

BUREAU OF PUBLIC SERVICES

4MC-111



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CONSTRUCTION PLANS FOR
SANITARY SEWER IMPROVEMENTS
 IN
SAVANNA AT CASTLE ROCK RANCH

RECORD DRAWING
7-C-02

AN ADDITION TO SEDGWICK COUNTY, KANSAS

OCTOBER, 1991

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



PEC PROJECT NO. 34-91414-024

APPROVED BY: SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES	
<i>[Signature]</i>	9-24-91
DIRECTOR	DATE

APPROVED BY: BOARD OF COUNTY COMMISSIONERS	
<i>[Signature]</i>	9-24-91
CHAIRMAN	DATE

FILED IN THE OFFICE OF: THE SEDGWICK COUNTY CLERK	
<i>[Signature]</i>	
COUNTY CLERK	DATE

DRAWING NAME: 34-91414 SAN. RWCH. TITL
 CENTER COORDINATES: DING.#361
 ROTATION ANGLE:
 DATE LAST WORKED ON: OCT. 15, 1991
 SPECIAL INSTRUCTIONS:

CKD. BY: DATE:
 CKD. BY: DATE:

4MC-111

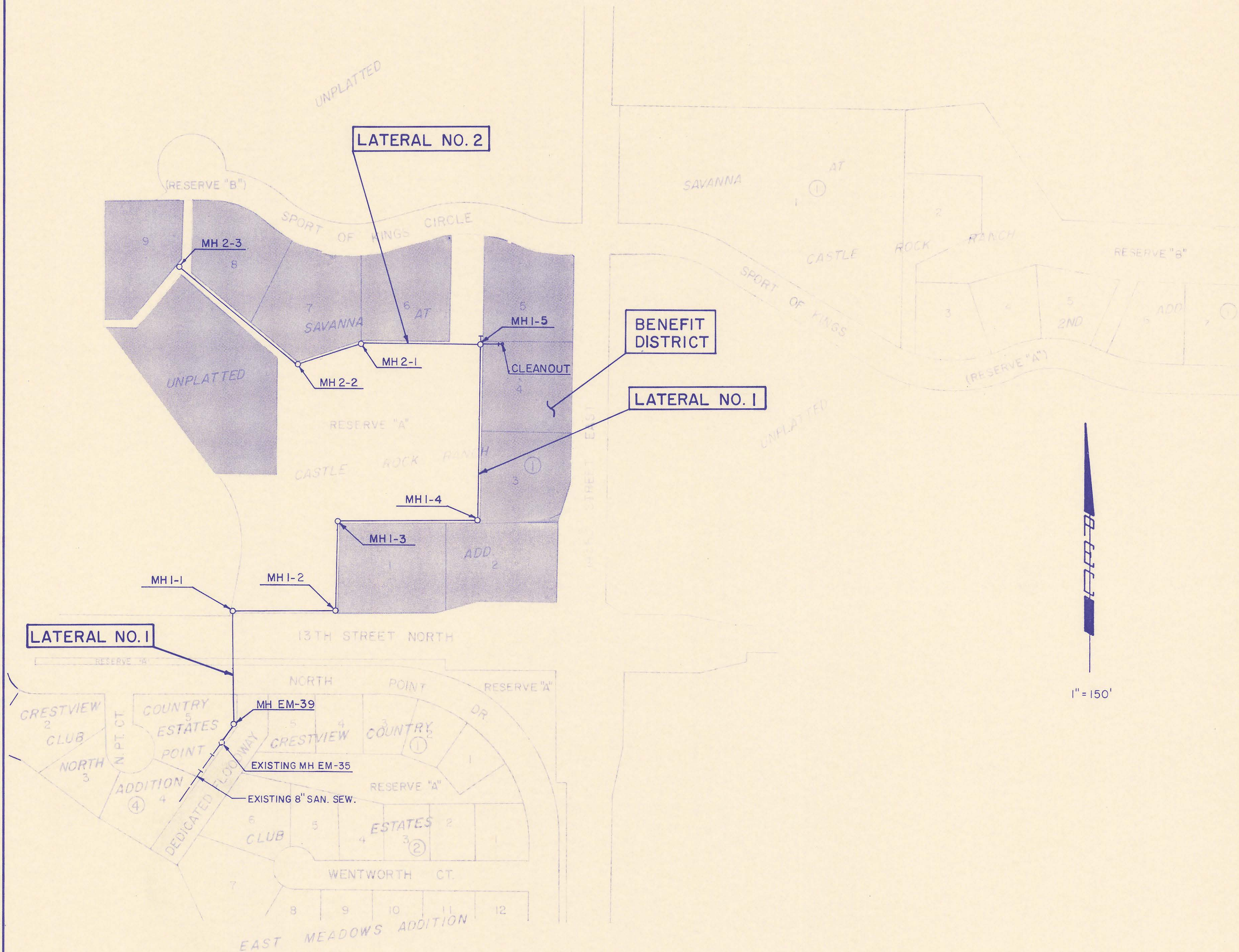
GENERAL NOTES

1. ALL ELEVATIONS SHOWN ARE USGS DATUM.
2. 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, KPL/GAS SERVICE COMPANY, SOUTHWESTERN BELL TELEPHONE, AND K.G. & E.
3. 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 SERVICE
 1250 S. SENECA
 WICHITA, KS 67213
 MR. JIM WEBER
 (316) 383-7901
4. 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.
5. WHERE THE IMPROVEMENTS CROSS EXISTING PUBLIC OR PRIVATE UTILITIES WHICH ARE NOT TO BE ADJUSTED BY OTHERS, THE CONTRACTOR SHALL PROVIDE THE MATERIAL AND MEANS TO PROTECT AND SUPPORT SAID UTILITIES DURING CONSTRUCTION TO THE SATISFACTION OF THE ENGINEER.
6. EXCESS EXCAVATED 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.
7. 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.
8. THE CONTRACTOR SHALL CONTAIN HIS OPERATIONS 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 ARTICLE 6 OF THE GENERAL CONDITIONS. THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRENCH TO REMAIN OPEN OVERNIGHT AND WEEKENDS TO LESS THAN 50 FEET.
9. THE CONTRACTOR SHALL RESTORE ALL DITCHES, SWALES, ROAD SHOULDERS, AND BANKS TO THEIR ORIGINAL SLOPES AND GRADES. 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 "SITE CLEARING AND RESTORATION".
10. ALL GRASSED AREAS DISTURBED BY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE REPLANTED WITH GRASS AND FERTILIZED IN ACCORDANCE WITH THE SPECIFICATIONS FOR SUCH WORK. ALL COSTS FOR SEEDING AND FERTILIZING SHALL BE CONSIDERED SUBSIDIARY TO "SITE CLEARING AND RESTORATION".
11. EASEMENT AND RIGHT-OF-WAY 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-WAY THAT HE DESIRES TO USE IN COMPLETING THE WORK.
12. POSITIVE DRAINAGE SHALL BE PROVIDED FOR ALL AREAS ON OR NEAR SPOIL AREAS. NATURAL DRAINAGE WAYS SHALL BE MAINTAINED.
13. THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.
14. 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.
15. ALL TRENCH BACKFILL SHALL BE EITHER TYPE I OR TYPE III. ALL COSTS FOR BACKFILL SHALL BE CONSIDERED SUBSIDIARY TO PRICE BID FOR PIPE IN PLACE.
16. THE CONTRACTOR SHALL KEEP ANY CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER DURING CONSTRUCTION.
17. PROPERTIES WITHIN THE PROJECT LIMITS MAY HAVE UNDERGROUND SPRINKLER SYSTEMS IN PUBLIC RIGHT-OF-WAY WHICH CONFLICT WITH NEW CONSTRUCTION. CONTRACTOR WILL BE REQUIRED TO REMOVE SUCH IMPROVEMENTS SHOULD THEY NOT BE REMOVED BY THEIR OWNER AT THE TIME OF CONSTRUCTION OF THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SALVAGE ALL SPRINKLER HEADS AND/OR VALVES AND GIVE SUCH MATERIAL TO THEIR OWNER. PORTIONS OF UNDERGROUND SPRINKLER SYSTEMS NOT IN CONFLICT WITH NEW CONSTRUCTION SHALL BE PROTECTED FROM DAMAGE AND SHALL REMAIN IN PLACE. ALL WORK IN CONNECTION WITH UNDERGROUND SPRINKLER SYSTEMS SHALL BE CONSIDERED AS SUBSIDIARY TO PRICE BID FOR PIPE IN PLACE.
18. TOP ELEVATIONS FOR MANHOLES ARE APPROXIMATE ONLY. MANHOLE TOPS SHALL BE SET AT 0.4' ABOVE FINISH GRADE IN AREAS OUTSIDE OF UNPAVED TRAVELED WAYS AND FLUSH WITH FINISH GRADE IN UNPAVED TRAVELED WAYS AS DIRECTED BY THE ENGINEER.
19. THE PROPERTY OWNER FOR THE CONSTRUCTION AREA NORTH OF 13TH STREET, MR. LARRY STEPHENSON, WILL REMOVE OR RELOCATE SOME ITEMS WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY MR. STEPHENSON AT LEAST 10 DAYS PRIOR TO THE START OF CONSTRUCTION AND ADVISE HIM OF THE INTENDED WORK SCHEDULE. ITEMS TO BE REMOVED AND/OR RELOCATED BY MR. STEPHENSON ARE AS FOLLOWS:

 LATERAL NO. 2, STA. 0+50 - YARD HYDRANT
 LATERAL NO. 2, STA. 5+95 & 6+25, - CLOTHES LINE POLES
 LATERAL NO. 2, STA. 7+35 - SATELLITE DISH

 MR. LARRY G. STEPHENSON
 14010 E. 13TH ST. NORTH
 WICHITA, KS 67230
 (316) 733-2497
20. IRRIGATION LINES SHOWN ON THE PLANS IN THE CONSTRUCTION AREAS NORTH OF 13TH ST. NORTH ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL REQUEST THAT THE PROPERTY OWNER, MR. LARRY STEPHENSON, MARK THE LINE LOCATIONS PRIOR TO BEGINNING EXCAVATION. ANY LINES DAMAGED SHALL BE REPLACED OR REPAIRED IMMEDIATELY AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.



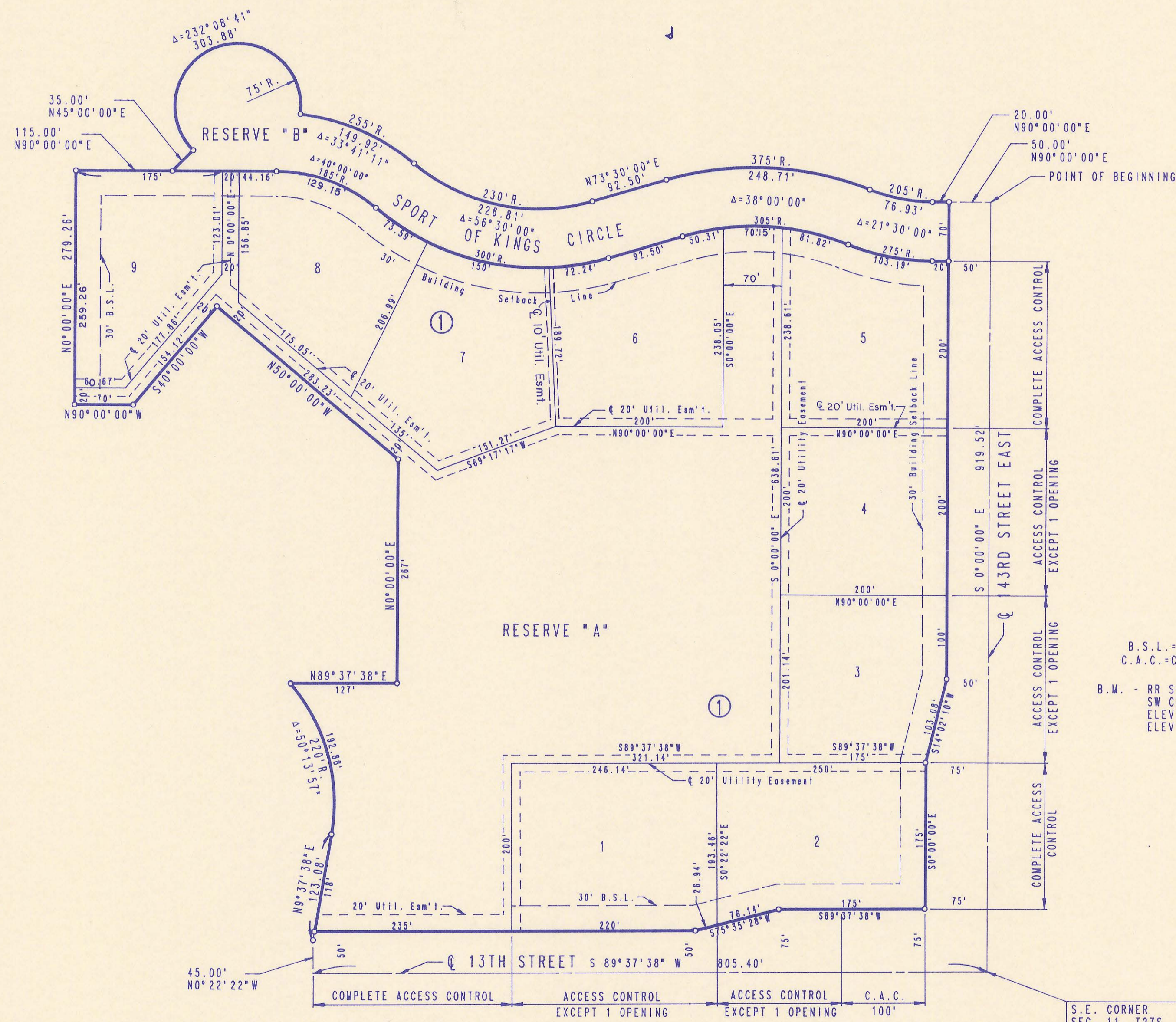
RECORD DRAWING
7-G-92

	No.	Revision	By	Date
	SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES DAVID C. SPEARS, PE. DIRECTOR, BUREAU OF PUBLIC SERVICES			
	KEY MAP SANITARY SEWER IMPROVEMENTS SAVANNA AT CASTLE ROCK RANCH PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS			
	Designed by	DLM, MDK	Job No.	34-21414
Drawn by	STM	Date	Sept, 1991	

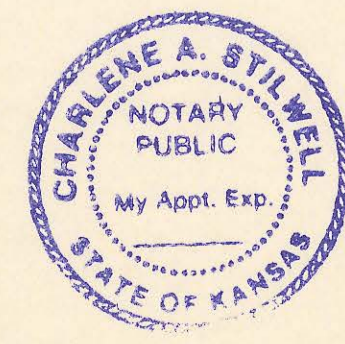
SAVANNA

AT CASTLE ROCK RANCH

AN ADDITION TO SEDGWICK COUNTY, KANSAS



S.E. CORNER
SEC. 11, T27S, R2E
OF THE 6TH P.M.



STATE OF KANSAS)
COUNTY OF SEDGWICK) SS

I, R.W. LINN, A PROFESSIONAL ENGINEER IN AFORESAID STATE AND COUNTY, DO HEREBY CERTIFY THAT ON THIS 22 DAY OF May 1988, I HAVE BEEN IN RESPONSIBLE CHARGE OF SURVEYING AND PLATTING OF SAVANNA AT CASTLE ROCK RANCH AN ADDITION TO SEDGWICK COUNTY, KANSAS, DESCRIBED AS: BEGINNING AT A POINT IN THE EAST LINE AND 919.52 FEET NORTH OF THE SE 1/4 CORNER OF SECTION 11, TOWNSHIP 27 SOUTH, RANGE 2 EAST OF THE 6TH P.M.; THENCE BEARING 50°00'00"E ALONG THE EAST LINE OF SAID SECTION 11, A DISTANCE OF 919.52 FEET TO THE SE CORNER OF SAID SECTION 11; THENCE BEARING S89°37'38"W ALONG THE SOUTH LINE OF SAID SECTION 11 A DISTANCE OF 805.40 FEET; THENCE BEARING N0°22'22"W A DISTANCE OF 45.00 FEET; THENCE BEARING N9°37'38"E A DISTANCE OF 123.08 FEET TO THE P.C. OF A CURVE TO THE LEFT HAVING A RADIUS OF 220.00 FEET; THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 50°13'57" AN ARC DISTANCE OF 192.88 FEET; THENCE BEARING N89°37'38"E A DISTANCE OF 127.00 FEET; THENCE BEARING N0°00'00"E A DISTANCE OF 287.00 FEET; THENCE BEARING N50°00'00"W A DISTANCE OF 283.23 FEET; THENCE BEARING S40°00'00"W A DISTANCE OF 154.12 FEET; THENCE BEARING N90°00'00"W A DISTANCE OF 70.00 FEET; THENCE BEARING N0°00'00"E A DISTANCE OF 279.26 FEET; THENCE BEARING N90°00'00"E A DISTANCE OF 115.00 FEET; THENCE BEARING N45°00'00"E A DISTANCE OF 35.00 FEET TO A POINT ON A CURVE TO THE RIGHT HAVING A RADIUS OF 75.00 FEET, A CHORD OF 134.74 FEET BEARING N71°04'21"E; THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 232°08'41" AN ARC DISTANCE OF 303.88 FEET TO A POINT IN ANOTHER CURVE TO THE RIGHT HAVING A RADIUS OF 255.00 FEET AND A CHORD OF 147.77 FEET BEARING S66°50'36"E; THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 33°41'11" AN ARC DISTANCE OF 149.92 FEET TO THE P.C. OF A CURVE TO THE LEFT HAVING A RADIUS OF 230.00 FEET; THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 56°30'00" AN ARC DISTANCE OF 226.81 FEET; THENCE BEARING N73°30'00"E A DISTANCE OF 92.50 FEET TO THE P.C. OF A CURVE TO THE RIGHT HAVING A RADIUS OF 375.00 FEET; THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 38°00'00" AN ARC DISTANCE OF 248.71 FEET TO THE P.C. OF A CURVE TO THE LEFT HAVING A RADIUS OF 205.00 FEET; THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 21°30'00" AN ARC DISTANCE OF 76.93 FEET; THENCE BEARING N90°00'00"E A DISTANCE OF 70.00 FEET TO THE POINT OF BEGINNING, CONTAINING 18.74 ACRES MORE OR LESS.

R.W. LINN, P.E., LIC. NO. 3684 RLS NO. 934
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.



KNOW ALL MEN BY THESE PRESENTS THAT WE, THE UNDERSIGNED PROPERTY OWNERS OF THE LAND, AS ABOVE SET FORTH IN THE ENGINEER'S CERTIFICATE, HAVE CAUSED THE LAND TO BE SURVEYED AND PLATTED INTO LOTS, A BLOCK AND RESERVES, THE SAME TO BE KNOWN AS SAVANNA AT CASTLE ROCK RANCH AN ADDITION TO SEDGWICK COUNTY, KANSAS; EASEMENTS AS INDICATED FOR THE CONSTRUCTION AND MAINTENANCE OF PUBLIC UTILITIES AND DRAINAGE ARE HEREBY GRANTED. THE STREETS ARE HEREBY DEDICATED TO AND FOR THE USE OF THE PUBLIC.

RESERVE "A" IS HEREBY PLATTED FOR DRAINAGE, LANDSCAPING, PEDESTRIAN IMPROVEMENTS AND UTILITIES CONFINED TO THE CASEMENT. RESERVE "B" IS HEREBY PLATTED FOR THE CONSTRUCTION AND MAINTENANCE OF A PRIVATE DRIVE, DRAINAGE AND UTILITIES. RESERVES "A" AND "B" SHALL BE SUBJECT TO THE RESTRICTIVE COVENANTS ESTABLISHED BY THE DECLARATION OF OWNER'S ASSOCIATION AGREEMENTS AND SHALL BE OWNED AND MAINTAINED BY ONE OR MORE OWNERS' ASSOCIATIONS TO BE FORMED WITHIN SAVANNA AT CASTLE ROCK RANCH ADDITION.

MINIMUM PAD ELEVATION FOR LOTS 1 THROUGH 9 IN BLOCK ONE SHALL BE 154.6 CITY DATUM = 1342.0 M.S.L.

ALL ABUTTERS RIGHTS OF ACCESS TO AND FROM 13TH STREET NORTH AND 143RD STREET EAST OVER AND ACROSS THE SOUTH LINE OF LOTS 1 AND 2 AND EAST LINE OF LOTS 2, 3, 4, AND 5 ALL IN BLOCK 1, ARE HEREBY GRANTED TO THE APPROPRIATE GOVERNING BODY, PROVIDED HOWEVER, THAT LOTS 1 AND 2 SHALL HAVE ACCESS TO 13TH STREET NORTH AT ONE (1) LOCATION EACH AND THAT LOTS 3 AND 4 SHALL HAVE ACCESS TO 143RD STREET EAST AT ONE (1) LOCATION EACH. SAID LOCATIONS TO BE DESIGNATED BY THE APPROPRIATE ENGINEER.

OWNERS:
LARRY G. STEPHENSON
MARJORIE J. STEPHENSON

STATE OF KANSAS)
COUNTY OF SEDGWICK) SS

BE IT REMEMBERED THAT ON THIS 18th DAY OF May 1988, BEFORE ME, A NOTARY PUBLIC IN AND FOR SAID STATE AND COUNTY, CAME LARRY G. STEPHENSON AND MARJORIE J. STEPHENSON TO ME PERSONALLY KNOWN TO BE THE SAME PERSONS WHO EXECUTED THE FOREGOING INSTRUMENT OF WRITING AND DULY ACKNOWLEDGED THE EXECUTION OF THE SAME AS THEIR VOLUNTARY ACT AND DEED. IN TESTIMONY WHEREOF I HAVE HEREUNTO SET MY HAND AND AFFIXED MY NOTARIAL SEAL THE DAY AND YEAR ABOVE WRITTEN.

Charlene A. Stilwell, NOTARY PUBLIC
MY COMMISSION EXPIRES 11/30/91

WE, IMPERIAL SAVINGS ASSOCIATION A CALIFORNIA CORPORATION HOLDERS OF A MORTGAGE ON PART OF THE ABOVE DESCRIBED PROPERTY, DO HEREBY CONSENT TO THE PLATTING OF SAVANNA AT CASTLE ROCK RANCH, SEDGWICK COUNTY, KANSAS

BY Mary L. Hunt, VICE PRESIDENT
STATE OF CALIFORNIA)
COUNTY OF SAN DIEGO) SS

BE IT REMEMBERED THAT ON THIS 24th DAY OF June 1988, BEFORE ME, A NOTARY PUBLIC IN AFORESAID STATE AND COUNTY, CAME Mary L. Hunt, OF IMPERIAL SAVINGS ASSOCIATION A CALIFORNIA CORPORATION, TO ME PERSONALLY KNOWN TO BE THE SAME PERSON WHO EXECUTED THE FOREGOING INSTRUMENT OF WRITING AND DULY ACKNOWLEDGED THE EXECUTION OF SAME FOR AND ON BEHALF AND AS THE VOLUNTARY ACT AND DEED OF SAID CORPORATION IN TESTIMONY WHEREOF I HAVE HEREUNTO SET MY HAND AND AFFIXED MY NOTARIAL SEAL THE DAY AND YEAR ABOVE WRITTEN.

Debra S. Sailer, NOTARY PUBLIC
MY APPOINTMENT EXPIRES 4-23-90

THIS PLAT HAS BEEN SUBMITTED TO AND APPROVED BY THE WICHITA-SEDGWICK COUNTY METROPOLITAN AREA PLANNING COMMISSION WICHITA, KANSAS, DATED THIS 24 DAY OF February, 1988.

ELTON PARSONS, CHAIRMAN
MARVIN S. KROUT, SECRETARY

THIS PLAT APPROVED AND ALL DEDICATIONS SHOWN HEREON ARE ACCEPTED BY THE CITY COUNCIL OF THE CITY OF WICHITA, KANSAS, DATED THIS DAY OF February, 1988.

SHELDON KAMEN, MAYOR
DALE E. REA, DEPUTY CITY CLERK

THIS PLAT APPROVED AND ALL DEDICATIONS SHOWN HEREON, IF ANY, ACCEPTED BY THE BOARD OF COUNTY COMMISSIONERS OF SEDGWICK COUNTY, KANSAS, THIS 24 DAY OF August, 1988.

MARK F. SCHROEDER, CHAIRMAN
BILLY Q. MCCRAY, PRO-TEM CHAIRMAN

DAVID BAYOUTH, COMMISSIONER

TOM SCOTT, COMMISSIONER

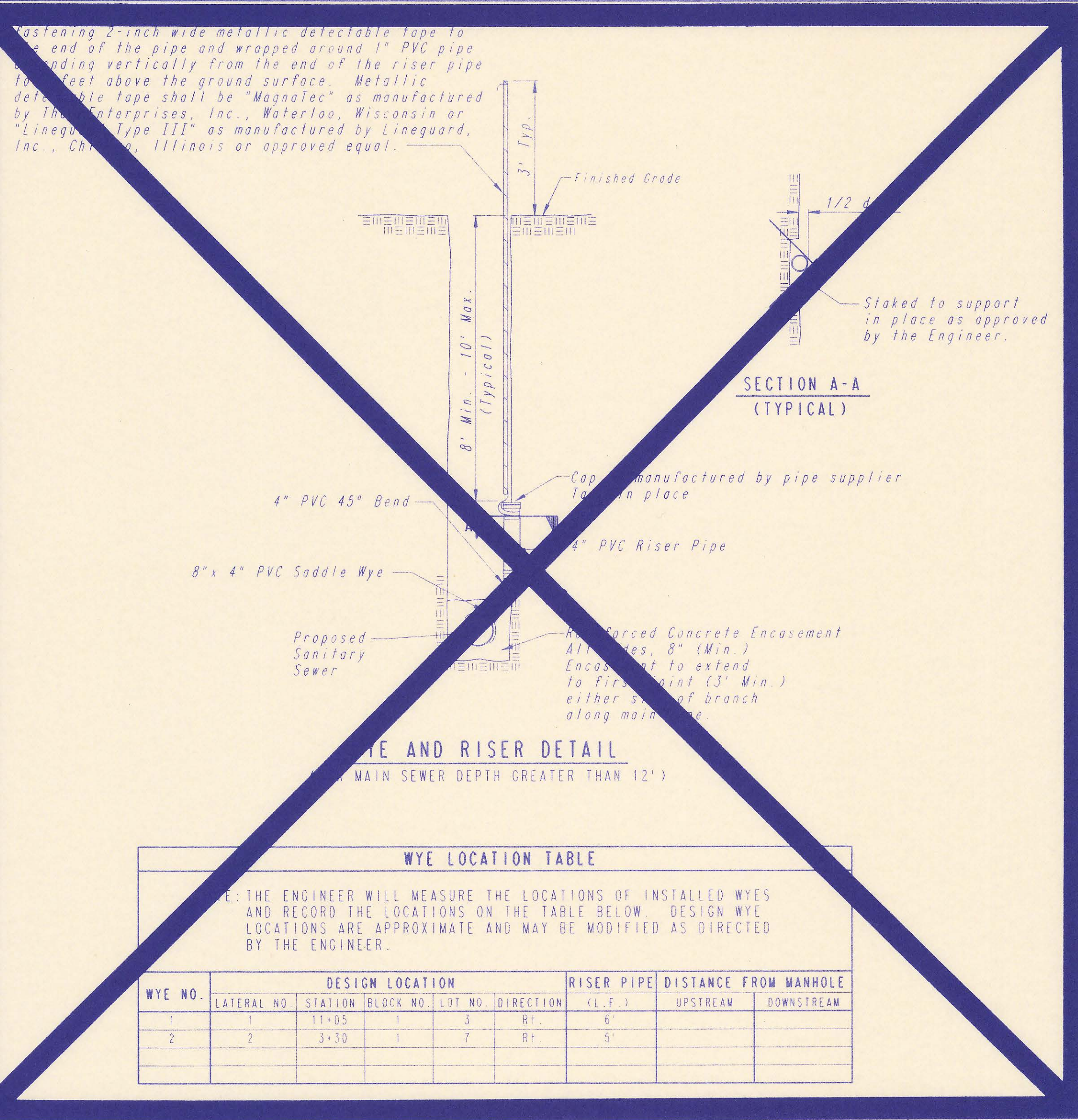
BERNARD A. HENTZEN, COMMISSIONER

ATTEST
Don Wright, COUNTY CLERK
DON WRIGHT

ENTERED ON TRANSFER RECORD, THIS 26 DAY OF August, 1988.
Don Wright, COUNTY CLERK
DON WRIGHT

THIS IS TO CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD IN THE REGISTER OF DEEDS OFFICE AT Wichita, Mo., ON THIS 26 DAY OF August, 1988.

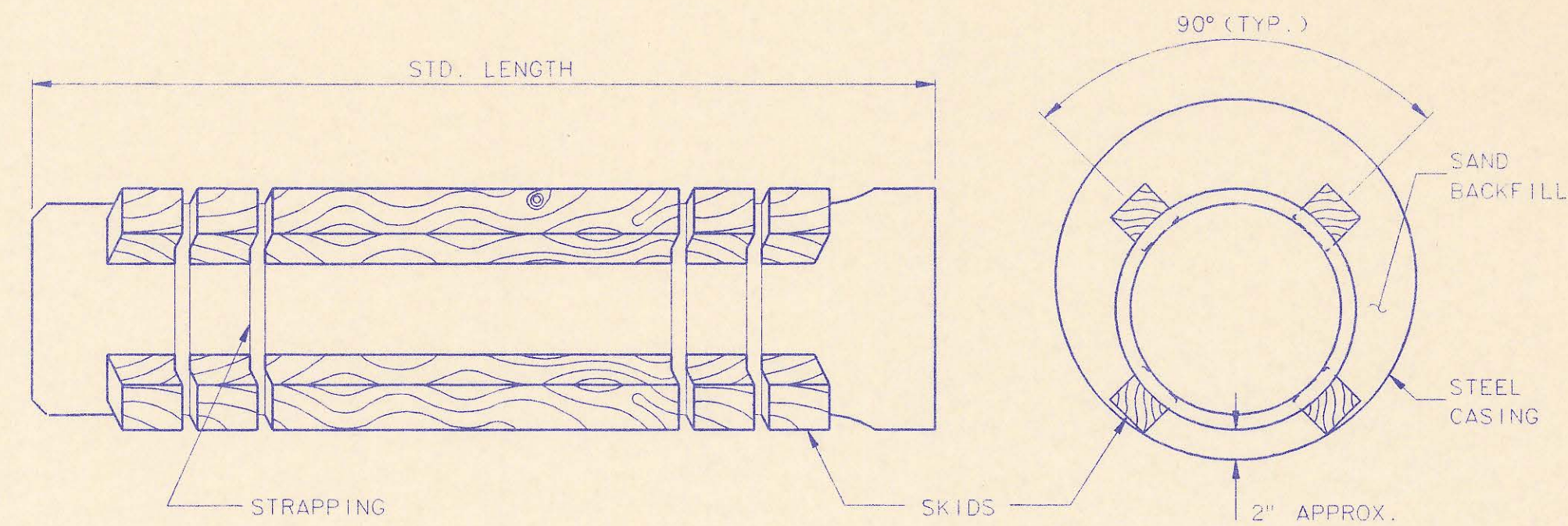
Pat Kettler, REGISTER OF DEEDS
PAT KETTLER
Ed Resa, DEPUTY
ED RESA



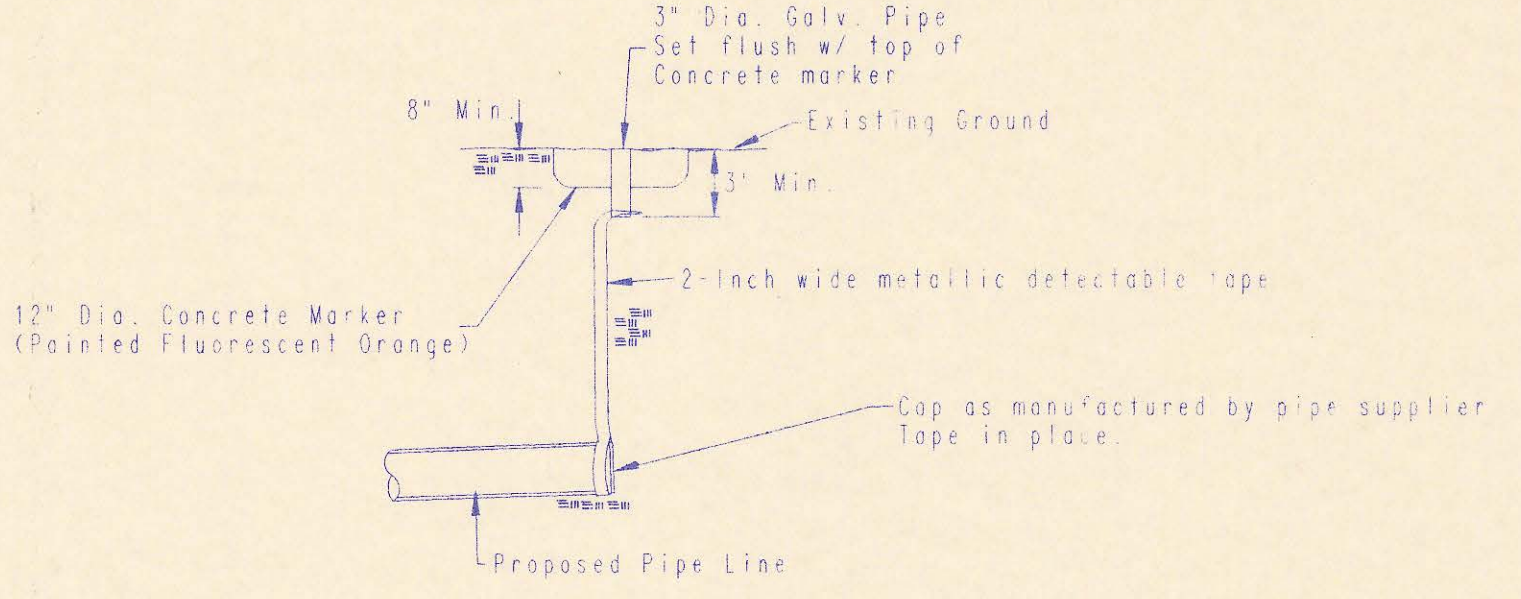
WYE LOCATION TABLE

NOTE: THE ENGINEER WILL MEASURE THE LOCATIONS OF INSTALLED WYES AND RECORD THE LOCATIONS ON THE TABLE BELOW. DESIGN WYE LOCATIONS ARE APPROXIMATE AND MAY BE MODIFIED AS DIRECTED BY THE ENGINEER.

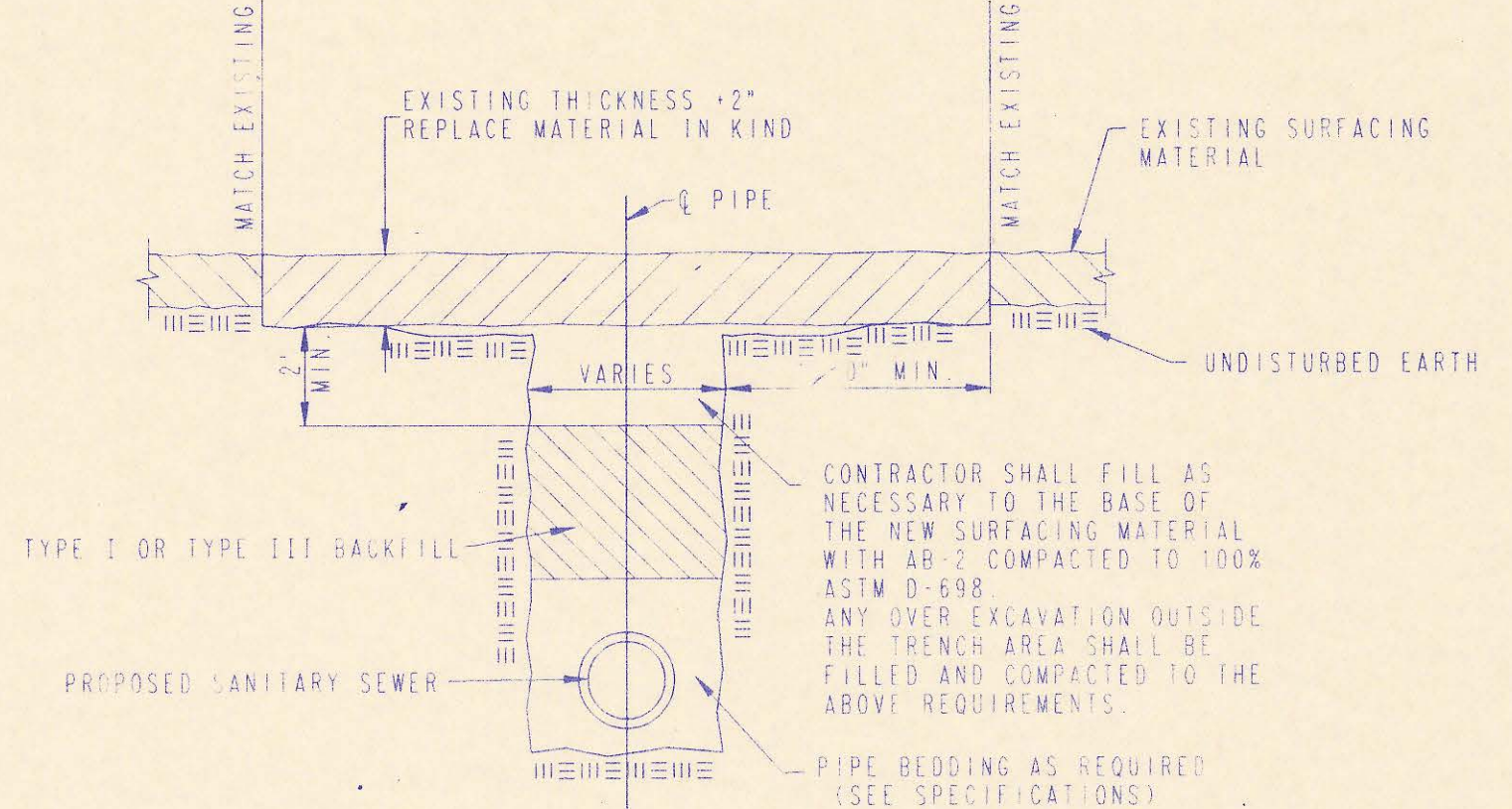
WYE NO.	DESIGN LOCATION				RISER PIPE (L.F.)	DISTANCE FROM MANHOLE	
	LATERAL NO.	STATION	BLOCK NO.	LOT NO. DIRECTION		UPSTREAM	DOWNSTREAM
1	1	11+05	1	3 Rt.	6'		
2	2	3+30	1	7 Rt.	5'		



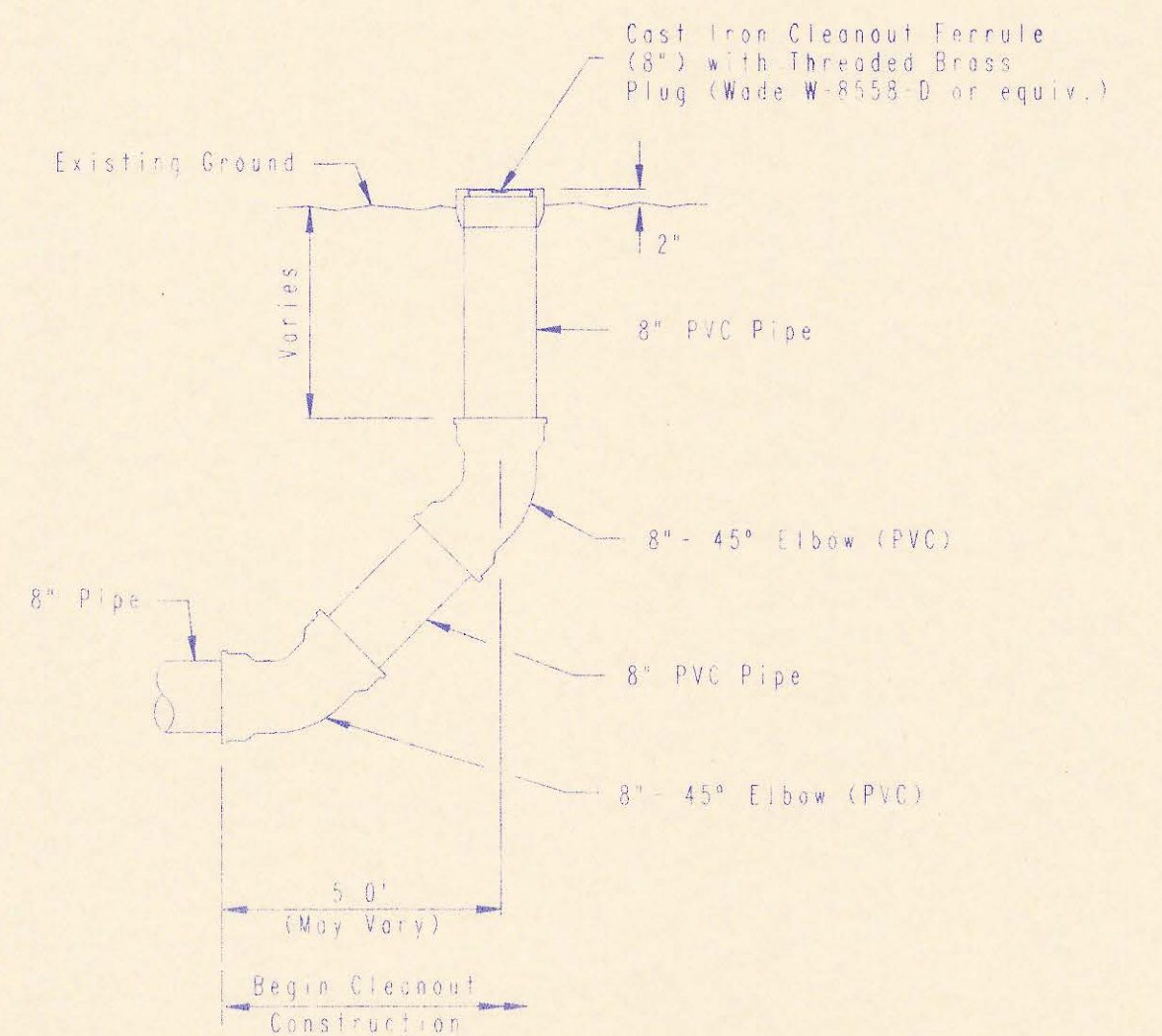
STEEL ENCASEMENT DETAIL



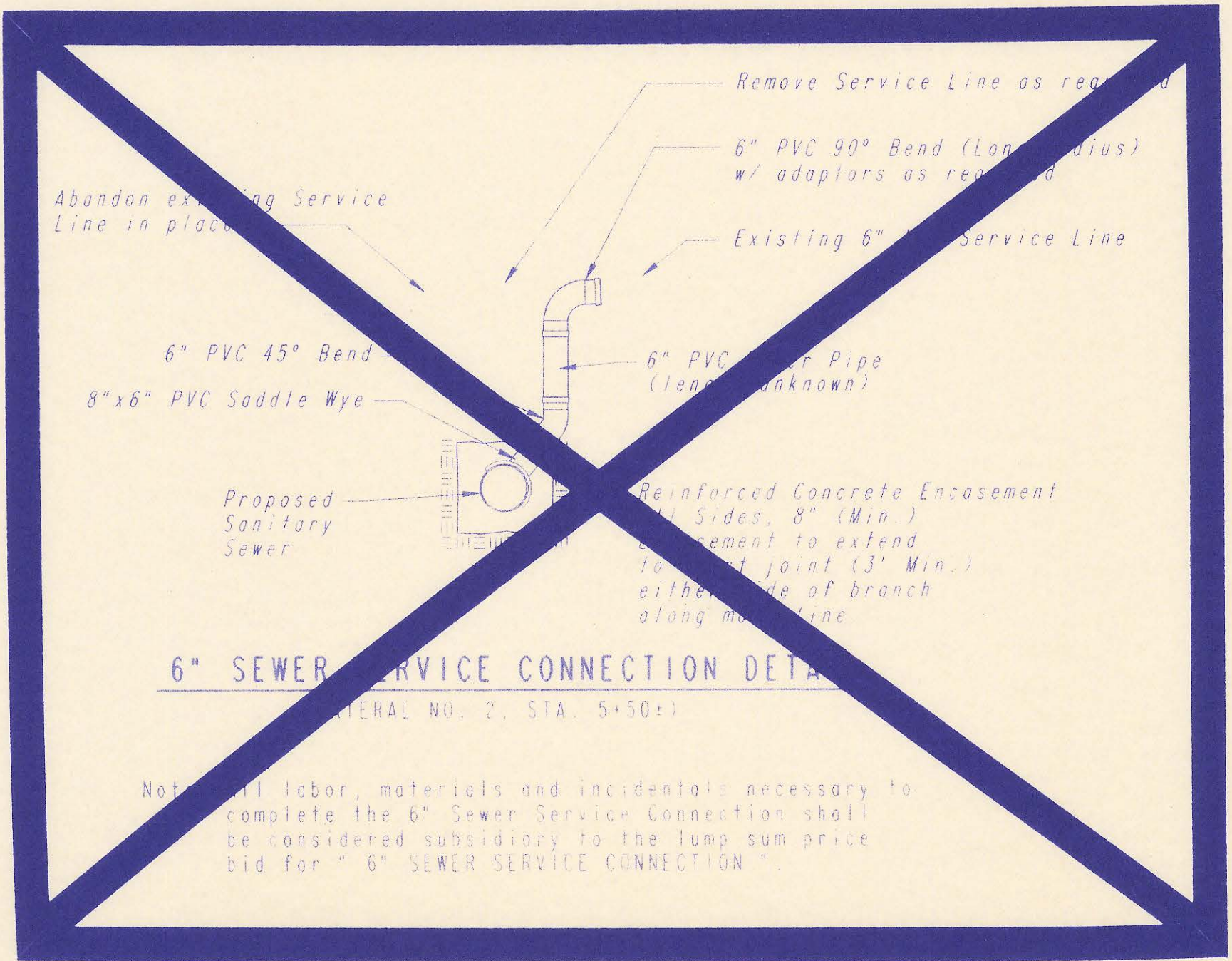
BURIED PIPE CAP & FLAG DETAIL
(STAKING & CAPPIN. SHALL BE SUBSIDIARY TO THE PIPE LINE INSTALLATION)



GRAVEL ROAD REMOVAL AND REPLACEMENT



8\"/>



6\"/>

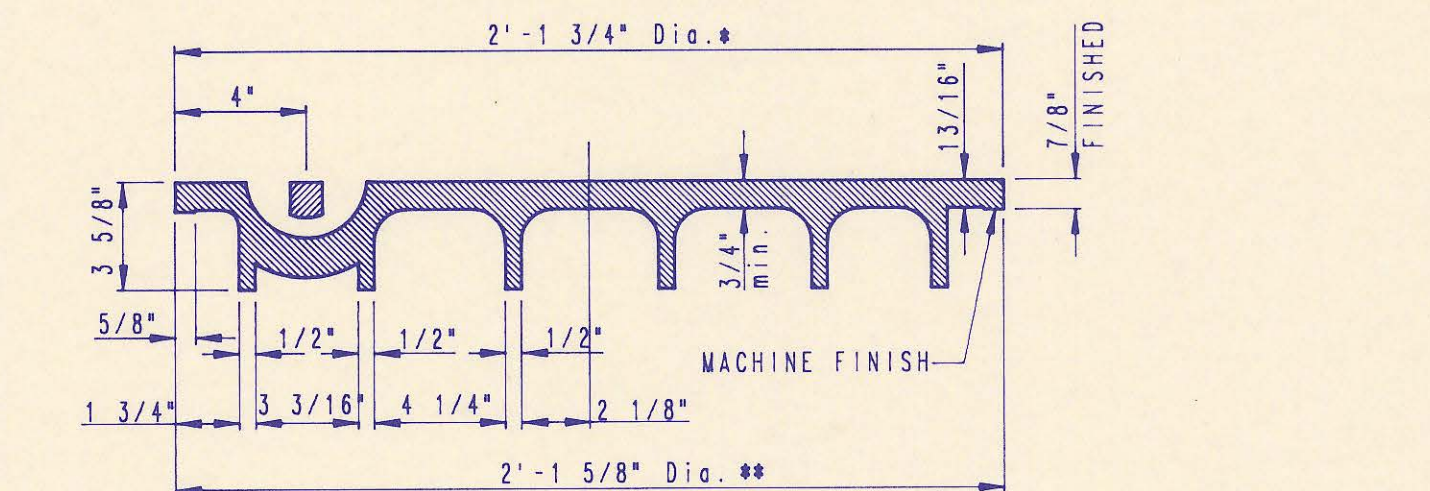
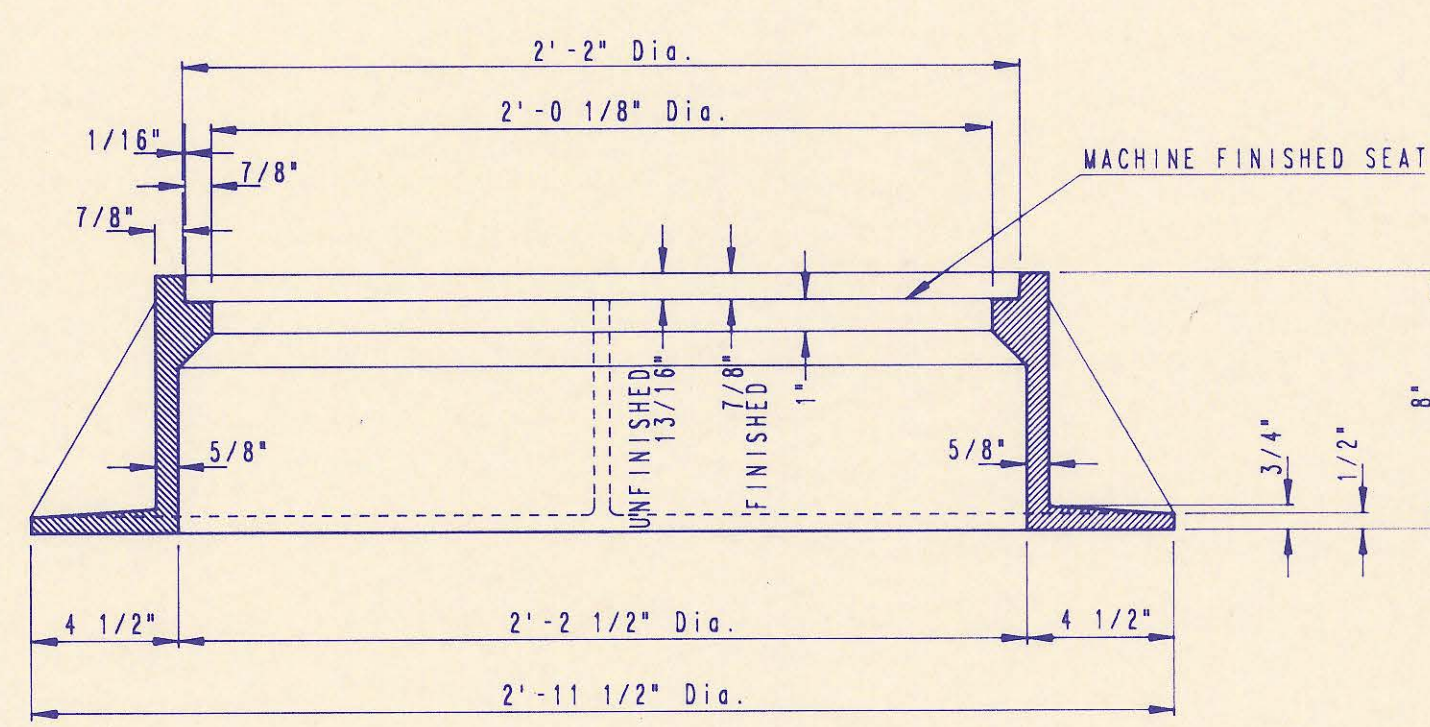
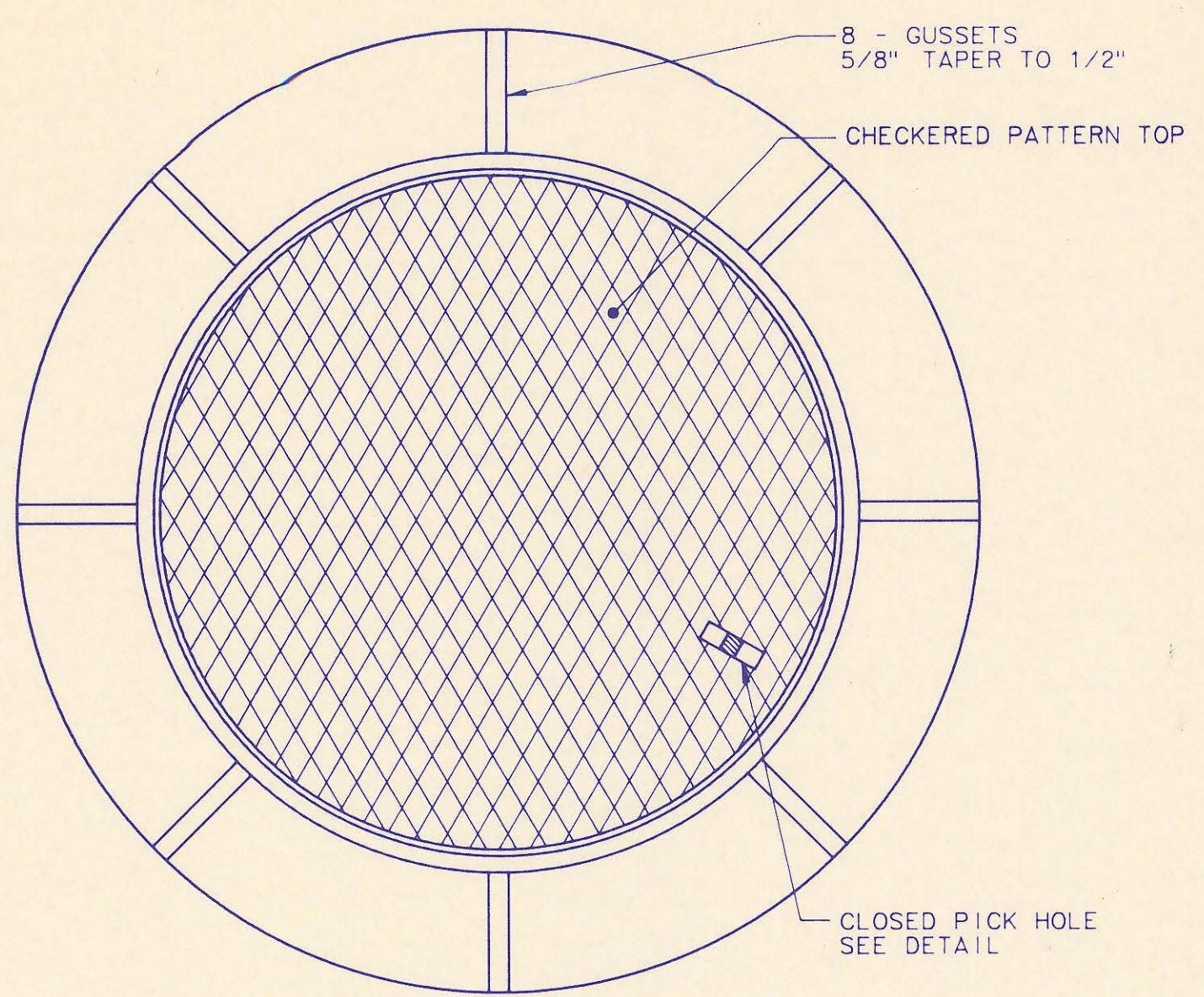
Notes: All labor, materials and incidentals necessary to complete the 6\"/>

PLAN	CHECKED	DATE
	CHECKED	DATE

DRAWING NAME: 34-91414-SS MISC DTLS
 LOCATION: 04 #198
 CENTER COORDINATES:
 POSITION ANGLE:
 DATE LAST REVISED: ON Sep. 11, 1991
 REVISION INSTRUCTIONS:



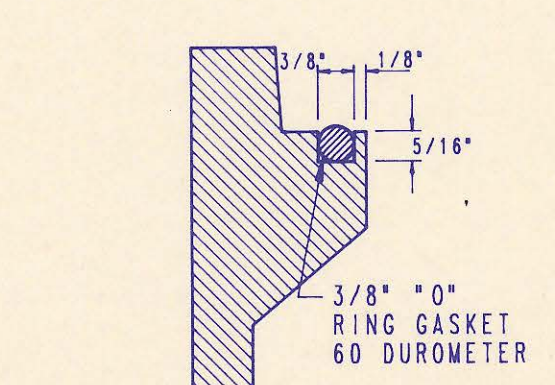
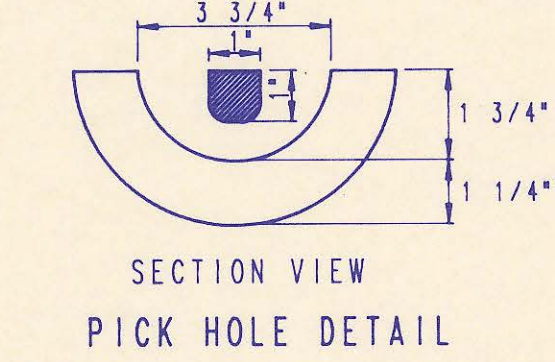
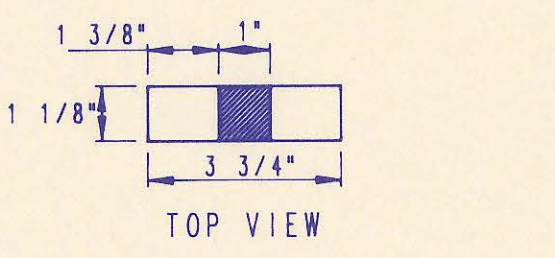
No.	Revision	By	Date
SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES DAVID C. SPEARS, P.E. DIRECTOR, BUREAU OF PUBLIC SERVICES MISCELLANEOUS DETAILS SANITARY SEWER IMPROVEMENTS SAVANNA AT CASTLE ROCK RANCH PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS			
Designed by DLW, MDK	Job No. 34-91414	Sht. 4 of 9	
Drawn by DMW	Date Sept., 1991		



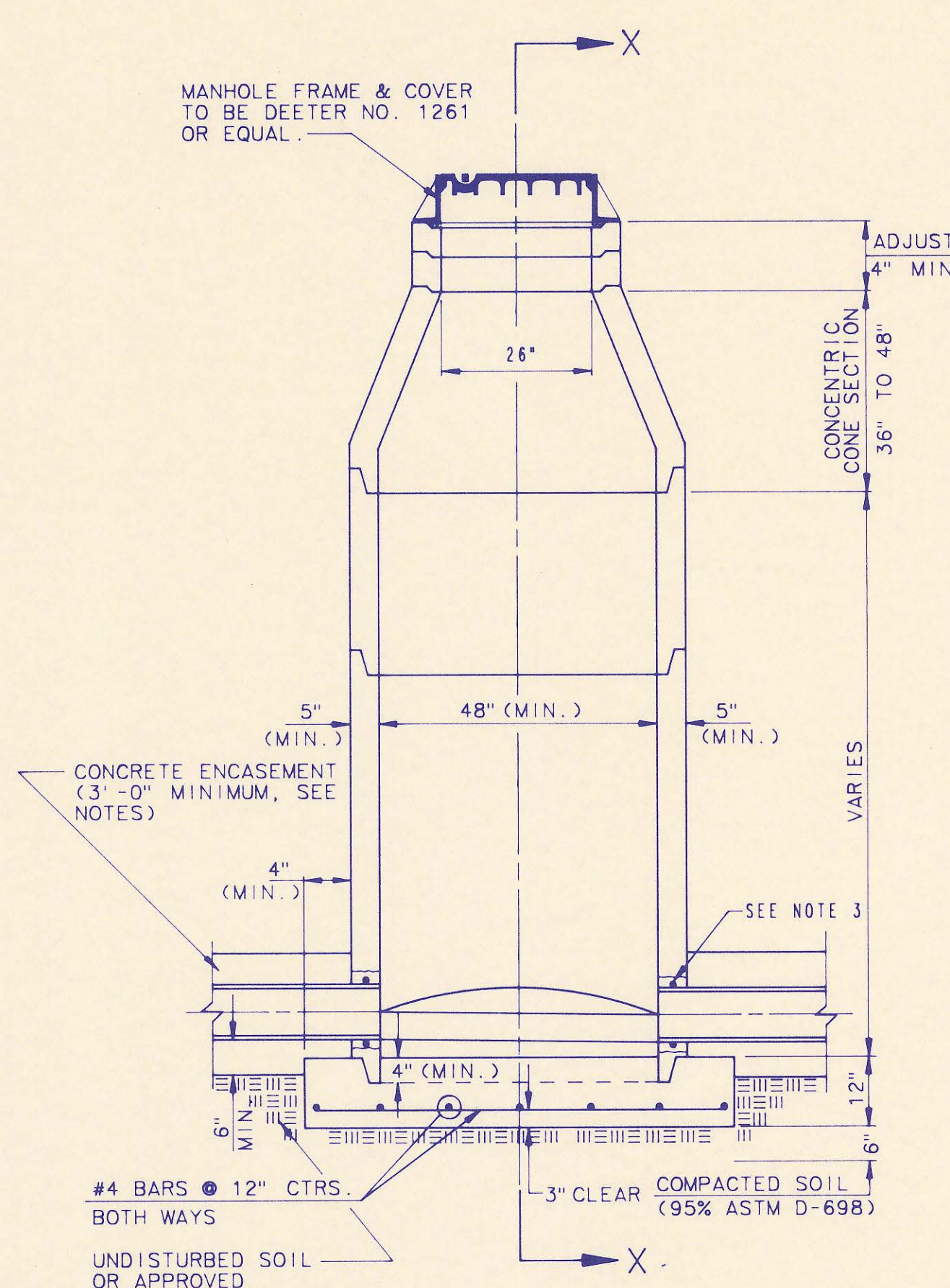
MANHOLE FRAME AND COVER
(TOTAL WEIGHT = 430 LBS.)

MANHOLE FRAME AND COVER NOTES

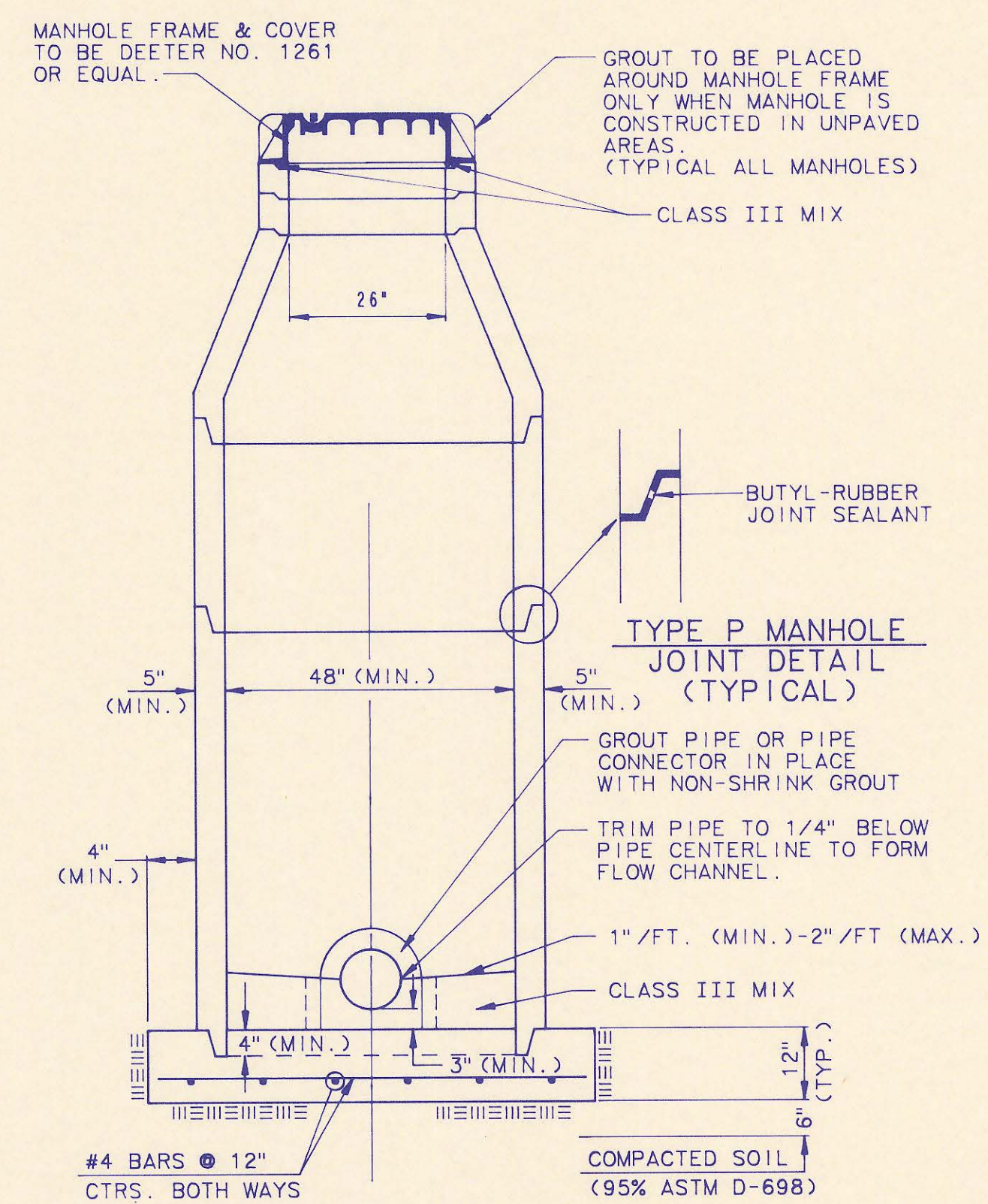
1. CAST IRON MANHOLE FRAME AND COVER SHALL CONFORM TO ASTM A-48, CLASS 35B, OR BETTER.
2. THE FRAMES AND COVERS SHALL BE OF A NONROCKING TYPE OR WITH MACHINED BEARING SURFACES SO FITTING PARTS WILL NOT RATTLE OR ROCK UNDER TRAFFIC.
3. MANHOLE CASTINGS SHALL BE DEETER FOUNDRY INC. NO. 1261 OR APPROVED EQUAL, UNLESS OTHERWISE SPECIFIED IN THE SPECIAL CONDITIONS. (MINIMUM WT. 430 LBS.) ALL MANHOLE CASTINGS, REGARDLESS OF TYPE, SHALL BE CONSIDERED SUBSIDIARY TO THE UNIT PRICES BID FOR THE VARIOUS MANHOLE TYPES.
4. GRIND ALL BURRS SMOOTH, CLEAN THOROUGHLY, THEN APPLY SHOP COAT OF ASPHALT BASE PAINT.
5. 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.
6. WHERE SELF-SEALING MANHOLE FRAMES ARE SPECIFIED ON THE PLANS, THE MANHOLE FRAME SHALL BE FURNISHED WITH AN APPROVED "O" RING GASKET GROOVED INTO THE BEARING SURFACE OF THE MANHOLE FRAME (PER DETAIL). THE "O" RING GASKET SHALL NOT BE INSTALLED IN THE MANHOLE FRAME UNTIL AFTER FINAL INSPECTION AND ACCEPTANCE OF THE PROJECT BY THE ENGINEER. THE CONTRACTOR SHALL SUPPLY TO THE OWNER ONE (1) REPLACEMENT "O" RING GASKET FOR EACH SELF-SEALING MANHOLE SPECIFIED.



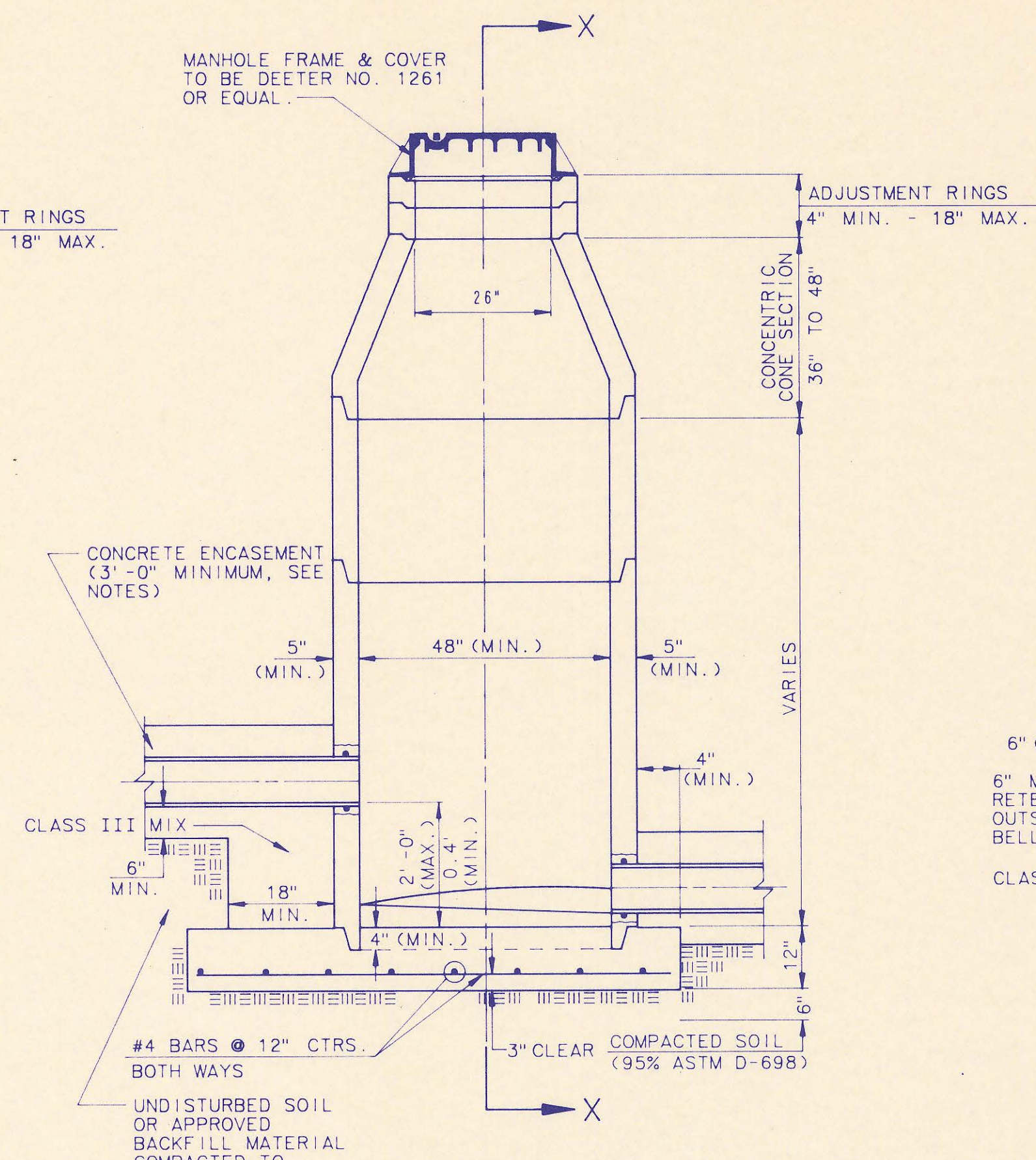
FRAME GROOVING DETAIL
(FOR SELF-SEALING MHS ONLY)



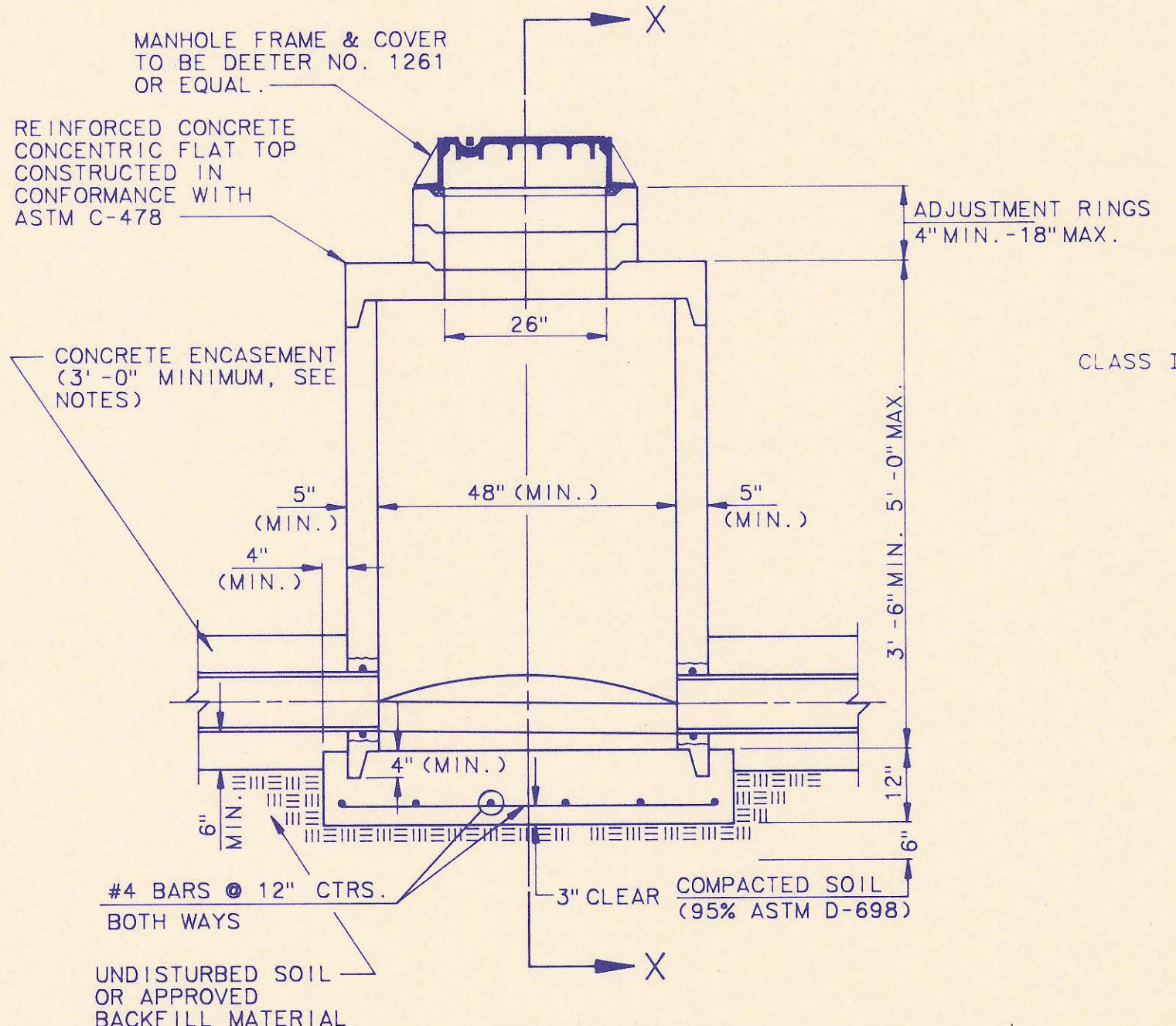
PRECAST STANDARD MANHOLE TYPE "A"



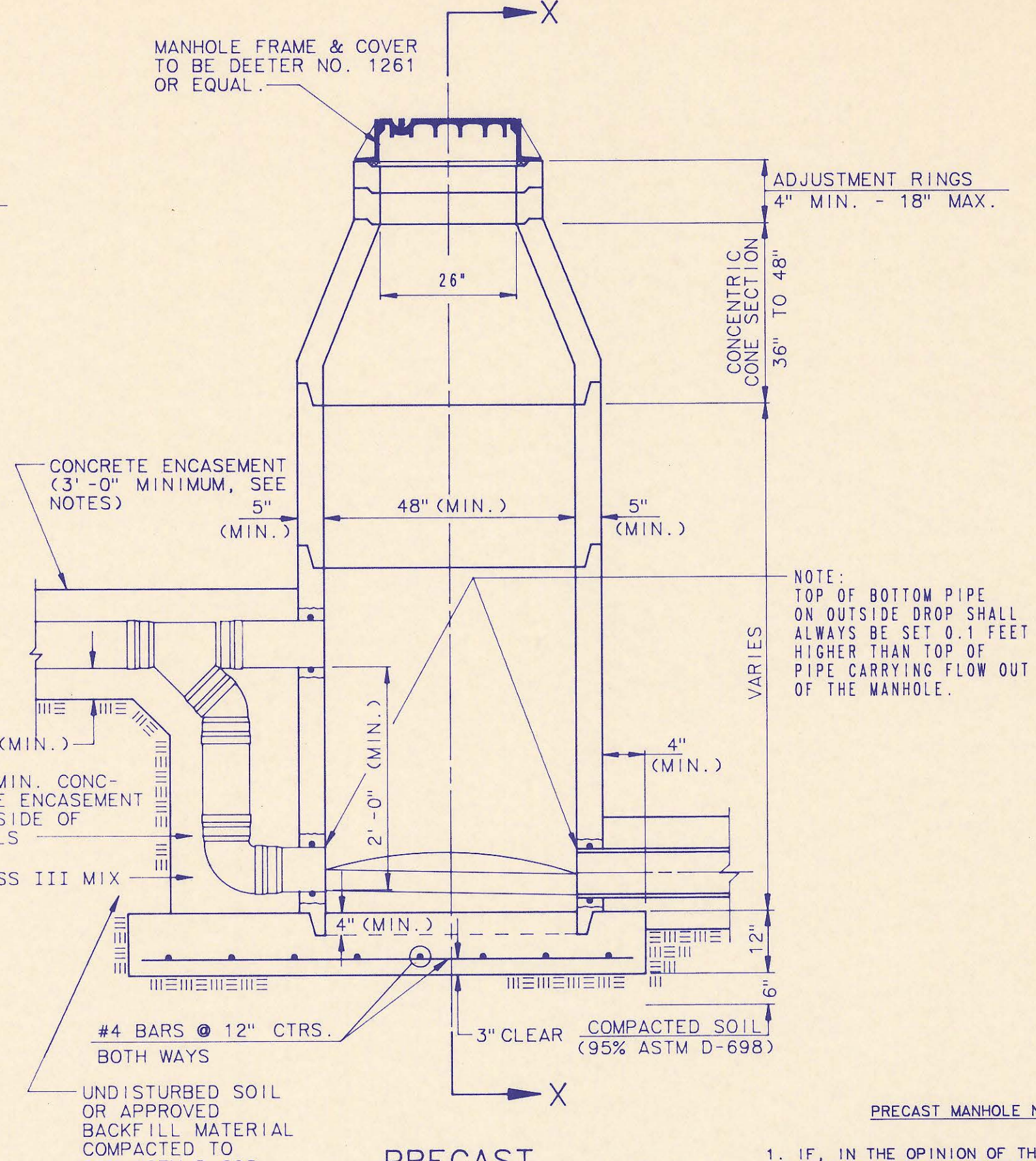
SECTION X (TYPICAL)



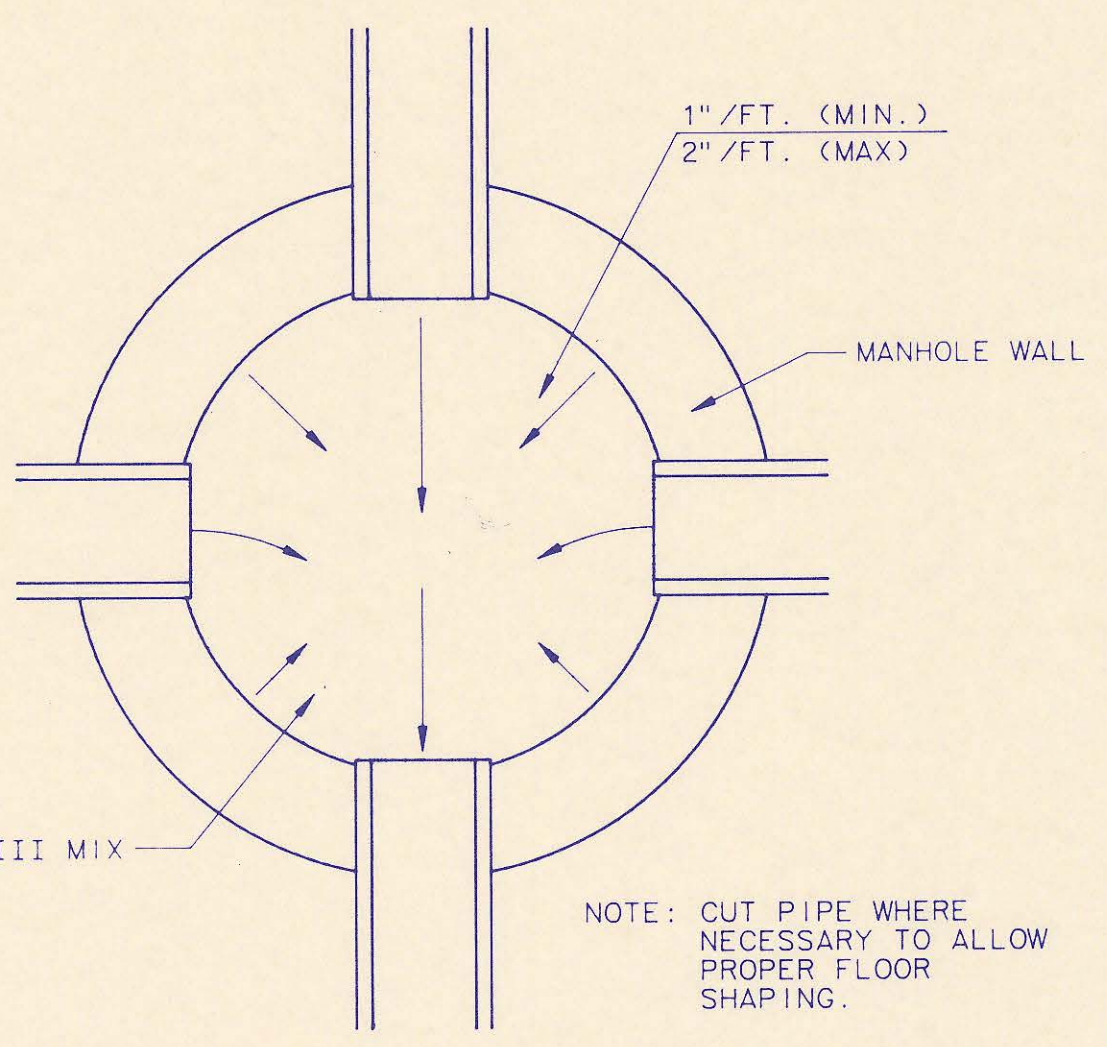
PRECAST INSIDE DROP MANHOLE TYPE "B"



PRECAST SHALLOW MANHOLE TYPE "D"



PRECAST OUTSIDE DROP MANHOLE TYPE "C"



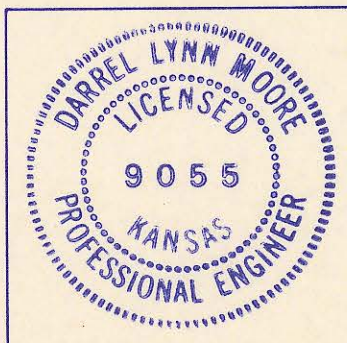
TYPICAL MANHOLE FLOOR SHAPING

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

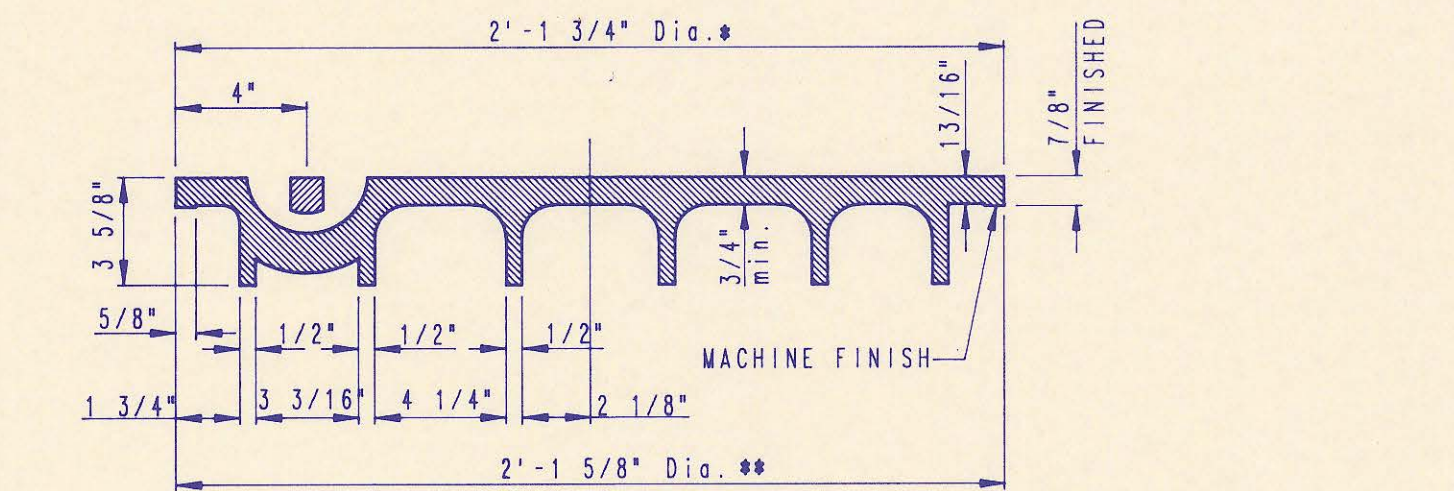
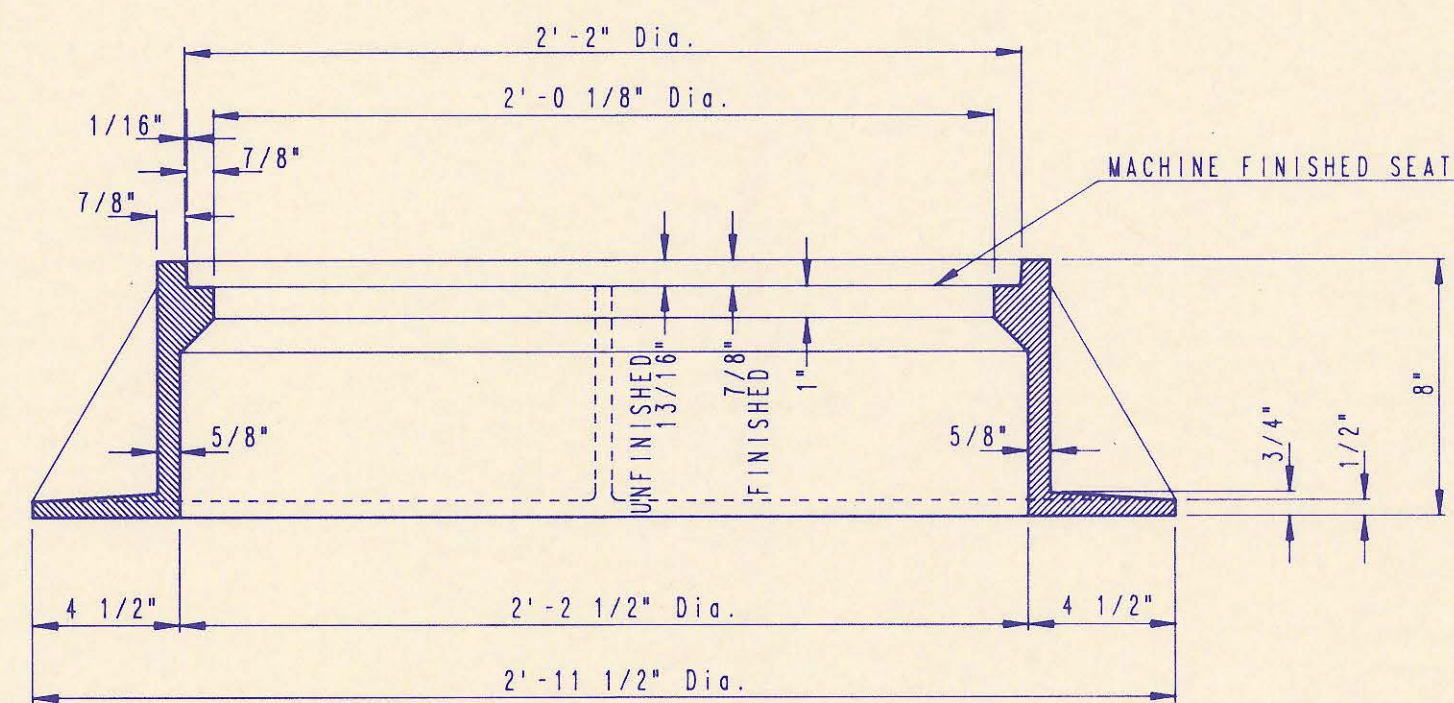
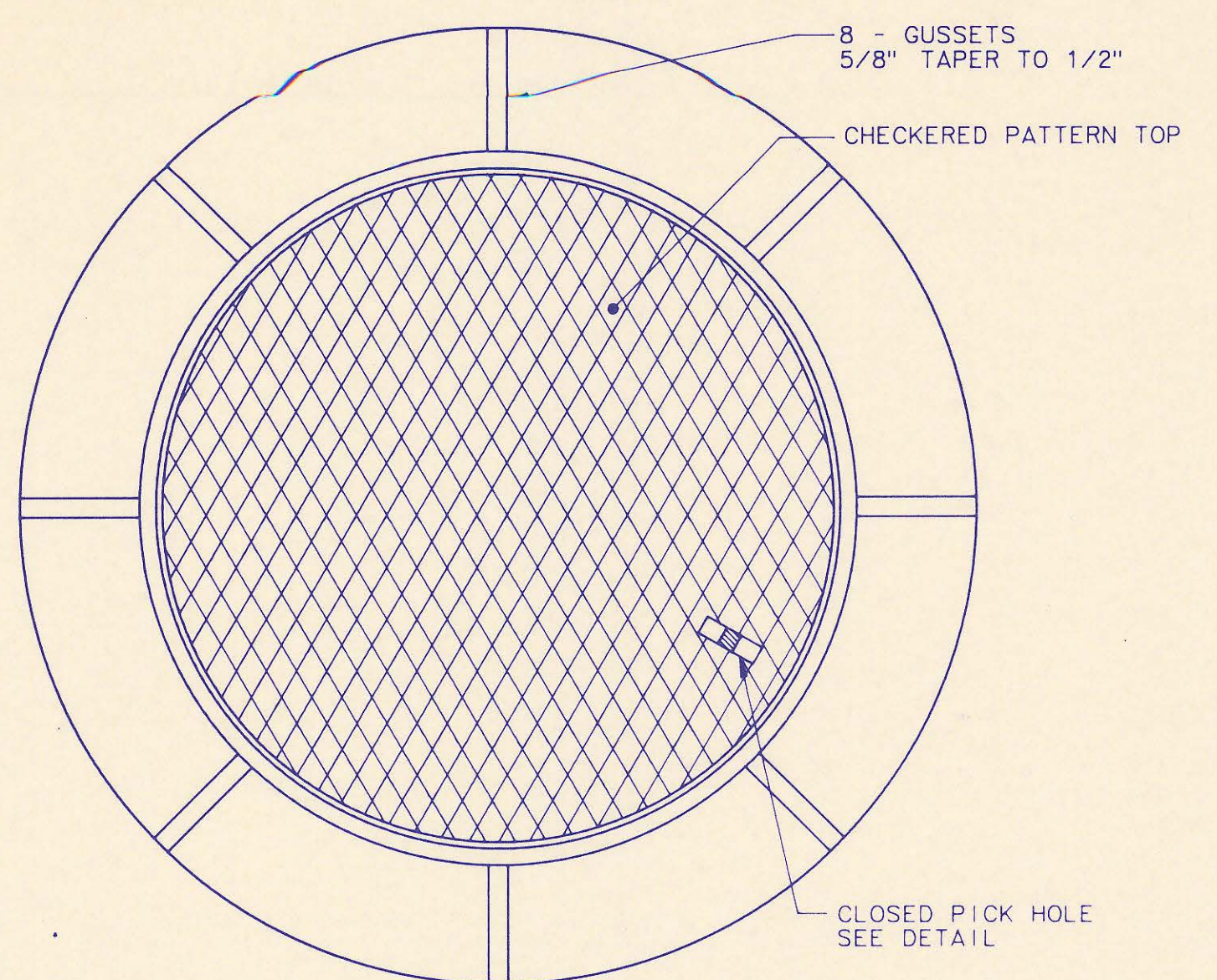
1. IF, IN THE OPINION OF THE ENGINEER, THE MANHOLE SUBGRADE APPEARS UNSTABLE, THE CONTRACTOR WILL HAVE THE OPTION TO COMPACT SUBGRADE AS SHOWN OR INCREASE THE THICKNESS OF THE MANHOLE BASE AS DIRECTED BY THE ENGINEER.
2. STEEL REINFORCING WILL BE REQUIRED IN ALL MANHOLE BASES.
3. APPROVED FLEXIBLE WATERSTOP GASKETS WHICH MEET OR EXCEED THE TEST REQUIREMENTS OF ASTM C-923 SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN PLASTIC PIPE IS USED. SEWER PIPE EXTENDING FROM MANHOLES SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL.
4. 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.
5. GASKETED PIPE CAPS SHALL BE PROVIDED BY THE PIPE SUPPLIER.
6. ALL MANHOLE CONSTRUCTION SHALL BE WATER TIGHT.
7. 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.
8. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISION OF ASTM C478 AS MODIFIED BY THE SPECIFICATIONS.
9. CONCRETE FOR MANHOLE BASES SHALL BE CLASS I AS DESCRIBED IN THE SPECIFICATIONS.
10. PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO MANHOLE BASE.
11. MANHOLES WITH PIPE SIZES 24" AND LARGER SHALL HAVE 5" INSIDE DIAMETER (MIN.).
12. 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.

RECORD DRAWING
7-6-92



1	Manhole Frame and Cover Note 1	RJ	7/16/91
No.	Revision	By	Date
PRECAST MANHOLE DETAILS ADOPTED AS STANDARD DESIGN			
BY SEDDGWICK COUNTY BUREAU OF PUBLIC SERVICES DAVID C. SPEARS, P.E. DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER			
PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS			
Designed by DLW	Job No. 34-9/4/4	Sht. 5 of 9	
Drawn by DMM, TDS	Date NOVEMBER, 1990		

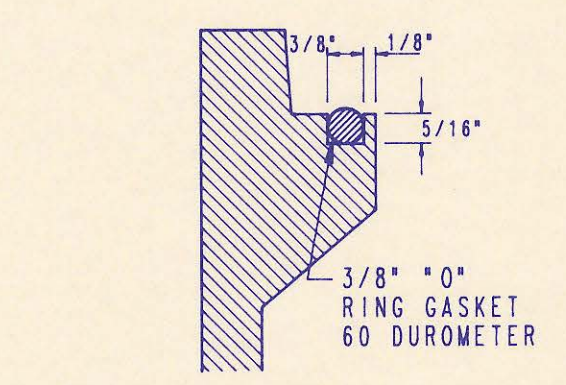
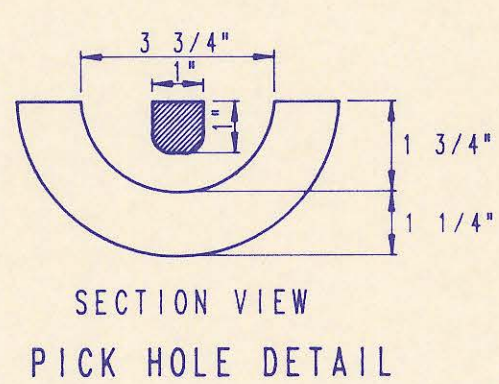
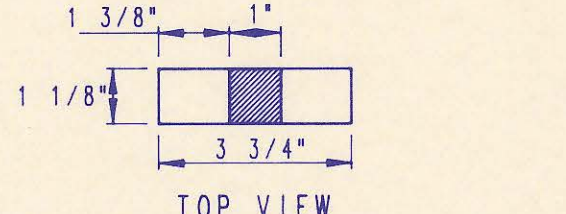
DRAWING NAME: REC PRECAST MH Sids
LOCATION: LOCAL DA Dwg #803
CENTER COORDINATES:
ROTATION ANGLE:
DATE LAST WORKED ON: JUL. 16, 1991
SPECIAL INSTRUCTIONS:



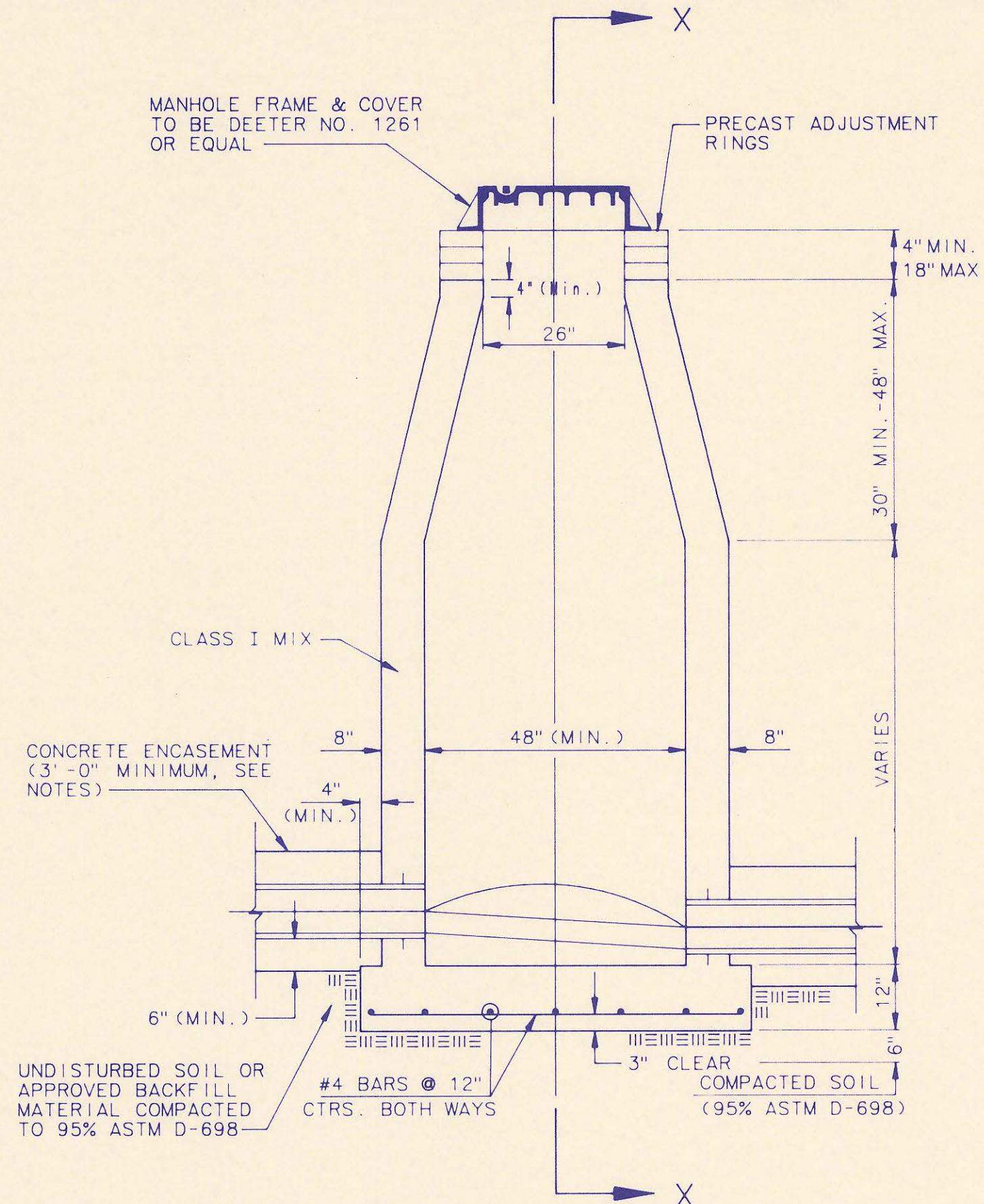
MANHOLE FRAME AND COVER
(TOTAL WEIGHT = 430 LBS.)

MANHOLE FRAME AND COVER NOTES

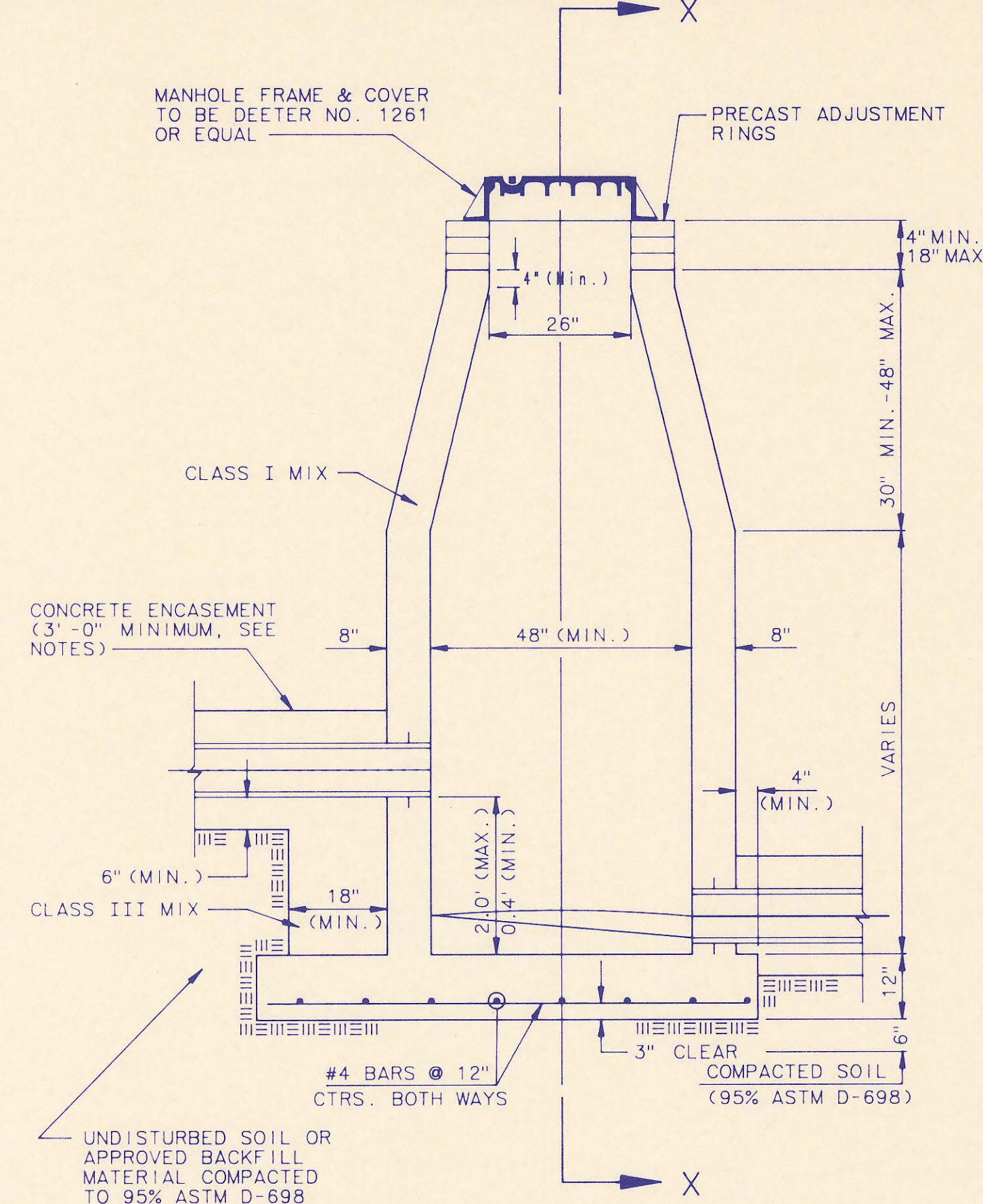
- CAST IRON MANHOLE FRAME AND COVER SHALL CONFORM TO ASTM A-48, CLASS 35B, OR BETTER.
- THE FRAMES AND COVERS SHALL BE OF A NONROCKING TYPE OR WITH MACHINED BEARING SURFACES SO FITTING PARTS WILL NOT RATTLE OR ROCK UNDER TRAFFIC.
- MANHOLE CASTINGS SHALL BE DEETER FOUNDRY INC. NO. 1261 OR APPROVED EQUAL, UNLESS OTHERWISE SPECIFIED IN THE SPECIAL CONDITIONS. (MINIMUM WT. - 430 LBS.) ALL MANHOLE CASTINGS, REGARDLESS OF TYPE, SHALL BE CONSIDERED SUBSIDIARY TO THE UNIT PRICES BID FOR THE VARIOUS MANHOLE TYPES.
- GRIND ALL BURRS SMOOTH, CLEAN THOROUGHLY, THEN APPLY SHOP COAT OF ASPHALT BASE PAINT.
- 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.
- WHERE SELF-SEALING MANHOLE FRAMES ARE SPECIFIED ON THE PLANS, THE MANHOLE FRAME SHALL BE FURNISHED WITH AN APPROVED "O" RING GASKET GROOVED INTO THE BEARING SURFACE OF THE MANHOLE FRAME (PER DETAIL). THE "O" RING GASKET SHALL NOT BE INSTALLED IN THE MANHOLE FRAME UNTIL AFTER FINAL INSPECTION AND ACCEPTANCE OF THE PROJECT BY THE ENGINEER. THE CONTRACTOR SHALL SUPPLY TO THE OWNER ONE (1) REPLACEMENT "O" RING GASKET FOR EACH SELF-SEALING MANHOLE SPECIFIED.



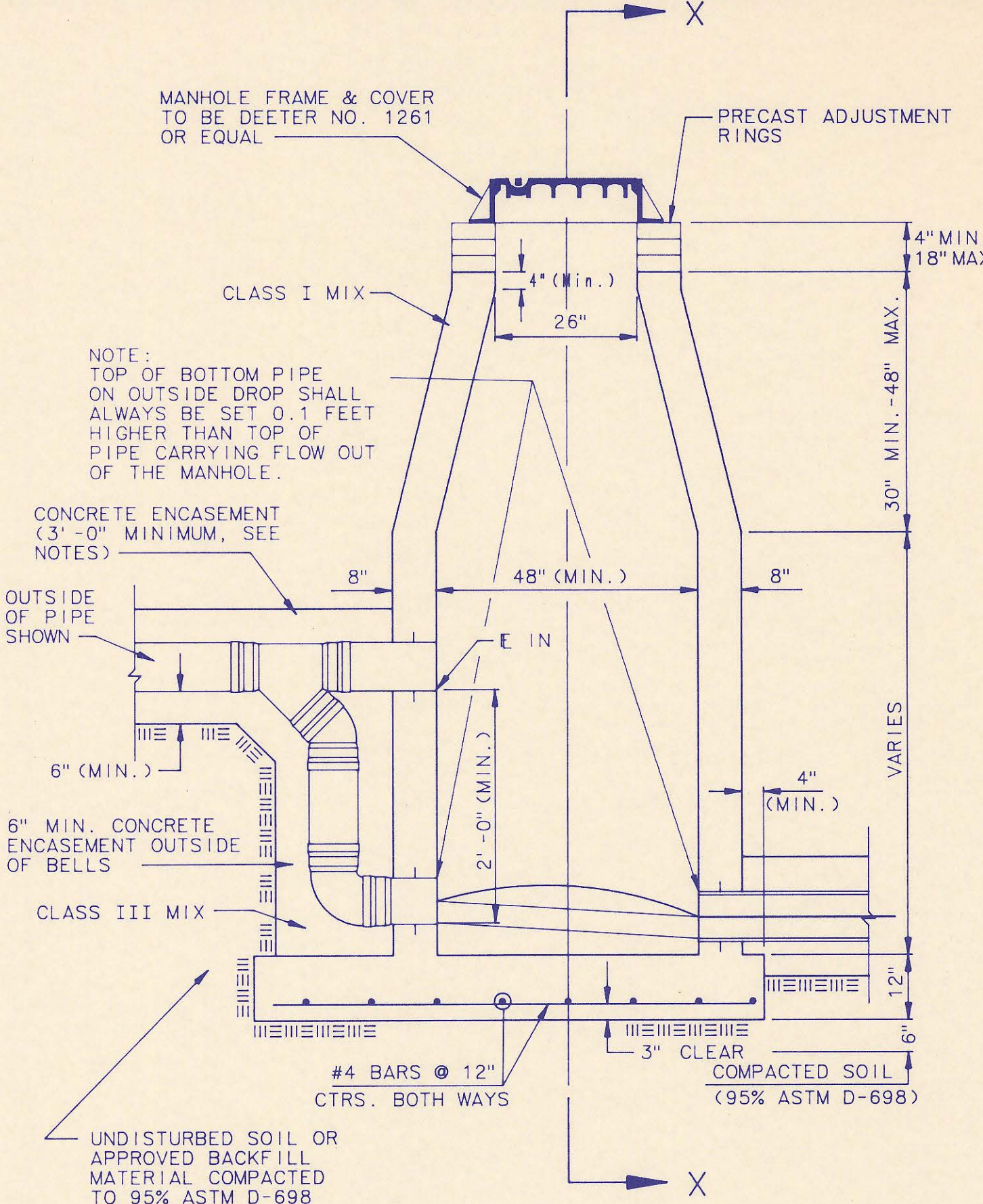
FRAME GROOVING DETAIL (FOR SELF-SEALING MHS ONLY)



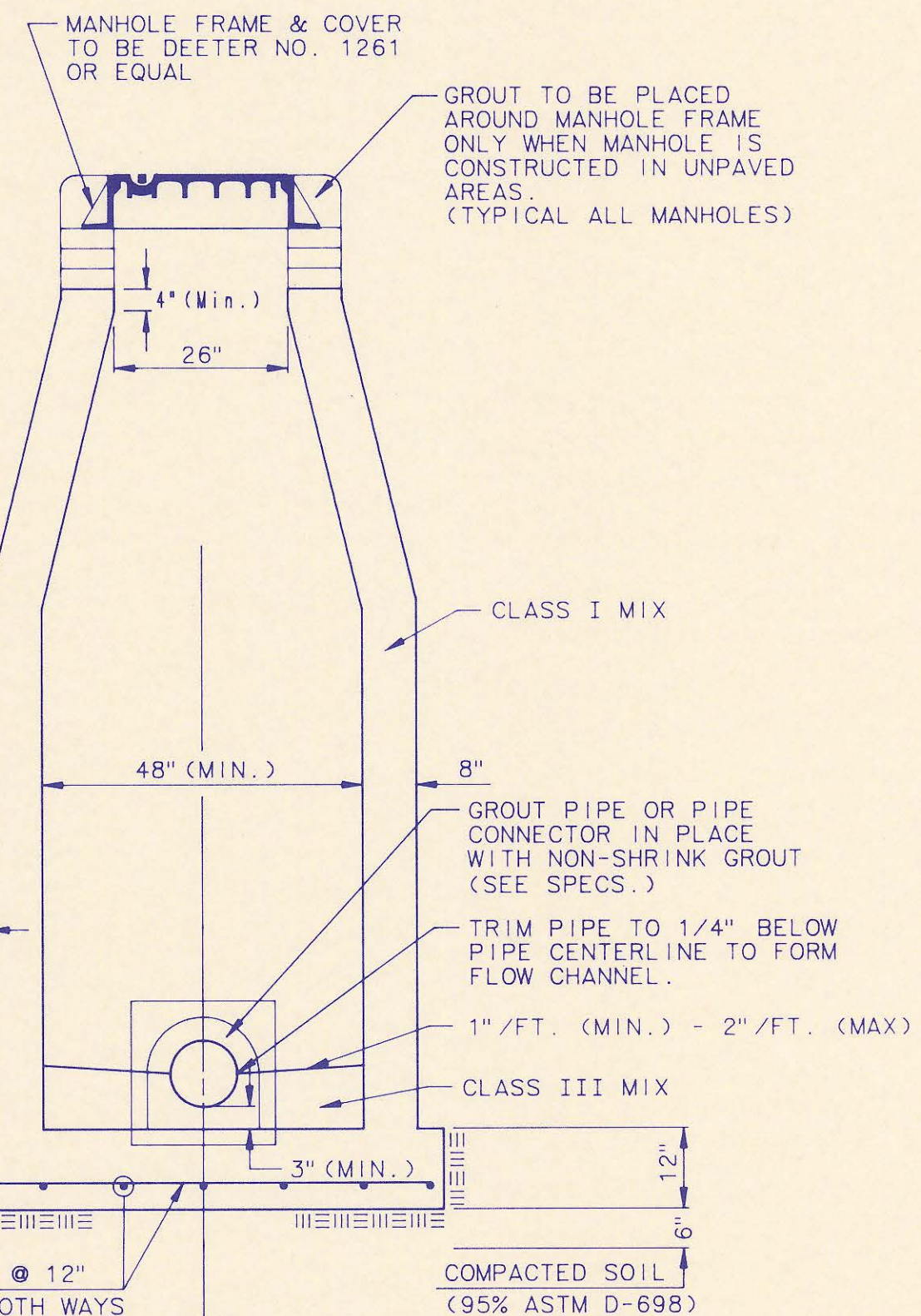
CAST IN PLACE STANDARD MANHOLE TYPE "A"



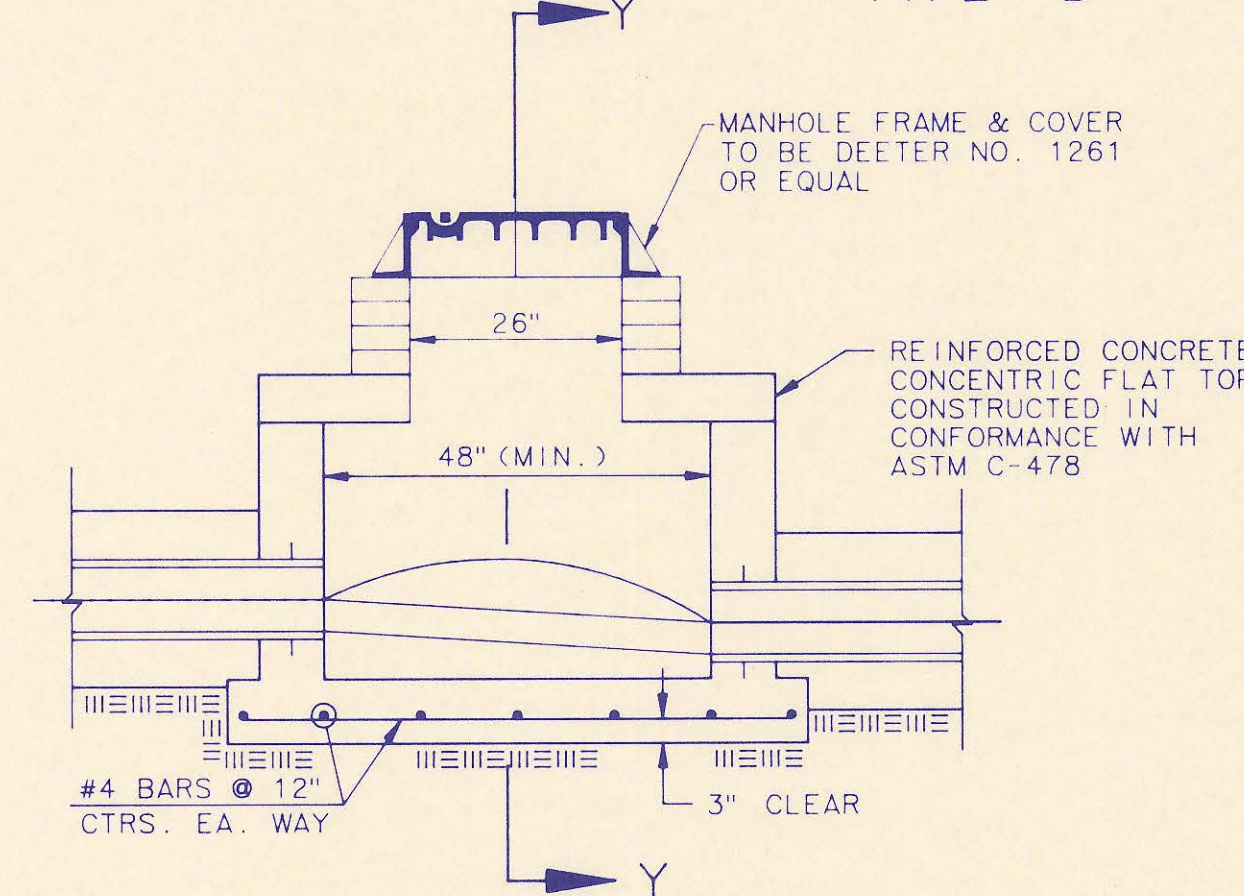
CAST IN PLACE DROP MANHOLE TYPE "B"



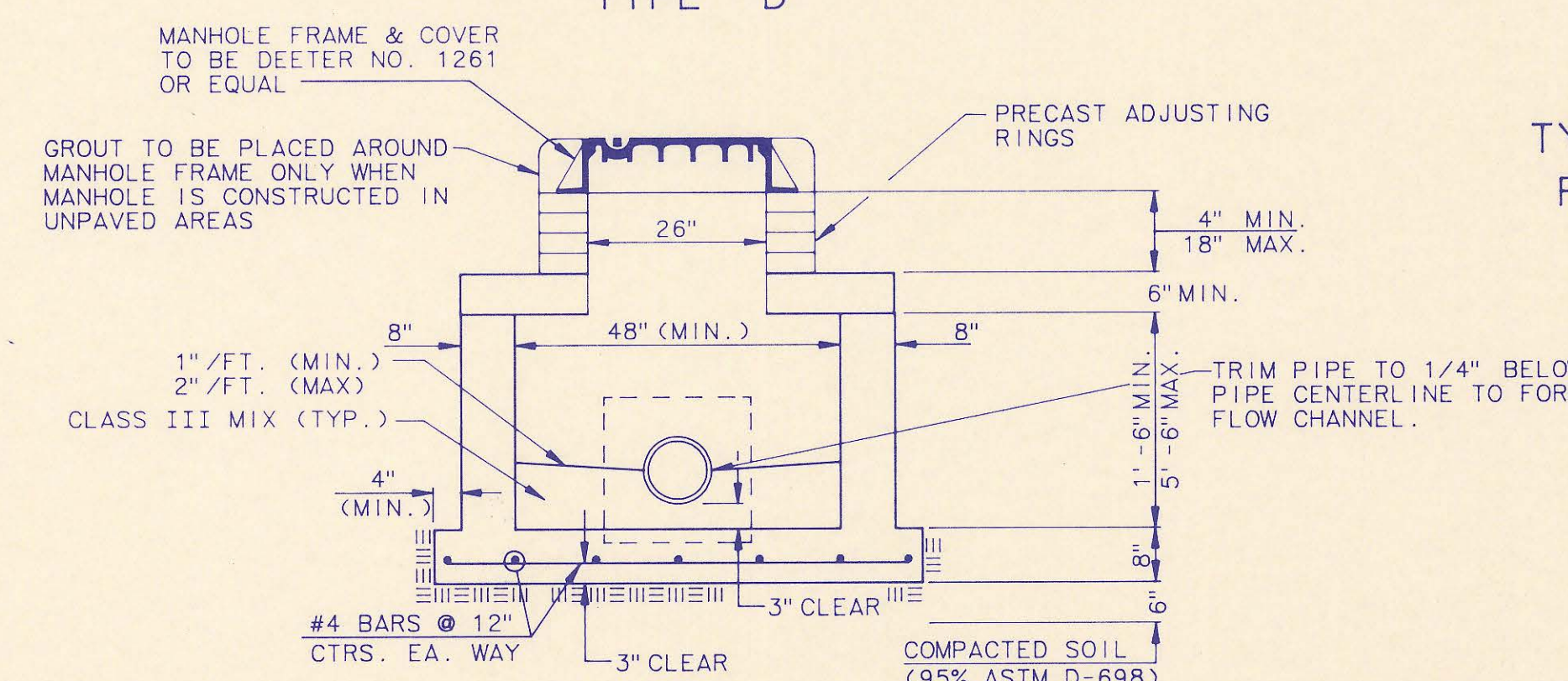
CAST IN PLACE OUTSIDE DROP MANHOLE TYPE "C"



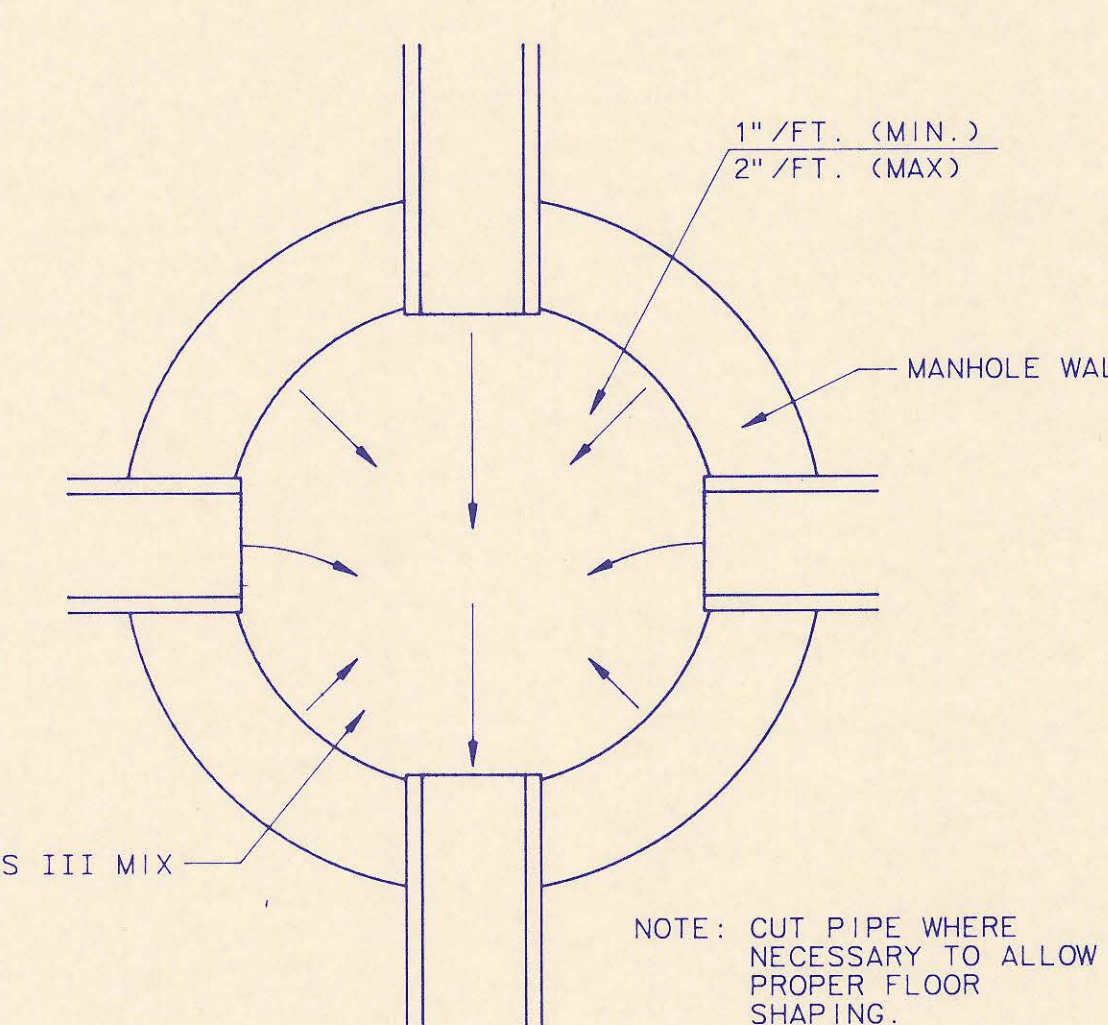
SECTION X (TYPICAL)



SHALLOW MANHOLE TYPE "D"



SECTION Y



TYPICAL MANHOLE FLOOR SHAPING

CAST-IN-PLACE MANHOLE NOTES

- IF, IN THE OPINION OF THE ENGINEER, THE MANHOLE SUBGRADE APPEARS UNSTABLE, THE CONTRACTOR WILL HAVE THE OPTION TO COMPACT SUBGRADE AS SHOWN OR INCREASE THE THICKNESS OF THE MANHOLE BASE AS DIRECTED BY THE ENGINEER.
- STEEL REINFORCING WILL BE REQUIRED IN ALL MANHOLE BASES.
- WHEN OPENINGS ARE CUT IN MANHOLE WALLS FOR PIPE, THE PIPE OR PIPE CONNECTOR SHALL BE GROUDED IN PLACE WITH NON-SHRINKING GROUT. EXTERIOR OF COMPLETED CONNECTION SHALL BE SEALED WITH APPROVED COATINGS.
- CAST-IN-PLACE CIRCULAR CONCRETE MANHOLES ARE TO BE CONSTRUCTED ONLY IN LOCATIONS WHERE IT IS OBVIOUS THAT ANY ADJUSTMENT OF THE MANHOLE TOP ELEVATIONS WHICH MAY BE NECESSARY WILL NOT REQUIRE MODIFICATION OF THE CONCRETE BARREL.
- APPROVED FLEXIBLE WATERSTOP GASKETS WHICH MEET OR EXCEED THE TEST REQUIREMENTS OF ASTM C-923 SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN ABS COMPOSITE PIPE OR PVC PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER EXTENDING FROM MANHOLES SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL.
- THE MANHOLE FRAME SHALL BE SEATED ON AN APPROVED BUTYL-RUBBER SEALANT TO PROVIDE A WATER-TIGHT SEAL BETWEEN THE MANHOLE ADJUSTMENT RING OR BRICK MASONRY COLLAR AND THE MANHOLE FRAME.
- GASKETED PIPE CAPS SHALL BE PROVIDED BY THE PIPE SUPPLIER.
- CONCRETE FOR MANHOLE BASES SHALL BE CLASS I AS DESCRIBED IN THE SPECIFICATIONS.
- MANHOLES WITH PIPE SIZES LARGER THAN 15" SHALL HAVE 5" INSIDE DIAMETER.

NOTE: CUT PIPE WHERE NECESSARY TO ALLOW PROPER FLOOR SHAPING.

RECORD DRAWING
7-G-02

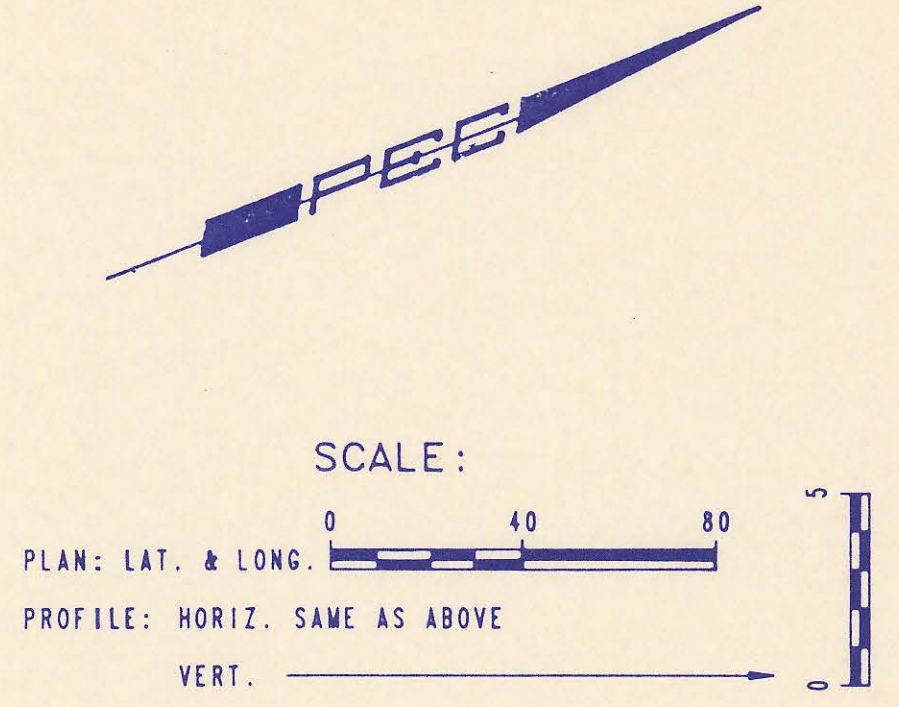
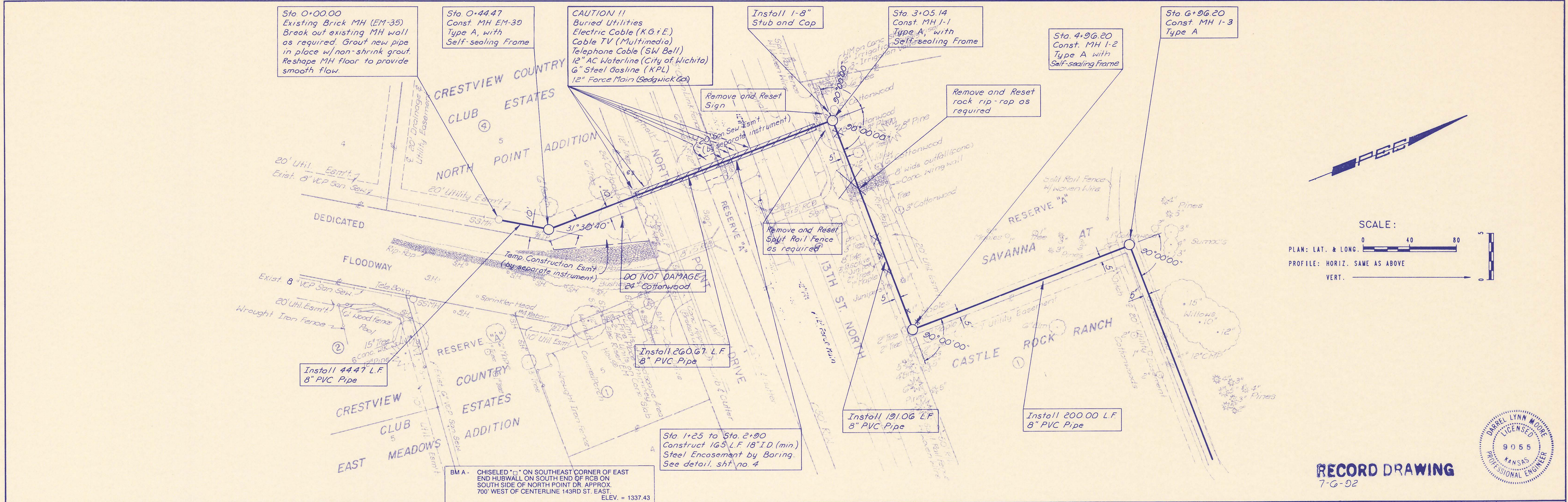
DRAWING NAME: PEC Cast-in-Pl. MH Stds
LOCATION: LOCAL D4 DWG #488
CENTER COORDINATES:
DATE LAST WORKED ON: JUL 16, 1991
SPECIAL INSTRUCTIONS:



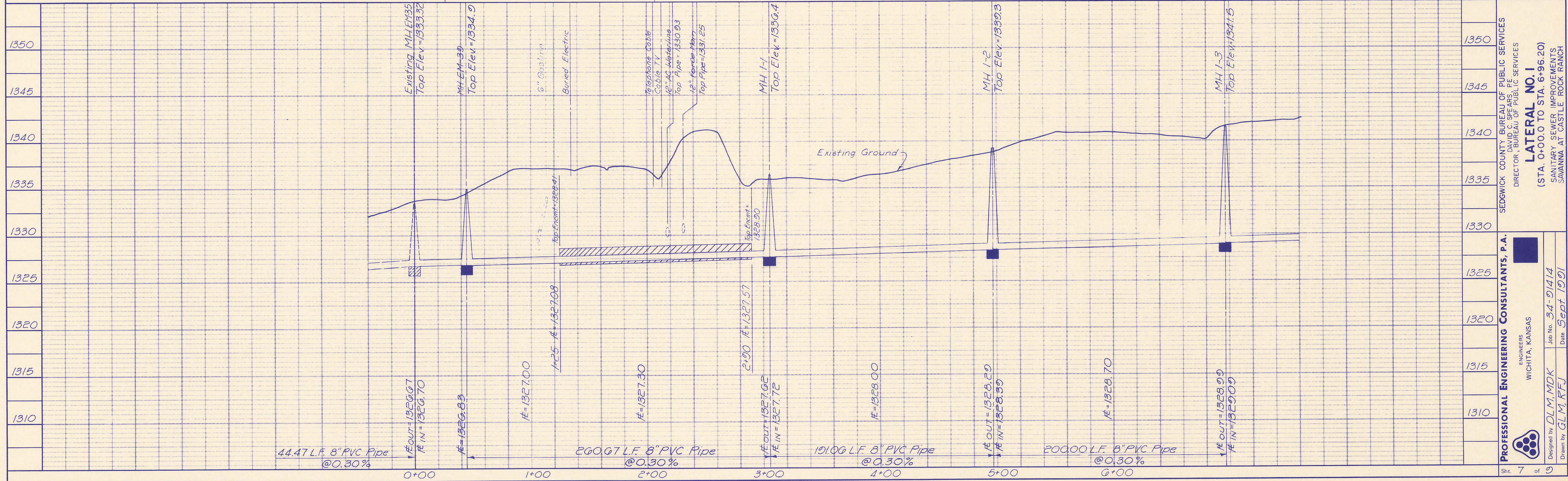
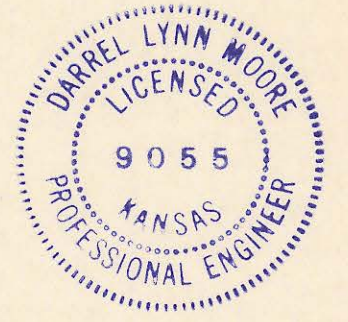
1	Manhole Frame and Cover Note 1	RJ	7/16/91
No.	Revision	By	Date
CAST-IN-PLACE MANHOLE DETAILS ADOPTED AS STANDARD DESIGN BY SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES DAVID C. SPEARS, P.E. DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER			
PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS			
Designed by DLM	Job No. 34-0144		
Drawn by DMW, TDS	Date NOVEMBER, 1990	Sh. 6 of 9	

PLAN	SURVEYED	DATE
	PLOTTED	
	ALIGNMENT CHECKED	
	BY: [Signature]	
	NO. [Number]	

PROFILE	SURVEYED	DATE
	GRADES CHECKED	
	STRUCTURE NOTATIONS (H.W.)	
	BY: [Signature]	
	NO. [Number]	



RECORD DRAWING
7-6-02



SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
DIRECTOR, BUREAU OF PUBLIC SERVICES

LATERAL NO. 1
(STA. 0+00.0 TO STA. 6+96.20)
SANITARY SEWER IMPROVEMENTS
SAVANNA AT CASTLE ROCK RANCH

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

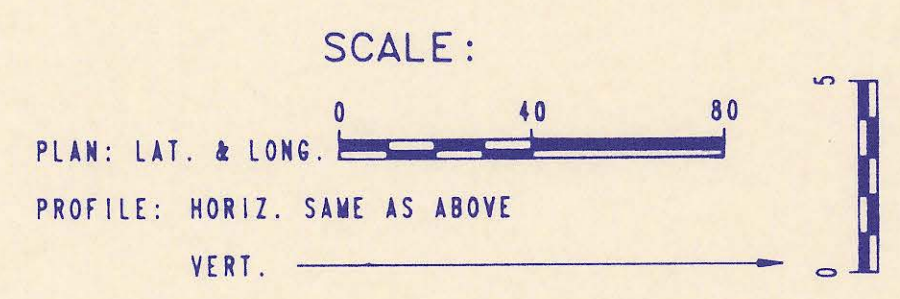
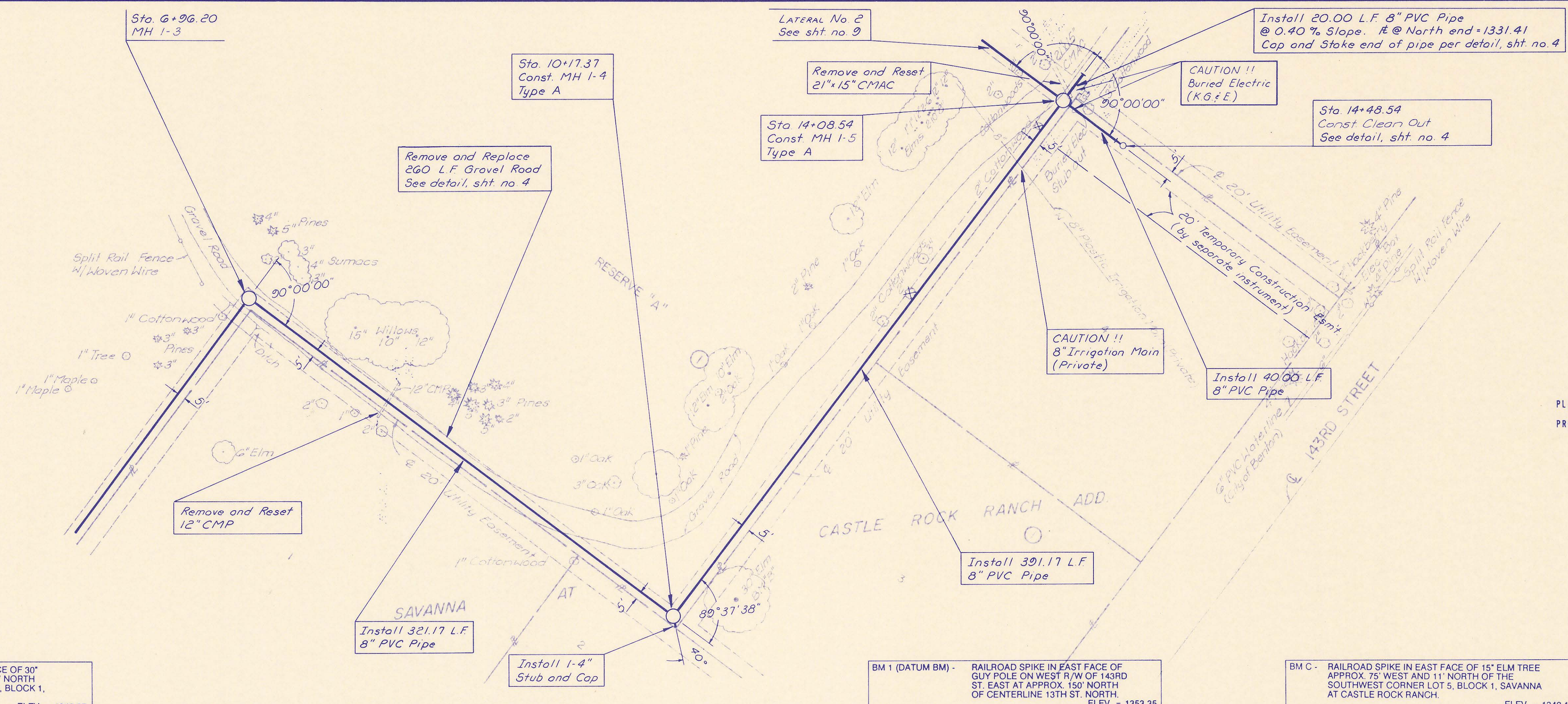
Designed by **DLM, MDK**
Job No. **34-01414**
Date **Sept 1991**

Drawn by **GLM, RFJ**

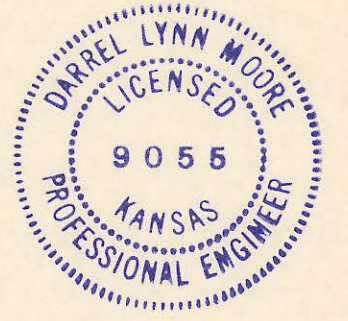
Sht. 7 of 9

DATE
BY
DESIGNED
PLANNED
NOTED
NO.

DATE
BY
DESIGNED
PLANNED
NOTED
NO.



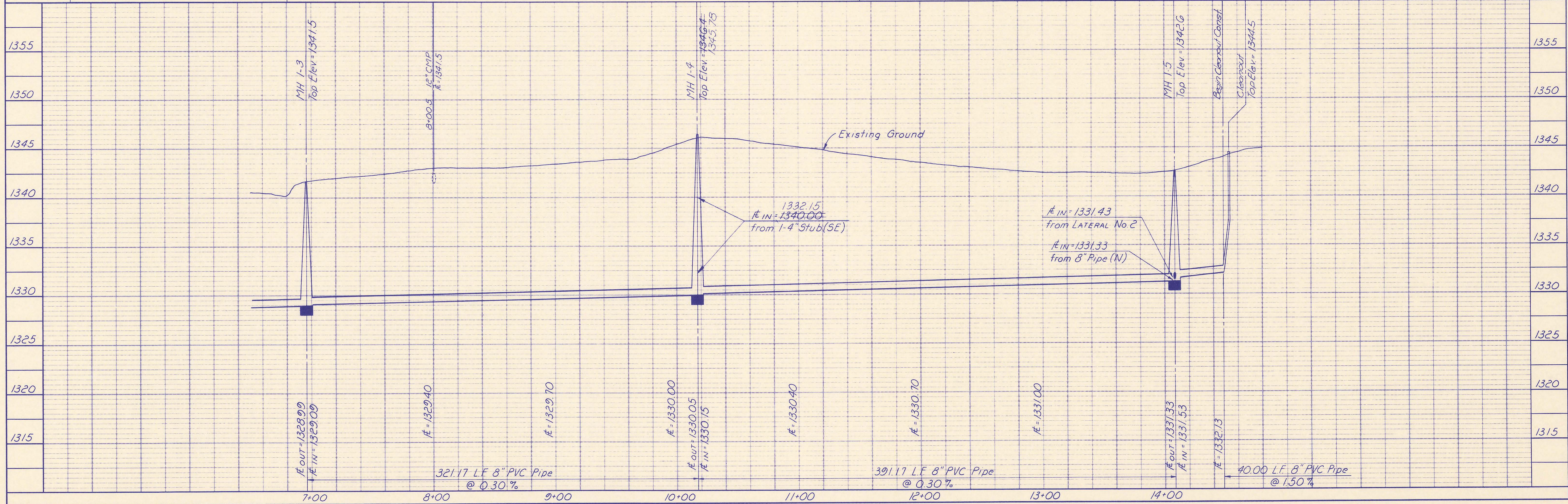
RECORD DRAWING
7-G-02



BM B - RAILROAD SPIKE IN SOUTHEAST FACE OF 30" ELM TREE APPROX. 30' EAST AND 35' NORTH OF THE SOUTHWEST CORNER LOT 3, BLOCK 1, SAVANNA AT CASTLE ROCK RANCH. ELEV. = 1348.57

BM 1 (DATUM BM) - RAILROAD SPIKE IN EAST FACE OF GUY POLE ON WEST R/W OF 143RD ST. EAST AT APPROX. 150' NORTH OF CENTERLINE 13TH ST. NORTH. ELEV. = 1353.35

BM C - RAILROAD SPIKE IN EAST FACE OF 15" ELM TREE APPROX. 75' WEST AND 11' NORTH OF THE SOUTHWEST CORNER LOT 5, BLOCK 1, SAVANNA AT CASTLE ROCK RANCH. ELEV. = 1342.19



SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
 DIRECTOR, BUREAU OF PUBLIC SERVICES
LATERAL NO. 1
 (STA. 0+00.0 TO STA. 6+96.20)
 SANITARY SEWER IMPROVEMENTS
 SAVANNA AT CASTLE ROCK RANCH

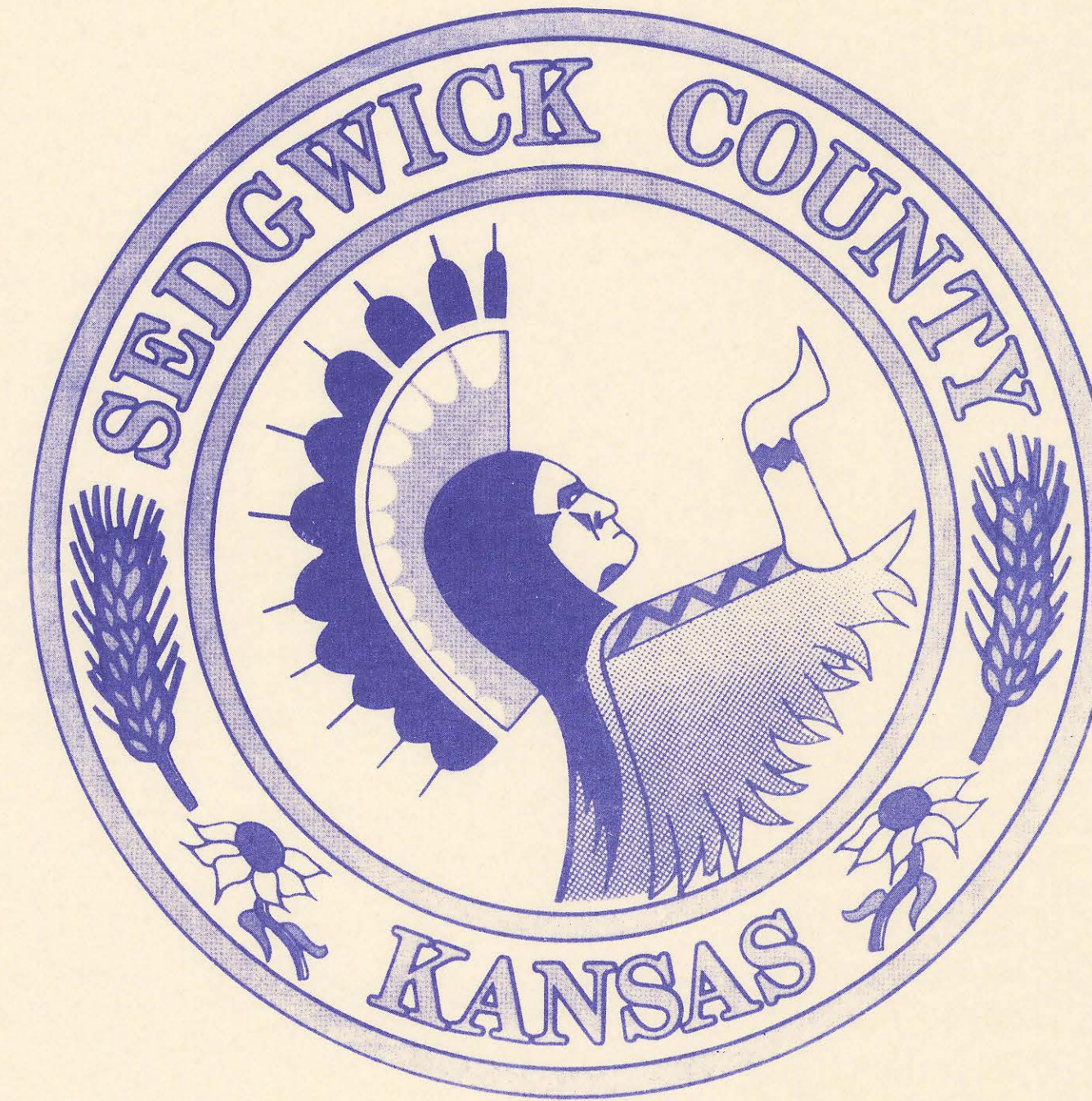
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
 ENGINEERS
 WICHITA, KANSAS

Designed by DLM, MDK
 Drawn by GM

Job No. 34-91414
 Date Sept. 1991

Sht. 8 of 9

BUREAU OF PUBLIC SERVICES



INDEX OF SHEETS

SHEET NO. 1	TITLE SHEET
SHEET NO. 2	KEY MAP
SHEET NO. 3	PLAN
SHEET NO. 4	PRECAST MANHOLE DETAILS
SHEET NO. 5	CAST-IN-PLACE MANHOLE DETAILS
SHEET NO. 6	BACKFILL DETAILS
SHEET NO. 7-9	PLAN/PROFILE

CONSTRUCTION PLANS FOR

SANITARY SEWER IMPROVEMENTS

IN

SAVANNA AT CASTLE ROCK RANCH

2ND ADDITION

TO SEDGWICK COUNTY, KANSAS

RECORD DRAWING
10-12-92

MAY, 1992

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



APPROVED BY:
SEDGWICK COUNTY
BUREAU OF PUBLIC SERVICES

DIRECTOR _____ DATE _____

APPROVED BY:
BOARD OF COUNTY COMMISSIONERS

CHAIRMAN _____ DATE _____

FILED IN THE OFFICE OF:
THE SEDGWICK COUNTY CLERK

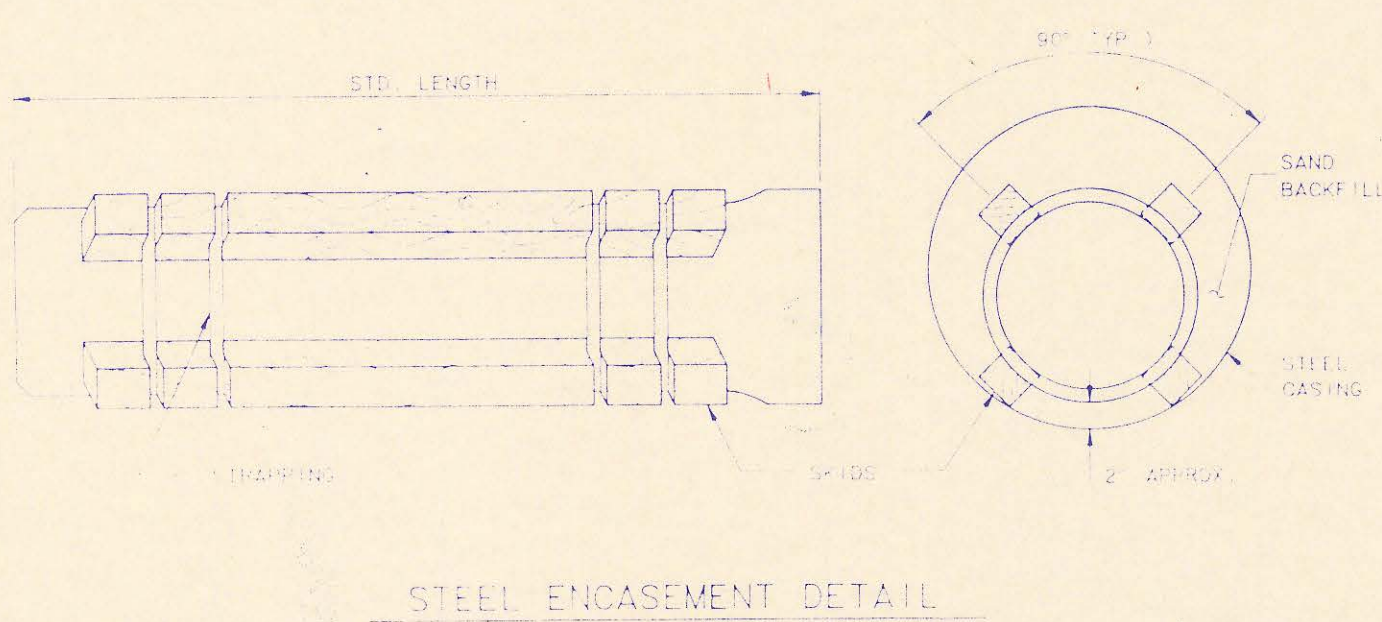
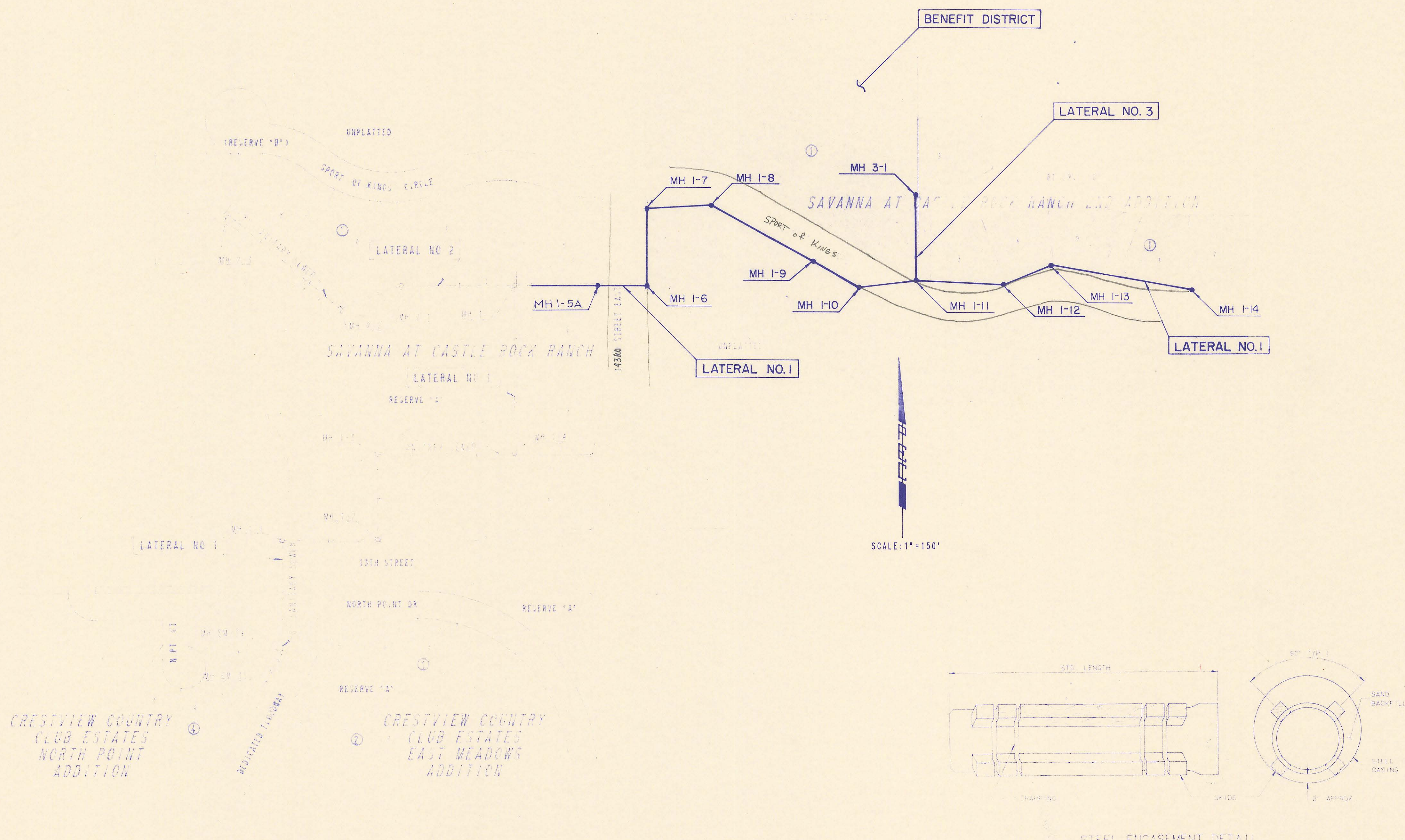
COUNTY CLERK _____ DATE _____

DRAWING NAME: SA-92169 SCR-SS TITLE
LOCATION: LOCAL E4 DWG #223
CENTER COORDINATES:
ROTATION ANGLE:
DATE LAST WORKED ON: MAY 01, 1992
SPECIAL INSTRUCTIONS:

DATE: _____
DATE: _____
CRO. BY: _____
CRO. BY: _____

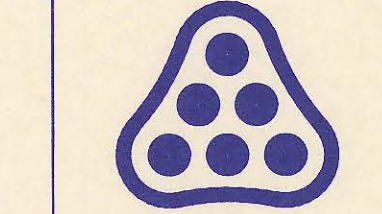
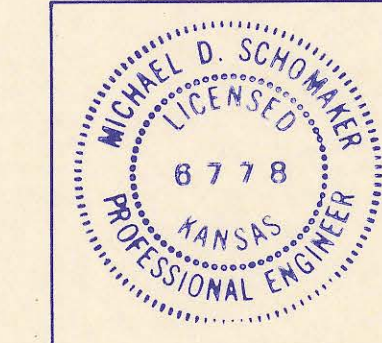
PLAN	CHECKED	DATE
	CHECKED	

DRAWING NAME: 34-92169 SAV2 SS KEY
 LOCATION: EA DWG #219
 CENTER COORDINATES:
 NORTH POINT ANGLE:
 SPECIAL INSTRUCTIONS:
 ON MAY, 01, 1992



GENERAL NOTES

- 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, KPL/GAS SERVICE COMPANY, SOUTHWESTERN BELL TELEPHONE, AND K.G. & E.
- 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:
 MAYOR BERNIE GILL
 CITY OF BENTON
 (316) 778-1625
 SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
 1250 S. SENECA
 WICHITA, KS 67213
 MR. JIM WEBER
 (316) 383-7901
- 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.
- WHERE THE IMPROVEMENTS CROSS EXISTING PUBLIC OR PRIVATE UTILITIES WHICH ARE NOT TO BE ADJUSTED BY OTHERS, THE CONTRACTOR SHALL PROVIDE THE MATERIAL AND MEANS TO PROTECT AND SUPPORT SAID UTILITIES DURING CONSTRUCTION TO THE SATISFACTION OF THE ENGINEER.
- EXCESS EXCAVATED 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.
- 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.
- THE CONTRACTOR SHALL CONTAIN HIS OPERATIONS 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 ARTICLE 6 OF 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. 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 "SITE CLEARING AND RESTORATION".
- EASEMENT AND RIGHT-OF-WAY 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-WAY 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 ADJACENT TO 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.
- THE CONTRACTOR SHALL KEEP ANY CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER DURING CONSTRUCTION.
- TOP ELEVATIONS FOR MANHOLES ARE APPROXIMATE ONLY. MANHOLE TOPS SHALL BE SET AT 0.4' ABOVE FINISH GRADE IN AREAS OUTSIDE OF UNPAVED TRAVELED WAYS AND FLUSH WITH FINISH GRADE IN UNPAVED TRAVELED WAYS AS DIRECTED BY THE ENGINEER.
- THE PROPERTY OWNER FOR THE CONSTRUCTION AREA, MR. LARRY STEPHENSON, MAY REMOVE OR RELOCATE SOME TREES AND FENCE WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY MR. STEPHENSON AT LEAST 10 DAYS PRIOR TO THE START OF CONSTRUCTION AND ADVISE HIM OF THE INTENDED WORK SCHEDULE.
 MR. LARRY G. STEPHENSON
 14010 E. 13TH ST. NORTH
 WICHITA, KS 67230
 (316) 733-2497
- THE CONTRACTOR SHALL CONTACT DARRYL OSBURN WITH SEDGWICK COUNTY (733-0202) BEFORE CONNECTING NEW SEWER PIPE TO THE EXISTING SEWER SYSTEM. A MECHANICAL PLUG SHALL BE INSTALLED AND MAINTAINED TO ISOLATE THE EXISTING SEWER FROM THE NEW CONSTRUCTION UNTIL THE NEW CONSTRUCTION IS CLEANED, TELEVIEWED, 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 TELEVIEWING.



No.	Revision	By	Date

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

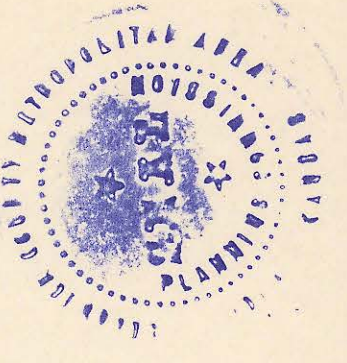
KEY MAP
 SANITARY SEWER IMPROVEMENTS
 SAVANNA AT CASTLE ROCK RANCH 2ND ADDITION

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

Designed by MDS, MDK	Job No. 34-92169	Sht. 2 of 9
Drawn by JLM	Date May, 1992	

RECORD DRAWING
 10-12-92

SAVANNA AT CASTLE ROCK RANCH 2ND ADDITION TO SEDGWICK COUNTY, KANSAS



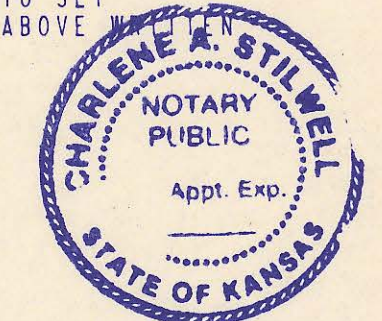
WE, THE FIRST NATIONAL BANK IN WICHITA, KANSAS, HOLDER OF A MORTGAGE ON PART OF THE ABOVE DESCRIBED PROPERTY, DO HEREBY CONSENT TO THE PLATTING OF SAVANNA AT CASTLE ROCK RANCH 2ND ADDITION, SEDGWICK COUNTY, KANSAS.

BY Gail A. Johnson, VICE PRESIDENT
GAIL A. JOHNSON

STATE OF KANSAS)
) SS
COUNTY OF SEDGWICK)

BE IT REMEMBERED THAT ON THIS 30th DAY OF JUNE, 1988, BEFORE ME, A NOTARY PUBLIC IN AFORESAID STATE AND COUNTY, CAME GAIL A. JOHNSON OF THE FIRST NATIONAL BANK IN WICHITA, KANSAS, TO ME PERSONALLY KNOWN TO BE THE SAME PERSON WHO EXECUTED THE FOREGOING INSTRUMENT OF WRITING AND DULY ACKNOWLEDGED THE EXECUTION OF SAME FOR AND ON BEHALF AND AS THE VOLUNTARY ACT AND DEED OF SAID BANK. IN TESTIMONY WHEREOF I HAVE HEREUNTO SET MY HAND AND AFFIXED MY NOTARIAL SEAL THE DAY AND YEAR ABOVE.

Charlene A. Stilwell, NOTARY PUBLIC
MY APPOINTMENT EXPIRES 11/30/91



THIS PLAT HAS BEEN SUBMITTED TO AND APPROVED BY THE WICHITA-SEDGWICK COUNTY METROPOLITAN AREA PLANNING COMMISSION, WICHITA, KANSAS, DATED THIS 26th DAY OF MARCH, 1988.

Elton Parsons, CHAIRMAN
Marvin S. Krout, SECRETARY

THIS PLAT APPROVED AND ALL DEDICATIONS SHOWN HEREON ARE ACCEPTED BY THE CITY COUNCIL OF THE CITY OF WICHITA, KANSAS, DATED August DAY OF 1988.

Sheldon Kamen, MAYOR
DALE E. REA, DEPUTY CITY CLERK



THIS PLAT APPROVED AND ALL DEDICATIONS SHOWN HEREON, IF ANY, ACCEPTED BY THE BOARD OF COUNTY COMMISSIONERS OF SEDGWICK COUNTY, KANSAS, THIS 24th DAY OF August, 1988.

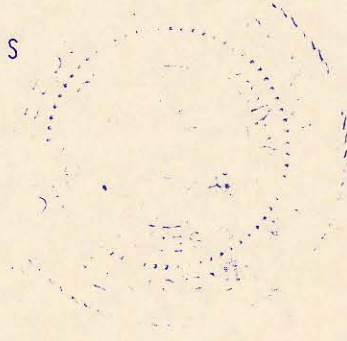
Mark F. Schroeder, CHAIRMAN
Billy O. McCray, PRO-TEM CHAIRMAN
David Bayouth, COMMISSIONER
Tom Scott, COMMISSIONER
Bernard A. Hentzen, COMMISSIONER

ATTEST
Don Wright, COUNTY CLERK

ENTERED ON TRANSFER RECORD, THIS 26 DAY OF August, 1988.
Don Wright, COUNTY CLERK

THIS IS TO CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD IN THE REGISTER OF DEEDS OFFICE AT 10:30 A.M., ON THIS 26th DAY OF August, 1988.

Pat Kettler, REGISTER OF DEEDS
Ed Resa, DEPUTY



STATE OF KANSAS)
) SS
COUNTY OF SEDGWICK)

I, R.W. LINN, A REGISTERED LAND SURVEYOR IN AFORESAID STATE AND COUNTY, DO HEREBY CERTIFY THAT ON THIS 26th DAY OF May, 1988, I HAVE BEEN IN RESPONSIBLE CHARGE OF SURVEYING AND PLATTING OF SAVANNA AT CASTLE ROCK RANCH 2ND ADDITION TO SEDGWICK COUNTY, KANSAS, INTO LOTS, A BLOCK, A STREET AND RESERVES THE SAME BEING A COMPLETE REPLAT OF TERRA VUE, AN ADDITION TO SEDGWICK COUNTY, KANSAS TOGETHER WITH AN ADDITIONAL TRACT OF LAND IN THE SW 1/4 OF SECTION 12, T27S, R2E OF THE 6TH P.M.; THE TOTAL SITE DESCRIBED AS:

BEGINNING AT A POINT IN THE WEST LINE AND 849.52 FEET NORTH OF THE S.W. CORNER, SW 1/4 OF SECTION 12, TOWNSHIP 27 SOUTH, RANGE 2 EAST OF THE 6TH P.M.; THENCE BEARING N0°00'00"E ALONG THE WEST LINE OF SAID SW 1/4 A DISTANCE OF 330.48 FEET; THENCE BEARING N90°00'00"E A DISTANCE OF 690.00 FEET; THENCE BEARING N84°30'00"E A DISTANCE OF 170.00 FEET; THENCE BEARING S33°30'00"E A DISTANCE OF 317.75 FEET; THENCE BEARING S89°00'00"E A DISTANCE OF 421.24 FEET; THENCE BEARING S1°00'00"W A DISTANCE OF 375.00 FEET; THENCE BEARING N89°00'00"W A DISTANCE OF 197.50 FEET TO THE P.C. OF A CURVE TO THE RIGHT HAVING A RADIUS OF 440.00 FEET; THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 22°00'00" AN ARC DISTANCE OF 188.95 FEET TO THE P.C. OF A CURVE TO THE LEFT HAVING A RADIUS OF 175.00 FEET; THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 49°00'00" AN ARC DISTANCE OF 149.66 FEET TO THE P.C. OF A CURVE TO THE RIGHT HAVING A RADIUS OF 345.00 FEET; THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 56°00'00" AN ARC DISTANCE OF 337.20 FEET; THENCE BEARING N60°00'00"W A DISTANCE OF 423.00 FEET TO THE P.C. OF A CURVE TO THE LEFT HAVING A RADIUS OF 275.00 FEET; THENCE ALONG SAID CURVE THROUGH A CENTRAL ANGLE OF 30°00'00" AN ARC DISTANCE OF 143.99 FEET; THENCE BEARING N90°00'00"W A DISTANCE OF 124.00 FEET TO THE POINT OF BEGINNING, CONTAINING 14.83 ACRES MORE OR LESS.

R.W. Linn
R.W. LINN
P.E. #3684, R.L.S. #934
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.



KNOW ALL MEN BY THESE PRESENTS THAT WE, THE UNDERSIGNED PROPERTY OWNERS OF THE LAND, AS ABOVE SET FORTH IN THE ENGINEER'S CERTIFICATE, HAVE CAUSED THE LAND TO BE SURVEYED AND PLATTED INTO LOTS, A BLOCK, A STREET AND RESERVES; THE SAME TO BE KNOWN AS SAVANNA AT CASTLE ROCK RANCH 2ND ADDITION TO SEDGWICK COUNTY, KANSAS, EASEMENTS, AS INDICATED FOR THE CONSTRUCTION AND MAINTENANCE OF PUBLIC UTILITIES, AND DRAINAGE ARE HEREBY GRANTED. THE STREET IS HEREBY DEDICATED TO AND FOR THE USE OF THE PUBLIC.

RESERVE A IS HEREBY PLATTED FOR PRIVATE STREET, DRAINAGE AND UTILITIES. RESERVE B IS HEREBY PLATTED FOR PEDESTRIAN IMPROVEMENTS, LANDSCAPING, EQUESTRIAN TRAILS, DRAINAGE AND UTILITIES CONFINED WITHIN EASEMENTS.

RESERVES A AND B SHALL BE SUBJECT TO THE RESTRICTIVE COVENANTS ESTABLISHED BY THE DECLARATION OF OWNER'S ASSOCIATION AGREEMENTS AND SHALL BE OWNED AND MAINTAINED BY ONE OR MORE ASSOCIATIONS TO BE FORMED WITH SAVANNA AT CASTLE ROCK RANCH 2ND ADDITION. MINIMUM PAD ELEVATION FOR LOTS 1 THROUGH 7 IN BLOCK ONE (1) SHALL BE M.S.L. CITY DATUM

ALL ABUTTERS' RIGHT OF ACCESS TO AND FROM 143RD STREET EAST OVER AND ACROSS THE WEST LINE OF LOT 1 IN BLOCK 1 ARE HEREBY GRANTED TO THE APPROPRIATE GOVERNING BODY.

ALL PORTIONS OF TERRA VUE ADDITION TO SEDGWICK COUNTY, KANSAS ARE HEREBY VACATED AND REPLATTED BY VIRTUE OF K.S.A. 12-512 (B) AMENDED.

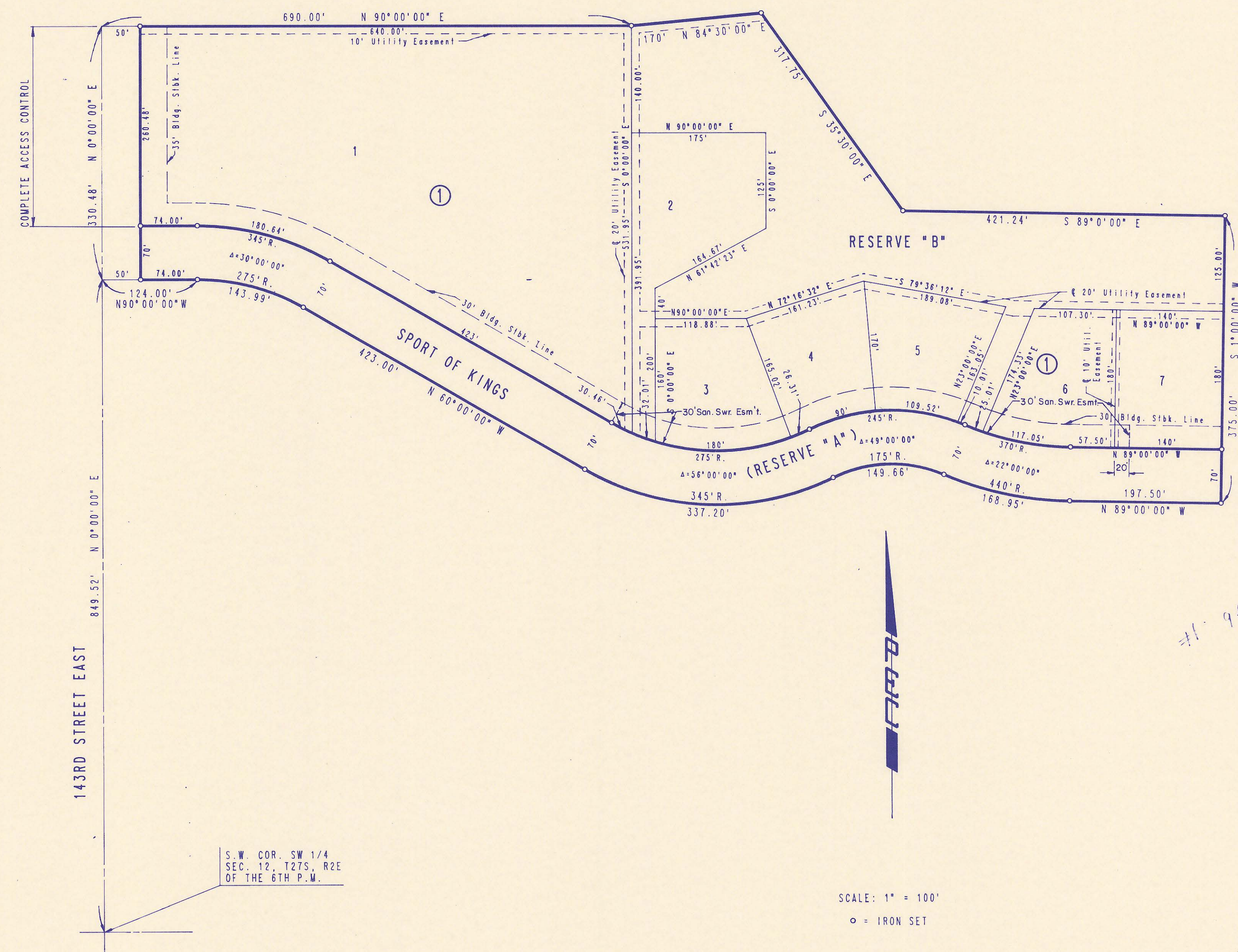
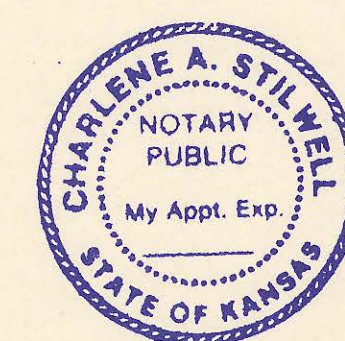
OWNERS: THE KYLE MARTIN STEPHENSON TRUST AND THE LINDA LUCILLE STEPHENSON TRUST

BY Natalie Stephenson, TRUSTEE
NATALIE STEPHENSON

STATE OF KANSAS)
) SS
COUNTY OF SEDGWICK)

BE IT REMEMBERED THAT ON THIS 26th DAY OF May, 1988, BEFORE ME, A NOTARY PUBLIC IN AFORESAID STATE AND COUNTY, CAME NATALIE STEPHENSON, TRUSTEE OF THE KYLE MARTIN STEPHENSON TRUST AND THE LINDA LUCILLE STEPHENSON TRUST TO ME PERSONALLY KNOWN TO BE THE SAME PERSON WHO EXECUTED THE FOREGOING INSTRUMENT OF WRITING AND DULY ACKNOWLEDGED THE EXECUTION OF SAME FOR AND ON BEHALF AND AS THE VOLUNTARY ACT AND DEED OF SAID TRUSTS. IN TESTIMONY WHEREOF I HAVE HEREUNTO SET MY HAND AND AFFIXED MY NOTARIAL SEAL THE DAY AND YEAR ABOVE WRITTEN.

Charlene A. Stilwell, NOTARY PUBLIC
MY COMMISSION EXPIRES 11/30/91

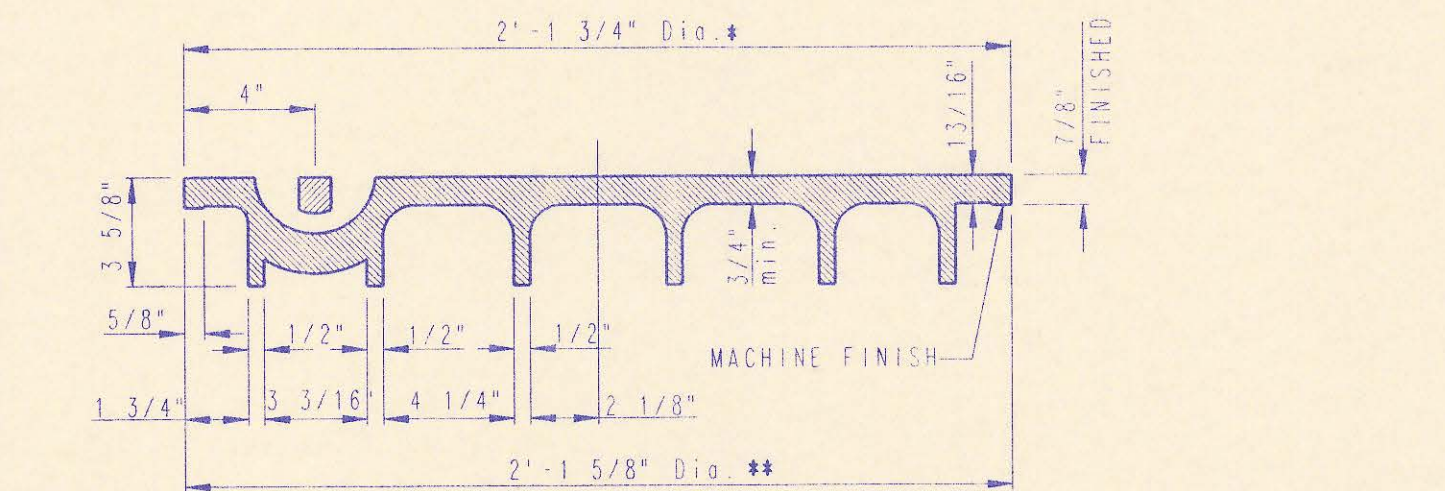
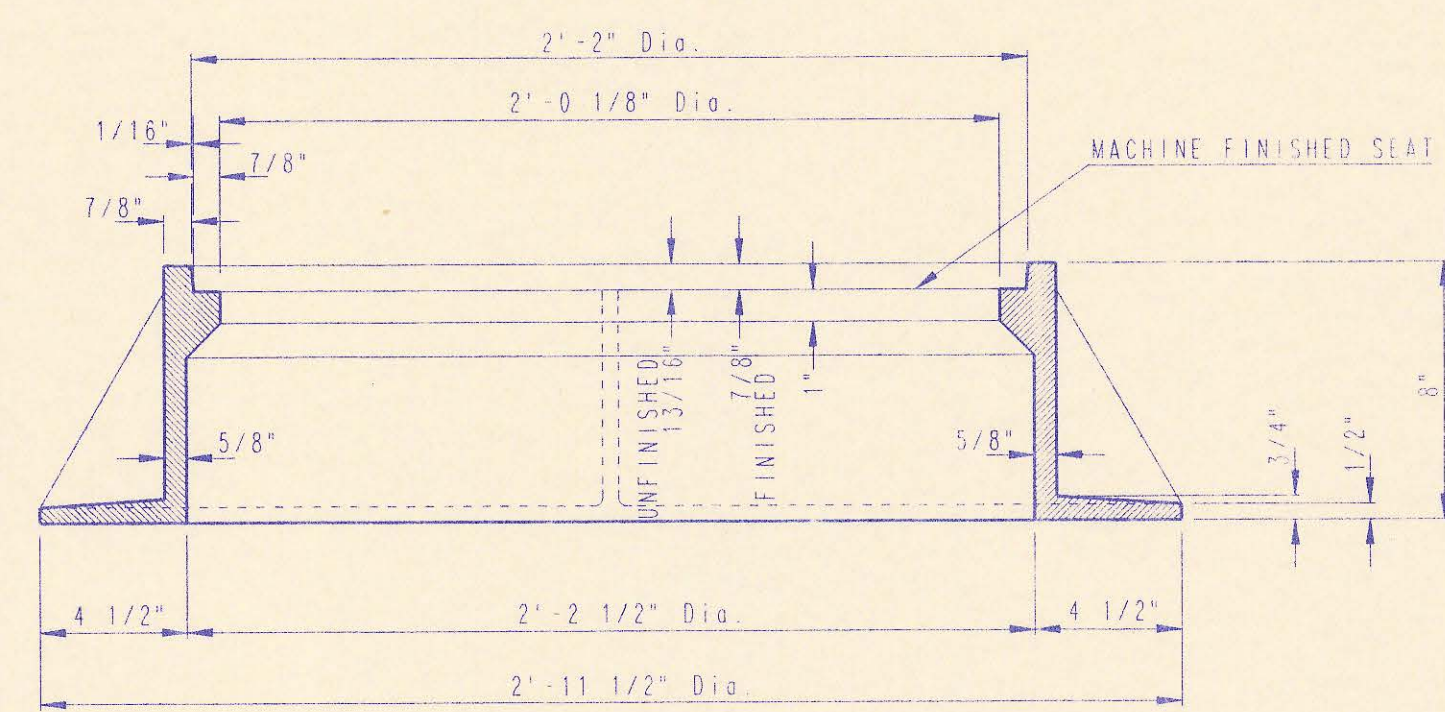
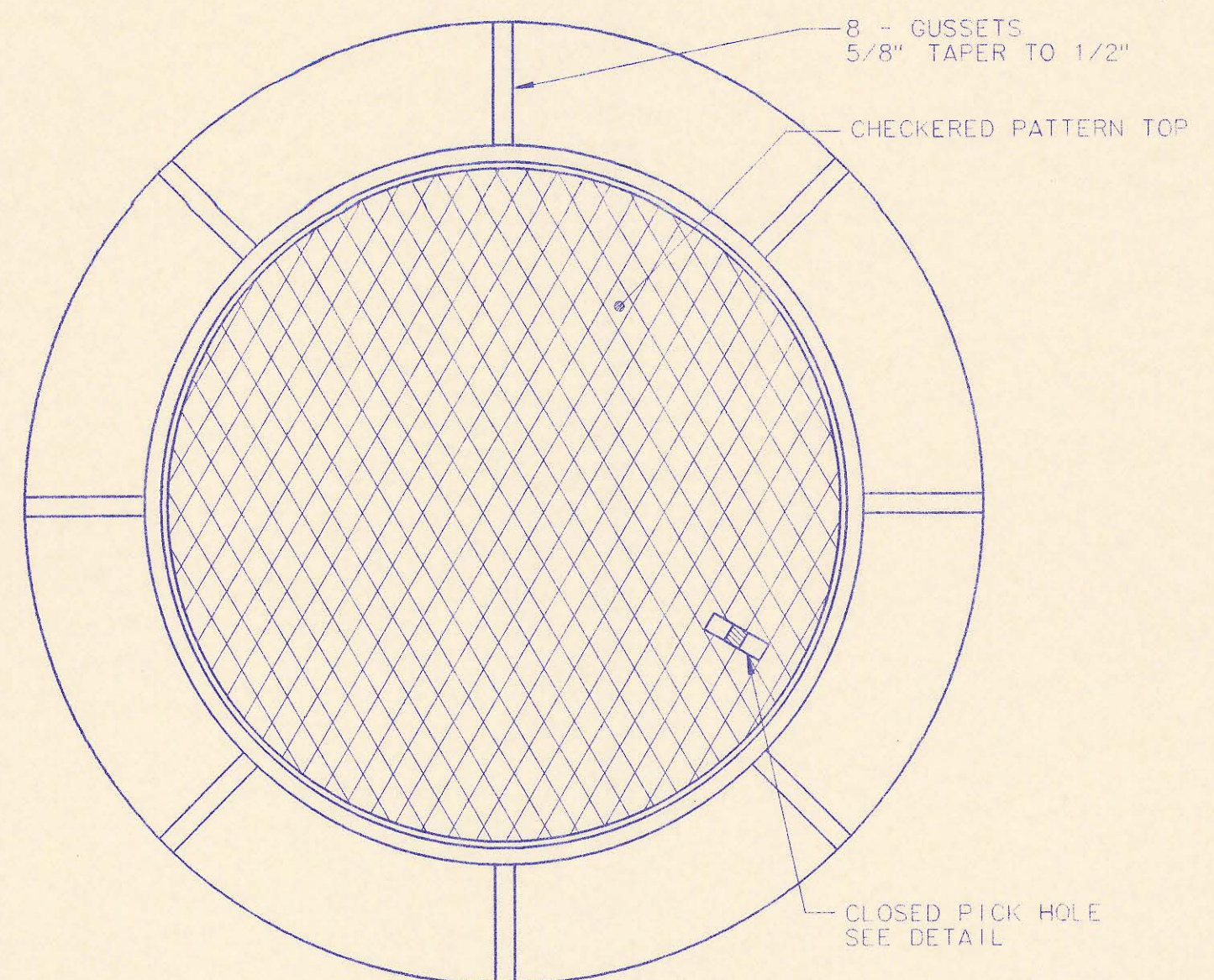


SCALE: 1" = 100'
o = IRON SET

B.M. - RR SPIKE IN H.L.P. 43' SE OF SW COR. SEC. 12, T27S, R2E. ELEV. = 1352.87 M.S.L. ELEV. = 165.47 CITY DATUM

S.W. COR. SW 1/4 SEC. 12, T27S, R2E OF THE 6TH P.M.

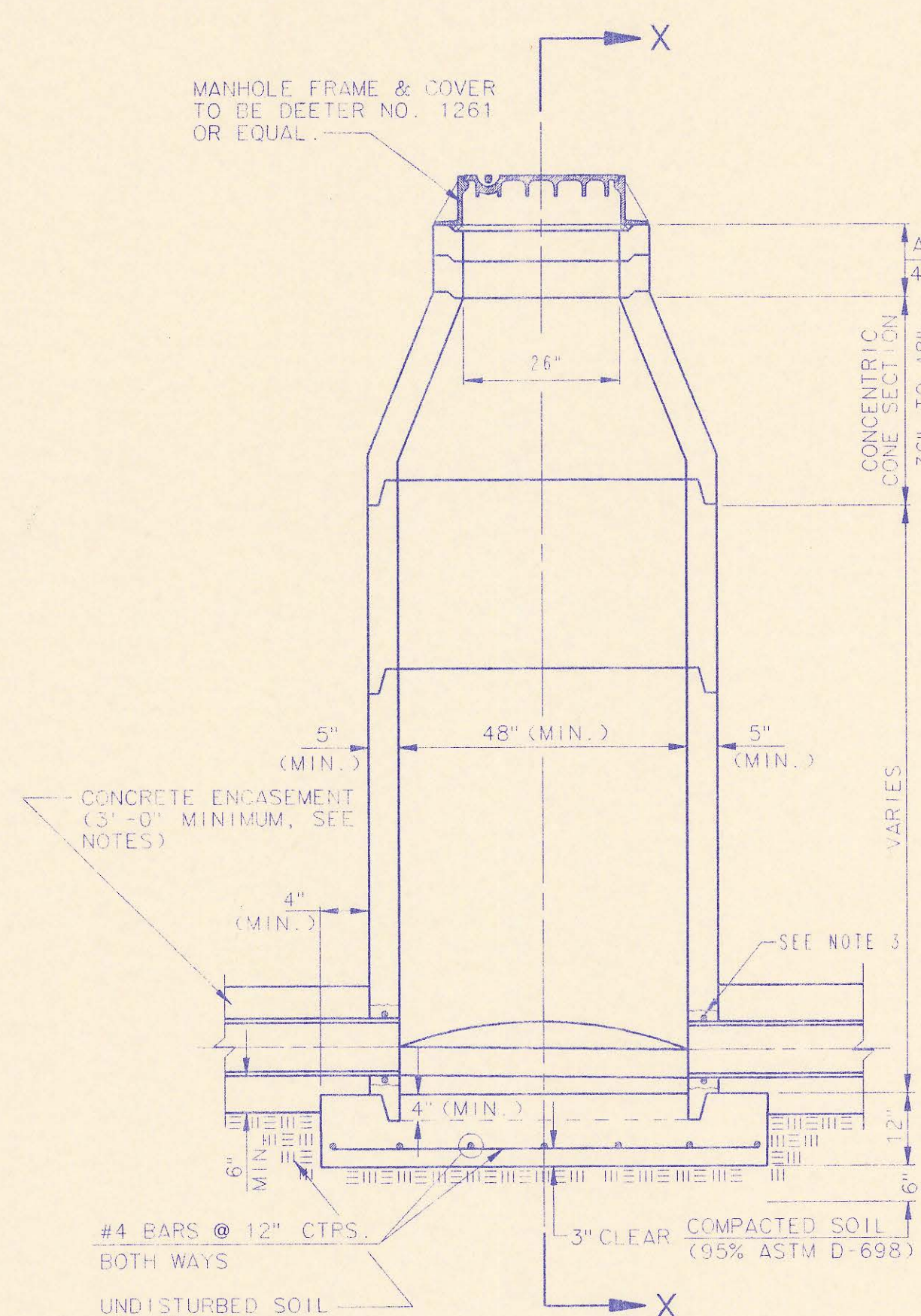
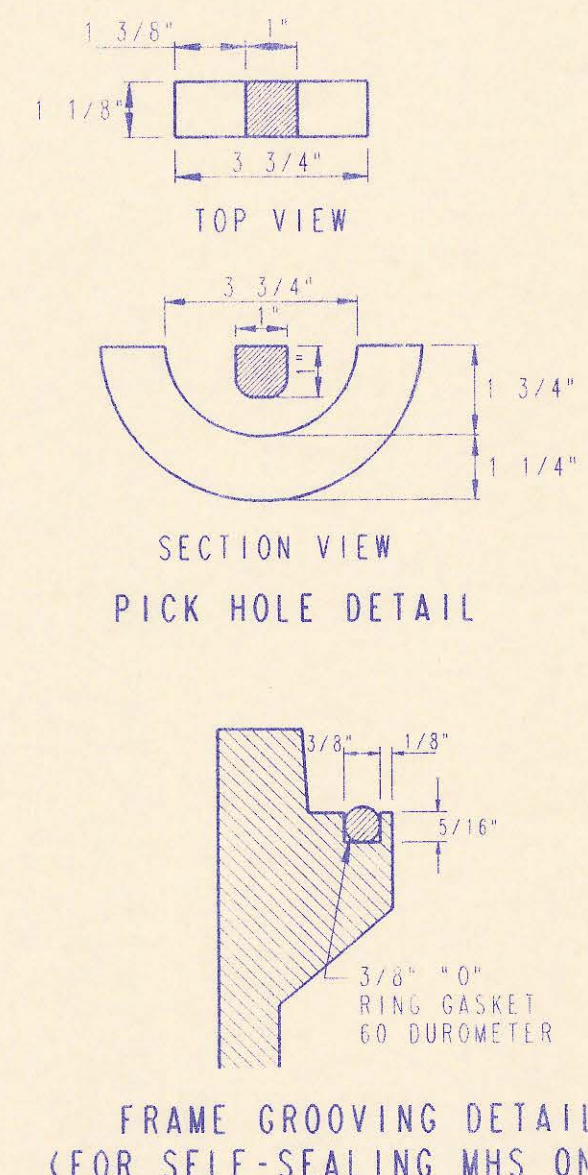
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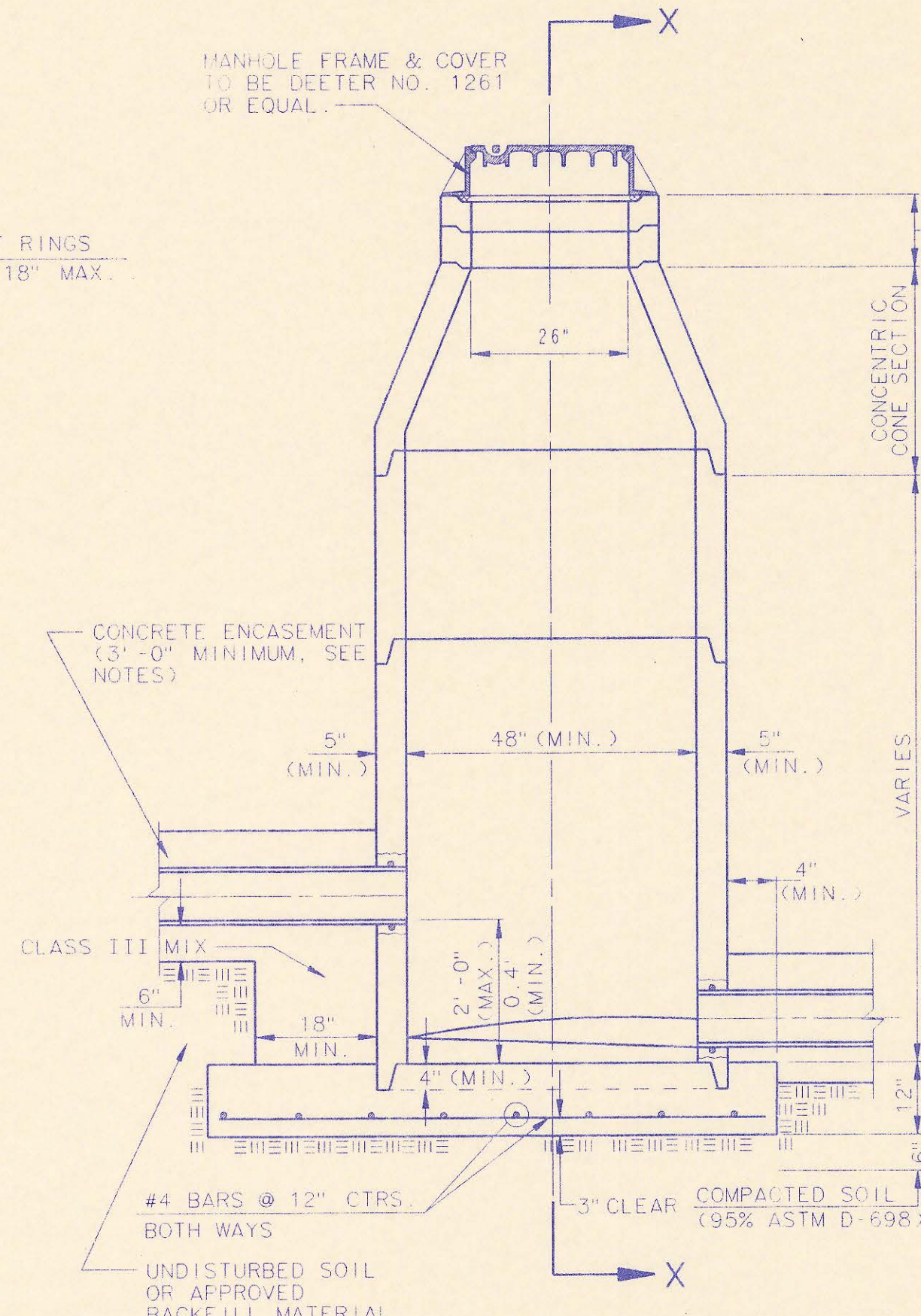
MANHOLE FRAME AND COVER
(TOTAL WEIGHT = 430 LBS.)

MANHOLE FRAME AND COVER NOTES

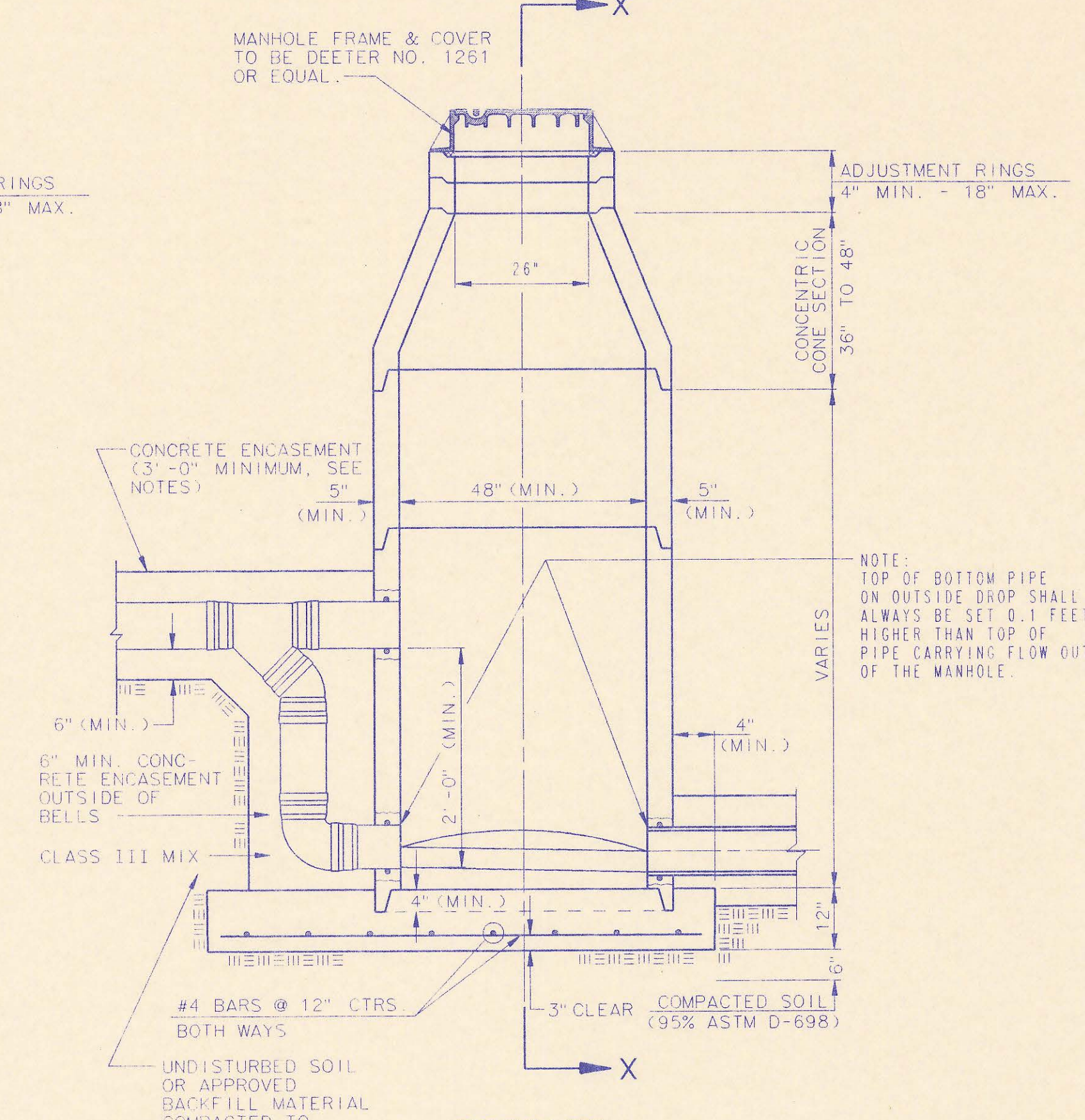
- CAST IRON MANHOLE FRAME AND COVER SHALL CONFORM TO ASTM A-48, CLASS 35B, OR BETTER.
- THE FRAMES AND COVERS SHALL BE OF A NONROCKING TYPE OR WITH MACHINED BEARING SURFACES SO FITTING PARTS WILL NOT RATTLE OR ROCK UNDER TRAFFIC.
- MANHOLE CASTINGS SHALL BE DEETTER FOUNDRY INC. NO. 1261 OR APPROVED EQUAL, UNLESS OTHERWISE SPECIFIED IN THE SPECIAL CONDITIONS. (MINIMUM WT. - 430 LBS.) ALL MANHOLE CASTINGS, REGARDLESS OF TYPE, SHALL BE CONSIDERED SUBSIDIARY TO THE UNIT PRICES BID FOR THE VARIOUS MANHOLE TYPES.
- GRIND ALL BURRS SMOOTH, CLEAN THOROUGHLY, THEN APPLY SHOP COAT OF ASPHALT BASE PAINT.
- 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.
- WHERE SELF-SEALING MANHOLE FRAMES ARE SPECIFIED ON THE PLANS, THE MANHOLE FRAME SHALL BE FURNISHED WITH AN APPROVED "O" RING GASKET GROOVED INTO THE BEARING SURFACE OF THE MANHOLE FRAME (PER DETAIL). THE "O" RING GASKET SHALL NOT BE INSTALLED IN THE MANHOLE FRAME UNTIL AFTER FINAL INSPECTION AND ACCEPTANCE OF THE PROJECT BY THE ENGINEER. THE CONTRACTOR SHALL SUPPLY TO THE OWNER ONE (1) REPLACEMENT "O" RING GASKET FOR EACH SELF-SEALING MANHOLE SPECIFIED.



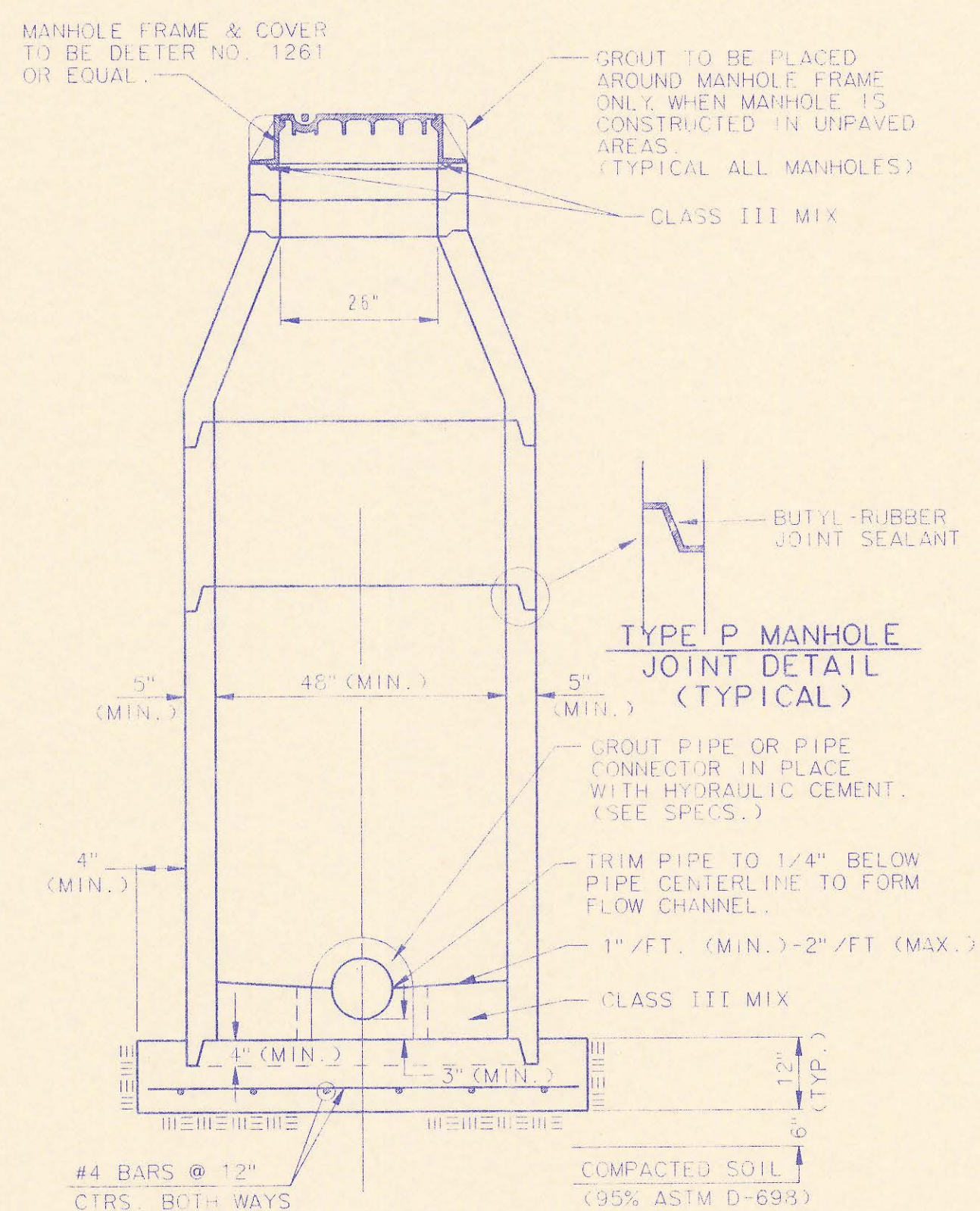
PRECAST STANDARD MANHOLE TYPE "A"



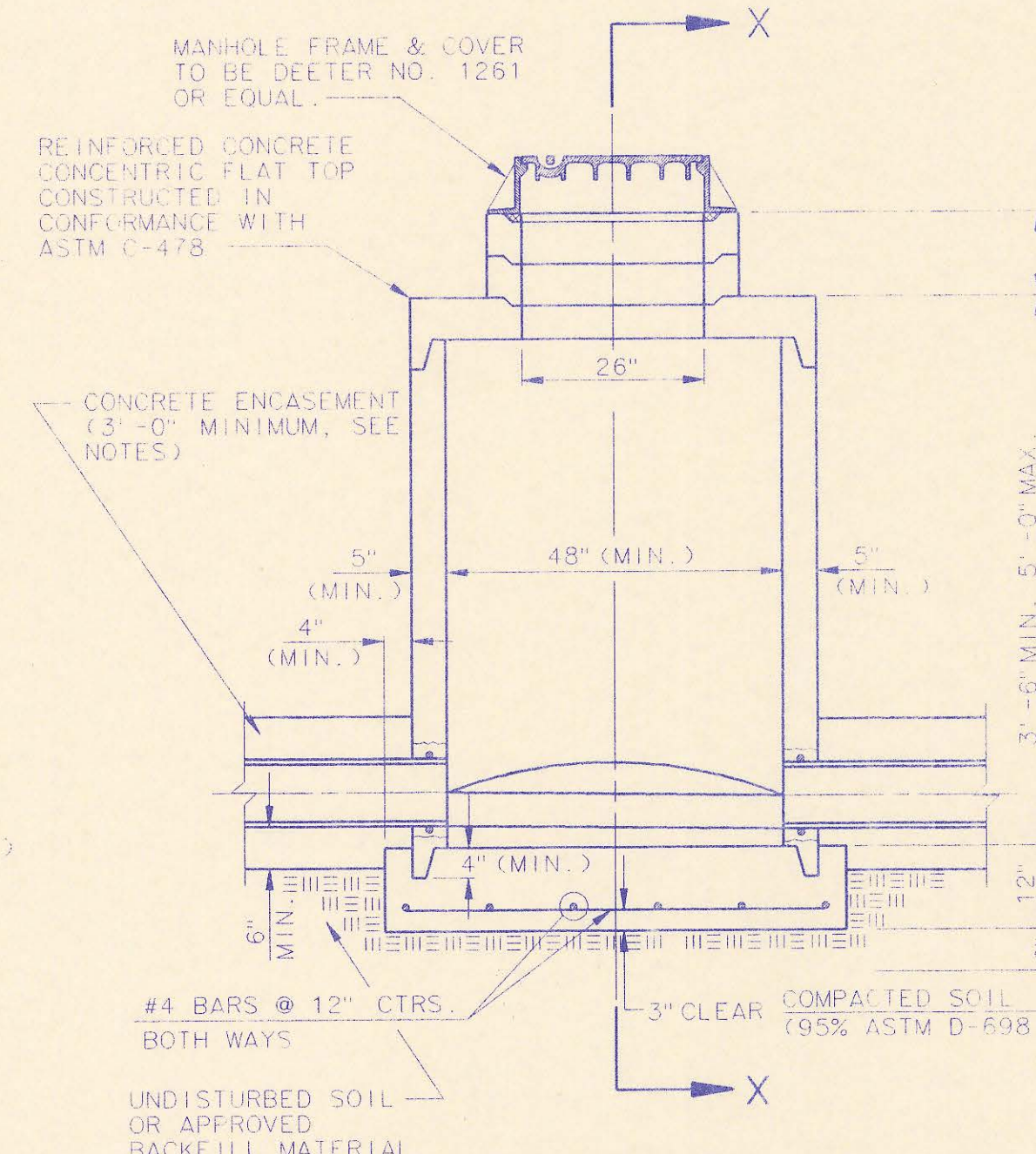
PRECAST INSIDE DROP MANHOLE TYPE "B"



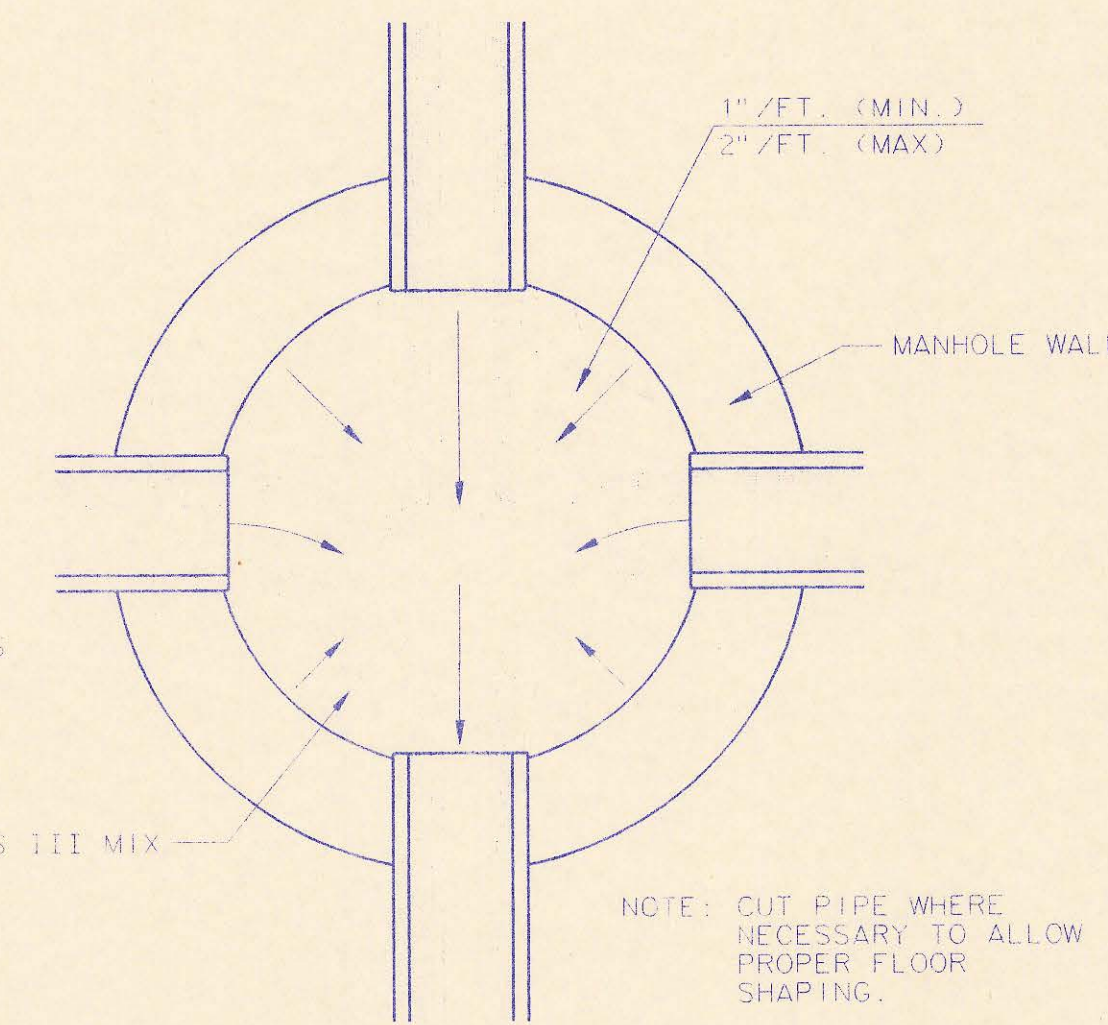
PRECAST OUTSIDE DROP MANHOLE TYPE "C"



SECTION X (TYPICAL)



PRECAST SHALLOW MANHOLE TYPE "D"



TYPICAL MANHOLE FLOOR SHAPING

PRECAST MANHOLE NOTES

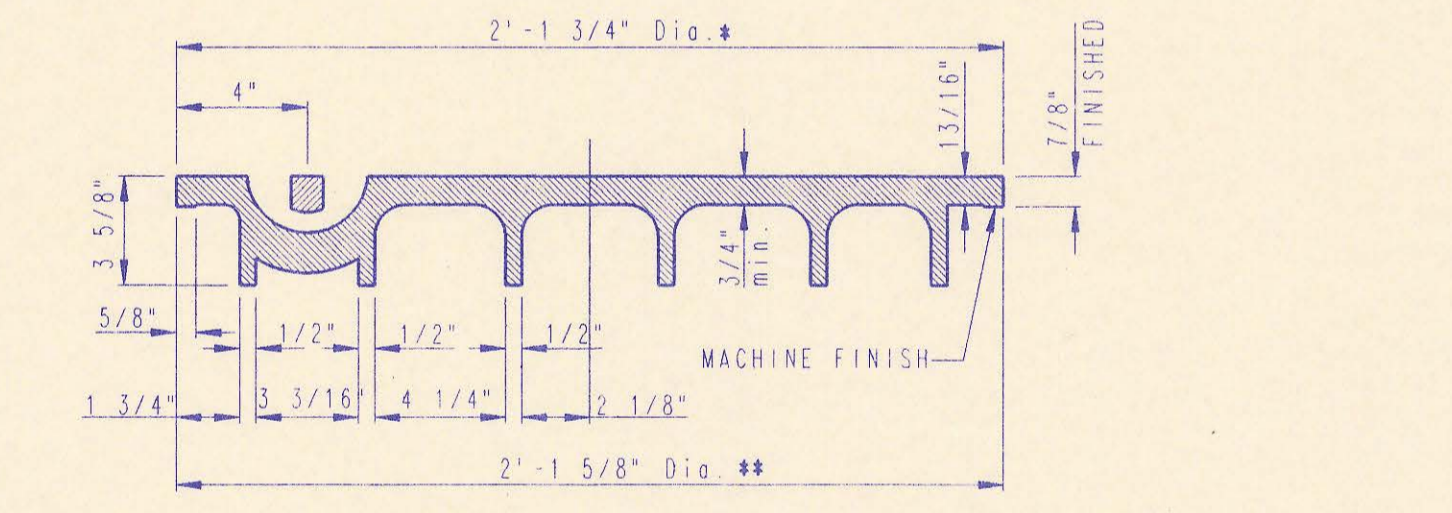
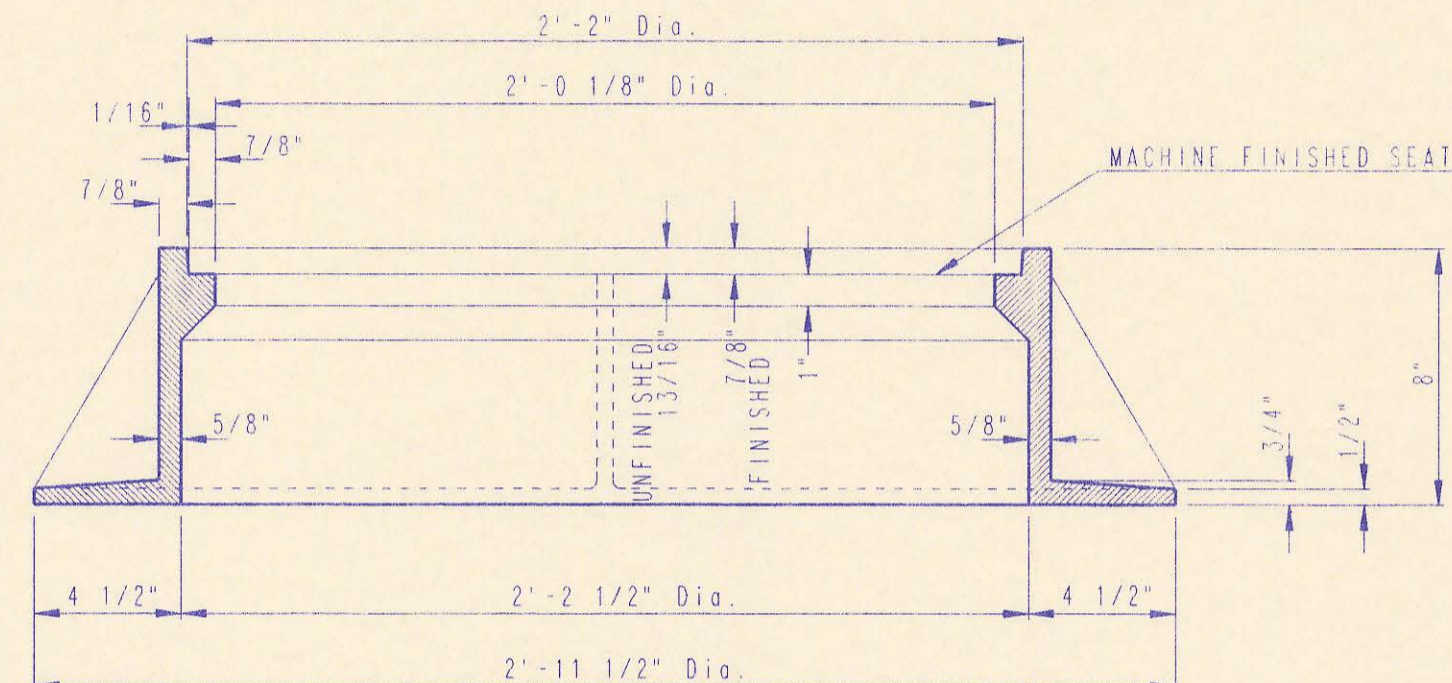
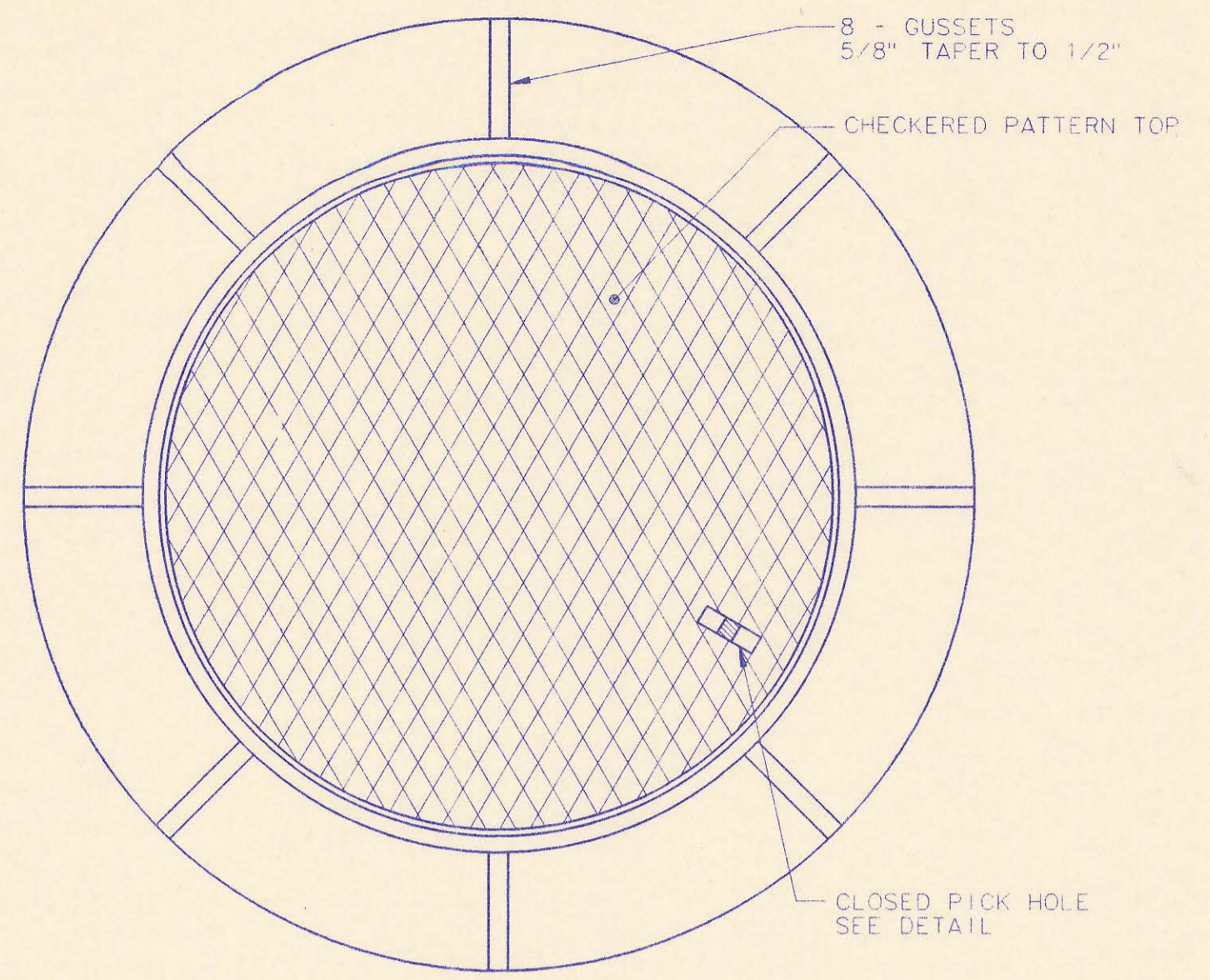
- IF, IN THE OPINION OF THE ENGINEER, THE MANHOLE SUBGRADE APPEARS UNSTABLE, THE CONTRACTOR WILL HAVE THE OPTION TO COMPACT SUBGRADE AS SHOWN OR INCREASE THE THICKNESS OF THE MANHOLE BASE AS DIRECTED BY THE ENGINEER.
- STEEL REINFORCING WILL BE REQUIRED IN ALL MANHOLE BASES.
- APPROVED FLEXIBLE WATERSTOP GASKETS WHICH MEET OR EXCEED THE TEST REQUIREMENTS OF ASTM C-923 SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN PLASTIC PIPE IS USED. SEWER PIPE EXTENDING FROM MANHOLES SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT & MINIMUM OF 3 FEET FROM THE MANHOLE WALL.
- 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.
- GASKETED PIPE CAPS SHALL BE PROVIDED BY THE PIPE SUPPLIER.
- ALL MANHOLE CONSTRUCTION SHALL BE WATER TIGHT.
- 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.
- ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISION OF ASTM C478 AS MODIFIED BY THE SPECIFICATIONS.
- CONCRETE FOR MANHOLE BASES SHALL BE CLASS 1 AS DESCRIBED IN THE SPECIFICATIONS.
- PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO MANHOLE BASES.
- MANHOLES WITH PIPE SIZES 24" AND LARGER SHALL HAVE 5" INSIDE DIAMETER (MIN.)
- 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.

RECORD DRAWING
10-12-92

No.	Revision	By	Date
2	Modified pipe connection note	RJ	6/01/92
1	Manhole Frame and Cover Note 1	RJ	7/16/91

PRECAST MANHOLE DETAILS

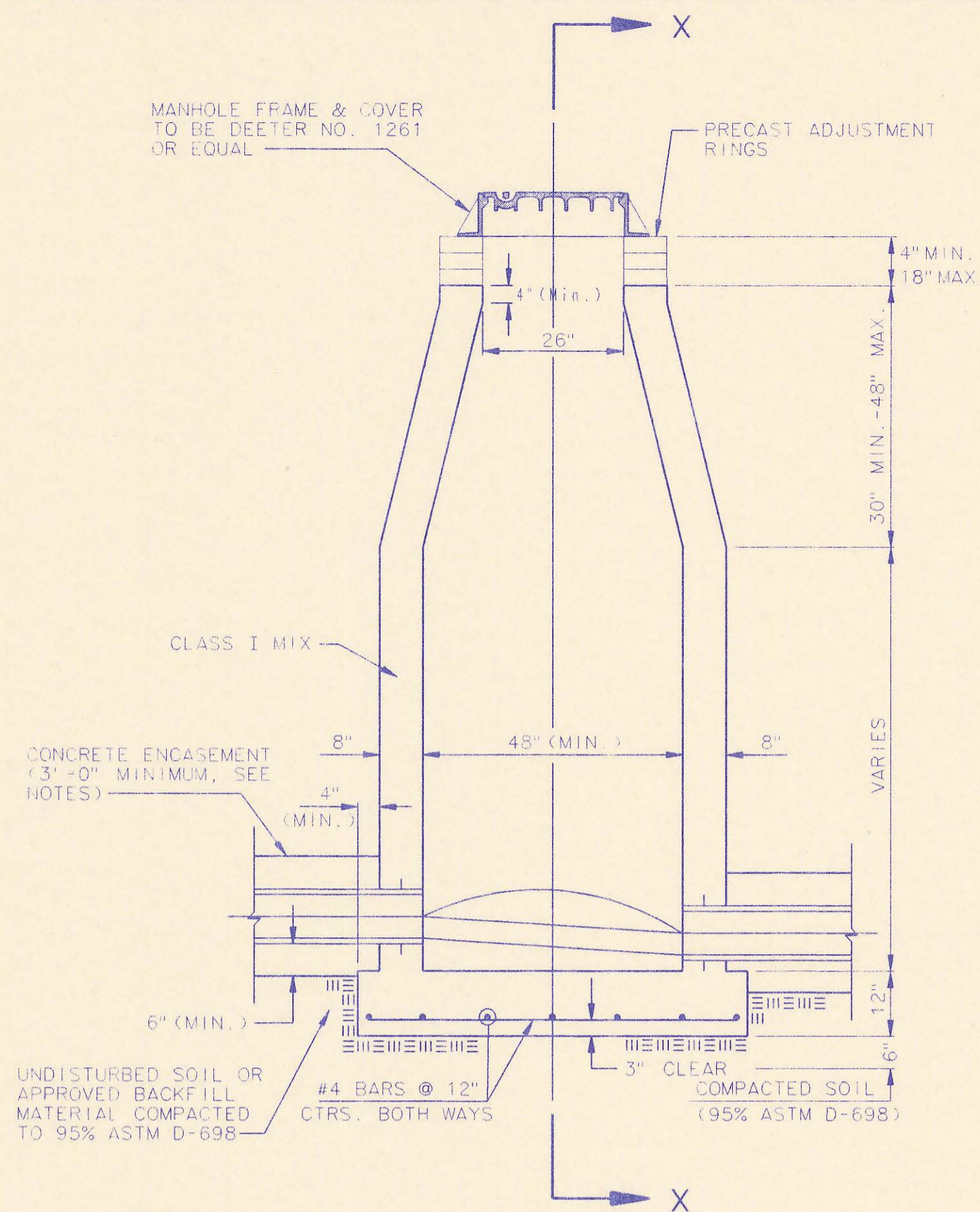
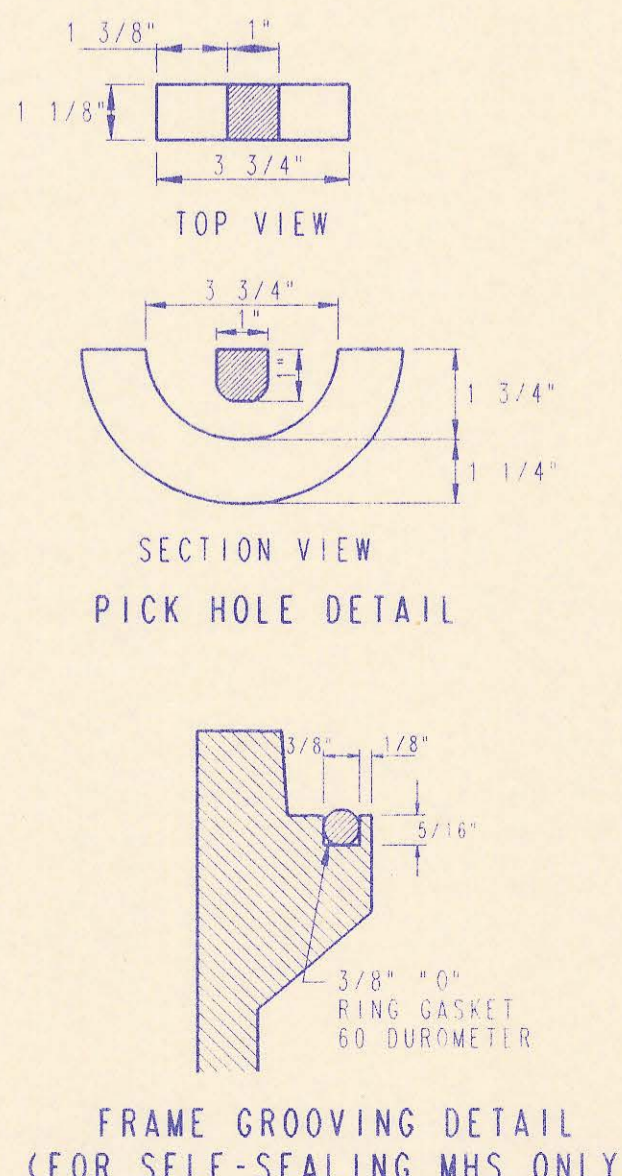
ADOPTED AS STANDARD DESIGN SEPTEMBER, 1989
BY
SEDCWICK COUNTY BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, P.E. DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER



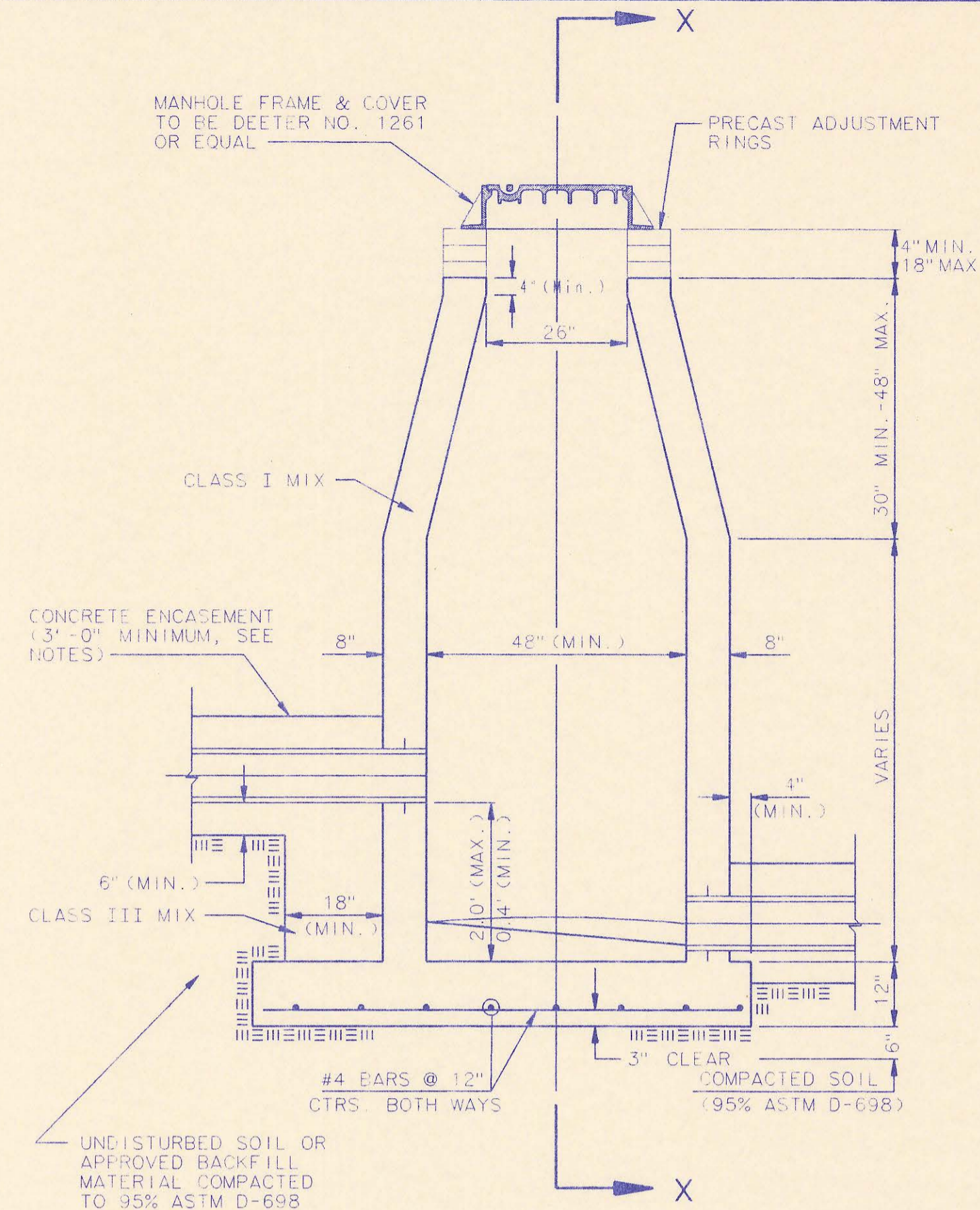
*OUTSIDE DIA. TOP OF COVER
**OUTSIDE DIA. BOTTOM OF COVER

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

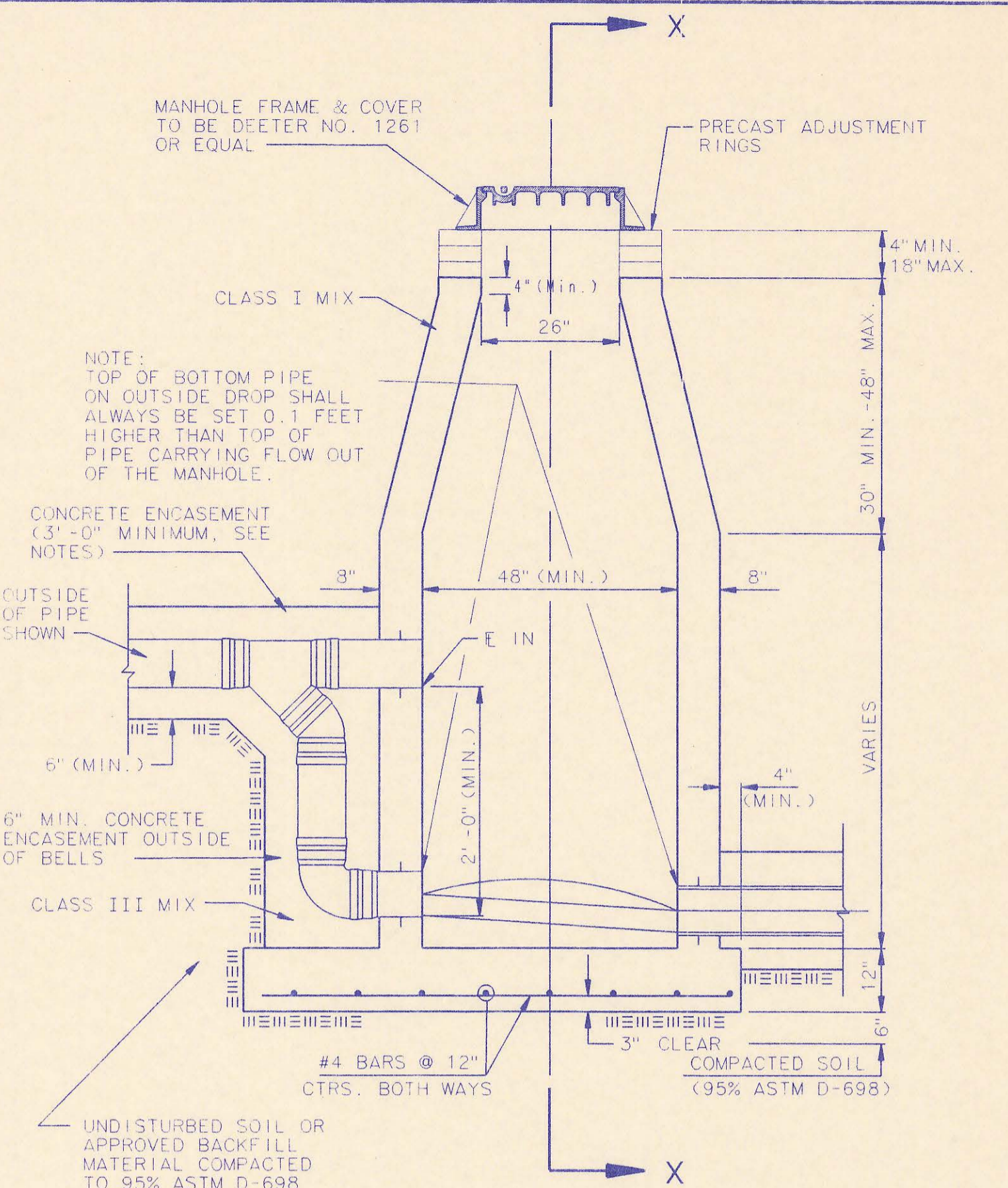
- MANHOLE FRAME AND COVER NOTES:**
- CAST IRON MANHOLE FRAME AND COVER SHALL CONFORM TO ASTM A-48, CLASS 358, OR BETTER.
 - THE FRAMES AND COVERS SHALL BE OF A NONSKIDDING TYPE OR WITH MACHINED BEARING SURFACES SO FITTING PARTS WILL NOT RATTLE OR ROCK UNDER TRAFFIC.
 - MANHOLE CASTINGS SHALL BE DEETER FOUNDRY (INC. NO. 1261 OR APPROVED EQUAL UNLESS OTHERWISE SPECIFIED IN THE SPECIAL CONDITIONS (MINIMUM WT. - 430 LBS.). ALL MANHOLE CASTINGS, REGARDLESS OF TYPE SHALL BE CONSIDERED SUBSIDIARY TO THE UNIT PRICES BID FOR THE VARIOUS MANHOLE TYPES.
 - GRIND ALL BURRS SMOOTH, CLEAN THOROUGHLY, THEN APPLY SHOP COAT OF ASPHALT BASE PAINT.
 - 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.
 - WHERE SELF-SEALING MANHOLE FRAMES ARE SPECIFIED ON THE PLANS, THE MANHOLE FRAME SHALL BE FURNISHED WITH AN APPROVED "O" RING GASKET GROOVED INTO THE BEARING SURFACE OF THE MANHOLE FRAME (PER DETAIL). THE "O" RING GASKET SHALL NOT BE INSTALLED IN THE MANHOLE FRAME UNTIL AFTER FINAL INSPECTION AND ACCEPTANCE OF THE PROJECT BY THE ENGINEER. THE CONTRACTOR SHALL SUPPLY TO THE OWNER ONE (1) REPLACEMENT "O" RING GASKET FOR EACH SELF-SEALING MANHOLE SPECIFIED.



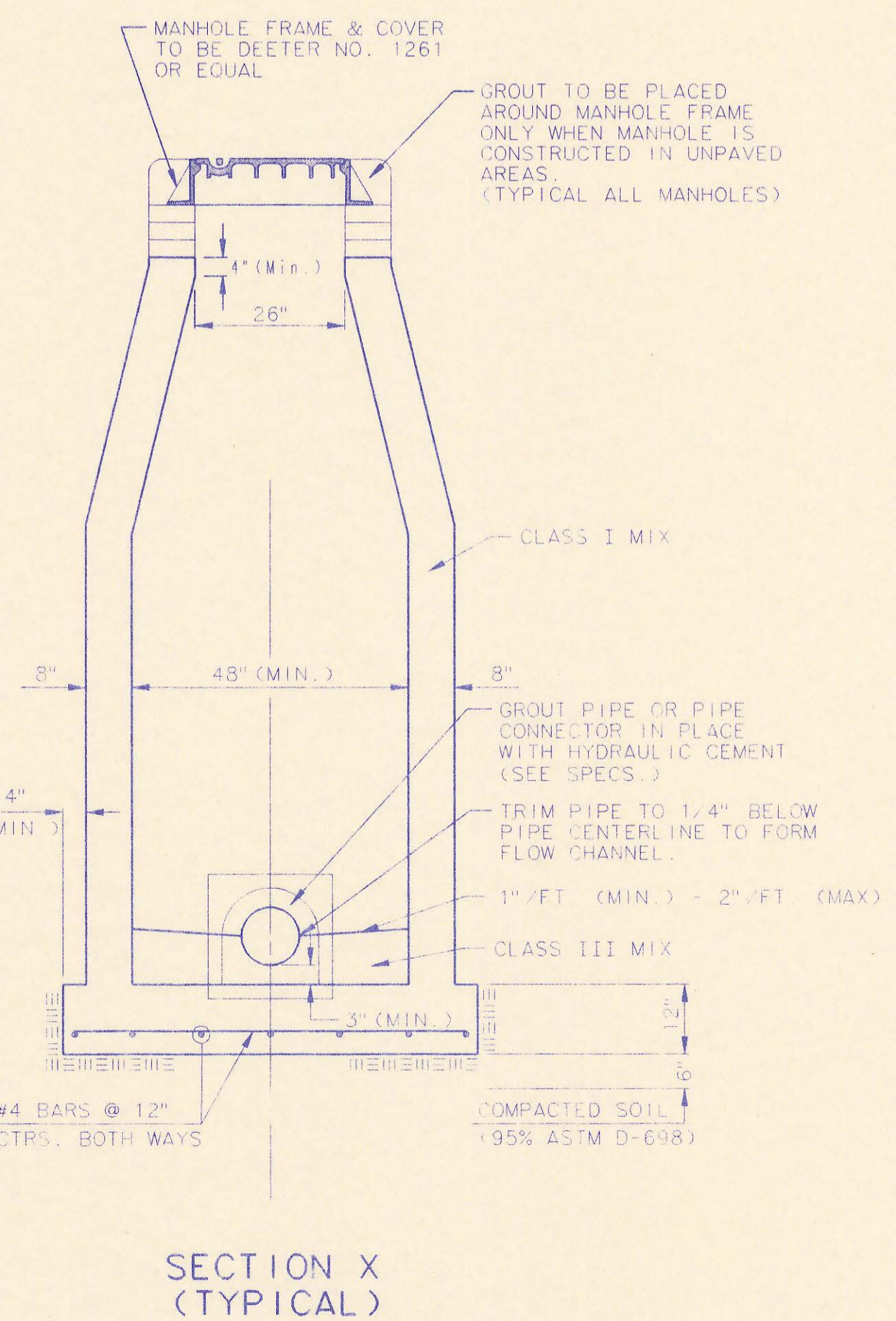
CAST IN PLACE STANDARD MANHOLE TYPE "A"



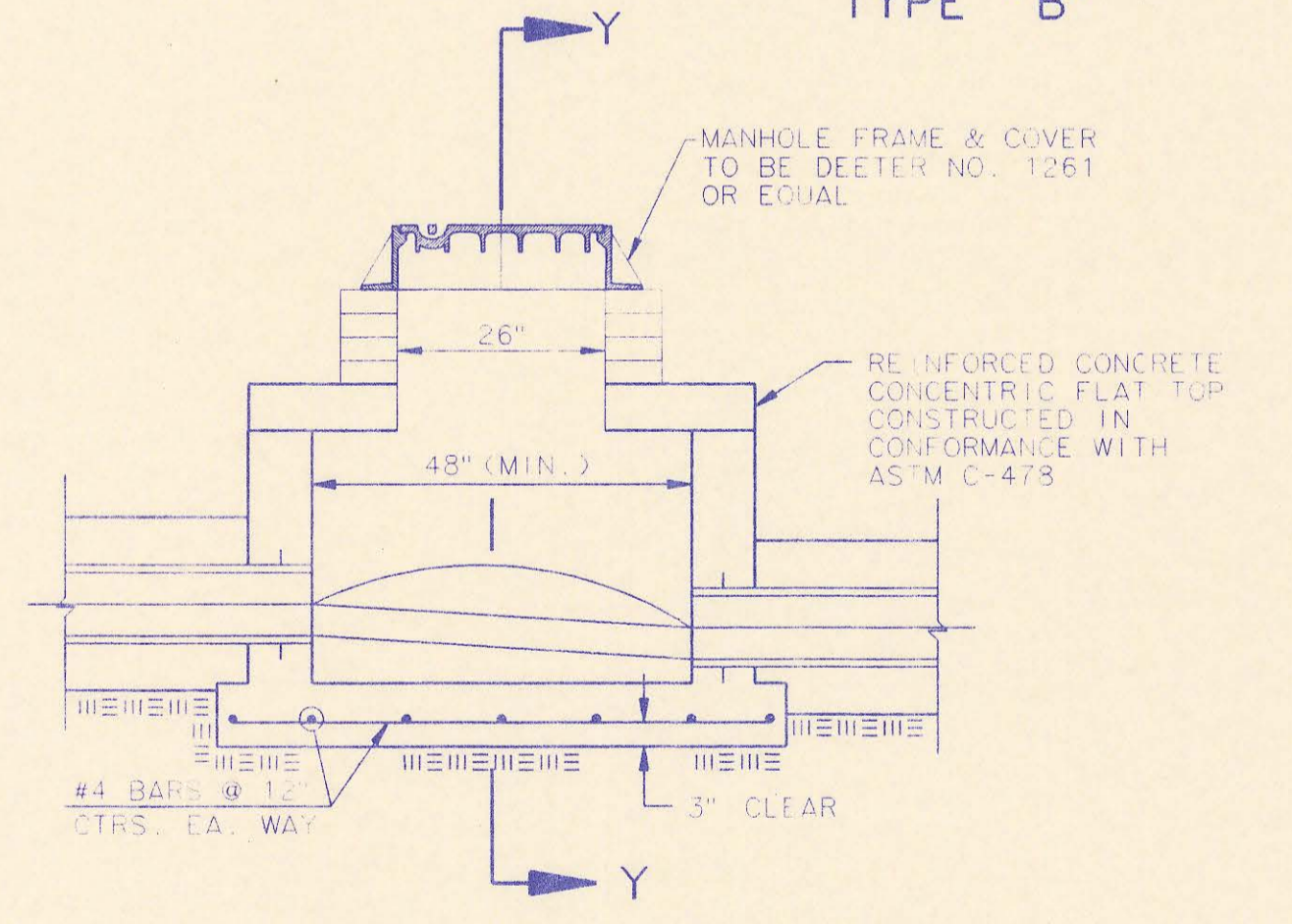
CAST IN PLACE DROP MANHOLE TYPE "B"



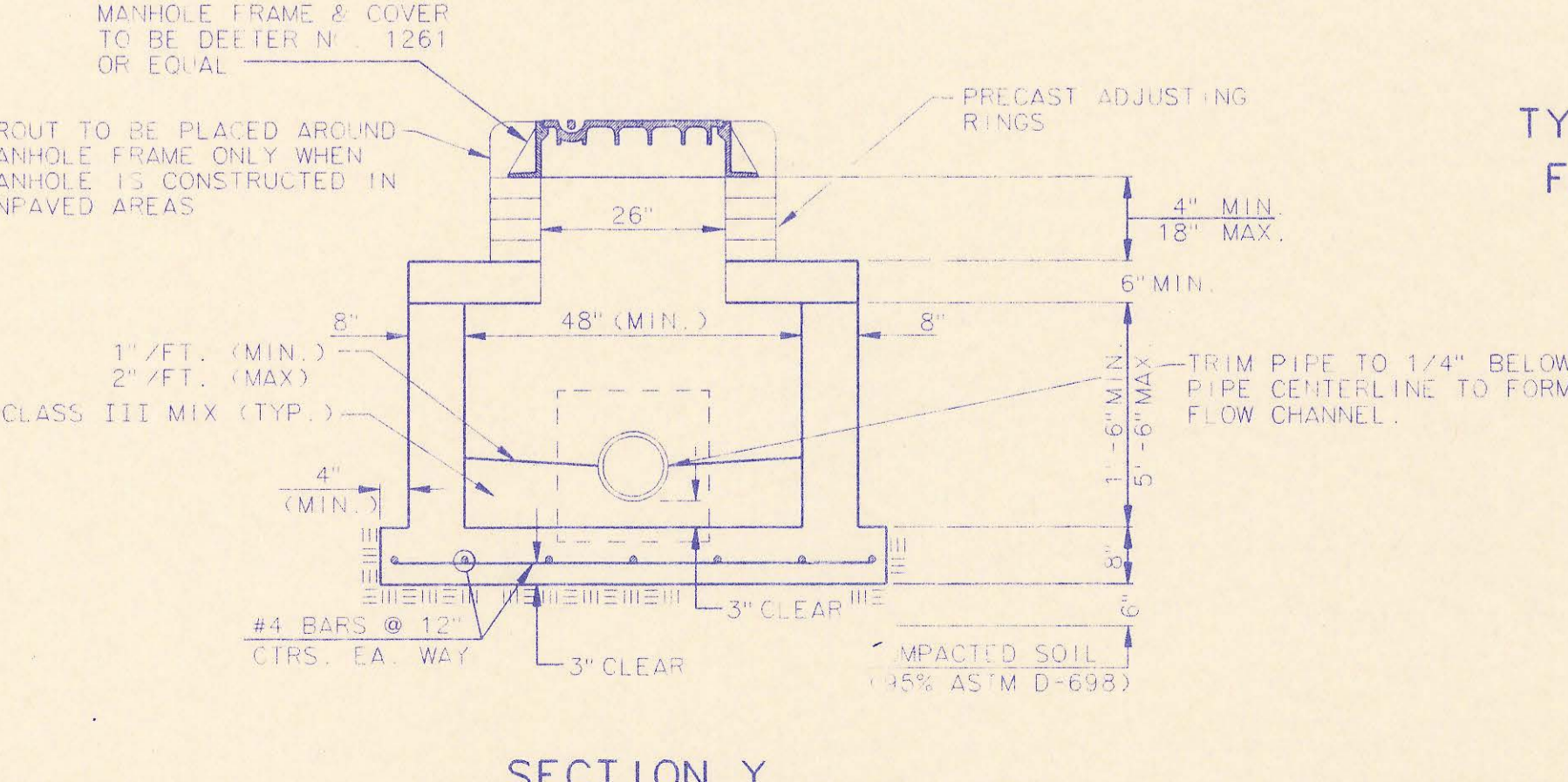
CAST IN PLACE OUTSIDE DROP MANHOLE TYPE "C"



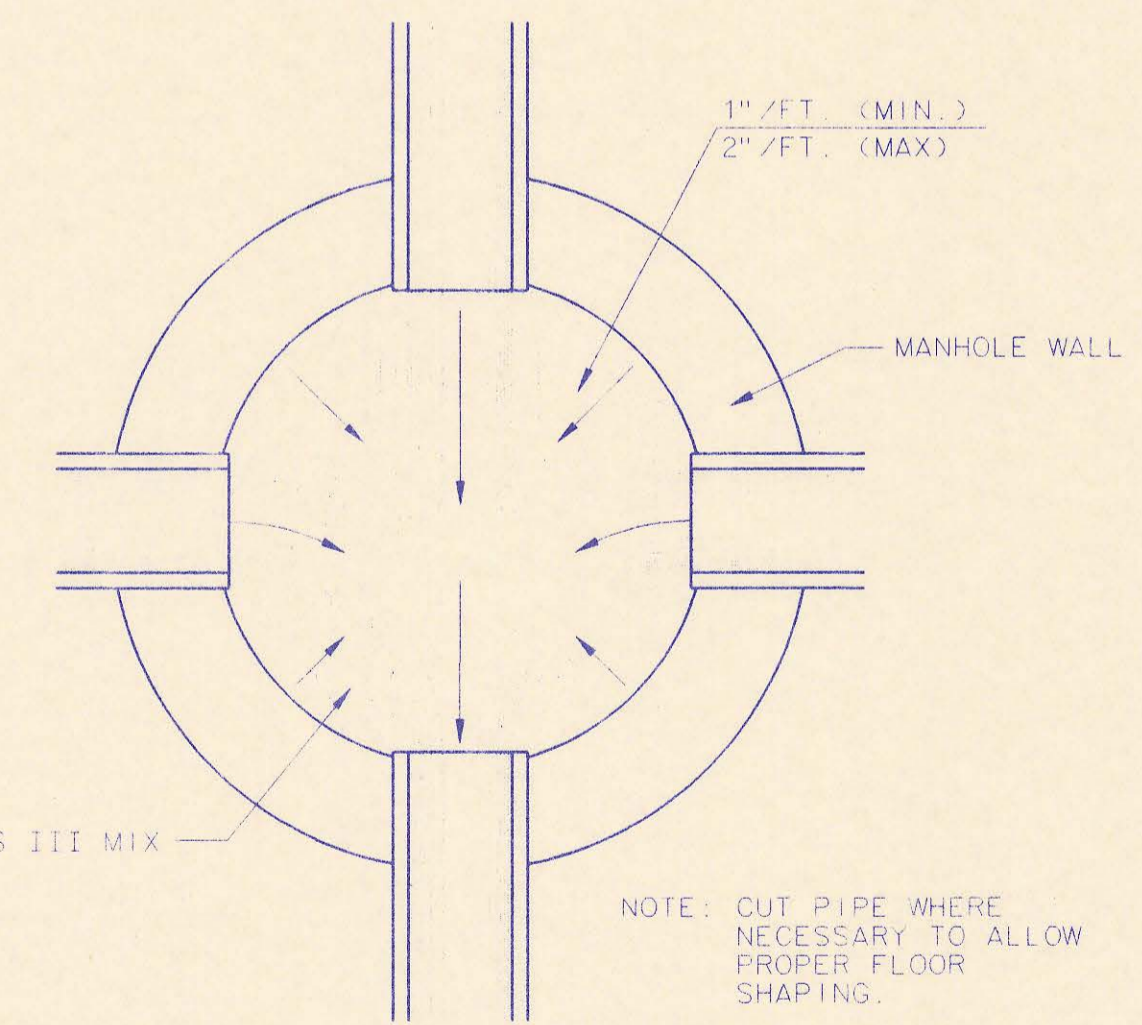
SECTION X (TYPICAL)



SHALLOW MANHOLE TYPE "D"



SECTION Y



TYPICAL MANHOLE FLOOR SHAPING

- CAST-IN-PLACE MANHOLE NOTES**
- IF, IN THE OPINION OF THE ENGINEER, THE MANHOLE SUBGRADE APPEARS UNSTABLE, THE CONTRACTOR WILL HAVE THE OPTION TO COMPACT SUBGRADE AS SHOWN OR INCREASE THE THICKNESS OF THE MANHOLE BASE AS DIRECTED BY THE ENGINEER.
 - STEEL REINFORCING WILL BE REQUIRED IN ALL MANHOLE BASES.
 - WHEN OPENINGS ARE CUT IN MANHOLE WALLS FOR PIPE, THE PIPE OR PIPE CONNECTOR SHALL BE GROUTED IN PLACE WITH HYDRAULIC CEMENT. EXTERIOR OF COMPLETED CONNECTION SHALL BE SEALED WITH APPROVED COATINGS.
 - CAST-IN-PLACE CIRCULAR CONCRETE MANHOLES ARE TO BE CONSTRUCTED ONLY IN LOCATIONS WHERE IT IS OBVIOUS THAT ANY ADJUSTMENT OF THE MANHOLE TOP ELEVATIONS WHICH MAY BE NECESSARY WILL NOT REQUIRE MODIFICATION OF THE CONCRETE BARREL.
 - APPROVED FLEXIBLE WATERSTOP GASKETS WHICH MEET OR EXCEED THE TEST REQUIREMENTS OF ASTM C-923 SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL. WHEN ABS COMPOSITE PIPE OR PVC PIPE IS USED FOR OTHER TYPES OF PIPE THE SEWER EXTENDING FROM MANHOLES SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL.
 - THE MANHOLE FRAME SHALL BE SEATED ON AN APPROVED BUTYL-RUBBER SEALANT TO PROVIDE A WATER-TIGHT SEAL BETWEEN THE MANHOLE ADJUSTMENT RING OR BRICK MASONRY COLLAR AND THE MANHOLE FRAME.
 - GASKETED PIPE CAPS SHALL BE PROVIDED BY THE PIPE SUPPLIER.
 - CONCRETE FOR MANHOLE BASES SHALL BE CLASS II AS DESCRIBED IN THE SPECIFICATIONS.
 - MANHOLES WITH PIPE SIZES LARGER THAN 18" SHALL HAVE 5" INSIDE DIAMETER.

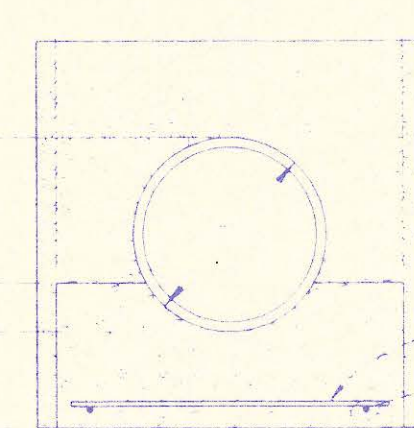
RECORD DRAWING
10-12-92

2	Modified Pipe connection note and MR Note 3	RJ	6/01/92
1	Manhole frame and cover Note 1	RJ	7/16/91
No.	Revision	By	Date

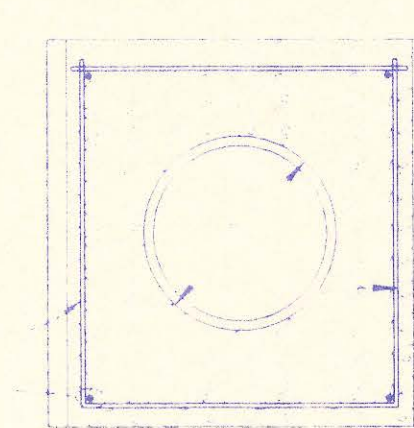
CAST-IN-PLACE MANHOLE DETAILS

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

PLAN
 DATE: _____
 BY: _____
 CHECKED: _____
 DATE: _____

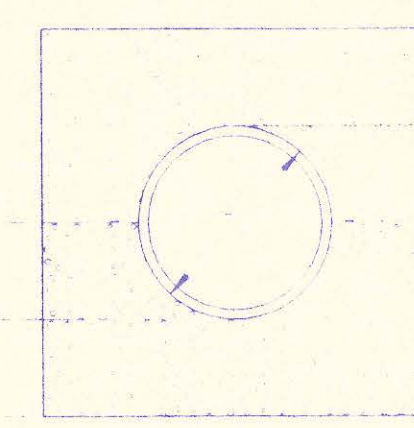


Concrete Cradle

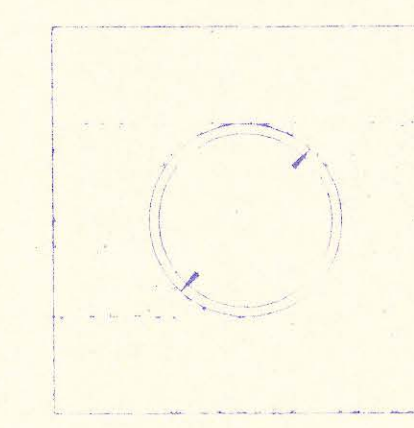


Concrete Encasement

CLASS A

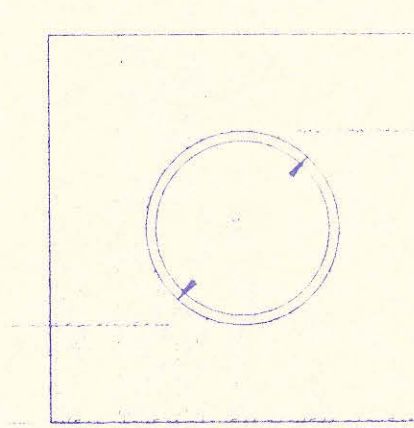


Normal Bedding

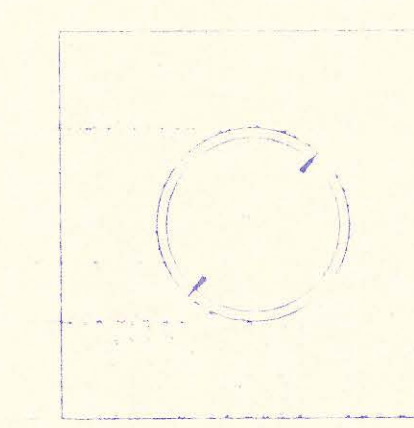


Improved Bedding

CLASS B



Ordinary Bedding



Improved Bedding

CLASS C

PIPE ZONE BACKFILLING

- Outside Pipe Diameter
- Backfill from Top of Pipe to Existing Ground
- Inside Pipe Diameter
- Depth of Bedding Material Below Pipe
- Granular Bedding Material or Sand Gravel Bedding
- Compacted Embedment
- Concrete (Class III)

D	Depth of Bedding Material Below Pipe	
	Granular Bedding	Sand Gravel
27" & smaller	4"	6"
30" to 60"	5"	8"
66" & larger	6"	12"

Granular Bedding Material shall be an approved material consisting of available graded rock conforming with the requirements of the latest revision of ASTM C 33, Size No. 47, 47 1/2, 47 3/4, 48, 48 1/2, 49, 49 1/2, 49 3/4, 50, 50 1/2, 50 3/4, 51, 51 1/2, 51 3/4, 52, 52 1/2, 52 3/4, 53, 53 1/2, 53 3/4, 54, 54 1/2, 54 3/4, 55, 55 1/2, 55 3/4, 56, 56 1/2, 56 3/4, 57, 57 1/2, 57 3/4, 58, 58 1/2, 58 3/4, 59, 59 1/2, 59 3/4, 60, 60 1/2, 60 3/4, 61, 61 1/2, 61 3/4, 62, 62 1/2, 62 3/4, 63, 63 1/2, 63 3/4, 64, 64 1/2, 64 3/4, 65, 65 1/2, 65 3/4, 66, 66 1/2, 66 3/4, 67, 67 1/2, 67 3/4, 68, 68 1/2, 68 3/4, 69, 69 1/2, 69 3/4, 70, 70 1/2, 70 3/4, 71, 71 1/2, 71 3/4, 72, 72 1/2, 72 3/4, 73, 73 1/2, 73 3/4, 74, 74 1/2, 74 3/4, 75, 75 1/2, 75 3/4, 76, 76 1/2, 76 3/4, 77, 77 1/2, 77 3/4, 78, 78 1/2, 78 3/4, 79, 79 1/2, 79 3/4, 80, 80 1/2, 80 3/4, 81, 81 1/2, 81 3/4, 82, 82 1/2, 82 3/4, 83, 83 1/2, 83 3/4, 84, 84 1/2, 84 3/4, 85, 85 1/2, 85 3/4, 86, 86 1/2, 86 3/4, 87, 87 1/2, 87 3/4, 88, 88 1/2, 88 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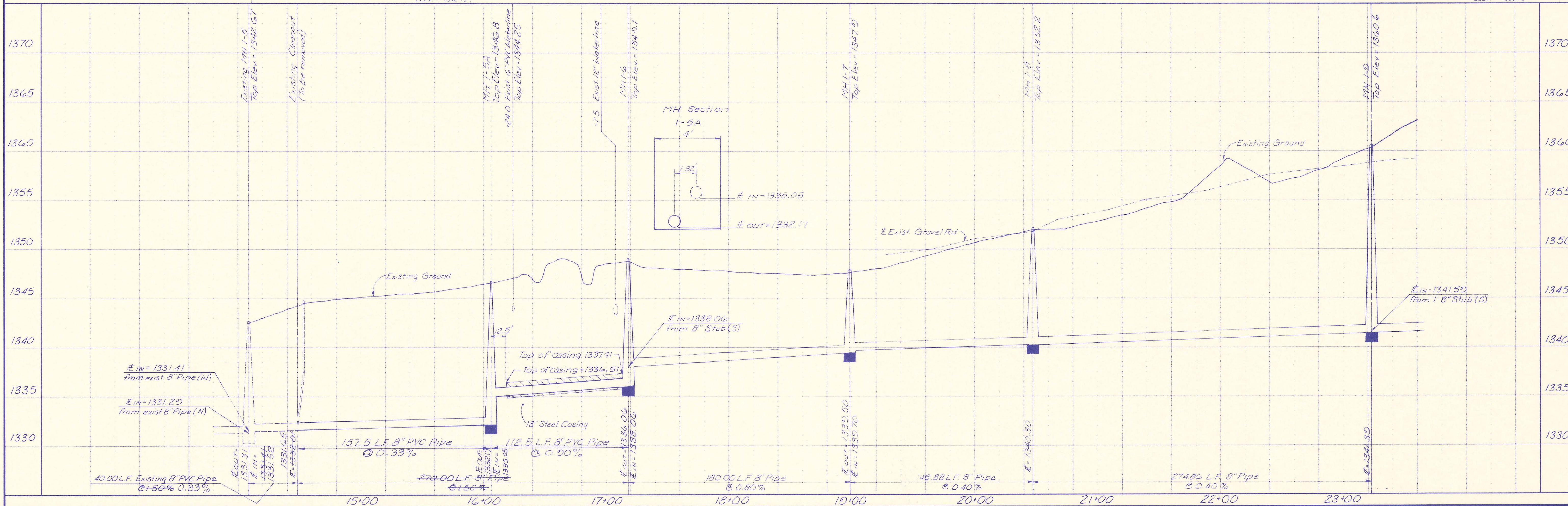
PLAN	CHECKED	DATE
	CHECKED	

BM 2 (DATUM BM)
RAILROAD SPIKE IN WEST FACE OF POWER POLE ON EAST
R.W. OF 14RD STREET EAST AT APPROXIMATELY 445' NORTH
OF CENTERLINE 13TH STREET NORTH
ELEV. 1348.66

*Prior to beginning construction
the Contractor shall excavate
the existing 8" Sanitary Sewer
at Sta 14+48.54 to verify
horizontal and vertical location.
Contractors findings shall be
reported to the Engineer so that
any necessary plan modifications
may be made.

BM C RAILROAD SPIKE IN EAST FACE OF 15' ELM TREE
APPROX 75' WEST AND 11' NORTH OF THE
SOUTHWEST CORNER LOT 5, BLOCK 1, SAVANNA
AT CASTLE ROCK RANCH
ELEV. 1342.19

PROFILE	CHECKED	DATE
	CHECKED	

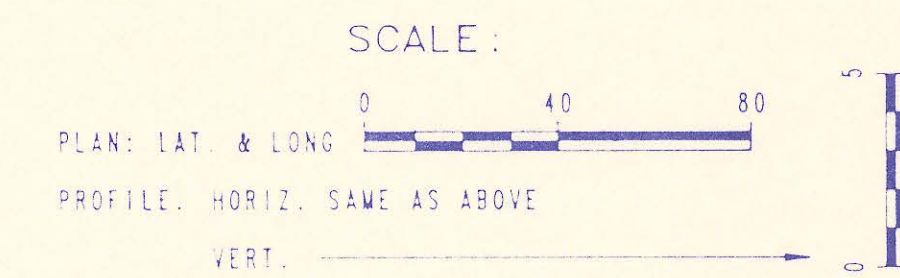


DRAWING NAME: 34-92189 SAVE SS PP1
LOCATION: EA DWG 4209
CENTER COORDINATES:
ROTATION ANGLE:
DATE LAST WORKED ON: APR. 30, 1992
SPECIAL INSTRUCTIONS:

SEDFWICK COUNTY BUREAU OF PUBLIC SERVICES
DIRECTOR, BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, P.E.
LATERAL NO. 1
SANITARY SEWER IMPROVEMENTS
(STA. 14+08.54 TO STA. 23+22.28)
SAVANNA AT CASTLE ROCK RANCH 2ND ADDITION

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS
Designed By: MDS, MDK
Drawn By: STM
Job No. 34-92189
Date: May, 1992

RECORD DRAWING
10-12-02



BM F RAILROAD SPIKE IN NORTH FACE OF 30' HACKBERRY TREE
APPROXIMATELY 250' EAST OF CENTERLINE 143RD STREET EAST AND
APPROXIMATELY 35' NORTHWEST OF SOUTH P.T. OF SPORT OF KINGS
ROAD IN SAVANNA AT CASTLE ROCK RANCH 2ND ADDITION
ELEV. 1354.69

BM G RAILROAD SPIKE IN WEST FACE OF 30' ELM TREE ON NORTH SIDE
SPORT OF KINGS ROAD, APPROXIMATELY 55' WEST AND 40' NORTH OF
SOUTHWEST CORNER LOT 3, BLOCK 1, SAVANNA AT CASTLE ROCK
RANCH 2ND ADDITION
ELEV. 1360.73

CAUTION!!
12" Waterline
(City of Wichita)

CAUTION!!
Buried Tele. Cable
(SLHB)

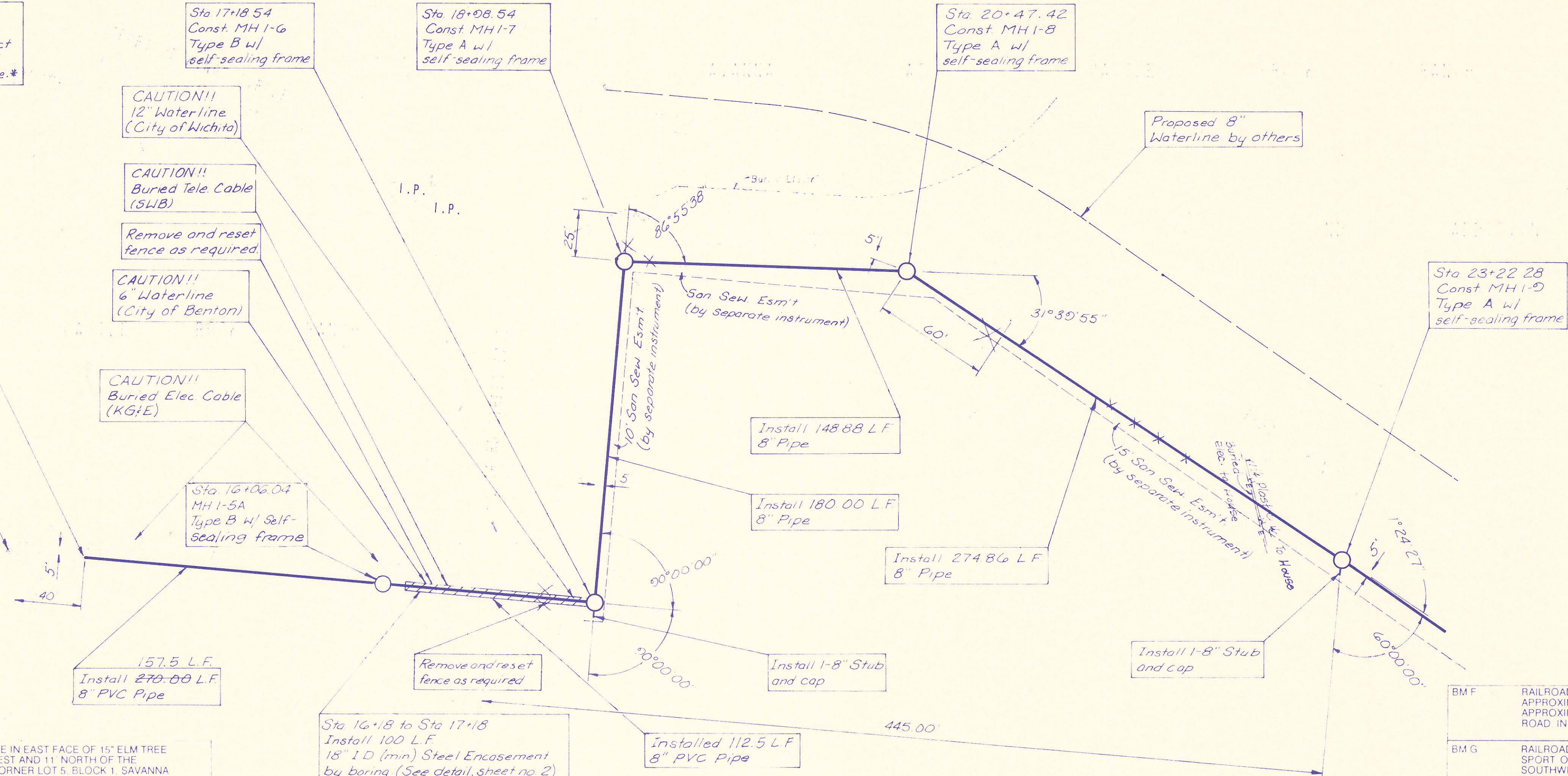
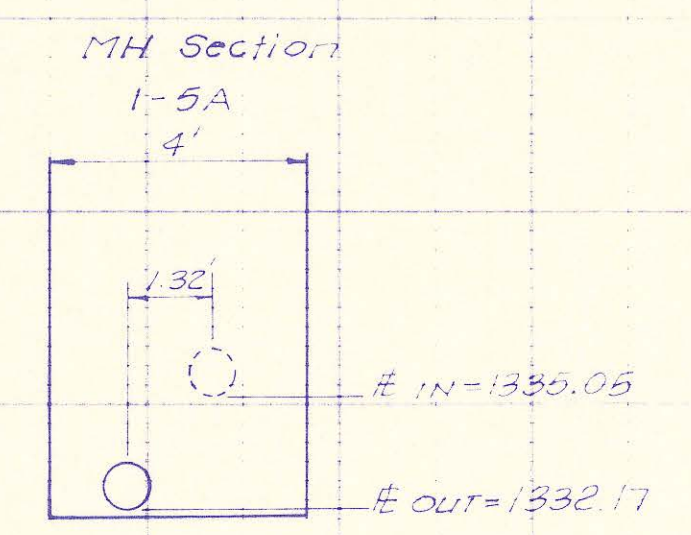
Remove and reset
fence as required.

CAUTION!!
6" Waterline
(City of Benton)

CAUTION!!
Buried Elec. Cable
(KGE)

Sta 16+18 to Sta 17+18
Install 100 L.F.
18" I.D. (min) Steel Encasement
by boring (See detail, sheet no 2)

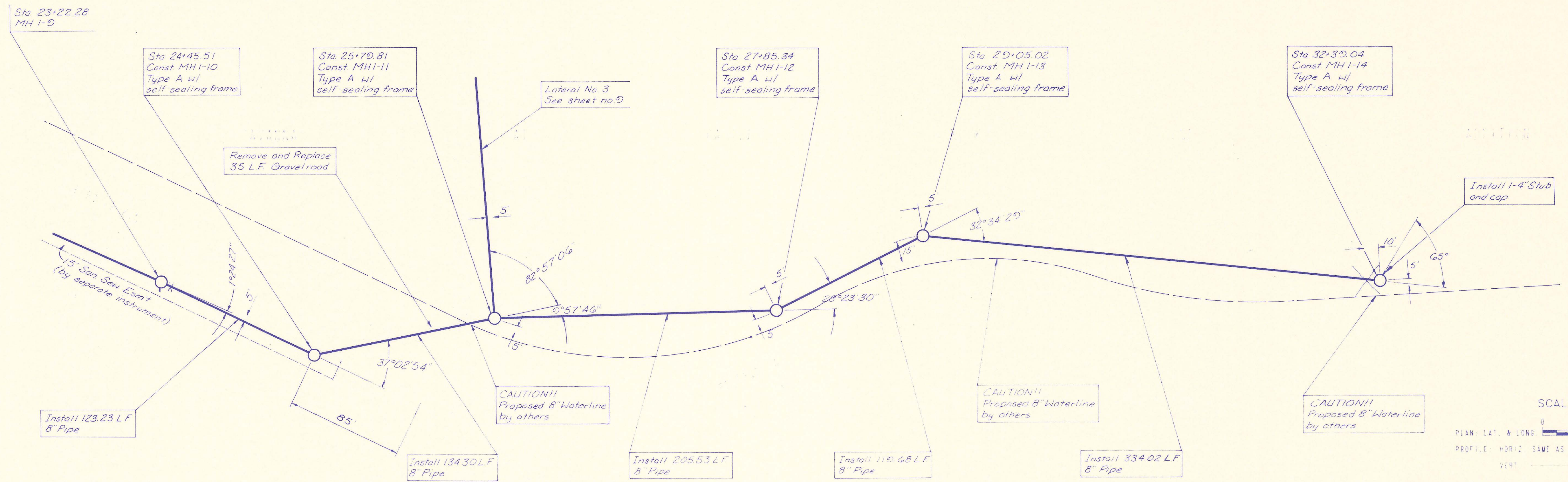
LATERAL NO. 1



PLAN CHECKED CHECKED

PROFILE CHECKED CHECKED

DRAWING NAME: 34-92169 -SAY2 SS P22
 LOCATION: E4, DWG #210
 CENTER COORDINATES:
 ROTATION ANGLE:
 DATE LAST WORKED ON: APR. 30, 1992
 SPECIAL INSTRUCTIONS:



RECORD DRAWING
 10-12-92



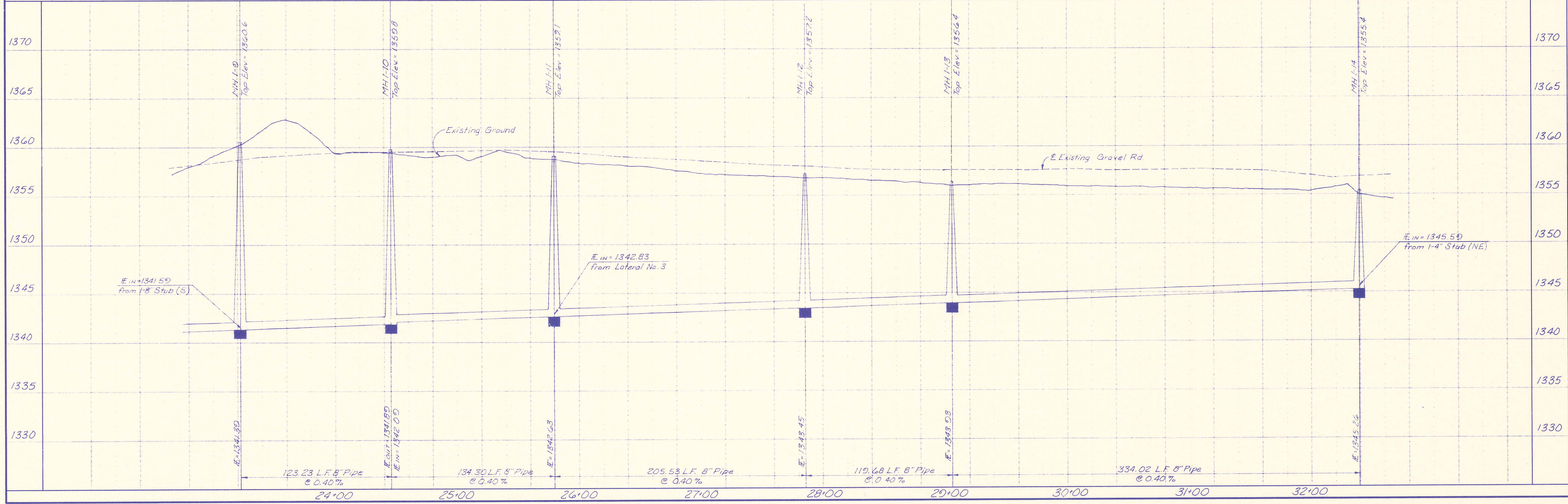
BM 1 RAILROAD SPIKE IN NORTH FACE OF 30' HACKBERRY TREE APPROXIMATELY 250' EAST OF CENTERLINE 143RD STREET EAST AND APPROXIMATELY 35' NORTHWEST OF SOUTH P.T. OF SPORT OF KINGS ROAD. IN SAVANNA AT CASTLE ROCK RANCH 2ND ADDITION. ELEV. 1354.69

BM 5 RAILROAD SPIKE IN WEST FACE OF 30' ELM TREE ON NORTH SIDE SPORT OF KINGS ROAD APPROXIMATELY 65' WEST AND 40' NORTH OF SOUTHWEST CORNER LOT 1, BLOCK 1 SAVANNA AT CASTLE ROCK RANCH 2ND ADDITION. ELEV. 1360.73

BM 6 RAILROAD SPIKE IN NORTH FACE OF 10' HACKBERRY TREE NEAR CENTERLINE OF SPORT OF KINGS R.W. SOUTH OF SOUTHWEST CORNER LOT 7, BLOCK 1 SAVANNA AT CASTLE ROCK RANCH 2ND ADDITION. ELEV. 1358.54

BM 7 RAILROAD SPIKE IN NORTH FACE OF 24' HACKBERRY TREE APPROXIMATELY 145' SOUTH OF SOUTHWEST CORNER LOT 7, BLOCK 1, SAVANNA AT CASTLE ROCK RANCH 2ND ADDITION. ELEV. 1358.96

LATERAL NO. 1



SEGWICK COUNTY BUREAU OF PUBLIC SERVICES
 DIRECTOR, BUREAU OF PUBLIC SERVICES
LATERAL NO. 1
 SANITARY SEWER IMPROVEMENTS
 (STA. 23+22.00 TO STA. 32+39.20)
 SAVANNA AT CASTLE ROCK RANCH 2ND ADDITION

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

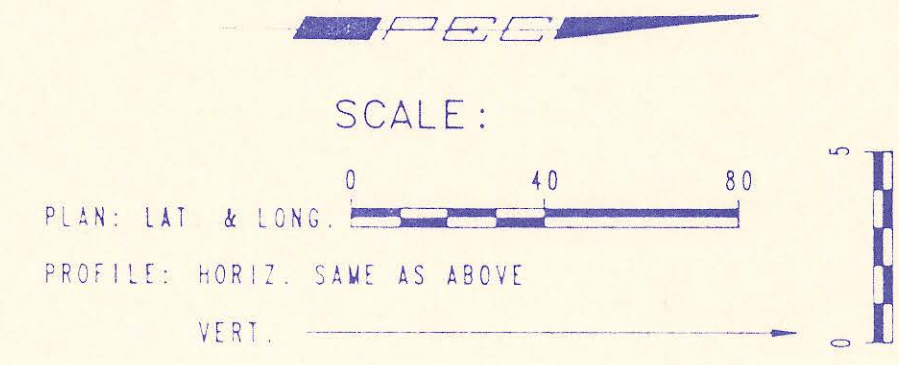
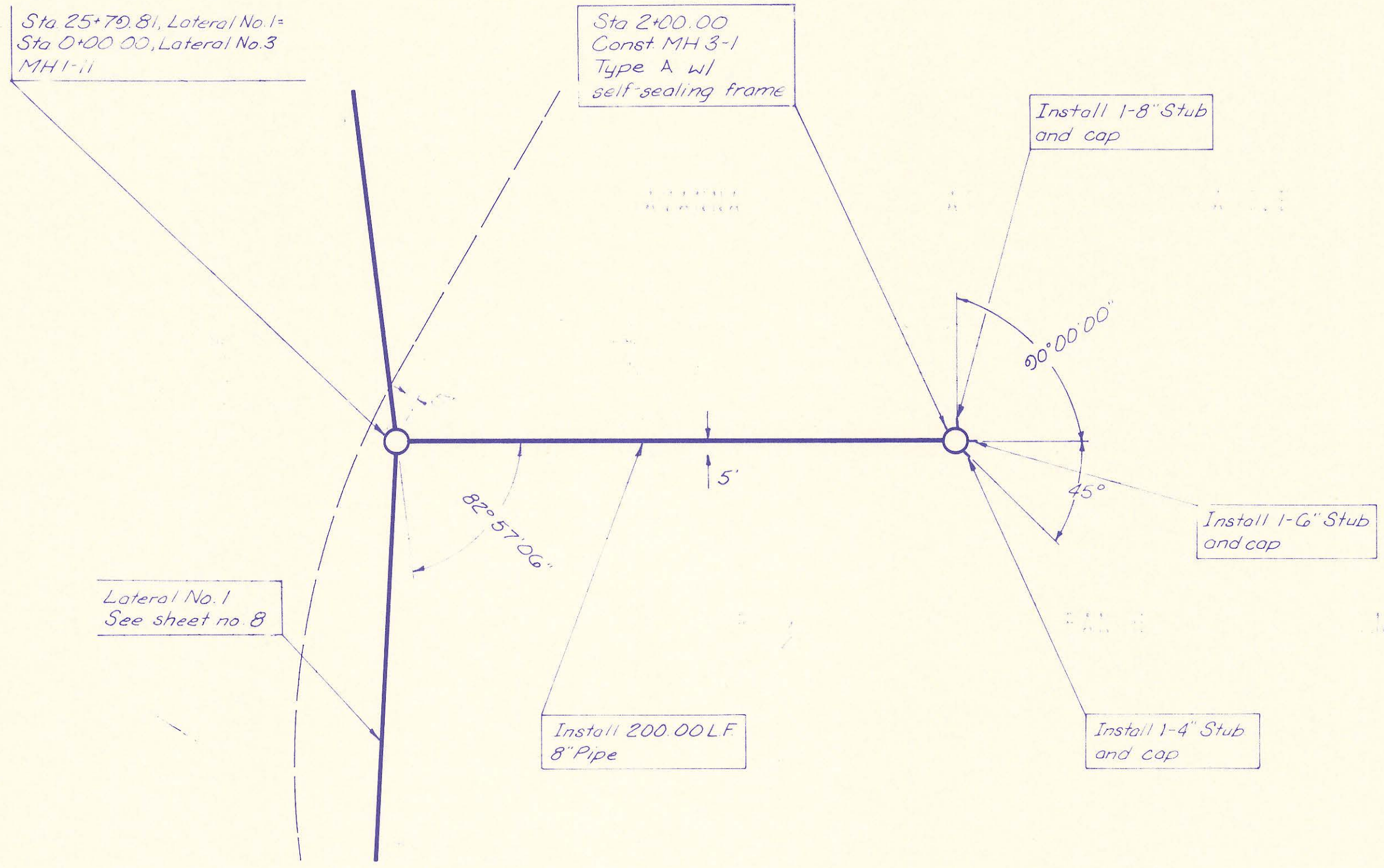
Designed By: MDS, MDK
 Drawn By: STM

Job No. 34-92169
 Date: May, 1992

PLAN CHECKED BY DATE

PROFILE CHECKED BY DATE

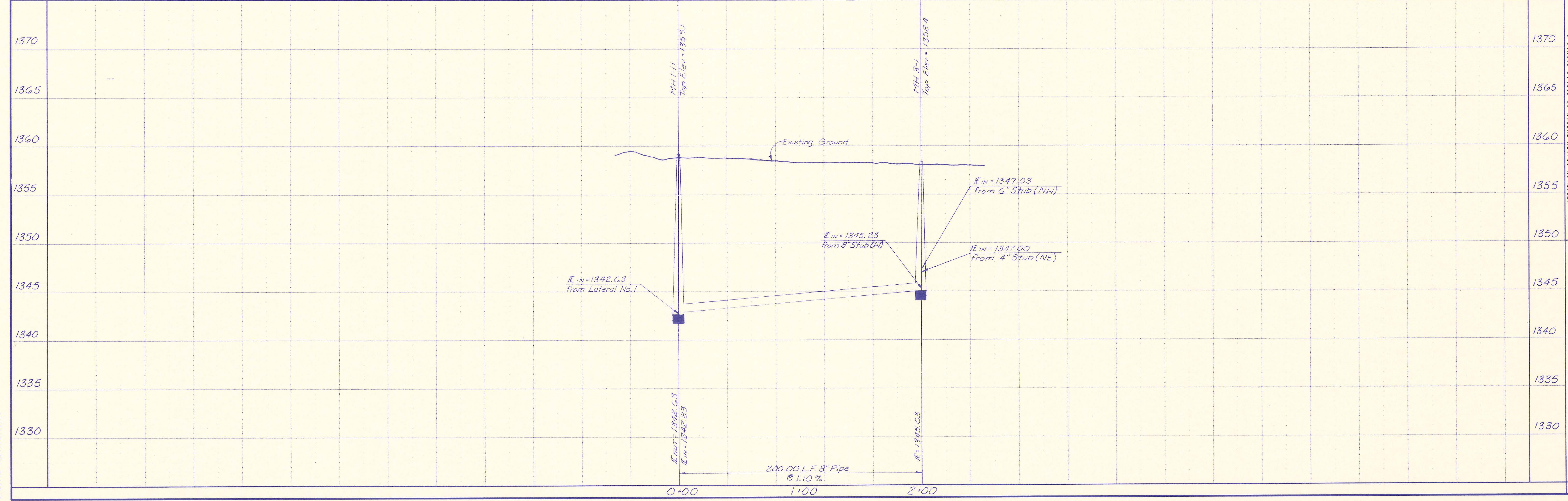
DRAWING NAME: 34-92169 SAV2 SS PPI
 LOCATION: E4 DWG #211
 CENTER COORDINATES:
 DATE LAST WORKED ON: APR. 30, 1992
 SPECIAL INSTRUCTIONS:



BM G RAILROAD SPIKE IN WEST FACE OF 30' ELM TREE ON NORTH SIDE SPORT OF KINGS ROAD APPROXIMATELY 55' WEST AND 40' NORTH OF SOUTHWEST CORNER LOT 1 BLOCK 1 SAVANNA AT CASTLE ROCK RANCH 2ND ADDITION ELEV. 1360.73

LATERAL NO. 3

RECORD DRAWING
10-12-92



SEDMICK COUNTY BUREAU OF PUBLIC SERVICES
 DIRECTOR, BUREAU OF PUBLIC SERVICES
LATERAL NO. 3
 (STA. 0+0000 TO STA. 2+00.00)
 SANITARY SEWER IMPROVEMENTS
 SAVANNA AT CASTLE ROCK RANCH 2ND ADDITION

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

Designed By: MDS, MDK
 Drawn By: STM
 Job No. 34-92169
 Date May, 1992

Sheet 9 of 9

BUREAU OF PUBLIC SERVICES



CONSTRUCTION PLANS FOR
SANITARY SEWER IMPROVEMENTS
 IN
SAVANNA AT CASTLE ROCK RANCH
3RD ADDITION
 TO SEDGWICK COUNTY, KANSAS

MARCH, 1993

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

INDEX OF SHEETS

SHEET NO. 1	TITLE SHEET
SHEET NO. 2	KEY MAP & EASEMENT GRADING
SHEET NO. 3	PLAT
SHEET NO. 4	PRECAST MANHOLE DETAILS
SHEET NO. 5	CAST-IN-PLACE MANHOLE DETAILS
SHEET NO. 6	BACKFILL DETAILS
SHEET NO. 7-8	PLAN/PROFILE

RECORD DRAWING

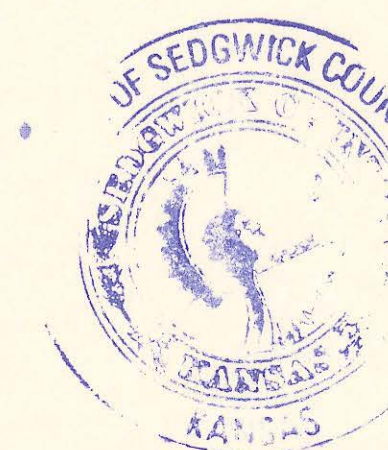
APPROVED:

David C. Spears
 DAVID C. SPEARS, P.E.
 DIRECTOR OF PUBLIC SERVICES/COUNTY ENGINEER
 DATE: 3/10/93

APPROVED:

Michael D. Schoen
 MICHAEL D. SCHOEN
 CHAIRMAN, BOARD OF COUNTY COMMISSIONERS
 DATE: 3/10/93

FILED IN THE OFFICE OF
 THE SEDGWICK COUNTY CLERK
Ernest McWhorter
 COUNTY CLERK
 DATE: 3/12/93



PLAN CHECKED
 CHECKED
 BY DATE

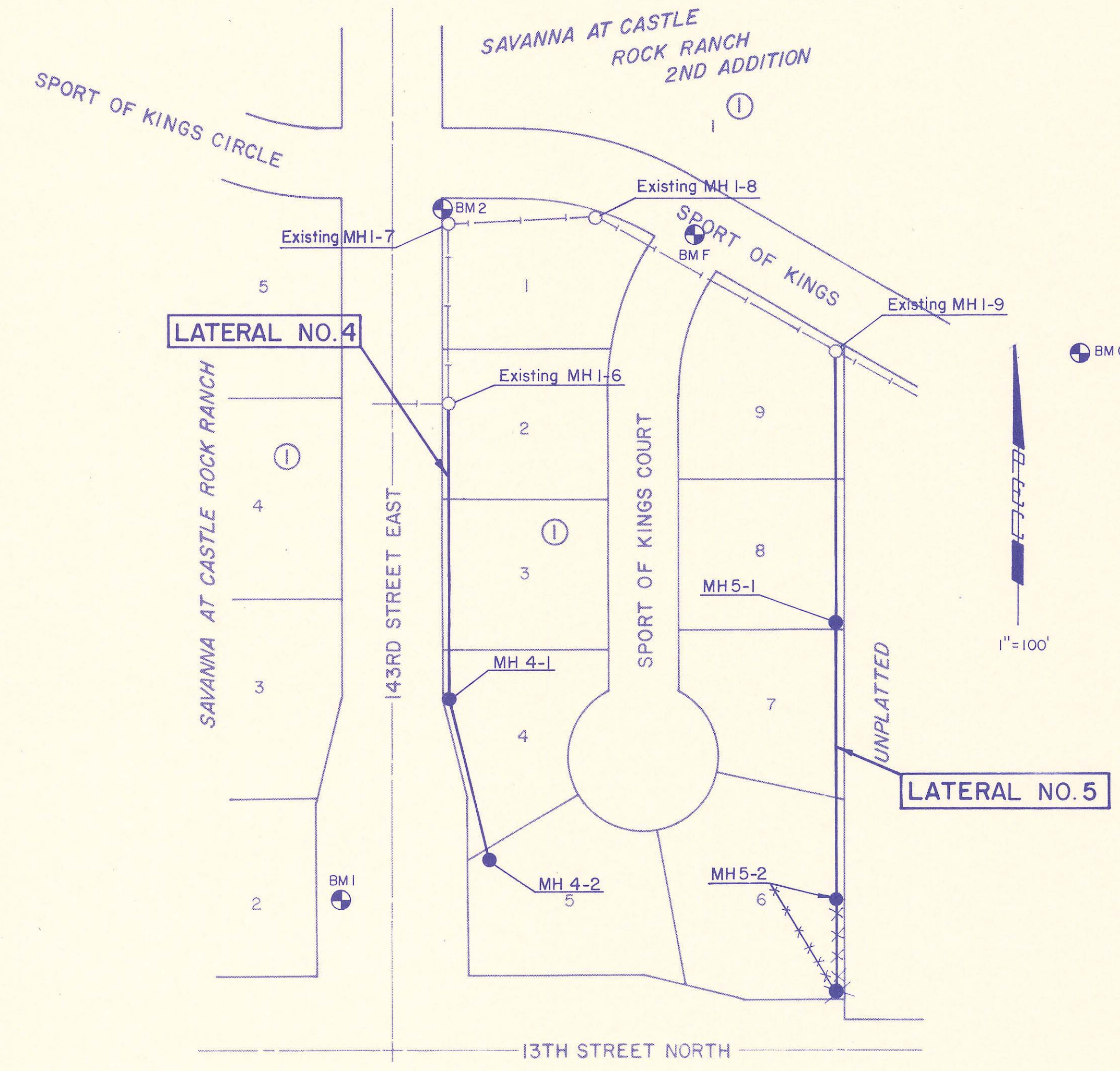
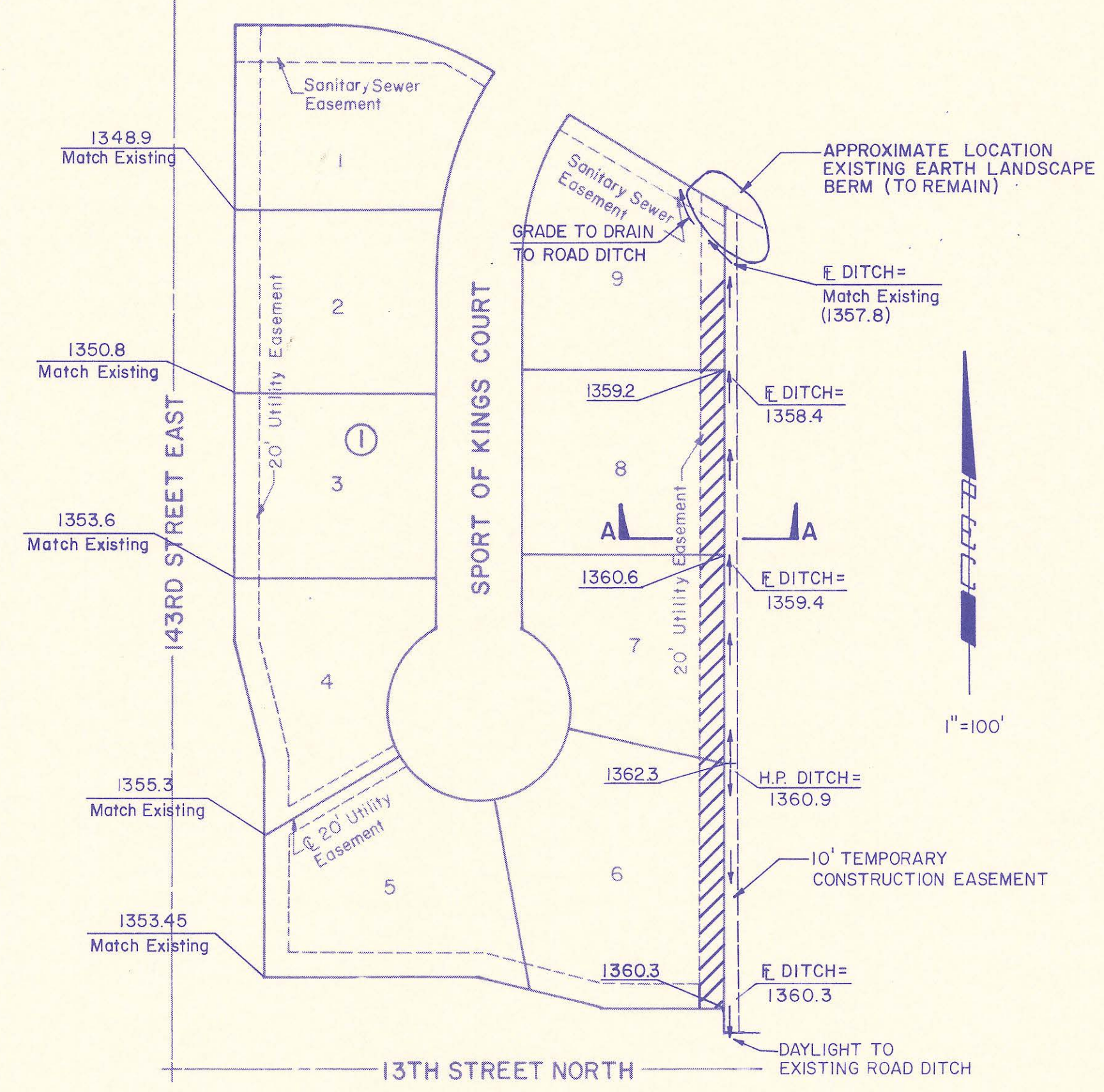
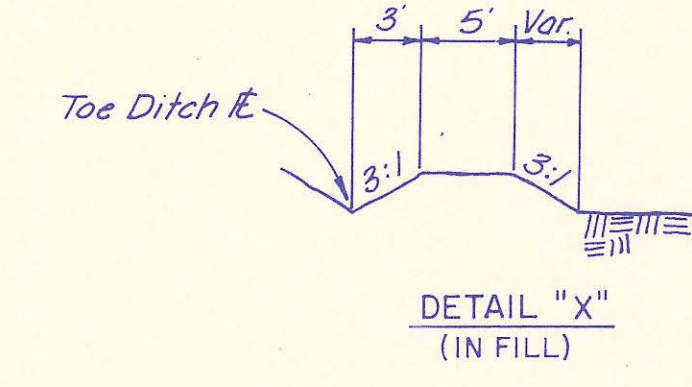
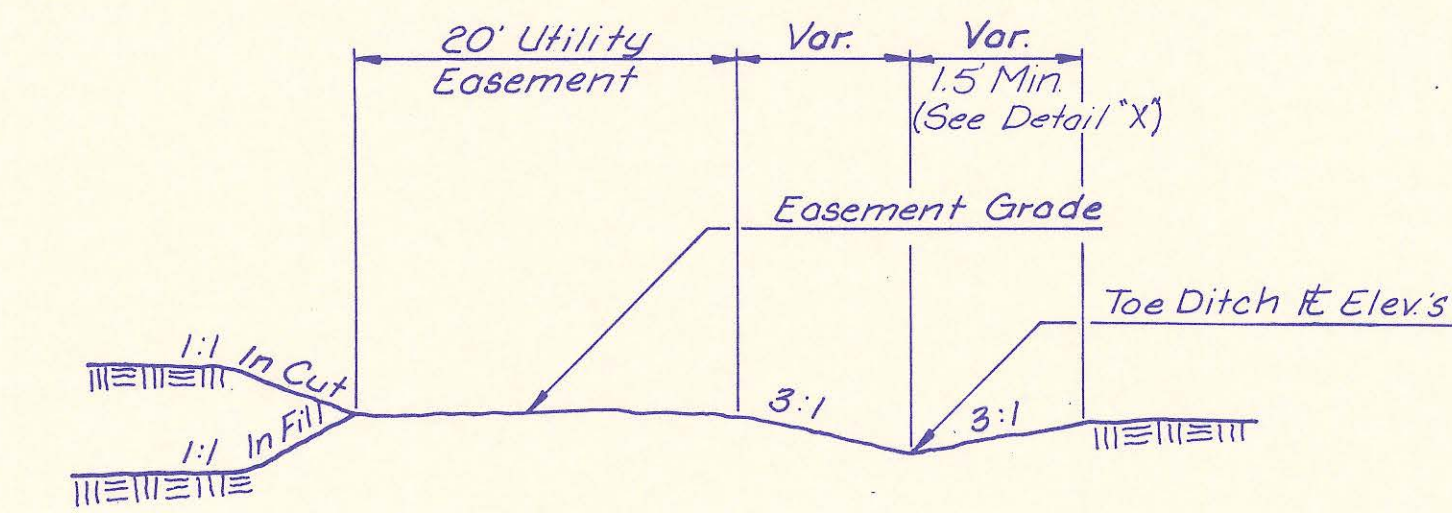
DRAWING NAME: SA-20645-1 SS 11116
 LOCATION: #448
 CENTER COORDINATES:
 R/A ON ANGLE
 DATE LAST WORKED ON: MAR. 10, 1993
 SPECIAL INSTRUCTIONS:

- 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 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.
- 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.
- AT LEAST 24 HOURS BEFORE CONNECTING NEW SEWER PIPE TO THE EXISTING SEWAGE SYSTEM, THE CONTRACTOR SHALL CONTACT THE SEDGWICK COUNTY EASTERN SEWER DISTRICT (733-9220). THE CONTRACTOR SHALL KEEP ANY CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER DURING CONSTRUCTION. TO PREVENT WATER OR DEBRIS FROM ENTERING THE EXISTING SEWER, A MECHANICAL PLUG SHALL BE INSTALLED AND MAINTAINED TO ISOLATE THE EXISTING SEWER FROM THE NEW CONSTRUCTION UNTIL THE NEW CONSTRUCTION IS CLEANED, TESTED, AND HAS BEEN ACCEPTED. 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 TELLING.
- ALL MANHOLES CONSTRUCTED ON THIS PROJECT SHALL HAVE SELF-SEALING FRAMES AND SHALL BE COATED INTERNALLY WITH STRONG SEAL MS2-A PER PROJECT SPECIFICATIONS.
- ALL PIPE JOINTS SHALL BE LAID 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 EXCAVATED 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.
- THE CONTRACTOR SHALL CONTAIN HIS OPERATIONS 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 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 REFERENCE 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 THE 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 RESTORE ALL DITCHES, SWALES, ROAD SHOULDERS, AND BANKS TO THEIR ORIGINAL SLOPES AND GRADES. 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 FOREMENTIONED ITEMS, INCLUDING SEEDING, FERTILIZER, AND MULCHING SHALL BE CONSIDERED SUBSIDIARY TO "SITE CLEARING AND RESTORATION".
- EASEMENTS AND RIGHTS-OF-WAY 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 RIGHTS-OF-WAY THAT HE DESIRES TO USE IN COMPLETING THE WORK.
- POSITIVE DRAINAGE SHALL BE PROVIDED FOR ALL AREAS ON OR NEAR SPOIL AREAS. NATURAL DRAINAGE 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
- DEVELOPER:
MR. LARRY G. STEPHENSON
14010 E. 13TH ST. NORTH
WICHITA, KS 67230
(316) 733-2497
- WHERE THE IMPROVEMENTS CROSS EXISTING PUBLIC OR PRIVATE UTILITIES WHICH ARE NOT TO BE ADJUSTED BY OTHERS, THE CONTRACTOR SHALL PROVIDE THE MATERIAL AND MEANS TO PROTECT AND SUPPORT SAID UTILITIES DURING CONSTRUCTION TO THE SATISFACTION OF THE ENGINEER.
- 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 "SITE CLEARING AND RESTORATION".
- THE CONTRACTOR SHALL AVOID REMOVAL OR TRIMMING OF ANY TREES WHERE POSSIBLE. WHERE THE CONTRACTOR BELIEVES THE REMOVAL OR TRIMMING IS UNAVOIDABLE HE SHALL OBTAIN THE CONCURRENCE OF THE ENGINEER BEFORE PROCEEDING WITH SUCH WORK.
- RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES INCLUDING ANY TREES REMOVED, TREE TRIMMINGS, AND EXCESS EXCAVATION WHICH IS TO BE WASTED, SHALL BE DISPOSED OF ON SITES PROVIDED BY THE CONTRACTOR. THESE SITES SHALL ALSO BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE, AND SITE LOCATION. ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOOD PLAIN WILL REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT AND A FLOODPLAIN DEVELOPMENT PERMIT FROM SEDGWICK COUNTY. 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 MAY REQUIRE ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED DISPOSAL LOCATION.

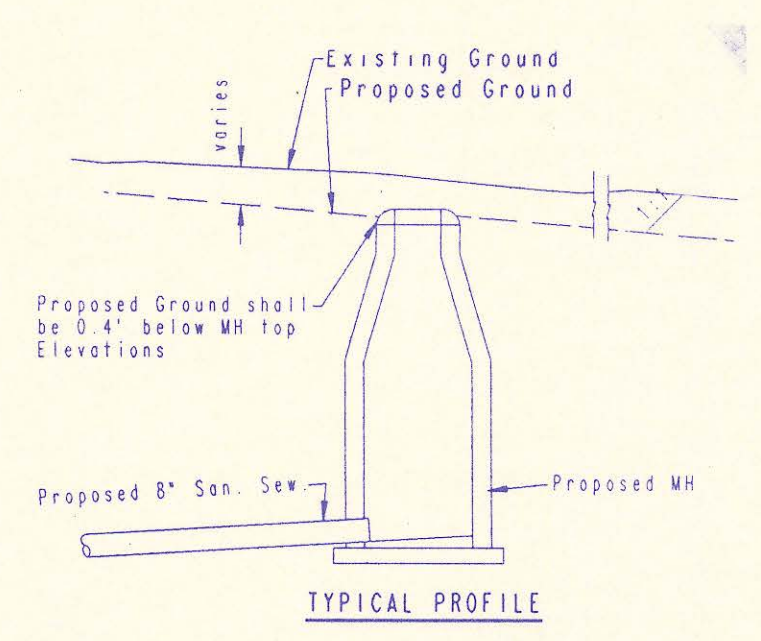
BENCH MARK LIST

- BM 1 (DATUM BM) - RAILROAD SPIKE IN EAST FACE OF GUY POLE AT WEST R/W 143RD STREET EAST, APPROXIMATELY 150' NORTH OF CENTERLINE 13TH STREET. ELEV. = 1353.35
- BM 2 (DATUM BM) - RAILROAD SPIKE IN WEST FACE OF POWER POLE AT EAST R/W 143RD STREET EAST, APPROXIMATELY 835' NORTH OF CENTERLINE 13TH STREET. ELEV. = 1348.66
- BM F - RAILROAD SPIKE IN NORTH FACE OF 36" HACKBERRY TREE APPROXIMATELY 40' EAST-NORTHEAST OF NORTHEAST CORNER LOT 1, BLOCK 3, SAVANNA AT CASTLE ROCK RANCH 3RD ADDITION. ELEV. = 1354.69
- BM G - RAILROAD SPIKE IN WEST FACE OF 36" ELM TREE NORTH SIDE SPORT OF KINGS ROAD APPROXIMATELY 235' EAST OF NORTHEAST CORNER LOT 9, BLOCK 1, SAVANNA AT CASTLE ROCK RANCH 3RD ADDITION. ELEV. = 1360.73

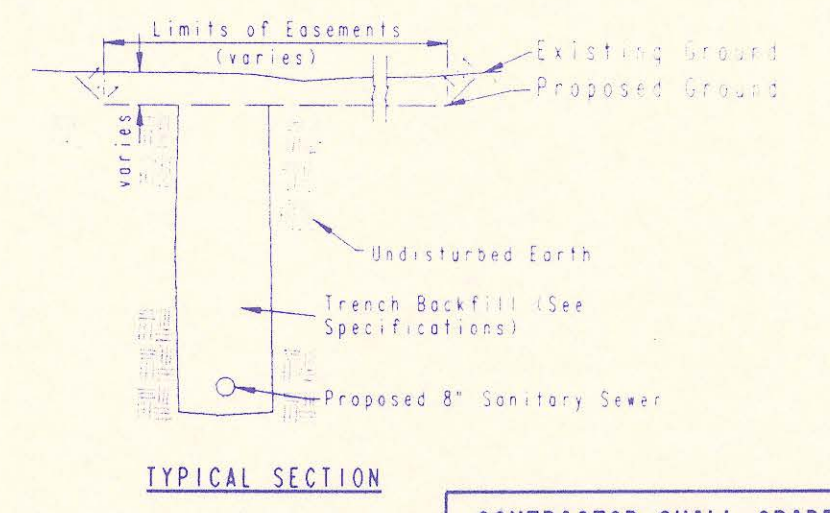


EASEMENT GRADING

- = AREAS TO BE GRADED
- = Locations where surface drainage will be directed along the side lot lines from the rear yard easements to the front of the lot. This grading will be "by others".
- H.P. = HIGH POINT

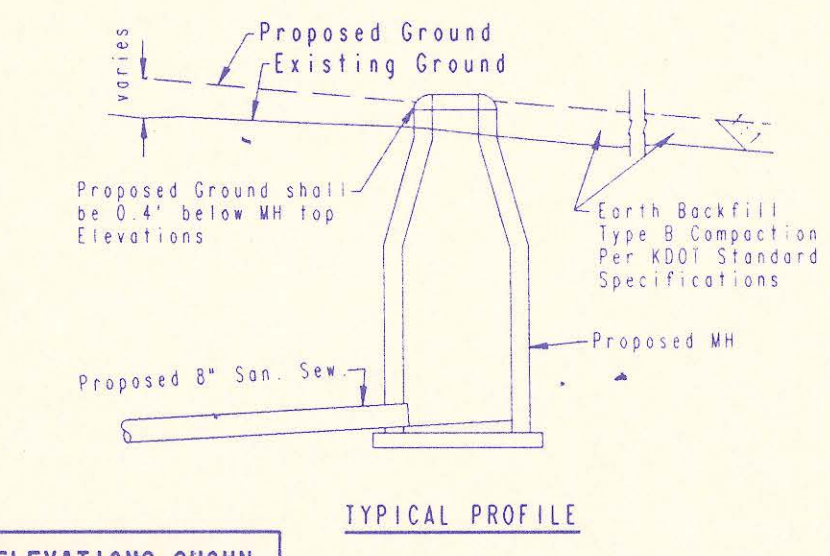


"CUT" SITUATIONS

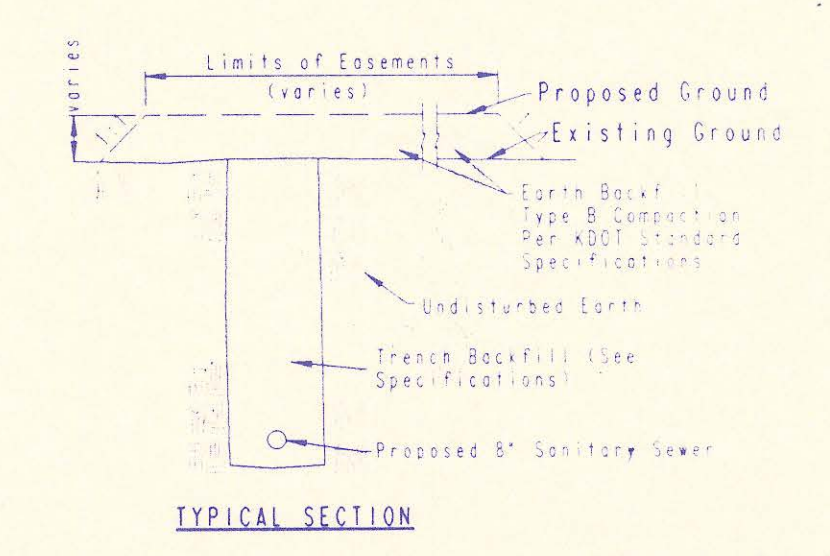


CONTRACTOR SHALL GRADE THE SANITARY SEWER ALIGNMENT TO THE ELEVATIONS SHOWN ON THE EASEMENT GRADING PLAN. ALL COSTS FOR EASEMENT GRADING SHALL BE SUBSIDIARY TO THE TRENCH AND BACKFILL.

KEY MAP

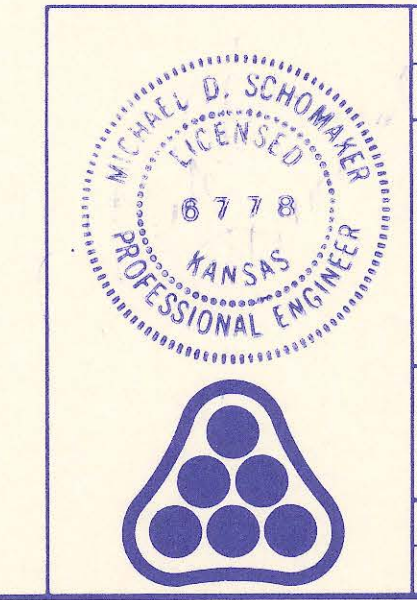


"FILL" SITUATIONS



RECORD DRAWING

MDK 8/11/93
M2M 8/10/93



No.	Revision	By	Date

SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, PE
DIRECTOR, BUREAU OF PUBLIC SERVICES

KEY MAP AND EASEMENT GRADING

SANITARY SEWER IMPROVEMENTS
SAVANNA AT CASTLE ROCK RANCH 3RD ADDITION

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.

ENGINEERS
WICHITA, KANSAS

Designed by **MDK** Job No. **34-92645-1** Sht. **2** of **8**
Drawn by **STM** Date **December, 1992**

SAVANNA AT CASTLE ROCK RANCH 3RD ADDITION TO SEDGWICK COUNTY, KANSAS

PLAN	CHECKED	BY	DATE
	CHECKED		

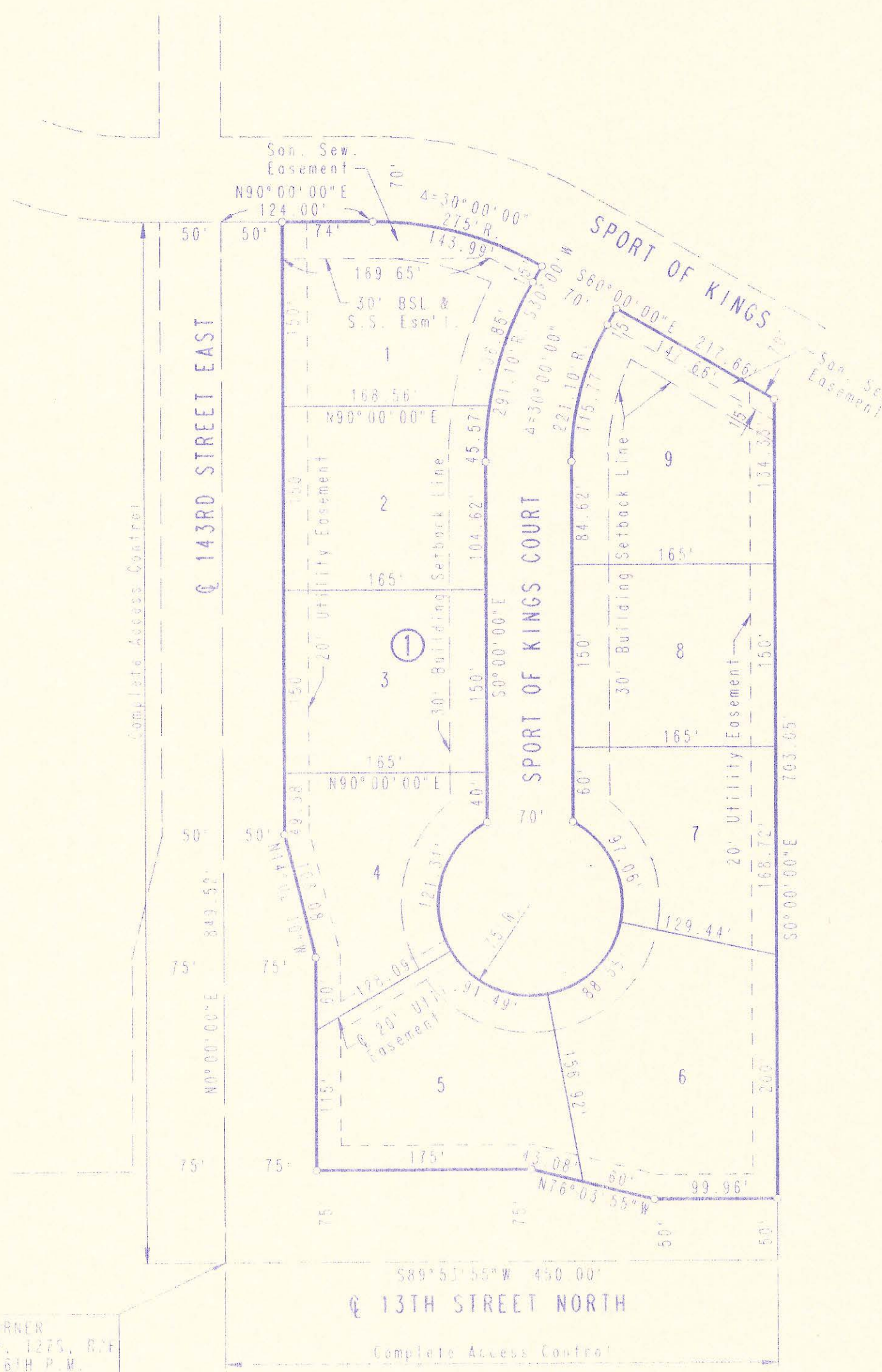
DRAWING NAME: 34-92645-1 PLAT
 DATE FOR PLOTTING: 12/1/92
 DATE FOR ANGLE: 12/1/92
 DATE LAST WORKED ON: MAR. 10, 1992
 SPECIAL INSTRUCTIONS:



SCALE: 1"=100'
 ○ = IRON SET

B.M. = R.R. SPIKE IN LIGHT POLE 43' S.E. OF
 S.W. CORNER SEC. 12, T27S, R2E,
 ELEV. = 1352.87 M.S.L.

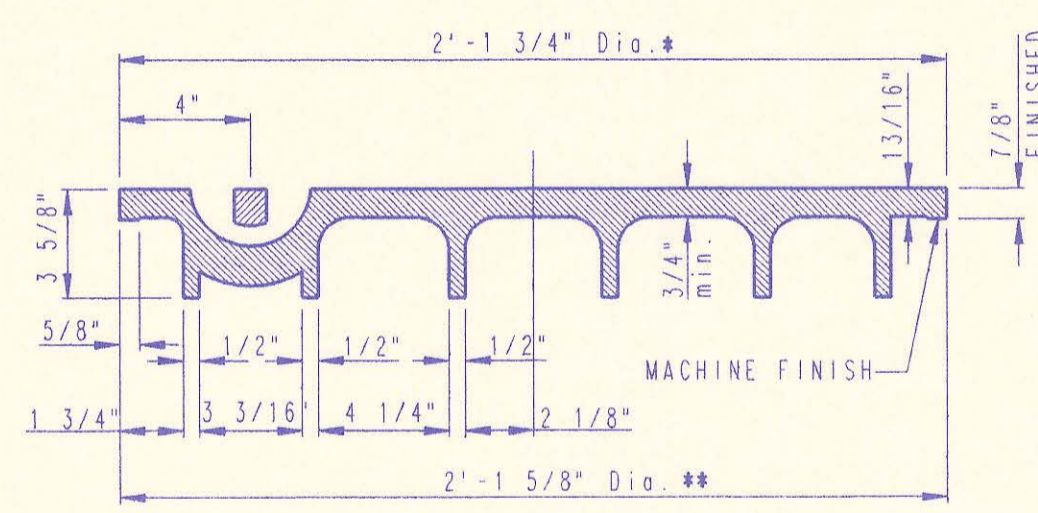
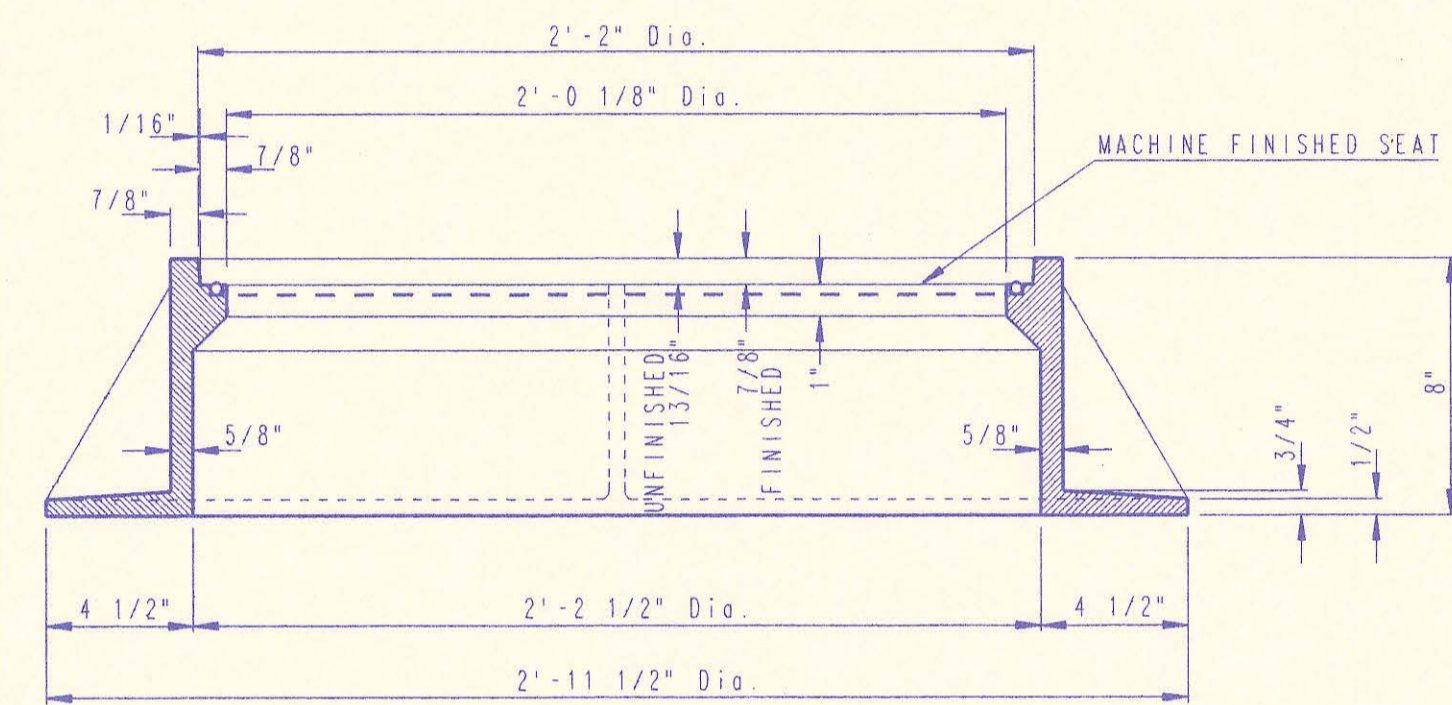
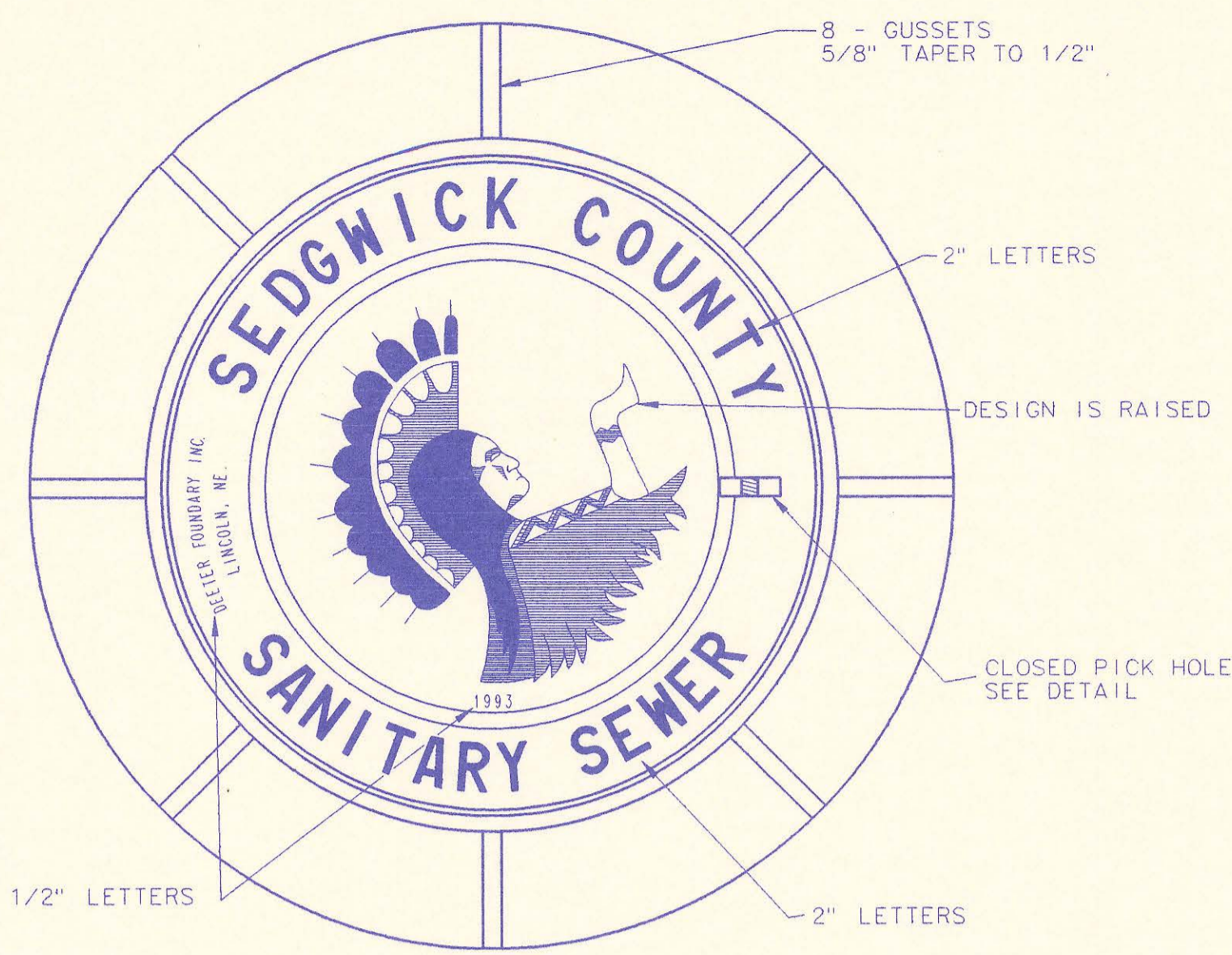
S.W. CORNER
 SEC. 12, T27S, R2E
 OF THE 6TH P.M.



RECORD DRAWING

DATE: 8/1/93
MSM 8/2/93

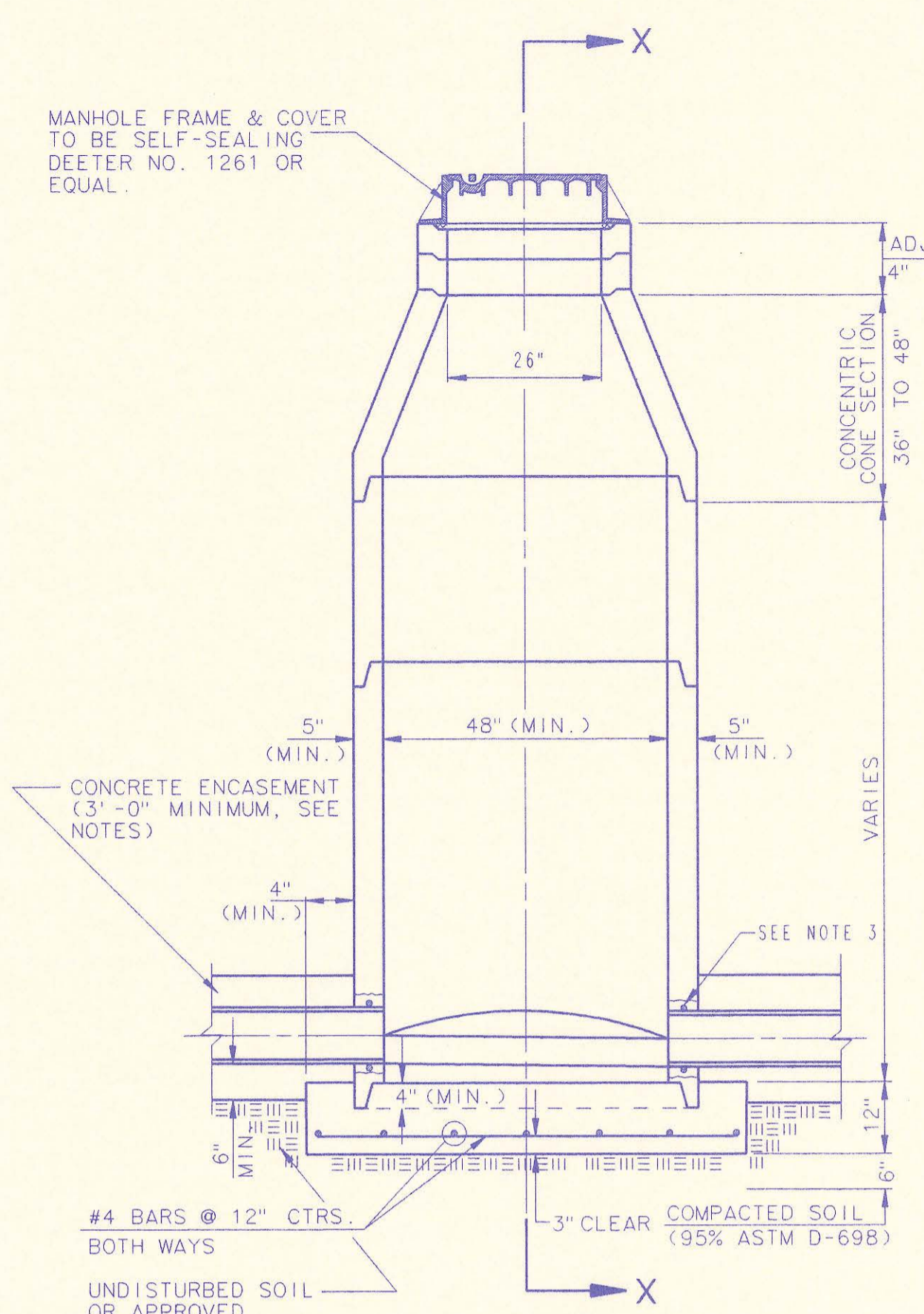
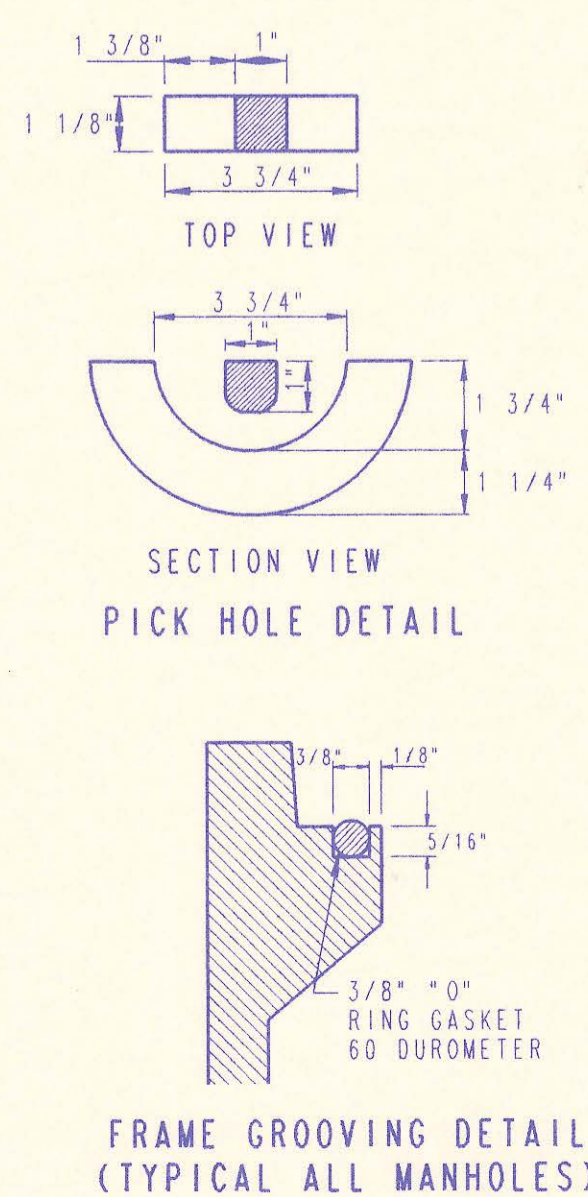
	No.	Revision	By	Date	
	SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES DAVID C. SEARS, P.E. DIRECTOR, BUREAU OF PUBLIC SERVICES				
	PLAT SANITARY SEWER IMPROVEMENTS SAVANNA AT CASTLE ROCK RANCH 3RD ADDITION				
	PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS				
Designed by	MDS, MDR	Job No.	34-92645-1	Sheet	3 of 8
Drawn by		Date	December, 1992		



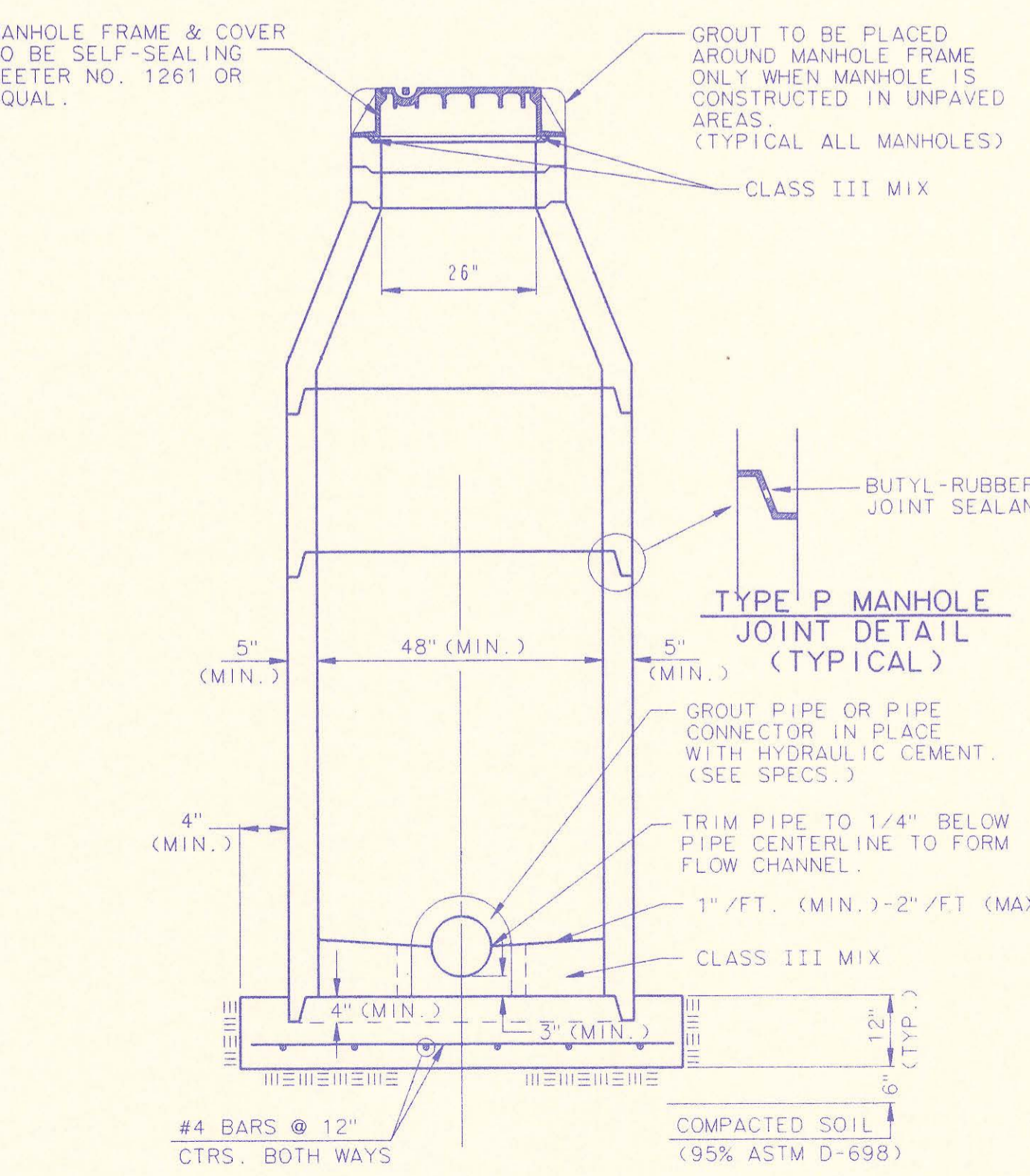
*OUTSIDE DIA. TOP OF COVER
**OUTSIDE DIA. BOTTOM OF COVER

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

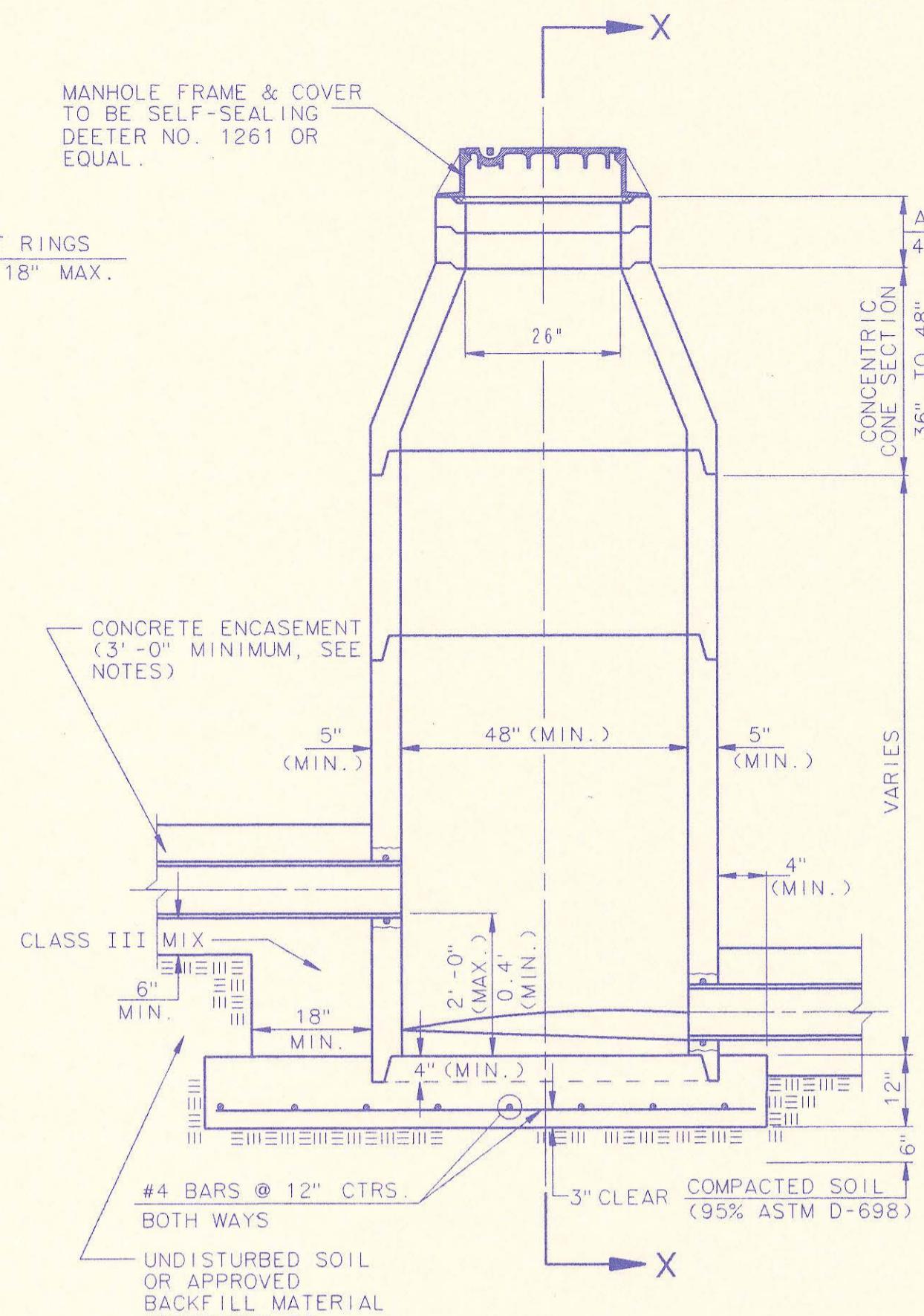
- MANHOLE FRAME AND COVER NOTES**
1. CAST IRON MANHOLE FRAME AND COVER SHALL CONFORM TO ASTM A-48, CLASS 35B, OR BETTER.
 2. CASTINGS ARE TO BE MANUFACTURED TRUE TO PATTERN AND WITH SATISFACTORY FIT OF COMPONENT PARTS. CASTINGS SHALL BE FREE OF DEFECTS. DIMENSIONS AS DETAILED ON PLAN SHALL NOT DEVIATE BY ± 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 FOUNDRY INC. NO. 1261 OR APPROVED 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. GRIND ALL BURRS SMOOTH, CLEAN THOROUGHLY, THEN APPLY SHOP COAT OF ASPHALT BASE PAINT.
 8. 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.
 9. THE MANHOLE FRAME SHALL BE FURNISHED WITH AN APPROVED "O" RING GASKET GROOVED INTO THE BEARING SURFACE OF THE MANHOLE FRAME (SEE DETAIL). THE "O" RING GASKET SHALL NOT BE INSTALLED IN THE MANHOLE FRAME UNTIL AFTER FINAL INSPECTION AND ACCEPTANCE OF THE PROJECT BY THE ENGINEER.



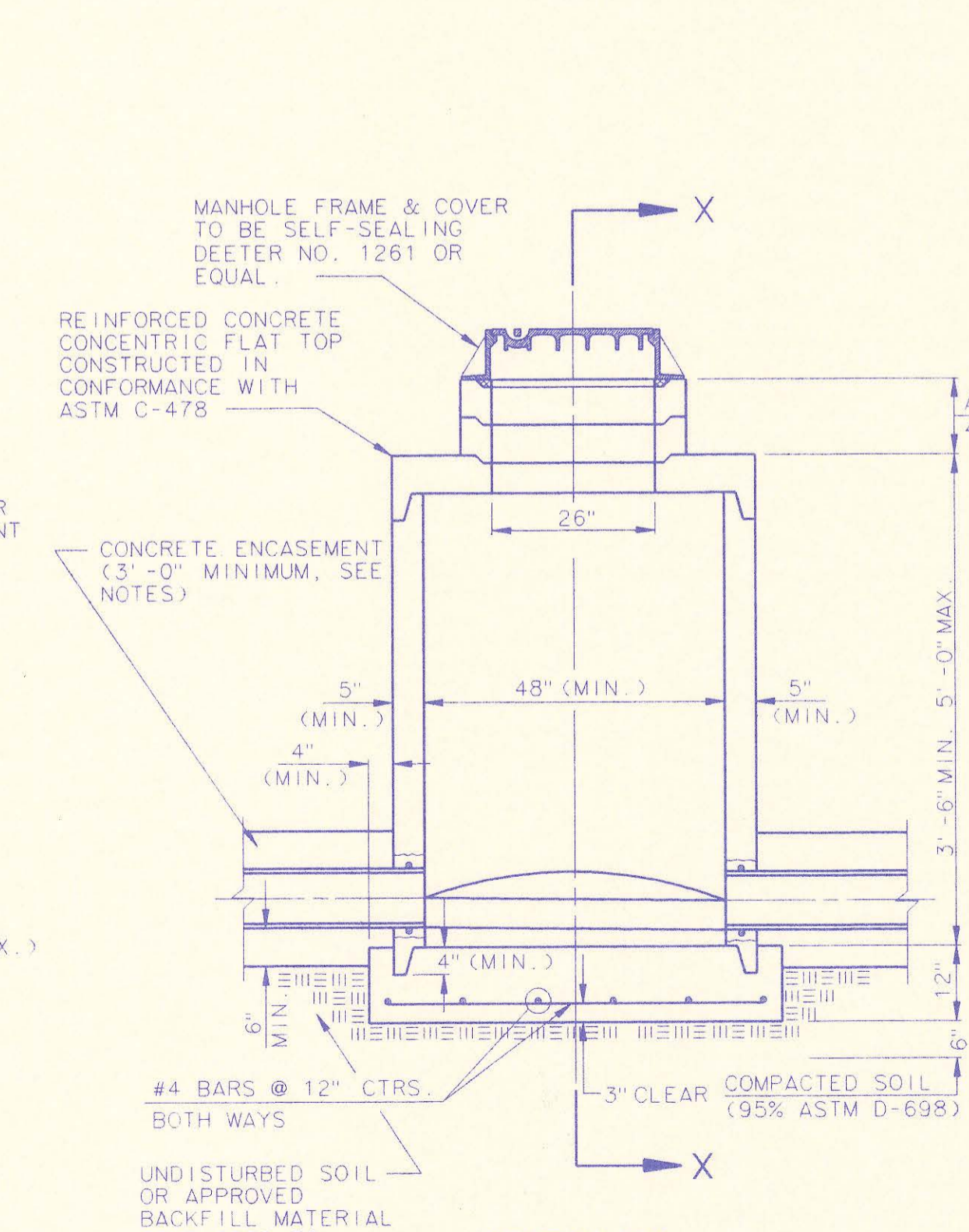
PRECAST STANDARD MANHOLE TYPE "A"



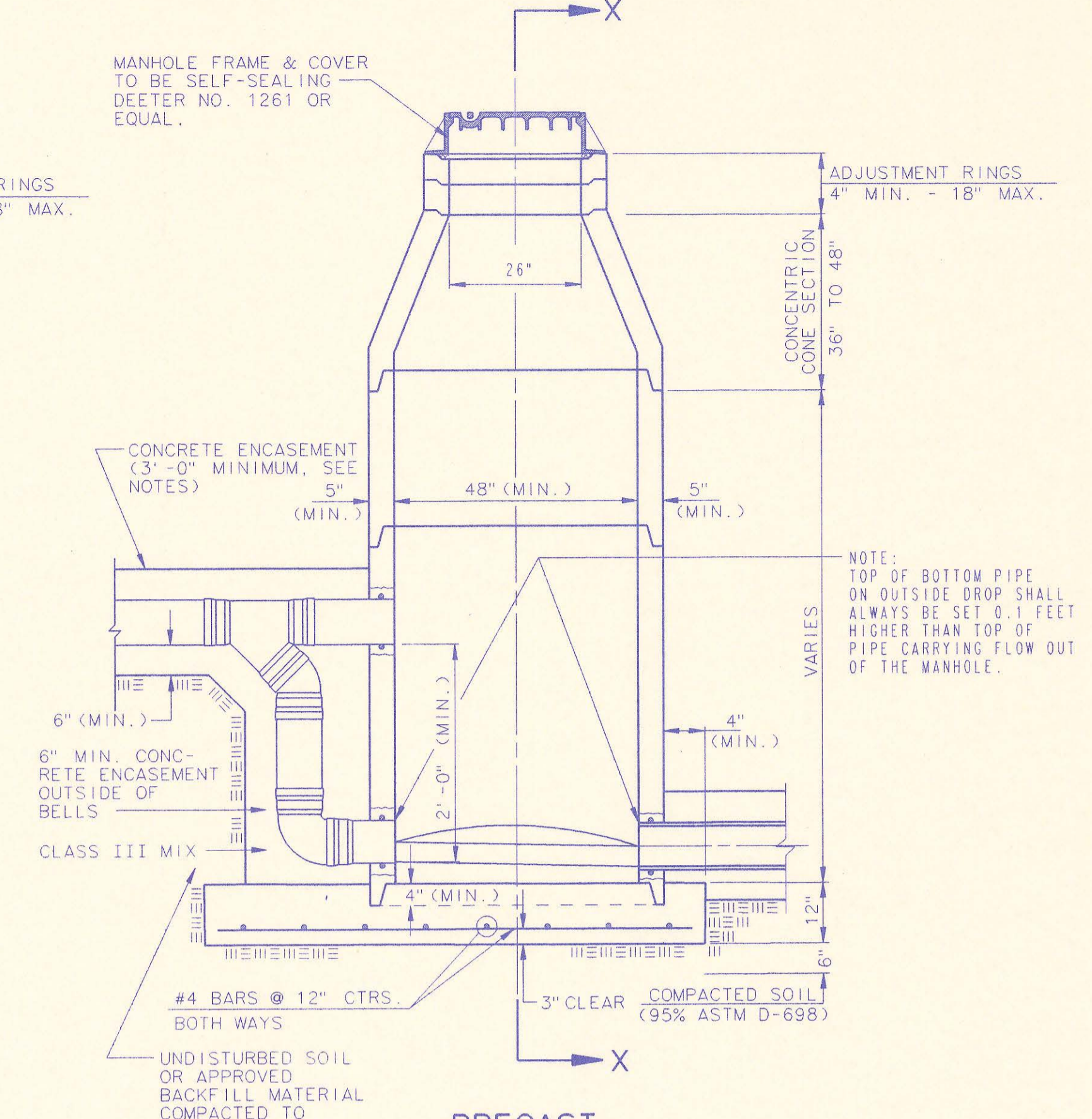
SECTION X (TYPICAL)



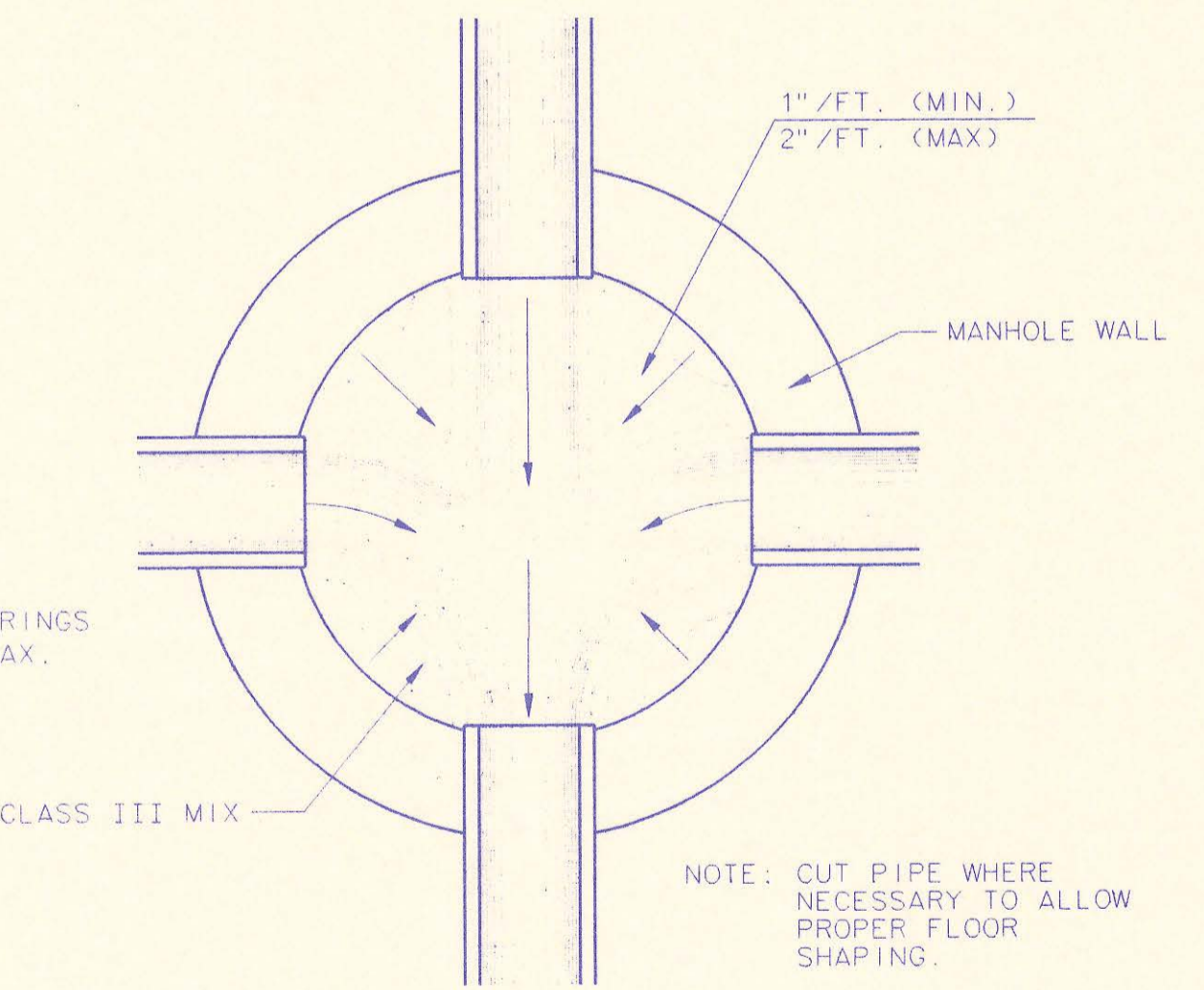
PRECAST INSIDE DROP MANHOLE TYPE "B"



PRECAST SHALLOW MANHOLE TYPE "D"



PRECAST OUTSIDE DROP MANHOLE TYPE "C"



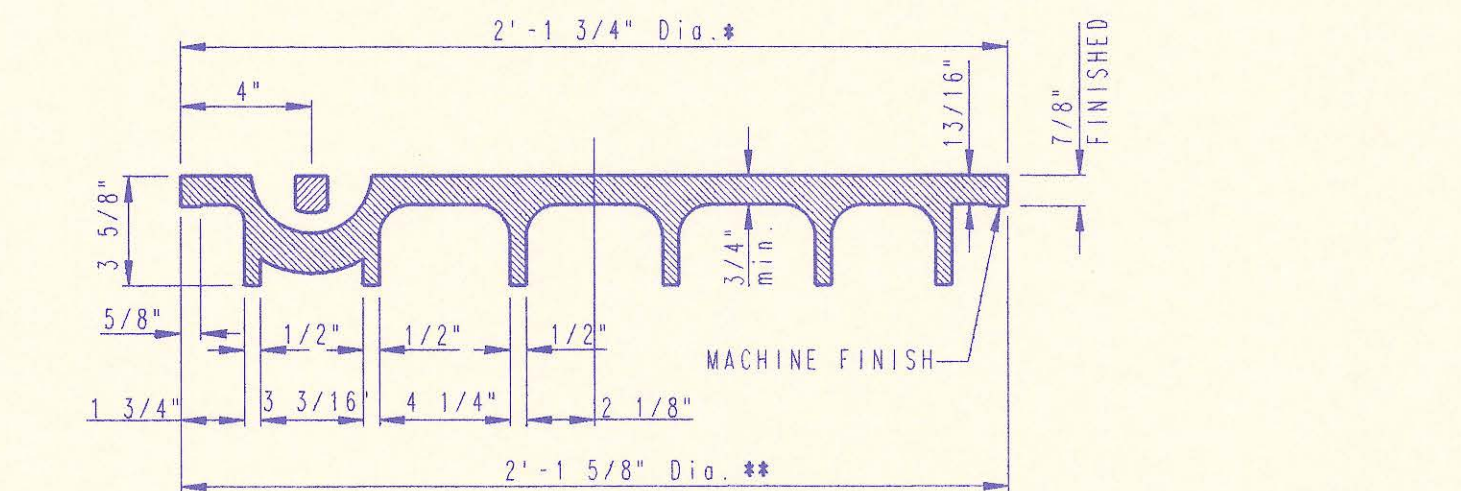
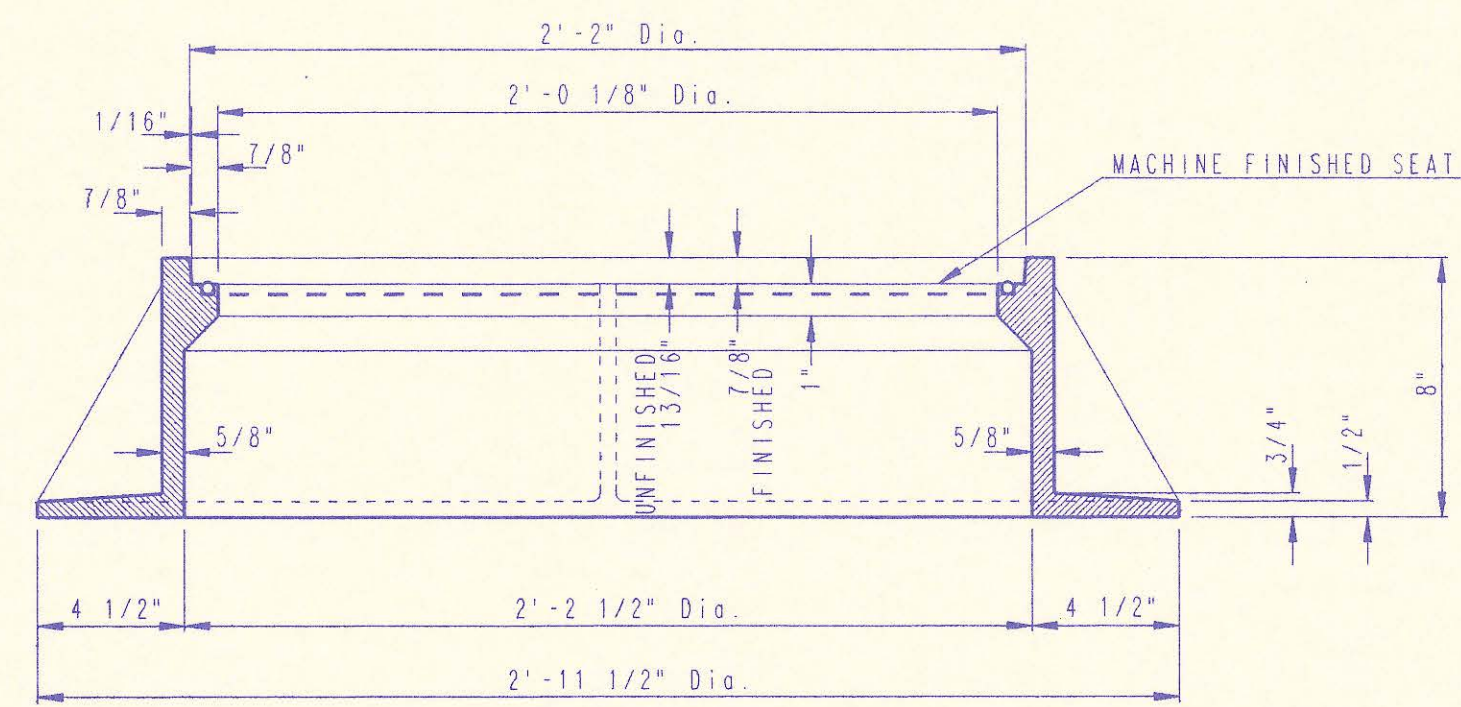
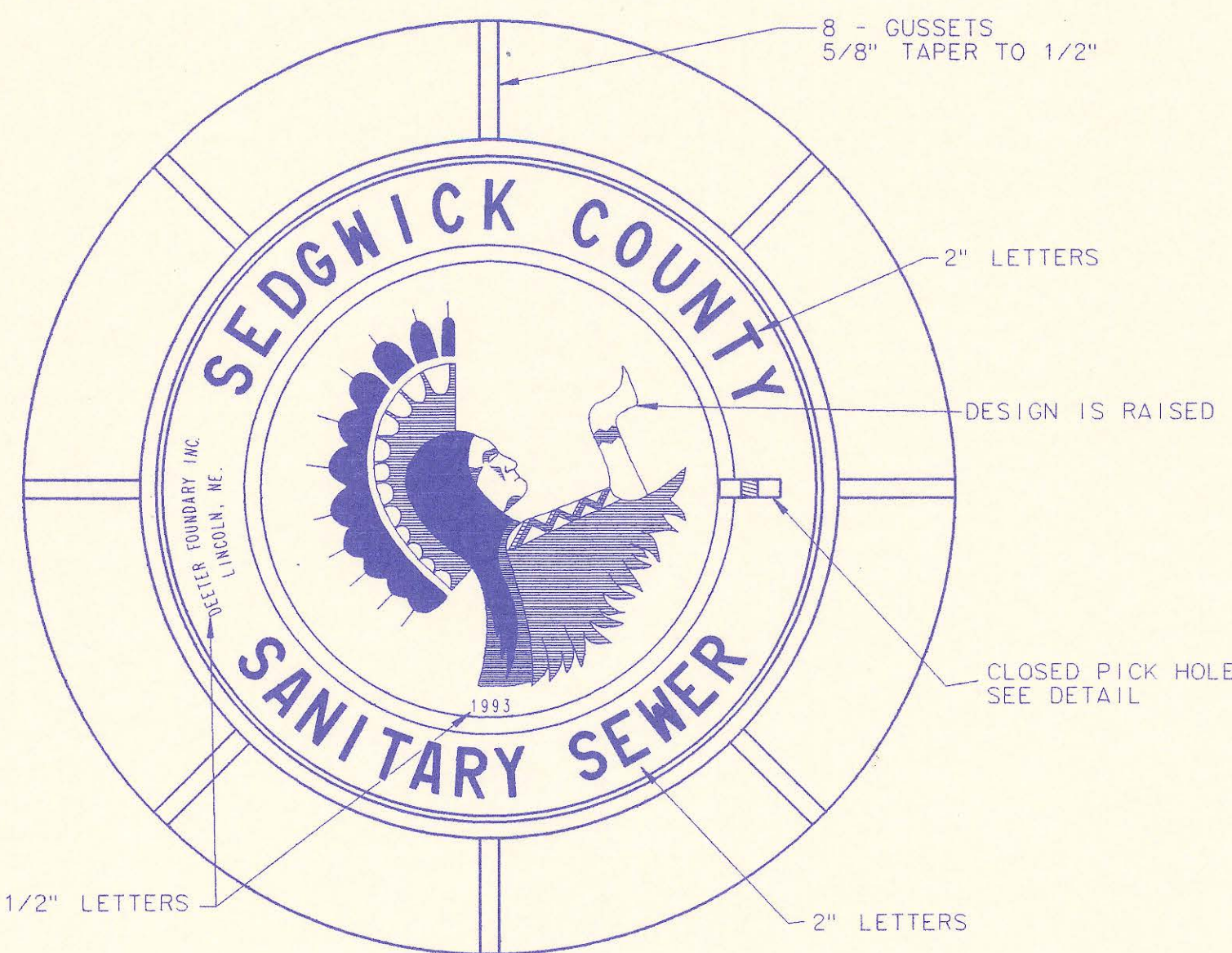
TYPICAL MANHOLE FLOOR SHAPPING

RECORD DRAWING
MPC: 8/1/93
NRM 9/12/93

PRECAST MANHOLE NOTES

1. IF, IN THE OPINION OF THE ENGINEER, THE MANHOLE SUBGRADE APPEARS UNSTABLE, THE CONTRACTOR WILL HAVE THE OPTION TO COMPACT SUBGRADE AS SHOWN OR INCREASE THE THICKNESS OF THE MANHOLE BASE AS DIRECTED BY THE ENGINEER.
2. STEEL REINFORCING WILL BE REQUIRED IN ALL MANHOLE BASES.
3. APPROVED FLEXIBLE WATERSTOP GASKETS WHICH MEET OR EXCEED THE TEST REQUIREMENTS OF ASTM C-923 SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN PLASTIC PIPE IS USED. SEWER PIPE EXTENDING FROM MANHOLES SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL.
4. 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.
5. GASKETED PIPE CAPS SHALL BE PROVIDED BY THE PIPE SUPPLIER. GLUED OR CEMENTED CAPS WILL NOT BE ACCEPTED.
6. ALL MANHOLE CONSTRUCTION SHALL BE WATER TIGHT.
7. 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.
8. ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISION OF ASTM C478 AS MODIFIED BY THE SPECIFICATIONS.
9. CONCRETE FOR MANHOLE BASES SHALL BE CLASS I AS DESCRIBED IN THE SPECIFICATIONS.
10. PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO MANHOLE BASE.
11. MANHOLES WITH PIPE SIZES 24" AND LARGER SHALL HAVE 5" INSIDE DIAMETER (MIN.).
12. 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.

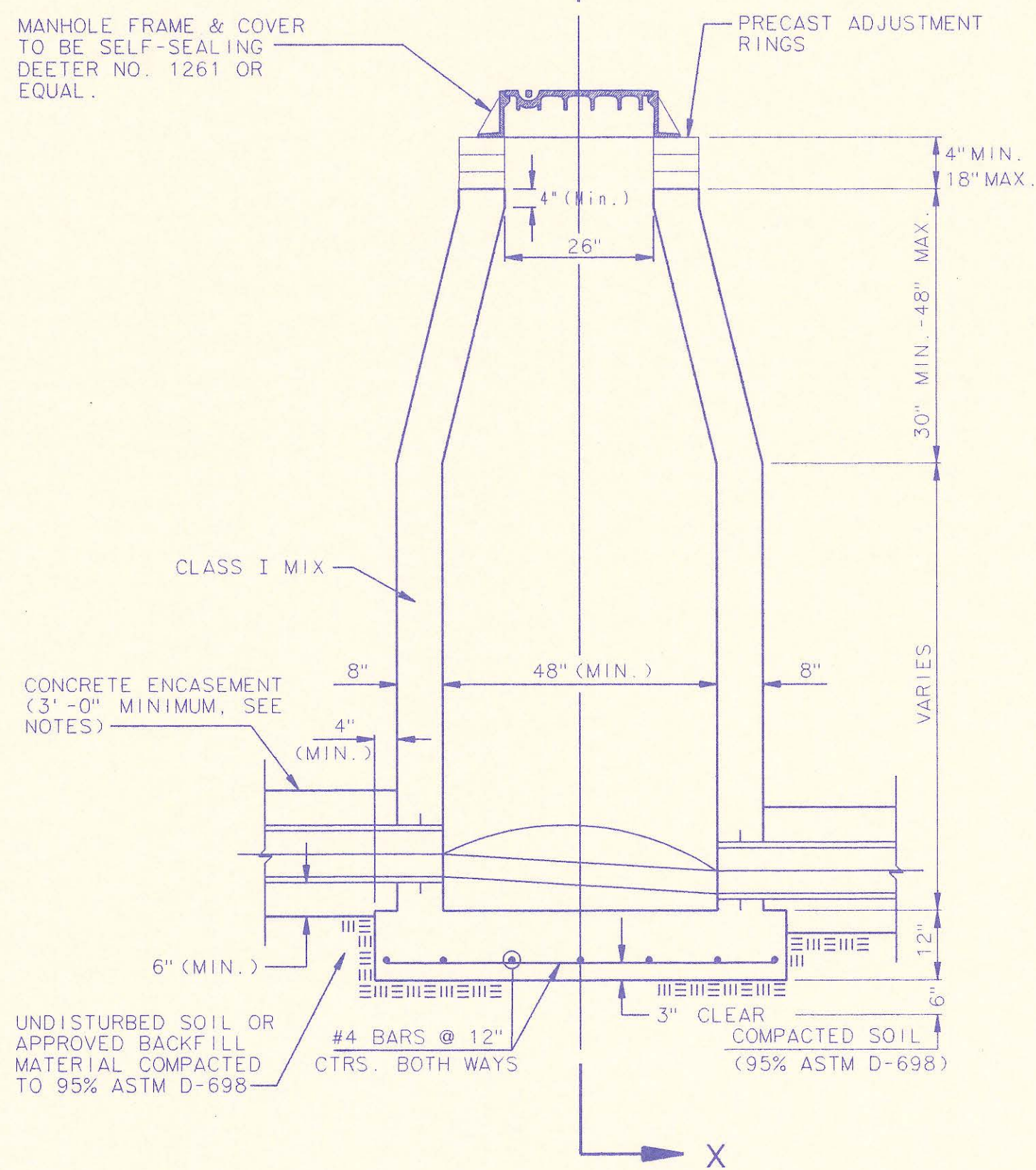
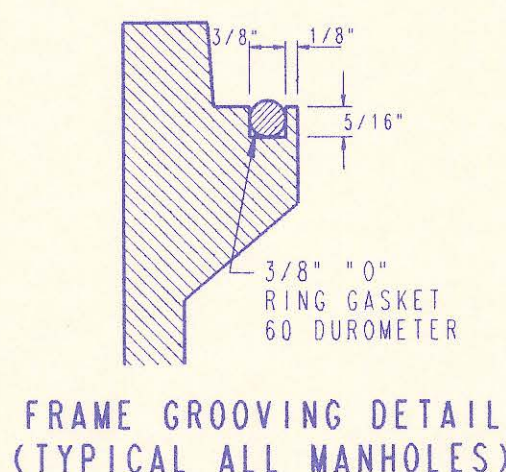
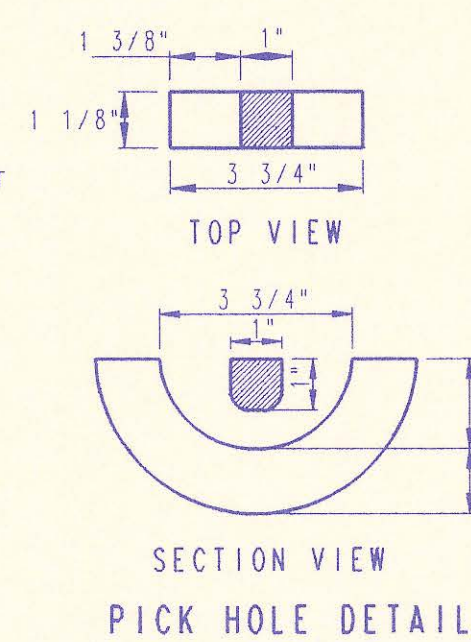
3	All Manholes self-sealing/MH Cover	RJ	1/25/93
2	Modified pipe connection note	RJ	6/01/92
1	Manhole Frame and Cover Note 1	RJ	7/16/91
No.	Revision	By	Date
PRECAST MANHOLE DETAILS			
ADOPTED AS STANDARD DESIGN SEPTEMBER, 1989			
BY			
SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES			
DAVID C. SPEARS, P.E. DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER			



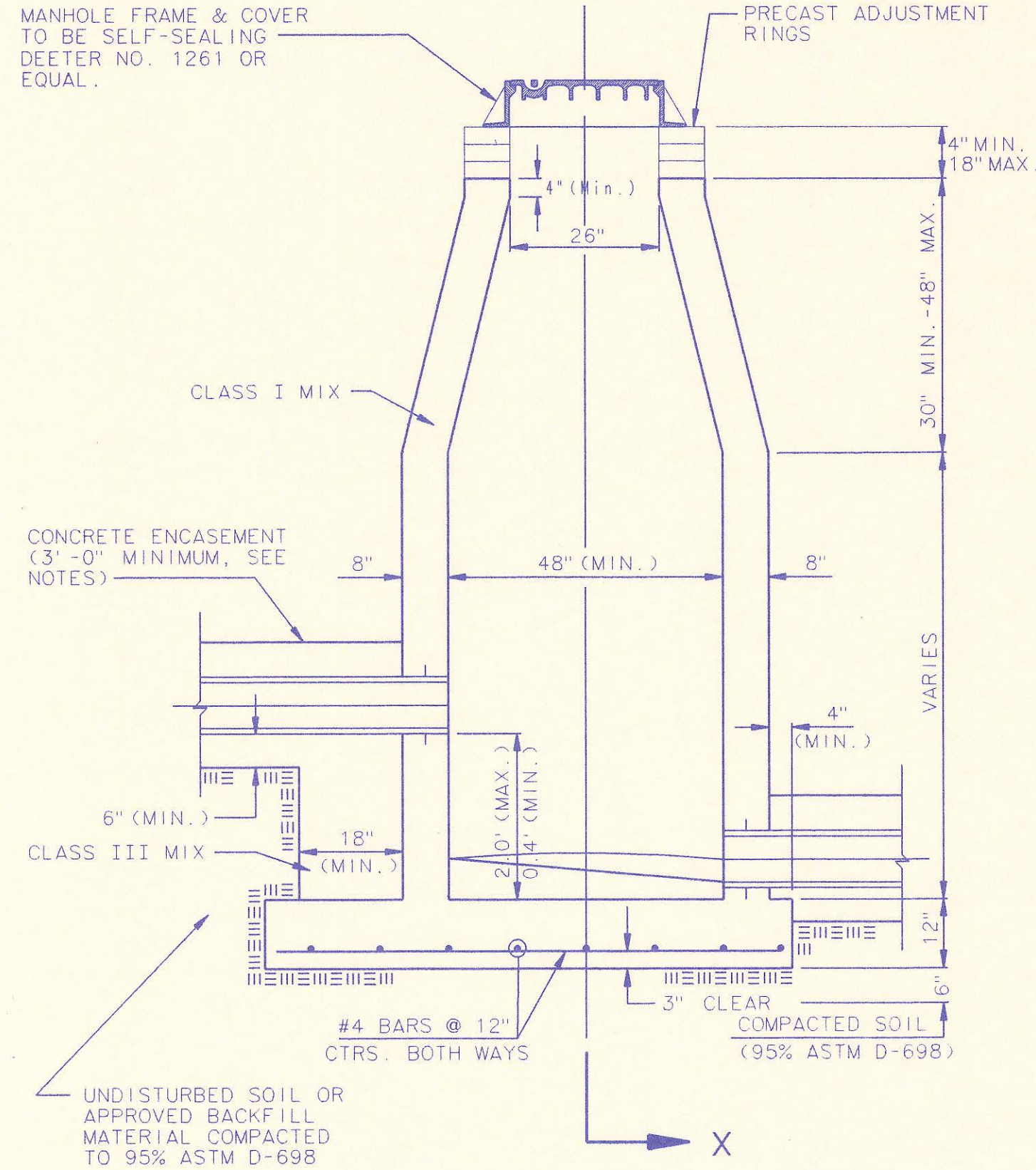
MANHOLE FRAME AND COVER
(TOTAL WEIGHT = 430 LBS.)

MANHOLE FRAME AND COVER NOTES

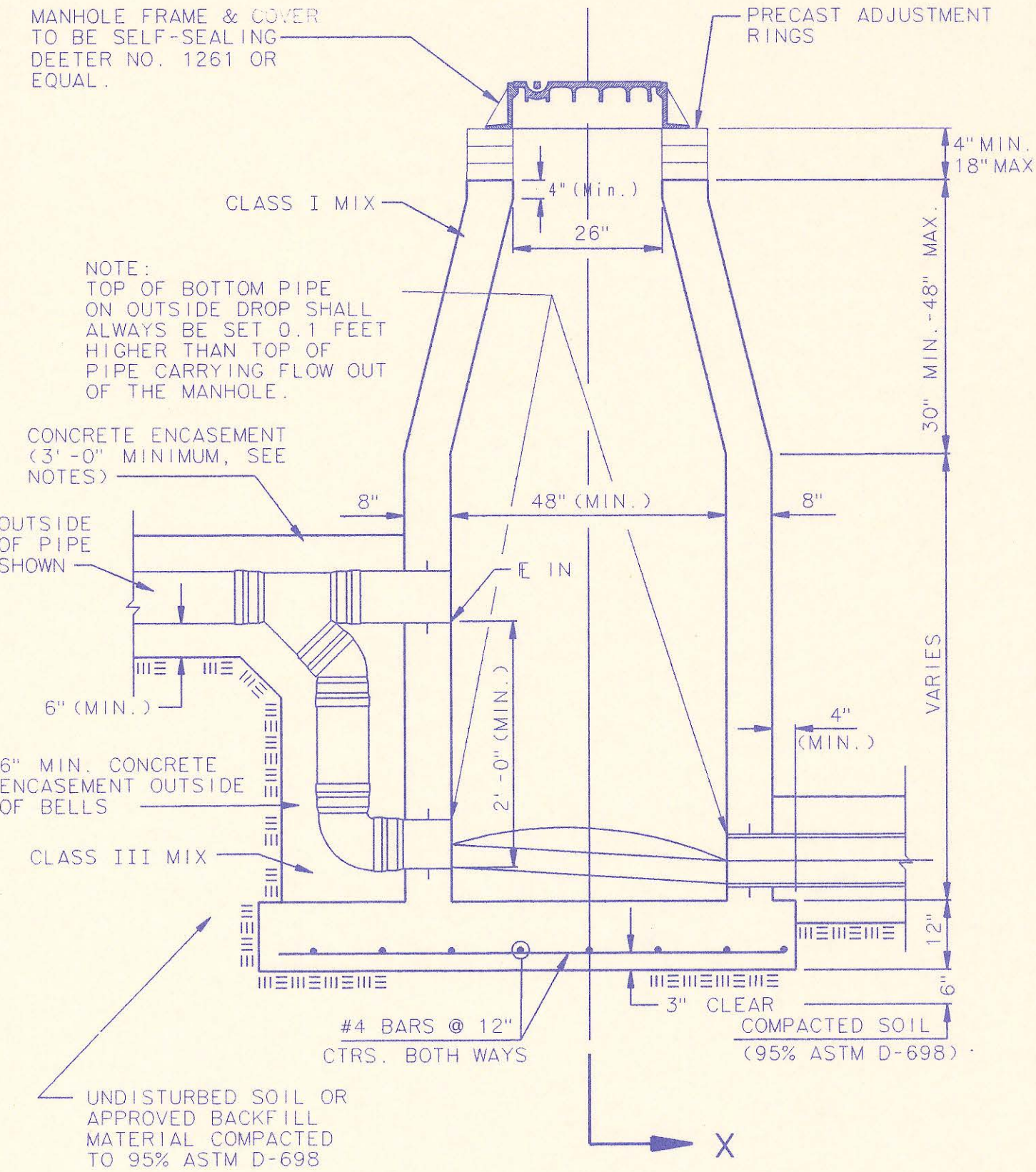
1. CAST IRON MANHOLE FRAME AND COVER SHALL CONFORM TO ASTM A-48, CLASS 35B, OR BETTER.
2. CASTINGS ARE TO BE MANUFACTURED TRUE TO PATTERN AND WITH SATISFACTORY FIT OF COMPONENT PARTS. CASTINGS SHALL BE FREE OF DEFECTS. DIMENSIONS AS DETAILED ON PLAN SHALL NOT DEVIATE BY $\pm 1/16"$ PER FOOT.
3. NO OTHER 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 FOUNDRY INC. NO. 1261 OR APPROVED 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. GRIND ALL BURRS SMOOTH, CLEAN THOROUGHLY, THEN APPLY SHOP COAT OF ASPHALT BASE PAINT.
8. 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.
9. THE MANHOLE FRAME SHALL BE FURNISHED WITH AN APPROVED "O" RING GASKET GROoved INTO THE BEARING SURFACE OF THE MANHOLE FRAME (PER DETAIL). THE "O" RING GASKET SHALL NOT BE INSTALLED IN THE MANHOLE FRAME UNTIL AFTER FINAL INSPECTION AND ACCEPTANCE OF THE PROJECT BY THE ENGINEER.



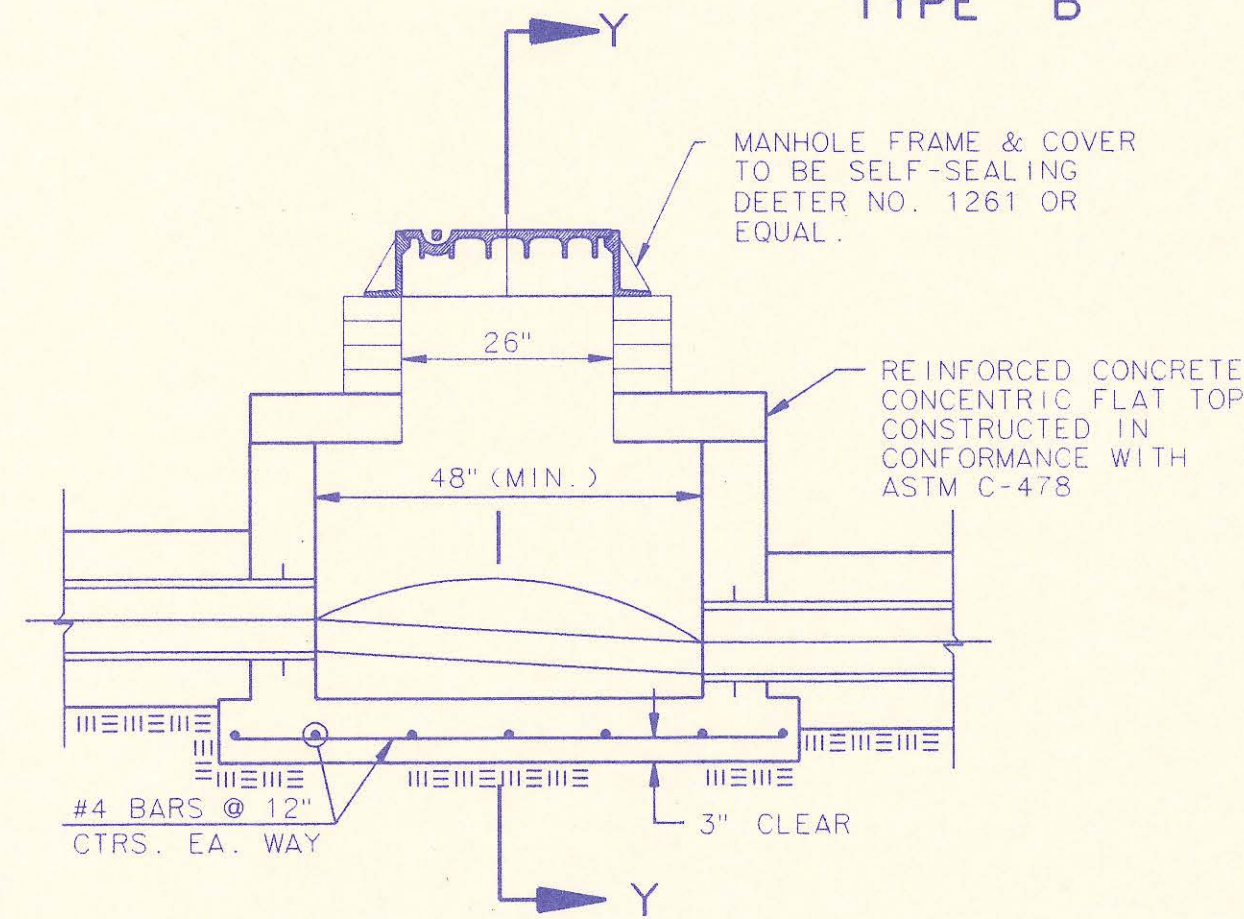
CAST IN PLACE STANDARD MANHOLE TYPE "A"



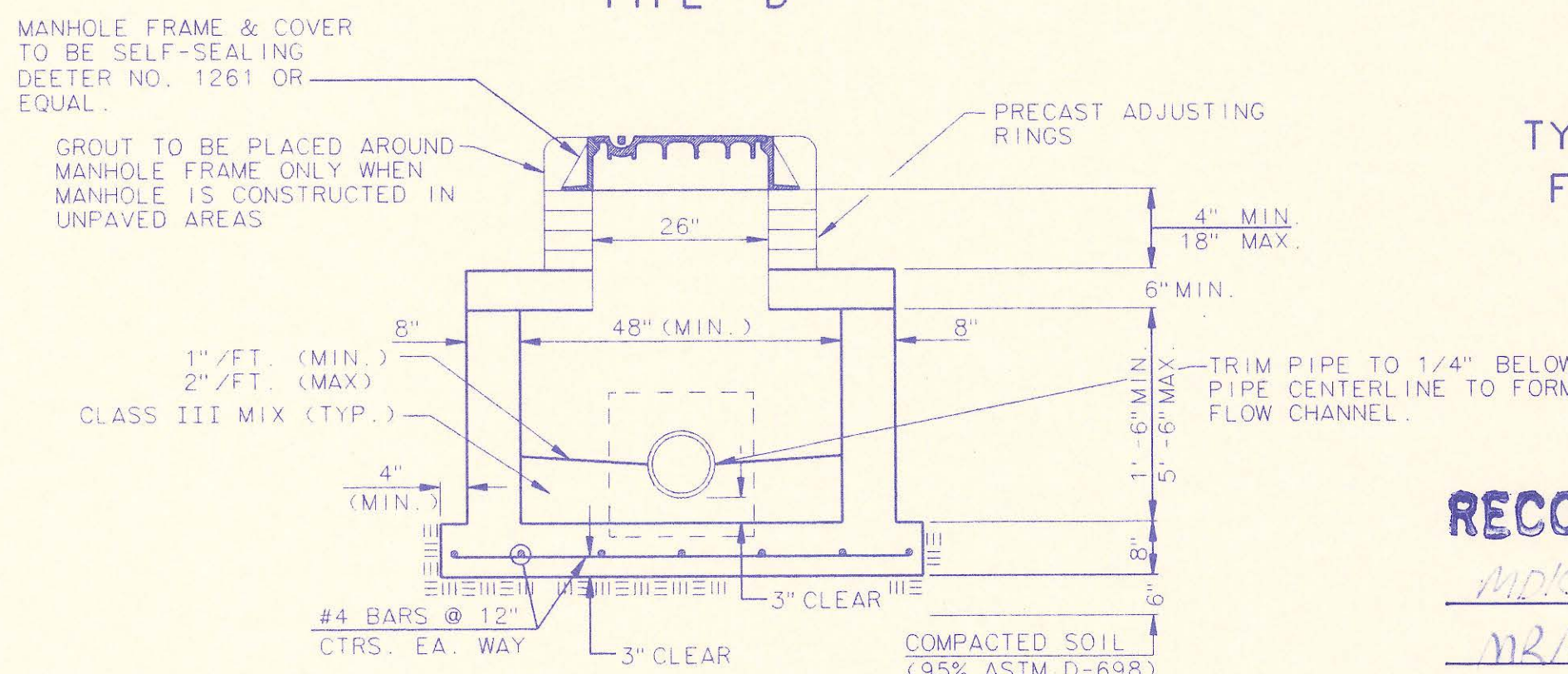
CAST IN PLACE DROP MANHOLE TYPE "B"



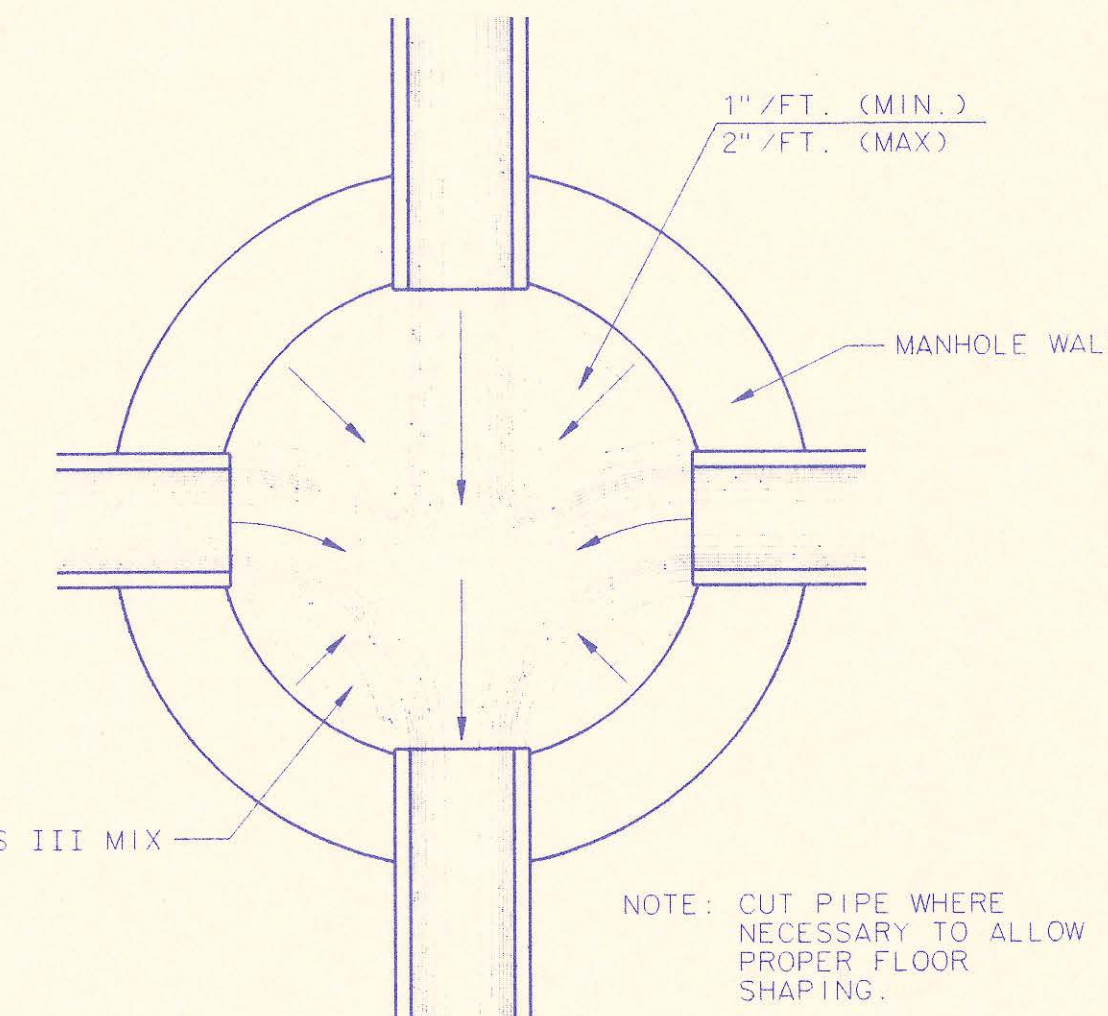
CAST IN PLACE OUTSIDE DROP MANHOLE TYPE "C"



SHALLOW MANHOLE TYPE "D"



SECTION Y



TYPICAL MANHOLE FLOOR SHAPING

CAST-IN-PLACE MANHOLE NOTES

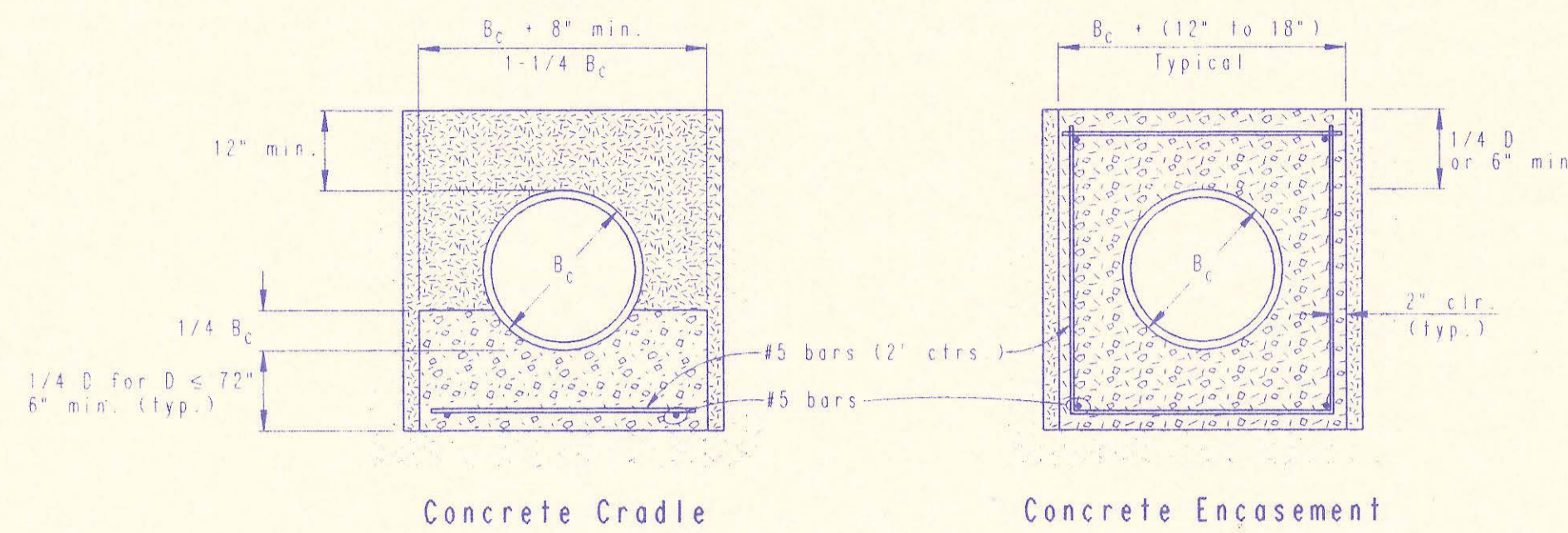
1. IF, IN THE OPINION OF THE ENGINEER, THE MANHOLE SUBGRADE APPEARS UNSTABLE, THE CONTRACTOR WILL HAVE THE OPTION TO COMPACT SUBGRADE AS SHOWN OR INCREASE THE THICKNESS OF THE MANHOLE BASE AS DIRECTED BY THE ENGINEER.
2. STEEL REINFORCING WILL BE REQUIRED IN ALL MANHOLE BASES.
3. WHEN OPENINGS ARE CUT IN MANHOLE WALLS FOR PIPE, THE PIPE OR PIPE CONNECTOR SHALL BE GROUTED IN PLACE WITH HYDRAULIC CEMENT. EXTERIOR OF COMPLETED CONNECTION SHALL BE SEALED WITH APPROVED COATINGS.
4. CAST-IN-PLACE CIRCULAR CONCRETE MANHOLES ARE TO BE CONSTRUCTED ONLY IN LOCATIONS WHERE IT IS OBVIOUS THAT ANY ADJUSTMENT OF THE MANHOLE TOP ELEVATIONS WHICH MAY BE NECESSARY WILL NOT REQUIRE MODIFICATION OF THE CONCRETE BARREL.
5. APPROVED FLEXIBLE WATERSTOP GASKETS WHICH MEET OR EXCEED THE TEST REQUIREMENTS OF ASTM C-923 SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN ABS COMPOSITE PIPE OR PVC PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER EXTENDING FROM MANHOLES SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL.
6. THE MANHOLE FRAME SHALL BE SEATED ON AN APPROVED BUTYL-RUBBER SEALANT TO PROVIDE A WATER-TIGHT SEAL BETWEEN THE MANHOLE ADJUSTMENT RING OR BRICK MASONRY COLLAR AND THE MANHOLE FRAME.
7. GASKETED PIPE CAPS SHALL BE PROVIDED BY THE PIPE SUPPLIER. GLUED OR CEMENTED CAPS WILL NOT BE ACCEPTED.
8. CONCRETE FOR MANHOLE BASES SHALL BE CLASS I AS DESCRIBED IN THE SPECIFICATIONS.
9. MANHOLES WITH PIPE SIZES LARGER THAN 15" SHALL HAVE 5' INSIDE DIAMETER.

RECORD DRAWING

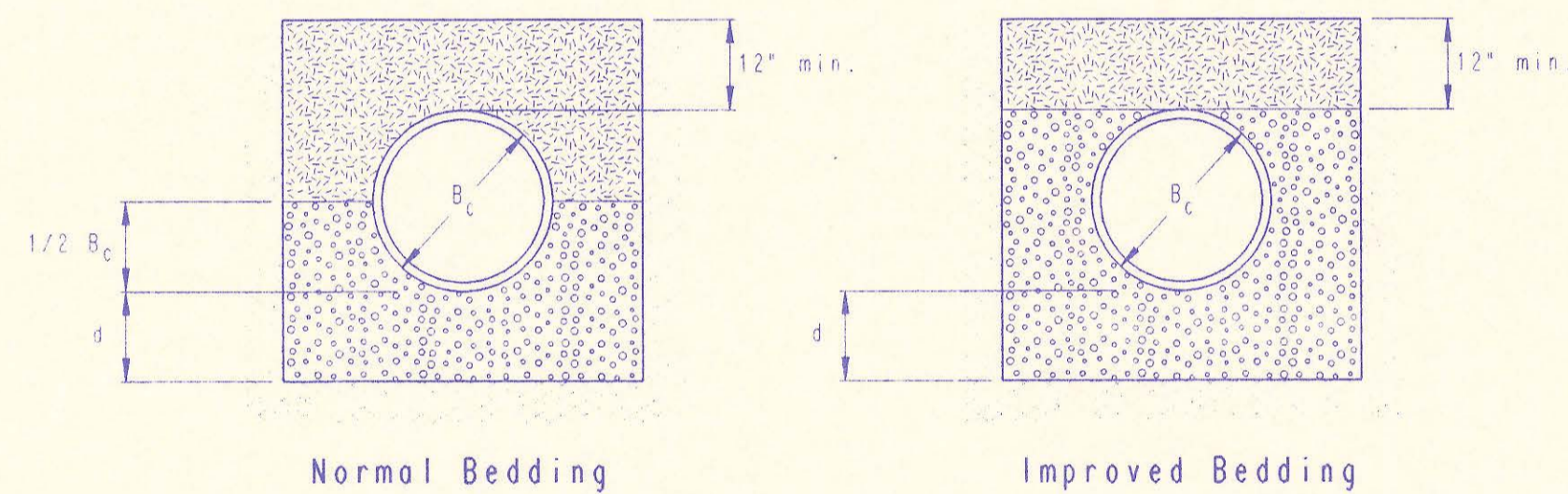
MDC 8/11/93
12/11 8/12/93

3	All Manholes Self-sealing/ MH Cover	RJ	1/25/93
2	Modified Pipe connection note and MH Note 3	RJ	6/01/92
1	Manhole Frame and Cover Note 1	RJ	7/16/91
No.	Revision	By	Date
CAST-IN-PLACE 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			

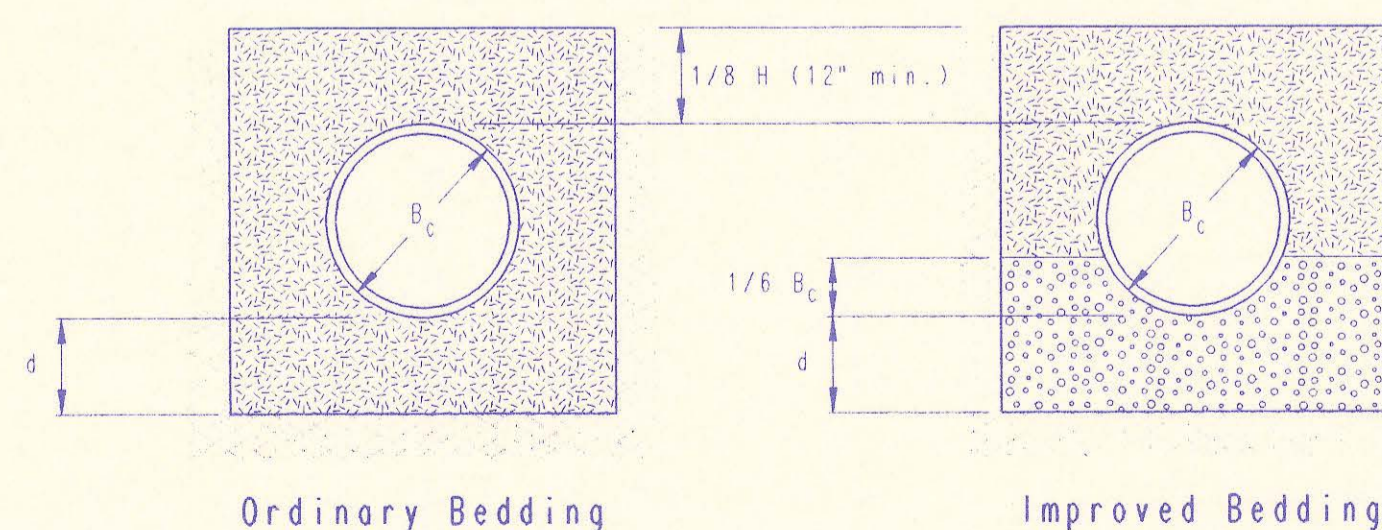
DATE: 7/7/93
 BY: MDC
 CHECKED: MDC
 PLAN



CLASS A



CLASS B



CLASS C

PIPE ZONE BACKFILLING

- B_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.

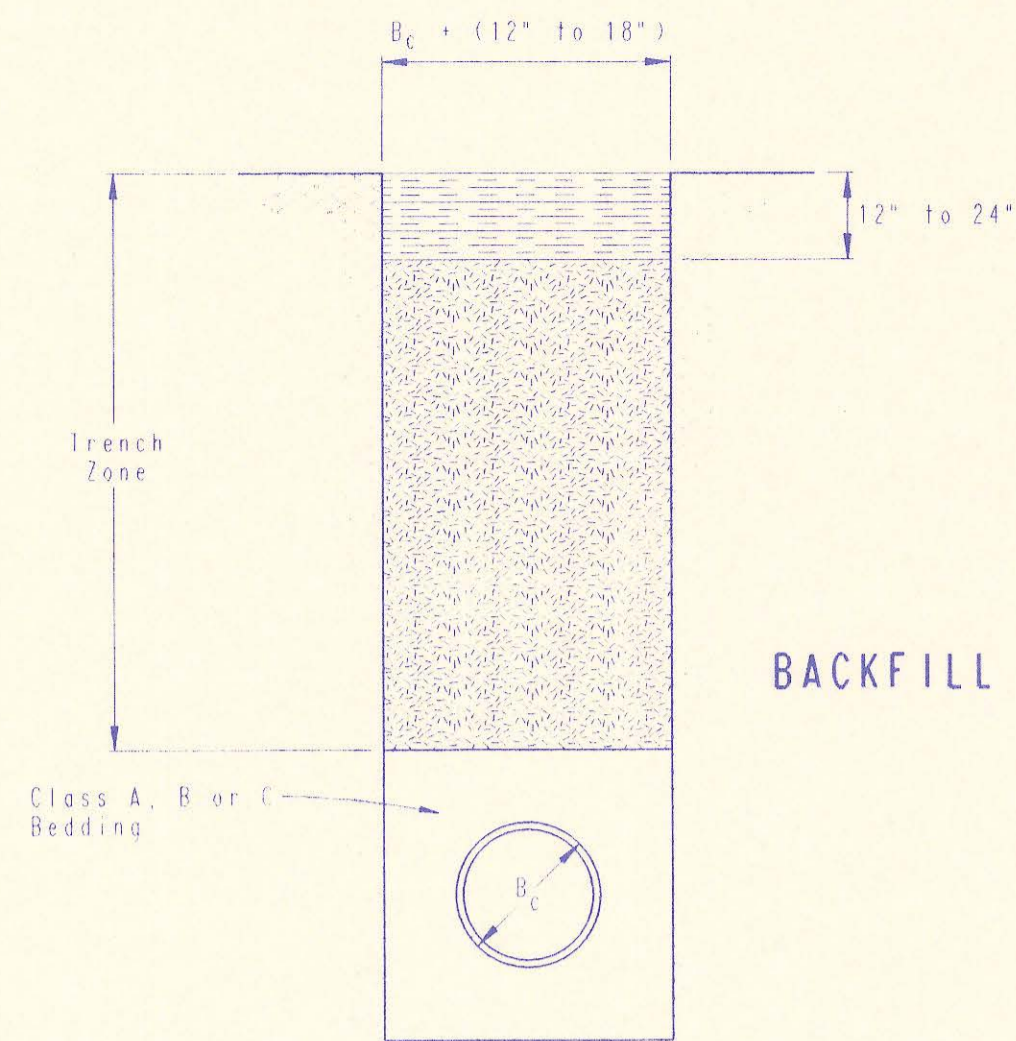
Class A "Concrete Cradle" and/or Class A "Concrete Encasement" is not required unless specified on the plans. However, where unexpected trench conditions exist or improper trenching is performed Class A Bedding may be required as determined by the Engineer.

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).



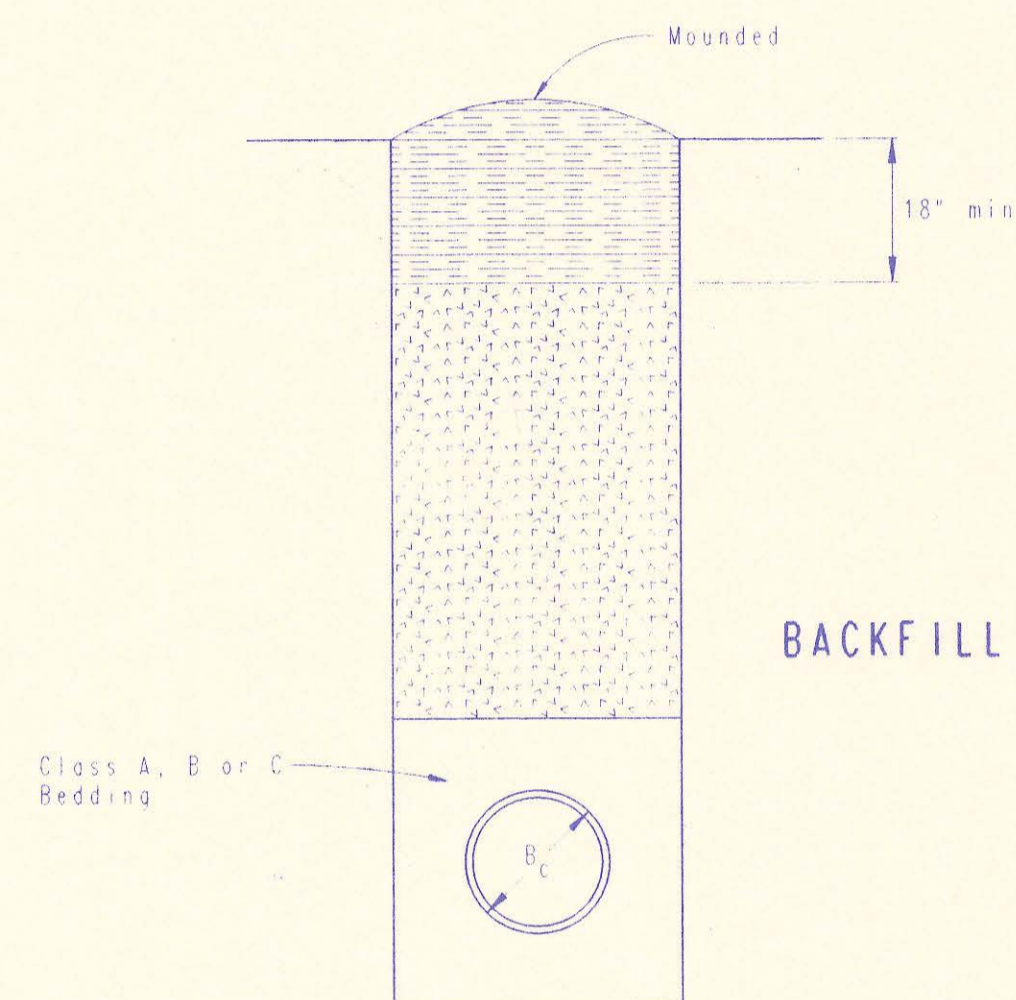
BACKFILL TYPE I

- B_c = Outside Pipe Diameter
- [Pattern] = Compacted Granular Backfill
- [Pattern] = Uncompacted 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.

Uncompacted 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.



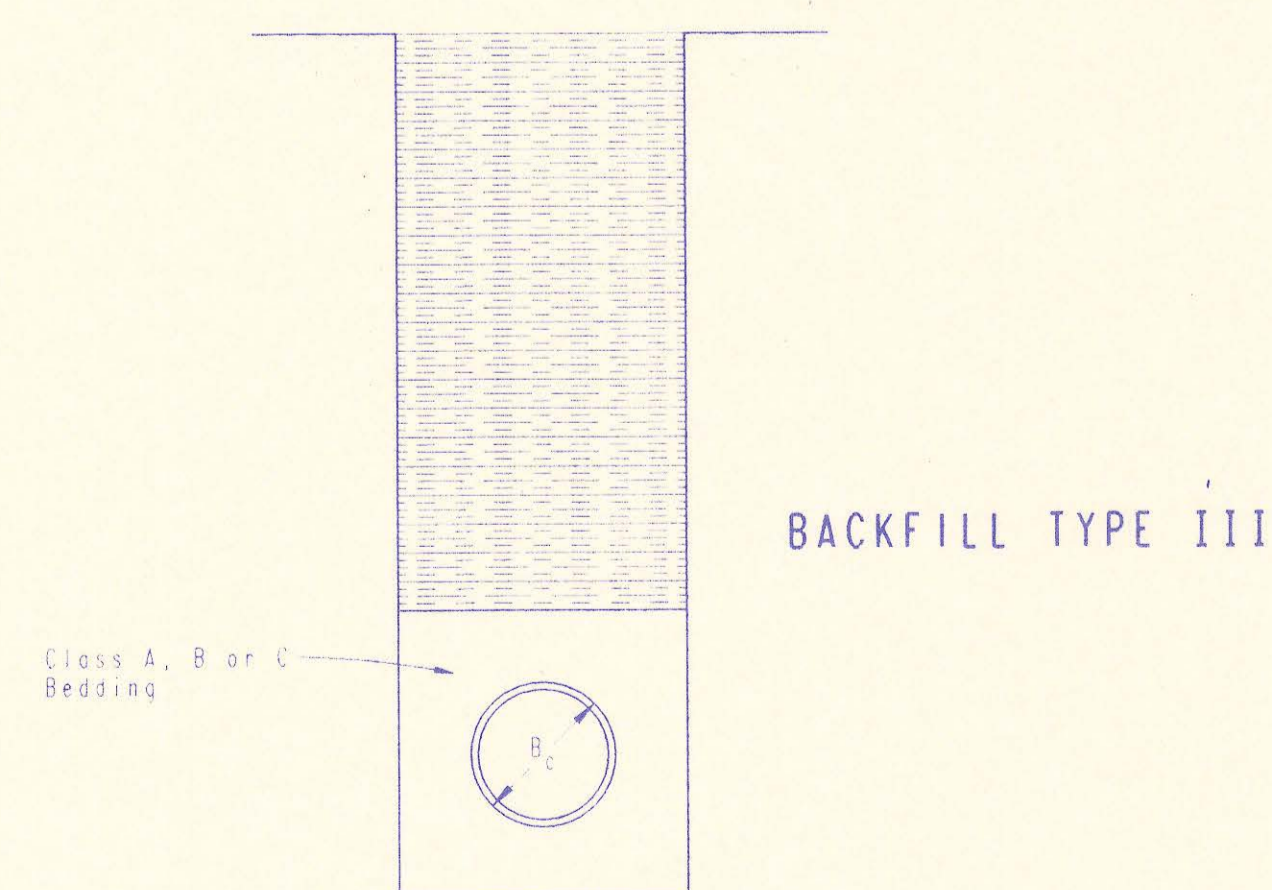
BACKFILL TYPE II

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

RECORD DRAWING

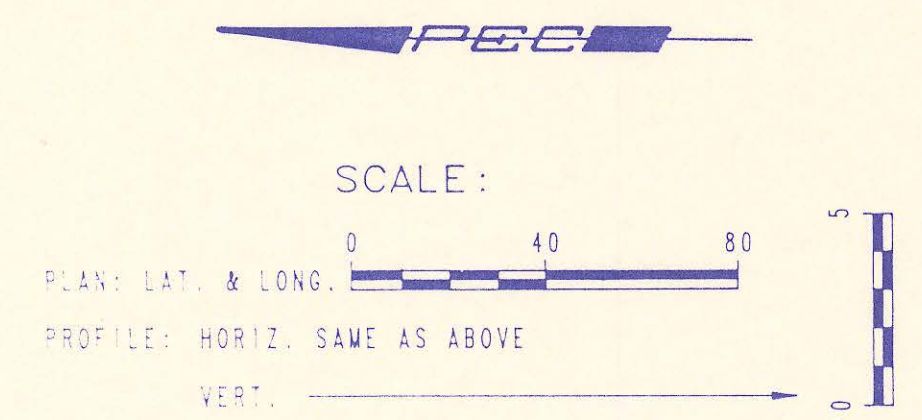
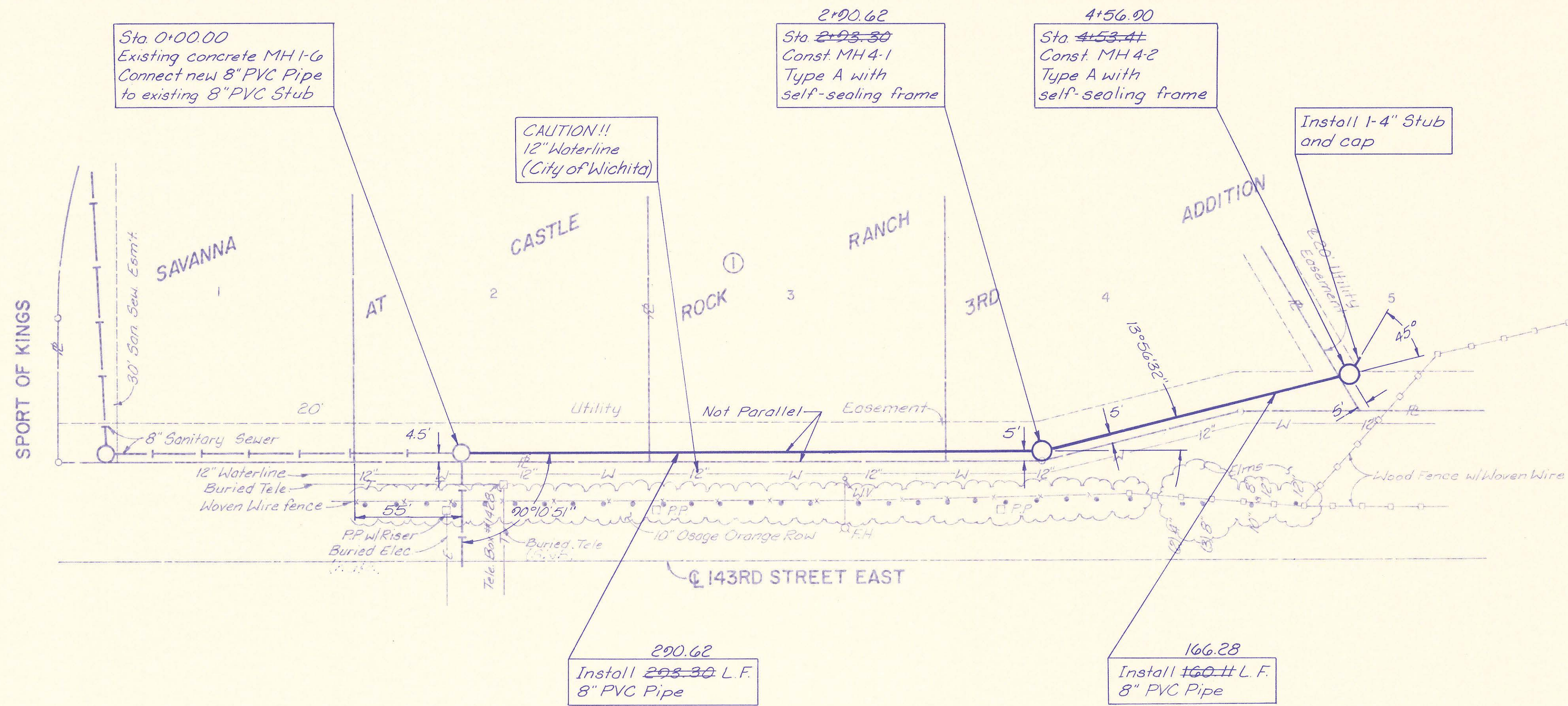
MDC 8/11/93
 MCM 8/12/93

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

DATE	
BY	
DESIGNED	
PLOTTED	
NOTE BOOK	
ALIGNMENT CHECKED	
RT. OF WAY CHECKED	
NO.	

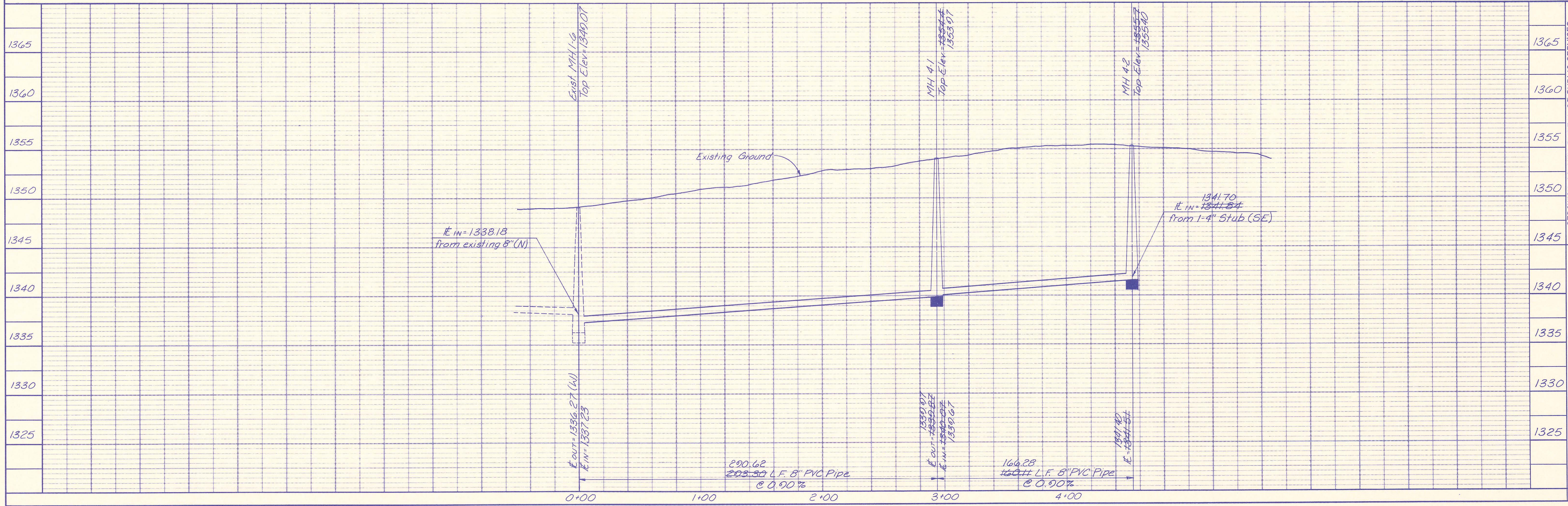
DATE	
BY	
DESIGNED	
PLOTTED	
NOTE BOOK	
GRADES CHECKED	
B. M'S NOTED	
STRUCTURE NOTATIONS CHECKED	
NO.	



RECORD DRAWING



LATERAL NO. 4



SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
 DIRECTOR, BUREAU OF PUBLIC SERVICES

LATERAL NO. 4

SANITARY SEWER IMPROVEMENTS
 SAVANNA AT CASTLE ROCK RANCH 3RD ADDITION

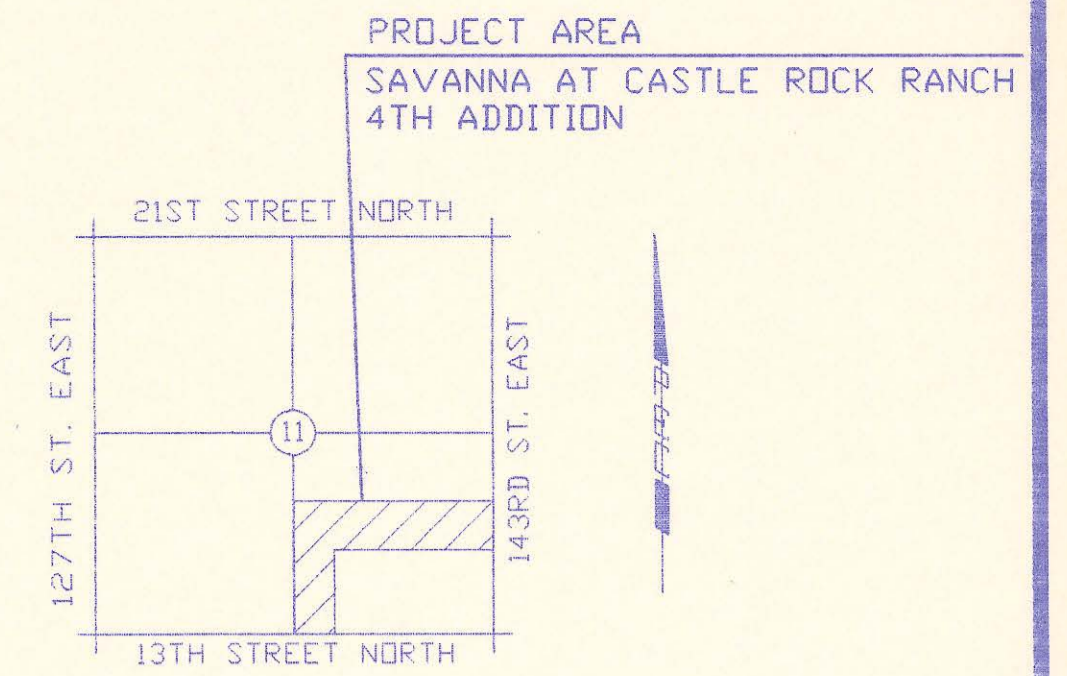
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
 ENGINEERS
 WICHITA, KANSAS

Designed by MDS, MDK
 Drawn by STM

Job No. 84-02465-1
 Date December, 1992

Sht. 7 of 8

BUREAU OF PUBLIC SERVICES



LOCATION MAP
NOT TO SCALE

INDEX OF SHEETS

SHEET NO.	1	TITLE SHEET
SHEET NO.	2	KEY MAP
SHEET NO.	3	EASEMENT GRADING PLAN
SHEET NO.	4	PLAN
SHEET NO.	5	PRECAST MANHOLE DETAILS
SHEET NO.	6	CAST IN PLACE MANHOLE DETAILS
SHEET NO.	7	BACKFILL DETAILS
SHEET NO.	8-12	PLAN/PROFILE

CONSTRUCTION PLANS FOR SANITARY SEWER IMPROVEMENTS

IN
SAVANNA AT CASTLE ROCK RANCH
4TH ADDITION

TO SEDGWICK COUNTY, KANSAS

SEPTEMBER, 1993

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

RECORD DRAWING

PROJ. ENG. _____ DATE _____
RES. ENG. _____ DATE _____

APPROVED:

David C. Spears
DAVID C. SPEARS, P.E.
DIRECTOR OF PUBLIC SERVICES/COUNTY ENGINEER
DATE: 11/16/93

APPROVED:

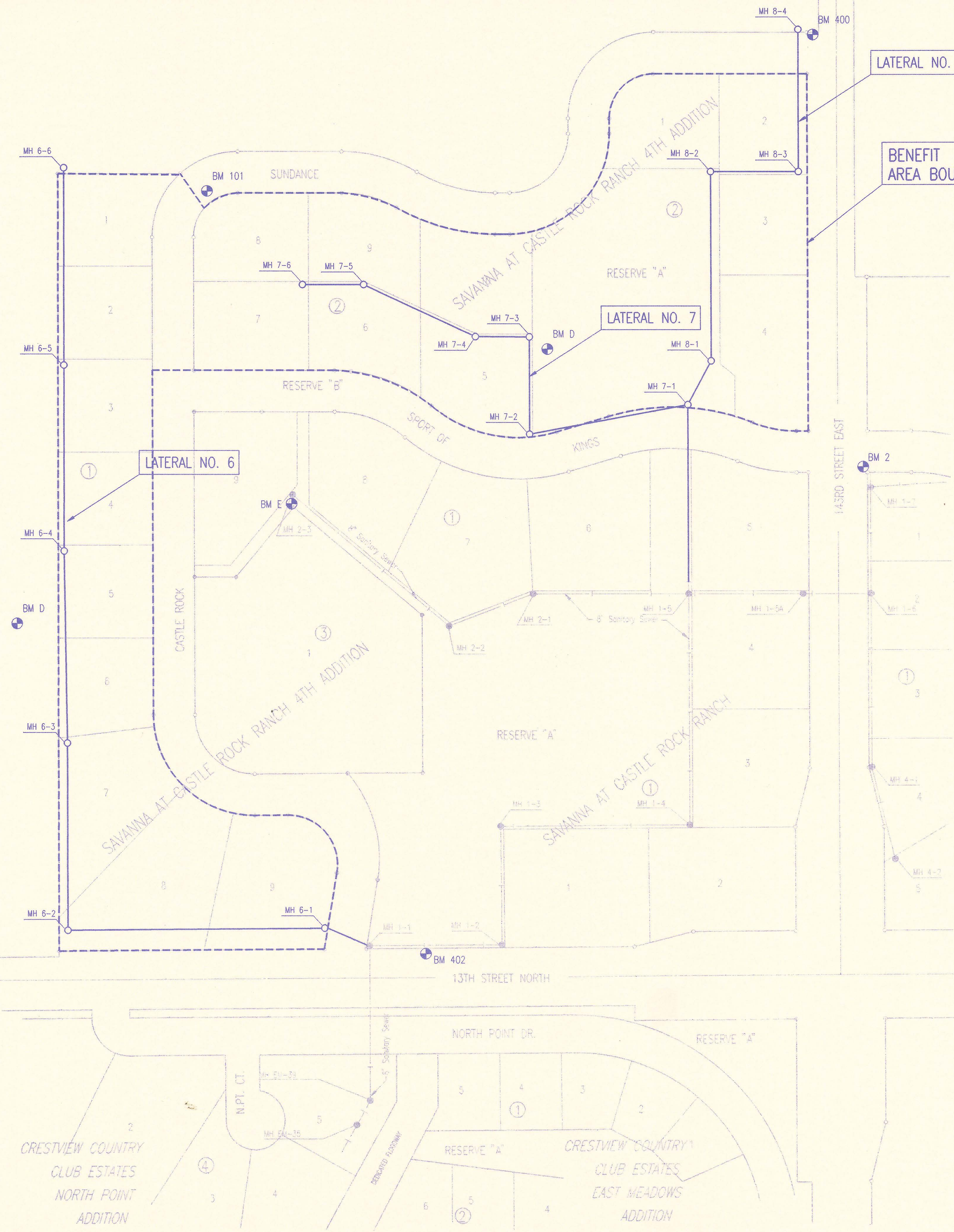
Chairman
CHAIRMAN, BOARD OF COUNTY COMMISSIONERS
DATE: 11/16/93

FILED IN THE OFFICE OF
THE SEDGWICK COUNTY CLERK
County Clerk
COUNTY CLERK
DATE: 11/16/93



DRAWING LOCATION: 0193278-1-TLSLST
LOCATION: SAVANNA AT CASTLE ROCK RANCH, 4TH
ADDITION, WICHITA, KANSAS
DATE: SEPTEMBER 1, 1993
SPECIAL INSTRUCTIONS:

DRAWING NAME: Sewer
 LOCATION: Q13278-001
 ROTATION ANGLE:
 DATE LAST MODIFIED ON: SEPTEMBER 15, 1993
 CND BY: STM/DATE: 9/15/93
 BN-STM



- BENCH MARK RECAP**
- BM #2 - RR SPIKE IN POWER POLE AT SE COR. 143RD STREET EAST AND SPORT-OF-KINGS. ELEV. = 1348.66
 - BM #400 - RR SPIKE IN S FACE 12' ELM AT NW COR. 143RD STREET EAST AND SUNDANCE. ELEV. = 1353.27
 - BM #401 - CHIS. "CDN SE COR. CONCRETE SLAB 30' E AND 5' N OF SW COR. HORSE BARN, SUNDANCE STREET STA. 16+40, 68' LT., N OF LOT 8, BLOCK 2, SAVANNA 4TH ADDITION. ELEV. = 1359.96
 - BM "C" - RR SPIKE IN E FACE 12' ELM 75' W AND 11' N OF SW COR., LOT 5, BLOCK 1, SAVANNA 4TH ADDITION. ELEV. = 1342.19
 - BM "D" - CHIS. "CDN TOP OF BOTTOM ROCK LEDGE 2' ABOVE POND AT W END ROCK RETAINING WALL, NW SIDE POND NEAR W SIDE LOT 5, BLOCK 2, SAVANNA @ CASTLE ROCK 4TH ADDITION. ELEV. = 1346.85
 - BM "E" - CHIS. "CDN NE COR. CONCRETE SLAB NEAR N COR. LOT 1, BLOCK 3, SAVANNA 4TH ADDITION. ELEV. = 1349.84
 - BM #402 - CHIS. "CDN NW COR. CONCRETE HEADWALL, N END RCBC UNDER 13TH STREET NORTH 140' E OF CENTERLINE CASTLE ROCK ROAD. ELEV. = 1340.23

- GENERAL NOTES
1. ALL ELEVATIONS SHOWN ARE USGS DATUM.
 2. 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.
 3. 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.
 4. AT LEAST 24 HOURS BEFORE CONNECTING NEW SEWER PIPE TO THE EXISTING SEWER SYSTEM, THE CONTRACTOR SHALL CONTACT THE SEDGWICK COUNTY EASTERN SEWER DISTRICT (733-0202). THE CONTRACTOR SHALL KEEP ANY CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER DURING CONSTRUCTION. TO PREVENT WATER OR DEBRIS FROM ENTERING THE EXISTING SEWER, A MECHANICAL PLUG SHALL BE INSTALLED AND MAINTAINED TO ISOLATE THE EXISTING SEWER FROM THE NEW CONSTRUCTION UNTIL THE NEW CONSTRUCTION IS CLEANED, TELEVIEWED, AND HAS BEEN ACCEPTED. 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 TELEVIEWING.
 5. ALL PIPE JOINTS SHALL BE LAID 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.
 6. EXCESS EXCAVATED 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.
 7. THE CONTRACTOR SHALL CONTAIN HIS OPERATIONS 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.
 8. 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 REFERENCE ALL PROPERTY CORNERS THAT MAY BE DISTURBED BY CONSTRUCTION OPERATIONS, AND VERIFY THESE IN THE FIELD IN THE PRESENCE OF THE ENGINEER AND THE PROJECT SURVEYOR. AFTER CONSTRUCTION AND BEFORE THE 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.
 9. THE CONTRACTOR SHALL RESTORE ALL DITCHES, SWALES, ROAD SHOULDERS, AND BANKS TO THEIR ORIGINAL SLOPES AND GRADES. 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 "SITE CLEARING AND RESTORATION".
 10. EASEMENTS AND RIGHTS-OF-WAY 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 RIGHTS-OF-WAY THAT HE DESIRES TO USE IN COMPLETING THE WORK.
 11. POSITIVE DRAINAGE SHALL BE PROVIDED FOR ALL AREAS ON OR NEAR SPOIL AREAS. NATURAL DRAINAGE WAYS SHALL BE MAINTAINED.
 12. THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.
 13. 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 WRITTEN NOTICE PRIOR TO START OF CONSTRUCTION IN THE VICINITY OF THE AFFECTED PROPERTY.
 14. ALL TRENCH BACKFILL SHALL BE EITHER TYPE I OR TYPE III UNLESS NOTED OTHERWISE.
 15. 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 MAYOR BERNIE GILL
 1250 S. SENECA CITY OF BENTON
 WICHITA, KS 67213 (316) 778-1625
 MR. JIM WEBER
 (316) 383-7901
 16. CONTRACTOR SHALL GRADE THE EASEMENTS TO THE PROFILE AND ELEVATIONS SHOWN ON THE EASEMENT GRADING PLAN. ALL COSTS FOR EASEMENT GRADING SHALL BE SUBSIDIARY TO THE LUMP SUM PRICE BID FOR "EASEMENT GRADING".
 17. ALL GRASSED AREAS DISTURBED BY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE REPLANTED WITH GRASS AND FERTILIZED IN ACCORDANCE WITH THE SPECIFICATIONS FOR SUCH WORK. ALL COSTS FOR SEEDING AND FERTILIZING SHALL BE CONSIDERED SUBSIDIARY TO "SITE CLEARING AND RESTORATION".
 18. PROPERTIES WITHIN THE PROJECT LIMITS MAY HAVE UNDERGROUND SPRINKLER SYSTEMS IN PUBLIC RIGHT-OF-WAY WHICH CONFLICT WITH NEW CONSTRUCTION. CONTRACTOR WILL BE REQUIRED TO REMOVE SUCH IMPROVEMENTS SHOULD THEY NOT BE REMOVED BY THEIR OWNER AT THE TIME OF CONSTRUCTION OF THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SALVAGE ALL SPRINKLER HEADS AND/OR VALVES AND GIVE SUCH MATERIAL TO THEIR OWNER. PORTIONS OF UNDERGROUND SPRINKLER SYSTEMS NOT IN CONFLICT WITH NEW CONSTRUCTION SHALL BE PROTECTED FROM DAMAGE AND SHALL REMAIN IN PLACE. ALL WORK IN CONNECTION WITH UNDERGROUND SPRINKLER SYSTEMS SHALL BE CONSIDERED AS SUBSIDIARY TO PRICE BID FOR PIPE IN PLACE.
 19. IRRIGATION LINES SHOWN ON THE PLANS ARE APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL REQUEST THAT THE PROPERTY OWNER MARK THE LINE LOCATIONS PRIOR TO BEGINNING CONSTRUCTION. ANY LINES DAMAGED SHALL BE REPLACED OR REPAIRED IMMEDIATELY AS DIRECTED BY THE ENGINEER AT THE CONTRACTOR'S EXPENSE.



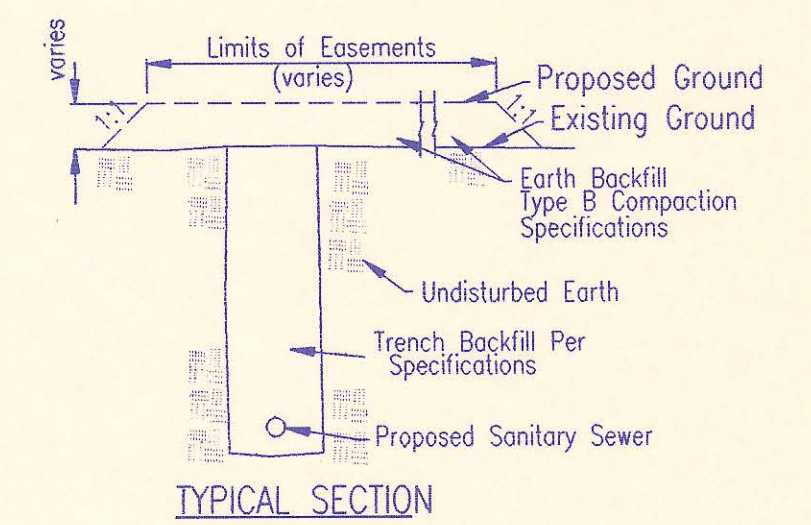
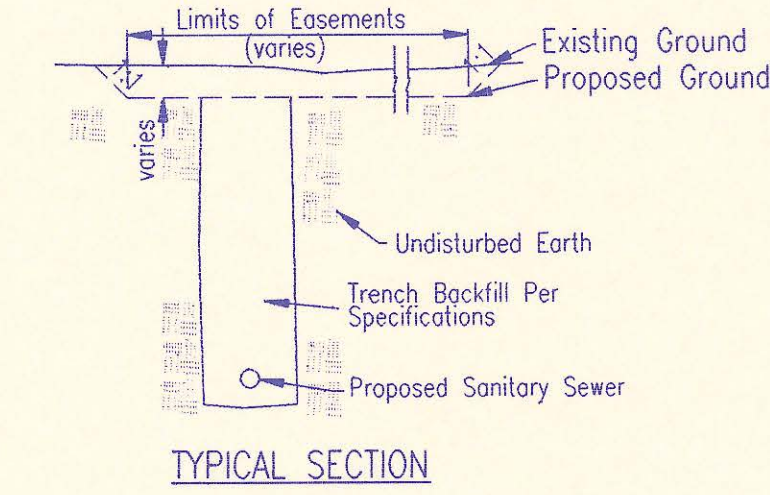
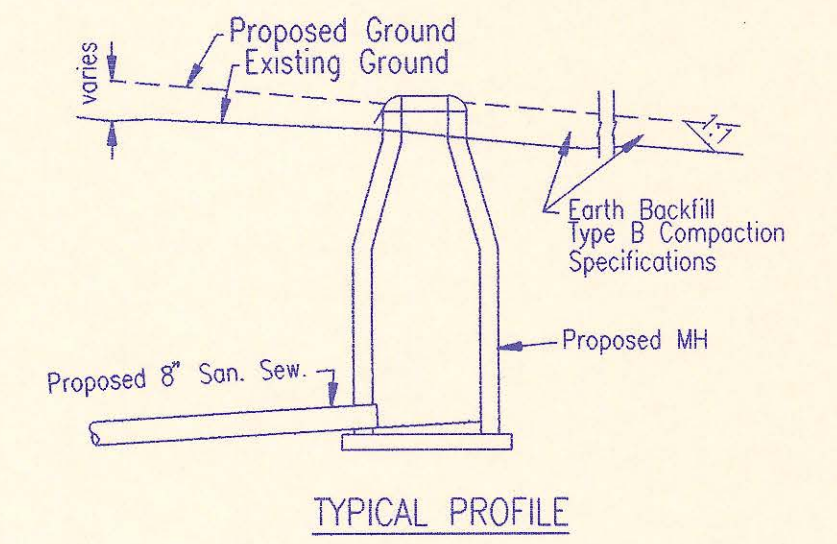
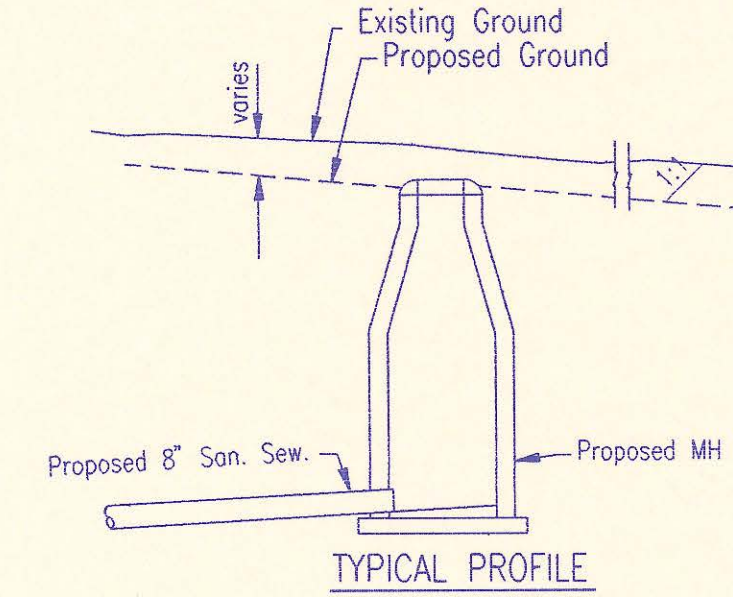
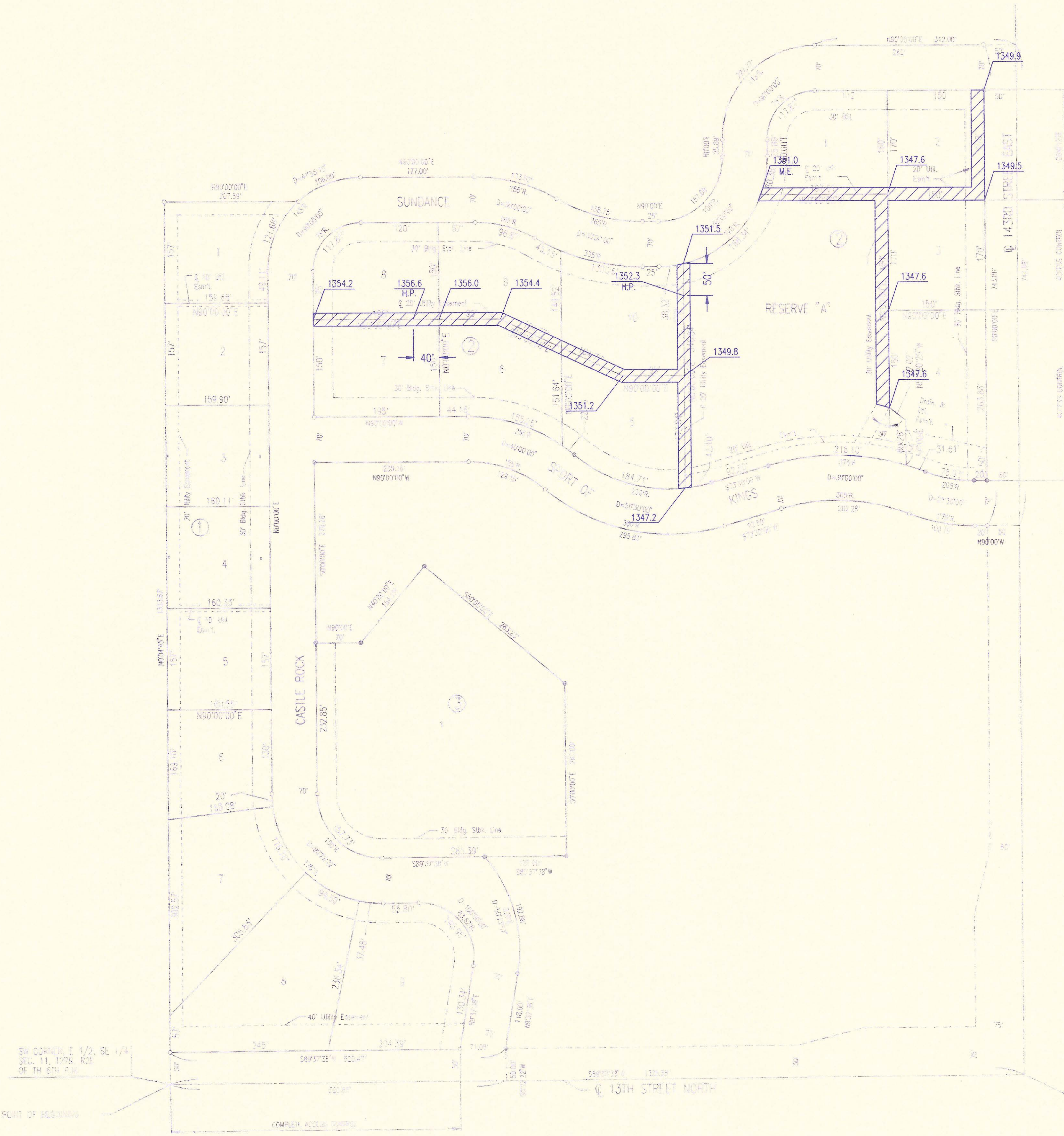
RECORD DRAWING
 MDK PROJ. ENG. 4/29/94 DATE
 STM RES. ENG. 4-29-94 DATE



Revision		By	Date
SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES D.W. SPEARS, P.E. DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER			
KEY MAP SANITARY SEWER IMPROVEMENTS SAVANNA AT CASTLE ROCK RANCH 4TH ADDITION			
PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS			
Designed by	CRY, MDK	Job No.	34-93278-1
Drawn by	STM	Date	June, 1993
			Sht. 2 of 12

DRAWING NAME: EASEMENT GRADING PLAN
 LOCATION: G-93278-001
 CENTER COORDINATES:
 ROTATION ANGLE:
 DATE LAST WORKED ON: SEPTEMBER 8, 1993
 EN-STM

CKD BY: DATE:



"CUT" SITUATIONS

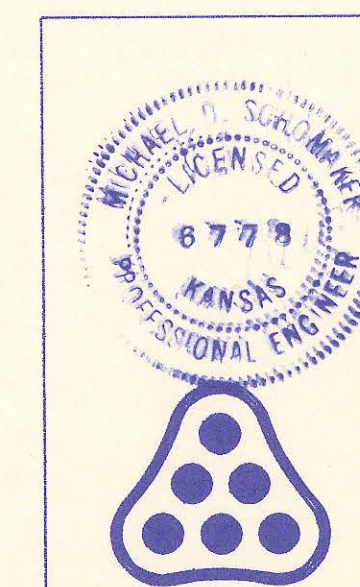
"FILL" SITUATIONS

EASEMENT GRADING DETAILS

- = AREAS TO BE GRADED
- H.P. = HIGH POINT
- M.E. = MATCH EXISTING

RECORD DRAWING

PROJ. ENG. 4/13/93 DATE
 RES. ENG. 6/23/93 DATE



No.	Revision	By	Date
1			

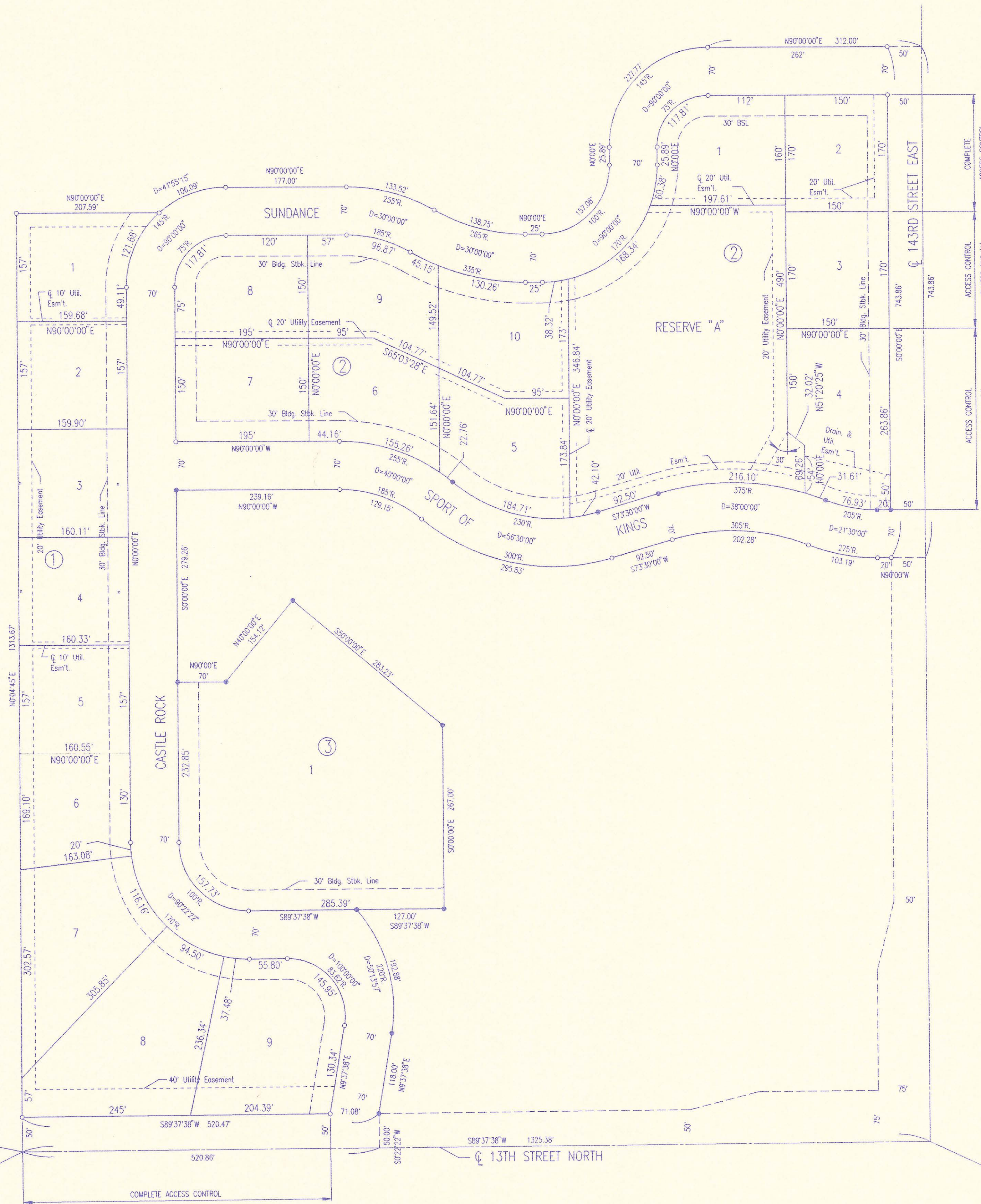
SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
 DAVID C. SPEARS, P.E.
 DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

EASEMENT GRADING PLAN
 SANITARY SEWER IMPROVEMENTS
 SAVANNA AT CASTLE ROCK RANCH 4TH ADDITION

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

Designed by	CRY, MDK	Job No.	34-93278-1	Sht. 3 of 12
Drawn by	STM	Date	June, 1993	

SAVANNA AT CASTLE ROCK RANCH 4TH ADDITION TO SEDGWICK COUNTY, KANSAS



SCALE: 1"=100'
 ○ = 3/4" IRON SET
 ● = IRON FOUND

B.M. - R.R. SPIKE IN H.L.P. 43' S.E. OF
 S.W. CORNER SEC. 12, T27S, R2E.
 ELEV.=1352.87 M.S.L.
 ELEV.=165.47 CITY DATUM

MINIMUM PAD ELEVATION (LOWEST OPENING)
 FOR LOTS 1 THROUGH 5 AND LOT 10 IN
 BLOCK 2 SHALL BE ELEV. 1349.0 M.S.L.

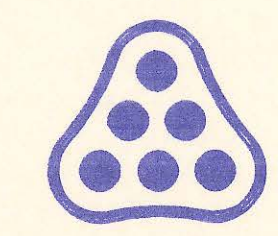
DRAWING NAME: PLAT
 LOCATION: 03-3278-01
 CENTER COORDINATES:
 807500 NACT
 1515100 EACT
 EN-51M

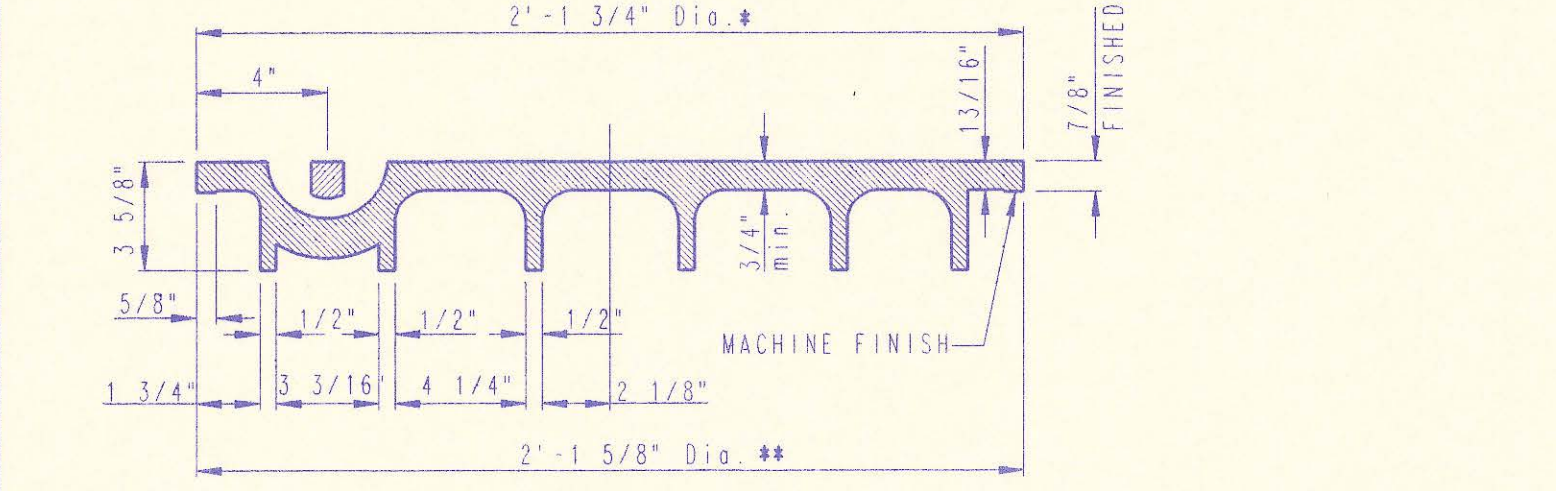
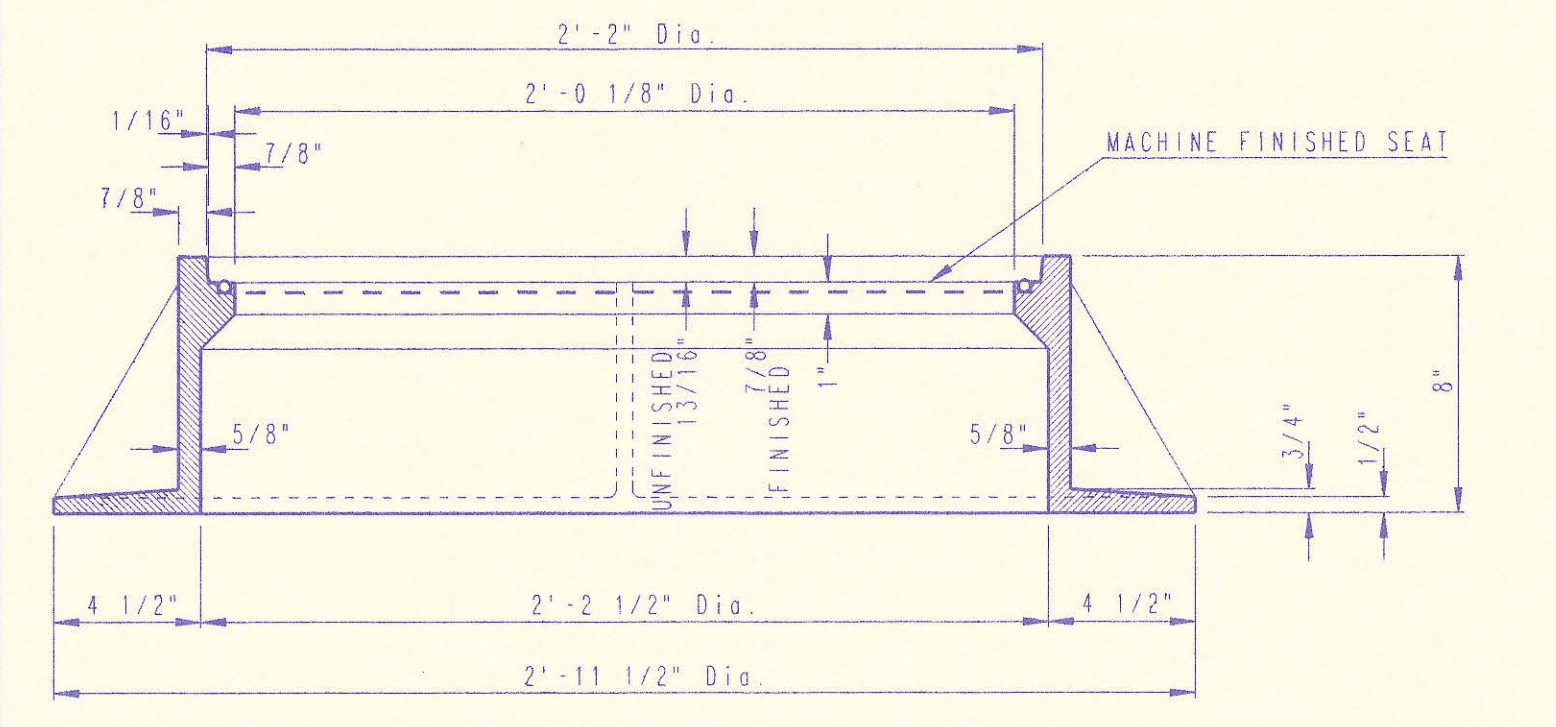
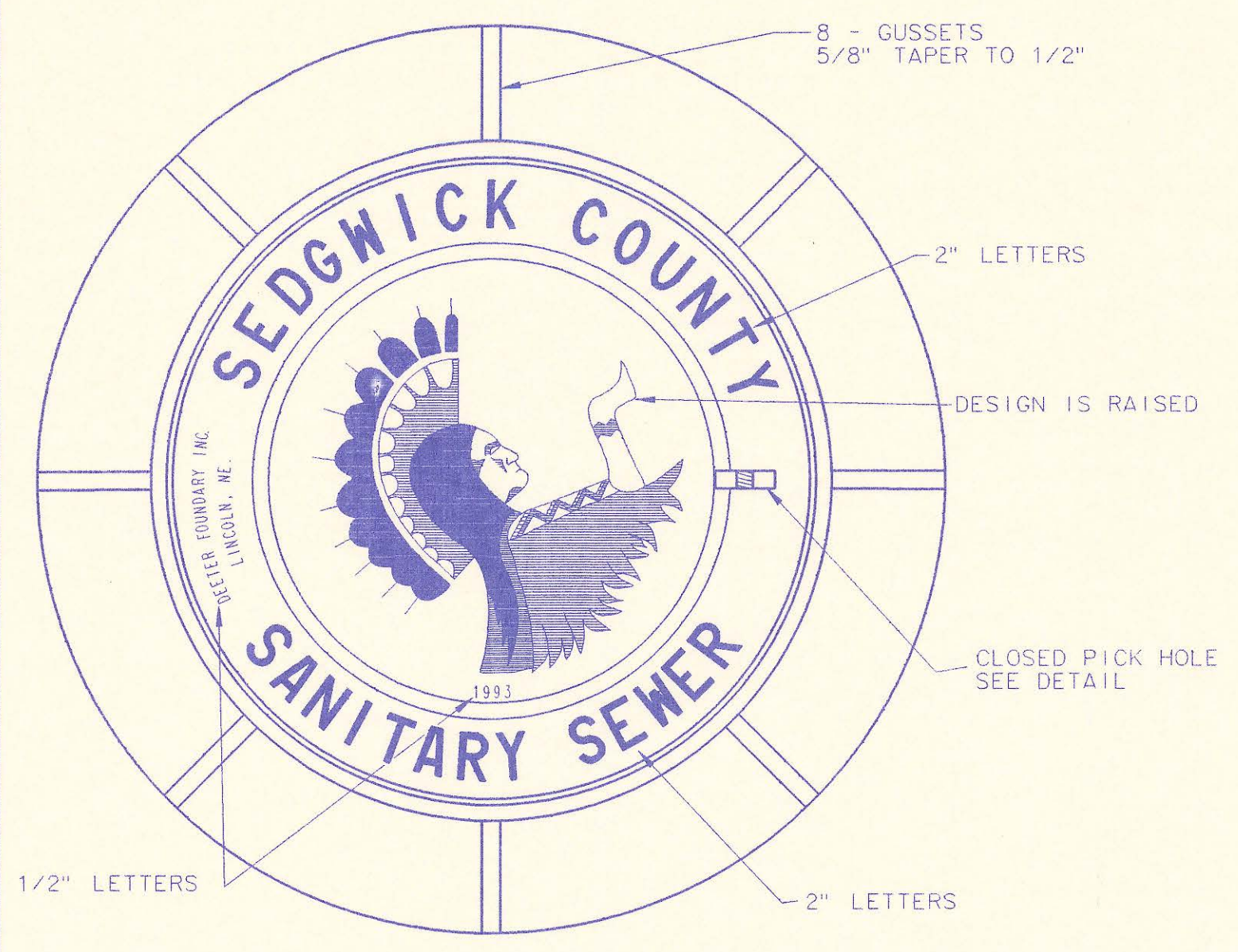
DATE: _____
 CKD BY: _____

SW CORNER, E 1/2, SE 1/4
 SEC. 11, T27S, R2E
 OF TH. 6TH P.M.
 POINT OF BEGINNING

S.E. CORNER
 SEC. 11, T27S, R2E
 OF THE 6TH P.M.

No.	Revision	By	Date
SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES DAVID C. SPEARS, P.E. DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER			
PLAT SANITARY SEWER IMPROVEMENTS SAVANNA AT CASTLE ROCK RANCH 4TH ADDITION			
PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS			
Designed by	Job No. 34-93278-1	Sht. 4 of 12	
Drawn by	Date June, 1993		

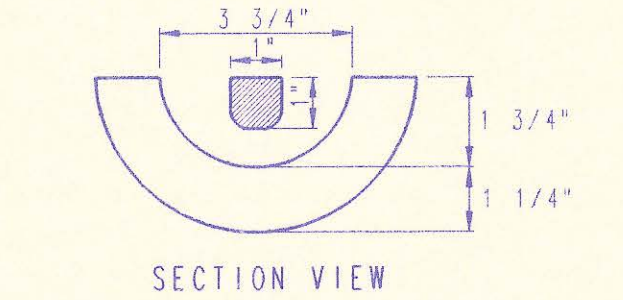
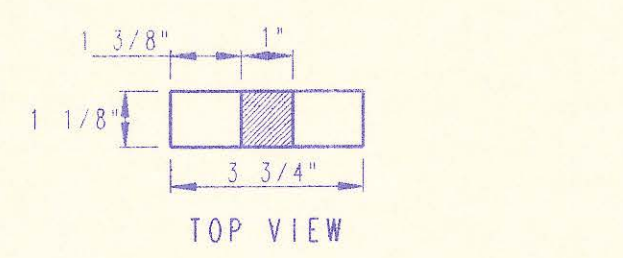




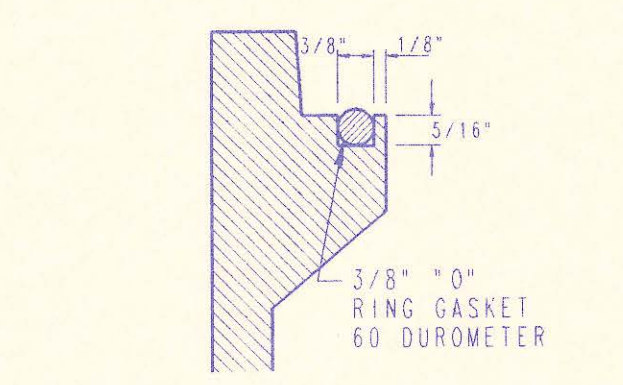
MANHOLE FRAME AND COVER
(TOTAL WEIGHT = 430 LBS.)

MANHOLE FRAME AND COVER NOTES

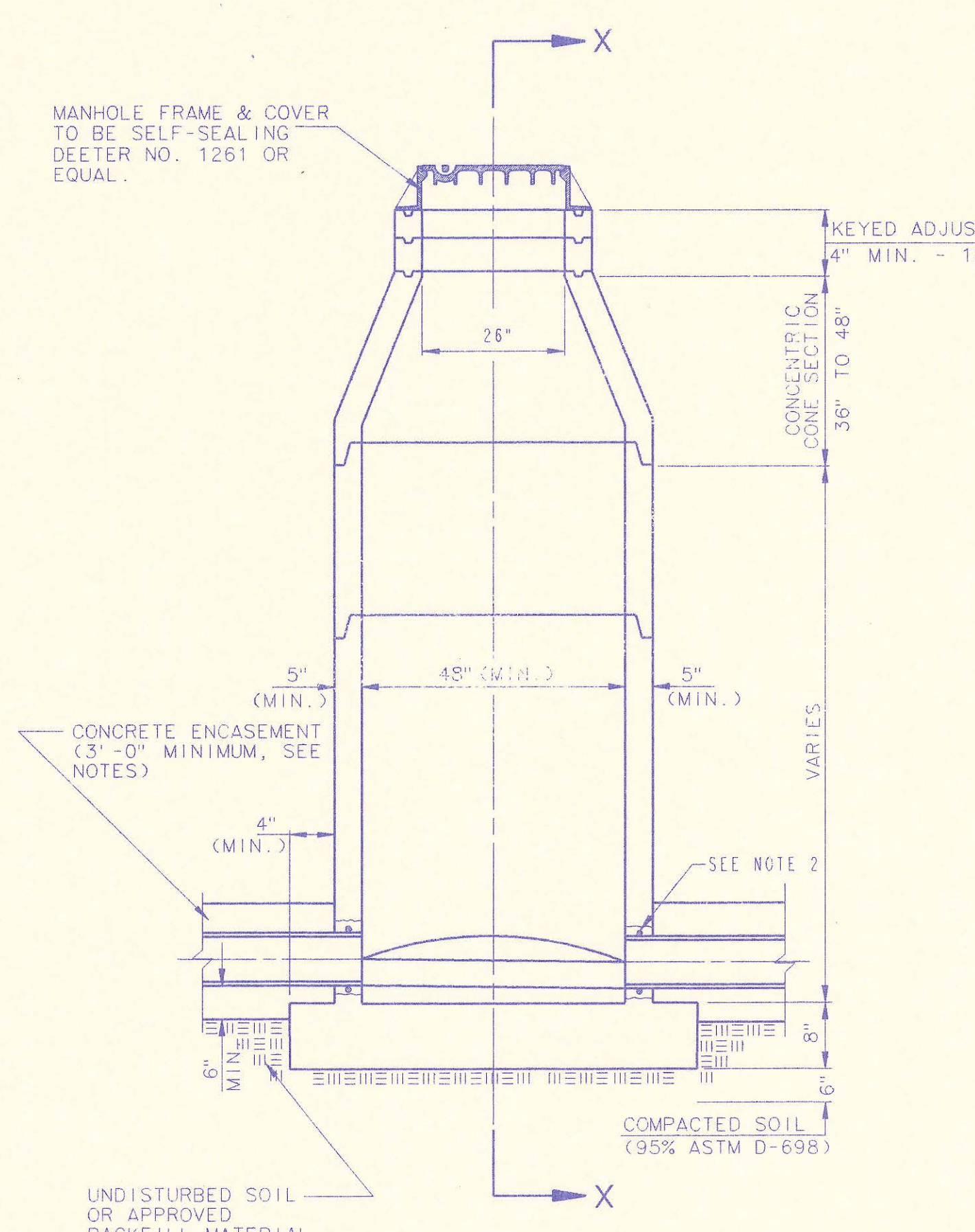
1. CAST IRON MANHOLE FRAME AND COVER SHALL CONFORM TO ASTM A-48, CLASS 35B, OR BETTER.
2. CASTINGS ARE TO BE MANUFACTURED TRUE TO PATTERN AND WITH SATISFACTORY FIT OF COMPONENT PARTS. CASTINGS SHALL BE FREE OF DEFECTS AND ALL BURRS SHALL BE GROUND SMOOTH. DIMENSIONS AS DETAILED ON PLAN SHALL NOT DEVIATE BY $\pm 1/16$ " 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 FOUNDRY INC. NO. 1261 OR APPROVED 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. (REF. DETAIL). THE "O" RING GASKET SHALL BE FACTORY INSTALLED IN THE MANHOLE FRAME WITH 100% SILICON SEALANT-DOW CORNING OR EQUAL.



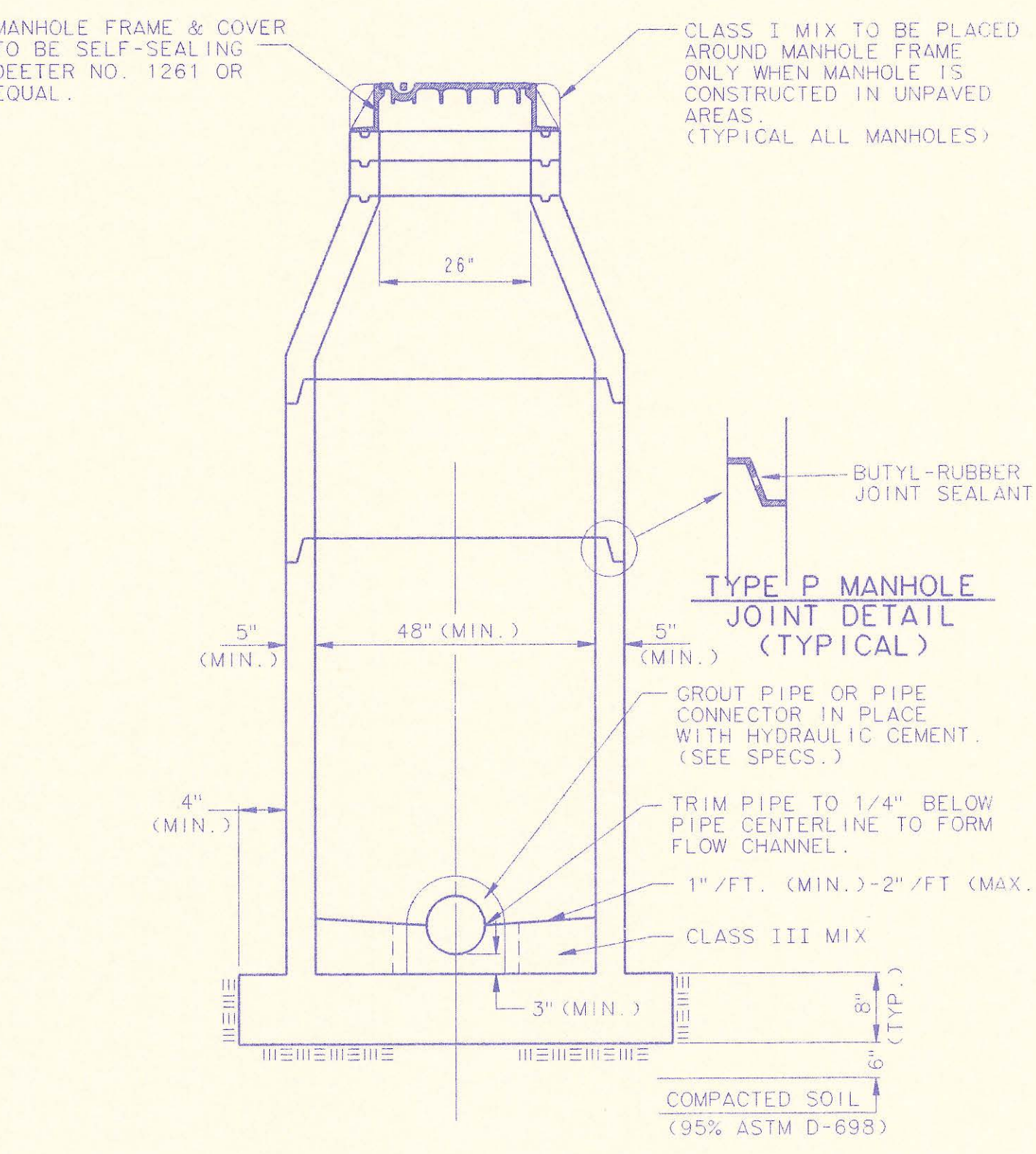
PICK HOLE DETAIL



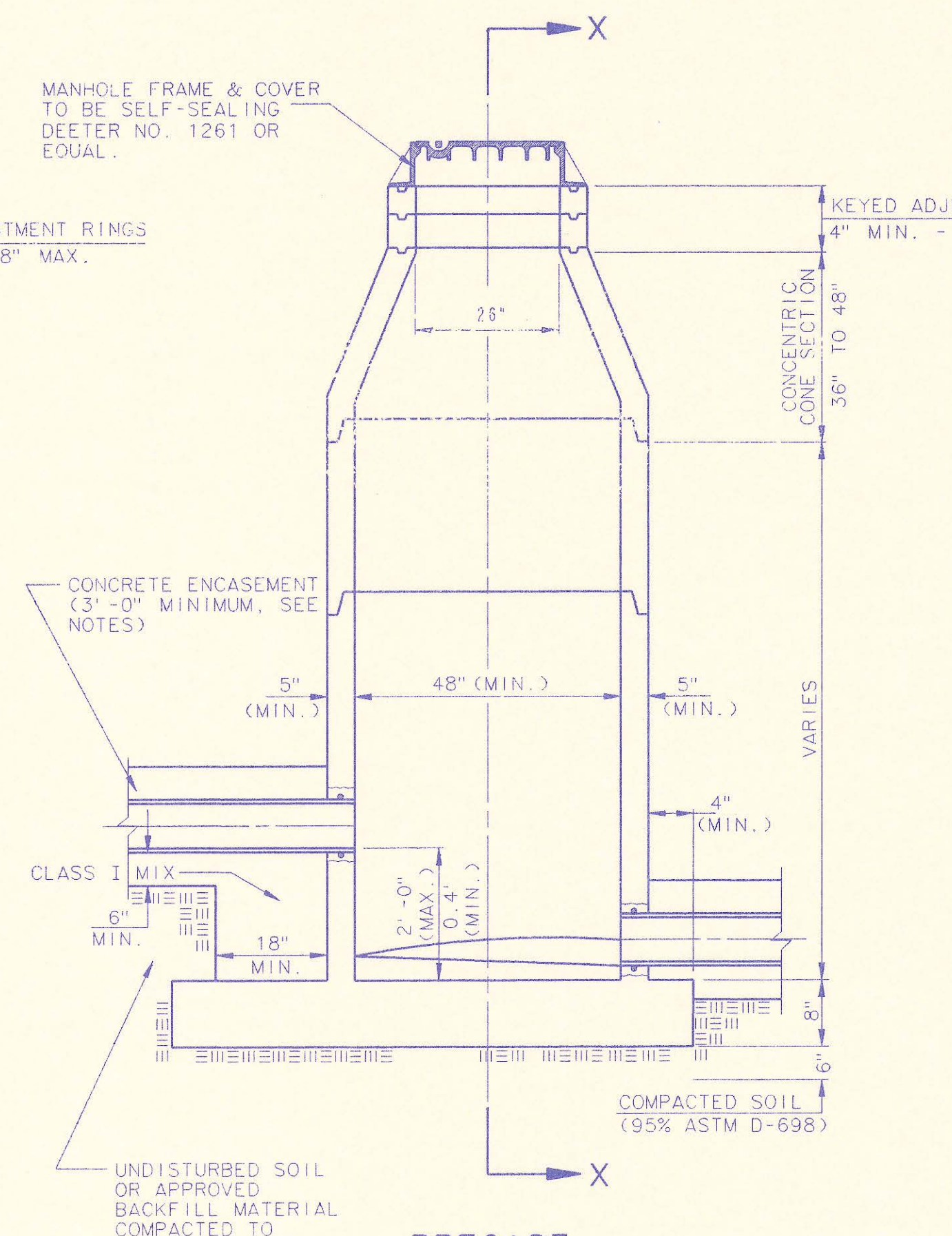
FRAME GROOVING DETAIL (TYPICAL ALL MANHOLES)



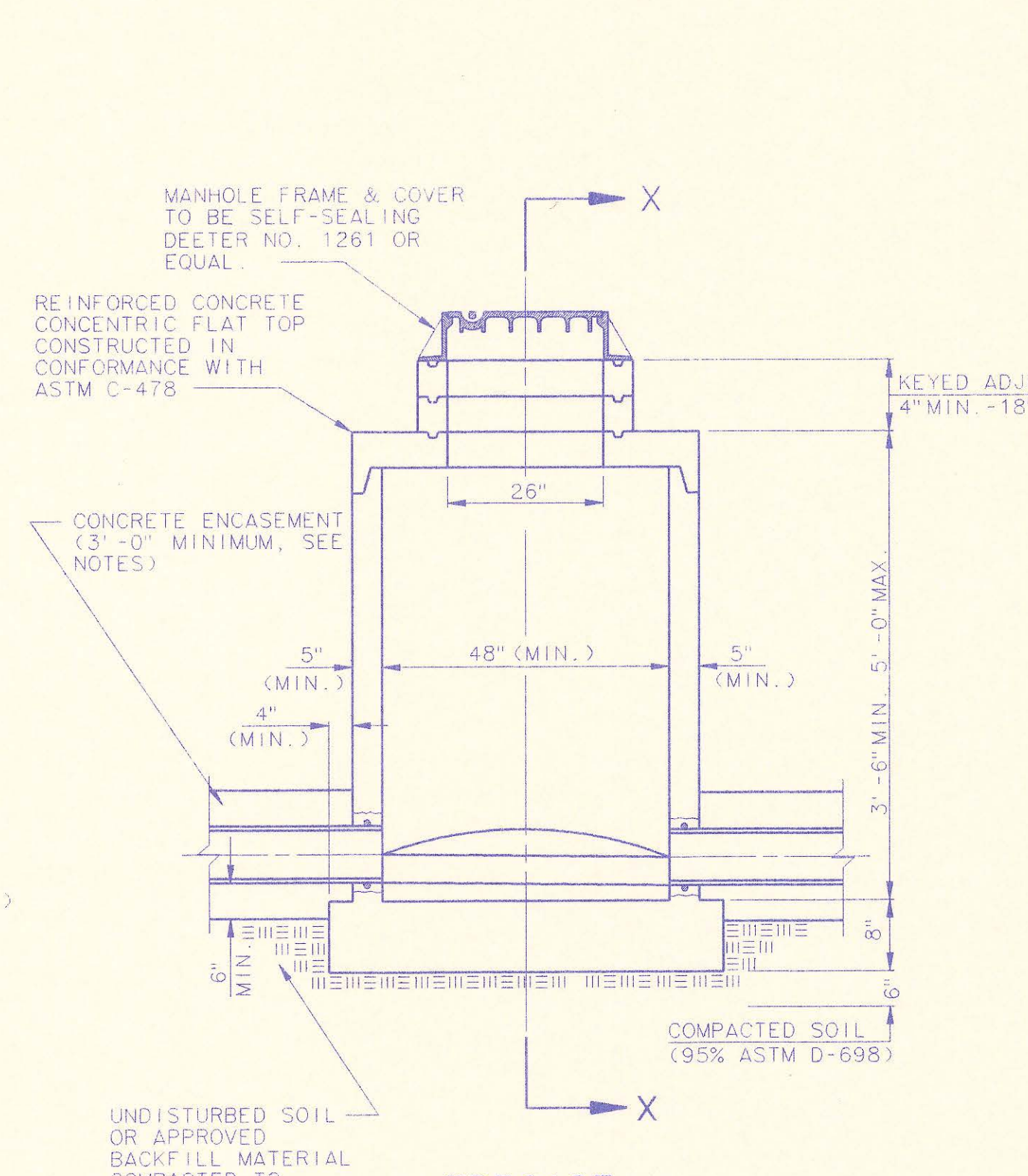
PRECAST STANDARD MANHOLE TYPE "A"



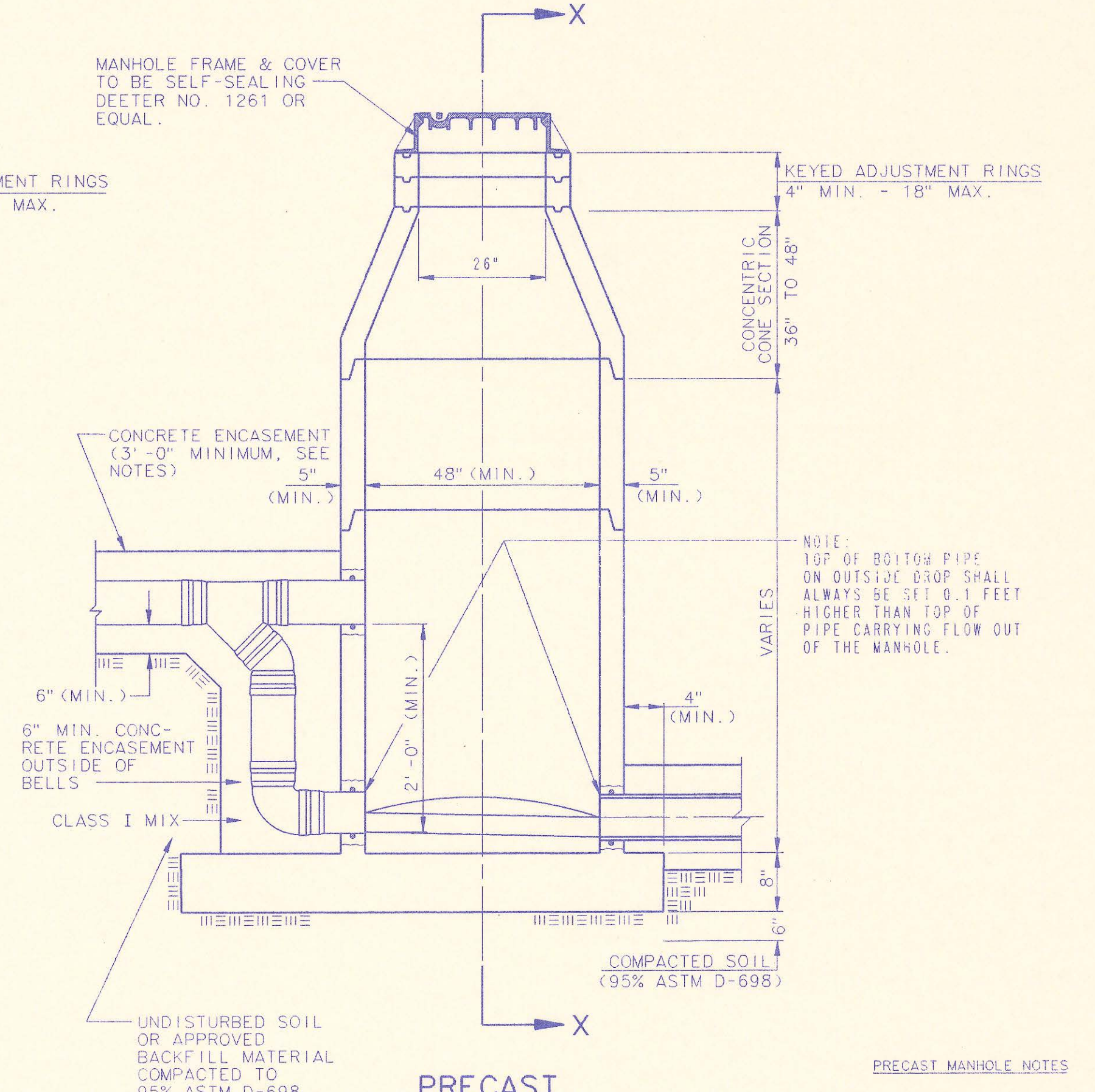
SECTION X (TYPICAL)



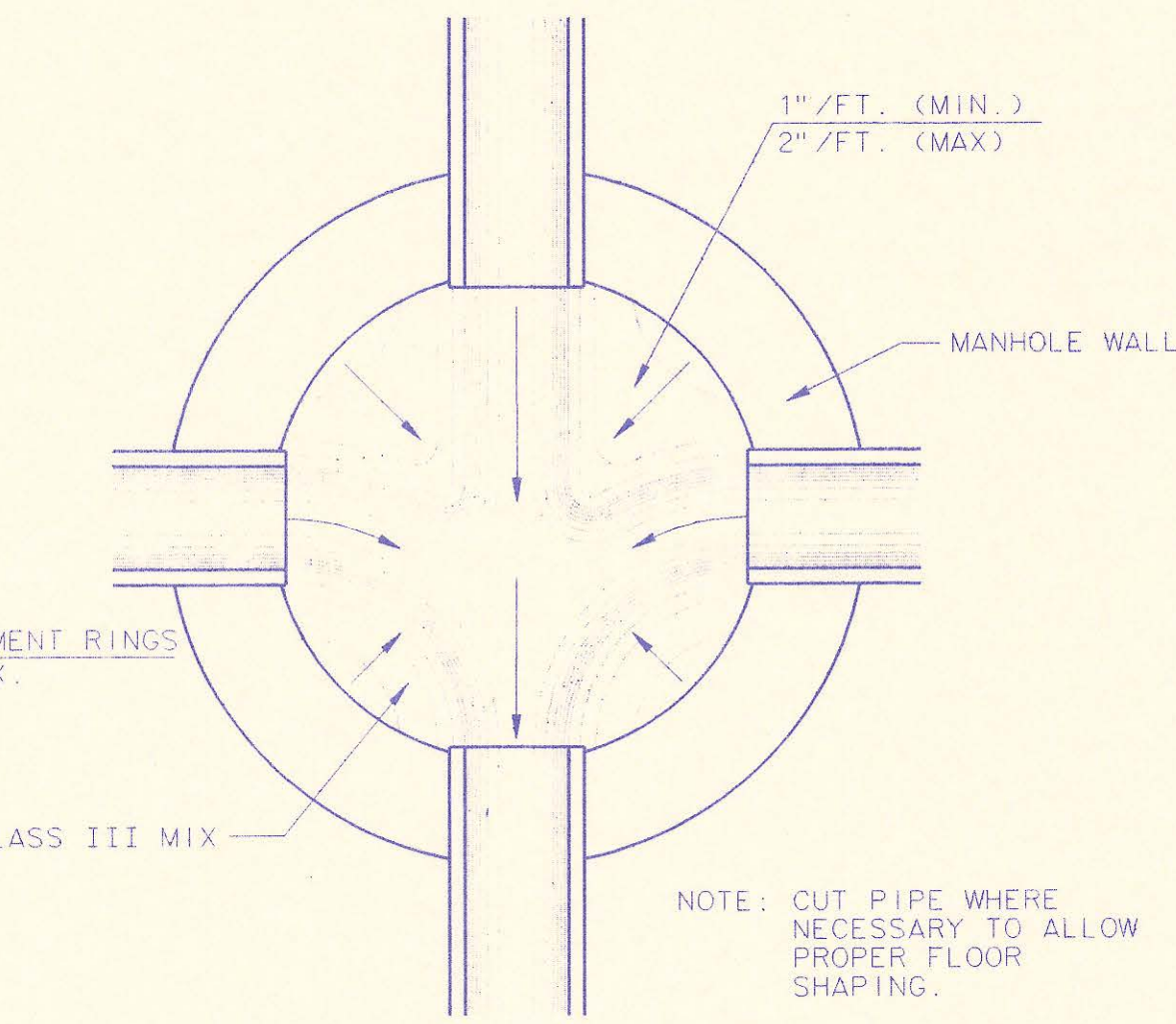
PRECAST INSIDE DROP MANHOLE TYPE "B"



PRECAST SHALLOW MANHOLE TYPE "D"



PRECAST OUTSIDE DROP MANHOLE TYPE "C"

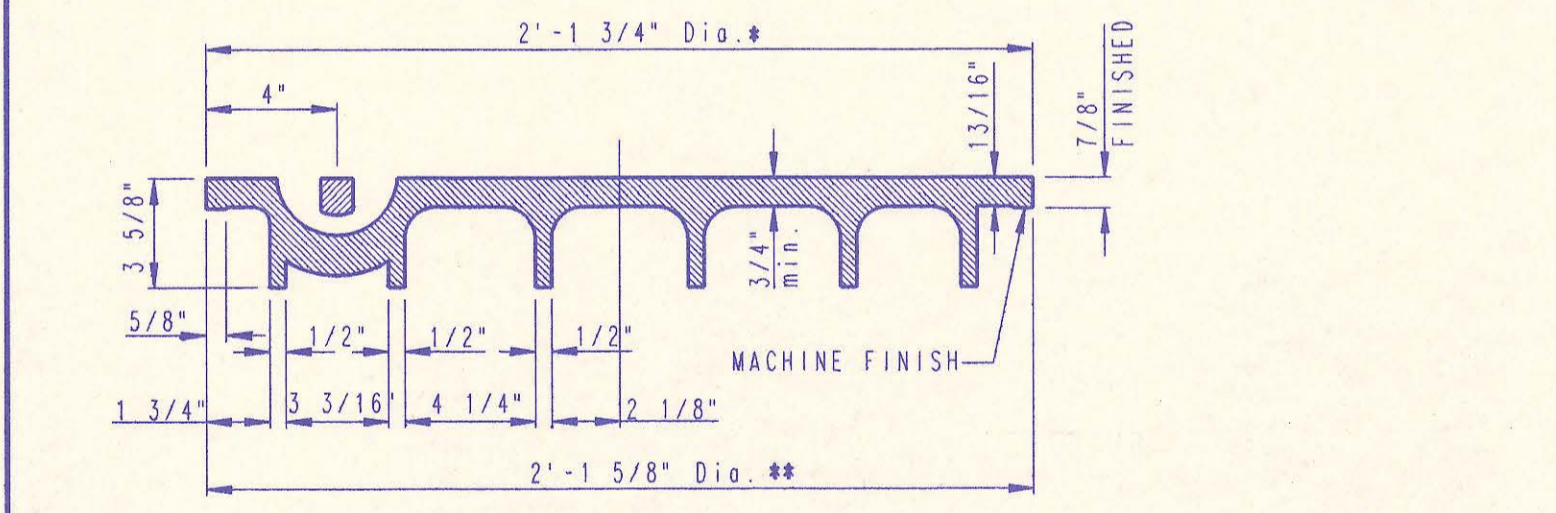
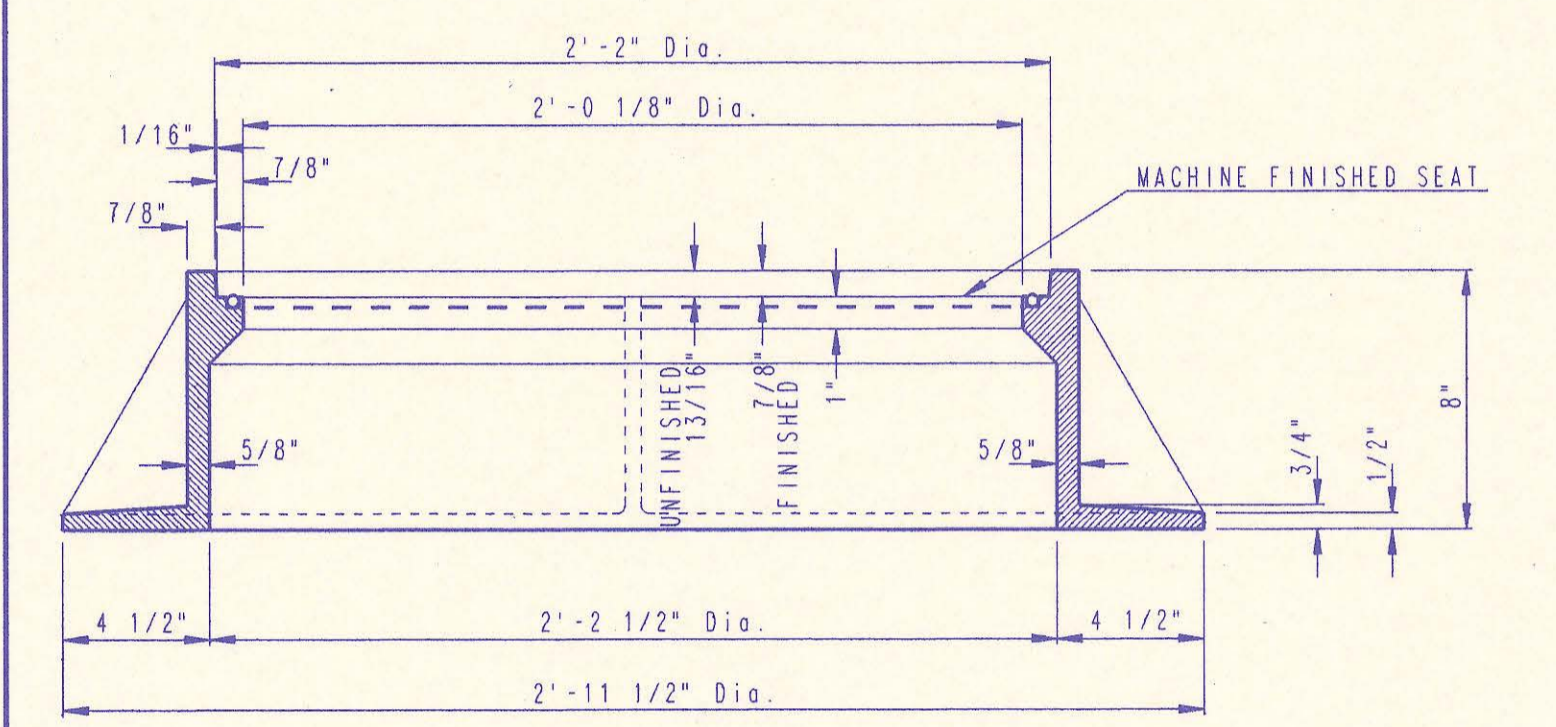
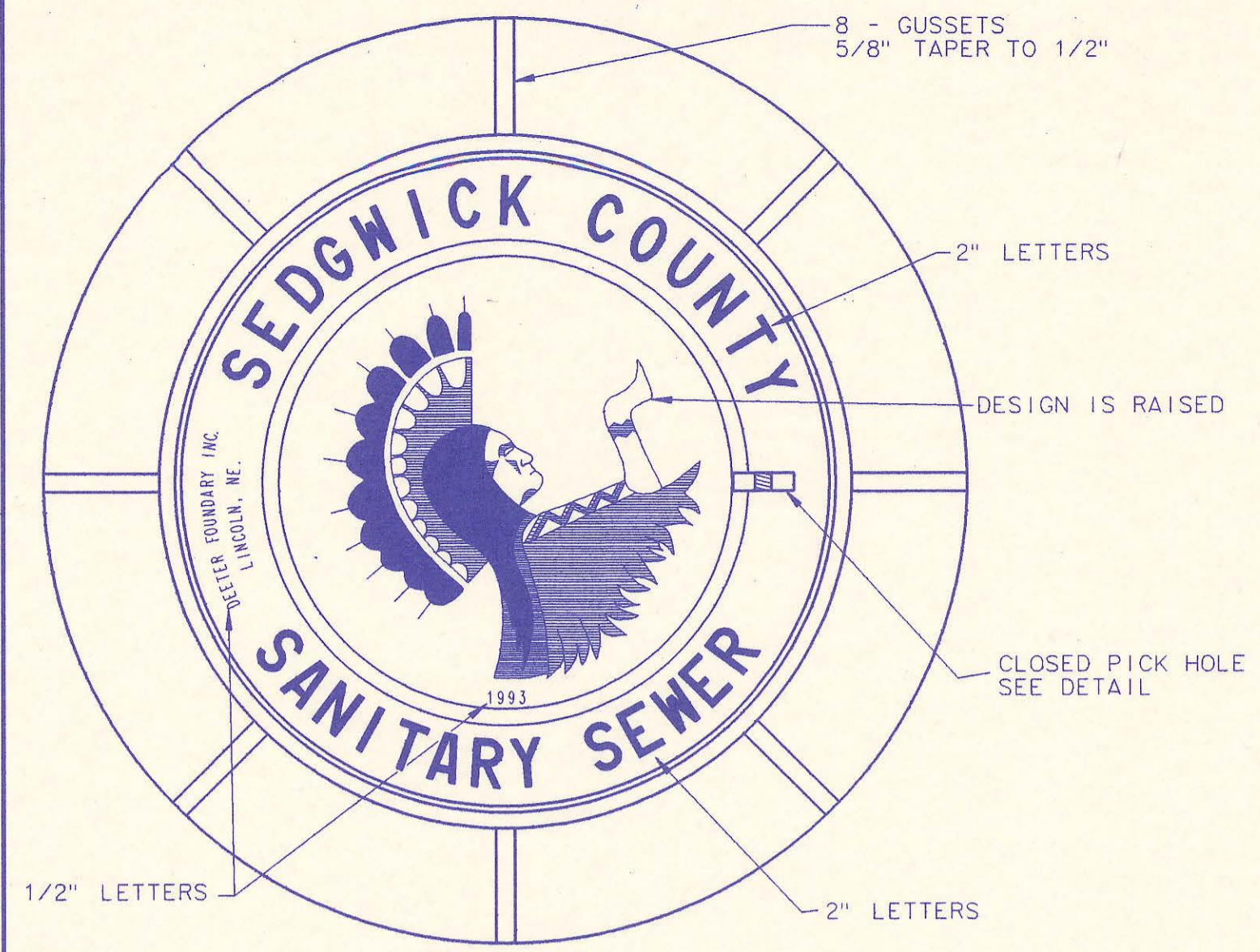


TYPICAL MANHOLE FLOOR SHAPING

- PRECAST MANHOLE NOTES**
1. IF, IN THE OPINION OF THE ENGINEER, THE MANHOLE SUBGRADE APPEARS UNSTABLE, THE CONTRACTOR WILL OVEREXCAVATE 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 C-923 SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL. SEWER PIPES EXTENDING FROM MANHOLES SHALL BE SUPPORTED WITH CLASS I CONCRETE ENCASEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL.
 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. GLUED 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 SHAPED 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 MONOTYPICAL 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 WITH A MINIMUM OF 3 FEET OF CONCRETE ENCASEMENT. THE CONTRACTOR SHALL PREVENT ANY CONCRETE FROM BEING WITHIN 1 FOOT OF THE END OF THE STUB. 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 GROUDED FLUSH TO THE MANHOLE WALL WITH HYDRAULIC CEMENT AFTER THE MANHOLE IS IN PLACE. LIFTING HOLES THRU THE MANHOLE WALL WILL NOT BE ACCEPTED.

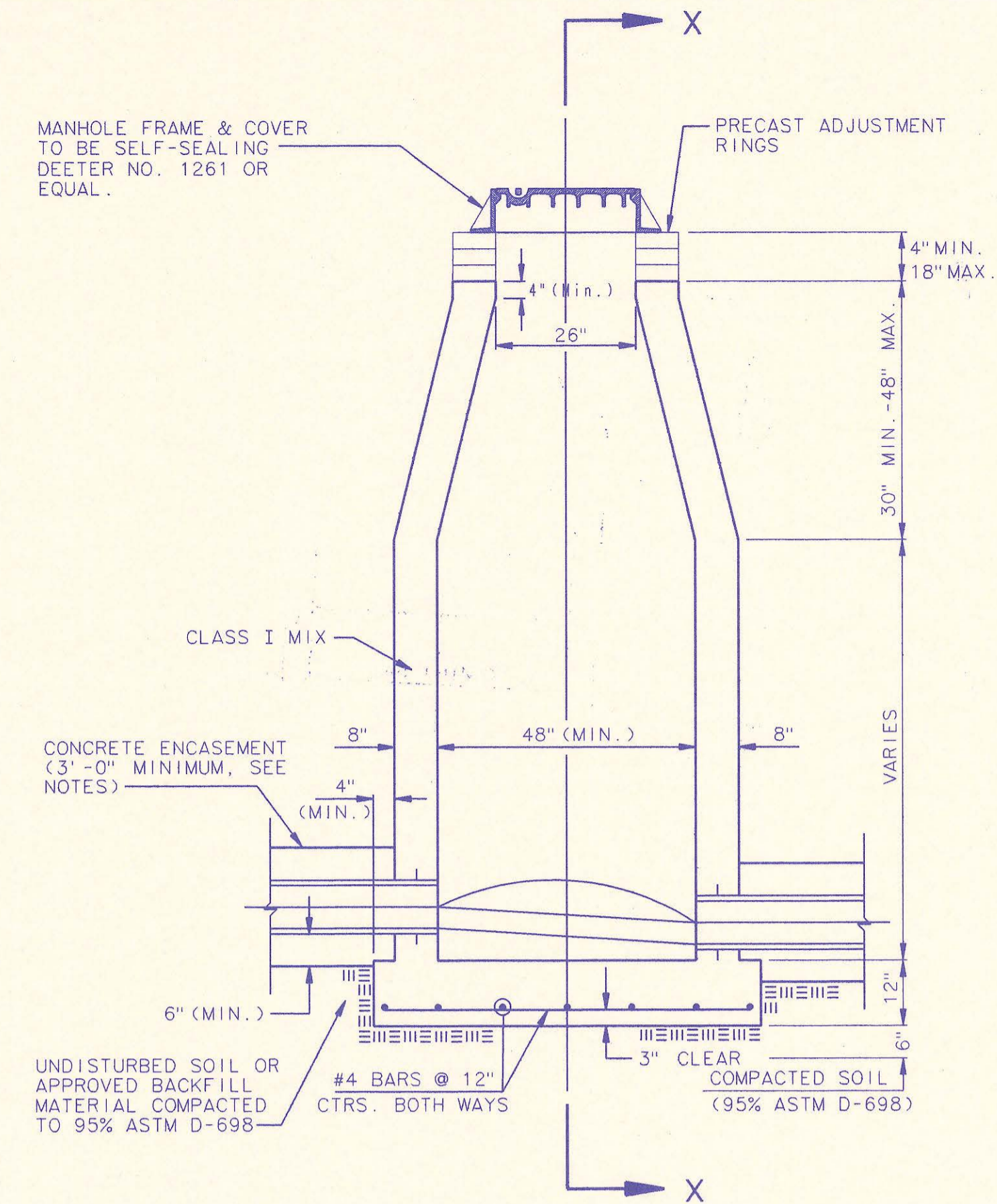
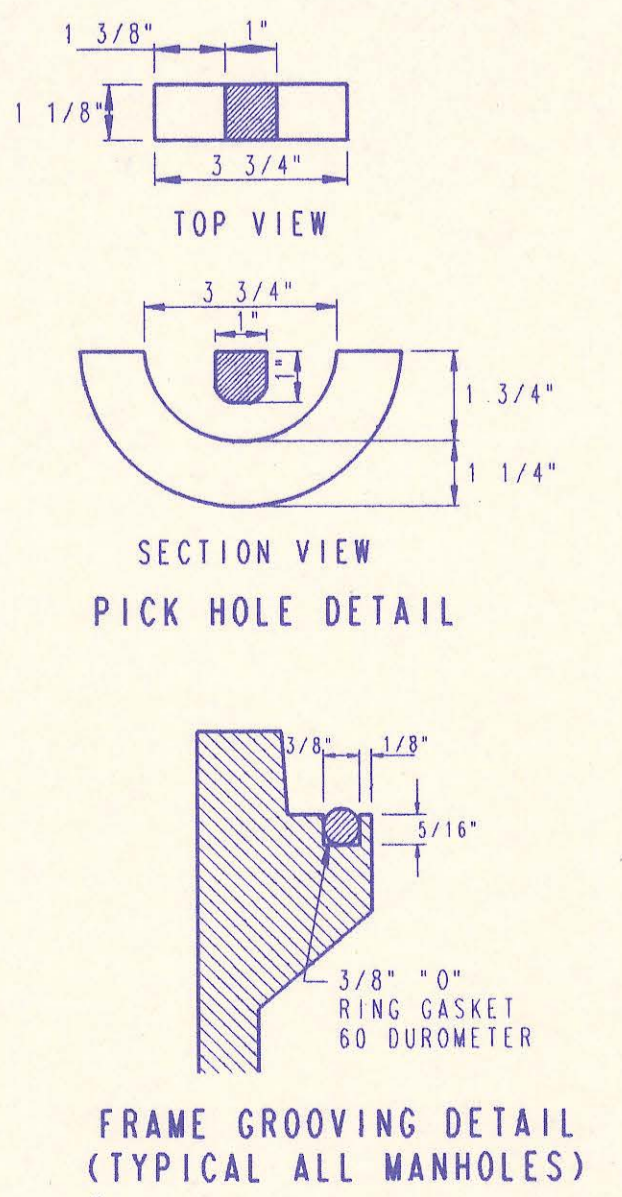
No.	Description	By	Date
4	Precast Bases, Precast Manhole Notes, Manhole Frame and Cover Notes, Keyed Adjustment Rings, and Class I mix of concrete encasement and field cap.	RJ	8/27/93
3	All Manholes self-sealing/MH Cover	RJ	1/25/93
2	Modified pipe connection note	RJ	6/01/92
1	Manhole Frame and Cover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

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

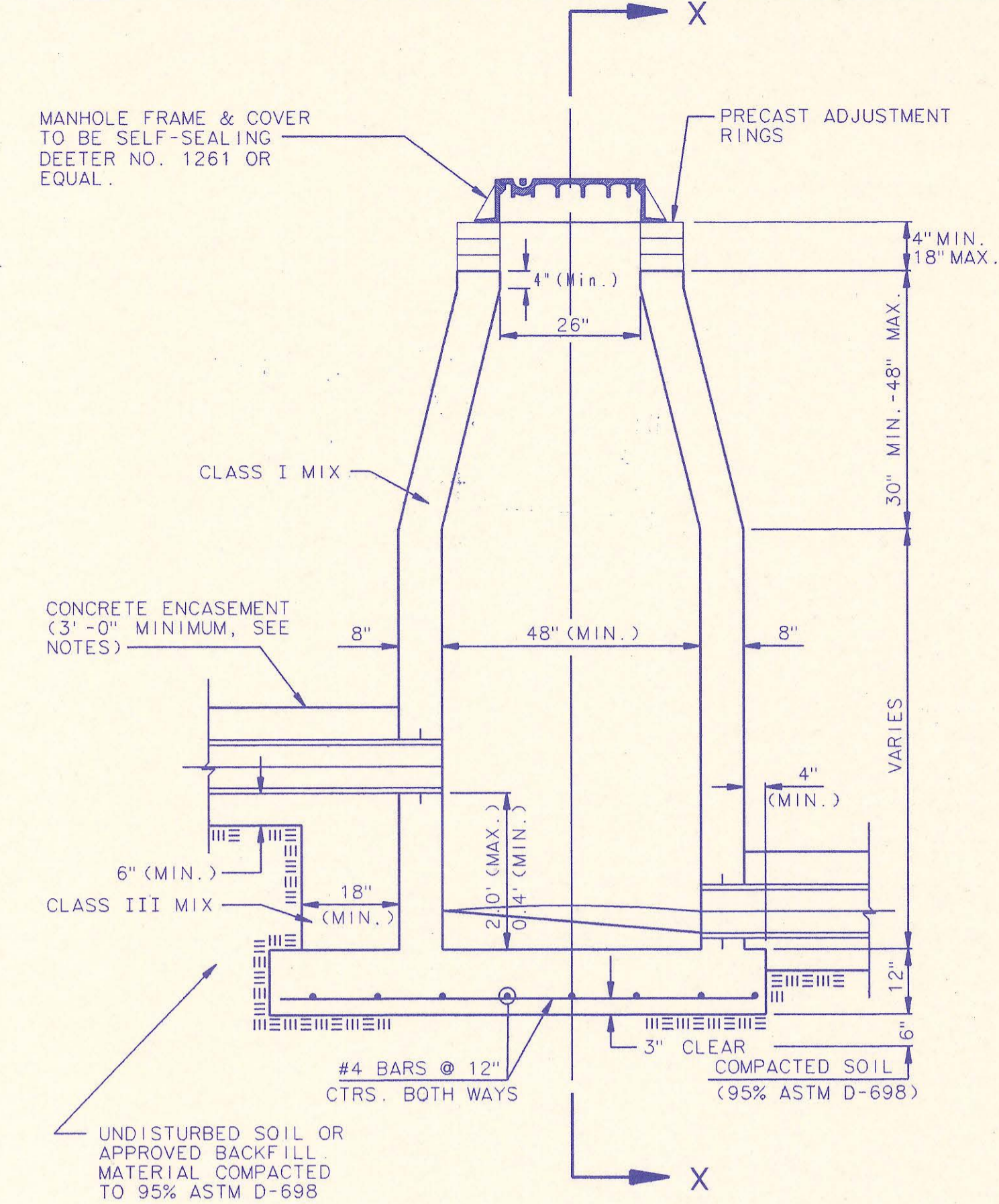


MANHOLE FRAME AND COVER
(TOTAL WEIGHT = 430 LBS.)

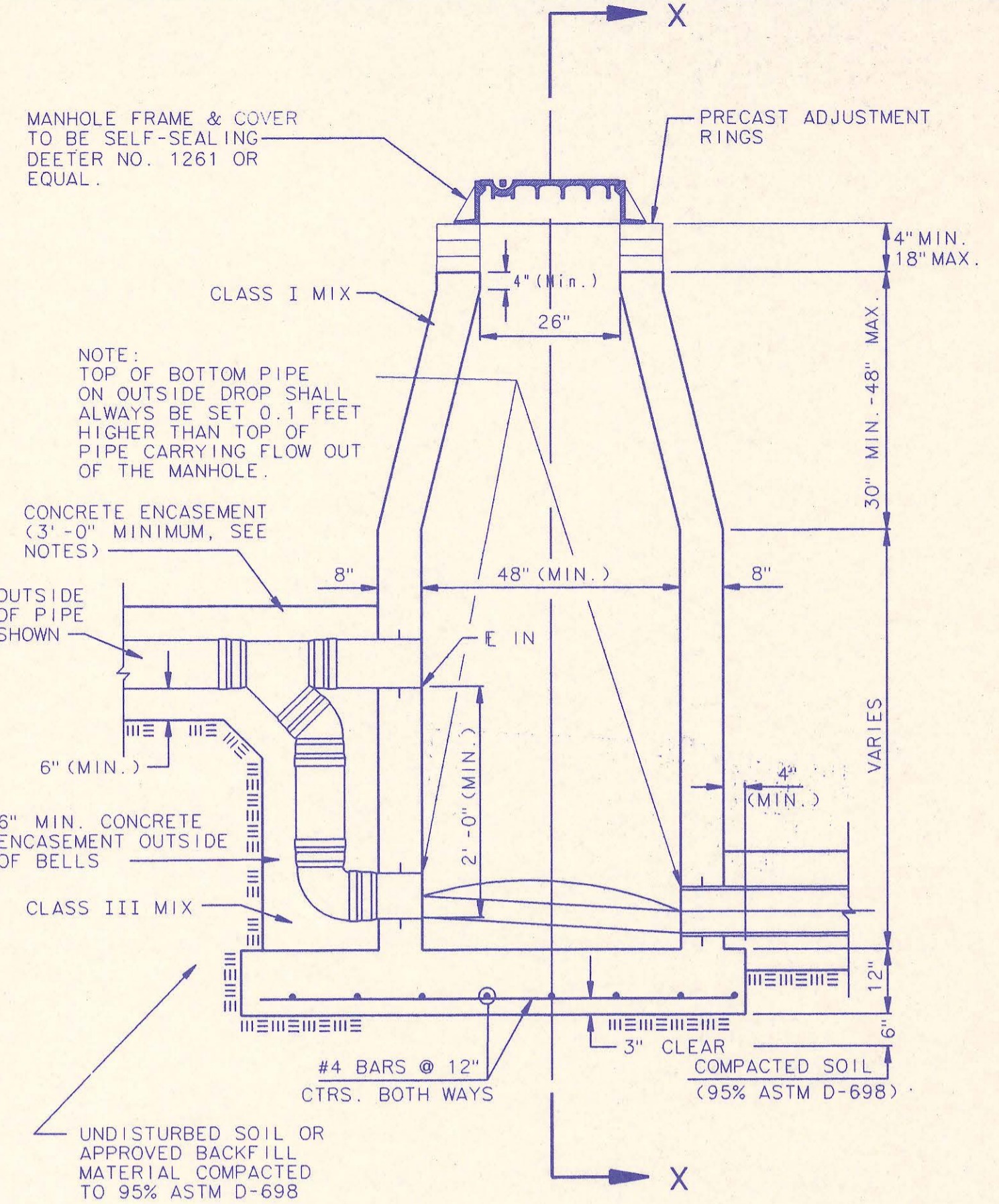
- MANHOLE FRAME AND COVER NOTES**
- CAST IRON MANHOLE FRAME AND COVER SHALL CONFORM TO ASTM A-48, CLASS 35B, OR BETTER.
 - CASTINGS ARE TO BE MANUFACTURED TRUE TO PATTERN AND WITH SATISFACTORY FIT OF COMPONENT PARTS. CASTINGS SHALL BE FREE OF DEFECTS. DIMENSIONS AS DETAIL ON PLAN SHALL NOT DEVIATE BY ± 1/16" PER FOOT.
 - NO OTHER LETTERING OR MARKINGS OTHER THAN THOSE DETAILED ON PLAN WILL BE PERMITTED ON CASTINGS.
 - CASTINGS MUST BE DOMESTICALLY MANUFACTURED IN THE UNITED STATES OF AMERICA.
 - THE FRAMES AND COVERS SHALL BE FURNISHED WITH MACHINED HORIZONTAL BEARING SURFACES SO FITTING PARTS WILL NOT RATTLE OR ROCK UNDER TRAFFIC.
 - MANHOLE CASTINGS SHALL BE SELF-SEALING DEETER NO. 1261 OR APPROVED 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.
 - GRIND ALL BURRS SMOOTH, CLEAN THOROUGHLY, THEN APPLY SHOP COAT OF ASPHALT BASE PAINT.
 - 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.
 - THE MANHOLE FRAME SHALL BE FURNISHED WITH AN APPROVED "O" RING GASKET GROOVED INTO THE BEARING SURFACE OF THE MANHOLE FRAME (PER DETAIL). THE "O" RING GASKET SHALL NOT BE INSTALLED IN THE MANHOLE FRAME UNTIL AFTER FINAL INSPECTION AND ACCEPTANCE OF THE PROJECT BY THE ENGINEER.



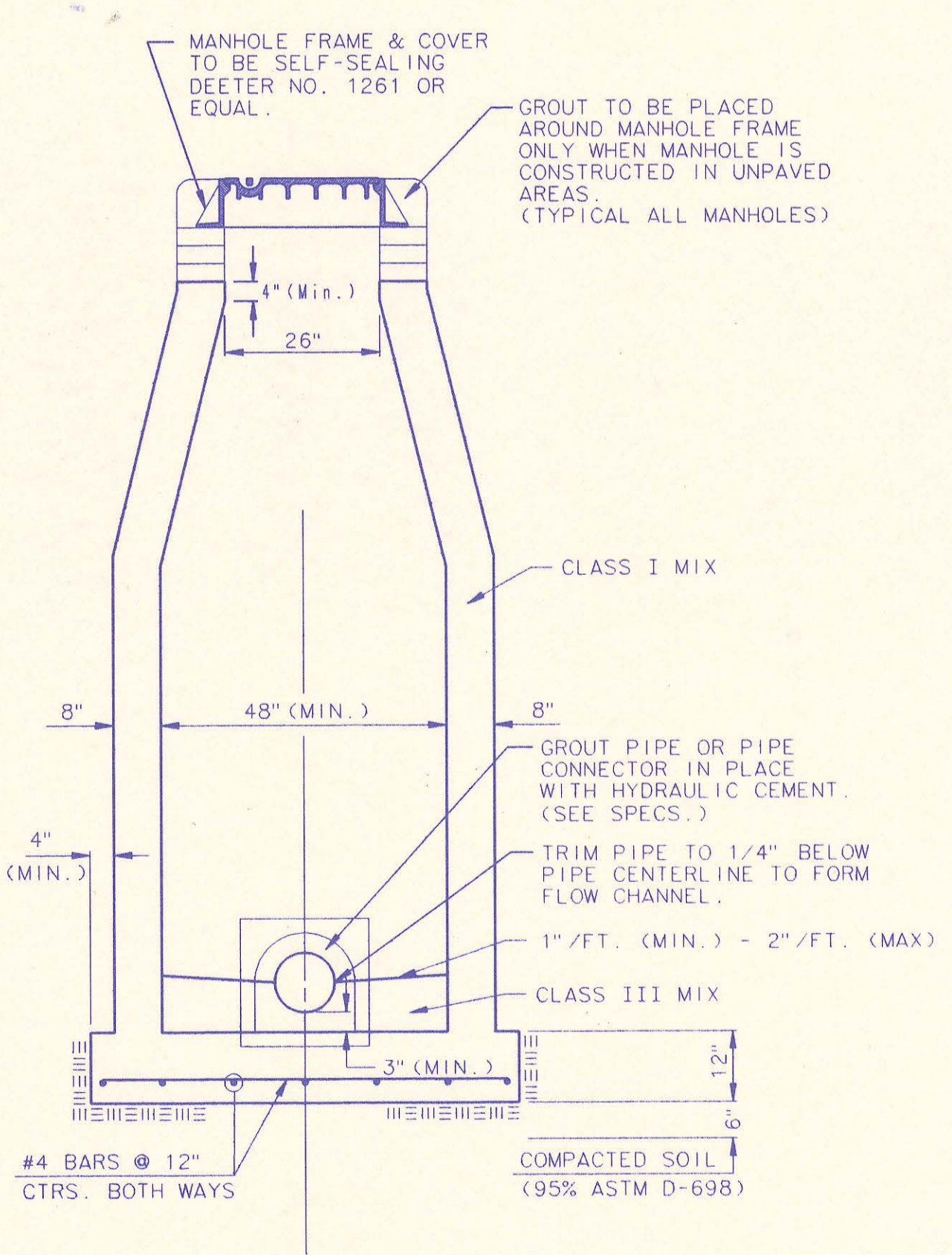
CAST IN PLACE STANDARD MANHOLE TYPE "A"



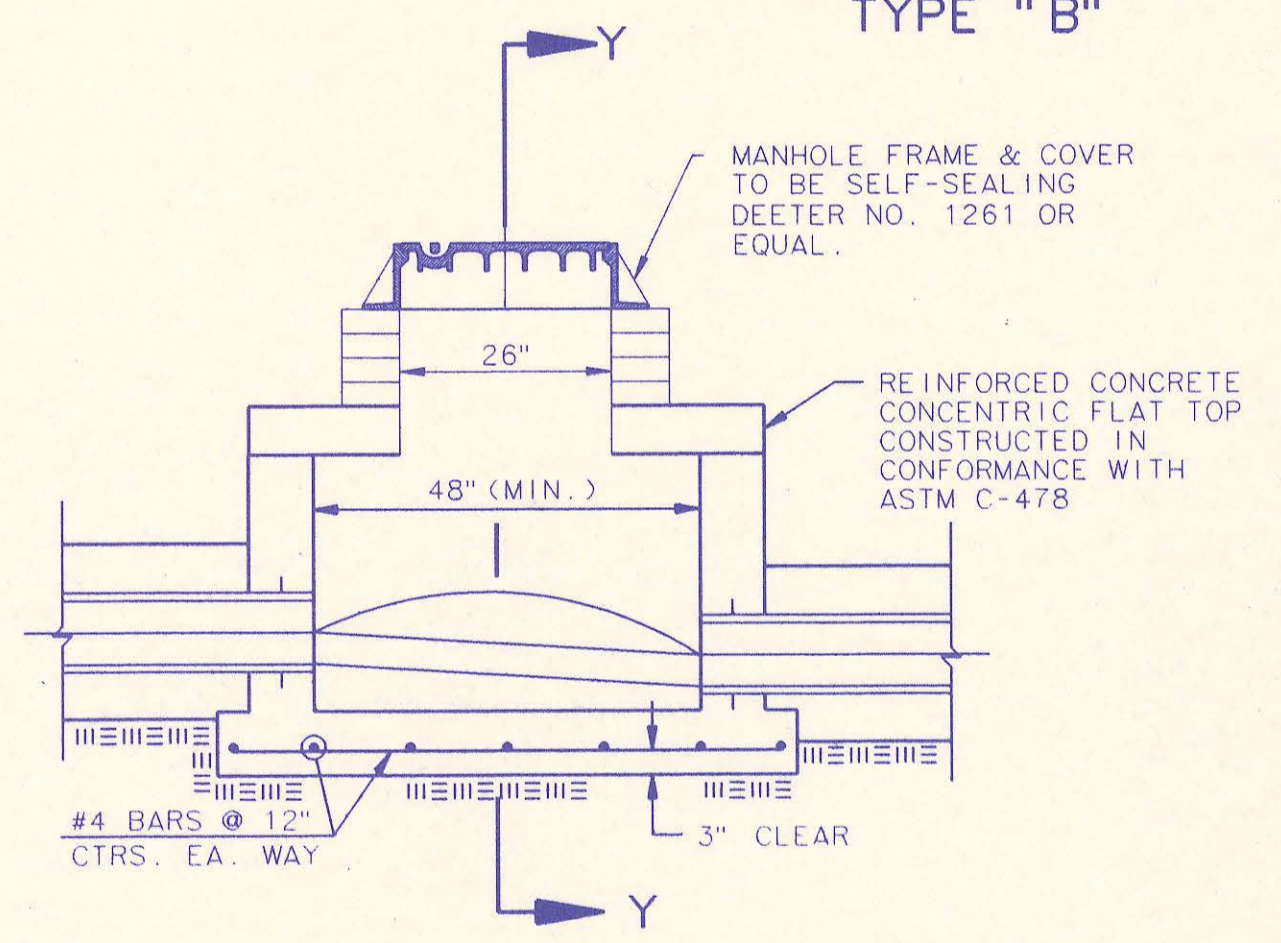
CAST IN PLACE DROP MANHOLE TYPE "B"



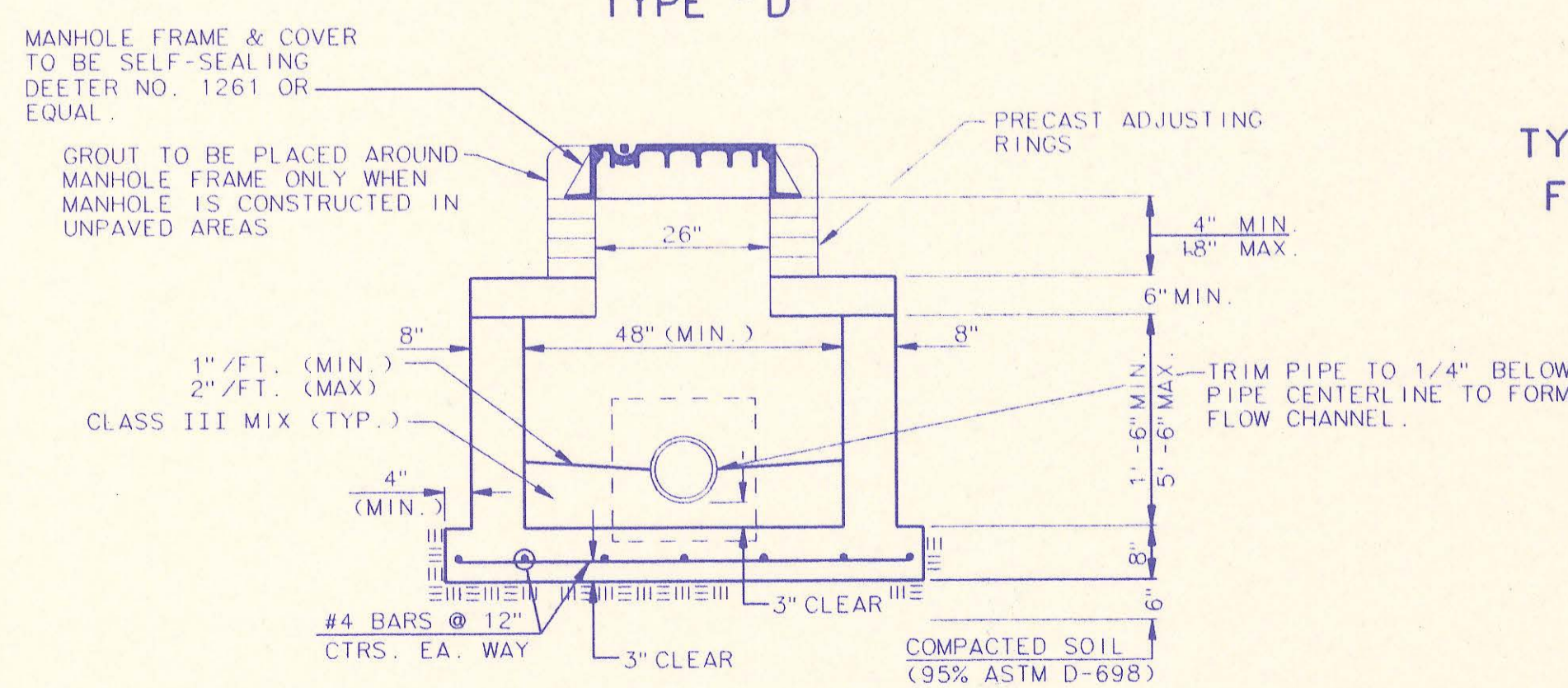
CAST IN PLACE OUTSIDE DROP MANHOLE TYPE "C"



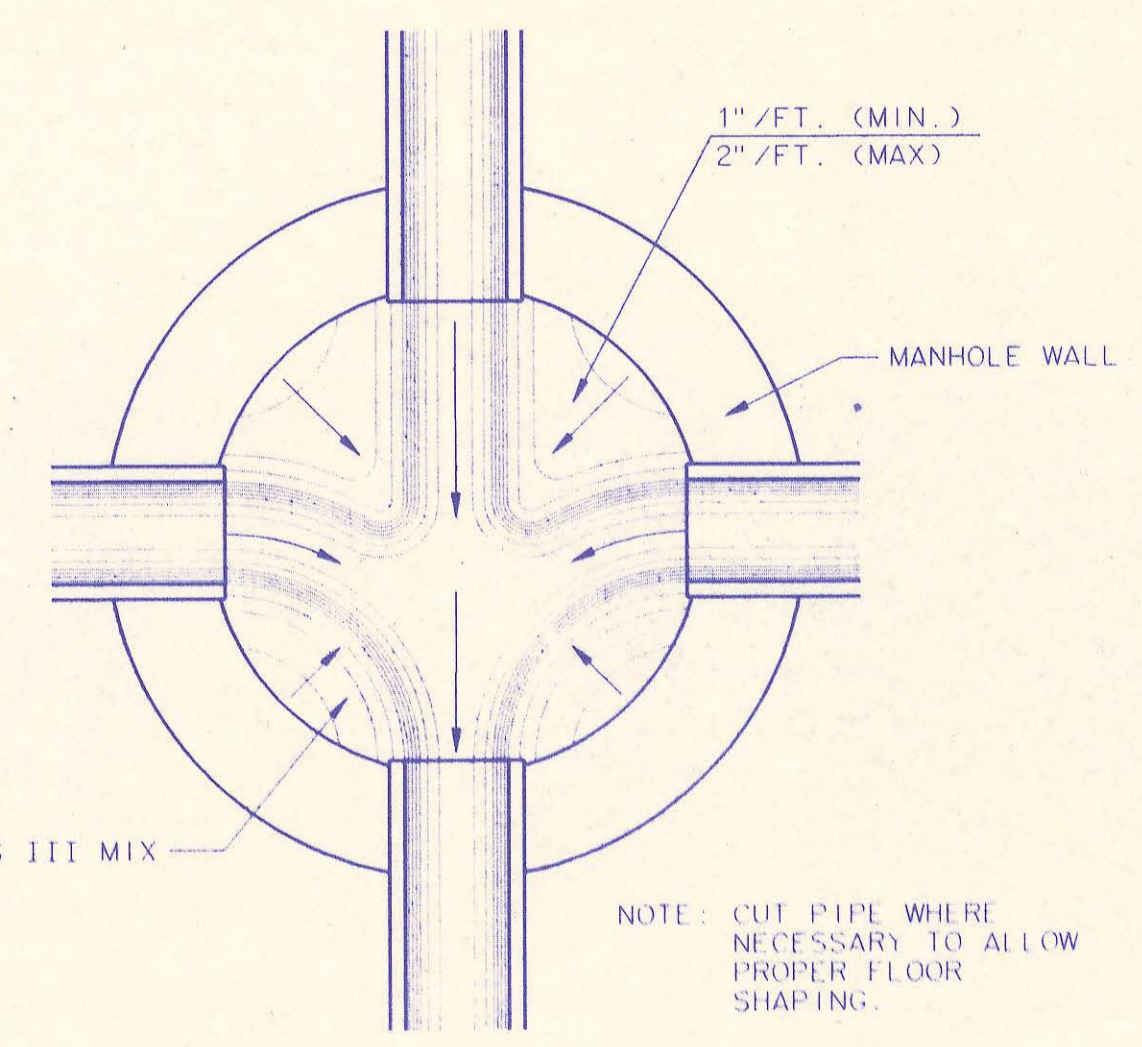
SECTION X (TYPICAL)



SECTION Y



SECTION Y



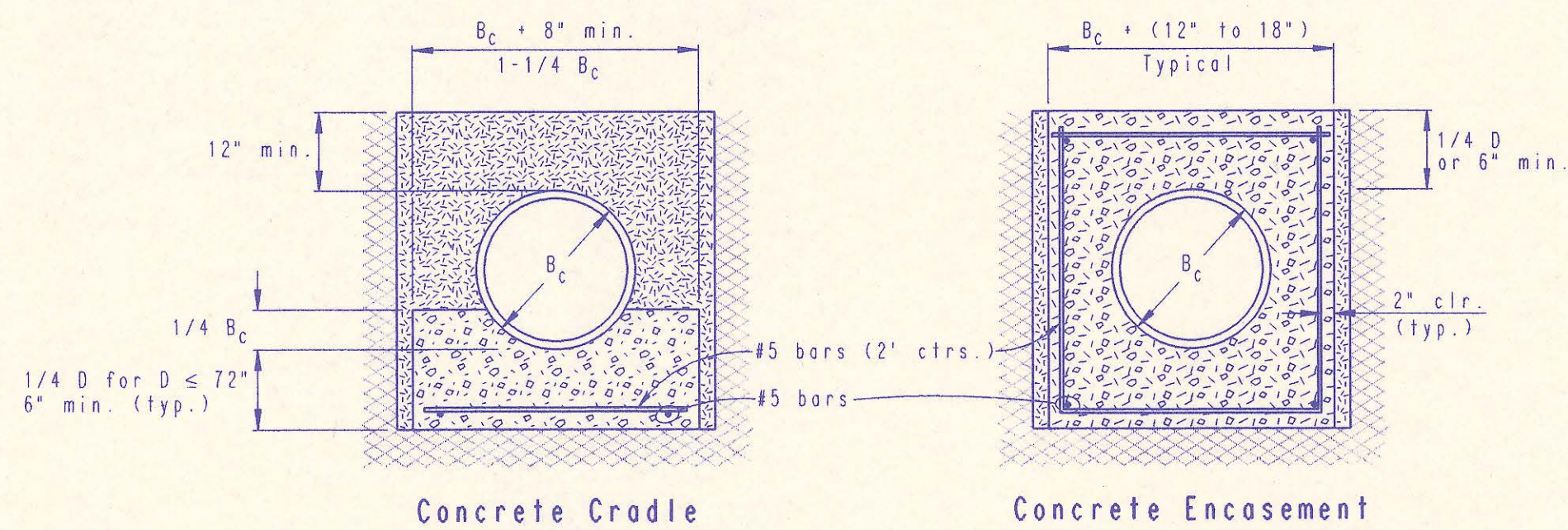
TYPICAL MANHOLE FLOOR SHAPING

- CAST-IN-PLACE MANHOLE NOTES**
- IF, IN THE OPINION OF THE ENGINEER, THE MANHOLE SUBGRADE APPEARS UNSTABLE, THE CONTRACTOR WILL HAVE THE OPTION TO COMPACT SUBGRADE AS SHOWN OR INCREASE THE THICKNESS OF THE MANHOLE BASE AS DIRECTED BY THE ENGINEER.
 - STEEL REINFORCING WILL BE REQUIRED IN ALL MANHOLE BASES.
 - WHEN OPENINGS ARE CUT IN MANHOLE WALLS FOR PIPE, THE PIPE OR PIPE CONNECTOR SHALL BE GROUTED IN PLACE WITH HYDRAULIC CEMENT. EXTERIOR OF COMPLETED CONNECTION SHALL BE SEALED WITH APPROVED COATINGS.
 - CAST-IN-PLACE CIRCULAR CONCRETE MANHOLES ARE TO BE CONSTRUCTED ONLY IN LOCATIONS WHERE IT IS OBVIOUS THAT ANY ADJUSTMENT OF THE MANHOLE TOP ELEVATIONS WHICH MAY BE NECESSARY WILL NOT REQUIRE MODIFICATION OF THE CONCRETE BARREL.
 - APPROVED FLEXIBLE WATERSTOP GASKETS WHICH MEET OR EXCEED THE TEST REQUIREMENTS OF ASTM C-923 SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN ABSORPTIVE PIPE OR PVC PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER EXTENDING FROM MANHOLES SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL.
 - THE MANHOLE FRAME SHALL BE SEATED ON AN APPROVED BUTYL RUBBER SEALANT TO PROVIDE A WATER-TIGHT SEAL BETWEEN THE MANHOLE ADJUSTMENT RING OR BRICK MASONRY COLLAR AND THE MANHOLE FRAME.
 - GASKETED PIPE CAPS SHALL BE PROVIDED BY THE PIPE SUPPLIER. GLOUED OR CEMENTED CAPS WILL NOT BE ACCEPTED.
 - CONCRETE FOR MANHOLE BASES SHALL BE CLASS I AS DESCRIBED IN THE SPECIFICATIONS.
 - MANHOLES WITH PIPE SIZES LARGER THAN 15" SHALL HAVE 5" INSIDE DIAMETER.

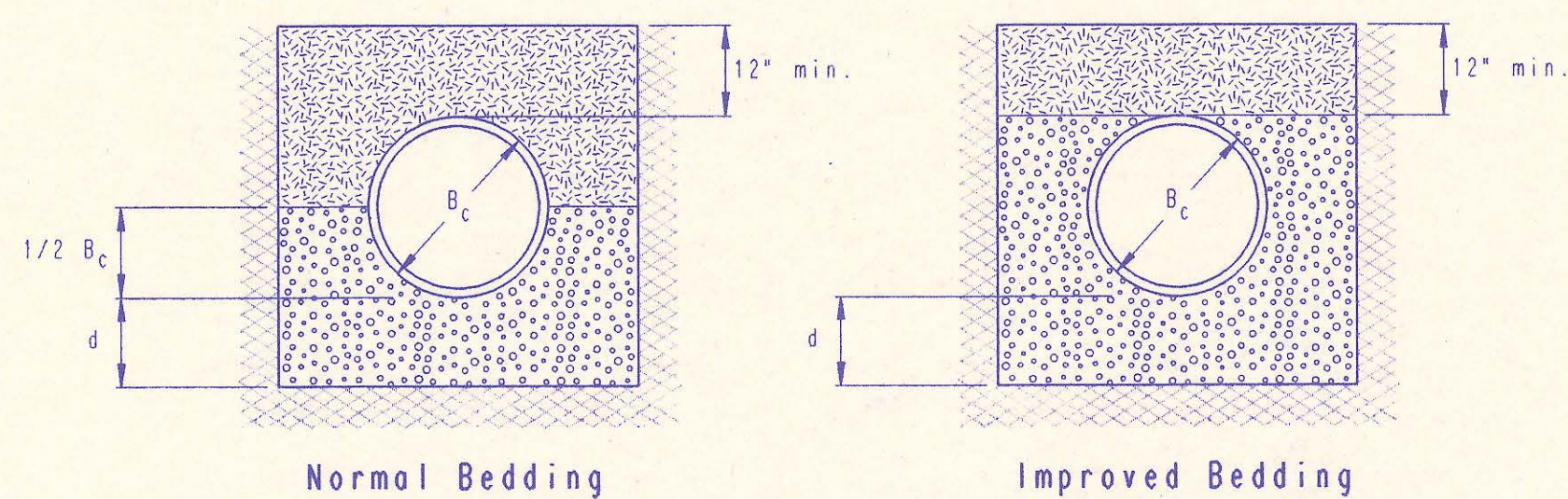
3	All Manholes Self-sealing/ MH Cover	RJ	1/25/93
2	Modified Pipe connection note and MH Note 3	RJ	6/01/92
1	Manhole Frame and Cover Note 1	RJ	7/16/91
No.	Revision	By	Date

CAST-IN-PLACE 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

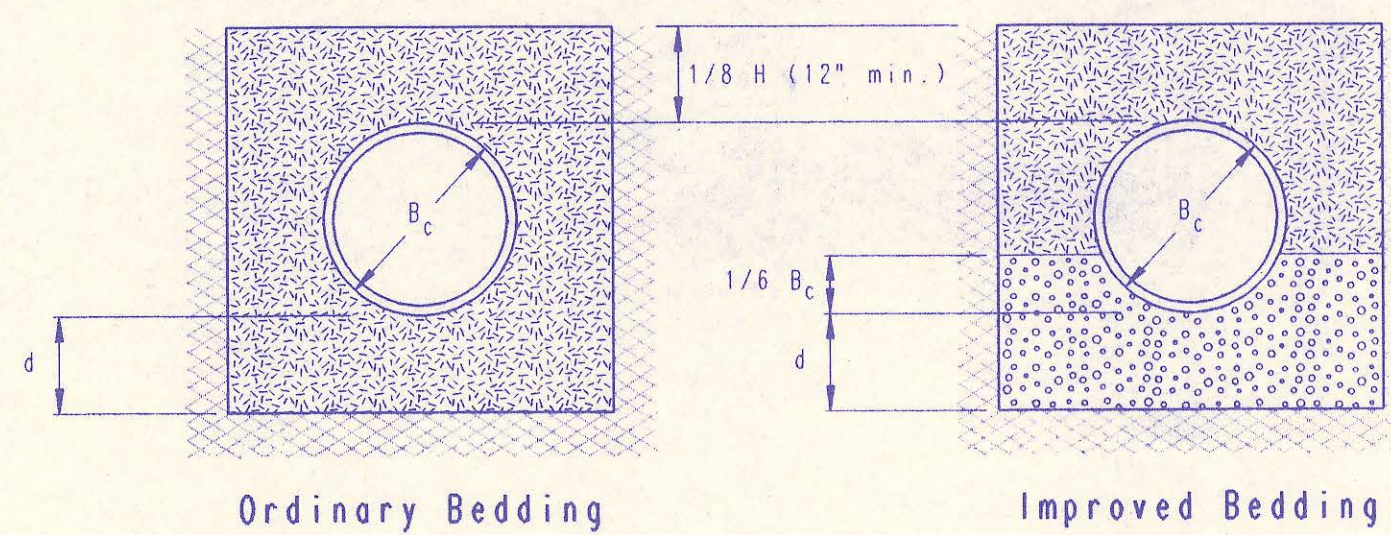
PLAN
 CHECKED
 CHECKED
 BY
 DATE



CLASS A



CLASS B



CLASS C

PIPE ZONE BACKFILLING

- B_c = Outside Pipe Diameter
- H = Backfill from Top of Pipe to Existing Ground
- D = Inside Pipe Diameter
- d = Depth of Bedding Material Below Pipe
- [Symbol] = Granular Bedding Material or Sand-Gravel Bedding
- [Symbol] = Compacted Embedment
- [Symbol] = 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.

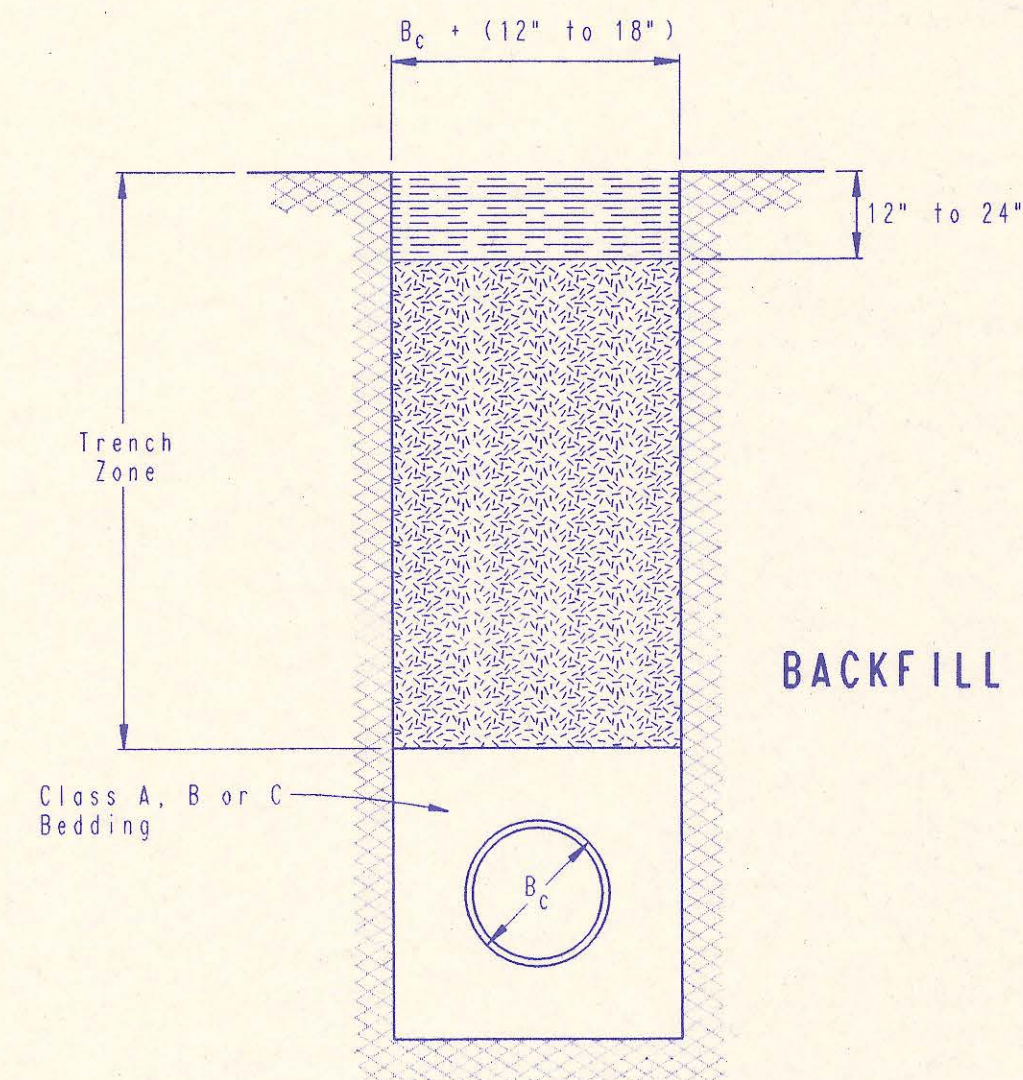
Class A "Concrete Cradle" and/or Class A "Concrete Encasement" is not required unless specified on the plans. However, where unexpected trench conditions exist or improper trenching is performed Class A Bedding may be required as determined by the Engineer.

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).



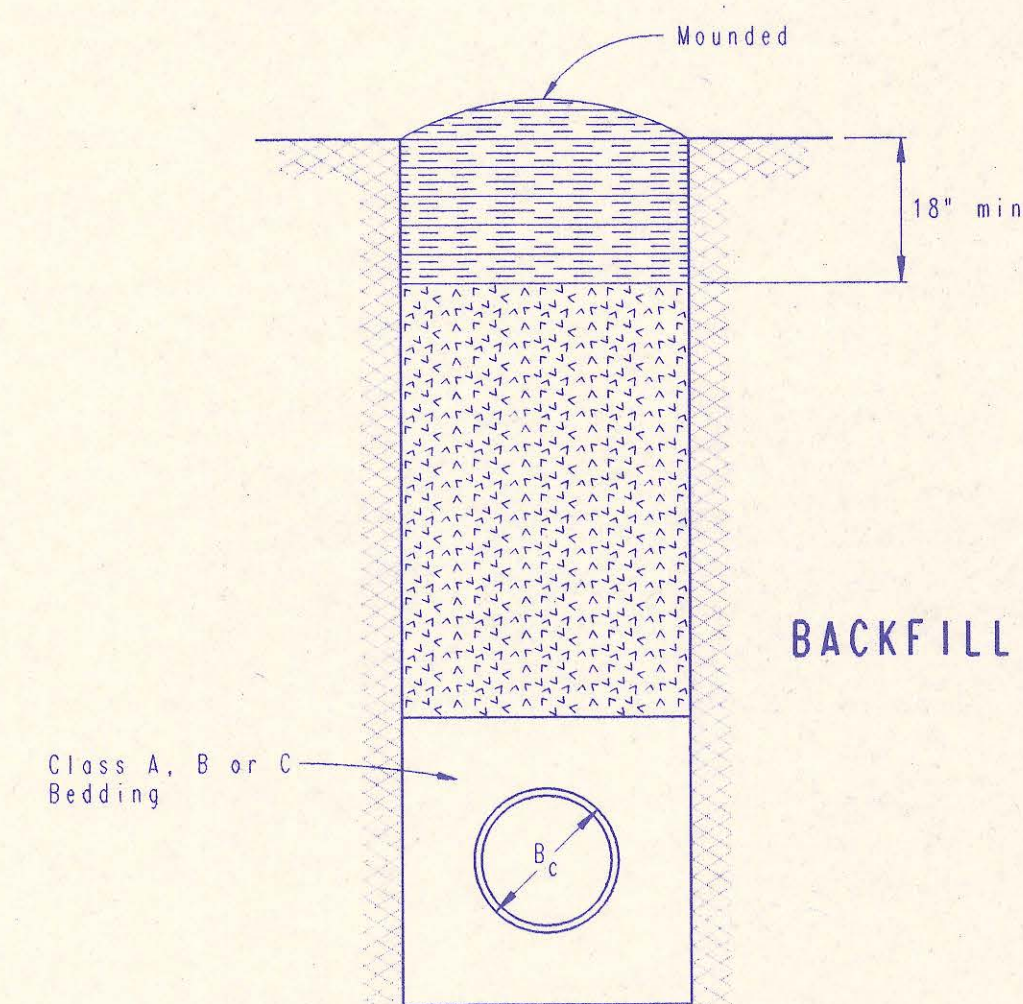
BACKFILL TYPE I

- B_c = Outside Pipe Diameter
- [Symbol] = Compacted Granular Backfill
- [Symbol] = Uncompacted Earth Backfill
- [Symbol] = 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.

Uncompacted 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.



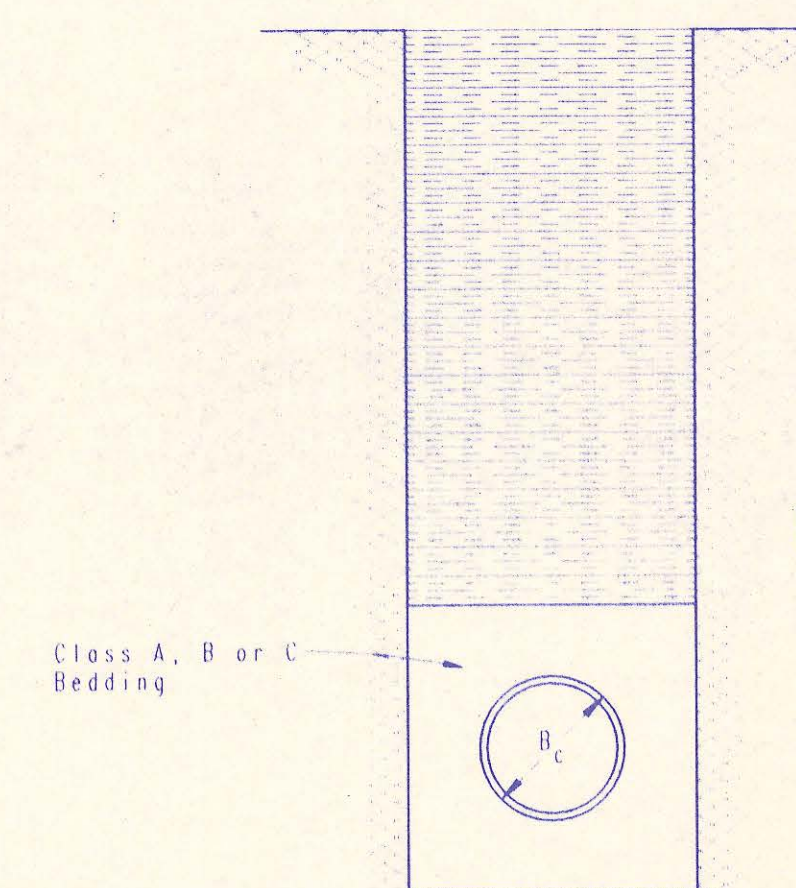
BACKFILL TYPE II

Backfill: Backfill material and compaction requirements shall conform to either Type I, Type II or Type III as specified in the plans. One year 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 obtained.

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".



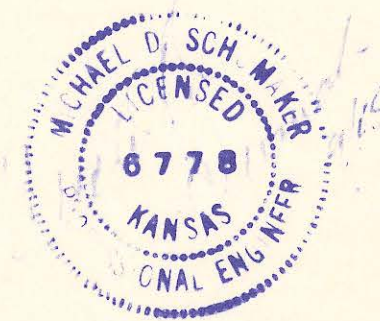
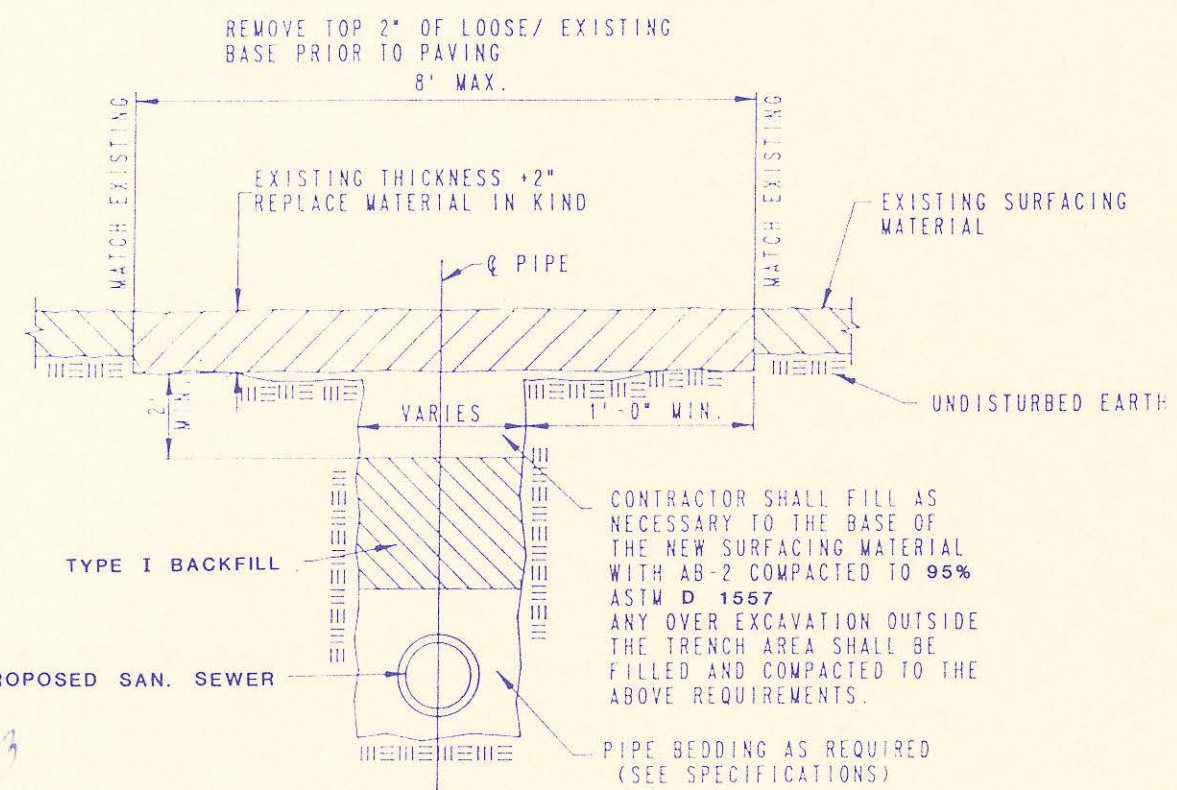
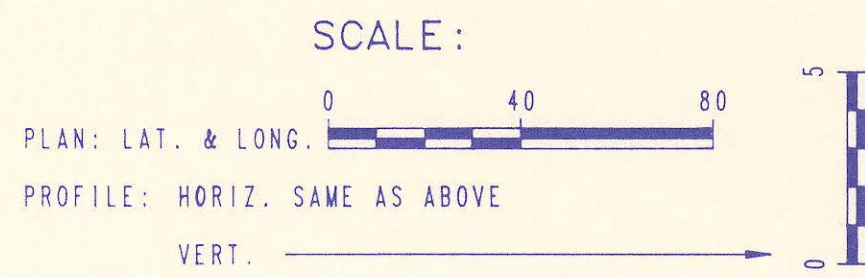
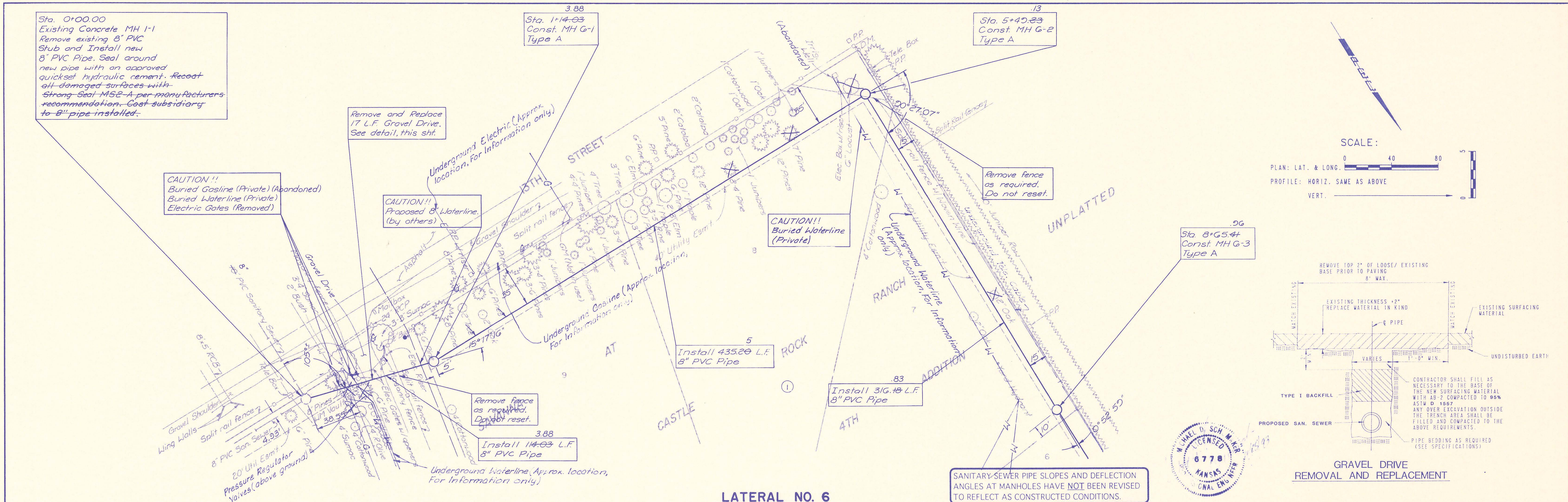
BACKFILL TYPE III

TRENCH ZONE BACKFILLING

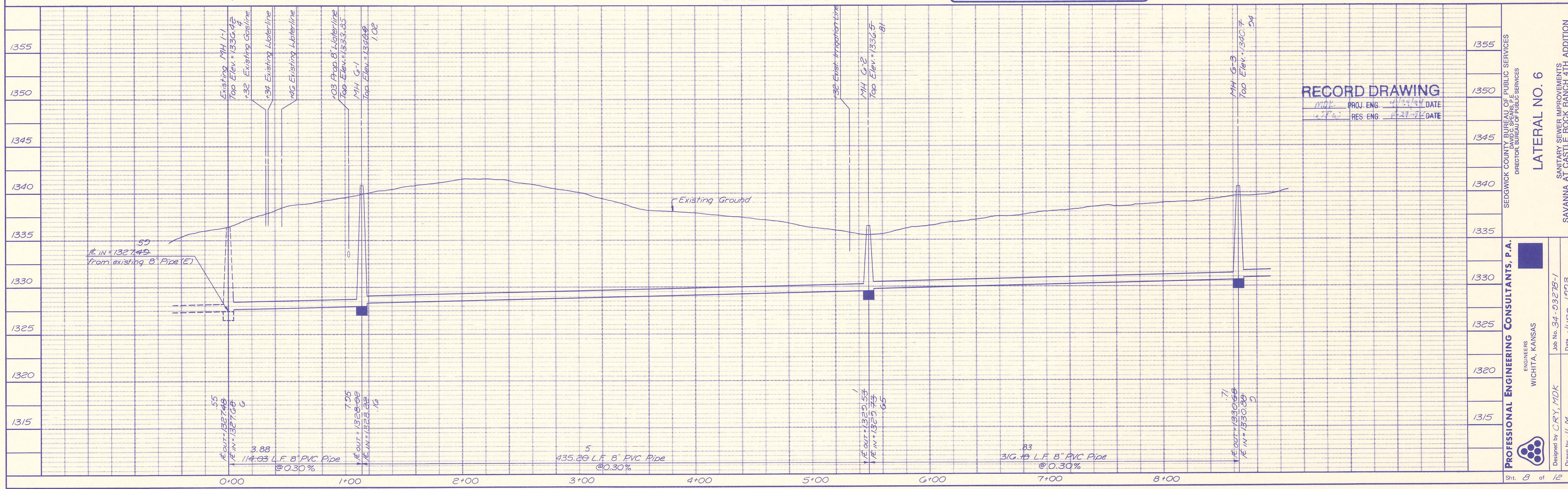
No.	Revision	By	Date
BACKFILL DETAILS ADOPTED AS STANDARD DESIGN SEPTEMBER, 1989 BY SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES DAVID C. SPEARS, P.E. DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER			

PLAN	SURVEYED	BY	DATE
	ALIGNED		
	CHECKED		
	RT. OF WAY		
	NO.		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	CHECKED		
	NO.		



SANITARY SEWER PIPE SLOPES AND DEFLECTION ANGLES AT MANHOLES HAVE NOT BEEN REVISED TO REFLECT AS CONSTRUCTED CONDITIONS.



RECORD DRAWING
 DATE: 4/23/04
 DATE: 02/27/02

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

Sedgwick County Bureau of Public Services
 DIRECTOR, BUREAU OF PUBLIC SERVICES

LATERAL NO. 6
 SANITARY SEWER IMPROVEMENTS
 SAVANNA AT CASTLE ROCK RANCH 4TH ADDITION

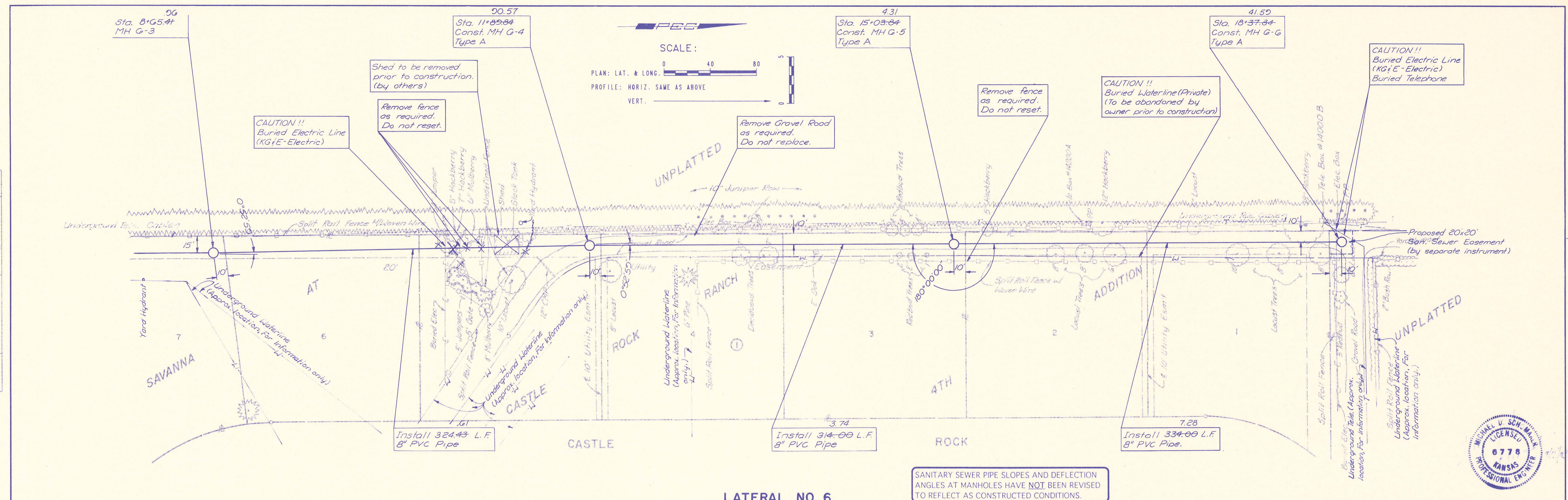
Job No. 34-0327B-1
 Date: June, 1993

Designed by CRY, MDK
 Drawn by ULM

Sht. 8 of 12

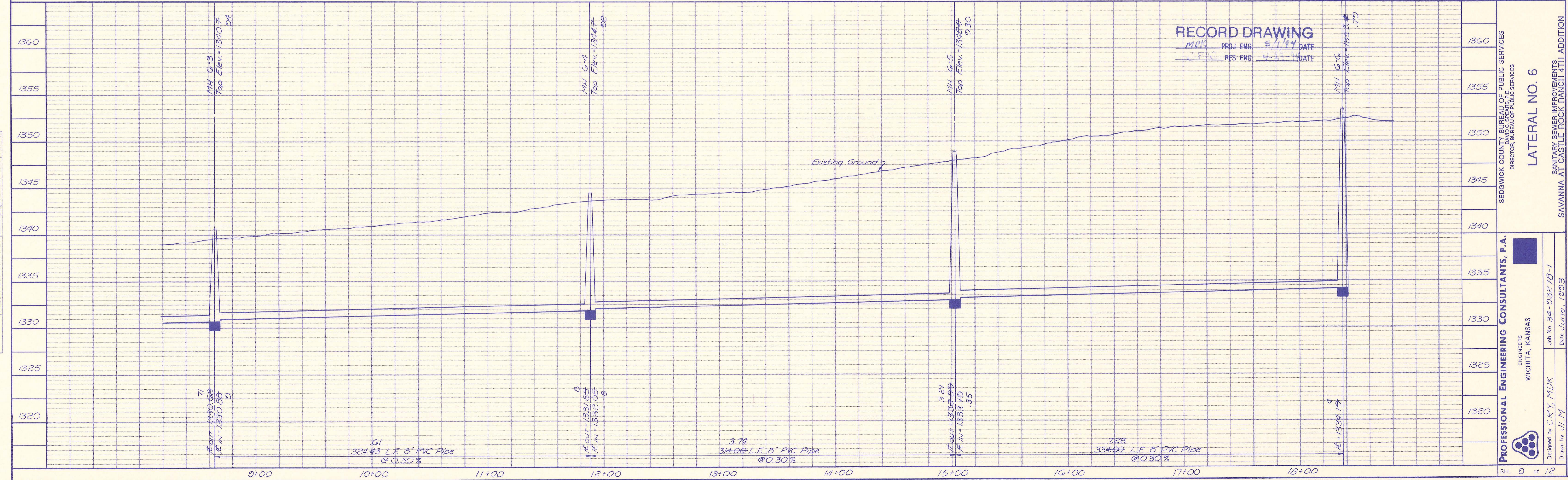
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	PLOTTED		
	NOTE BOOK		
	GRADES CHECKED		
	ALIGNMENT CHECKED		
	PIV. OF WAY CHECKED		
	STRUCTURE NOTATION CHECKED		
	NO.		

PROFILE	SURVEYED	BY	DATE
	PLOTTED		
	NOTE BOOK		
	GRADES CHECKED		
	ALIGNMENT CHECKED		
	PIV. OF WAY CHECKED		
	STRUCTURE NOTATION CHECKED		
	NO.		



SANITARY SEWER PIPE SLOPES AND DEFLECTION ANGLES AT MANHOLES HAVE NOT BEEN REVISED TO REFLECT AS CONSTRUCTED CONDITIONS.

LATERAL NO. 6



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

SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
 DIRECTOR BUREAU OF PUBLIC SERVICES

LATERAL NO. 6

SANITARY SEWER IMPROVEMENTS
 SAVANNA AT CASTLE ROCK RANCH 4TH ADDITION

Designed by CRY, MDK
 Drawn by JLM

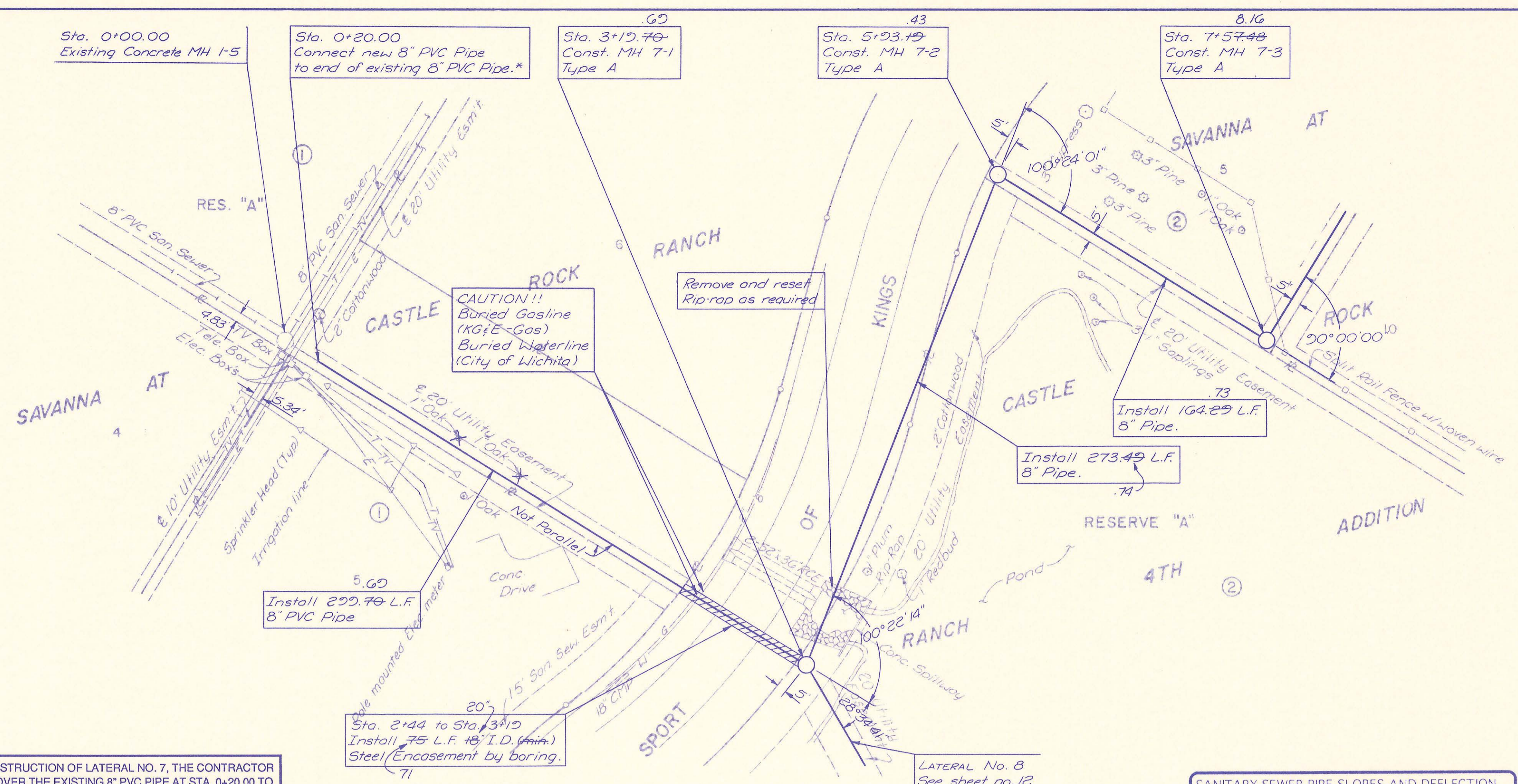
Date June, 1993

Job No. 94-0327B-1
 Date June, 1993

Sht. 0 of 12

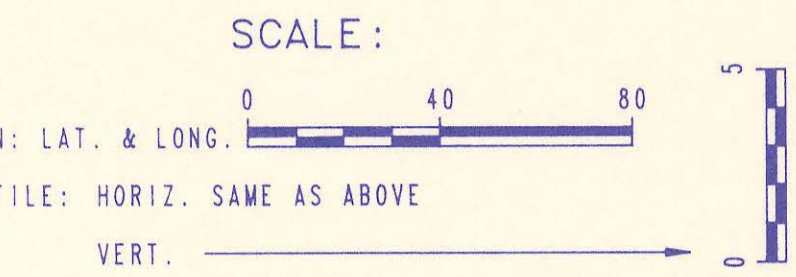
PLAN
 SURVEYED BY: _____ DATE: _____
 PLOTTED BY: _____
 NOTE BOOK NO. _____
 CHECKED BY: _____
 RT. OF WAY CHECKED BY: _____

PROFILE
 SURVEYED BY: _____ DATE: _____
 PLOTTED BY: _____
 NOTE BOOK NO. _____
 CHECKED BY: _____
 STRUCTURE NOT AT NS OF PG



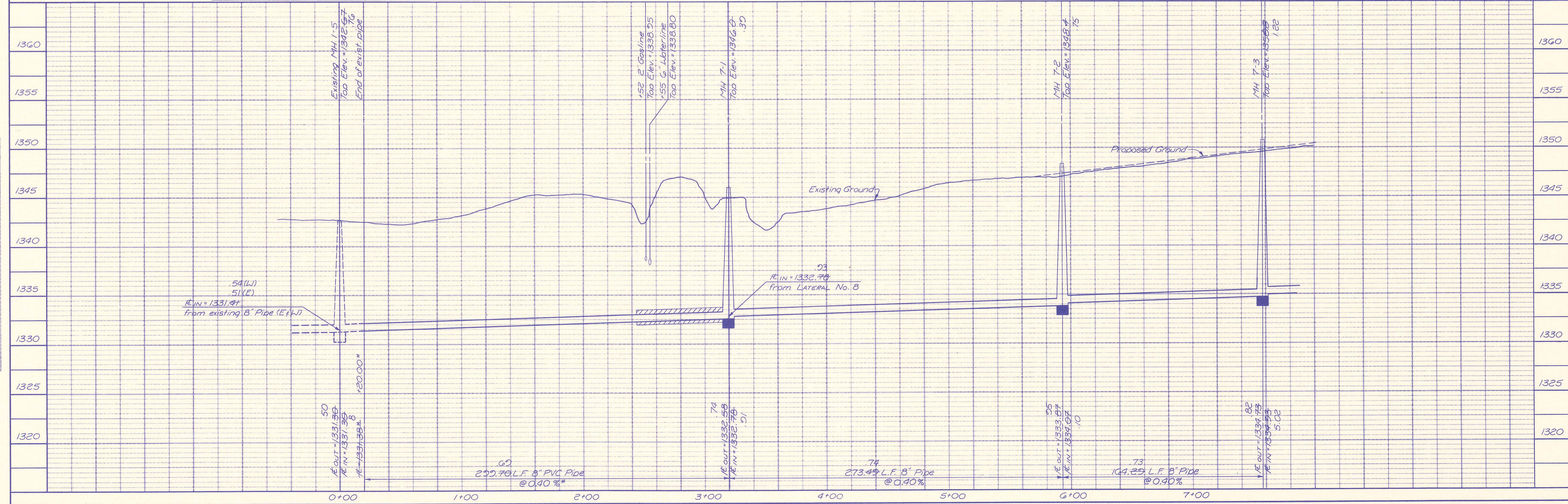
* PRIOR TO BEGINNING CONSTRUCTION OF LATERAL NO. 7, THE CONTRACTOR SHALL EXCAVATE TO UNCOVER THE EXISTING 8" PVC PIPE AT STA. 0+20.00 TO DETERMINE THE EXACT HORIZONTAL AND VERTICAL LOCATION OF THE END OF THE PIPE. THE CONTRACTOR SHALL IMMEDIATELY REPORT HIS FINDINGS TO THE ENGINEER SO THAT ANY NECESSARY PLAN MODIFICATIONS MAY BE MADE.

SANITARY SEWER PIPE SLOPES AND DEFLECTION ANGLES AT MANHOLES HAVE NOT BEEN REVISED TO REFLECT AS CONSTRUCTED CONDITIONS.



RECORD DRAWING
 M.D.K. PROJ. ENG. 5/1/94 DATE
 RES. ENG. 4/30/94 DATE

LATERAL NO. 7



PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
 ENGINEERS
 WICHITA, KANSAS
 Job No. 34-23278-1
 Date June, 1993
 Drawn by JLM

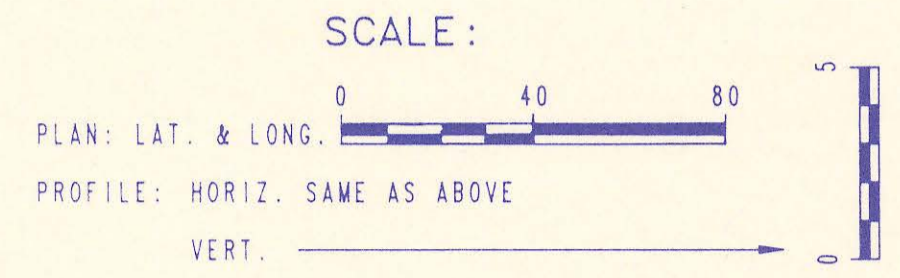
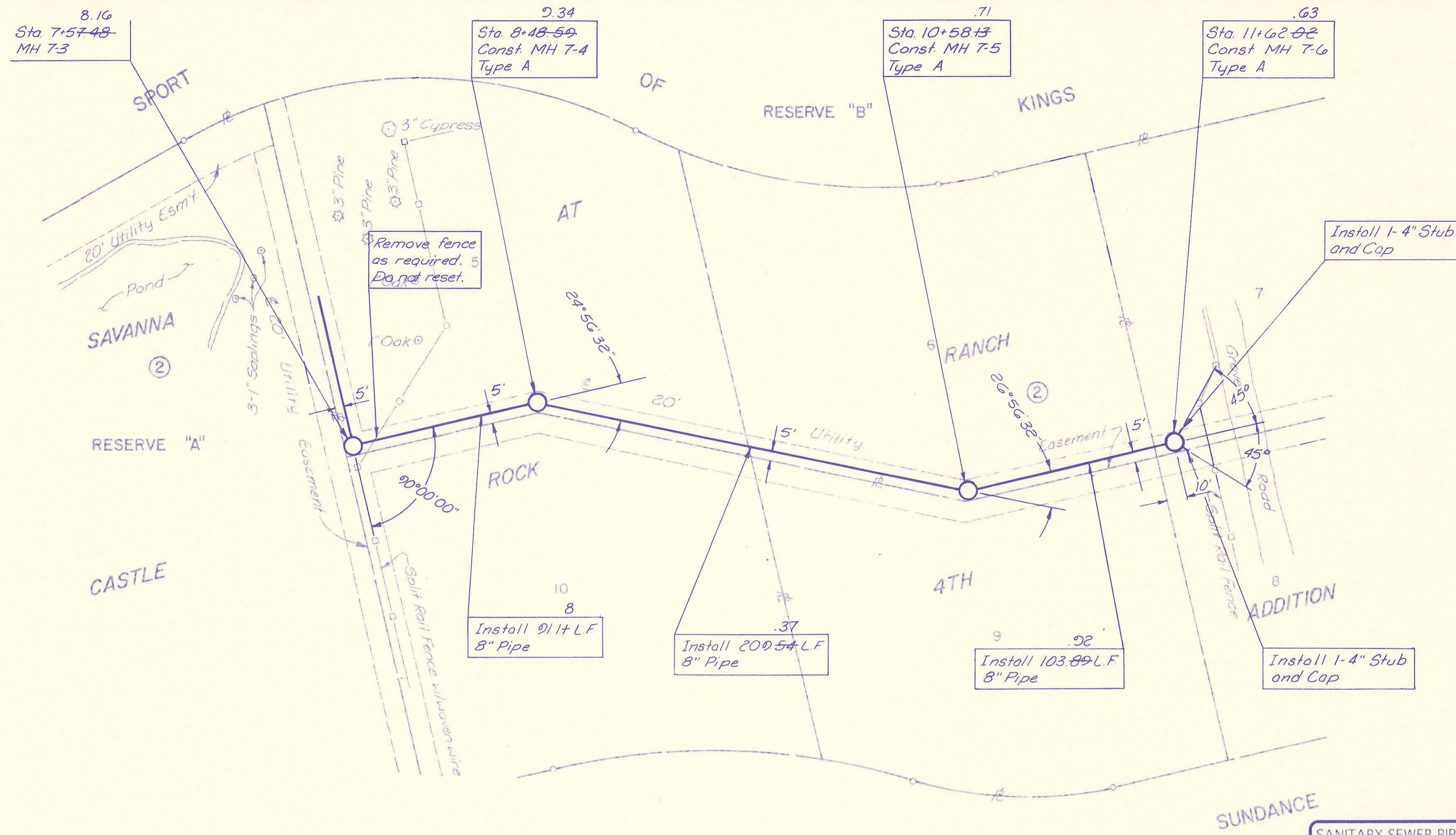
SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
 DIRECTOR, BUREAU OF PUBLIC SERVICES

LATERAL NO. 7
 SANITARY SEWER IMPROVEMENTS
 SAVANNA AT CASTLE ROCK RANCH 4TH ADDITION

Sh. 10 of 12

PLAN	SURVEYED	DATE
	NOTE BOOK	BY
	ALIGNMENT CHECKED	
	RT. OF WAY CHECKED	
	NO.	

PROFILE	SURVEYED	DATE
	NOTE BOOK	BY
	GRADES CHECKED	
	E. M. S. NOTED	
	STRUCTURE NOTATIONS CHECKED	
	NO.	

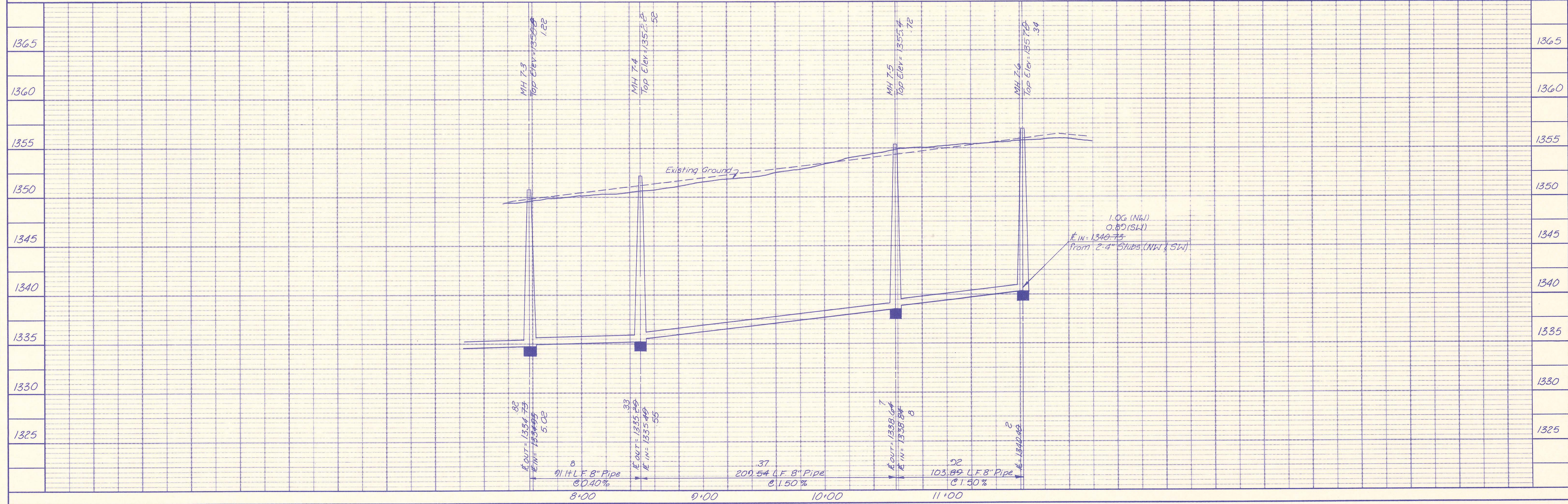


RECORD DRAWING
 PROJ. ENG. DATE
 RES. ENG. DATE



SANITARY SEWER PIPE SLOPES AND DEFLECTION ANGLES AT MANHOLES HAVE NOT BEEN REVISED TO REFLECT AS CONSTRUCTED CONDITIONS.

LATERAL NO. 7



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

SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
 DIRECTOR, BUREAU OF PUBLIC SERVICES

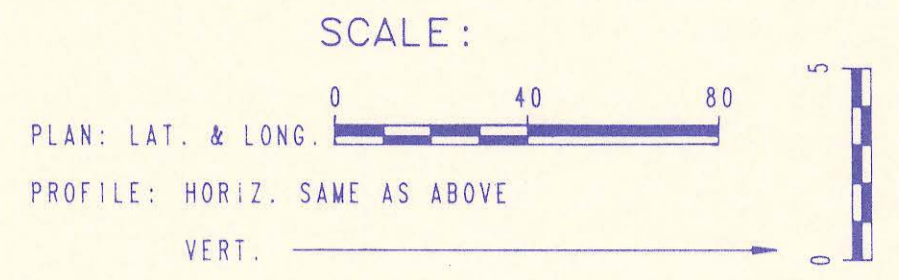
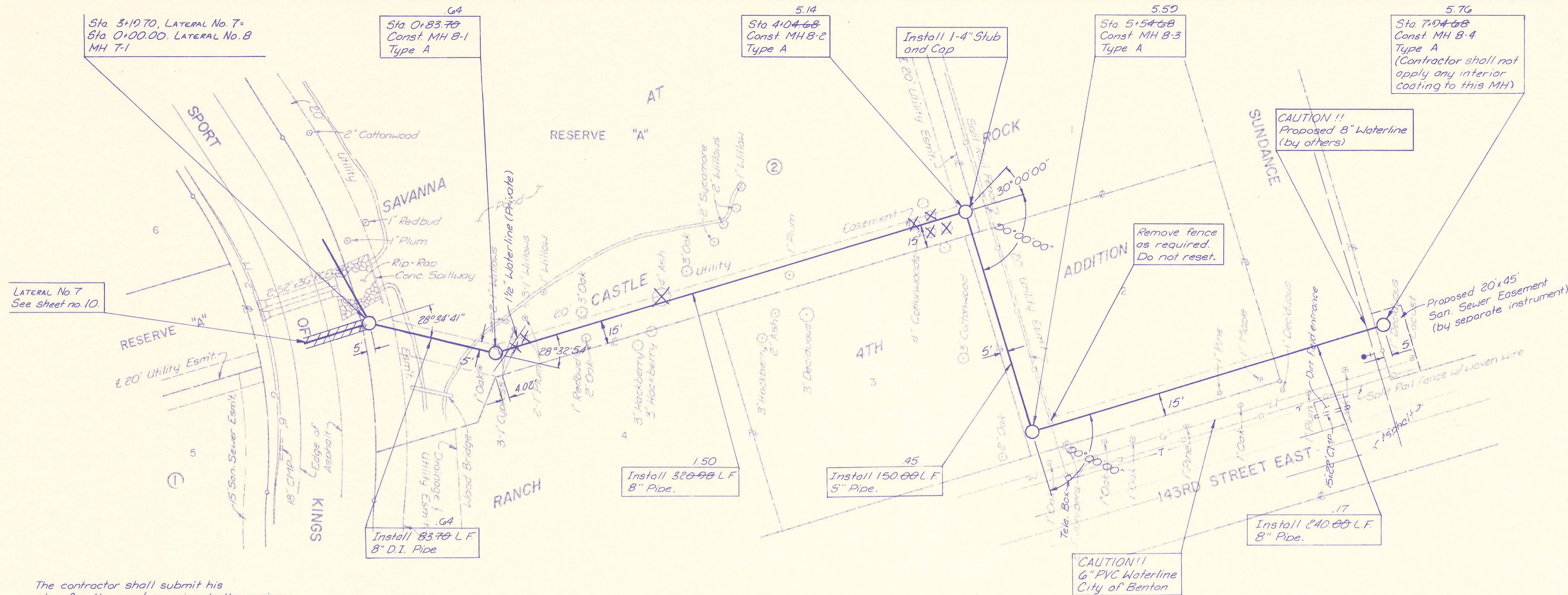
LATERAL NO. 7
 SANITARY SEWER IMPROVEMENTS
 SAVANNA AT CASTLE ROCK RANCH 4TH ADDITION

Job No. 34-03278-1
 Date June 1993
 Designed by CRY MDK
 Drawn by STM

Sht. 11 of 12

PLAN	SURVEYED	DATE
	NOTE BOOK	
	ALIGNED CHECKED	
	RT. OF WAY CHECKED	
	NO.	

PROFILE	SURVEYED	DATE
	NOTE BOOK	
	GRADES CHECKED	
	NO.	
	STRUCTURE (NOT AS SHOWN)	

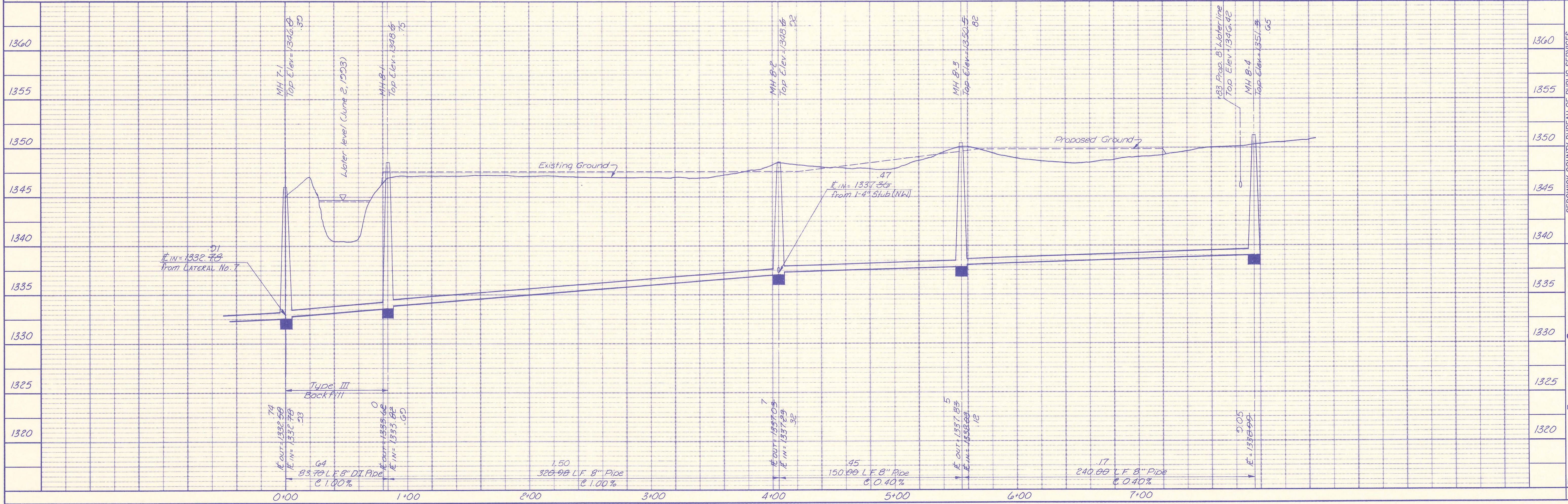


RECORD DRAWING
 PROJ. ENG. DATE
 RES. ENG. 4-25-94 DATE

SANITARY SEWER PIPE SLOPES AND DEFLECTION ANGLES AT MANHOLES HAVE NOT BEEN REVISED TO REFLECT AS CONSTRUCTED CONDITIONS.

The contractor shall submit his plan for the pond crossing to the engineer for approval prior to construction. This plan may include temporary dams and/or shoring. Any temporary construction materials shall be completely removed prior to completion of the project.

LATERAL NO. 8



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

Job No. 84-08278-1
 Date June, 1993

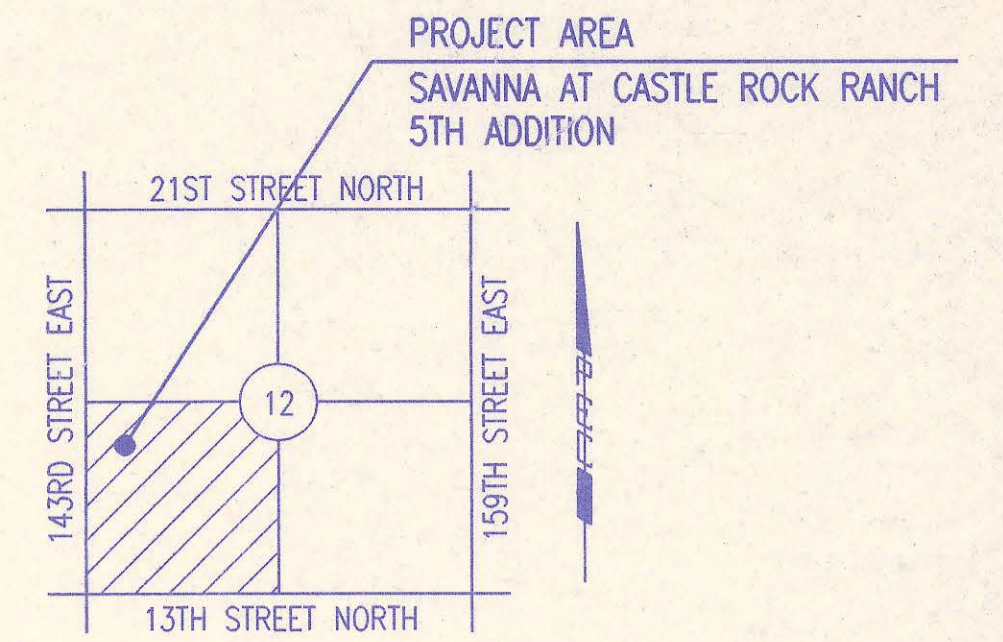
Designed by CRY, MDK
 Drawn by STTM

Sedgwick County Bureau of Public Services
 Director: David C. Spears, P.E.

LATERAL NO. 8
 SAVANNA AT CASTLE ROCK RANCH 4TH ADDITION

Sh. 12 of 12

BUREAU OF PUBLIC SERVICES



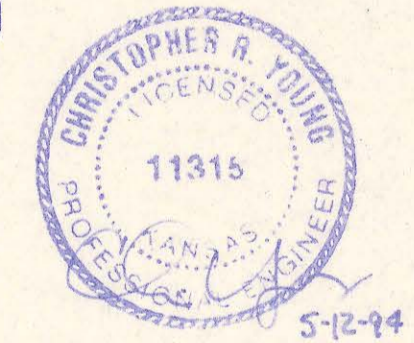
LOCATION MAP
NOT TO SCALE

INDEX OF SHEETS

SHEET NO.	TITLE
1	TITLE SHEET
2	KEY MAP
3-4	FLAT MAP
5	PRECAST MANHOLE DETAILS
6	BACKFILL DETAILS
7	SERVICE CONNECTION DETAILS
8-14	PLAN/PROFILE

CONSTRUCTION PLANS FOR SANITARY SEWER IMPROVEMENTS IN SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION (PHASE 1)

RECORD DRAWING
 MDK PROJ. ENG. 10/24/94 DATE
 RES. ENG. DATE



TO SEDGWICK COUNTY, KANSAS
 MAY 1994
 PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
 ENGINEERS
 WICHITA, KANSAS

APPROVED:

 DAVID C. SPEARS, P.E.
 DIRECTOR OF PUBLIC SERVICES/COUNTY ENGINEER
 DATE: 5/25/94

APPROVED:

 CHAIR BOARD OF COUNTY COMMISSIONERS
 DATE: 5/25/94

FILED IN THE OFFICE OF
 THE SEDGWICK COUNTY CLERK

 COUNTY CLERK
 DATE: 5/27/94

GENERAL NOTES

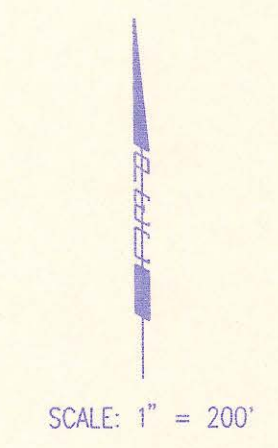
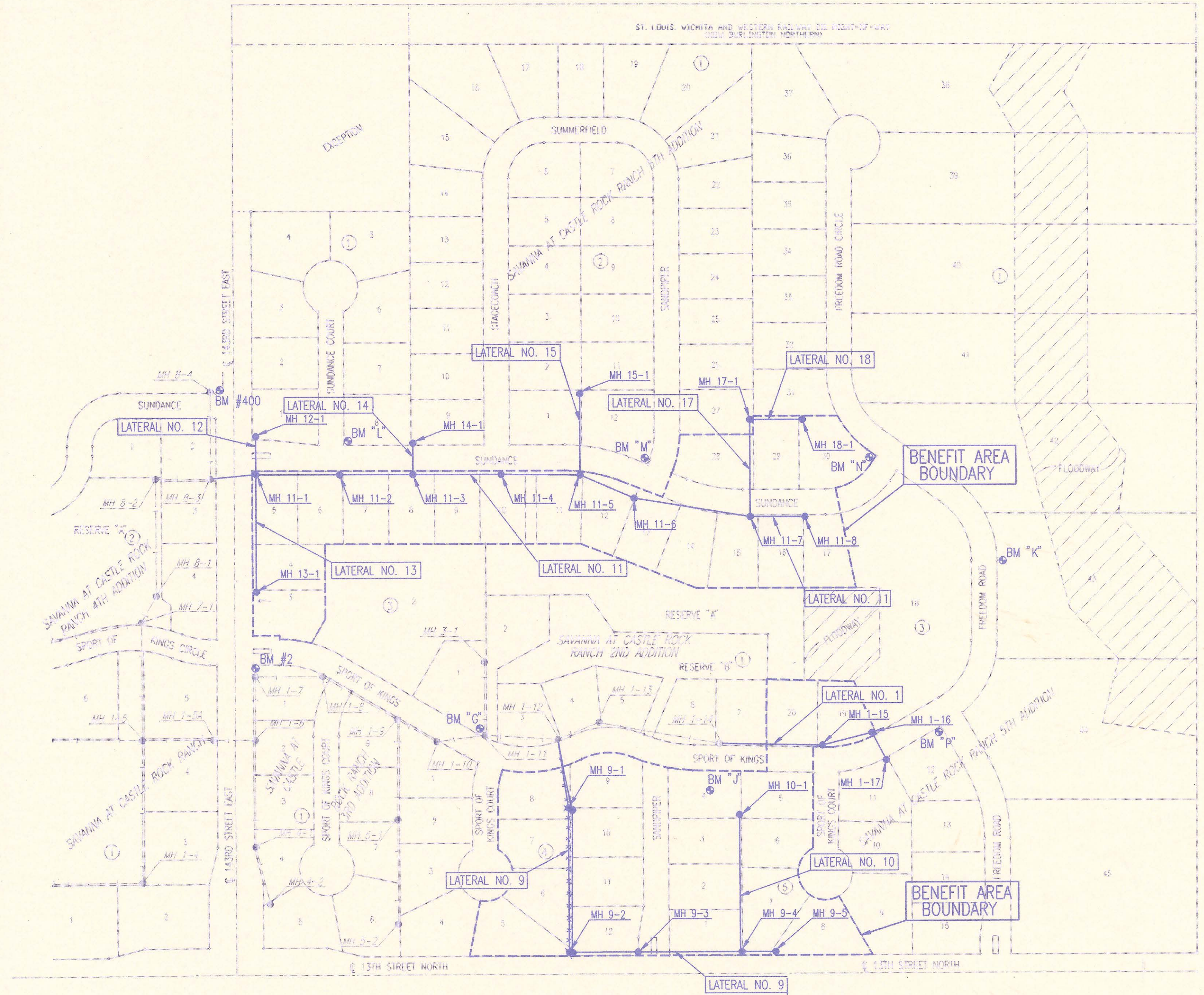
- ALL ELEVATIONS SHOWN ARE USGS DATUM.
- AT LEAST 72 HOURS PRIOR TO BEGINNING ANY EXCAVATION (EXCLUDING WEEKENDS AND HOLIDAYS), THE CONTRACTOR SHALL CONTACT THE KANSAS ONE-CALL SYSTEM, A UTILITY LOCATION SERVICE, AT 687-2470 TO REQUEST THE FOLLOWING UTILITY COMPANIES TO LOCATE ANY EXISTING LINES WITHIN THE PROJECT AREA: MULTIMEDIA CABLE TV, WICHITA WATER, SOUTH-WESTERN BELL TELEPHONE, K G & E GAS, AND K G & E ELECTRIC.
- 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.
- AT LEAST 24 HOURS BEFORE CONNECTING NEW SEWER PIPE TO THE EXISTING SEWAGE SYSTEM, THE CONTRACTOR SHALL CONTACT THE SEDGWICK COUNTY EASTERN SEWER DISTRICT (733-0202). THE CONTRACTOR SHALL KEEP ANY CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER DURING CONSTRUCTION. TO PREVENT WATER OR DEBRIS FROM ENTERING THE EXISTING SEWER, A MECHANICAL PLUG SHALL BE INSTALLED AND MAINTAINED TO ISOLATE THE EXISTING SEWER FROM THE NEW CONSTRUCTION UNTIL THE NEW CONSTRUCTION IS CLEANED, TESTED, AND HAS BEEN ACCEPTED. 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 TELEVISIONING.
- ALL PIPE JOINTS SHALL BE LAID 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 RE-LAID ACCORDING TO SPECIFICATIONS AT THE CONTRACTORS EXPENSE.
- EXCESS EXCAVATED 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.
- THE CONTRACTOR SHALL CONTAIN HIS OPERATIONS TO PERMIT TRAFFIC THROUGH AND ACROSS CONSTRUCTION AT EXISTING ROADWAYS AT ALL TIMES. THE CONTRACTOR SHALL ERRECT 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 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 REFERENCE 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 THE 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 RESTORE ALL DITCHES, SWALES, ROAD SHOULDERS, AND BANKS TO THEIR ORIGINAL SLOPES AND GRADES. WHERE EXISTING ENTRANCE PIPE, DRAINAGE PIPE, SIGNS, FENCES, ETC., CONFLICT WITH THE PROPOSED WORK HEREIN, THEY SHALL BE REMOVED AND REPLACED OR RESET UNLESS OTHERWISE INDICATED ON THE PLANS. THE REPLACEMENT OF ALL THE AFOREMENTIONED ITEMS, INCLUDING SEEDING, FERTILIZER, AND MULCHING SHALL BE CONSIDERED SUBSIDIARY TO "SITE CLEARING AND RESTORATION".
- EASEMENTS AND RIGHTS-OF-WAY 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 RIGHTS-OF-WAY 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 ADJACENT TO 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.
- 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
 MAYOR BERNIE GILL
 CITY OF BENTON
 (316) 778-1625
- THE CONTRACTOR SHALL AVOID REMOVAL OR TRIMMING OF ANY TREES WHERE POSSIBLE. WHERE THE CONTRACTOR BELIEVES THE REMOVAL OR TRIMMING IS UNAVOIDABLE, HE SHALL OBTAIN THE CONCURRENCE OF THE ENGINEER BEFORE PROCEEDING WITH SUCH WORK.
- RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES INCLUDING ANY TREES REMOVED, TREE TRIMMINGS, AND EXCESS EXCAVATION WHICH IS TO BE WASTED, SHALL BE DISPOSED OF ON SITES PROVIDED BY THE CONTRACTOR. THESE SITES SHALL ALSO BE APPROVED BY THE ENGINEER AS TO SUITABILITY, APPEARANCE, AND SITE LOCATION. ALL DISPOSAL SITES MUST BE APPROVED BY THE KANSAS DEPARTMENT OF HEALTH AND ENVIRONMENT. MATERIAL EITHER STOCKPILED OR DISPOSED OF IN A FLOODPLAIN WILL REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT AND A FLOODPLAIN DEVELOPMENT PERMIT FROM SEDGWICK COUNTY. ANY MATERIALS DUMPED IN WATERS OF THE UNITED STATES OR WETLANDS IS SUBJECT TO U.S. CORPS OF ENGINEERS PERMITTING REGULATIONS. ANY MATERIALS BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS MAY REQUIRE ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED DISPOSAL LOCATION.
- EACH BIDDER SHALL VISIT THE SITE OF THE PROJECT BEFORE SUBMITTING THE PROPOSAL FOR THIS WORK SO THAT HE WILL BE FULLY INFORMED OF THE EXISTING FIELD CONDITIONS AND THE OBSTACLES WHICH MIGHT BE ENCOUNTERED. UPON AWARD OF THE CONTRACT, THE CONTRACTOR WILL NOT BE GRANTED ANY ADDITIONAL COMPENSATION WITH REGARDS TO TIME AND MONEY FOR CONDITIONS THAT MAY HAVE BEEN EVALUATED DURING AN INSPECTION OF THE SITE.
- ALL GRASSED AREAS DISTURBED BY CONSTRUCTION OF THE PROPOSED IMPROVEMENTS SHALL BE REPLANTED WITH GRASS AND FERTILIZED IN ACCORDANCE WITH THE SPECIFICATIONS FOR SUCH WORK. ALL COSTS FOR SEEDING AND FERTILIZING SHALL BE CONSIDERED SUBSIDIARY TO "SITE CLEARING AND RESTORATION".
- PROPERTIES WITHIN THE PROJECT LIMITS MAY HAVE UNDERGROUND SPRINKLER SYSTEMS IN PUBLIC RIGHT-OF-WAY WHICH CONFLICT WITH NEW CONSTRUCTION. CONTRACTOR WILL BE REQUIRED TO REMOVE SUCH IMPROVEMENTS SHOULD THEY NOT BE REMOVED BY THEIR OWNER AT THE TIME OF CONSTRUCTION OF THE PROJECT. THE CONTRACTOR WILL BE REQUIRED TO SALVAGE ALL SPRINKLER HEADS AND/OR VALVES AND GIVE SUCH MATERIAL TO THEIR OWNER. PORTIONS OF UNDERGROUND SPRINKLER SYSTEMS NOT IN CONFLICT WITH NEW CONSTRUCTION SHALL BE PROTECTED FROM DAMAGE AND SHALL REMAIN IN PLACE. ALL WORK IN CONNECTION WITH UNDERGROUND SPRINKLER SYSTEMS SHALL BE CONSIDERED AS SUBSIDIARY TO PRICE BID FOR PIPE IN PLACE.

CONSTRUCTION SEQUENCING

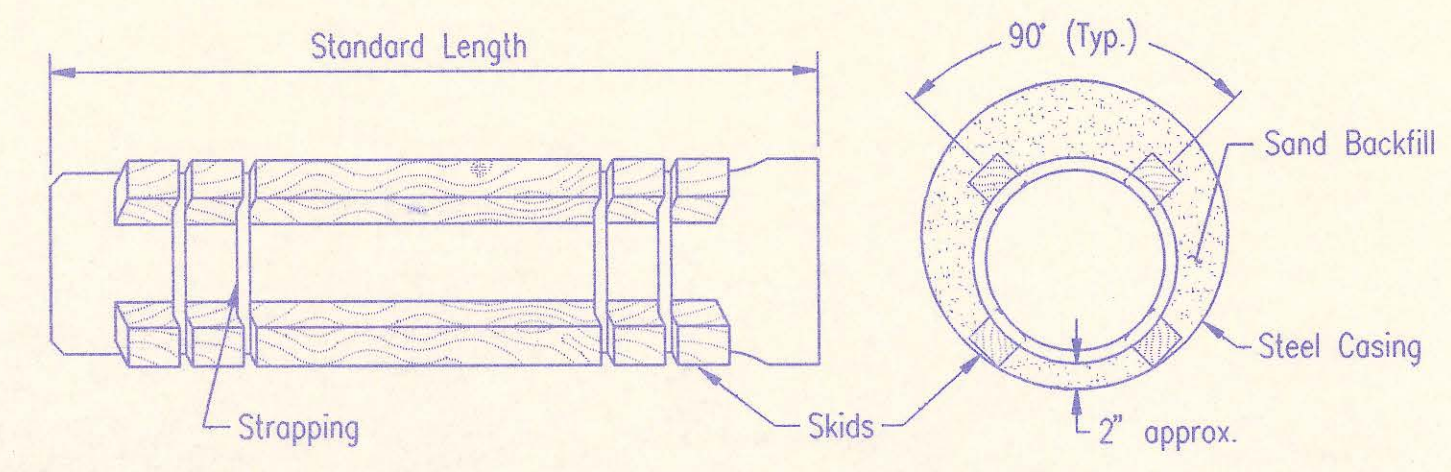
IN ORDER TO PERMIT SIMULTANEOUS CONSTRUCTION OF THE SEDGWICK COUNTY SANITARY SEWER SYSTEM AND THE CITY OF WICHITA WATER DISTRIBUTION SYSTEM (BY OTHERS) THE SANITARY SEWER CONTRACTOR SHALL COMPLY WITH THE FOLLOWING CONSTRUCTION SEQUENCE.

- LATERAL NO. 12 - ALL.
- LATERAL NO. 14 - ALL.
- LATERAL NO. 15 - ALL.
- LATERAL NO. 17 - MH 11-7 TO AND INCLUDING MH 17-1.
- LATERAL NO. 1 - ALL.
- LATERAL NO. 9 - ALL.
- BALANCE OF PROJECT

AT LEAST 1 WEEK PRIOR TO THE NOTICE TO PROCEED, THE SANITARY SEWER CONTRACTOR SHALL PROVIDE A WRITTEN SCHEDULE TO THE ENGINEER FOR APPROVAL OUTLINING COMPLETION DATES FOR THE ITEMS LISTED ABOVE.



- BENCH MARK LIST**
- BM #2 - RAILROAD SPIKE IN POWER POLE AT SOUTHEAST CORNER OF 143RD STREET EAST AND SPORT OF KINGS. ELEV. = 1348.65.56
 - BM #400 - RAILROAD SPIKE IN SOUTH FACE 12" ELM AT NORTHWEST CORNER OF 143RD STREET EAST AND SUNDANCE. ELEV. = 1353.22 Destroyed
 - BM "G" - RAILROAD SPIKE IN WEST FACE OF 36" ELM ON NORTH SIDE SPORT OF KINGS AT SOUTHEAST CORNER LOT 1, BLOCK 3, SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION. ELEV. = 1360.75.68
 - BM "J" - RAILROAD SPIKE IN NORTH FACE 24" HACKBERRY, 100' SOUTHWEST OF THE NORTHEAST CORNER LOT 4 BLOCK 5, SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION. ELEV. = 1358.96
 - BM "K" - RAILROAD SPIKE IN WEST FACE OF 24" ELM AT NORTH P.C. OF LOT 43, BLOCK 1, SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION. ELEV. = 1344.56
 - BM "L" - TOP OF "T" POST, 5' NORTH AND 5' EAST OF SOUTHWEST CORNER OF LOT 8, BLOCK 1, SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION. ELEV. = 1356.30
 - BM "M" - TOP OF "T" POST, 5' NORTH AND 5' WEST OF SOUTHEAST CORNER OF LOT 12, BLOCK 2, SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION. ELEV. = 1358.27
 - BM "N" - TOP OF "T" POST, 5' WEST OF EAST CORNER OF LOT 30, BLOCK 1, SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION. ELEV. = 1350.92
 - BM "P" - TOP OF "T" POST, 7' SOUTHWEST OF NORTHWEST CORNER OF LOT 12, BLOCK 5, SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION. ELEV. = 1352.04



STEEL ENCASUREMENT DETAIL

RECORD DRAWING
 MDK PROJ. ENG. 10/24/94 DATE
 FEB. ENG. DATE

	No.	Revision	By	Date
	SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES DAVID C. SPEARS, P.E. DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER KEY MAP PHASE 1 - SANITARY SEWER IMPROVEMENTS SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION			
	PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS			
Designed by	CRY, MDK	Job No.	34-94010-1	Sht. 2 of 14
Drawn by	B.Baktha	Date	February, 1994	

DSNR: BCF OPER: BB SCALE: 1" = 40'
 C:\94010\001\KEYMAP 05-04-1994 11:55:04

SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION TO SEDGWICK COUNTY, KANSAS

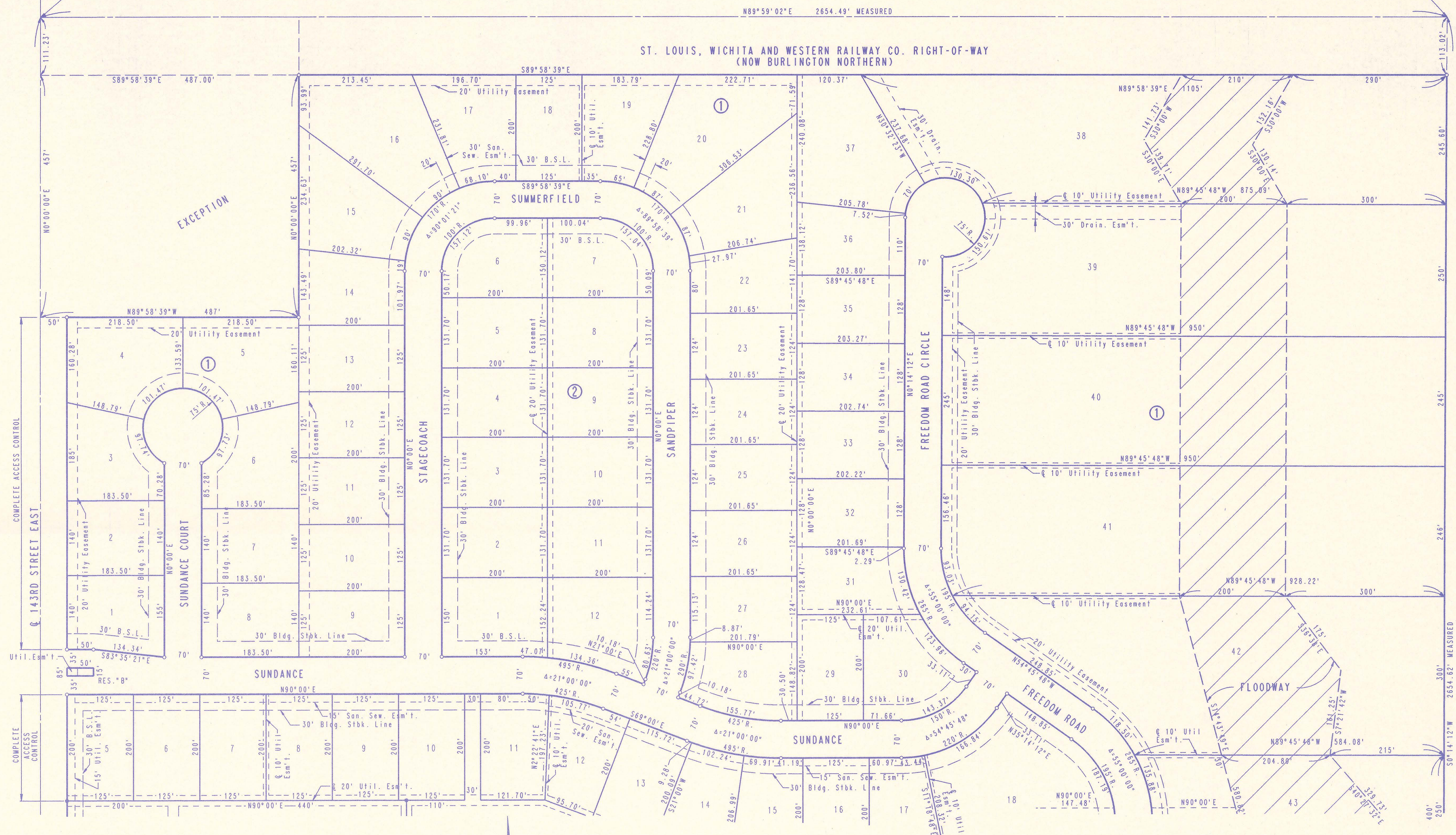
N.W. CORNER S.W. 1/4
SEC. 12, T27S, R2E
OF THE 6TH P.M.
1/2" I.P. IN THIMBLE

N.E. CORNER S.W. 1/4
SEC. 12, T27S, R2E
OF THE 6TH P.M.
3/4" I.P.

N89°59'02"E 2654.49' MEASURED

ST. LOUIS, WICHITA AND WESTERN RAILWAY CO. RIGHT-OF-WAY
(NOW BURLINGTON NORTHERN)

PLAN SURVEYED	BY	DATE
NOTE BOOK PLOTTED		
NO. OF ALIGNMENTS CHECKED		
BT. OF WAY CHECKED		



SCALE: 1"=100'

- = 3/4" IRON SET
- = IRON FOUND

B.S.L. = BUILDING SETBACK LINE
S.S. = SANITARY SEWER

B.M. - RAILROAD SPIKE IN H.L.P. 43' S.E. OF S.W. CORNER SEC. 12, T27S, R2E OF THE 6TH P.M. ELEV.=1352.87 M.S.L.

B.M. - RAILROAD SPIKE (1.5' ABOVE GROUND) IN WEST FACE OF POWER POLE ON EAST R/W OF 143RD STREET EAST AT 835' NORTH OF Q 13TH STREET NORTH. ELEV.=1348.66 M.S.L.

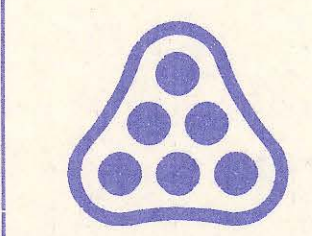


FLOODWAY

MINIMUM PAD ELEVATION (LOWEST OPENING) SHALL BE AS FOLLOWS:

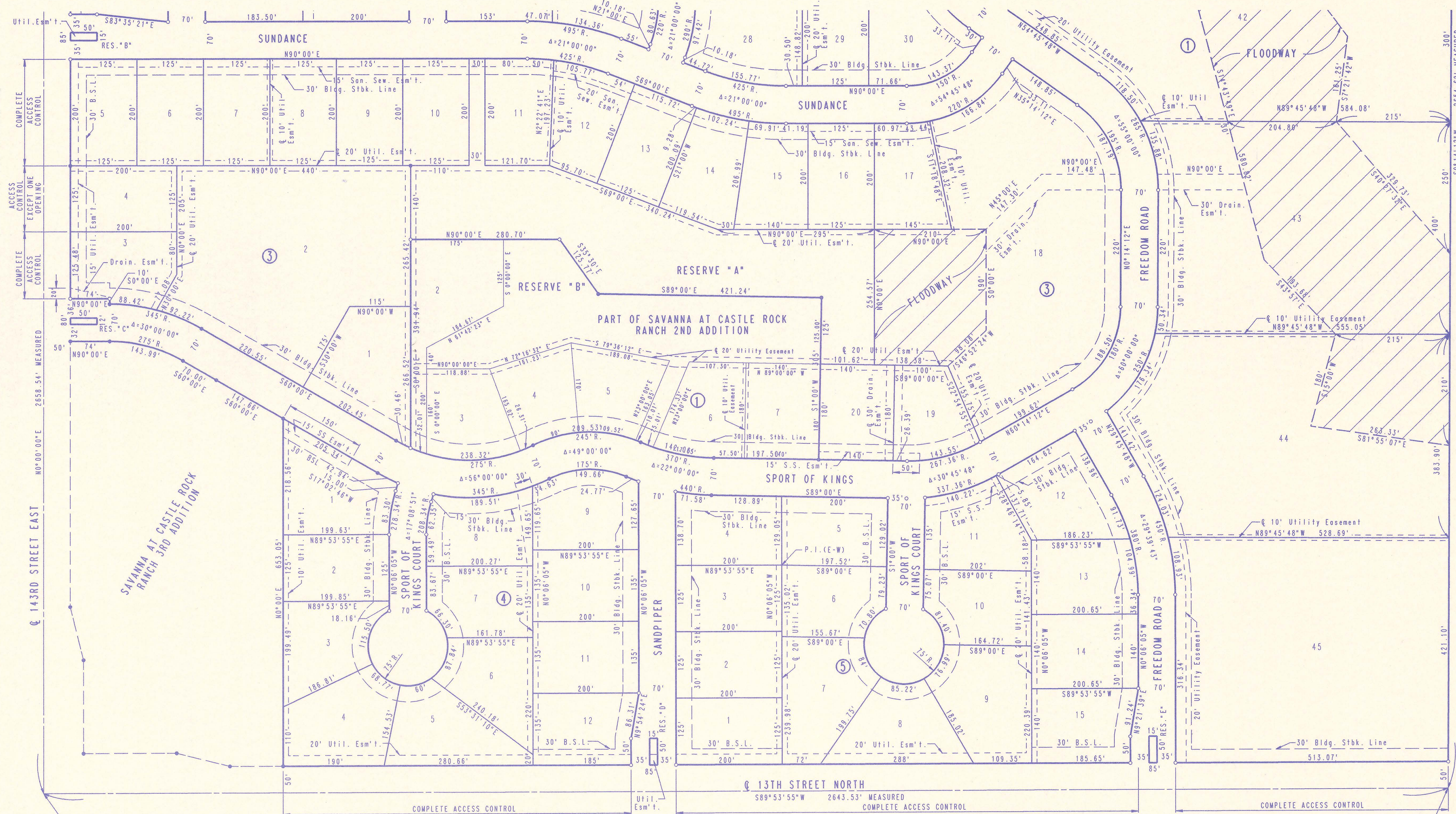
- | | |
|--------------------|-------------------|
| BLOCK 1 | |
| LOT 38 | ELEV. 1346 M.S.L. |
| LOT 39 | ELEV. 1344 M.S.L. |
| LOTS 40 AND 41 | ELEV. 1343 M.S.L. |
| LOT 42 | ELEV. 1342 M.S.L. |
| LOTS 43 AND 44 | ELEV. 1341 M.S.L. |
| BLOCK 3 | |
| LOTS 11 THROUGH 15 | ELEV. 1356 M.S.L. |
| LOTS 16 THROUGH 20 | ELEV. 1350 M.S.L. |

DRAWING NAME: 32-94010-1 SAV SS PLATN
LOCATION: D4 4579
CENTER COORDINATES:
DATE LAST WORKED ON: APR. 20, 1994
EX - 82



No.	Revision	By	Date
SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES DAVID C. SPEARS, P.E. DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER			
PLAT PHASE-1 SANITARY SEWER IMPROVEMENTS SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS			
Designed by	Job No. 94010-1	Sht. 3 of 14	
Drawn by DEP	Date April 1994		

SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION TO SEDGWICK COUNTY, KANSAS



PLAN SURVEYED	BY	DATE
NOTE BOOK PLOTTED		
ALIGNMENT CHECKED		
RT. OF WAY CHECKED		

DRAWING NAME: 34-94010-1 SAV SS PLATS.
 LOCATION: D4 4580
 CENTER COORDINATES:
 DATE LAST WORKED ON: APR. 20, 1994
 EX - 102

S.W. CORNER S.W. 1/4
 SEC. 12, T27S, R2E
 OF THE 6TH P.M.
 3/4" I.P. IN THIMBLE

SCALE: 1"=100'
 ○ = 3/4" IRON SET
 ● = IRON FOUND
 B.S.L. = BUILDING SETBACK LINE
 S.S. = SANITARY SEWER

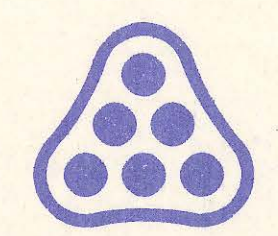
FLOODWAY

MINIMUM PAD ELEVATION (LOWEST OPENING) SHALL BE AS FOLLOWS:

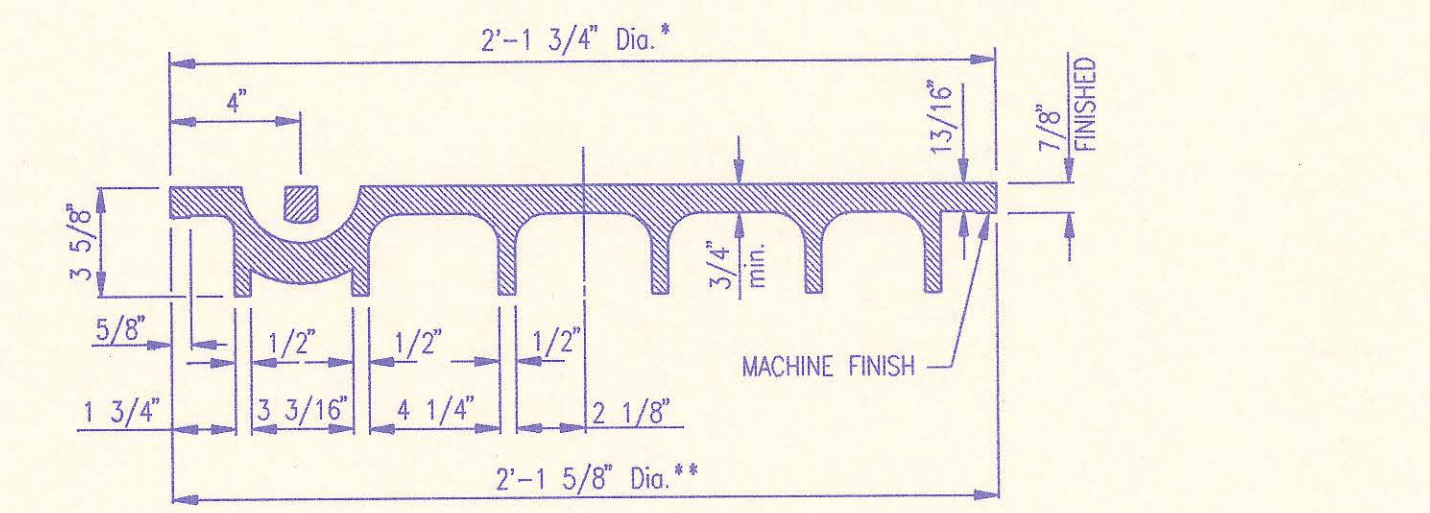
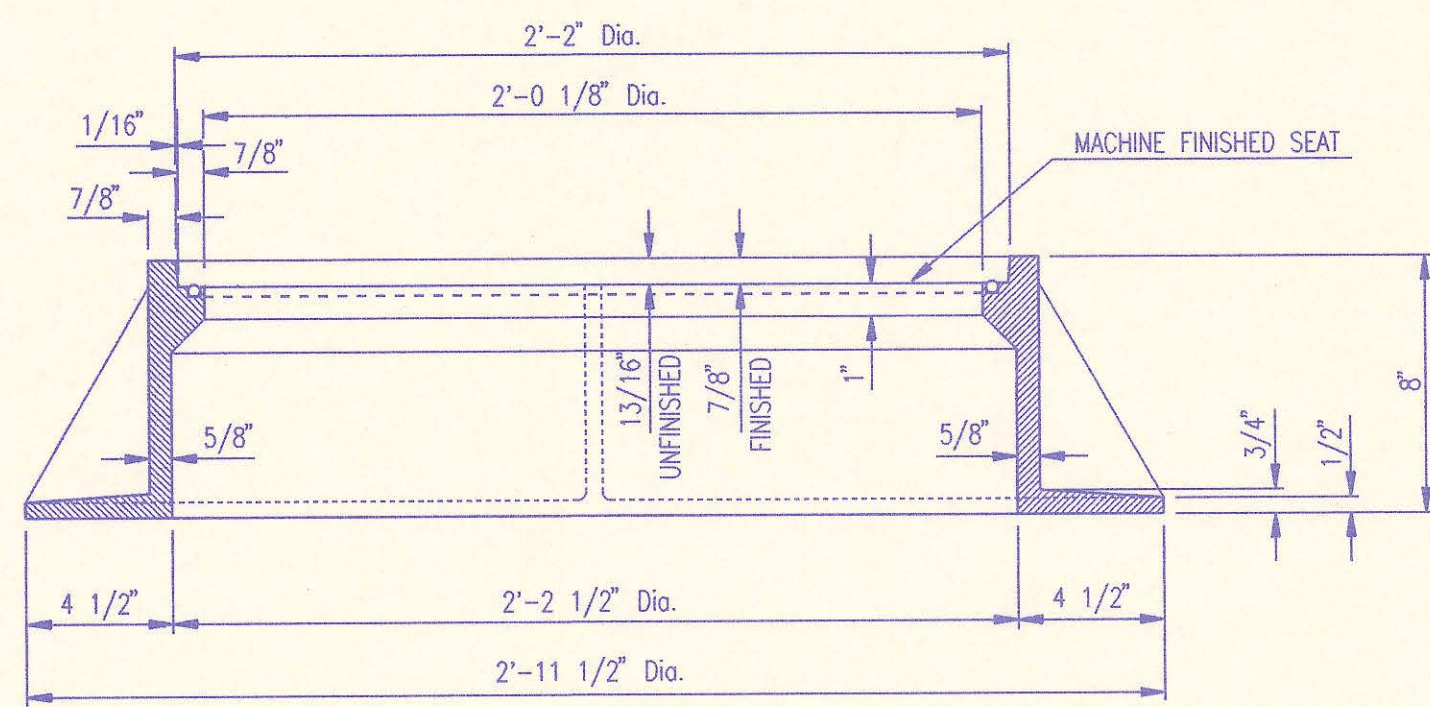
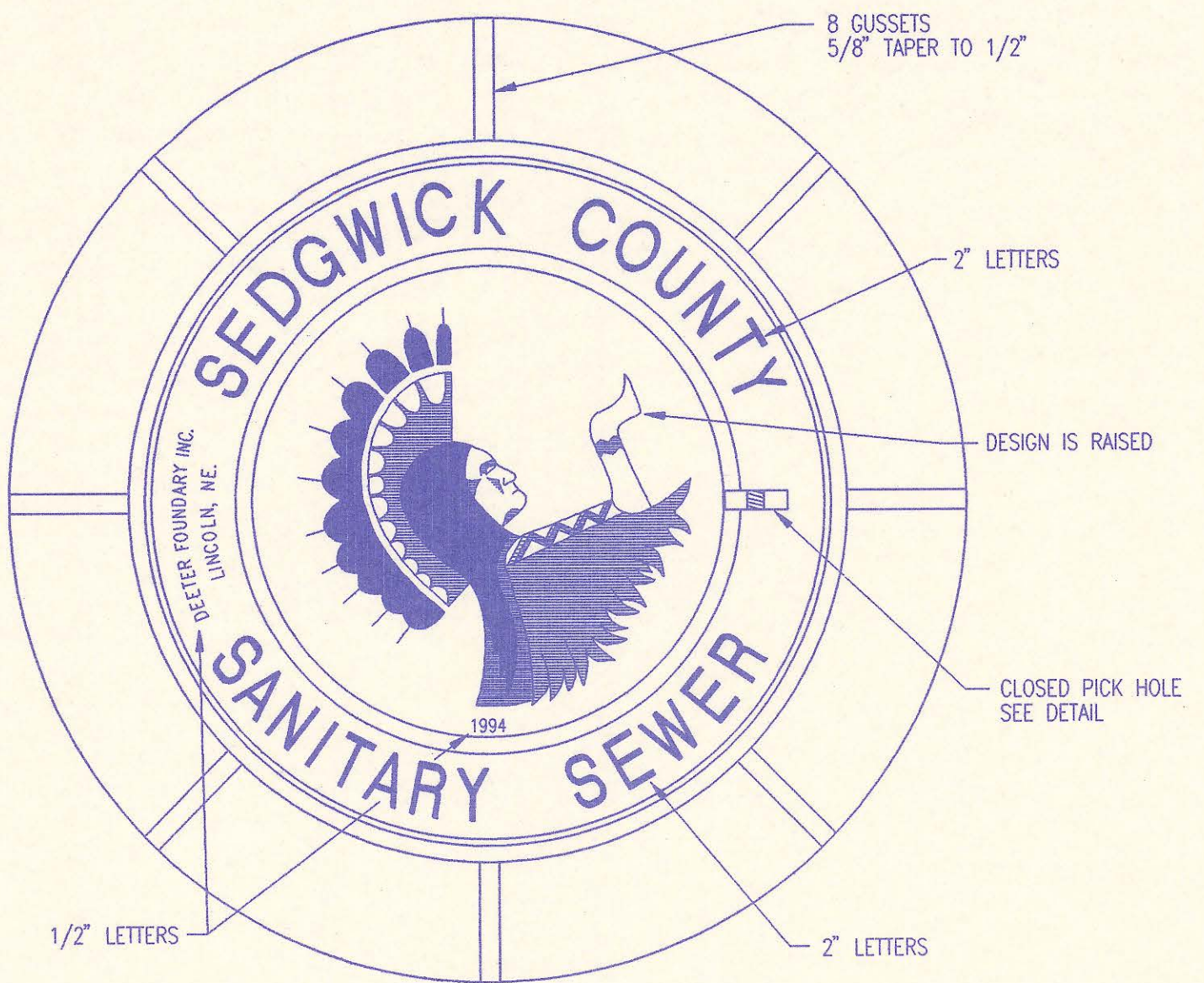
BLOCK 1	ELEV. 1346 M.S.L.
LOT 38	ELEV. 1344 M.S.L.
LOT 39	ELEV. 1343 M.S.L.
LOTS 40 AND 41	ELEV. 1342 M.S.L.
LOT 42	ELEV. 1341 M.S.L.
LOTS 43 AND 44	ELEV. 1340 M.S.L.
BLOCK 3	ELEV. 1356 M.S.L.
LOTS 11 THROUGH 15	ELEV. 1350 M.S.L.
LOTS 16 THROUGH 20	ELEV. 1350 M.S.L.

B.W. - RAILROAD SPIKE IN H.L.P. 43' S.E. OF S.W. CORNER SEC. 12, T27S, R2E OF THE 6TH P.M. ELEV. = 1352.87 M.S.L.
 B.W. - RAILROAD SPIKE (1'-5" ABOVE GROUND) IN WEST FACE OF POWER POLE ON EAST R/W OF 143RD STREET EAST AT 835' ± NORTH OF Q 13TH STREET NORTH. ELEV. = 1348.66 M.S.L.

S.E. CORNER S.W. 1/4
 SEC. 12, T27S, R2E
 OF THE 6TH P.M.
 1/2" I.P.

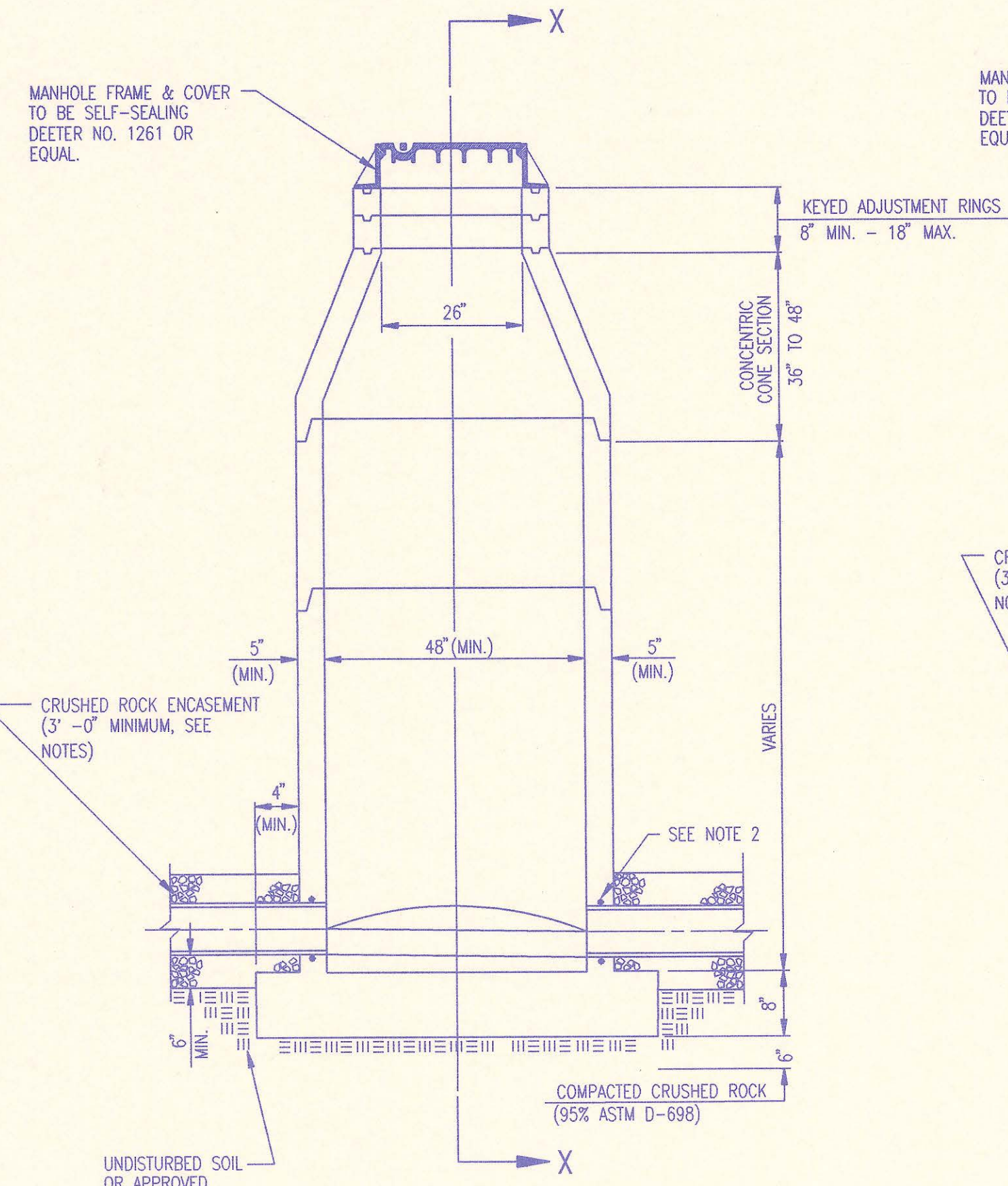
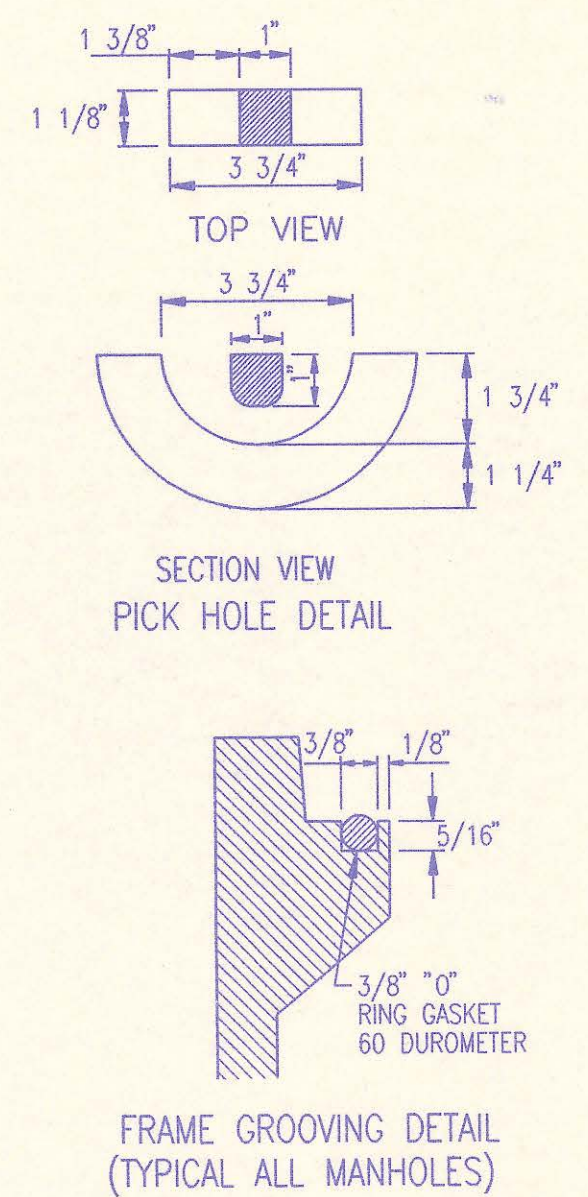


No.	Revision	By	Date
SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES DAVID C. SPEARS, P.E. DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER			
PLAT PHASE-1 SANITARY SEWER IMPROVEMENTS SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS			
Designed by	Job No. 94010-1	Sh. 4 of 14	
Drawn by DEP	Date April 1994		

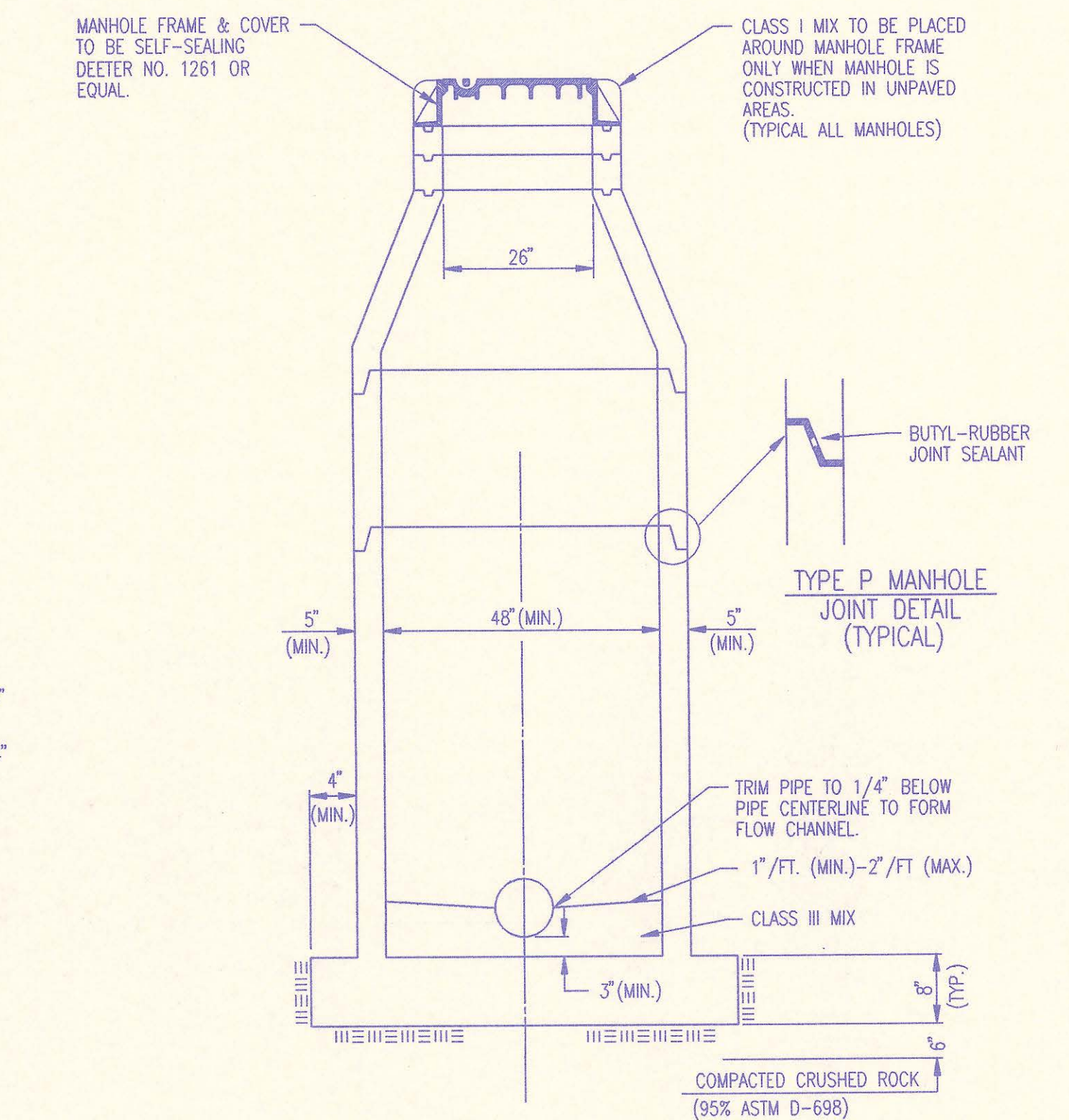


MANHOLE FRAME AND COVER
(TOTAL WEIGHT = 430 LBS.)

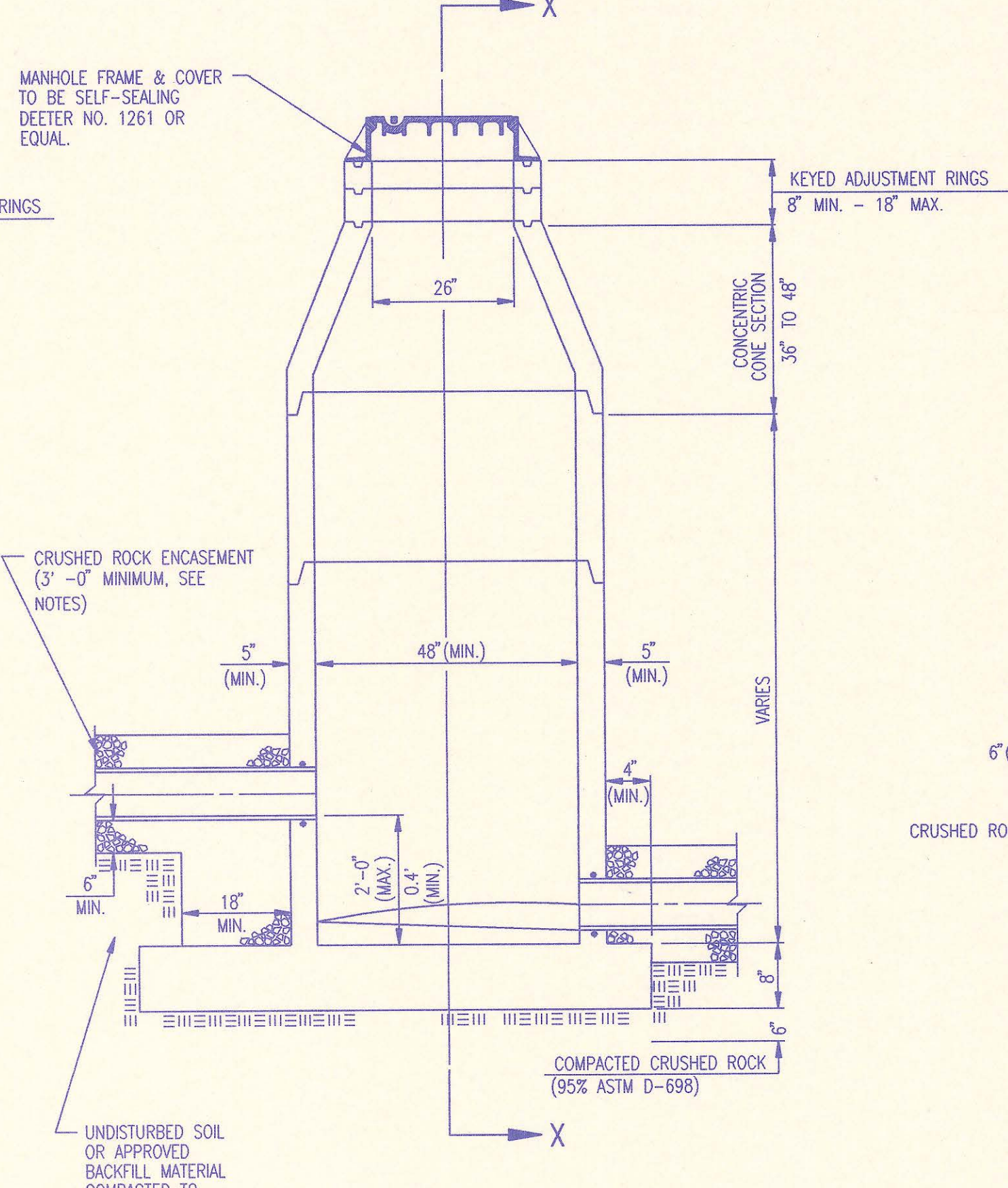
- MANHOLE FRAME AND COVER NOTES**
1. CAST IRON MANHOLE FRAME AND COVER SHALL CONFORM TO ASTM A-48, CLASS 35B, OR BETTER.
 2. CASTINGS ARE TO BE MANUFACTURED TRUE TO PATTERN AND WITH SATISFACTORY FIT OF COMPONENT PARTS. CASTINGS SHALL BE FREE OF DEFECTS AND ALL BURRS SHALL BE GROUND SMOOTH. DIMENSIONS AS DETAILED ON PLAN SHALL NOT DEVIATE BY $\pm 1/16$ 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 FOUNDRY INC. NO. 1261 OR APPROVED 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.



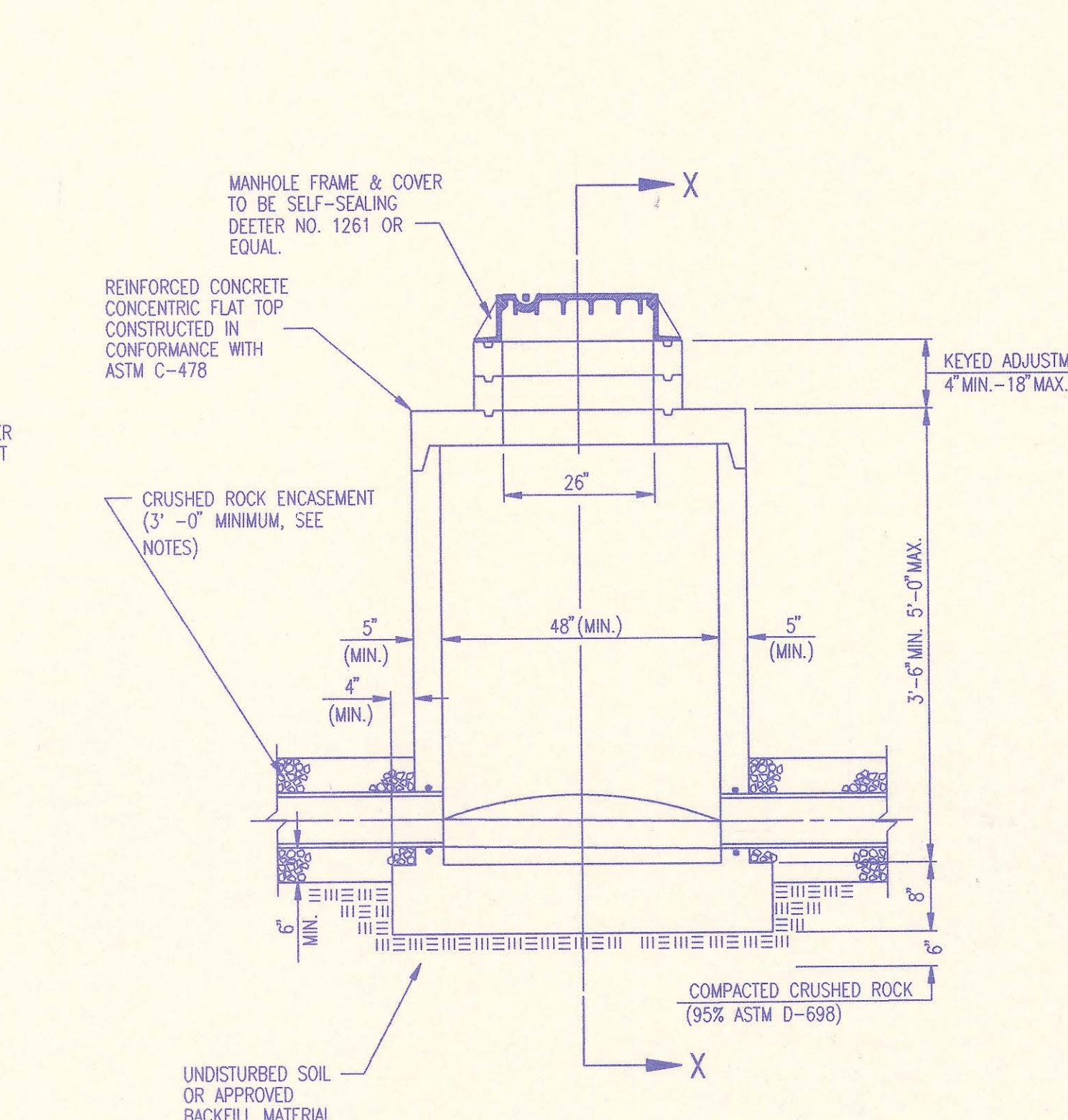
PRECAST STANDARD MANHOLE TYPE "A"



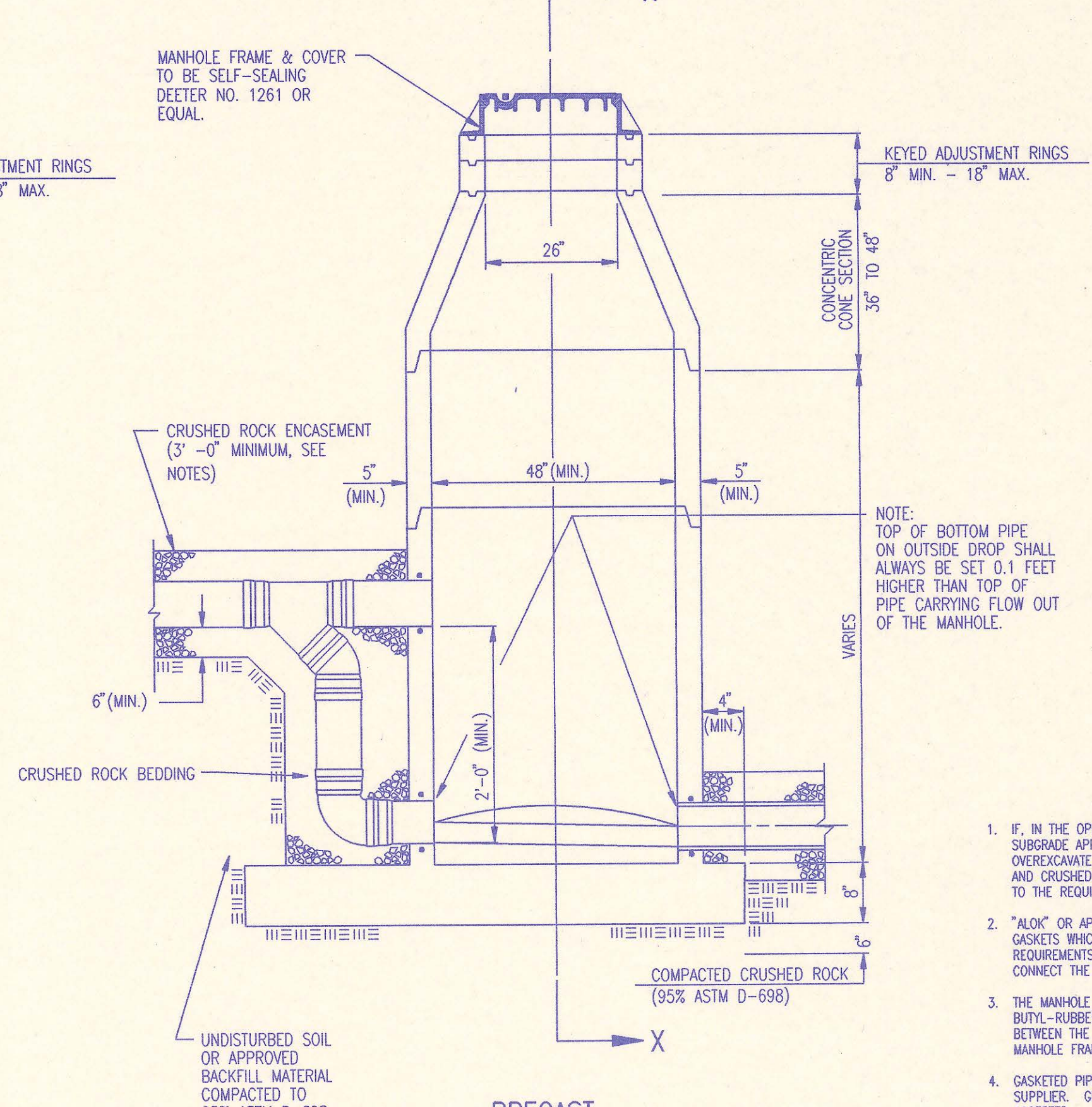
SECTION X (TYPICAL)



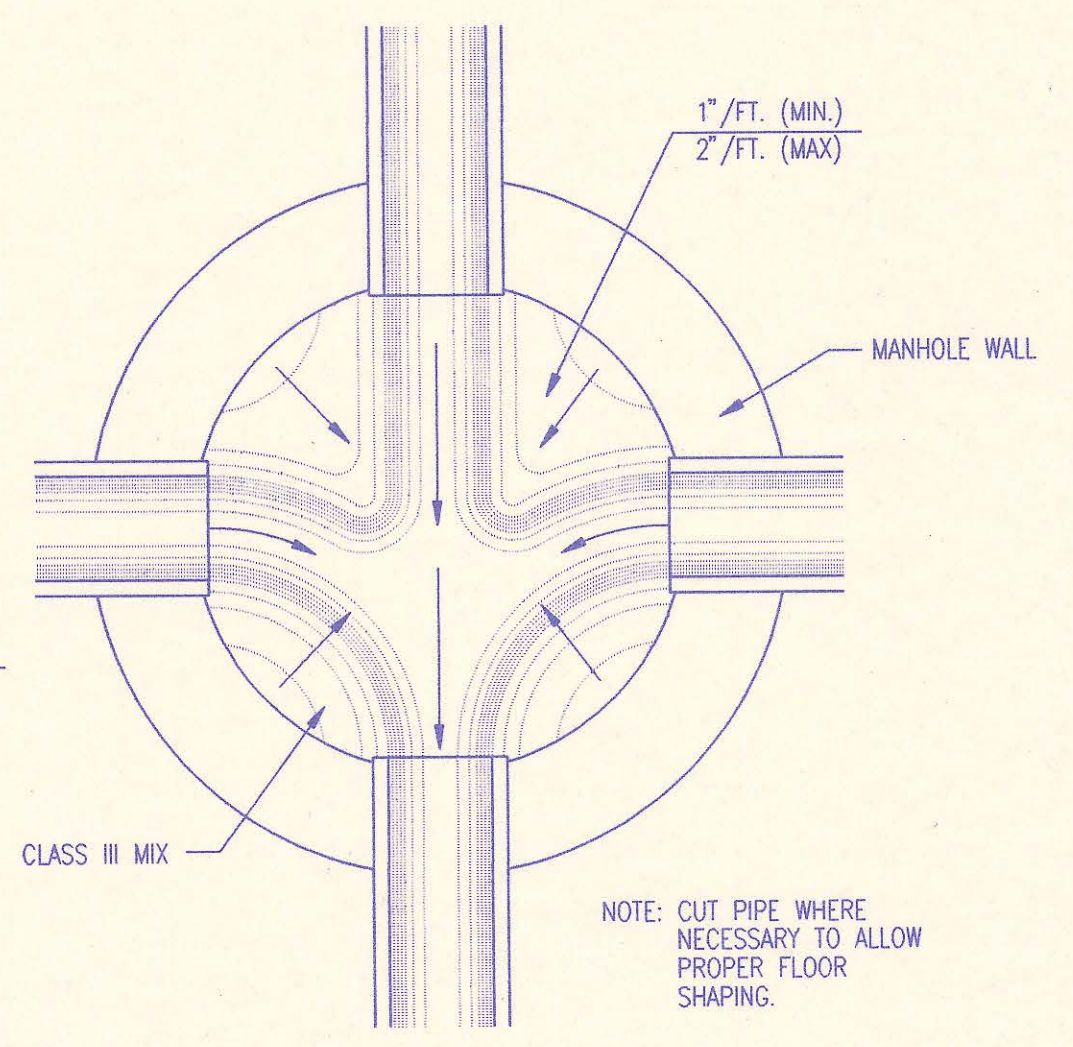
PRECAST INSIDE DROP MANHOLE TYPE "B"



PRECAST SHALLOW MANHOLE TYPE "D"



PRECAST OUTSIDE DROP MANHOLE TYPE "C"



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 OVEREXCAVATE TO A SUITABLE SUBGRADE CONDITION AND CRUSHED ROCK SHALL BE PLACED AND COMPACTED TO THE REQUIRED GRADE.
2. "A-LOK" OR APPROVED EQUAL FLEXIBLE WATER-STOP GASKETS WHICH MEET OR EXCEED THE TEST REQUIREMENTS OF ASTM C-923 SHALL BE INSTALLED TO CONNECT THE SEWER TO THE MANHOLE WALL.
3. THE MANHOLE FRAME SHALL BE SEATED ON AN APPROVED BUTYL-RUBBER SEALANT TO PROVIDE WATER-TIGHT SEAL BETWEEN THE MANHOLE ADJUSTMENT RING AND THE MANHOLE FRAME.
4. GASKETED PIPE CAPS SHALL BE PROVIDED BY THE PIPE SUPPLIER. GULCH OR CONCRETE 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 SHAPED 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 MANUALLY 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 THRU 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 PIPE. THE CRUSHED ROCK WHICH IS PLACED BELOW THE PIPE BEDDING ZONE SHALL BE COMPACTED TO 95% ASTM D-698(MIN.).
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.
14. CRUSHED ROCK SHALL MEET THE REQUIREMENTS FOR GRANULAR BEDDING MATERIAL, AS OUTLINED IN THE SPECIFICATIONS.

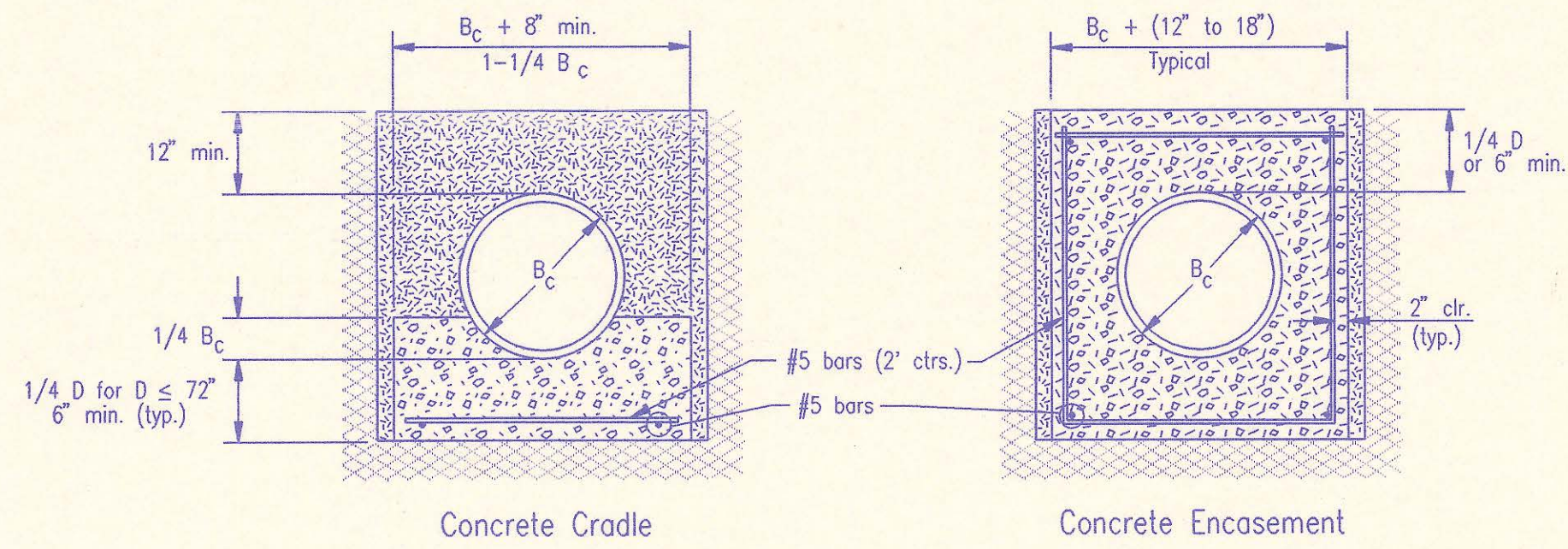
5	Change concrete encasement to crushed rock encasement	RJ	3/9/94
4	Precast Bases, Precast Manhole Notes, Manhole Frame and Cover Notes, Keyed Adjustment Rings, and Class I mix at concrete encasement and field cap.	RJ	8/27/93
3	All Manholes self-sealing/MH Cover	RJ	1/25/93
2	Modified pipe connection 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
CHECKED
PLAN

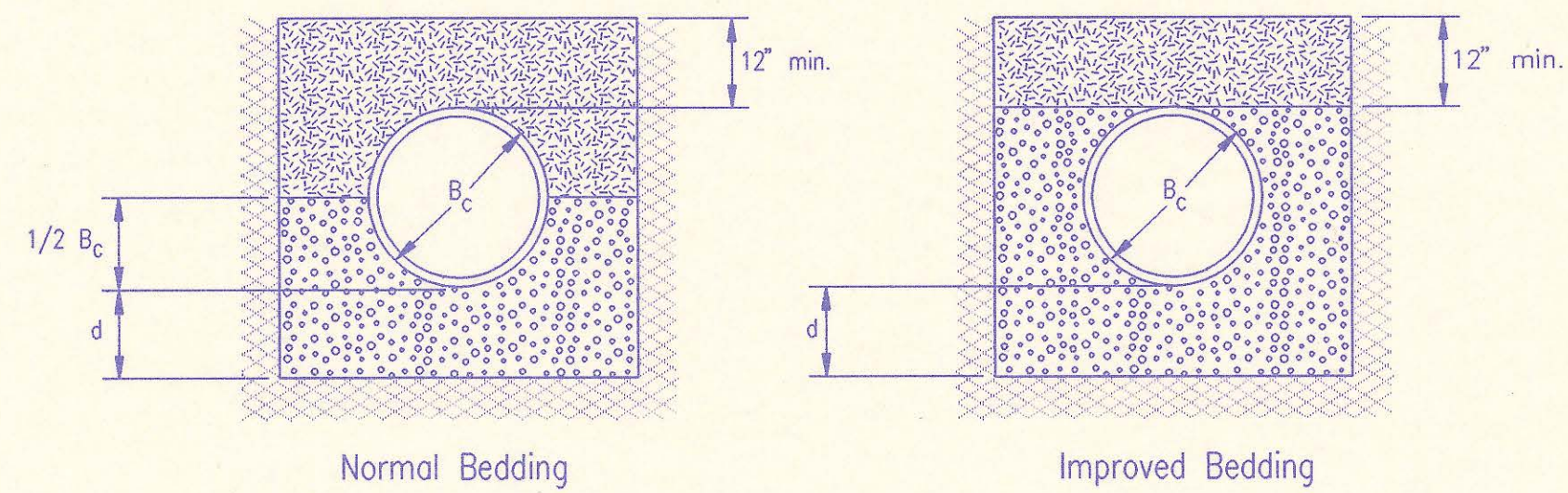
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CLASS A

- B_c = Outside Pipe Diameter
- H = Backfill from Top of Pipe to Existing Ground
- D = Inside Pipe Diameter
- d = Depth of Bedding Material Below Pipe
- [Symbol] = Granular Bedding Material or Sand-Gravel Bedding
- [Symbol] = Compacted Embedment
- [Symbol] = Concrete

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"



CLASS B

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 95 percent maximum density as determined by ASTM D698. Granular Bedding Material may be substituted for all or part of Compacted Embedment Materials.

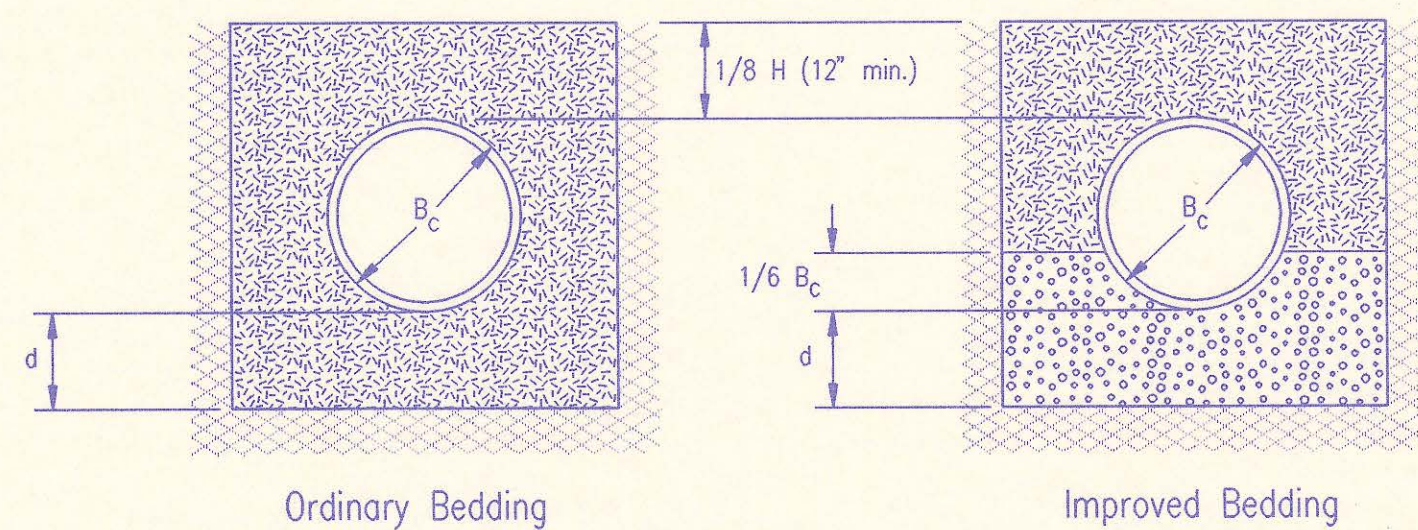
Class A "Concrete Cradle" and/or Class A "Concrete Encasement" is not required unless specified on the plans. However, where unexpected trench conditions exist or improper trenching is performed Class A Bedding may be required as determined by the Engineer.

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.

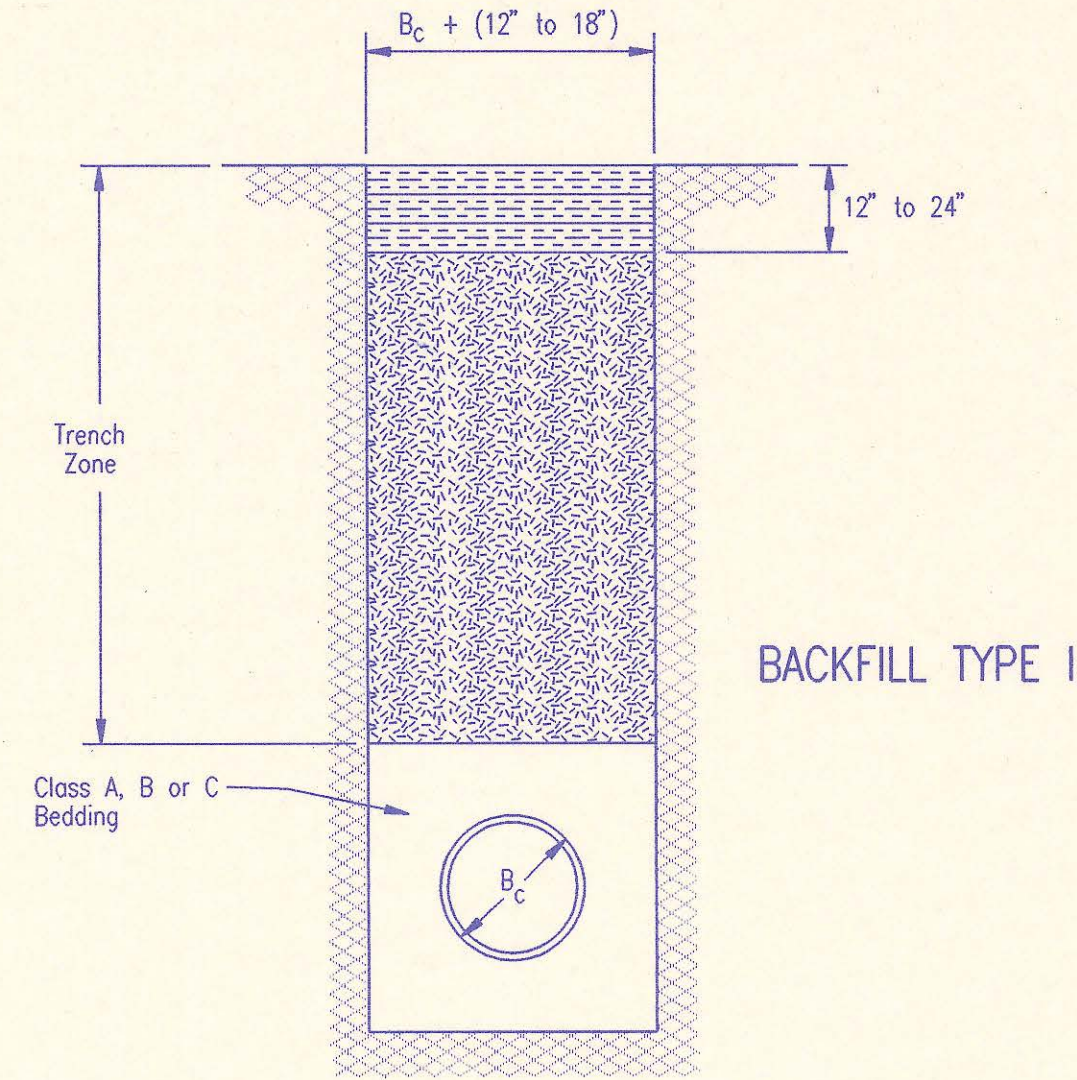
Class C Bedding shall be used for all rigid pipe.

- 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).



CLASS C

PIPE ZONE BACKFILLING



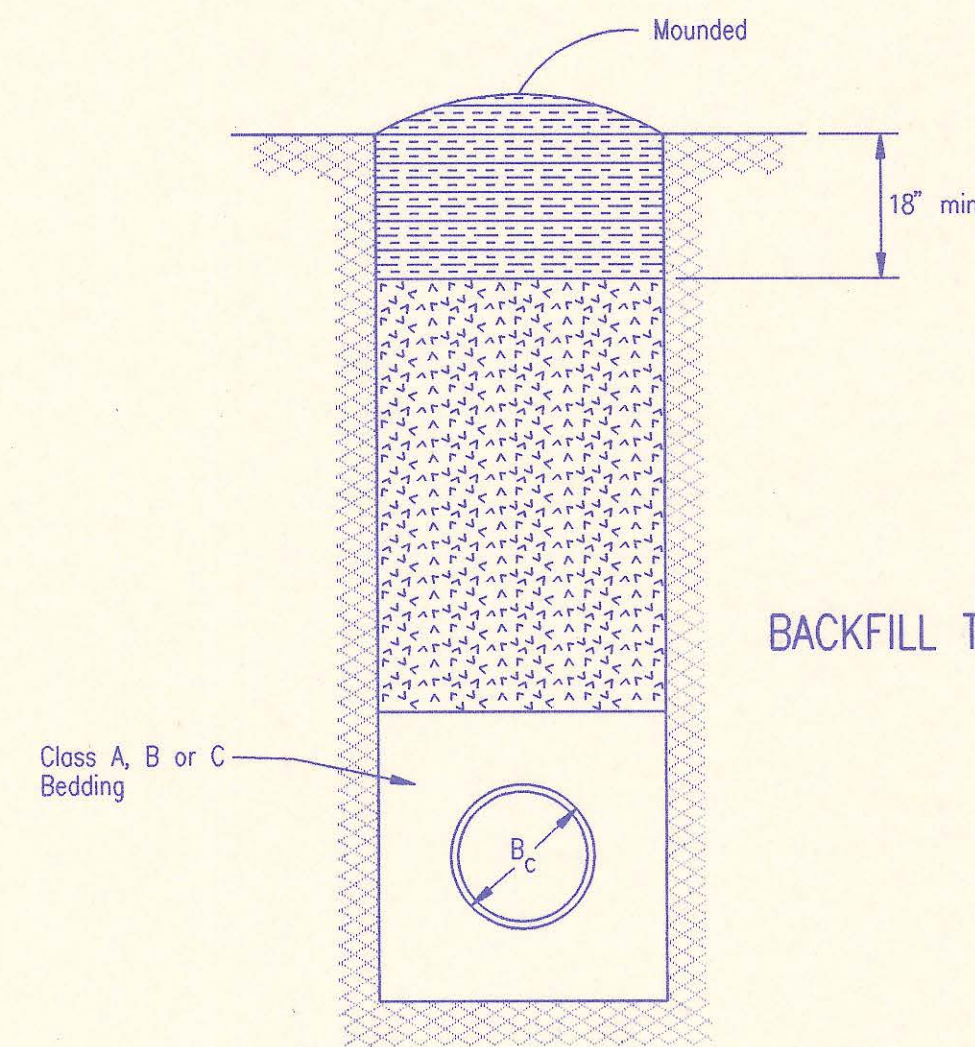
BACKFILL TYPE I

- B_c = Outside Pipe Diameter
- [Symbol] = Compacted Granular Backfill
- [Symbol] = Uncompacted Earth Backfill
- [Symbol] = 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 95% density as determined by ASTM D698.

Uncompacted 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 D698.



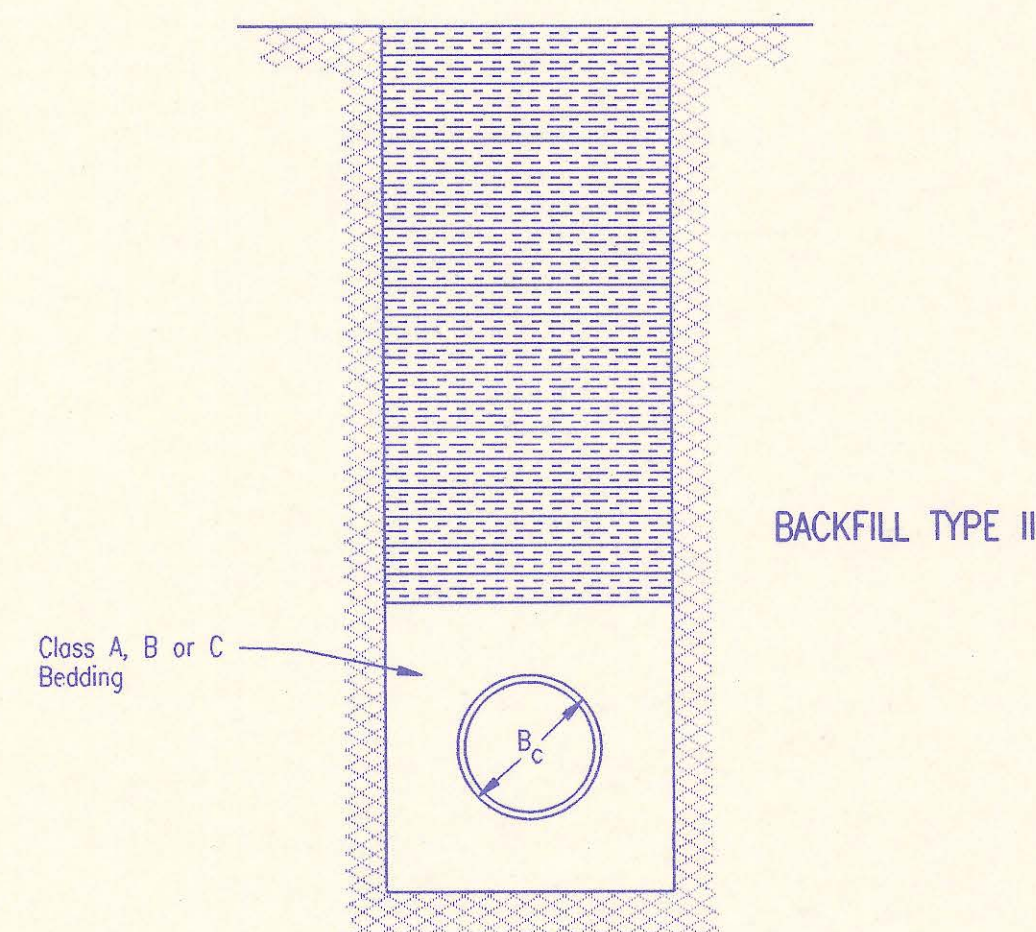
BACKFILL TYPE II

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 100 percent of modified density, in conformance with ASTM D698 is obtained.

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".

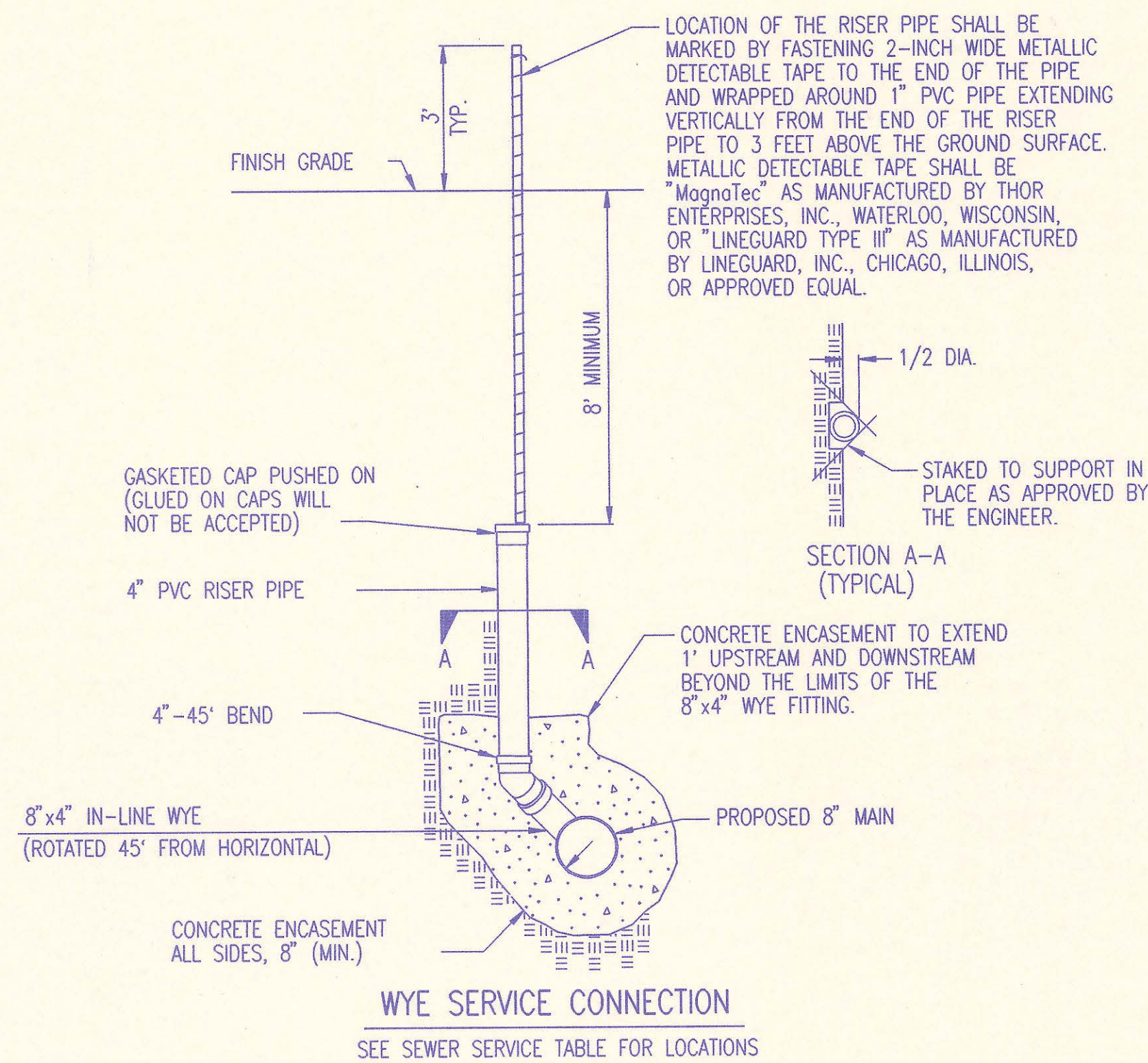


BACKFILL TYPE III

TRENCH ZONE BACKFILLING

1	Revised compaction designation	RJ	3/9/94
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	WYE SERVICE CONNECTION	7	3	11	3+95/RL	9'	MH11-2, 38.85' (4+00)	MH11-3, 160'	1	
2	WYE SERVICE CONNECTION	8	3	11	5+05/RL	11'	MH11-2, 148'	MH11-3, 51.15' (5+07)	2	
3	WYE SERVICE CONNECTION	9	3	11	6+30/RL	12'	MH11-3, 72.85' (6+31)	MH11-4, 171'	3	
4	WYE SERVICE CONNECTION	10	3	11	7+60/RL	11'	MH11-3, 206'	MH11-4, 38.15' (7+65)	4	
5	MH STUB (4")	19	3	1	35+21.15/NW	0	MH 1-15		5	
6	MH STUB (4")	8	5	0	11+45.41/NE	0	MH 0-5		6	
7	MH STUB (4")	4	5	10	3+79.41/NW	0	MH 10-1		7	
8	MH STUB (4")	5	5	10	3+79.41/NE	0	MH 10-1		8	
9	MH STUB (4")	17	3	11	16+55.09/NE	0	MH 11-8		9	
10	MH STUB (4")	3	3	13	2+30.24/SE	0	MH 13-1		10	
11	MH STUB (4")	30	1	18	1+40.77/SE	0	MH 18-1		11	



RECORD DRAWING
 MDK PROJ. ENG. 10/24/94 DATE
 RES. ENG. DATE

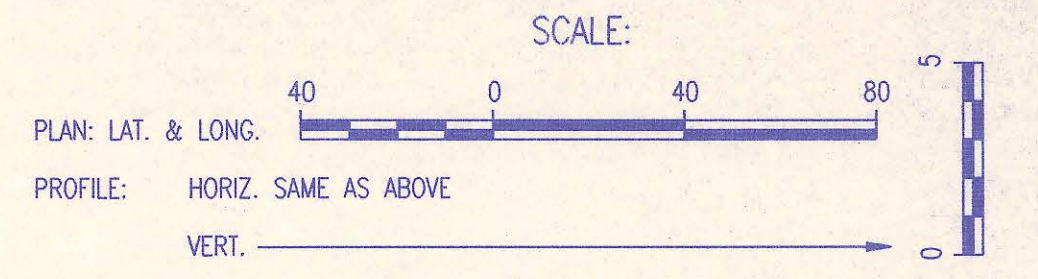
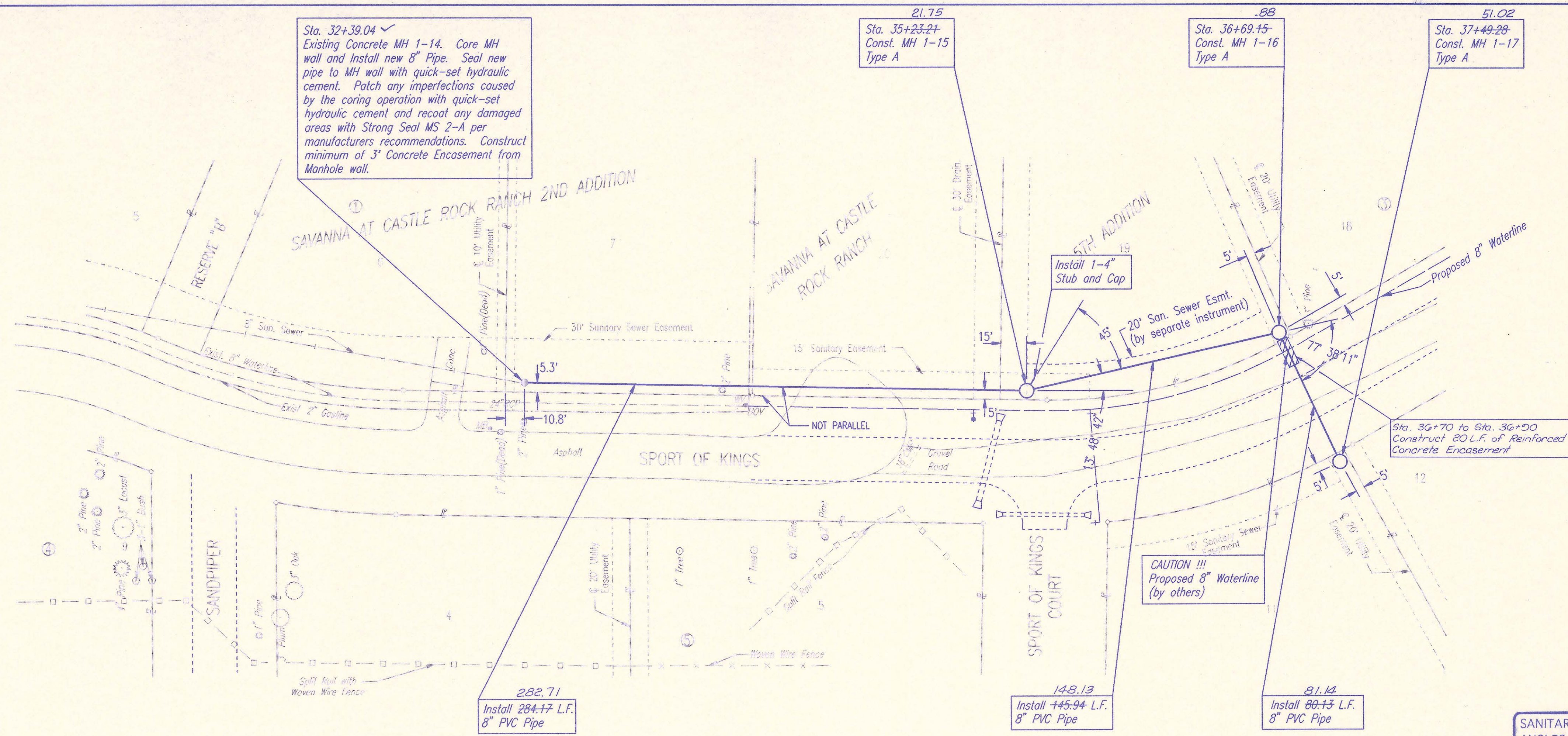
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	No.	Revision	By	Date
	SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES DAVID C. SPEARS, P.E. DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER SERVICE CONNECTION DETAILS PHASE 1-SANITARY SEWER IMPROVEMENTS SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS			
Designed by	CRY, MDK	Job No.	34-94010-1	Sht. 7 of 14
Drawn by	JLM	Date	April 1994	

PLAN	CHECKED	DATE
	CHECKED	
BY		

PROFILE	CHECKED	DATE
	CHECKED	
BY		

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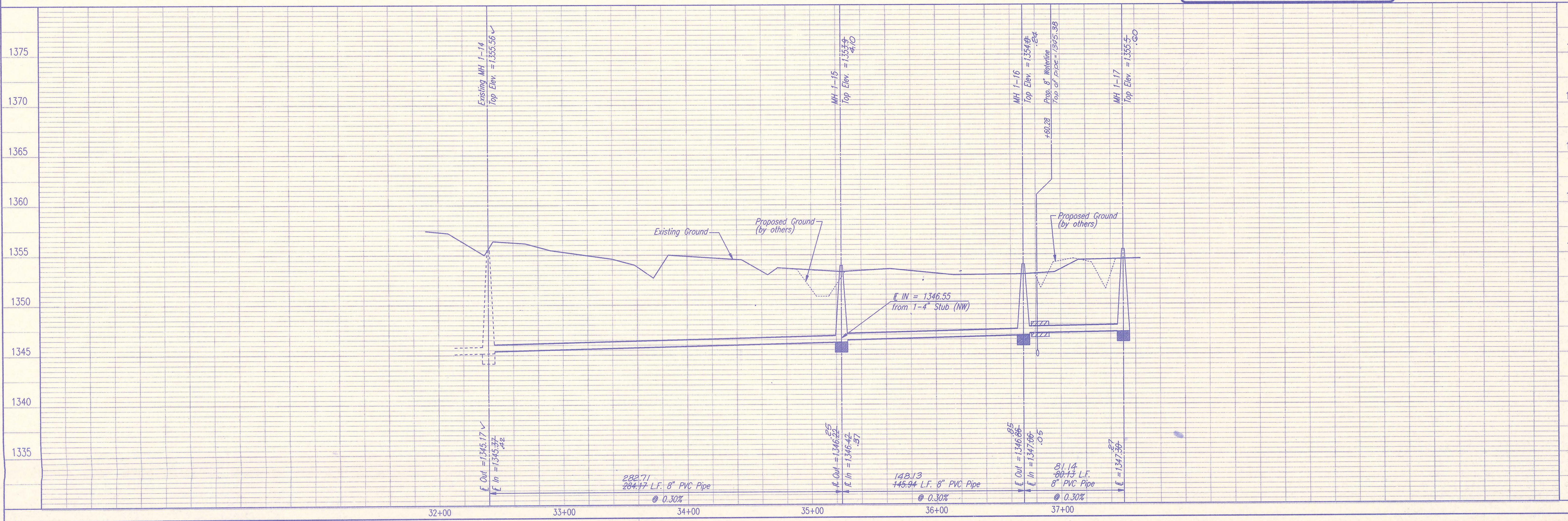


LATERAL NO. 1

SANITARY SEWER PIPE SLOPES AND DEFLECTION ANGLES AT MANHOLES HAVE NOT BEEN REVISED TO REFLECT AS CONSTRUCTED CONDITIONS.

RECORD DRAWING
 MDK PROJ. ENG. 10/24/94 DATE
 RES. ENG. _____ DATE

CHRISTOPHER R. YOUNG
 LICENSED PROFESSIONAL ENGINEER
 11315
 KANSAS
 5-2-94



SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
 DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

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

Job No. 34-94010-1
 Date February, 1994

Designed By: CRY, MDK
 Drawn By: B. Baitha, T.S., GM

Sheet 8 of 14

PLAN	CHECKED	DATE
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BY		

PROFILE	CHECKED	DATE
	CHECKED	
BY		

DSNR: REJ OPER: BB SCALE: 1 = 40
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Existing Concrete MH 1-13.
 Adjust MH top elevation +2.78'
 per specifications.
 Existing Top Elev. = 1356.32
 Proposed Top Elev. = 1359.1

CAUTION !!!
 Buried Utilities (City of Wichita)
 8" Water Main (City of Wichita)
 2" Plastic Gas Main (K&E-Gas)

+97.24
 Sta. 1+90.75
 Const. MH 9-1
 Type A

+92.50
 Sta. 5+90.75
 Const. MH 9-2
 Type A

Sta. 0+00
 Existing Concrete MH 1-12. Core MH
 wall and install new 8" Pipe. Seal new
 pipe to MH wall with quick-set hydraulic
 cement. Patch any imperfections caused
 by the coring operation with quick-set
 hydraulic cement and recoat any damaged
 areas with Strong Seal MS 2-A per
 manufacturers recommendations. Construct
 minimum of 3" Concrete Encasement from
 Manhole wall.

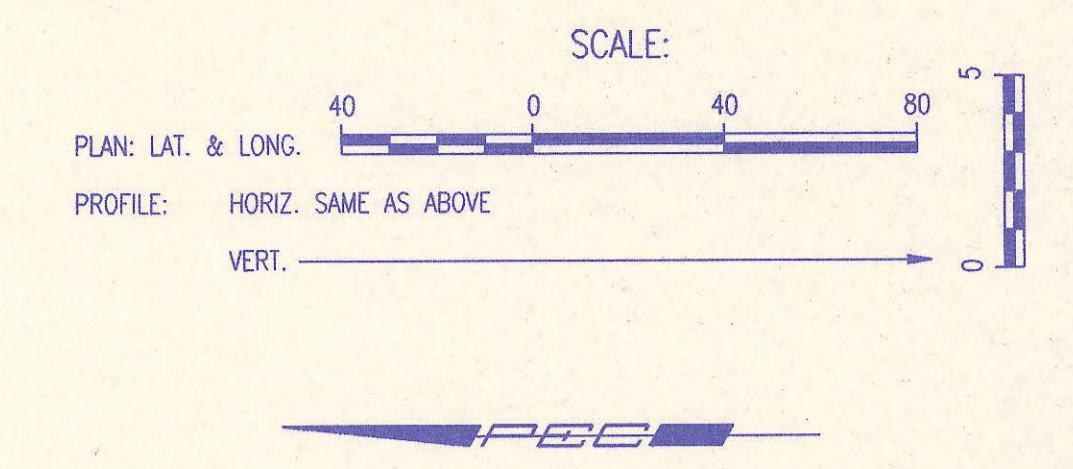
Sta. 0+05 to Sta. 0+75
 Install 70 L.F. 18" I.D. (min.)
 Steel casing pipe by boring.
 See detail, sheet no. 2

197.24
 Install 190.75 L.F.
 8" PVC Pipe

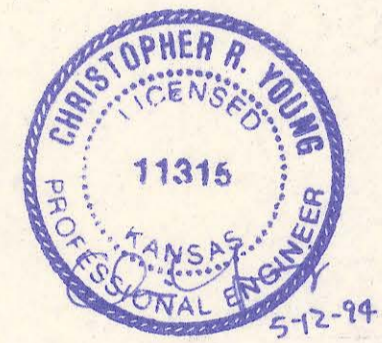
Remove fence as required.
 Do Not Reset.

395.20
 Install 400.00 L.F.
 8" PVC Pipe

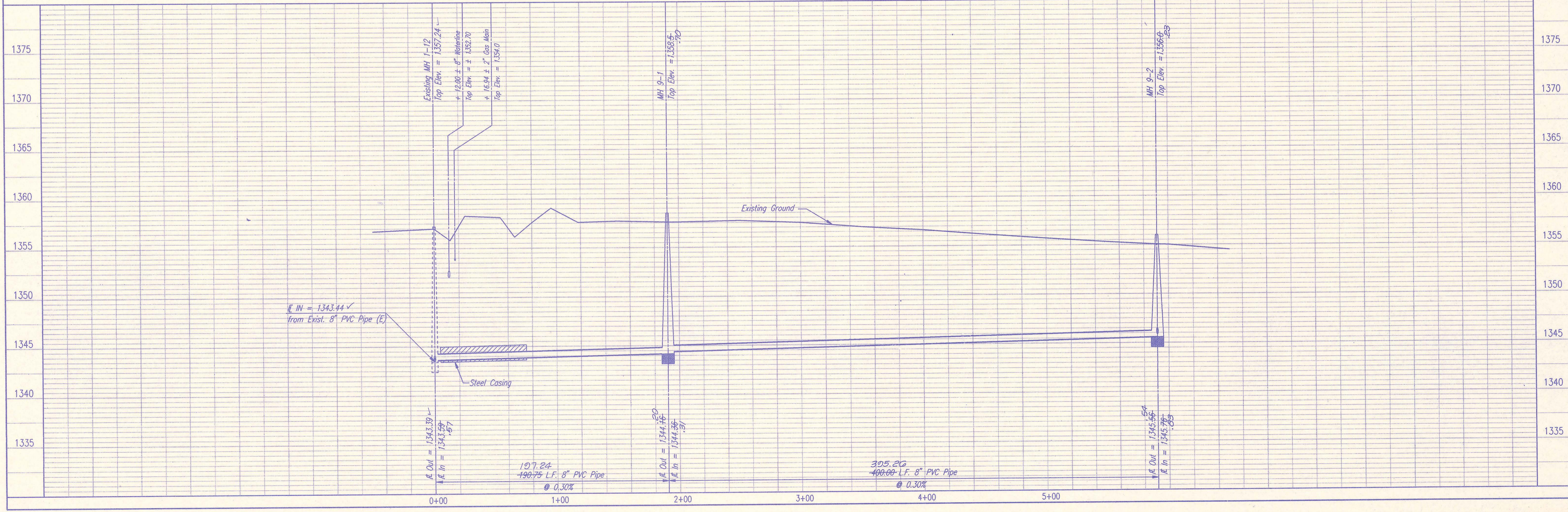
SANITARY SEWER PIPE SLOPES AND DEFLECTION
 ANGLES AT MANHOLES HAVE NOT BEEN REVISED
 TO REFLECT AS CONSTRUCTED CONDITIONS.



RECORD DRAWING
 MDK PROJ. ENG. 10/24/92 DATE
 RES. ENG. DATE



LATERAL NO. 9



SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
 DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

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

Job No. 34-94010-1
 Date February, 1994

Designed By: CRJ, MDK
 Drawn By: B. Borker, TLS

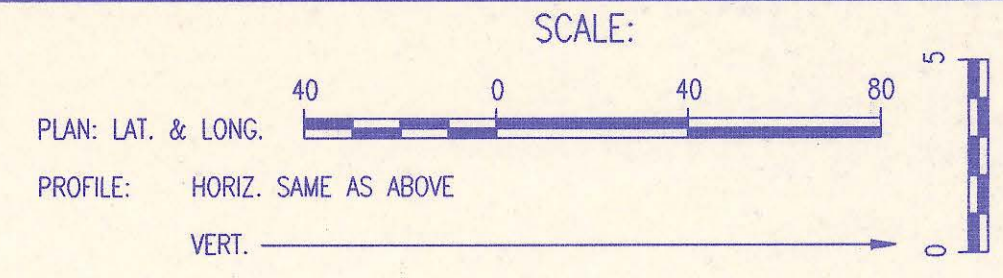
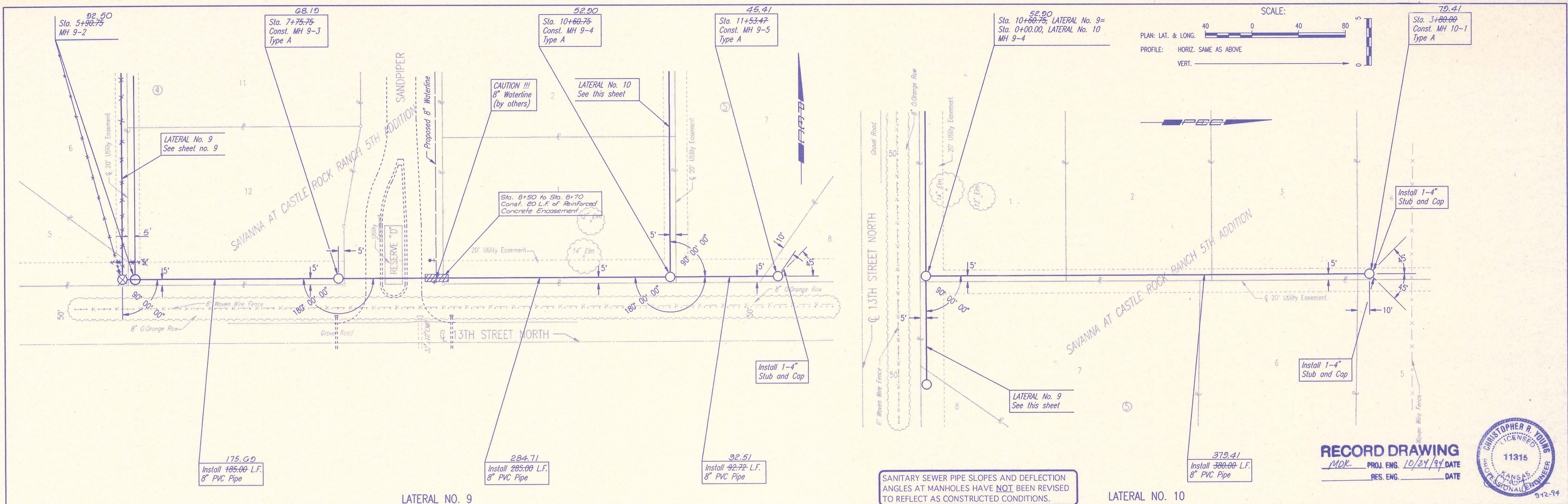
LATERAL NO. 9
 PHASE 1 - SANITARY SEWER IMPROVEMENTS
 SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION

Sheet 9 of 14

PLAN	CHECKED	CHECKED
BY		
DATE		

PROFILE	CHECKED	CHECKED
BY		
DATE		

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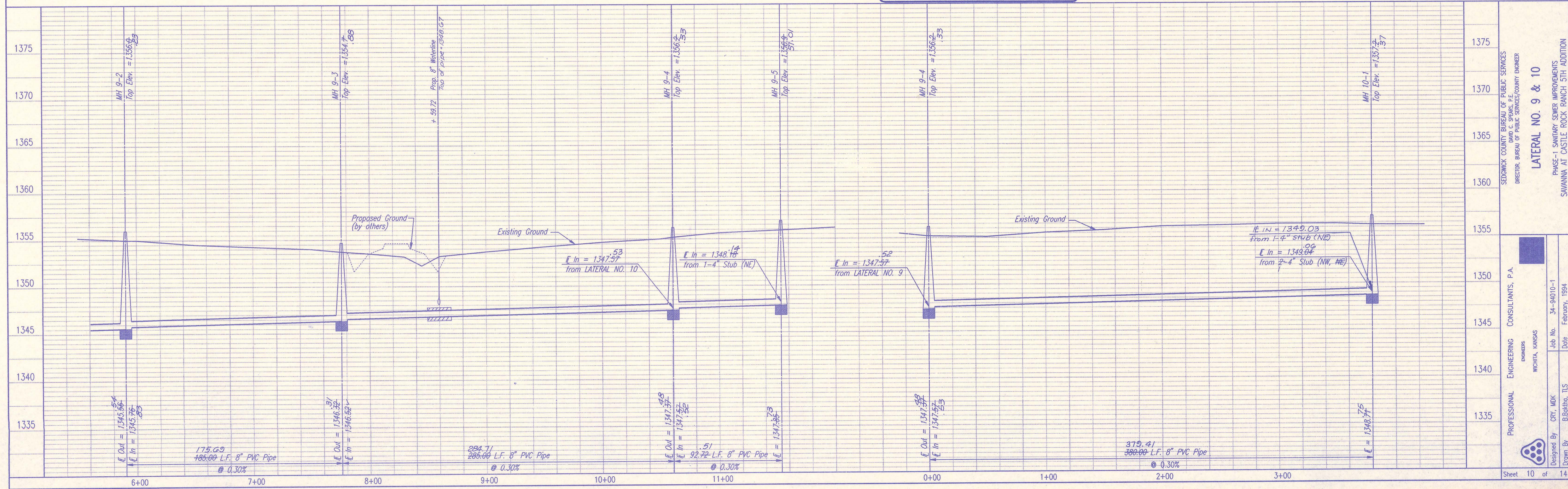


LATERAL NO. 9

LATERAL NO. 10

SANITARY SEWER PIPE SLOPES AND DEFLECTION ANGLES AT MANHOLES HAVE NOT BEEN REVISED TO REFLECT AS CONSTRUCTED CONDITIONS.

RECORD DRAWING
 MDK PROJ. ENG. 10/24/94 DATE
 RES. ENG. DATE

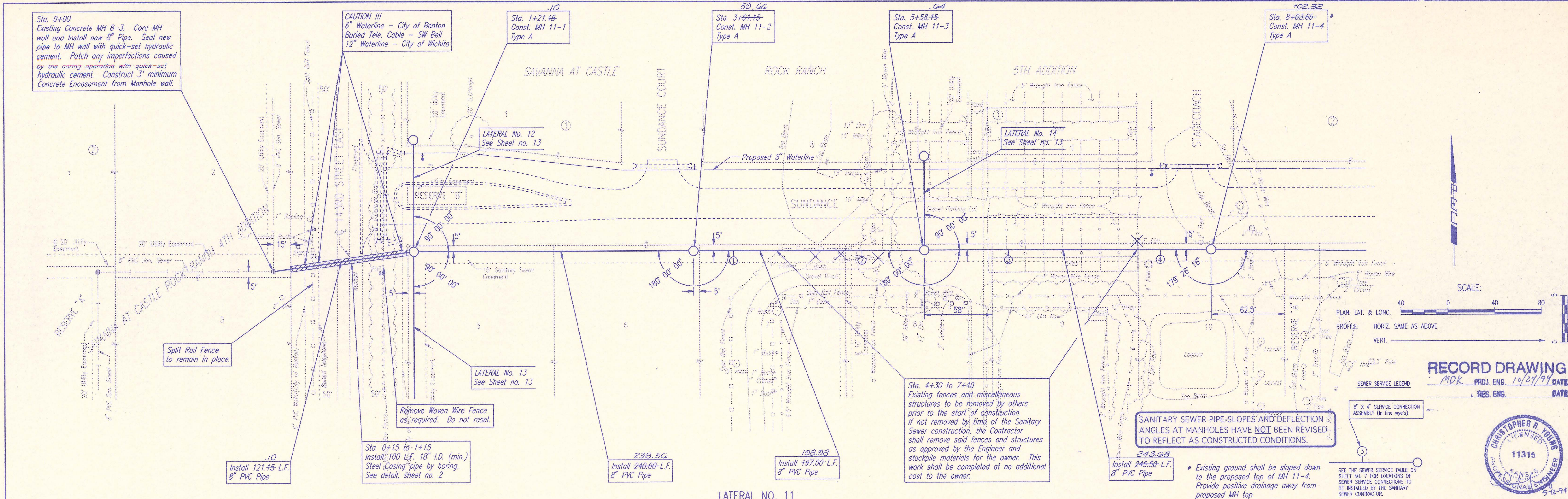


SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
 DIRECTOR: BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER
LATERAL NO. 9 & 10
 PHASE-1 SANITARY SEWER IMPROVEMENTS
 SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION
 PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
 ENGINEERS
 WICHITA, KANSAS
 Job No. 34-94010-1
 Date February, 1994
 Designed By: CRV, MDK
 Drawn By: B.Boktor, TJS
 Sheet 10 of 14

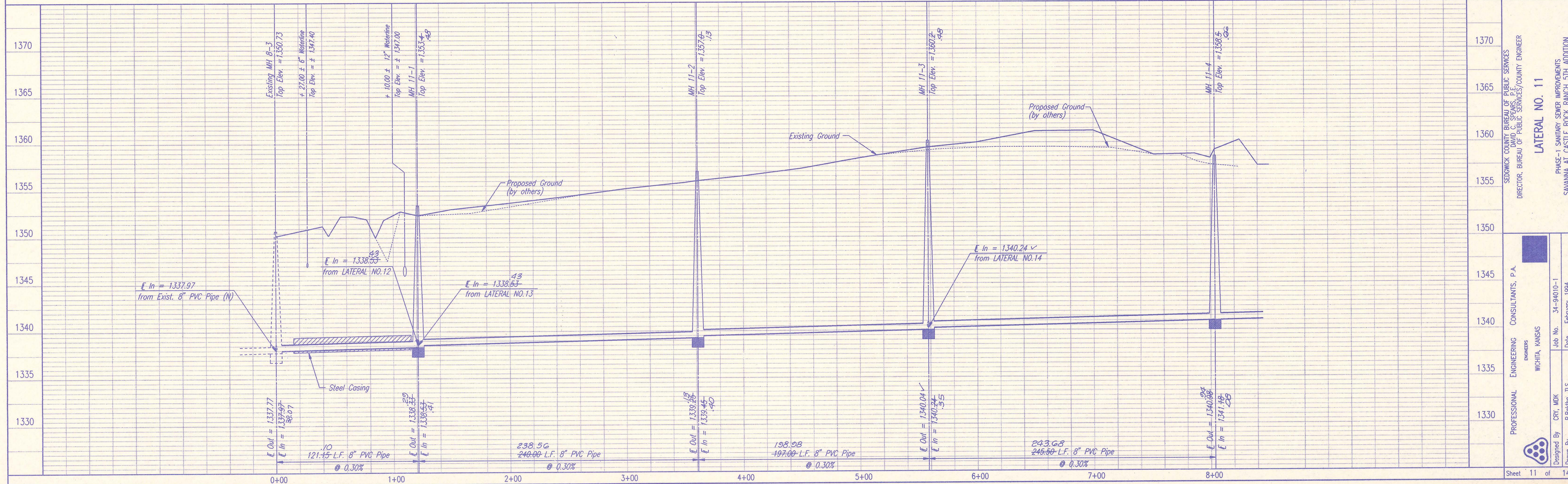
PLAN	CHECKED	DATE
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PROFILE	CHECKED	DATE
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DSNR: REJ OPER: BB SCALE: 1 = 40
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LATERAL NO. 11



LATERAL NO. 11
 PHASE-1 SANITARY SEWER IMPROVEMENTS
 SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION

SEDMICK COUNTY BUREAU OF PUBLIC SERVICES
 DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

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

Designed By: CRY, MDK
 Drawn By: B.Boethel, T.S.

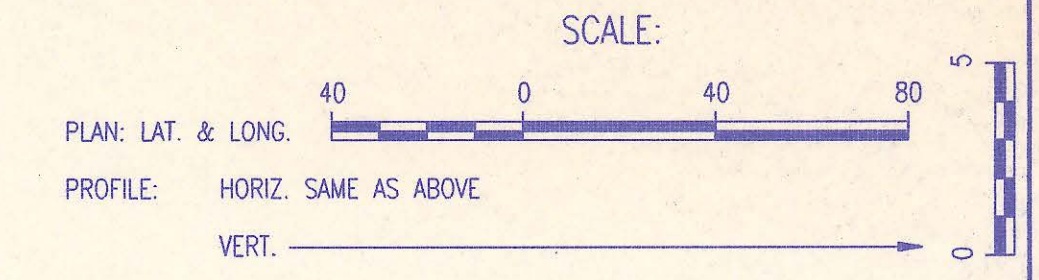
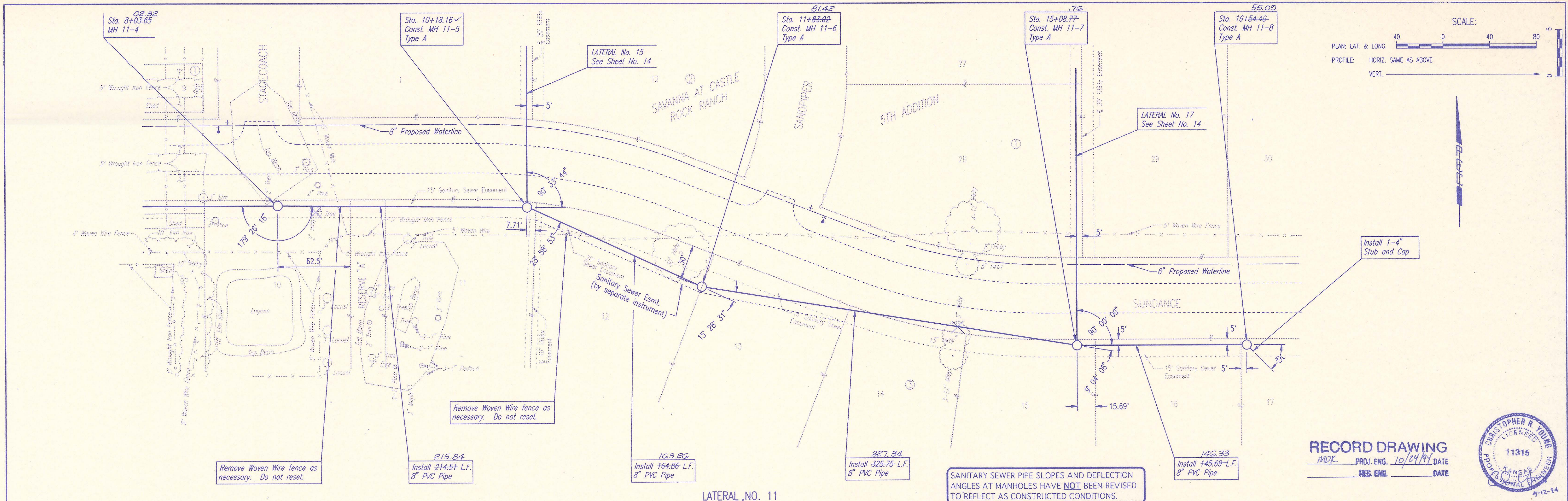
Job No. 34-94010-1
 Date February, 1994

Sheet 11 of 14

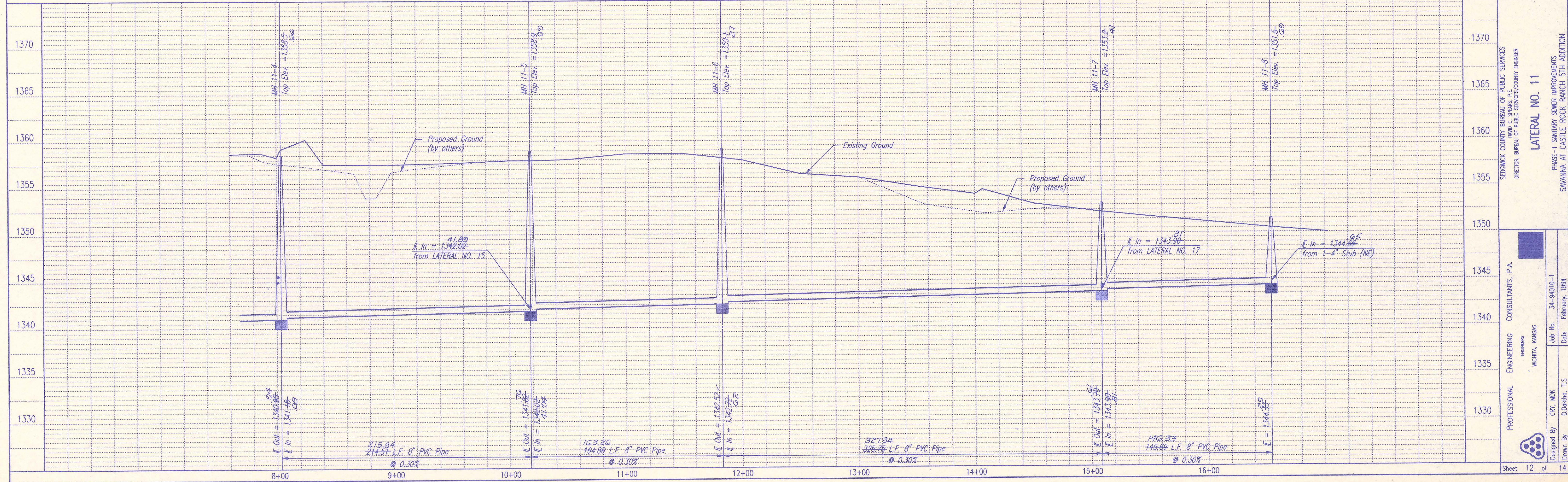
DATE
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DSNR, REF. OPER. BB SCALE: 1 = 40
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RECORD DRAWING
 MDK PROJ. ENG. 10/24/94 DATE
 RES. ENG. DATE



SEDWICK COUNTY BUREAU OF PUBLIC SERVICES
 DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

LATERAL NO. 11

PHASE-1 SANITARY SEWER IMPROVEMENTS
 SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION

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

Designed By: CRT, MDK
 Drawn By: B. Bakina, T.L.S.

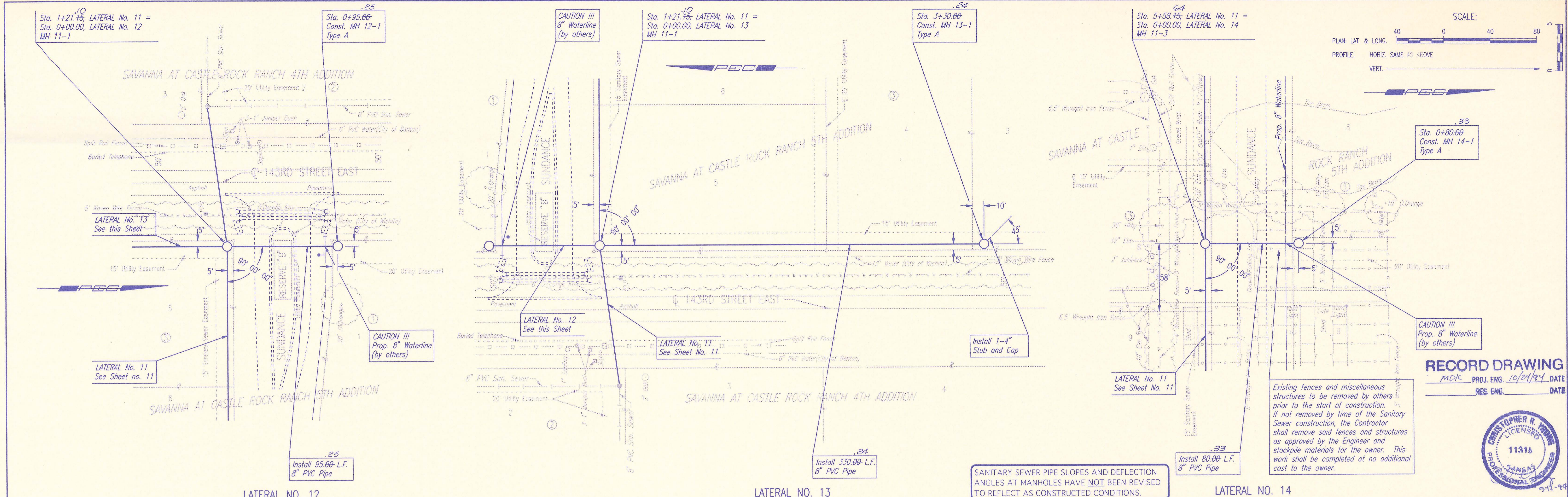
Job No. 34-94010-1
 Date: February, 1994

Sheet 12 of 14

PLAN	CHECKED	CHECKED
BY		
DATE		

PROFILE	CHECKED	CHECKED
BY		
DATE		

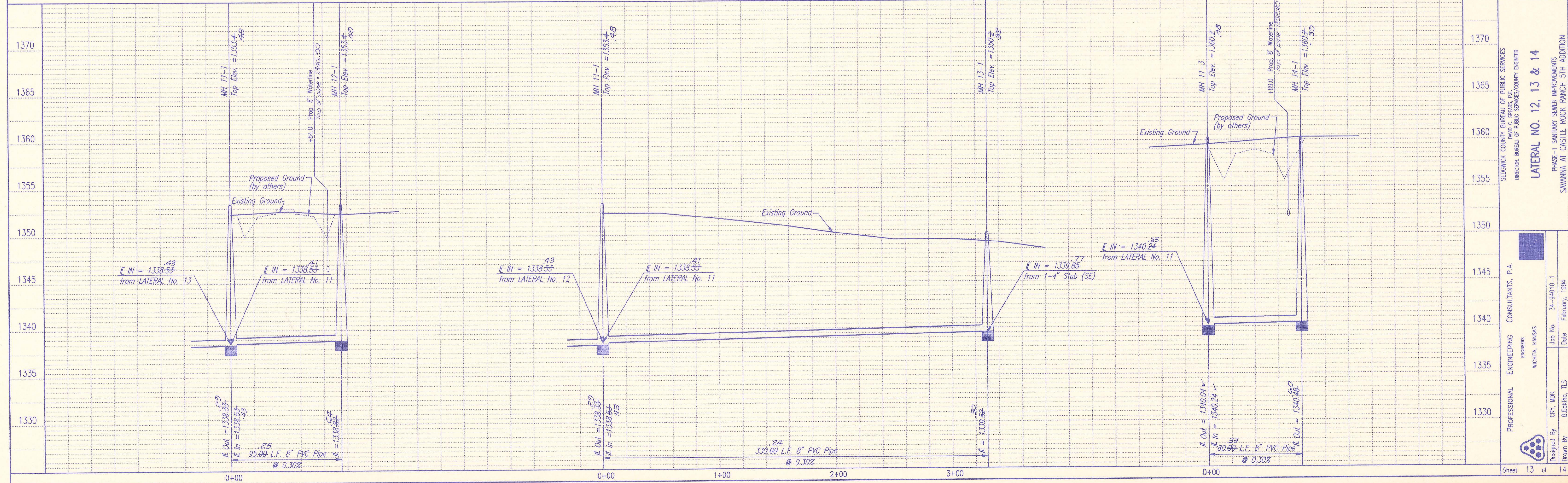
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RECORD DRAWING
 MDK PROJ. ENG. 10/21/94 DATE
 RES. ENG. DATE



Existing fences and miscellaneous structures to be removed by others prior to the start of construction. If not removed by time of the Sanitary Sewer construction, the Contractor shall remove said fences and structures as approved by the Engineer and stockpile materials for the owner. This work shall be completed at no additional cost to the owner.



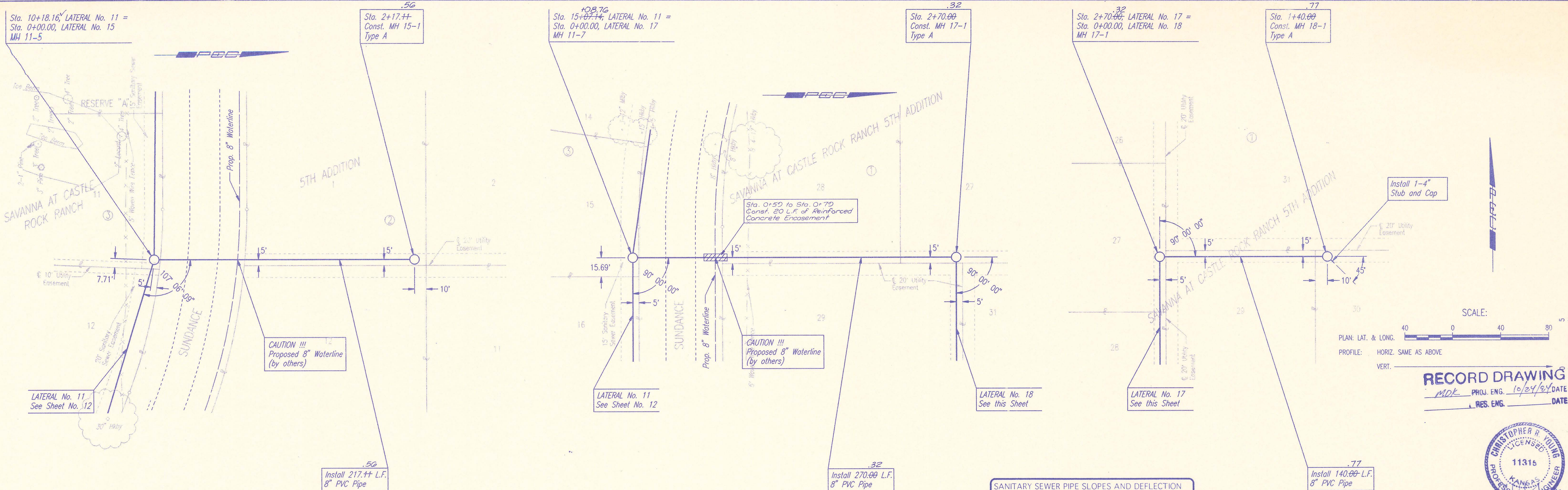
SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
 DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER
LATERAL NO. 12, 13 & 14
 PHASE-1 SANITARY SEWER IMPROVEMENTS
 SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
 ENGINEERS
 WICHITA, KANSAS
 Job No. 34-94010-1
 Date February, 1994

Designed By: CRY, MDK
 Drawn By: B.Bakula, TLS

Sheet 13 of 14

BY	DATE
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PLAN	



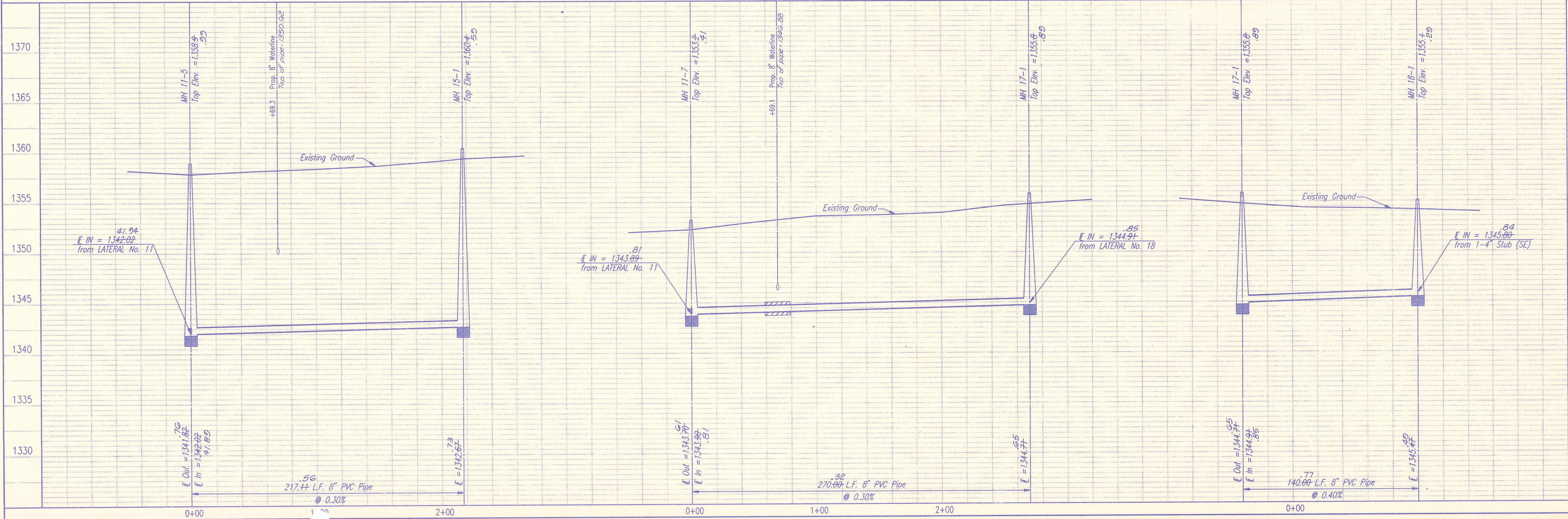
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PLAN: LAT. & LONG.
PROFILE: HORIZ. SAME AS ABOVE
VERT.:

RECORD DRAWING
MDK PROJ. ENG. 10/24/94 DATE
RES. ENG. DATE



BY	DATE
CHECKED	CHECKED
PROFILE	



DSMR_REJ OPER: BB SCALE: 1 = 40
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SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

LATERAL NO. 15, 17 & 18

PHASE-1 SANITARY SEWER IMPROVEMENTS
SAVANNA AT CASTLE ROCK RANCH 5TH ADDITION

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

Designed By: CRY, MOK
Drawn By: B.Bohler, JLS

Job No. 34-94010-1
Date February, 1994

Sheet 14 of 14