustment Rings, and Class I mix at concrete encasement and field cap. | RJ 8/27/93 |
| 3 | All Manholes self-sealing/MH Cover | RJ 1/25/93 |
| 2 | Modified pipe connection note | RJ 6/01/92 |
| 1 | Manhole Frame and Cover Note 1 | RJ 7/16/91 |
| No. | Revision | By Date |

PRECAST MANHOLE DETAILS
ADOPTED AS STANDARD DESIGN SEPTEMBER, 1989
BY
SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, P.E. DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

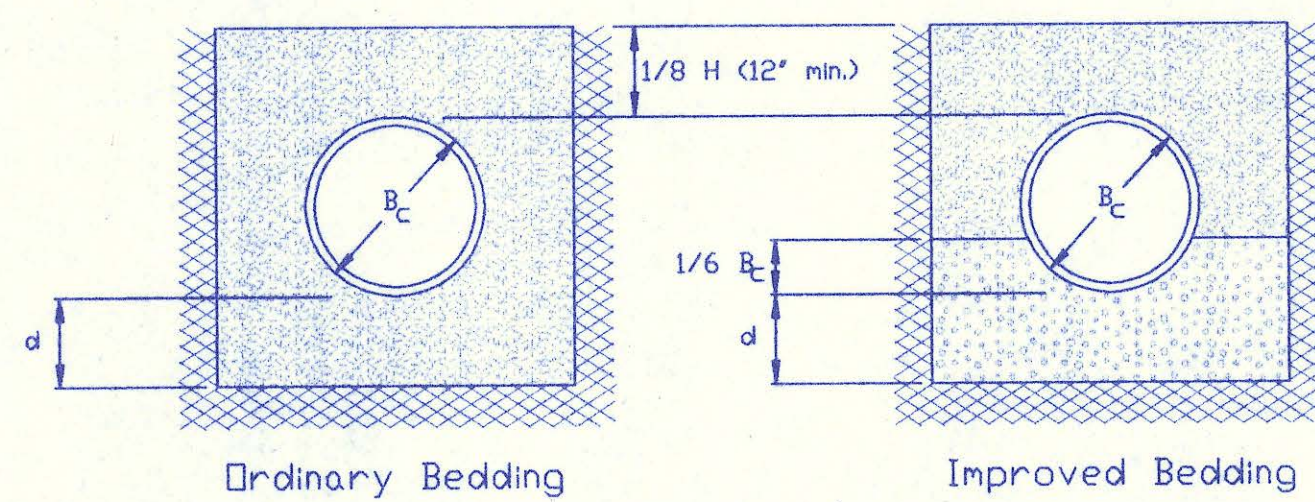
DATE _____
 BY _____
 CHECKED _____
 PLAN _____



CLASS A



CLASS B



CLASS C

PIPE ZONE BACKFILLING

- D_c = Outside Pipe Diameter
- H = Backfill from Top of Pipe to Existing Ground
- D = Inside Pipe Diameter
- d = Depth of Bedding Material Below Pipe
- [Pattern] = Granular Bedding Material or Sand-Gravel Bedding
- [Pattern] = Compacted Embedment
- [Pattern] = Concrete (Class III)

| Depth of Bedding Material Below Pipe | | |
|--------------------------------------|-------------|-------------|
| D | d(min) Soil | d(min) Rock |
| 27" & smaller | 4" | 6" |
| 30" to 60" | 5" | 9" |
| 66" & larger | 6" | 12" |

Granular Bedding Material shall be an approved material consisting of durable crushed rock conforming with the requirements of the latest revision of ASTM C-33 Size No. 67 (3/4" to No. 4) to be placed in not more than 6" layers and compacted by slicing with a shovel or vibrating. Soundness, abrasion, and absorption limits shall be as required for coarse aggregates in Section 03010-Concrete Work in the specifications.

Sand-Gravel Bedding Material - sand-gravel mix meeting Type UD-1 of the 1990 Kansas Standard Specifications for State Road and Bridge Construction.

Compacted Embedment shall be an approved sand material free from debris, organic material, and stones with 100% passing the 3/4" sieve to be placed in uniform layers not more than 6" thick and compacted to 90 percent maximum density as determined by ASTM D1557. Granular Bedding Material may be substituted for all or part of Compacted Embedment Materials.

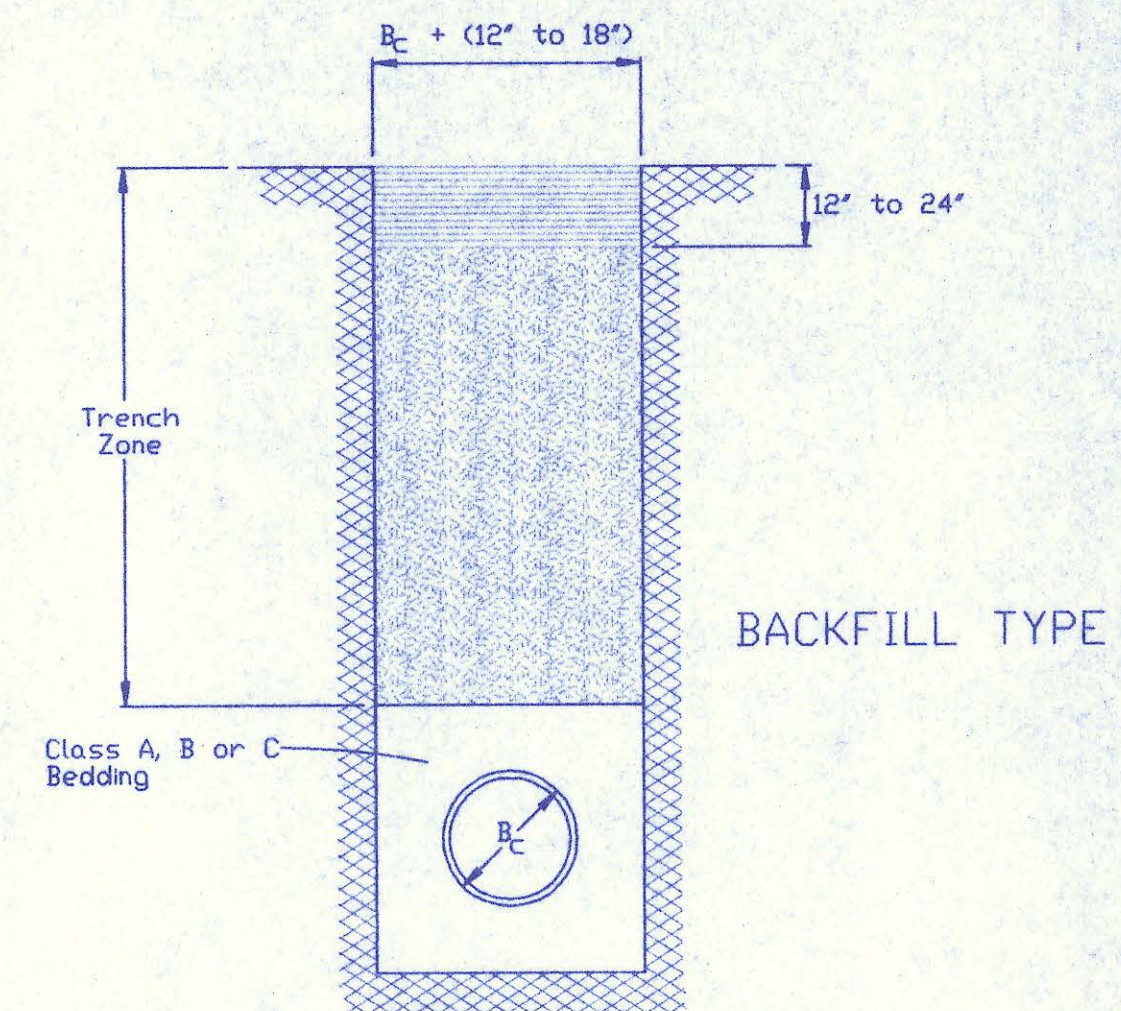
Class A "Concrete Cradle" and/or Class A "Concrete Encasement" is not required unless specified on the plans. However, where unexpected trench conditions exist or improper trenching is performed Class A Bedding may be required as determined by the Engineer.

Class B Bedding shall be used for all flexible pipe.

- a. Class B Normal Bedding shall be used for PVC Pipe unless wet conditions are encountered.
- b. Class B Improved Bedding shall be used for other flexible pipe, and for PVC pipe in wet conditions.

Class C Bedding shall be used for all rigid pipe.

- a. Class C Ordinary Bedding shall be used for all rigid pipe unless wet conditions are encountered.
- b. Class C Improved Bedding shall be used for wet conditions existing in the trench, as directed by the Engineer, at no additional cost to the Owner. The dimensions shall be equal to that required for "rock" excavation (see specifications).



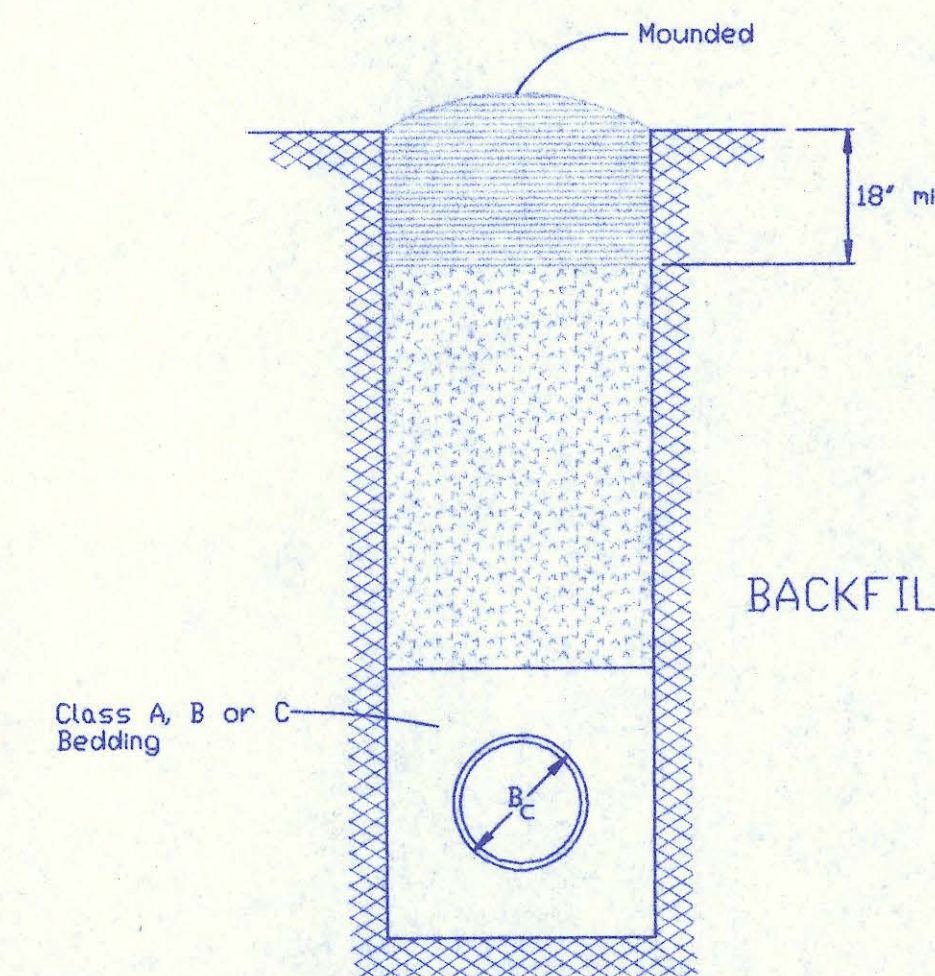
BACKFILL TYPE I

- D_c = Outside Pipe Diameter
- [Pattern] = Compacted Granular Backfill
- [Pattern] = Uncompact Earth Backfill
- [Pattern] = Compacted Earth Backfill

Compacted Granular Backfill material shall be an approved sand material free from debris, organic material and stones with 100% passing the 3/4" sieve and not more than 15% passing a No. 200 sieve) to be jetted and mechanically vibrated into place and compacted to 90% density as determined by ASTM D1557.

Uncompact Earth Backfill material may be natural soil free from large clods or stones, brush, roots more than 2 inches in diameter, debris, and junk. Flooding with water shall be provided as directed by the Engineer.

Compacted Earth Backfill shall consist of material existing prior to trenching or selected material as directed by the Engineer, and shall be compacted to 90% density as determined by ASTM D1557.



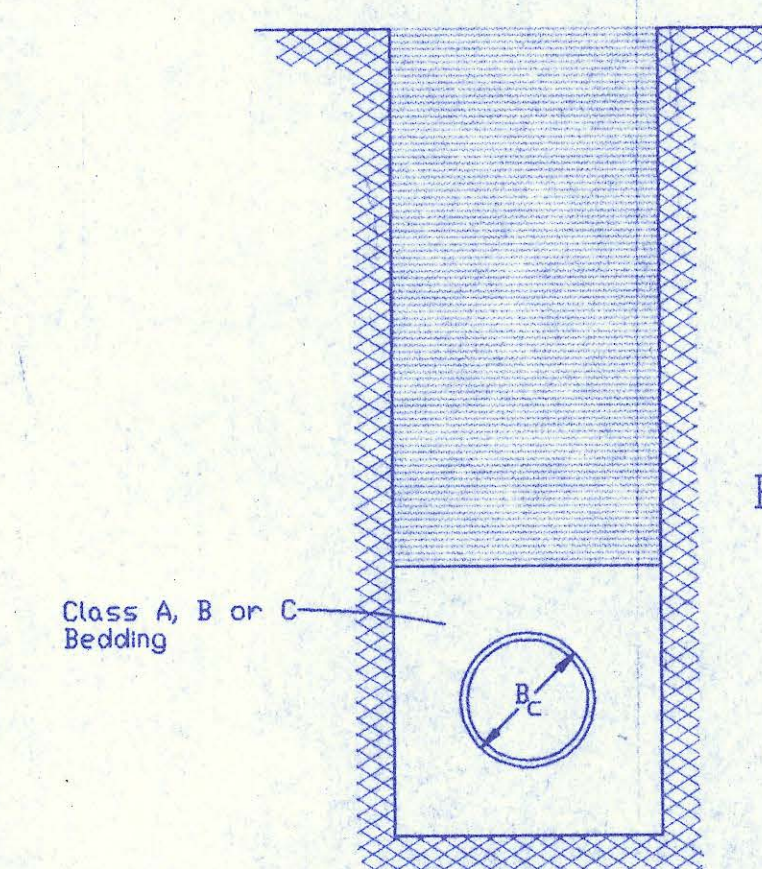
BACKFILL TYPE II

Backfill: Backfill material and compaction requirements shall conform to either Type I, Type II or Type III as specified in the plans. One years maintenance will be required on all backfill.

Backfilling Through Rock: Backfilling through rock shall be performed as specified in the paragraph Backfill above, except that the Pipe Zone is increased to provide eighteen (18) inches of cover over the pipe. When approved by the Engineer the remainder of the backfill may be excavated rock provided the excavated rock has been broken up so that earth and rock will thoroughly mix and not result in voids around the larger pieces of rock. Any excess rock remaining after the trench has been backfilled shall be removed or wasted as directed by the Engineer.

Backfilling Under Pavement: Backfilling under existing or proposed pavement shall be performed as Backfill Type I to a level of two (2) feet from the bottom of the pavement. The remainder of the trench shall be backfilled with selected material sufficiently damp to be properly compacted in layers not exceeding six (6) inches in depth, compaction shall be performed with mechanical tampers and continued until a relative density of 95 percent of modified density, in conformance with ASTM D1557 is attained.

Backfilling Under Gravel Streets: Where the trench crosses or is in existing gravel surfaced streets, the backfill shall be compacted as provided in the paragraph "Backfilling Under Pavement".



BACKFILL TYPE III

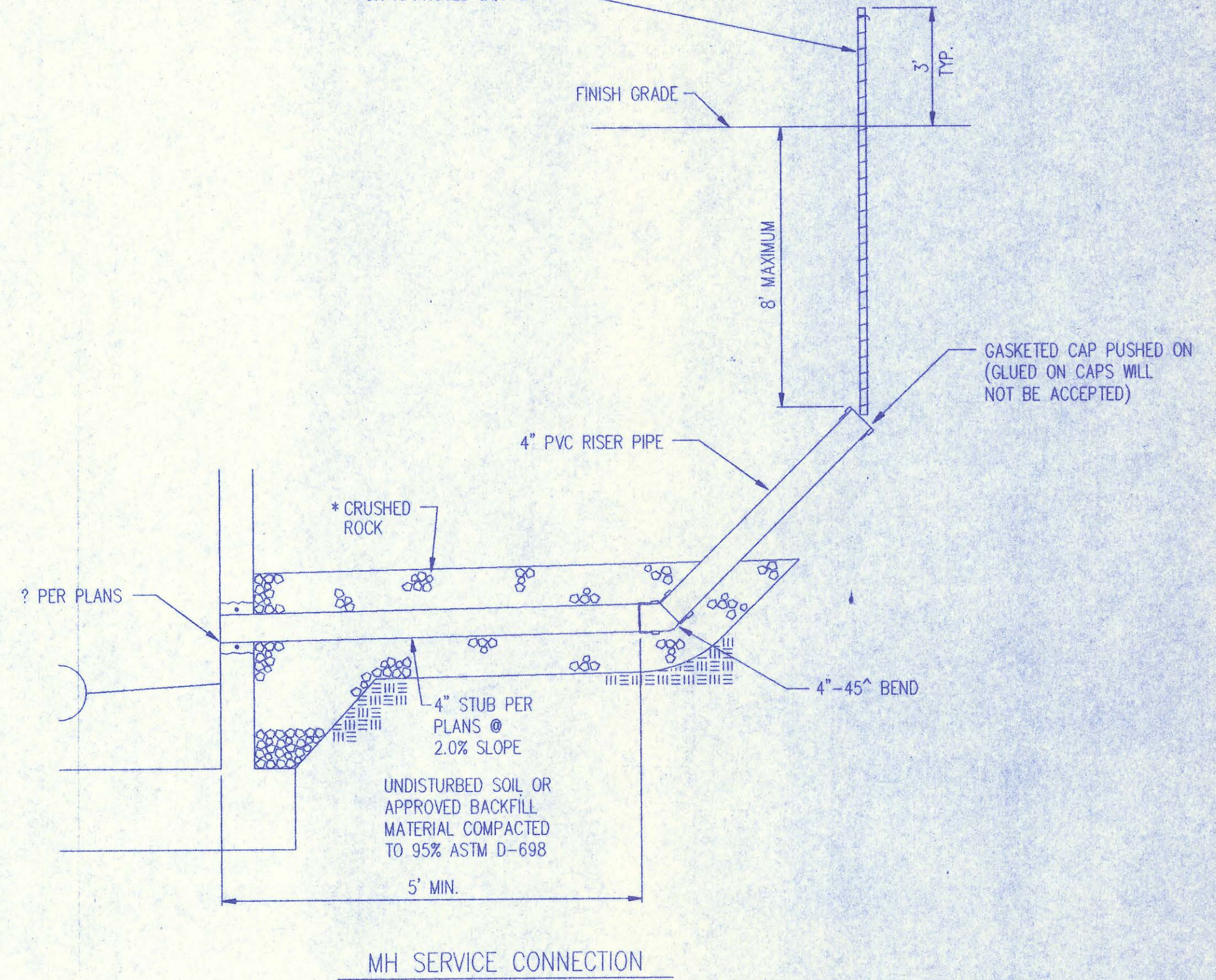
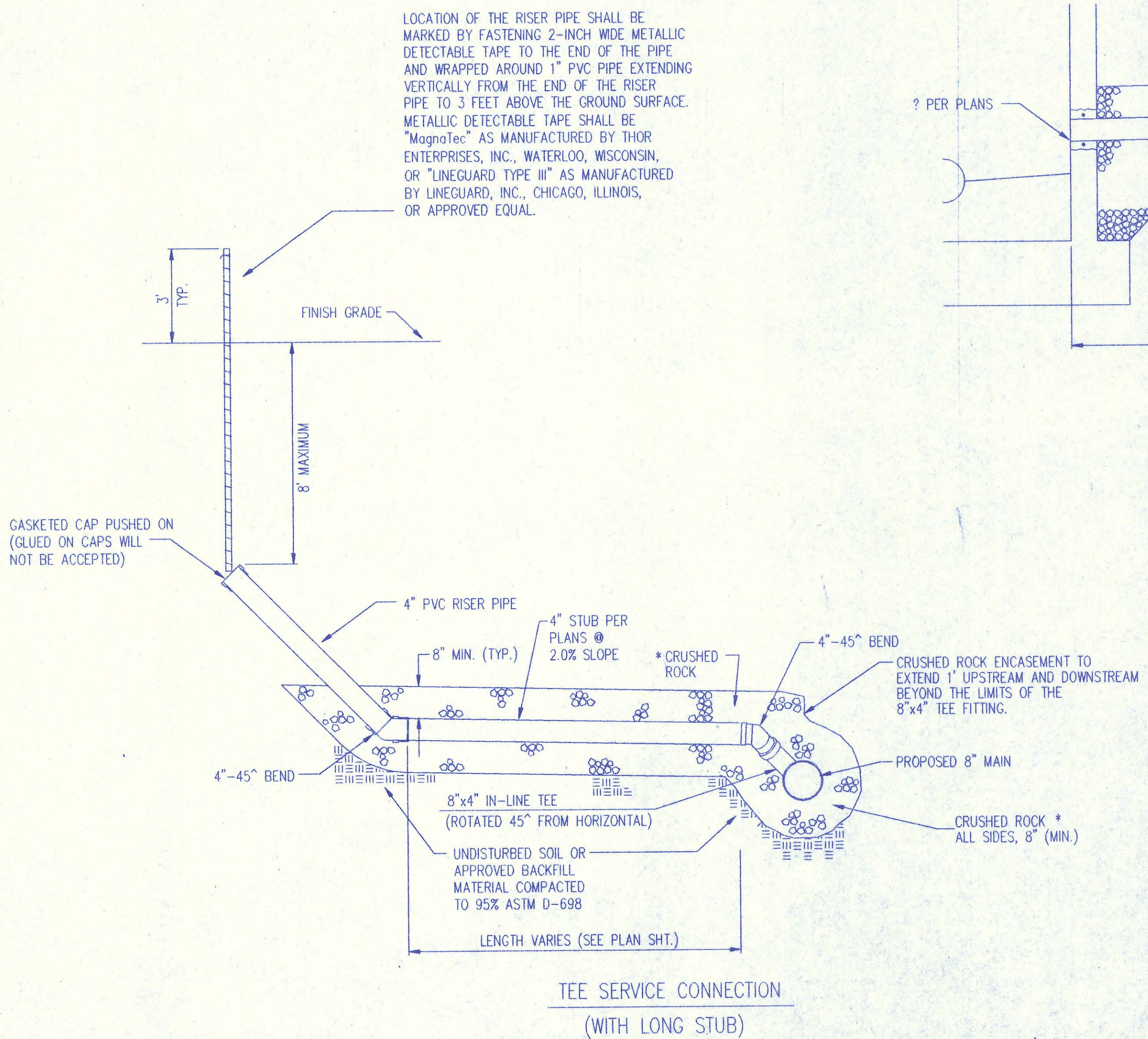
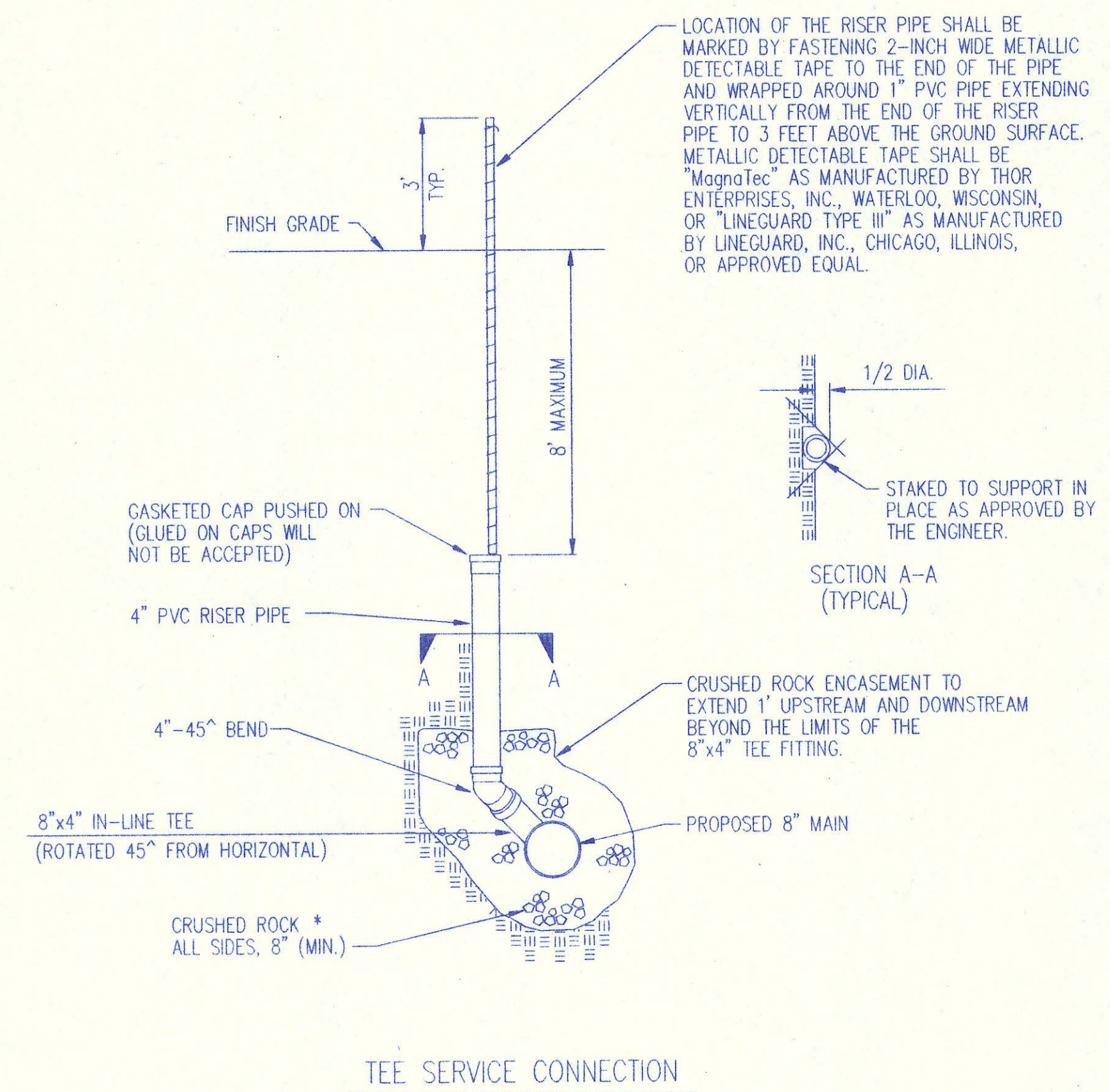
TRENCH ZONE BACKFILLING

| No. | Revision | By | Date |
|-----|----------|----|------|
| | | | |

BACKFILL DETAILS
 ADOPTED AS STANDARD DESIGN SEPTEMBER, 1989
 BY
 SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
 DAVID C. SPEARS, P.E., DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

| SEWER SERVICE TABLE | | | | | | | | | |
|---------------------|------------------------|---------|-----------|-------------|----------------------|----------------------------|--|------------|-----|
| LOCATION | | | | | FOR INFORMATION ONLY | | RECORD INFORMATION (TO BE COMPLETED BY PROJECT INSPECTOR) | | |
| NO. | TYPE | LOT NO. | BLOCK NO. | LATERAL NO. | STATION/DIRECTION | APPROXIMATE LENGTH 4" PIPE | DISTANCE FROM NEAREST MANHOLE | | NO. |
| | | | | | | | UPSTREAM | DOWNSTREAM | |
| 1 | TEE SERVICE CONNECTION | 6 | 2 | 67-1 | 0+40.1 | 4.5 | | | 1 |
| 2 | TEE SERVICE CONNECTION | 10 | 4 | 67-6 | 4+00.0 | 4.5 | | | 2 |
| 3 | | | | | | | | | 3 |
| 4 | | | | | | | | | 4 |
| 5 | | | | | | | | | 5 |
| 6 | | | | | | | | | 6 |
| 7 | | | | | | | | | 7 |
| 8 | | | | | | | | | 8 |
| 9 | | | | | | | | | 9 |
| 10 | | | | | | | | | 10 |

LOCATION OF THE RISER PIPE SHALL BE MARKED BY FASTENING 2-INCH WIDE METALLIC DETECTABLE TAPE TO THE END OF THE PIPE AND WRAPPED AROUND 1" PVC PIPE EXTENDING VERTICALLY FROM THE END OF THE RISER PIPE TO 3 FEET ABOVE THE GROUND SURFACE. METALLIC DETECTABLE TAPE SHALL BE "MagnoTec" AS MANUFACTURED BY THOR ENTERPRISES, INC., WATERLOO, WISCONSIN, OR "LINEGUARD TYPE III" AS MANUFACTURED BY LINEGUARD, INC., CHICAGO, ILLINOIS, OR APPROVED EQUAL.



* CRUSHED ROCK SHALL MEET THE REQUIREMENTS FOR GRANULAR BEDDING MATERIAL, AS OUTLINED IN THE SPECIFICATIONS.

SERVICE CONNECTIONS ARE TO BE INSTALLED WHERE PROPOSED SEWER MAIN IS 12' OR MORE BELOW PROPOSED GROUND OR AS SHOWN IN THE PLANS.

SERVICE CONNECTION DETAILS

ADOPTED AS STANDARD DESIGN SEPTEMBER, 1989

BY

SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES

DAVID C. SPEARS, P.E. DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

BELLE TERRE SECOND ADDITION

SEDGWICK COUNTY, KANSAS

State of Kansas) SS
Sedgwick County) We, Baughman Company P.A., Surveyors in
aforesaid county and state do hereby certify that we have
surveyed and platted, "BELLE TERRE SECOND ADDITION", Sedgwick
County, Kansas and that the accompanying plat is a true and
correct exhibit of the property surveyed described as being
that part of the N.E. 1/4 of Sec. 24, Twp. 27-S, R-2-E of
the 6th P.M., Sedgwick County, Kansas, described as
commencing at the N.E. Corner of said N.E. 1/4; thence with
an assumed bearing of S00°12'56"W along the east line of
said N.E. 1/4, 793.74 feet; thence N89°47'04"W, 50 feet;
thence S58°17'25"W, 204.74 feet; thence S57°03'52"W,
503.83 feet; thence S56°32'52"W, 287.64 feet; thence
S55°53'41"W, 429.77 feet for a point of beginning; thence
S30°13'27"E, 185.87 feet; thence S01°49'37"E, 349.73
feet; thence S13°02'36"E, 394.49 feet; thence S00°01'34"E,
205 feet to a point on the south line of said N.E. 1/4;
thence S89°58'26"W, 1550 feet to the S.W. Corner of said
N.E. 1/4; thence N00°09'30"E, along the west line of said
N.E. 1/4, 1271.22 feet to the S.W. Corner of Belle Terre
Addition, Sedgwick County, Kansas; thence S89°59'54"E,
along the south line of said addition, 1289.62 feet; thence
S30°13'27"E, 209.15 feet to the point of beginning.

Existing easements and dedications being vacated by
virtue of K.S.A. 12-512(b).



Gregory F. Severns 3-14-95
Surveyor
Gregory F. Severns

Know all men by these presents that we,
the undersigned owner, have caused the land described in
the surveyors certificate to be platted into Lots, Blocks,
Streets and Reserves to be known as "BELLE TERRE SECOND ADDITION",
Sedgwick County, Kansas. Reserves "A", "B", "C", "D", "E", "F", "G", "H", "I", "J", "K", and "L" are hereby
reserved for entry monuments, sidewalks, landscaping, berms, and utility
purposes as confined to easements. Reserves "T", "X", and "Y" are hereby
reserved for sidewalks, landscaping, berms, streets, and utility purposes.
Reserves "D", "E", "H", and "I" are hereby reserved for sidewalks, landscaping,
open space, berms, drainage purposes, and utility purposes as
confined to easements. Reserve "C" is hereby reserved for side-
walks, landscaping, parks, gazebos, a recreation facility and related
uses; swimming pools, tennis courts, basketball courts, drainage purposes,
and utility purposes as confined to easements. Reserves "A", "B", "C", "D",
"E", "F", "G", "H", "I", "J", "K", and "L" shall be owned and maintained
by the homeowners association for the addition. The utility easements
are hereby granted as indicated for the construction and maintenance
of all public utilities. The drainage and utility easements are hereby granted
as indicated for drainage purposes and the construction and maintenance
of all public utilities. The streets are hereby dedicated to and
for the use of the public. The Minimum Building Pad Elevations
for the lowest opening to the structure are as shown on the
accompanying plat.

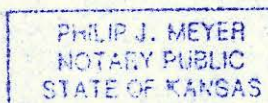
Downing Development Company, L.L.C.

Gregory C. Downing Member
Gregory C. Downing

Robert O. Large Carol B. Large
Robert O. Large Carol Large

State of Kansas) SS
Sedgwick County) The foregoing instrument acknowledged before me,
this 9th day of FEBRUARY, 1995, by Gregory C. Downing, Member
of Downing Development Company, L.L.C., on behalf of Downing Development
Company, L.L.C.

My appointment Expires 5/5/97



Philip J. Meyer Notary Public
PHILIP J. MEYER

State of Kansas) SS
Sedgwick County) The foregoing instrument acknowledged before me,
this 10th day of FEBRUARY, 1995, by Robert O. Large and Carol
Large, husband and wife.

My appointment Expires 5/5/97



Philip J. Meyer Notary Public
PHILIP J. MEYER

We, the undersigned, holders of mortgages
on the above described property do hereby consent to the
plat of "BELLE TERRE SECOND ADDITION", Sedgwick County, Kansas.

BANK IV KANSAS, N.A.

Jim Faith SENIOR VICE-PRESIDENT
JIM FAITH

State of Kansas) SS
Sedgwick County) The foregoing instrument acknowledged
before me, this 15th day of August, 1995, by
JIM FAITH, SENIOR VICE-PRESIDENT OF BANK IV KANSAS, N.A. ON
behalf of the bank.

My appointment Expires 12/16/95

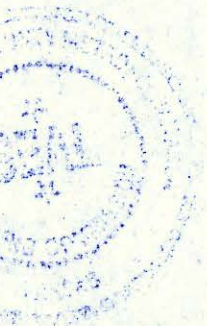
12/16/95

Sandy Keller Notary Public
SANDY KELLER

This plat of BELLE TERRE SECOND ADDITION,
Sedgwick County, Kansas, has been submitted to and approved
by the Wichita-Sedgwick County Metropolitan Area Planning
Commission, Wichita, Kansas.

Dated this 2nd day of June, 1994
Wichita-Sedgwick County Metropolitan Area
Planning Commission.

James D. Miner Chairman
JAMES D. MINER
Marvin S. Trout Secretary
MARVIN S. TROUT



This plat approved and all dedications
shown hereon accepted by the City Council of the City of
Wichita, Kansas, this 24th day of AUGUST, 1995.

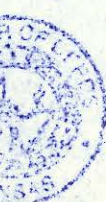
Bob Knight Mayor
BOB KNIGHT

Pat Burnett DEB. City Clerk
PAT BURNETT



This plat approved and all dedications
shown hereon accepted by the board of Commissioners of
Sedgwick County, Kansas, this 11th day of October, 1995.

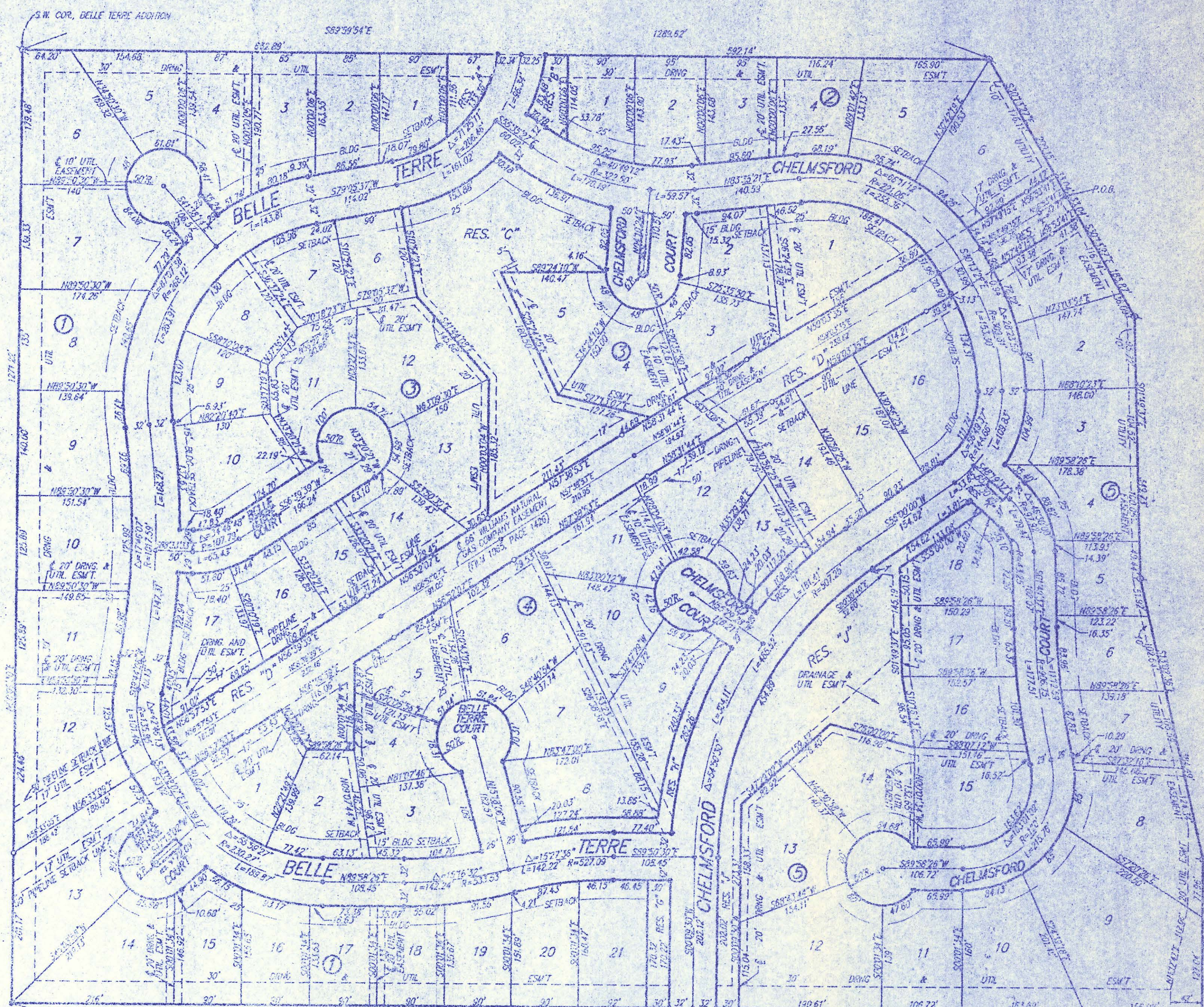
Mark F. Schroeder Chair
MARK F. SCHROEDER
Thomas G. Winters Chairman Pro-Tem
THOMAS G. WINTERS
Betty Klein Commissioner
BETTY KLEIN
Paul W. Hancock Commissioner
PAUL W. HANCOCK
Helmy Miller Commissioner
HELMY MILLER
Susan E. Crockett-Spoon County Clerk
SUSAN E. CROCKETT-SPOON



Entered on transfer record this 13th day
of October, 1995.
Susan E. Crockett-Spoon County Clerk
SUSAN E. CROCKETT-SPOON

State of Kansas) SS
Sedgwick County) This is to certify that this plat has been
filed for record in the office of the Register of Deeds,
this 16th day of October, 1995,
at 10 o'clock A.M. and is duly recorded.

Pat Kettler Register of Deeds
PAT KETTLER by Ed Resa
Ed Resa Deputy
ED RESEA



MINIMUM BUILDING PAD ELEVATIONS
FOR LOWEST OPENING OF STRUCTURE

| Lot & Block | M.S.L. | City Datum |
|--------------|--------|------------|
| 6 - BLK 2 | 1313.0 | 125.6 |
| 1, 2 - BLK 5 | 1312.0 | 124.6 |
| 3, 4 - BLK 5 | 1311.0 | 123.6 |
| 5, 6 - BLK 5 | 1310.0 | 122.6 |
| 7 - BLK 5 | 1309.0 | 121.6 |
| 8, 9 - BLK 5 | 1308.0 | 120.6 |

Scale: 1" = 100'
 o = 1/2" Rebar w/ "Baughman" Cap (Set)
 o = 1/2" Rebar w/ "Baughman" Cap (Found)
 o = Nail in Cap in West Side of Tree (Found)