

SANITARY SEWER MAIN

Lateral 467, SWI

PROJECT NO. 468-83218

INCIDENTAL DRAINAGE

Storm Water Sewer

PROJECT NO. 468-83251

SHELLY'S ORCHARD ADDITION

CITY OF WICHITA, KANSAS

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

OCA NO. 743868

GENERAL NOTES

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 687-2470

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

Cox Communications 262-0661
 Kansas Gas Service 383-8600
 K.G.E. Electric 383-8600
 Peoples Natural Gas Company 1-800-303-0357
 Southwestern Bell Telephone Company 1-800-286-8313
 City of Wichita Water Department 262-6000
 City of Wichita Sewer Maintenance 262-6000

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. Location information has been obtained from the various utility companies and is either from company record drawings or company-provided field locations. The Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.

Rubble from the removal of miscellaneous structures 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 permitting regulations. Any material buried or stockpiled beyond approved of Engineers construction limits would require additional archeological investigations unless buried in a previously approved borrow location.

The Engineer shall take field ties to all quarter section corners. The Contractor shall set a City survey monument in the required location where such quarter section corners fall within the limits of pavement construction. Survey monuments will be furnished by the City. The Engineer will accurately locate and install the iron at the quarter section corner. This work will not be paid for directly, but shall be considered subsidiary to the other pay items of work in the contract.

The Contractor shall notify pipeline companies at least 24 hours in advance of any work being performed across and/or adjacent to pipelines.

The Contractor shall give all property owners and/or tenants of developed property directly abutting the construction of this project a minimum of ten (10) days advance notice prior to start of construction.

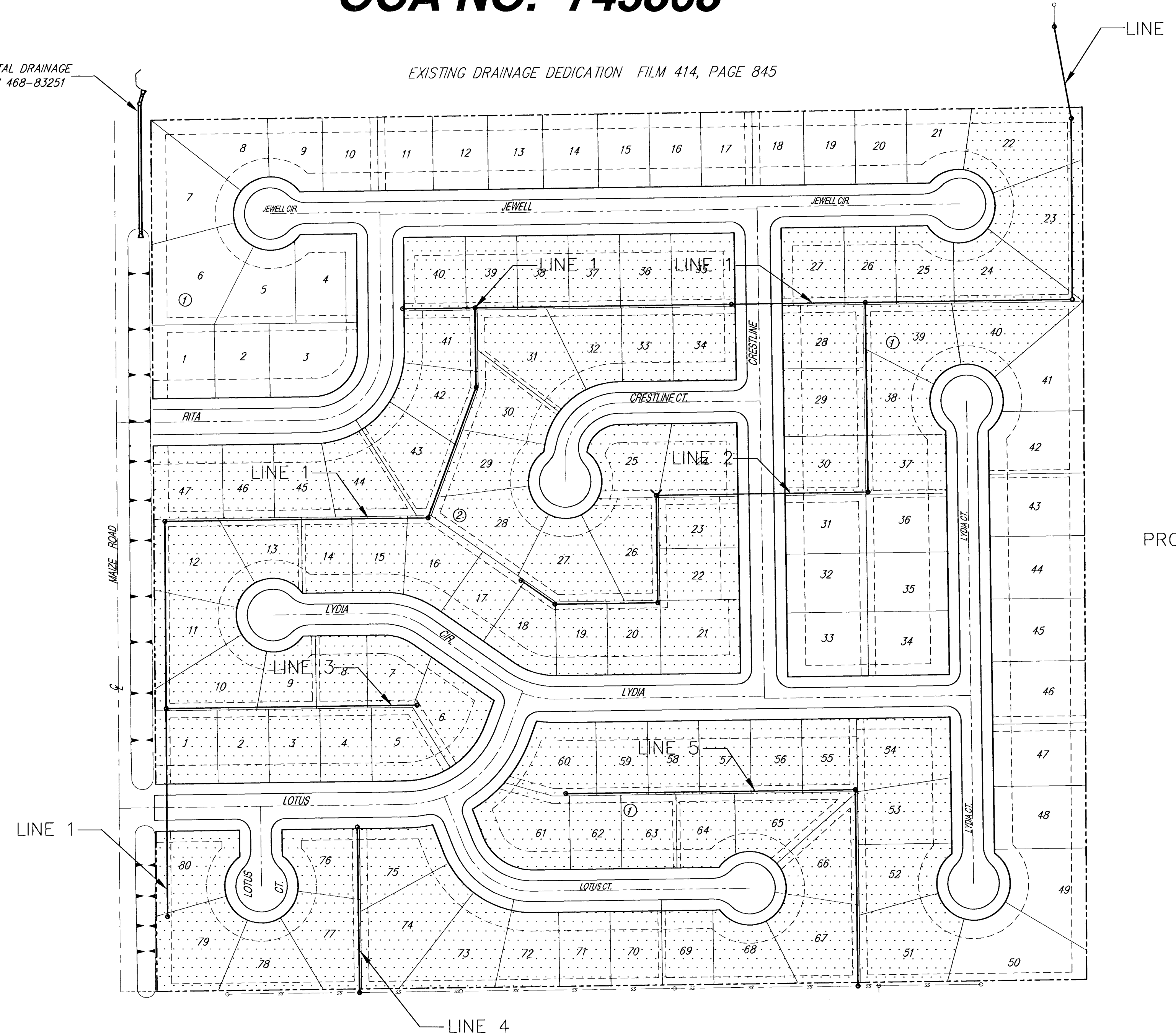
The Contractor shall seed, fertilize and mulch all disturbed areas upon completion of construction. Incidental to the bid item for "Site Clearing and Restoration".

Bench Marks

CITY OF WICHITA DISC @ MAIZE ROAD AND MAY STREET 31.5' S. AND 38.0' E. OF THE CENTERLINE OF BOTH. ELEV. = 137.67 (CITY DATUM)

INCIDENTAL DRAINAGE PROJ # 468-83251

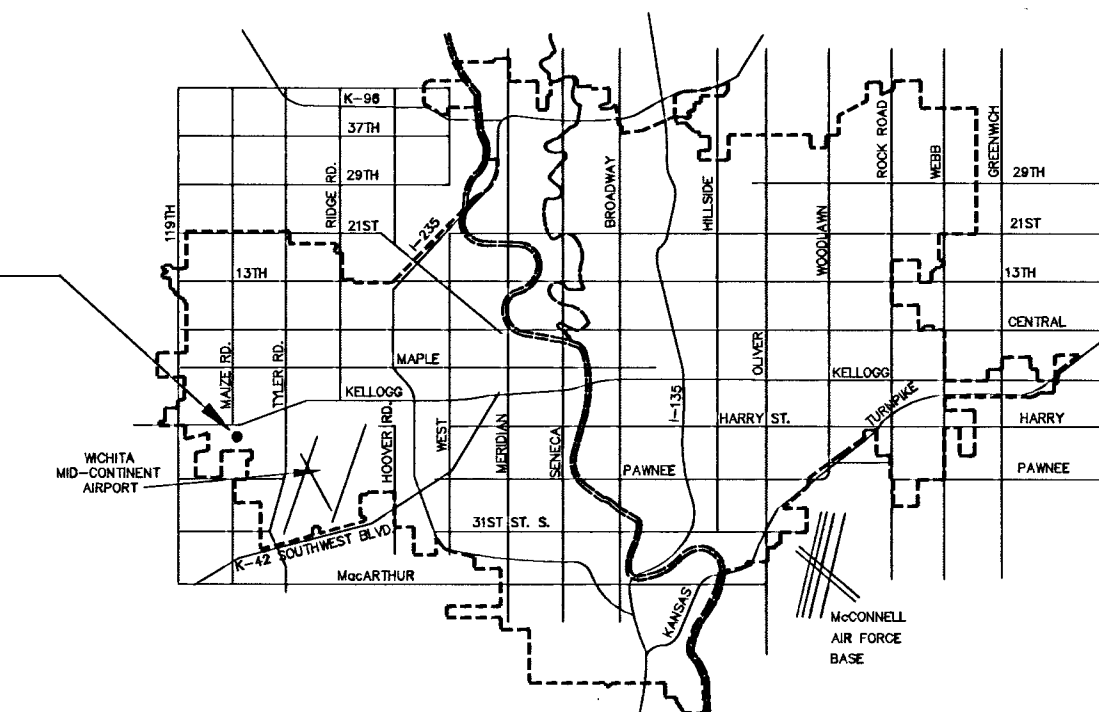
EXISTING DRAINAGE DEDICATION FILM 414, PAGE 845



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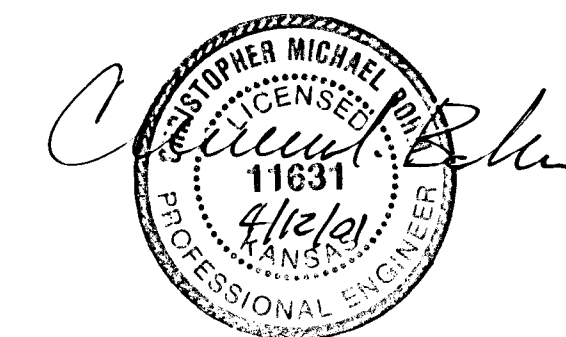
1. TITLE SHEET
- 2.-7. PLAN/PROFILE
8. TYPE 'P' MANHOLE DETAIL
9. MANHOLE FRAME AND COVER
10. SERVICE RISER ASSEMBLY
- 11.-12. DITCH GRADING
- 13.-14. EASEMENT GRADING
15. KEY MAP
16. FINAL PLAT

PROJECT LOCATION



VICINITY MAP

Booked
 P-202
 12/5/01
 R. D. L
 AS BUILT



Scale: 1" = 400'

BENEFIT DISTRICT

SRB 924 NORTH MAIN 316-284-8008
 WICHITA, KANSAS 67203 FAX 284-4621
SAVOY, RUGGLES & BOHM, P. A.
 ENGINEERING & SURVEYING

STA -0+19.84 LINE 1
CONSTRUCT STANDARD MH
TOP ELEV. = 128.55

STA 2+00 LINE 1
CONSTRUCT STANDARD MH
TOP ELEV. = 128.70

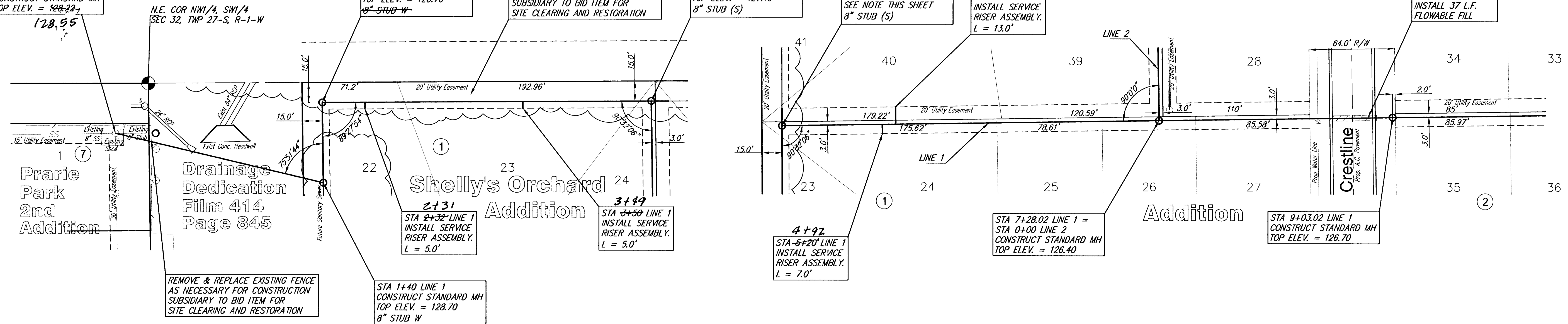
REMOVE EXISTING TREES
AS NECESSARY FOR CONSTRUCTION
SUBSIDIARY TO BID ITEM FOR
SITE CLEARING AND RESTORATION

STA 4+46.16 LINE 1
CONSTRUCT STANDARD MH
TOP ELEV. = 127.10

STA 4+46.16 LINE 1
CONSTRUCT STANDARD MH
SEE NOTE THIS SHEET
8" STUB (S)

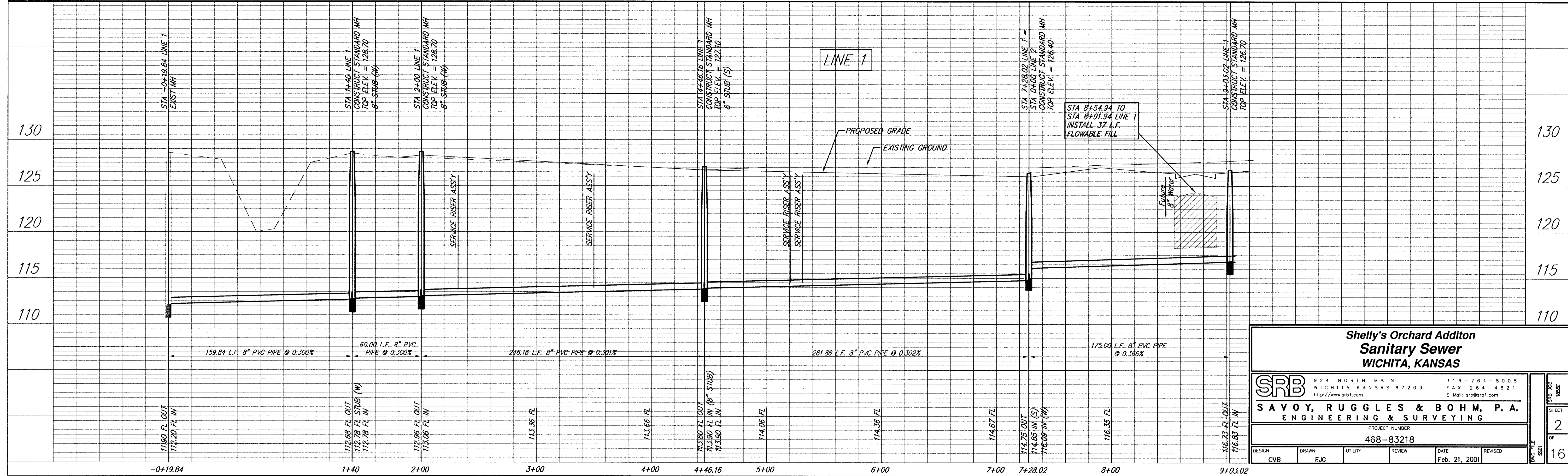
STA 5+50 LINE 1
INSTALL SERVICE
RISER ASSEMBLY.
L = 13.0'

STA 8+54.94 TO
STA 8+91.94 LINE 1
INSTALL 37 L.F.
FLOWABLE FILL



SRB
SCALE 1" = 40'
IRON = •

SCALE 1" = 40'
IRON = •

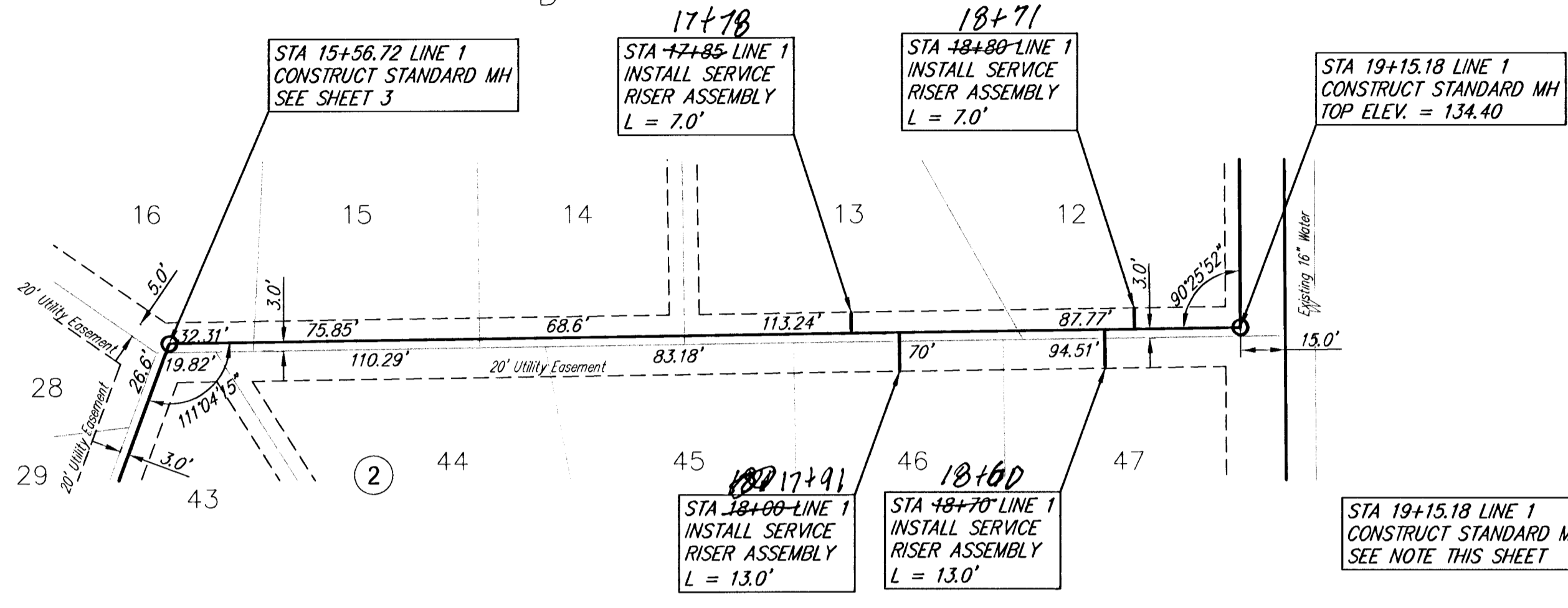


**Shelly's Orchard Addition
Sanitary Sewer
WICHITA, KANSAS**

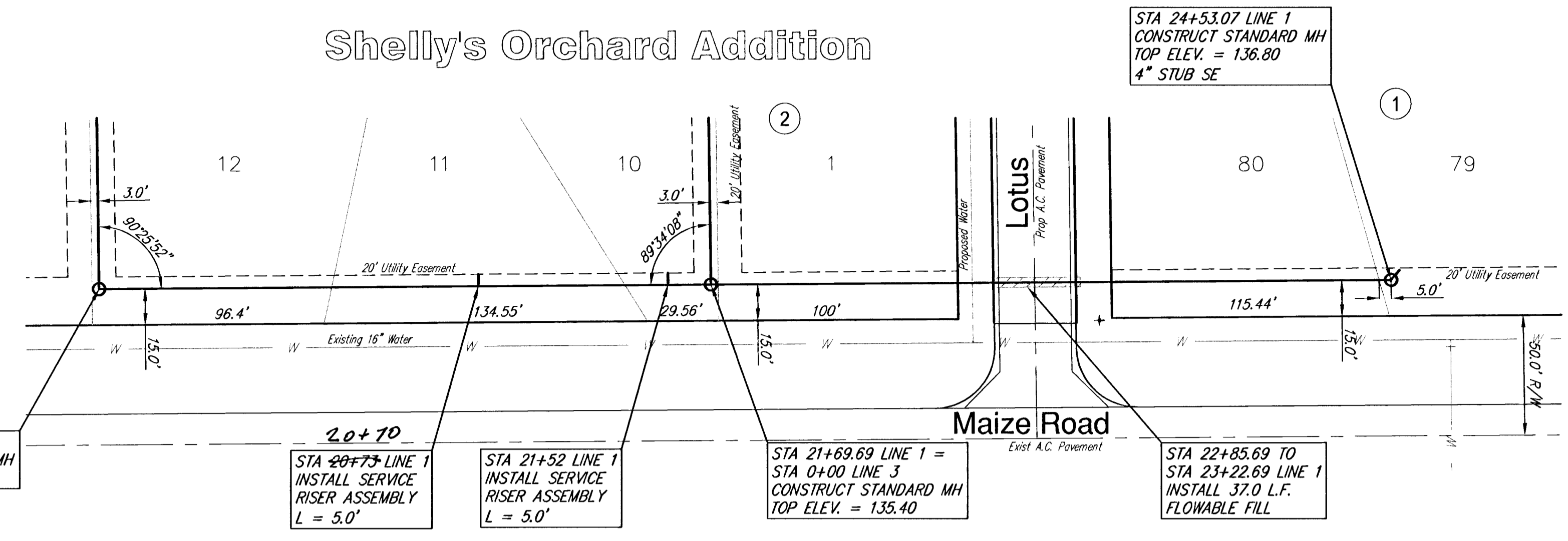
SRB		924 NORTH MAIN WICHITA, KANSAS 67203 http://www.srb1.com		316-264-8008 FAX 264-4621 E-Mail: srb@srb1.com	
SAVOY, RUGGLES & BOHM, P. A. ENGINEERING & SURVEYING					
PROJECT NUMBER 468-83218					
DESIGN	DRAWN	UTILITY	REVIEW	DATE	REVISED
CMB	EJG			Feb. 21, 2001	

SRB JOB	16346
SHEET	2
OF	16

Shelly's Orchard Addition

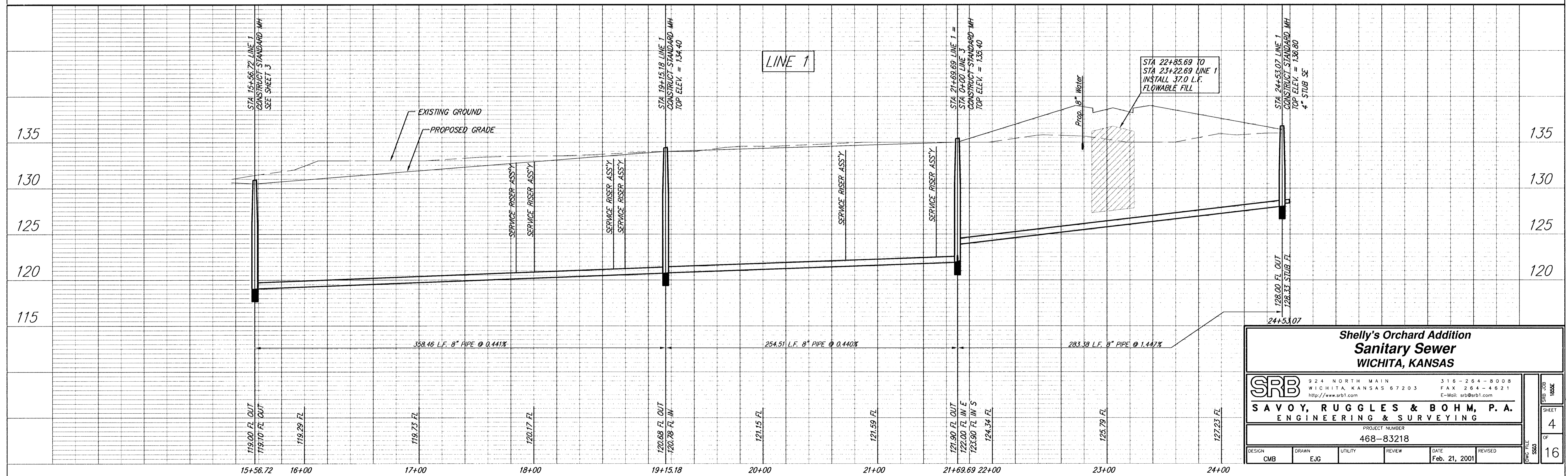


Shelly's Orchard Addition



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IRON = •

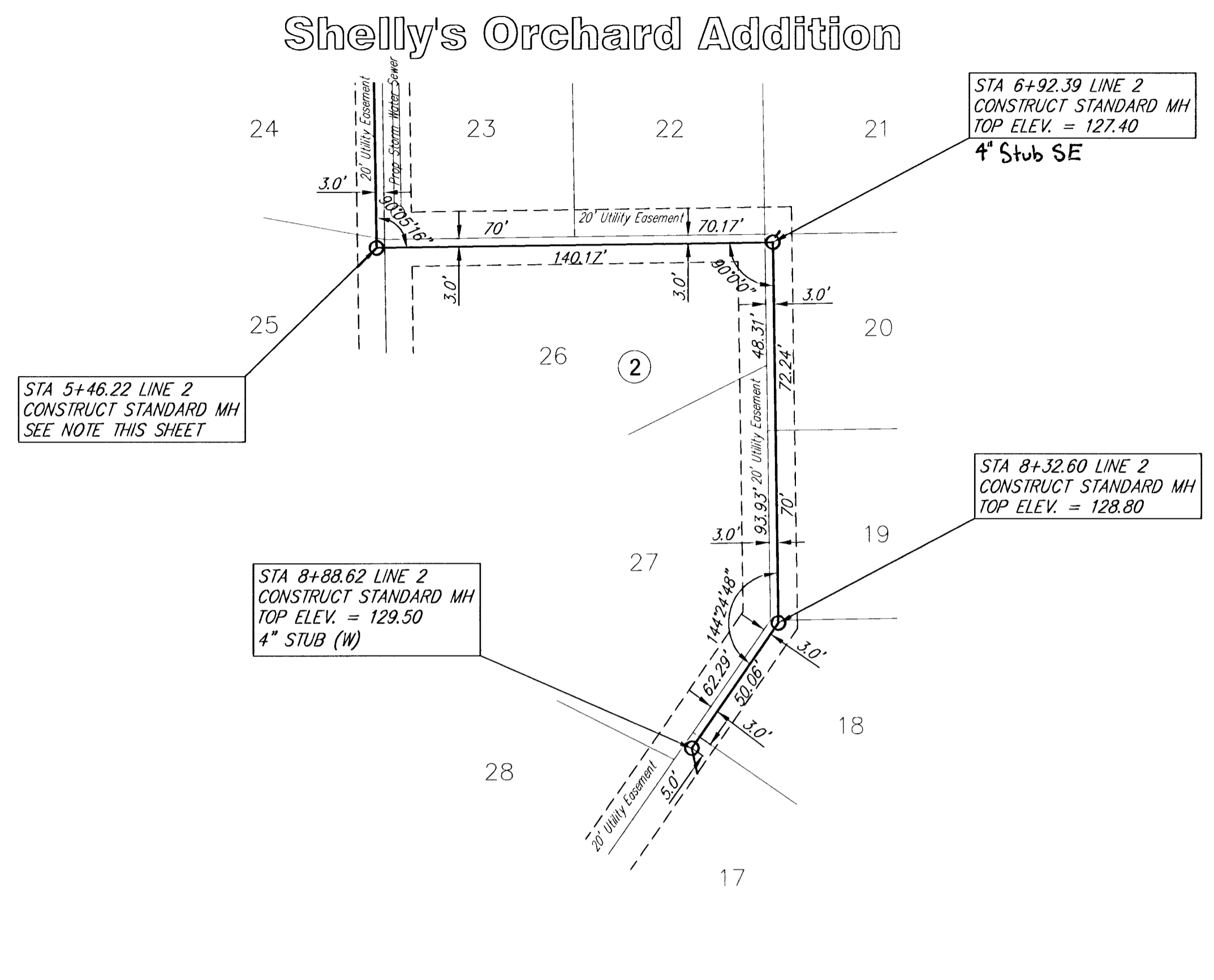
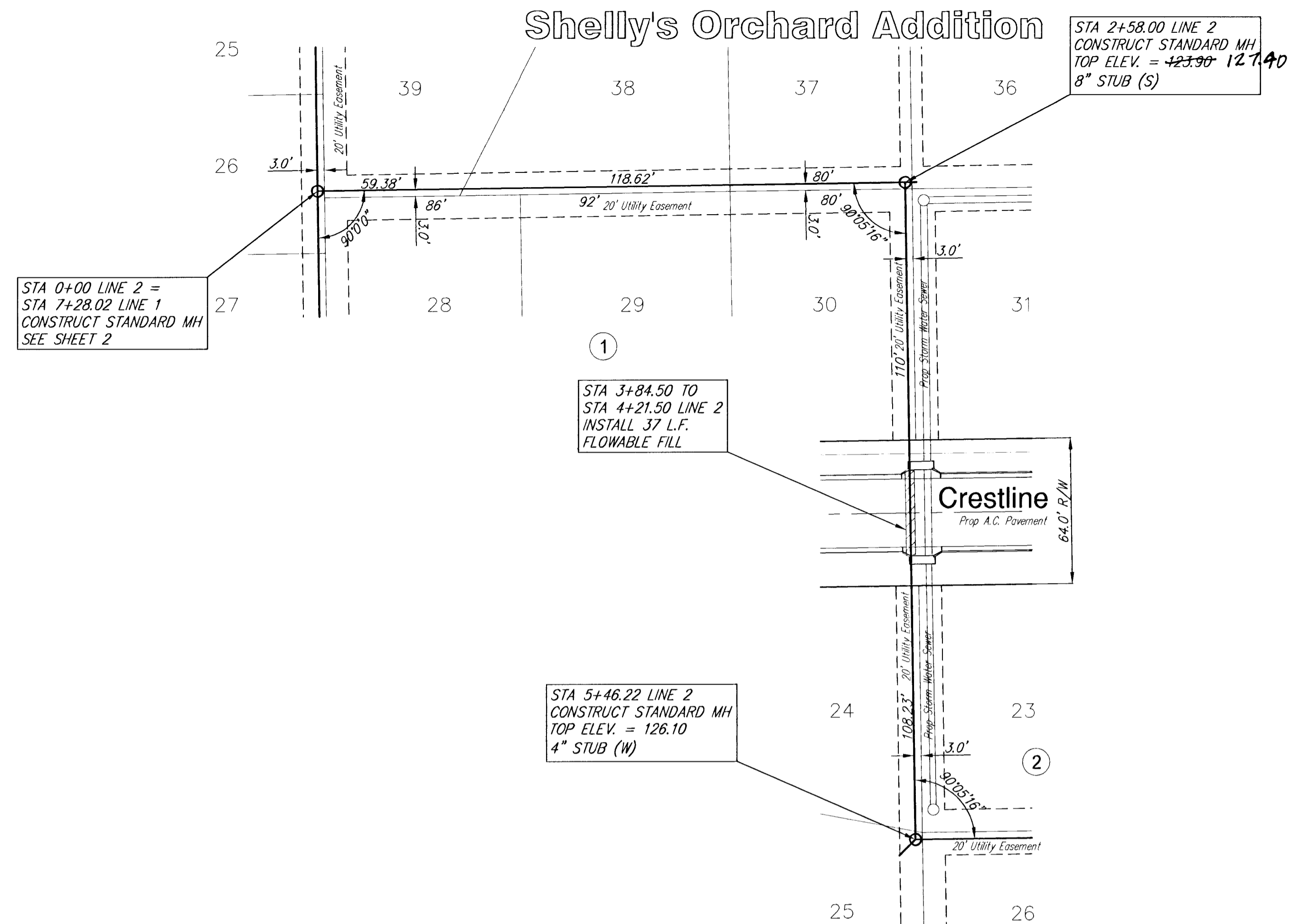
SCALE 1" = 40'
IRON = •



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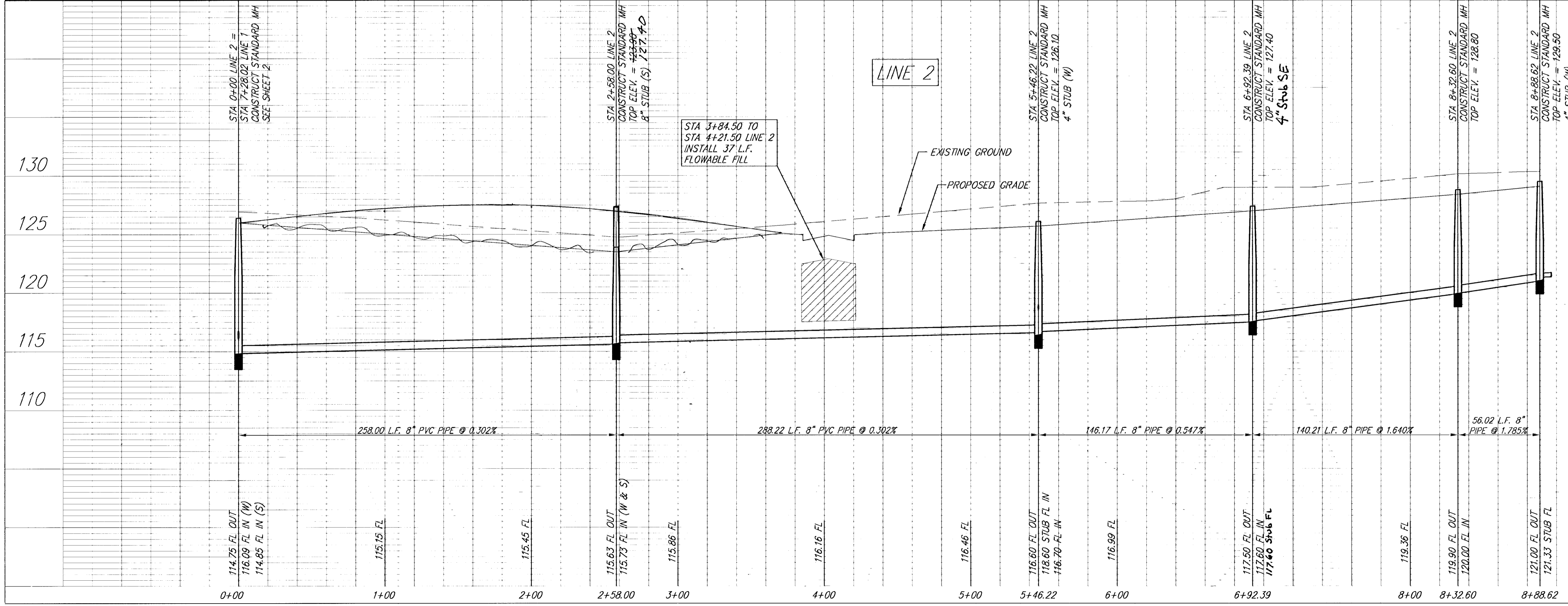
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PROJECT NUMBER 468-83218					
DESIGN CMB	DRAWN EJG	UTILITY	REVIEW	DATE Feb. 21, 2001	REVISED

SHEET 4	OF 16
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SCALE 1" = 40'

 IRON = ●

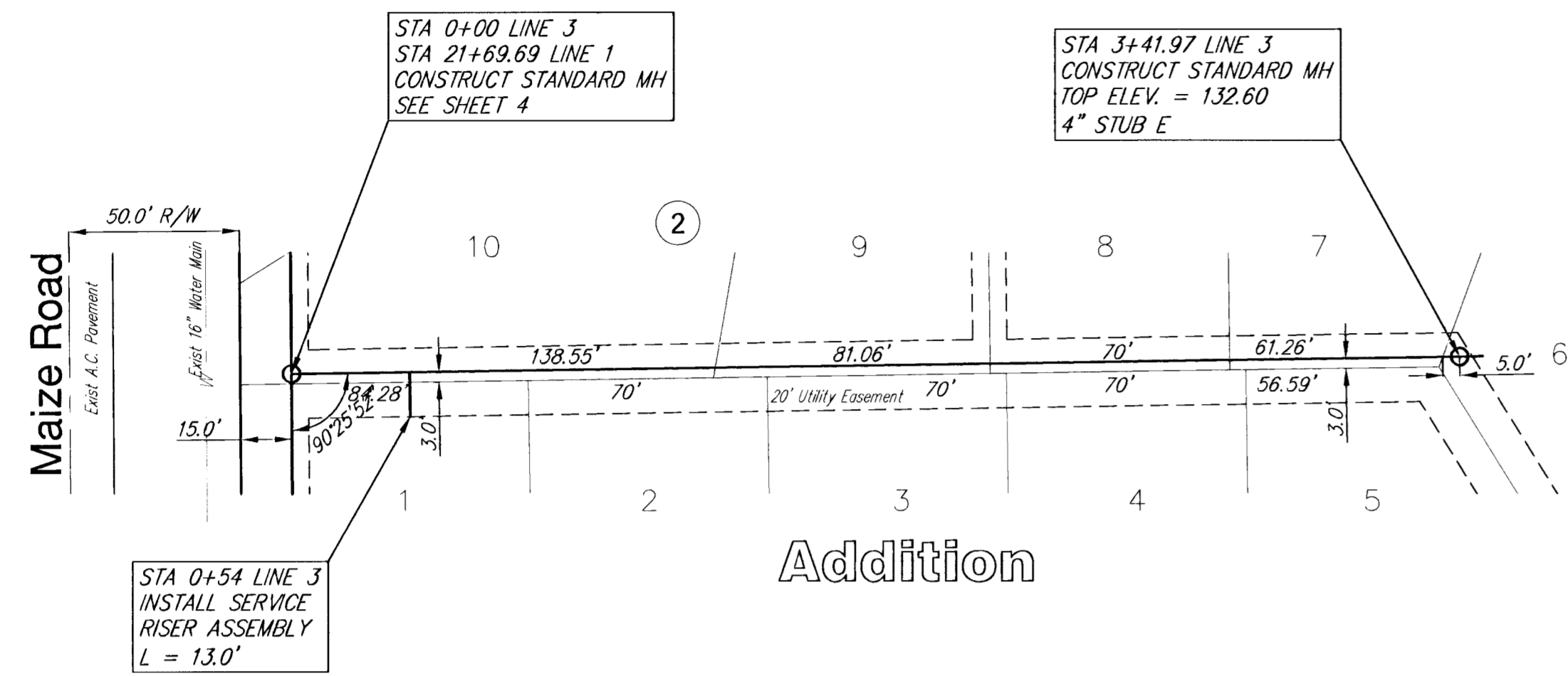


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DESIGN CMB	DRAWN EJG	REVIEW DATE Feb. 21, 2001

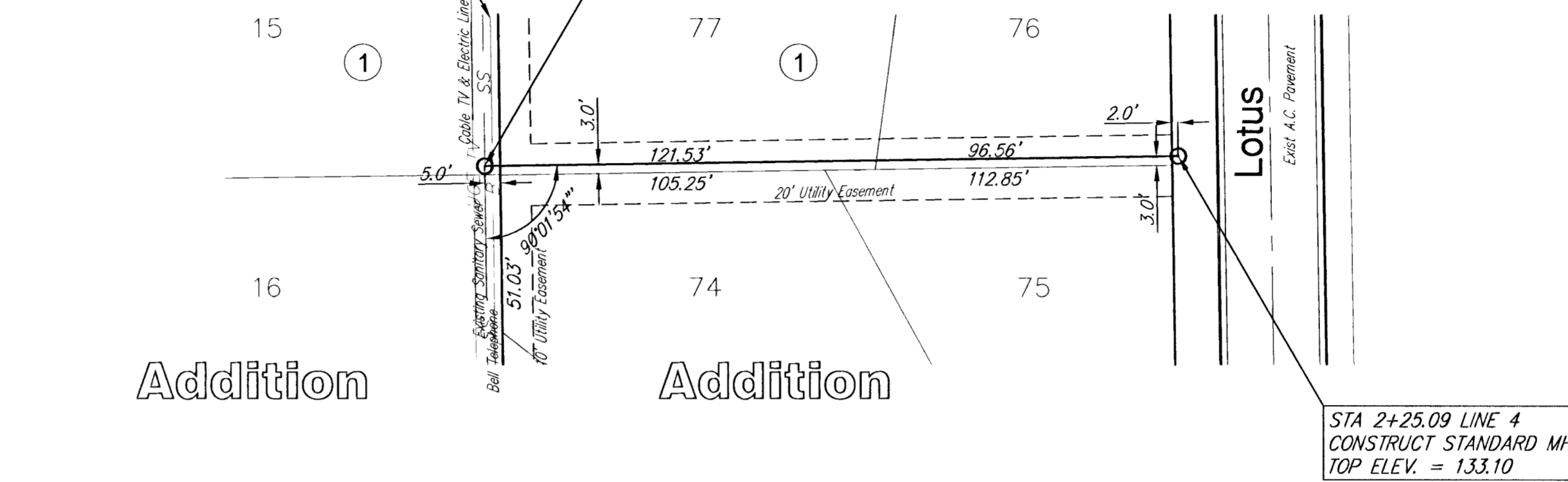
SHEET	5
OF	16

Shelly's Orchard

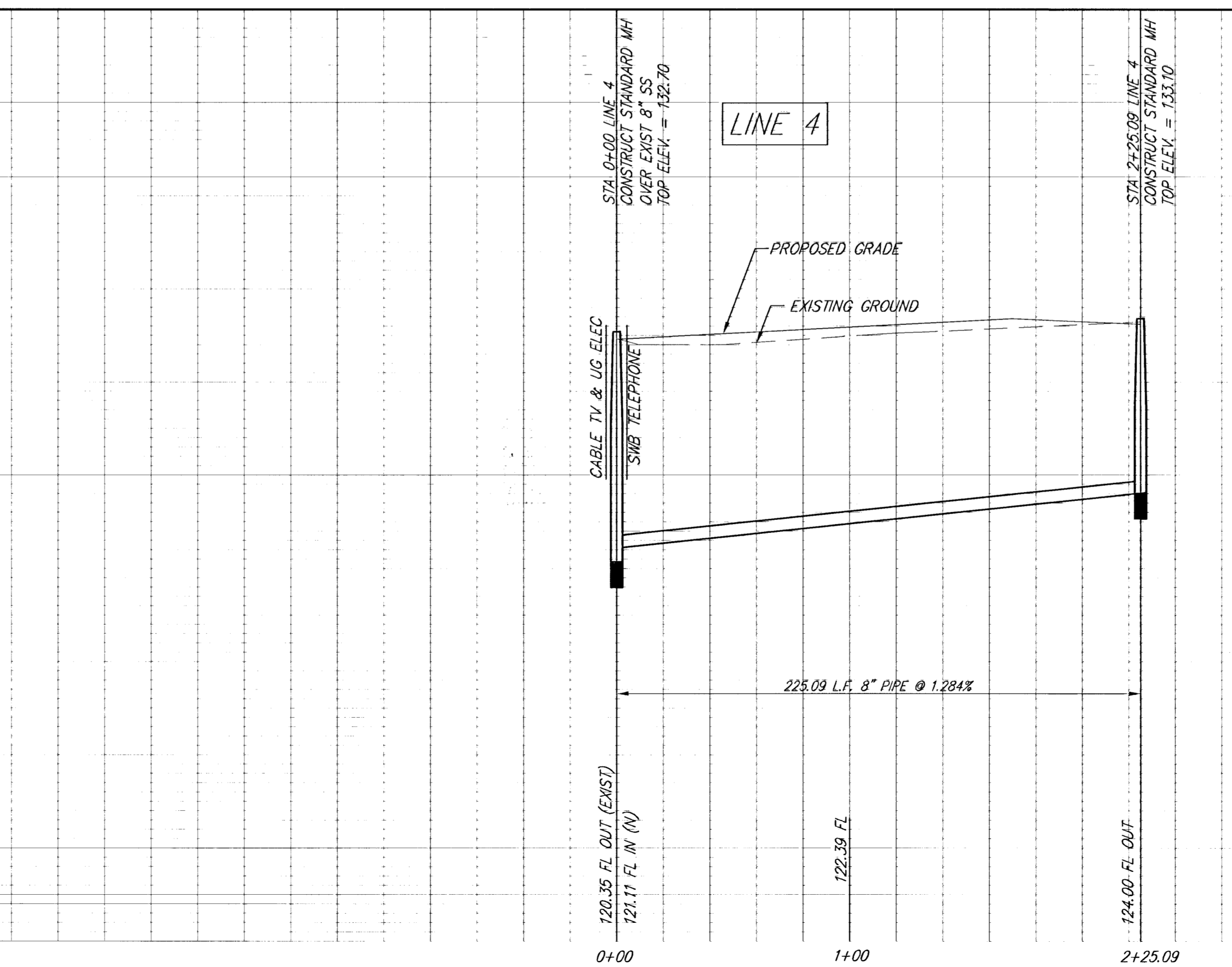
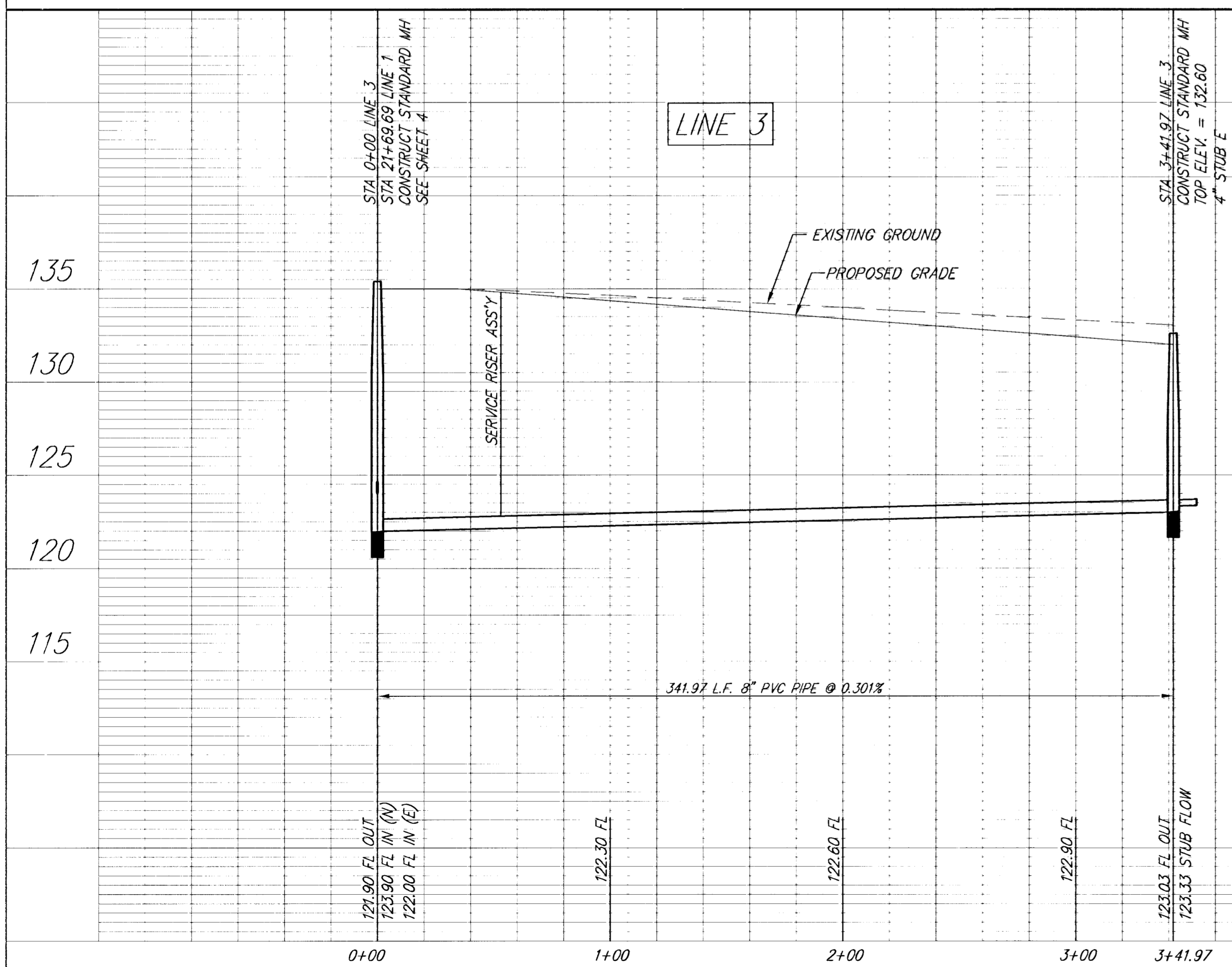


SCALE 1" = 40'
IRON = ●

Prarie Woods

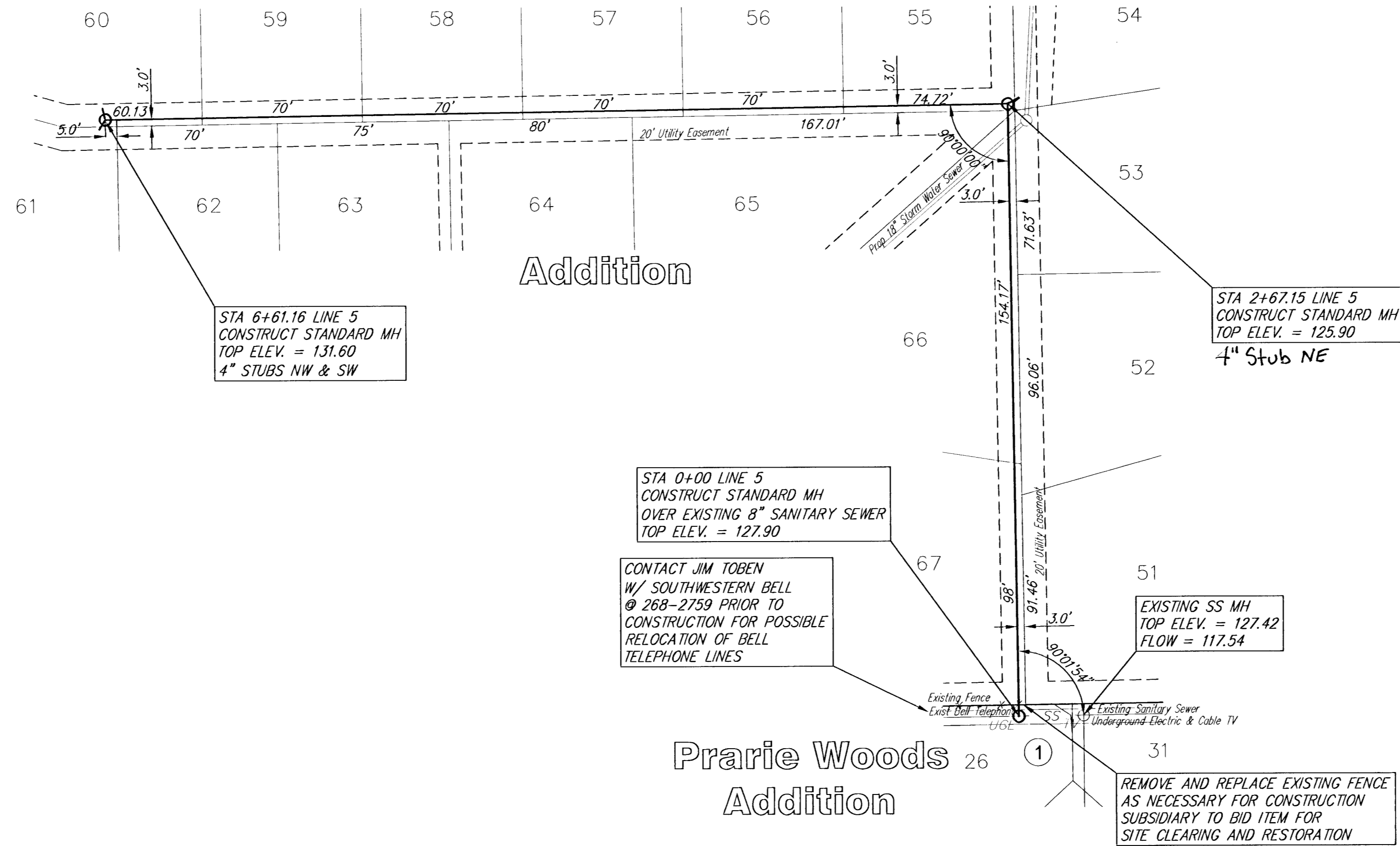


SCALE 1" = 40'
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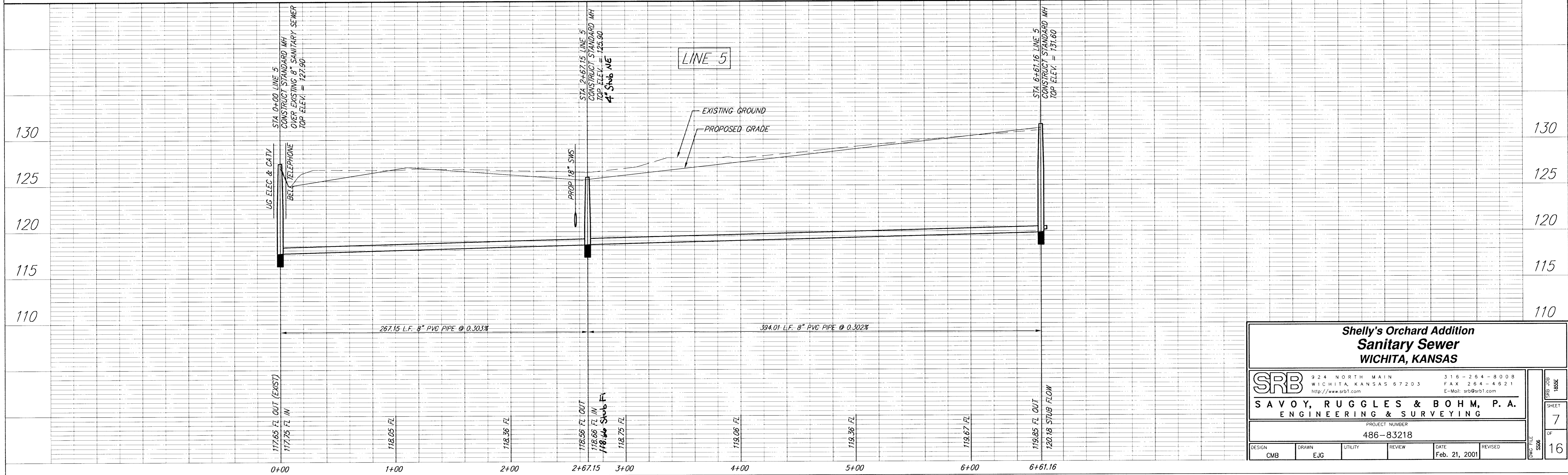


Shelly's Orchard Addition Sanitary Sewer WICHITA, KANSAS			
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			REVISIONS 16

Shelly's Orchard ①



SRB
 SCALE 1" = 40'
 IRON = ●



Shelly's Orchard Addition Sanitary Sewer WICHITA, KANSAS

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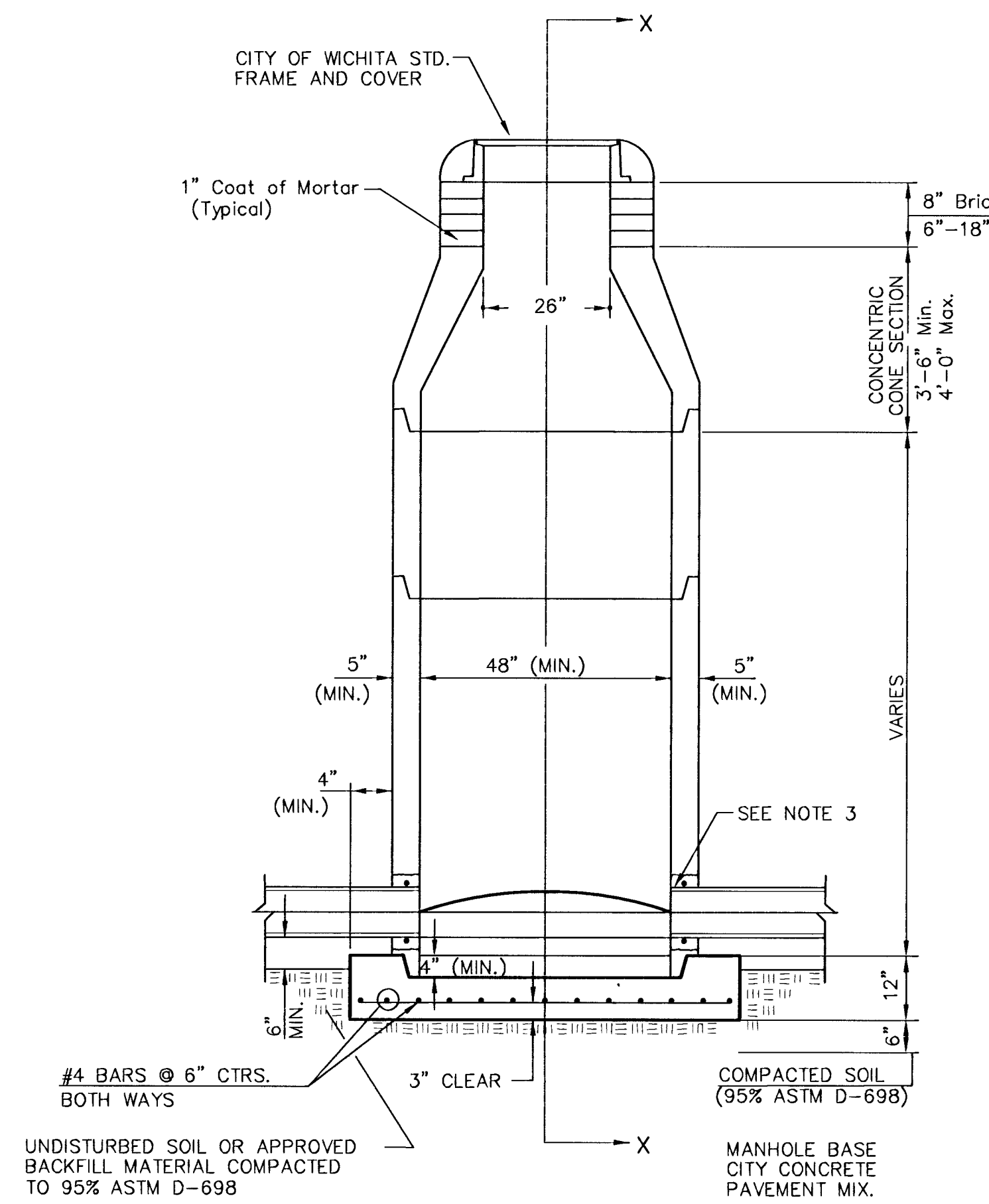
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PROJECT NUMBER: 486-83218

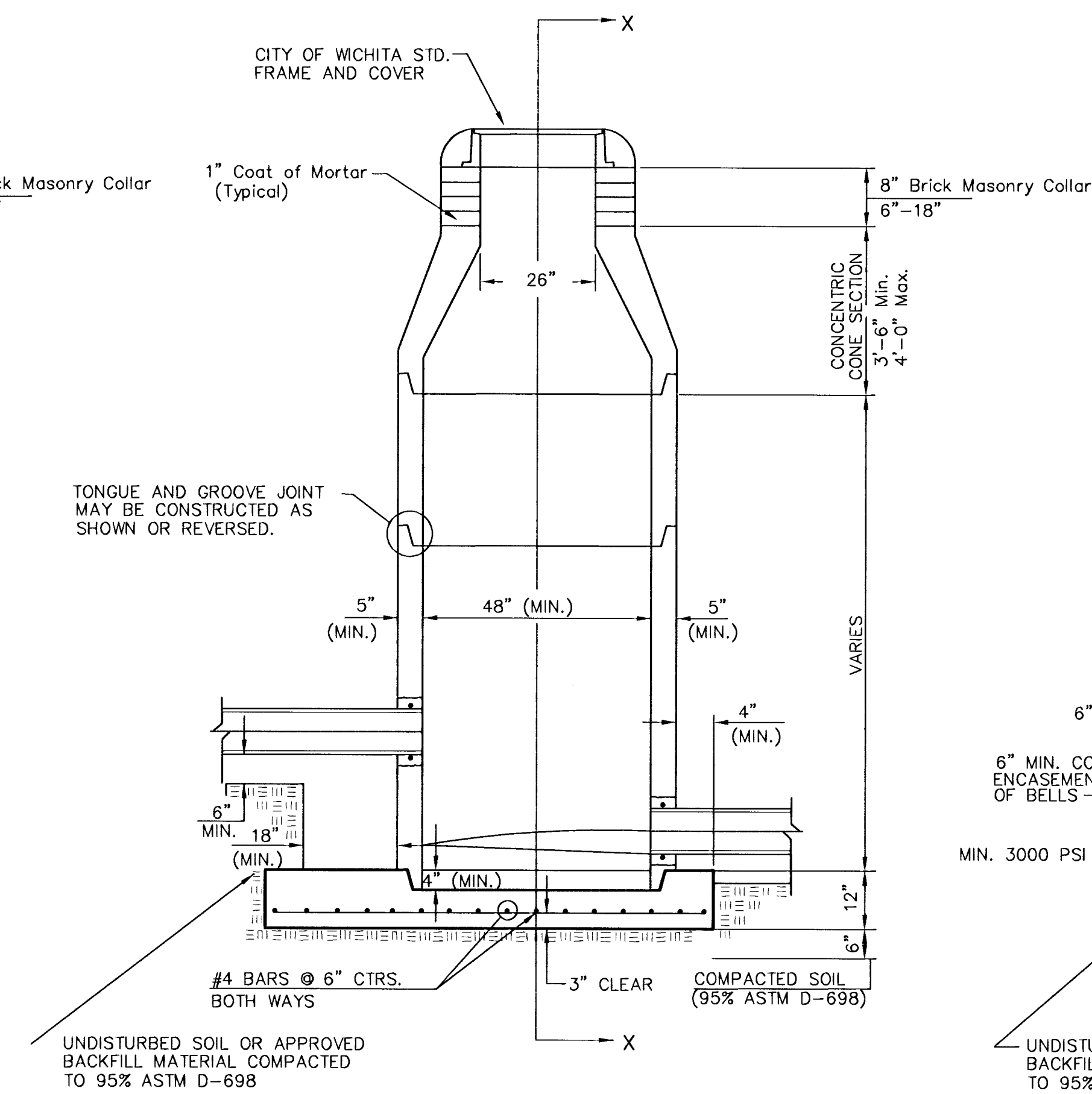
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CMB	EJG			Feb. 21, 2001	

SRB JOB NO. SHEET 7 OF 16

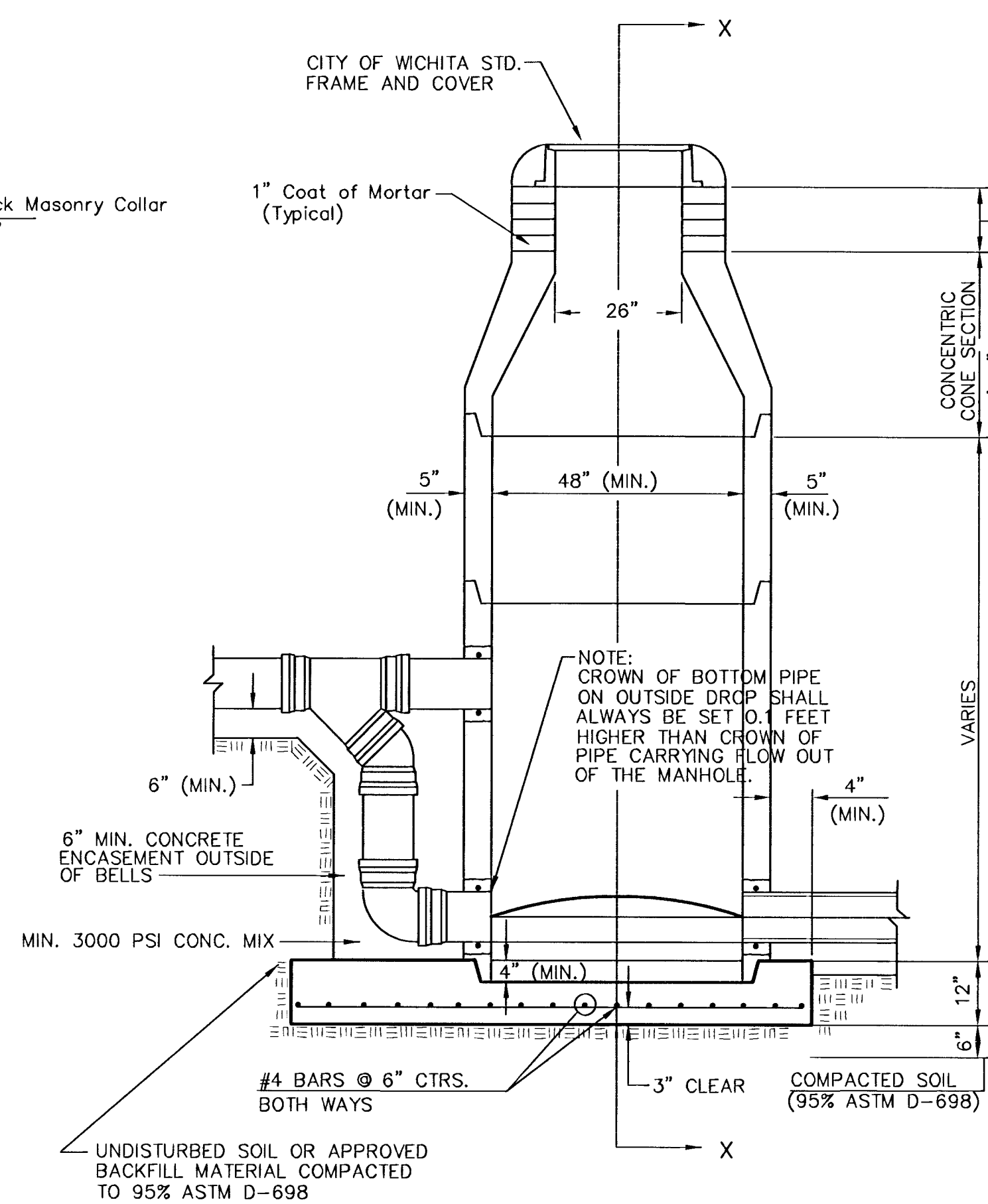
SEWER APPURTENANCES DETAILS



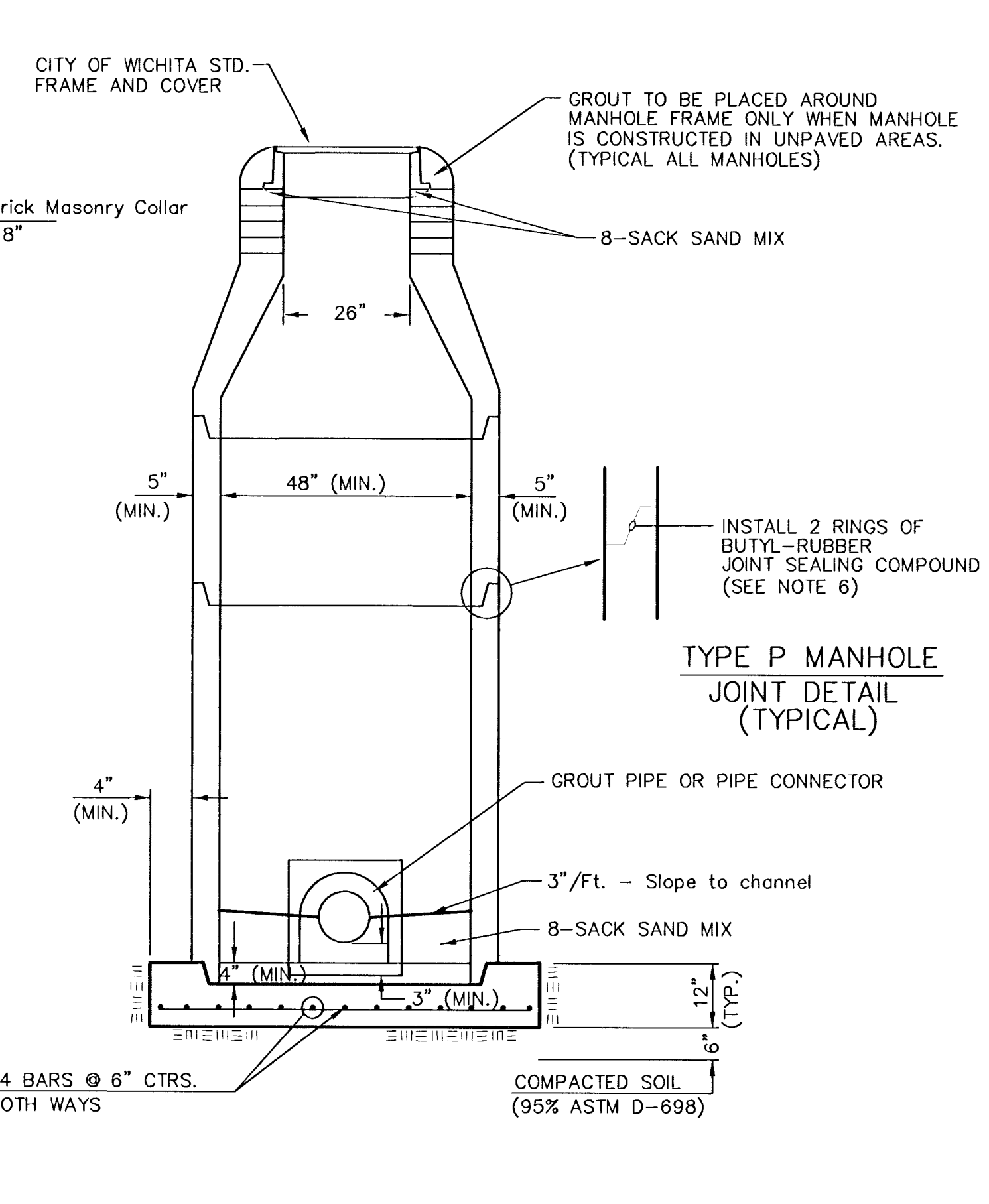
**TYPE P
STANDARD MANHOLE**



**TYPE P
INSIDE DROP MANHOLE**



**TYPE P
OUTSIDE DROP MANHOLE**



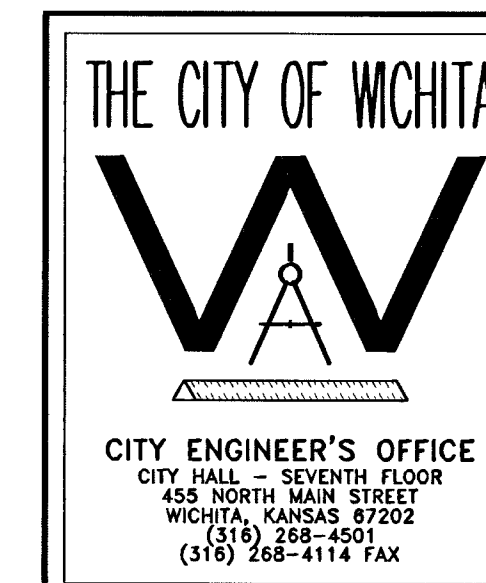
**SECTION X
(TYPICAL)**

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 TNE MEC 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 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 MAHOLE. 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 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. THE USE OF PRE-CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.



**STANDARD
TYPE 'P'
MANHOLES**

M. E. LINDEBAK P.E. - CITY ENGINEER

PROJECT NUMBER
468-83218

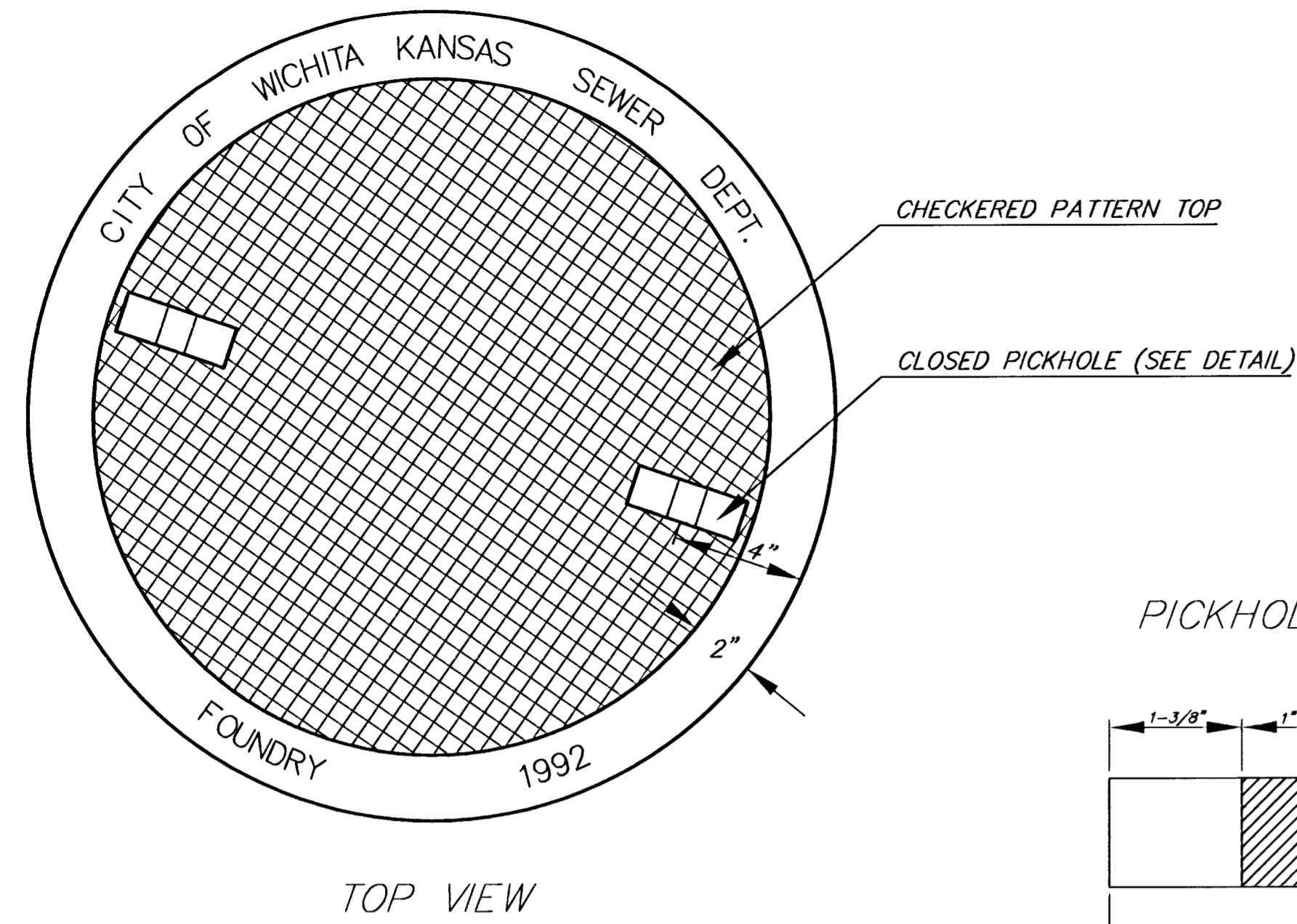
DATE
MAR 96

OCA #
8 OF 16

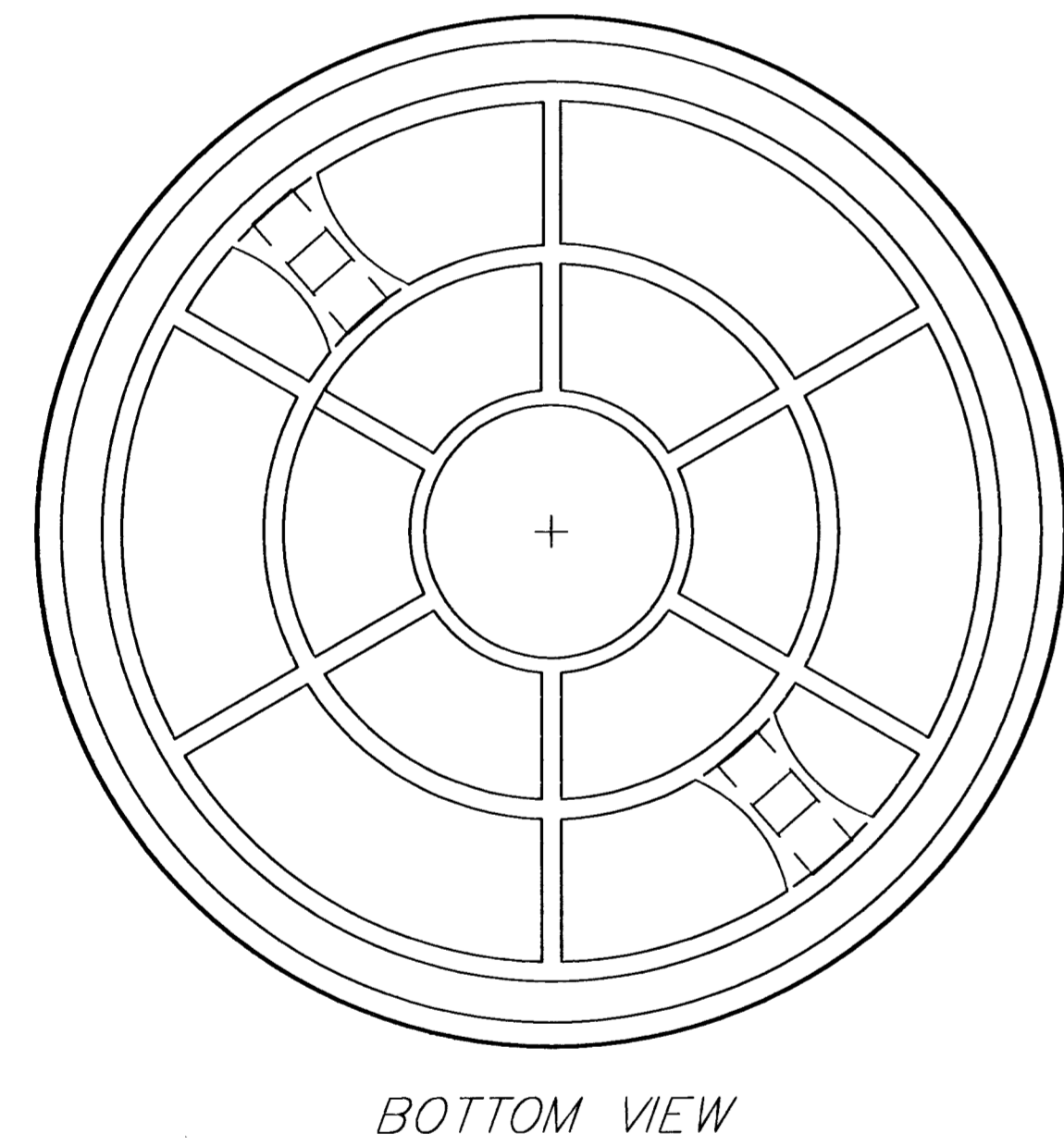
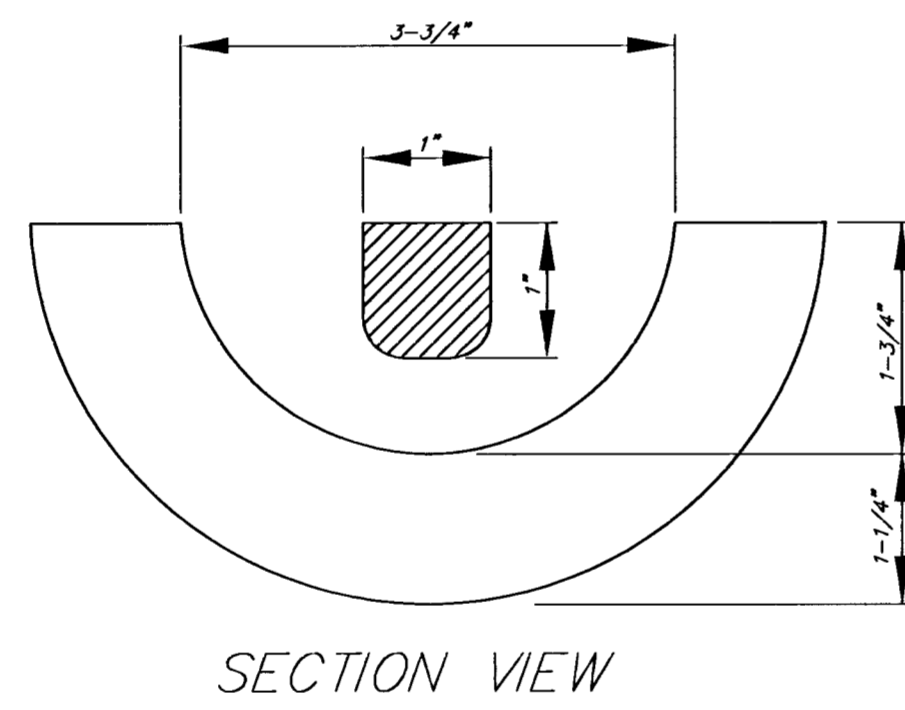
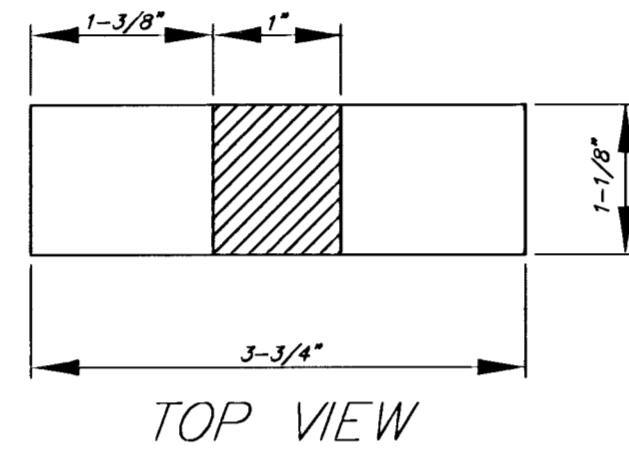
MANHOLE COVER
Weight = 180 Lbs.

MANHOLE FRAME AND COVER DETAIL

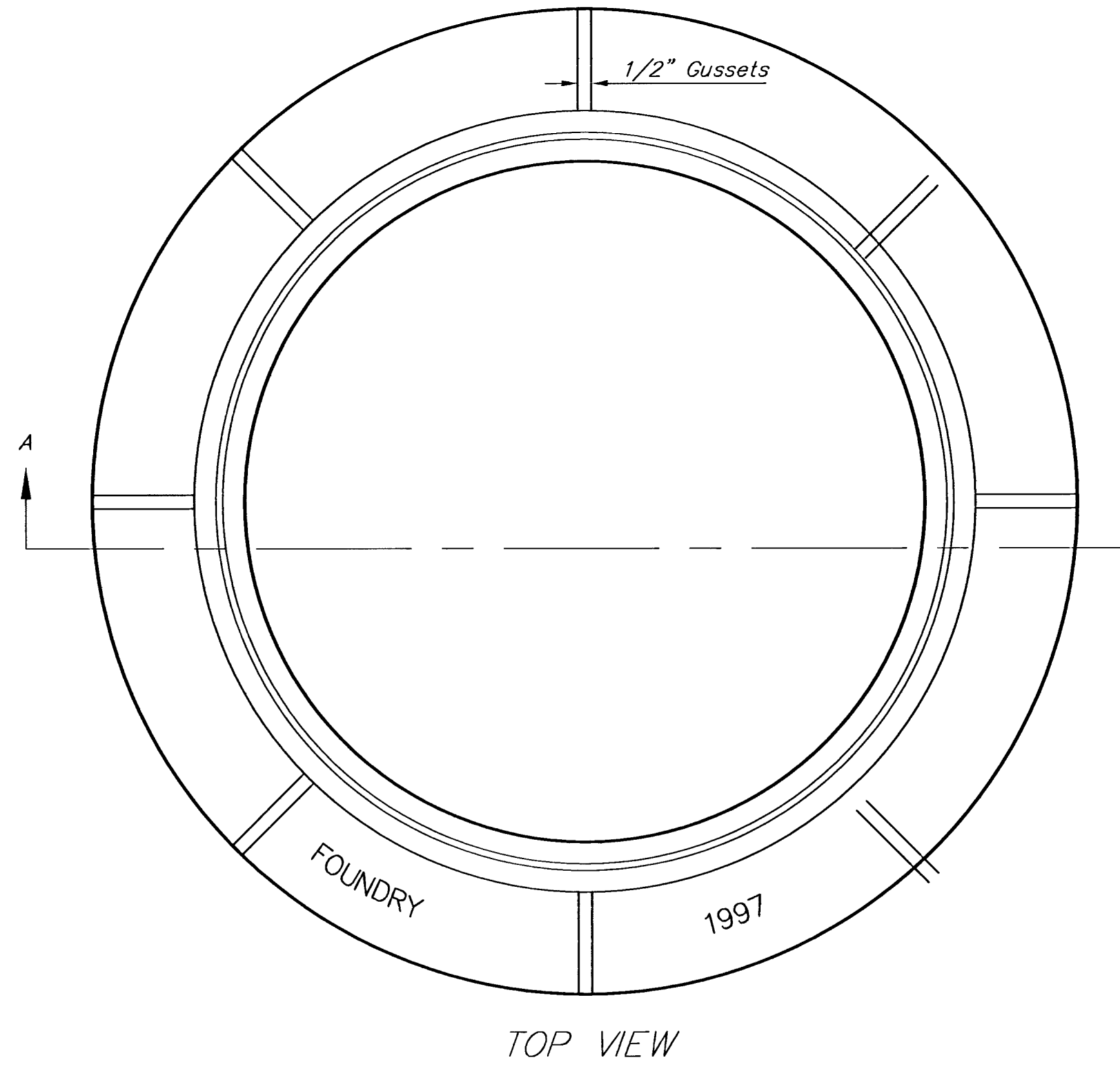
ADOPTED AS STANDARD DESIGN BY
CITY OF WICHITA, KANSAS



PICKHOLE DETAIL

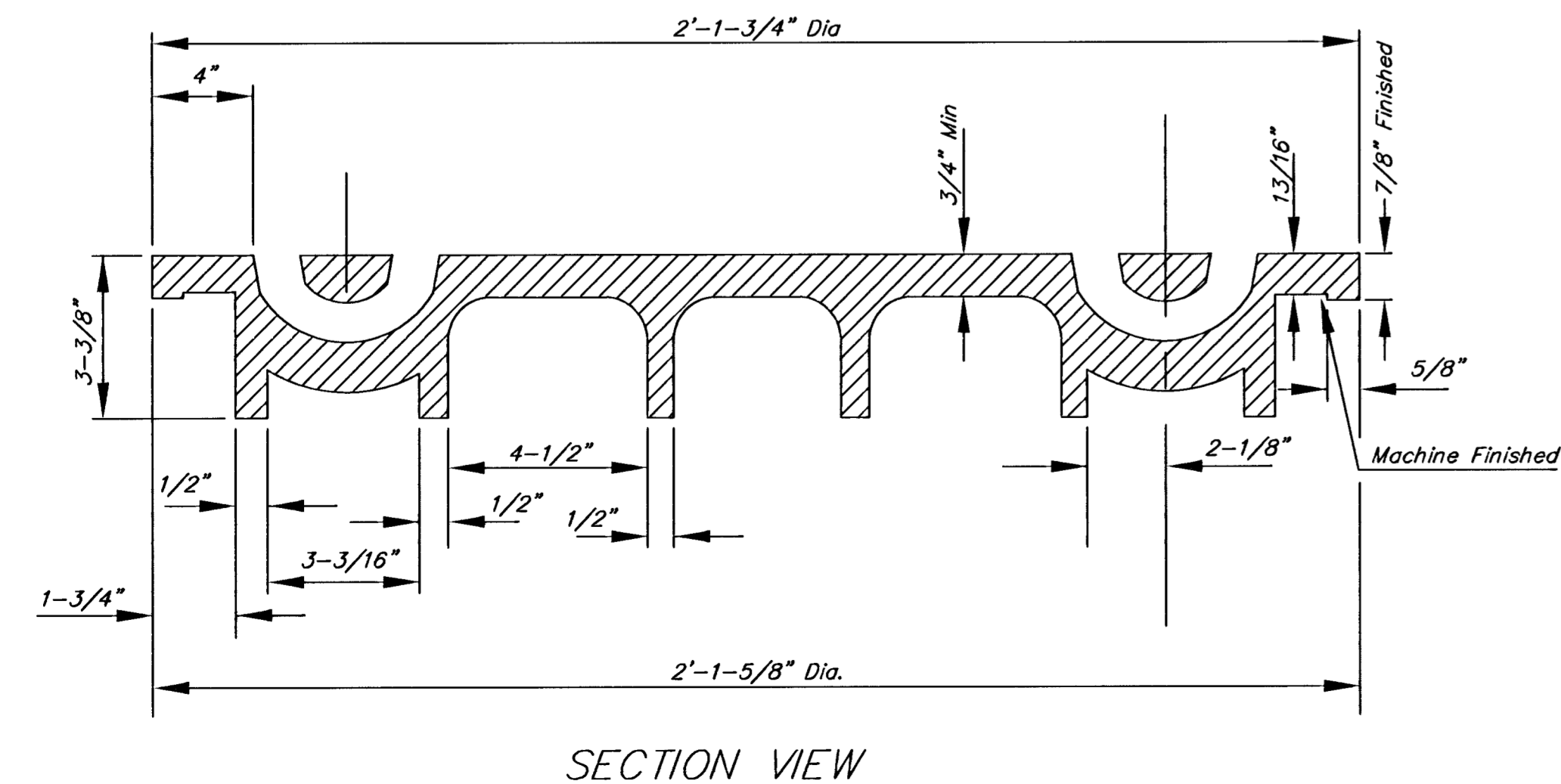
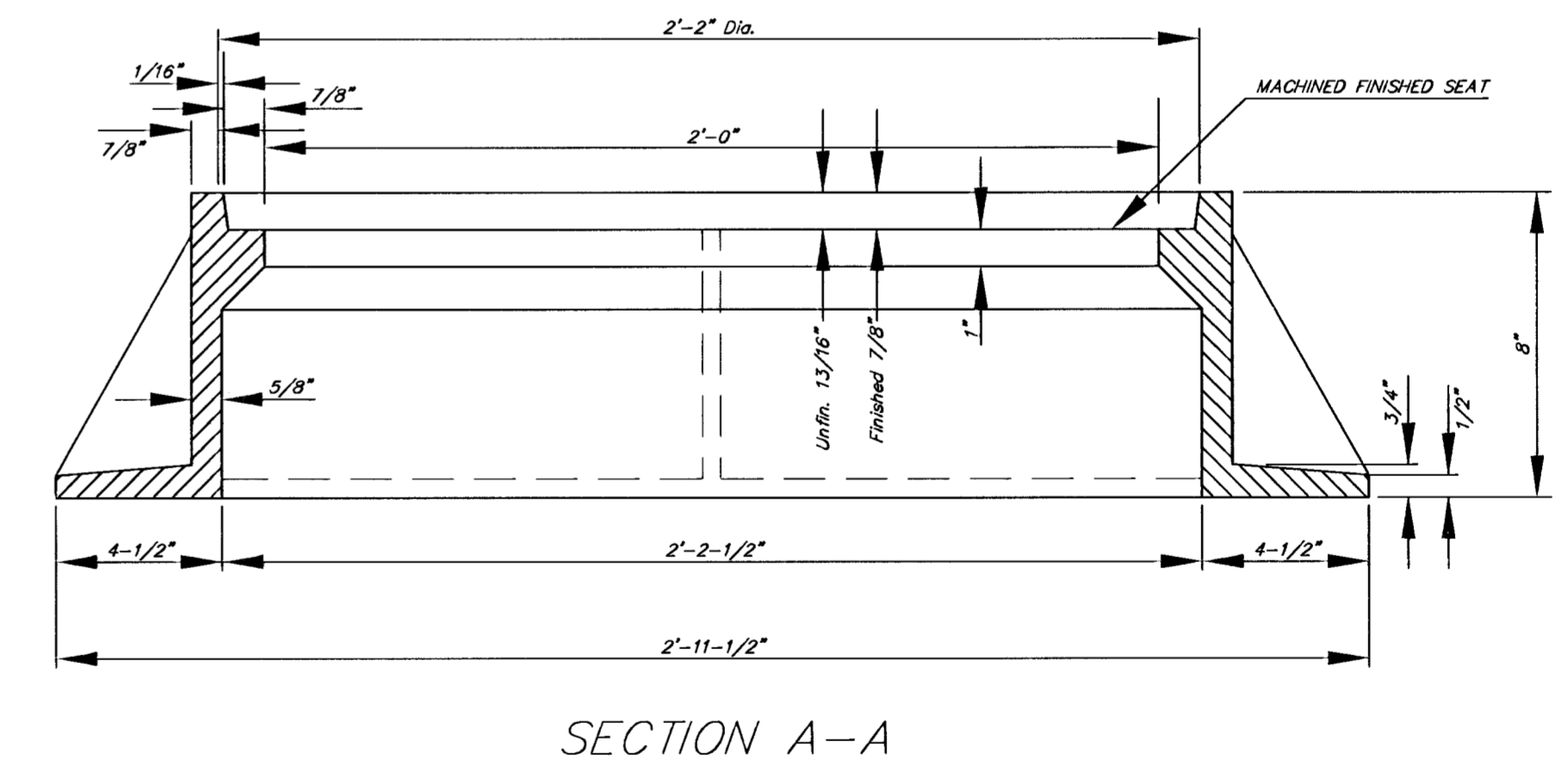
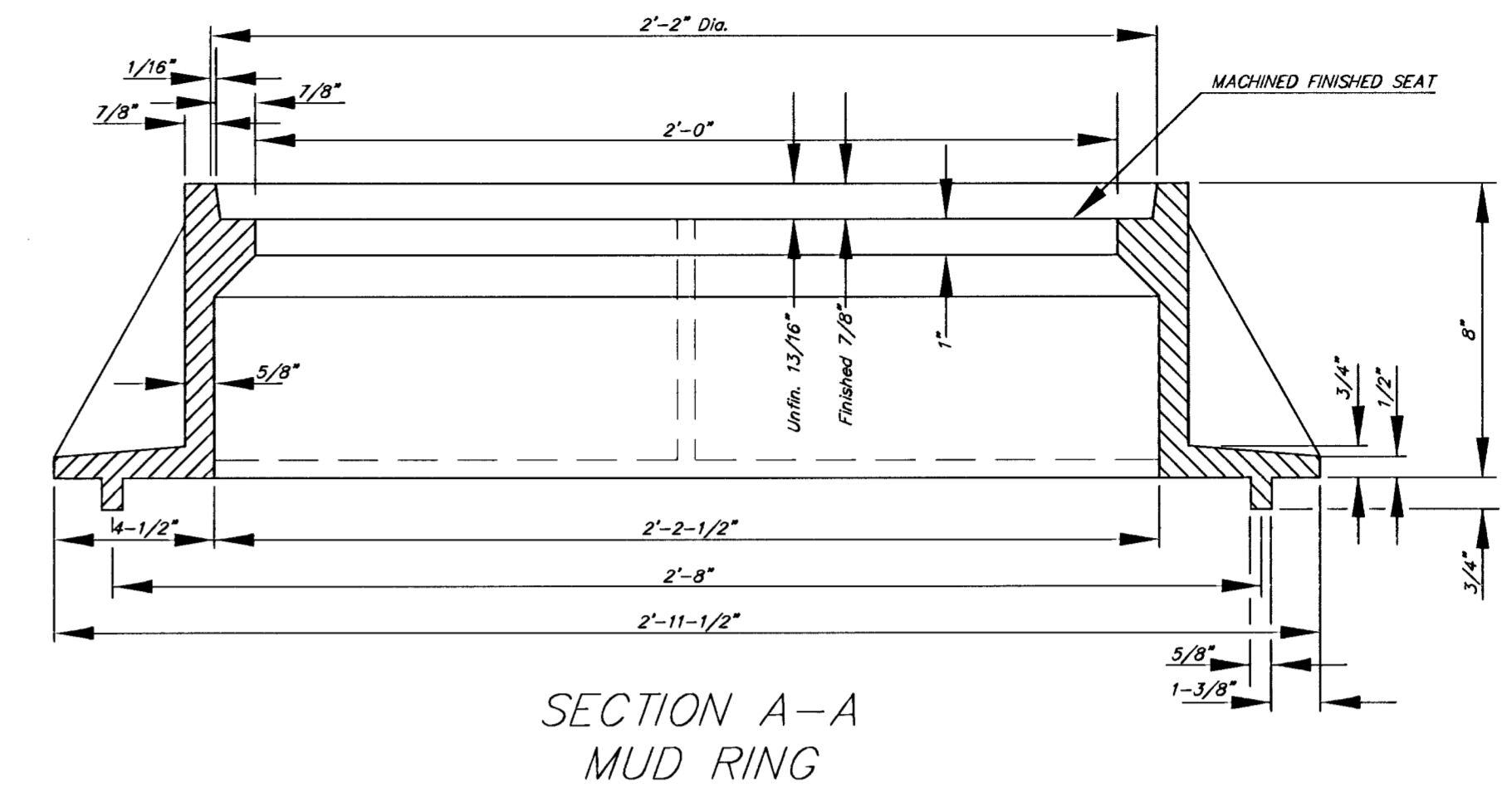


MANHOLE FRAME
Weight = 240 Lbs.



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 WEIGH A MINIMUM OF 180 POUNDS ON THE SOLID COVER AND 240 POUNDS ON THE MANHOLE RING. THIS IS A TOTAL OF 420 POUNDS ON A RING AND COVER SET. CASTINGS WEIGHING LESS THAN THE MINIMUM SPECIFICATIONS WILL NOT BE ACCEPTED.
- 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 THAT THESE SEATING 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 BLOCKOUTS 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.

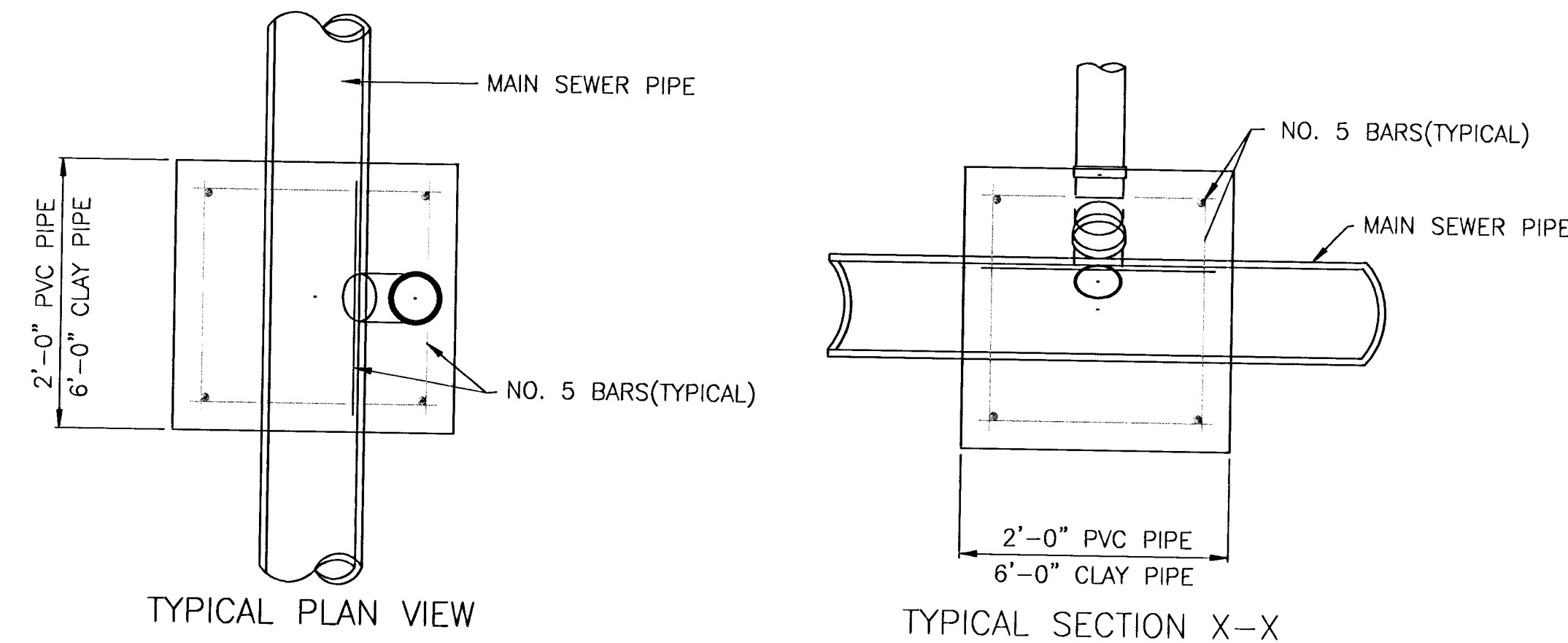


<p>THE CITY OF WICHITA</p> <p>CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 450 NORTH MAIN STREET WICHITA, KANSAS 67202 (316) 268-4501 (316) 268-4114 FAX</p>	MANHOLE FRAME AND COVER	
	M. E. LINDEBAK P.E. - CITY ENGINEER	
	PROJECT NUMBER 468-83218	OCA #
	DATE MAR 96	SHEET 9 OF 16

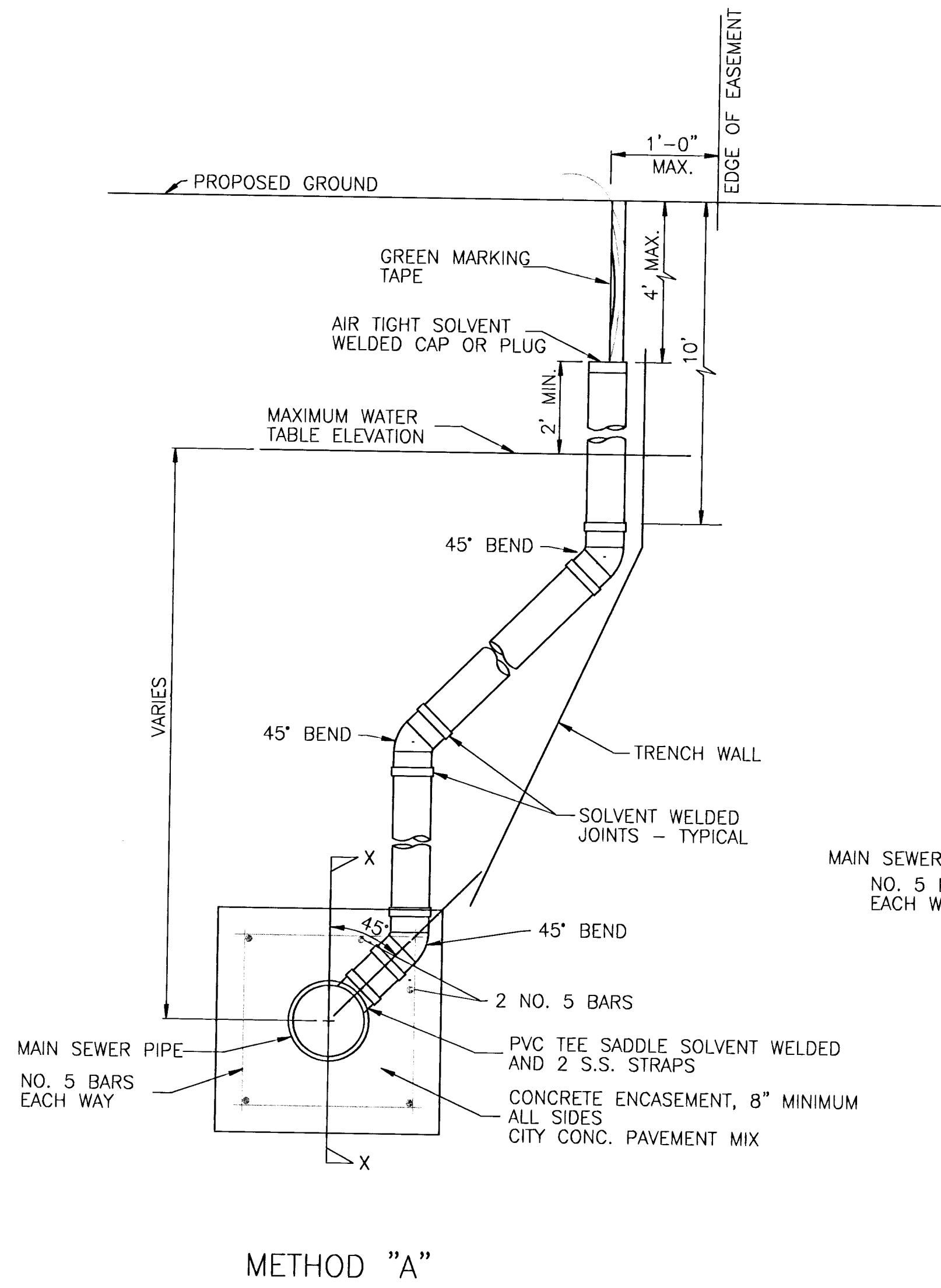
VERTICAL RISER DETAILS

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

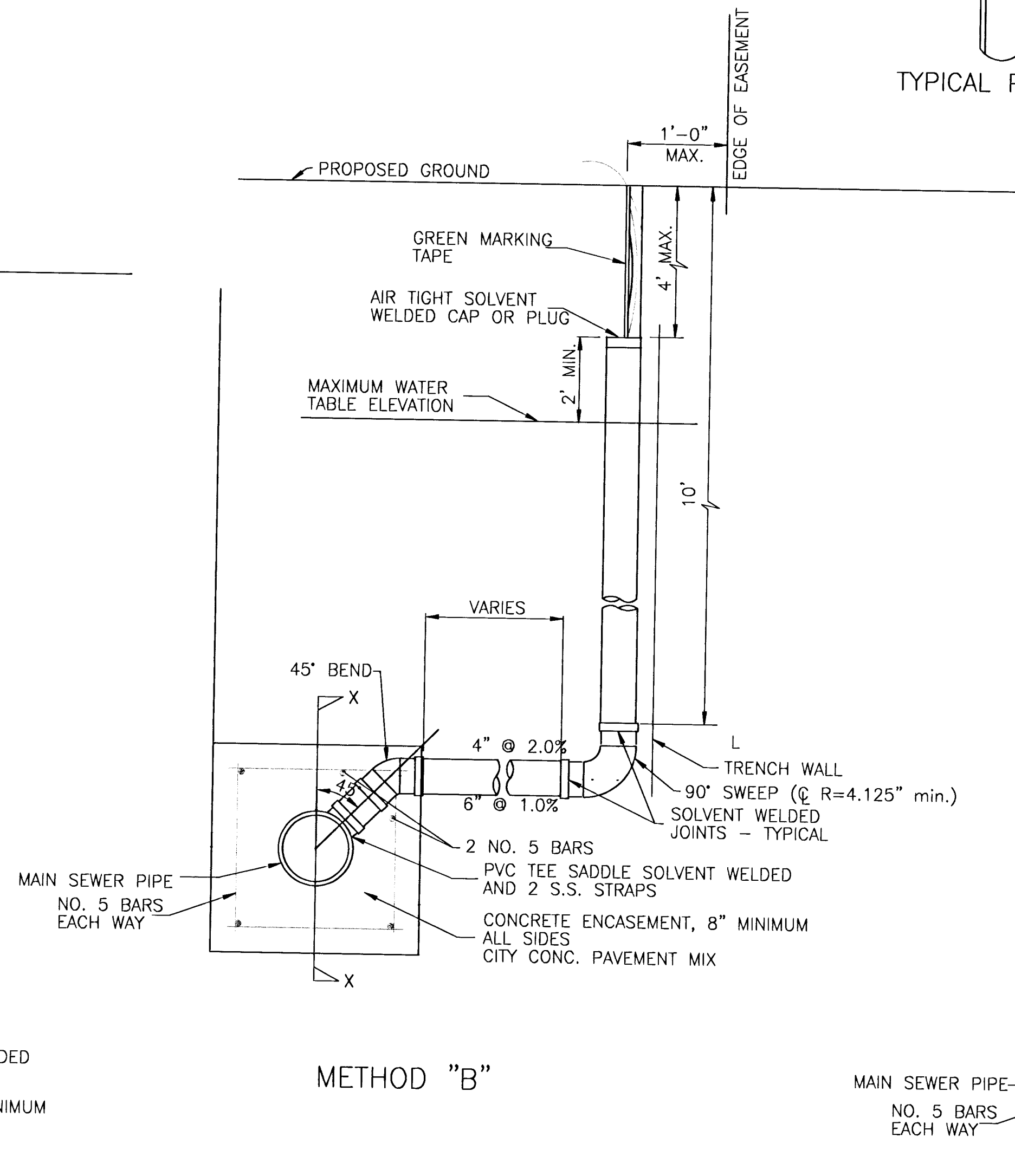
SEWER SERVICE TABLE										
LOCATION					FOR INFORMATION ONLY		RECORD INFORMATION (TO BE COMPLETED BY PROJECT INSPECTOR)			
NO.	TYPE	LOT NO.	BLOCK NO.	LINE NO.	STATION/DIRECTION	APPROXIMATE LENGTH 4" PIPE	DISTANCE FROM NEAREST MANHOLE UPSTREAM	DISTANCE FROM NEAREST MANHOLE DOWNSTREAM	NO.	Vert. Hgt.
1	TYPE "B" CONNECTION	22	1	1	24+32.00, Rt	5.0'			1	10.5'
2	TYPE "B" CONNECTION	23	1	1	34+47.5+50.00, Rt	5.0'			2	9.5'
3	TYPE "B" CONNECTION	24	1	1	41+72.5+20.00, Rt	7.0'			3	8.0'
4	TYPE "B" CONNECTION	40	1	1	51+30.00, Lt	13.0'			4	8.0'
5	TYPE "B" CONNECTION	13	2	1	171+11.47+85.00, Lt	7.0'			5	8.0'
6	TYPE "B" CONNECTION	46	2	1	171+11.47+85.00, Rt	13.0'			6	8.0'
7	TYPE "B" CONNECTION	47	2	1	184+0.18+70.00, Lt	13.0'			7	8.0'
8	TYPE "B" CONNECTION	12	2	1	184+0.18+80.00, Lt	7.0'			8	8.5'
9	TYPE "B" CONNECTION	11	2	1	20+170.20+73.00, Lt	5.0'			9	8.5'
10	TYPE "B" CONNECTION	10	2	1	21+52.00, Lt	5.0'			10	8.5'
11	TYPE "B" CONNECTION	1	2	3	0+54.00, Rt	13.0'			11	8.0'



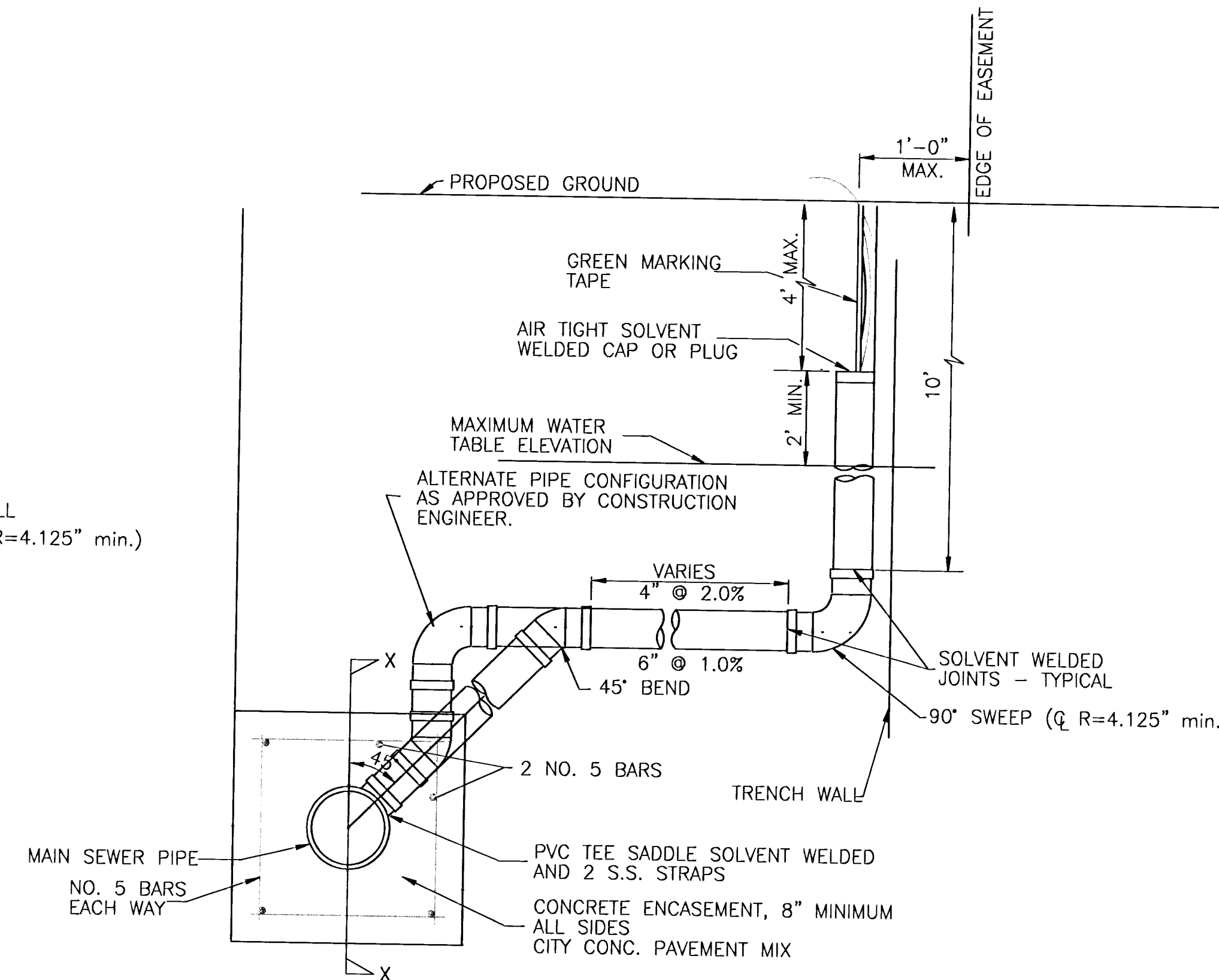
- GENERAL NOTES**
- RISERS.** Risers shall be installed to serve all lots or tracts where the sanitary sewer main is below the water table. Risers shall also be installed to serve all lots and tracts where the sanitary sewer main depth is greater than 12 feet below the proposed ground elevation. Installation 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.
 - 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.
 - 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.
 - RISER OR STUB MATERIAL.** Risers and stubs shall be constructed of SDR 35 PVC Pipe or Schedule 40 PVC Pipe, meeting the requirements of the latest revision of A.S.T.M. All pipe joints shall be solvent welded.
 - 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.
 - 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.
 - 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.
 - 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.
 - 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.
 - 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.
 - 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.
 - 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.
 - 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".



METHOD "A"



METHOD "B"

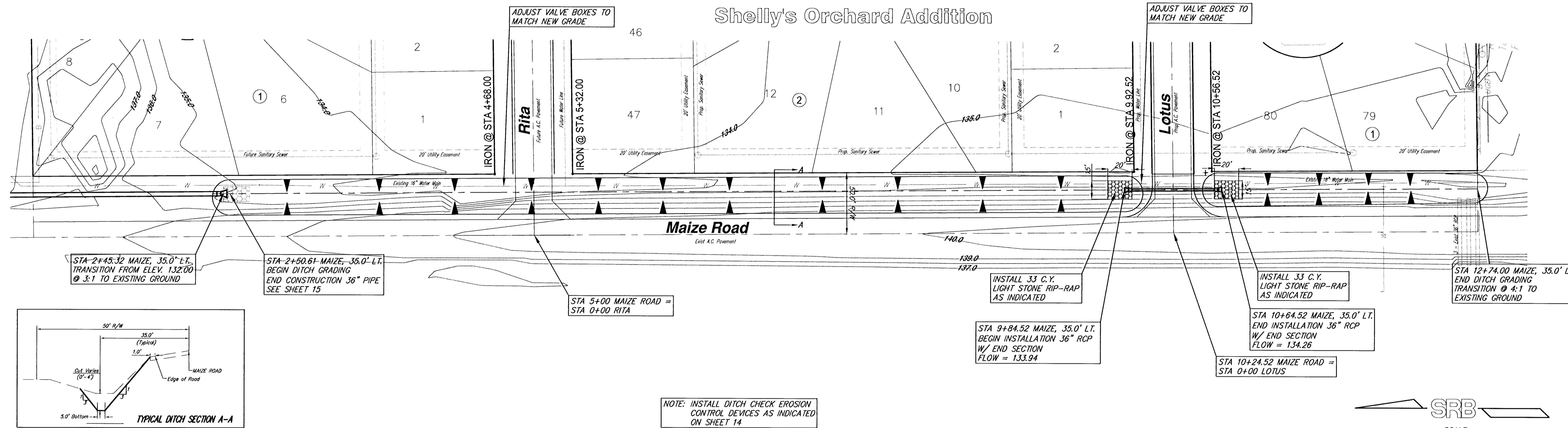


METHOD "C"

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

<p>THE CITY OF WICHITA</p>	VERTICAL RISER DETAIL	
	M. E. LINDEBAK P.E. - CITY ENGINEER	
<p>CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 455 NORTH MAIN STREET WICHITA, KANSAS 67202 (316) 268-4501 (316) 268-4114 FAX</p>	PROJECT NUMBER	OCA #
	468-83218	
DATE	SHEET 10 OF 16	
MAR 96		

Shelly's Orchard Addition



STA 2+45.32 MAIZE, 35.0' L.T.
TRANSITION FROM ELEV. 132.00
@ 3:1 TO EXISTING GROUND

STA 2+50.61 MAIZE, 35.0' L.T.
BEGIN DITCH GRADING
END CONSTRUCTION 36" PIPE
SEE SHEET 15

STA 5+00 MAIZE ROAD =
STA 0+00 RITA

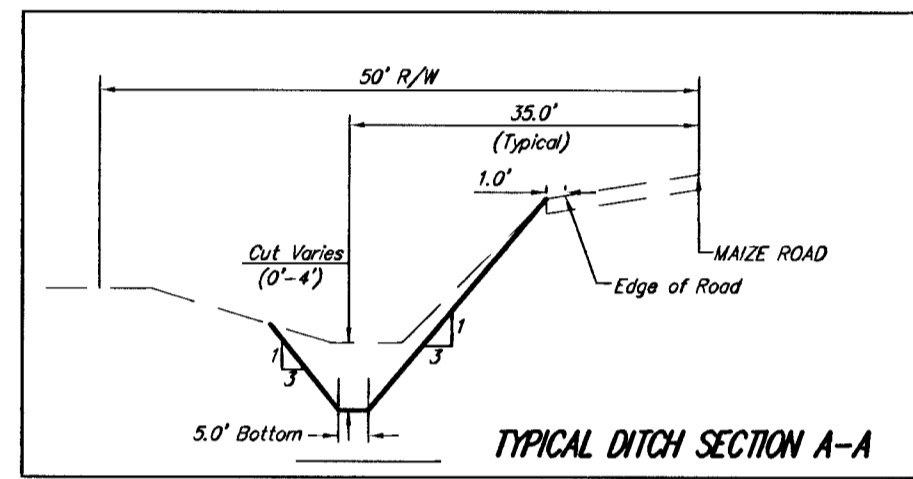
INSTALL 33 C.Y.
LIGHT STONE RIP-RAP
AS INDICATED

STA 9+84.52 MAIZE, 35.0' L.T.
BEGIN INSTALLATION 36" RCP
W/ END SECTION
FLOW = 133.94

INSTALL 33 C.Y.
LIGHT STONE RIP-RAP
AS INDICATED

STA 10+64.52 MAIZE, 35.0' L.T.
END INSTALLATION 36" RCP
W/ END SECTION
FLOW = 134.26

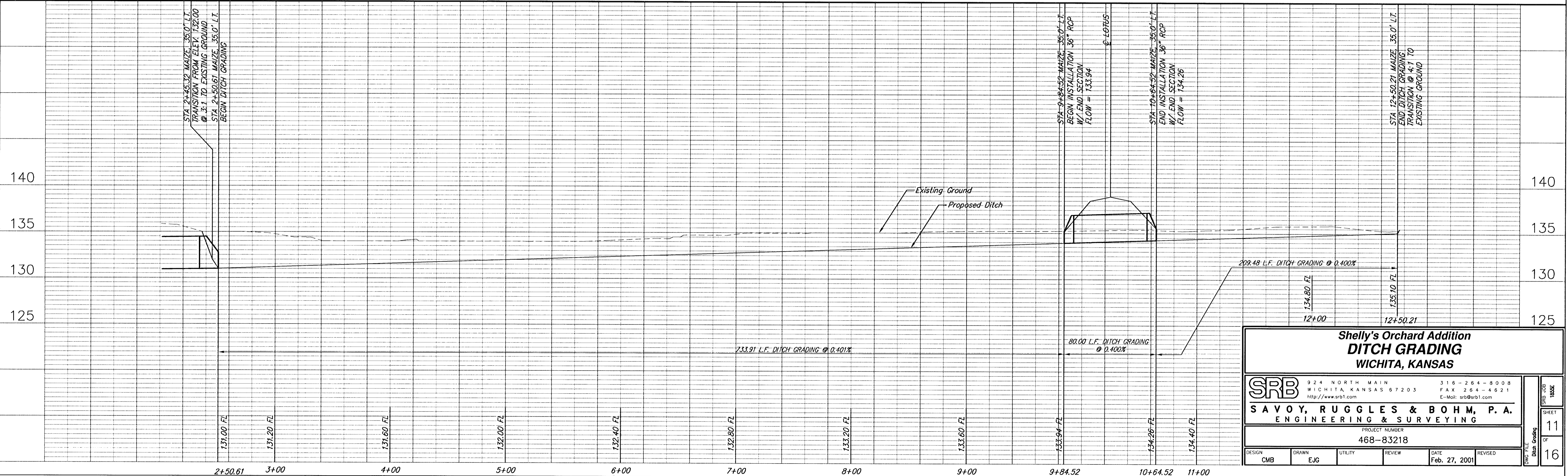
STA 12+74.00 MAIZE, 35.0' L.T.
END DITCH GRADING
TRANSITION @ 4:1 TO
EXISTING GROUND



NOTE: INSTALL DITCH CHECK EROSION
CONTROL DEVICES AS INDICATED
ON SHEET 14



SCALE
1" = 40' Horiz. (Plan)
1" = 5' Vert. (Profile)



Shelly's Orchard Addition DITCH GRADING WICHITA, KANSAS			
SRB		924 NORTH MAIN WICHITA, KANSAS 67203 http://www.srb.com	
SAVOY, RUGGLES & BOHM, P.A. ENGINEERING & SURVEYING		316-264-8008 FAX 264-4621 E-Mail: srb@srb.com	
PROJECT NUMBER 468-83218			
DESIGN CMB	DRAWN EJG	UTILITY	REVIEW
DATE Feb. 27, 2001		REVISED	
Ditch Grading			SHEET 11 OF 16

STA 0+50.15 =
 MAIZE STA 5+77.04, 40.43' L.F.
 BEGIN INSTALLATION 42" PIPE
 W/ END SECTION
 7.0 L.F.
 GRADE TO EXISTING DITCH

Existing Drainage Dedication
 Firm 114, Page 845

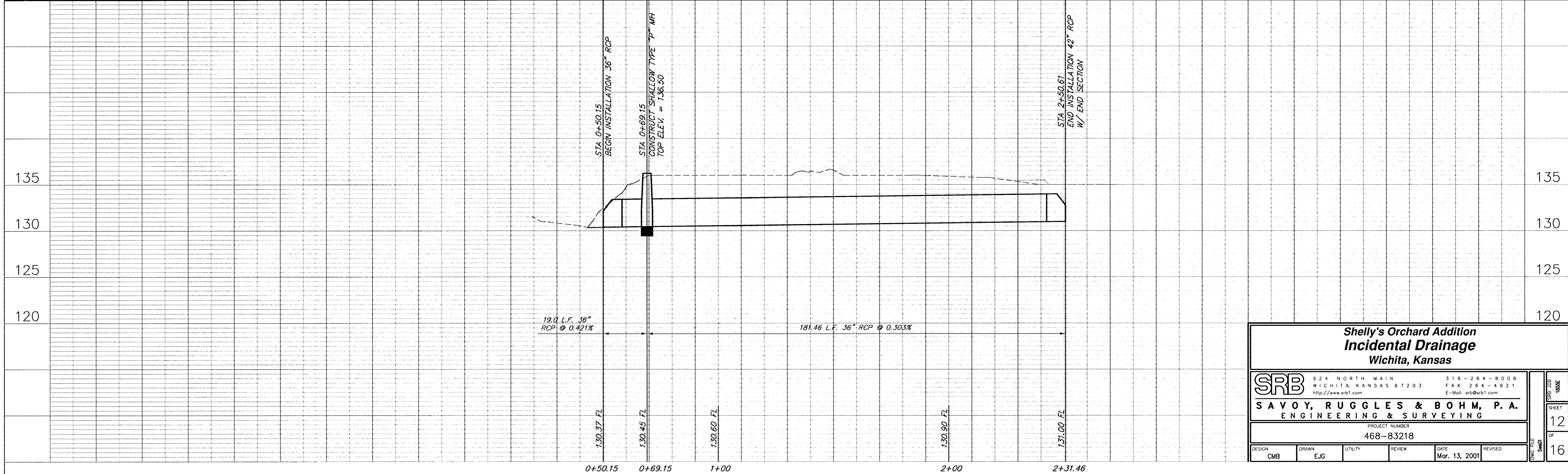
Shelly's Orchard Addition

INSTALL 33.3 SQ. YDS.
 HEAVY STONE RIP-RAP

INSTALL 22.2 SQ. YDS.
 HEAVY STONE RIP-RAP

STA 0+69.15 =
 MAIZE STA 5+95.19, 34.81' L.F.
 CONSTRUCT SHALLOW TYPE "P" MH
 TOP ELEV. = 136.50

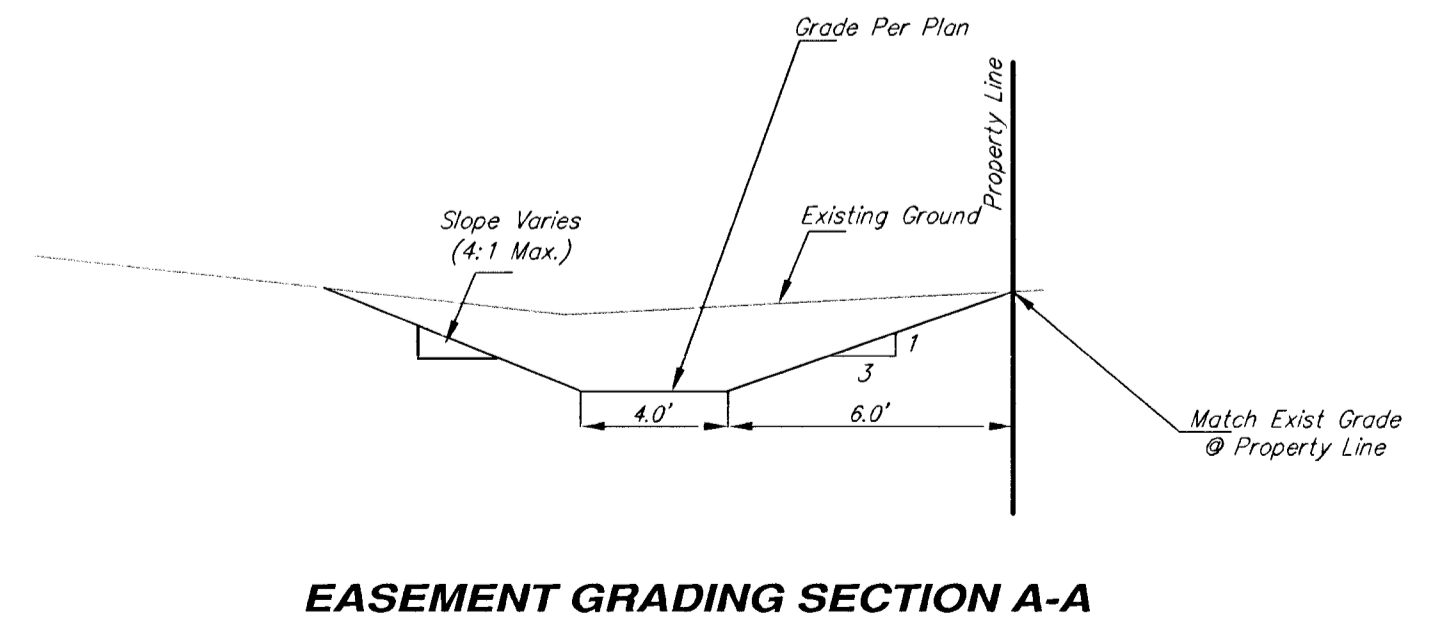
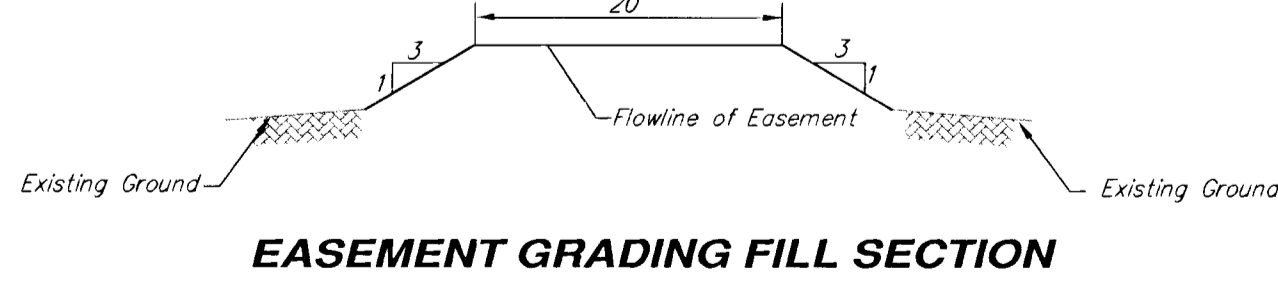
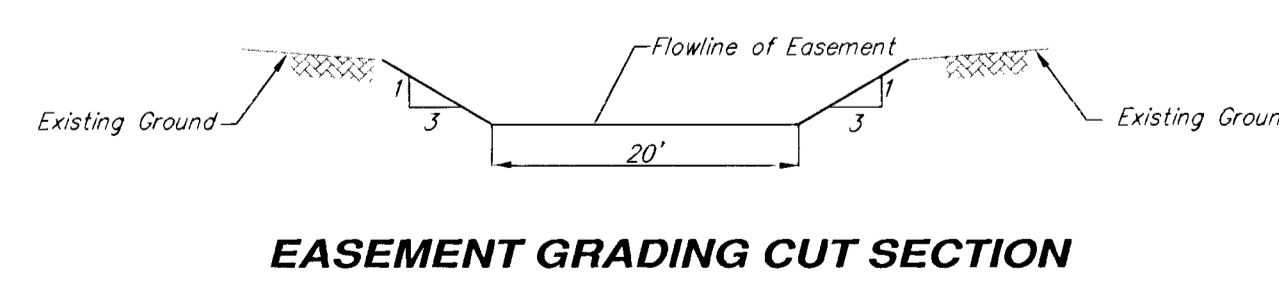
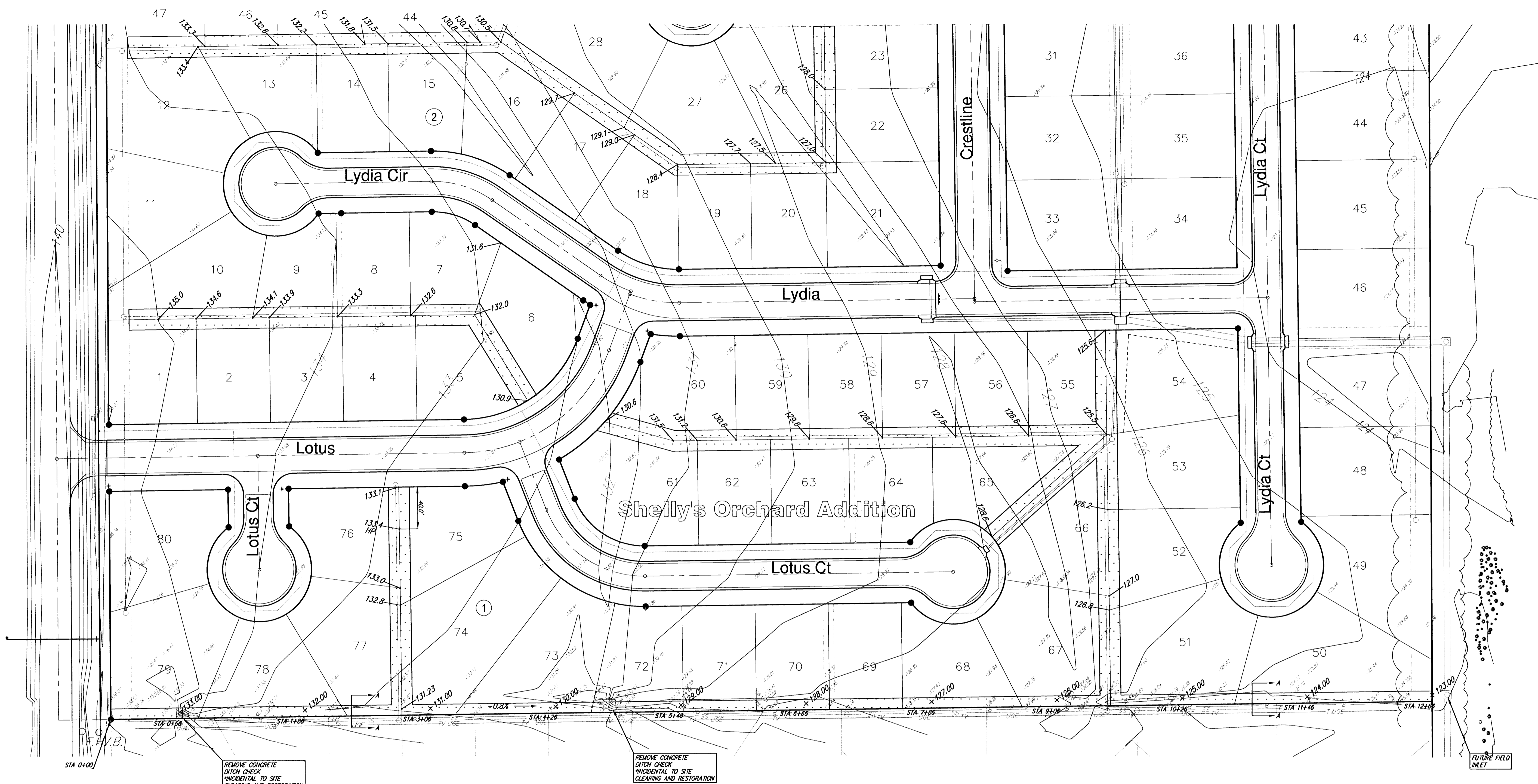
STA 2+50.61
 END INSTALLATION 36" RCP
 W/ END SECTION



**Shelly's Orchard Addition
 Incidental Drainage
 Wichita, Kansas**

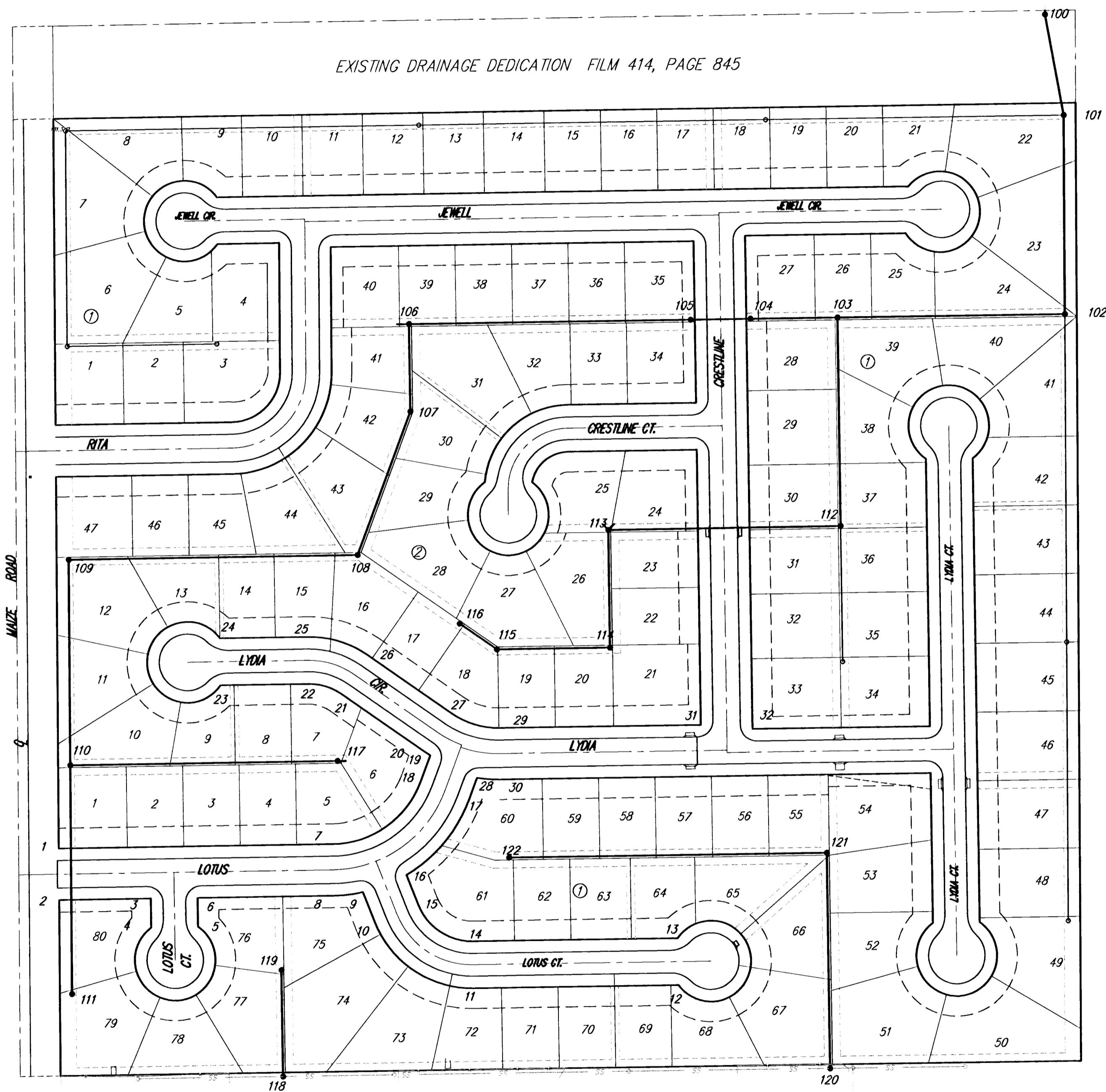
SRB	924 NORTH MAIN WICHITA, KANSAS 67203 http://www.srb1.com	315-264-8008 FAX 264-4621 E-Mail: srb@srb1.com
	SAVOY, RUGGLES & BOHM, P. A. ENGINEERING & SURVEYING	
PROJECT NUMBER 468-83218		
DESIGN CMB	DRAWN EJG	DATE Mar. 13, 2001
UTILITY	REVIEW	REVISED

SHEET	12
OF	16



SCALE 1" = 50'

SHELLY'S ORCHARD ADDITION EASEMENT GRADING WICHITA, KANSAS			
SRB		924 NORTH MAIN WICHITA, KANSAS 67203 www.srb1.com	
316-264-8008 FAX 264-4621 E-mail: srb@srb1.com		316-264-8008 FAX 264-4621 E-mail: srb@srb1.com	
SAVOY, RUGGLES & BOHM, P.A. ENGINEERING & SURVEYING			
PROJECT NUMBER 468-83218			
DESIGN CMB	DRAWN EJG	UTILITY REVIEW	DATE Feb. 26, 2001
			REVISION
			13
			16



1	N 18982.28	E 20057.07	Block Corner
2	N 18918.28	E 20057.52	Block Corner
3	N 18919.93	E 20171.24	Block Corner
4	N 18884.06	E 20171.76	PC
5	N 18884.90	E 20229.76	PT
6	N 18920.77	E 20229.24	Block Corner
7	N 18987.20	E 20397.06	PC
8	N 18923.21	E 20397.99	PC
9	N 18927.43	E 20434.41	Block Corner
10	N 18889.97	E 20449.21	PC
11	N 18808.39	E 20571.05	PT
12	N 18812.07	E 20825.27	PC
13	N 18870.06	E 20824.43	PT
14	N 18866.38	E 20570.21	PT
15	N 18911.28	E 20503.15	PC
16	N 18948.74	E 20488.35	Block Corner
17	N 19042.29	E 20566.14	PT
18	N 19064.41	E 20506.08	PT
19	N 19096.74	E 20517.99	Block Corner
20	N 19101.06	E 20511.42	PT
21	N 19173.09	E 20407.62	PC
22	N 19185.75	E 20366.11	PT
23	N 19184.18	E 20257.89	PC
24	N 19242.18	E 20257.05	PT
25	N 19243.74	E 20365.28	PT
26	N 19220.74	E 20440.69	PC
27	N 19148.71	E 20544.48	PT
28	N 19068.88	E 20575.93	Block Corner
29	N 19130.88	E 20602.94	PC
30	N 19066.89	E 20603.87	PC
31	N 19134.51	E 20853.38	Block Corner
32	N 19129.43	E 20917.46	Block Corner
100	N 20013.53	E 21280.53	MH
101	N 19888.85	E 21303.67	MH
102	N 19642.70	E 21304.94	MH
103	N 19638.62	E 21023.11	MH
104	N 19637.06	E 20915.12	MH
105	N 19635.99	E 20841.12	MH
106	N 19630.93	E 20491.99	MH
107	N 19522.72	E 20493.47	MH
108	N 19345.19	E 20428.00	MH
109	N 19340.01	E 20069.59	MH
110	N 19085.50	E 20071.35	MH
111	N 18802.13	E 20073.32	MH
112	N 19380.65	E 21026.84	MH
113	N 19376.04	E 20738.65	MH
114	N 19229.89	E 20740.76	MH
115	N 19227.86	E 20600.57	MH
116	N 19259.80	E 20554.55	MH
117	N 19090.30	E 20402.96	MH
118	N 18699.18	E 20334.94	MH
119	N 18831.20	E 20333.03	MH
120	N 18708.63	E 21013.37	MH
121	N 18975.75	E 21009.51	MH
122	N 18970.05	E 20615.54	MH

SRB
SCALE 1" = 100'
IRON = •

**Shelly's Orchard Addition
Key Map
WICHITA, KANSAS**

SRB	924 NORTH MAIN WICHITA, KANSAS 67203 www.srb1.com	316-264-8008 FAX 264-4821 E-mail: srb@srb1.com
SAVOY, RUGGLES & BOHM, P. A. ENGINEERING & SURVEYING		
PROJECT NUMBER 468-83218		
DESIGN CMB	DRAWN EJC	REVIEW DATE Feb. 26, 2001

SHEET
15
OF
16

SHELLY'S ORCHARD ADDITION

WICHITA, SEDGWICK COUNTY, KANSAS



MINIMUM BUILDING PAD ELEVATION FOR LOWEST OPENING TO A STRUCTURE			
LOT	BLOCK	ELEVATION	
		CITY DATUM	N.G.V.D.
8, 9, 10	1	133.5	1320.9
11, 12, 13	1	132.0	1318.4
14, 15, 16	1	130.5	1317.9
17, 18, 19	1	130.0	1317.4
20, 21, 22	1	129.5	1316.9

BENCHMARK:
City of Wichita Benchmark disc @ Maize Road and May Street
31.5' S. and 38' E. of centerline both.
Elev. = 137.67 (City Datum)
Elev. = 1325.07 (NGVD)

1" = 100'
• = 1/2" REBAR W/SRB CAP
S.B. = BUILDING SETBACK
C.A.C. = COMPLETE ACCESS CONTROL

SRB 924 NORTH MAIN 316-264-8008
WICHITA, KANSAS 67203 FAX 316-264-4621
http://www.feist.com/~srb E-mail: srb@feist.com

SAVOY, RUGGLES & BOHM, P.A.
ENGINEERING & SURVEYING

DWG FILE: 00536PF-R.L.J.
PROJECT NO. 95F00536P