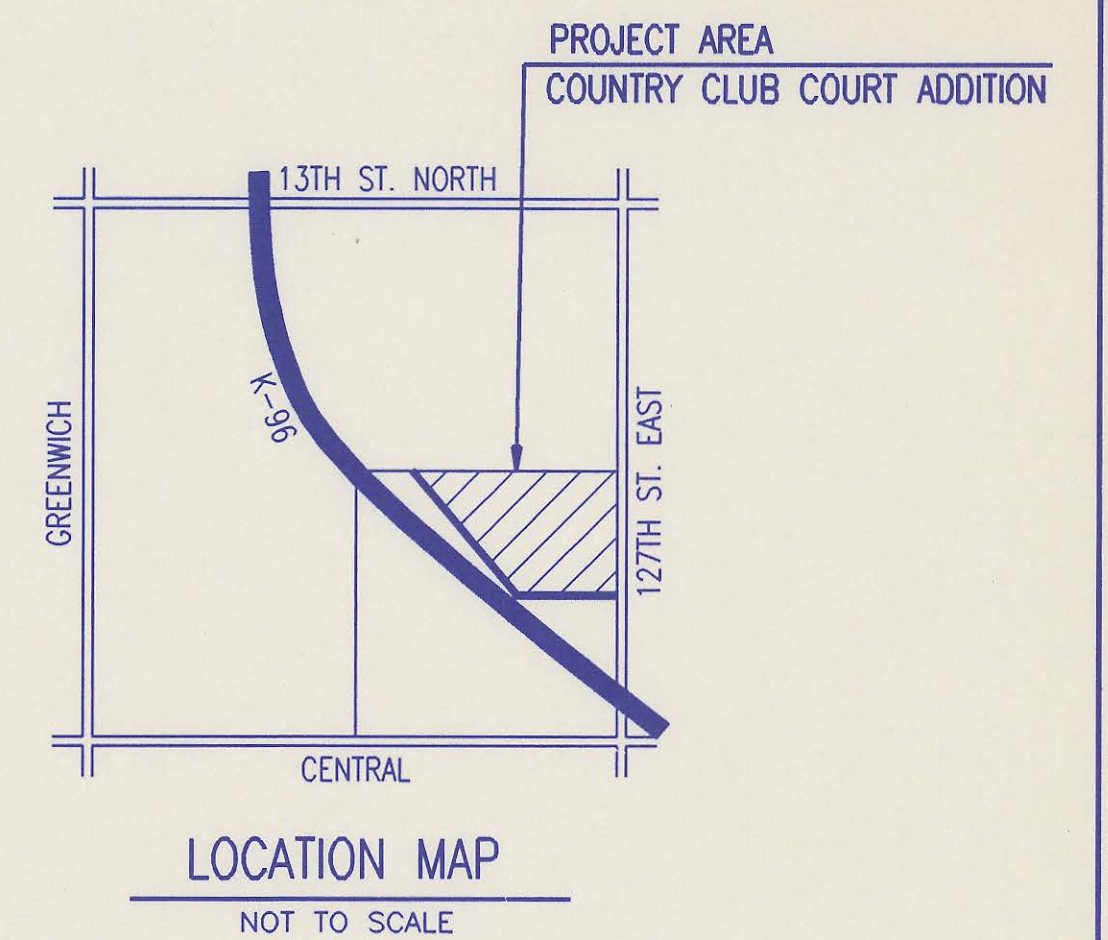


4MC-101

BUREAU OF PUBLIC SERVICES



INDEX OF SHEETS

SHEET NO. 1	TITLE SHEET
SHEET NO. 2	KEY MAP
SHEET NO. 3	PLAT
SHEET NO. 4	PRECAST MANHOLE DETAILS
SHEET NO. 5	BACKFILL DETAILS
SHEET NO. 6	SEWER CONNECTION DETAILS
SHEET NO. 7-11	PLAN/PROFILE

CONSTRUCTION PLANS FOR SANITARY SEWER IMPROVEMENTS

RECORD DRAWING



IN COUNTRY CLUB COURT ADDITION TO SEDGWICK COUNTY, KANSAS

FEBRUARY 1998

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

APPROVED:

David C. Spears

DAVID C. SPEARS, P.E.
DIRECTOR OF PUBLIC SERVICES/COUNTY ENGINEER
DATE: 2/17/98

APPROVED:

Michael G. Weiser

CHAIR, BOARD OF COUNTY COMMISSIONERS
DATE: 2/20/98

FILED IN THE OFFICE OF
THE SEDGWICK COUNTY CLERK

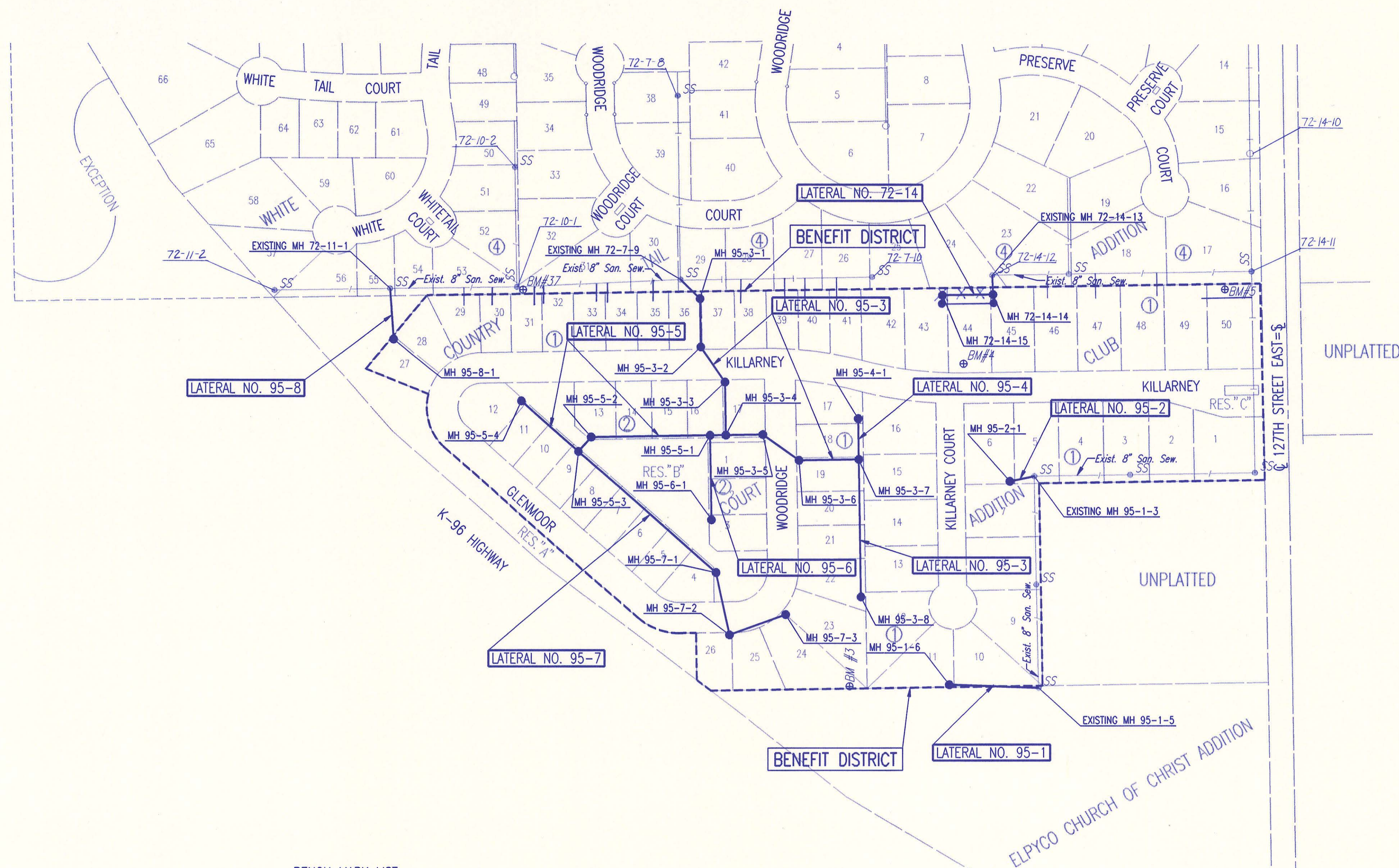
James R. ...

COUNTY CLERK
DATE: 2/20/98

DSNR: BB OPER: DEG SCALE: 1=1.00
0:1997\97631\001\SS\TITLE 02-16-1998 01:13:59 pm
4MC-101

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 THAT THE LOCAL UTILITY COMPANIES MARK ANY EXISTING LINES WITHIN THE PROJECT AREA.
- 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 AT THE CONTRACTOR'S EXPENSE.
- 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 UNLESS OTHERWISE INDICATED ON THE PLANS. 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 CONTACT THE FOLLOWING AT LEAST 72 HOURS PRIOR TO BEGINNING CONSTRUCTION TO ADVISE THEM OF THE INTENDED WORK AND OF HIS PROPOSED SCHEDULE:
SEGWICK COUNTY BUREAU OF PUBLIC SERVICES
1250 S. SENECA
WICHITA, KS 67213
MR. JIM WEBER
(316) 383-7901
- 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 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.
- 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.
- APPROVED EXCESS EXCAVATED MATERIAL FROM CONSTRUCTION ACTIVITIES SHALL BE WASTED AT A LOCATION APPROVED BY MR. GREGORY DOWNING, DOWNING DEVELOPMENT CO., AT 631-3800 AND ACCORDANCE WITH NOTE 17.
- THE CONTRACTOR SHALL NOT BURY MANHOLES THAT HAVE RIM ELEVATIONS WHICH ARE LOWER THAN EXISTING GROUND AT THE MANHOLE. THE GROUND AROUND SUCH MANHOLES AND ALONG THE SEWER ALIGNMENT SHALL BE BACKFILLED TO THE APPROXIMATE ELEVATION OF THE PROPOSED GROUND ELEVATION SHOWN ON THE PLAN/PROFILE SHEETS. THE CONTRACTOR SHALL PROVIDE DRAINAGE AWAY FROM THESE MANHOLES AND SEWER LINES BY CONSTRUCTION OF TEMPORARY DITCHES OR SLOPING THE GROUND AS REQUIRED. ALL COSTS FOR THIS WORK SHALL BE CONSIDERED SUBSIDIARY TO THE INSTALLED BID PRICE FOR MANHOLES OR PIPE.



BENCH MARK LIST

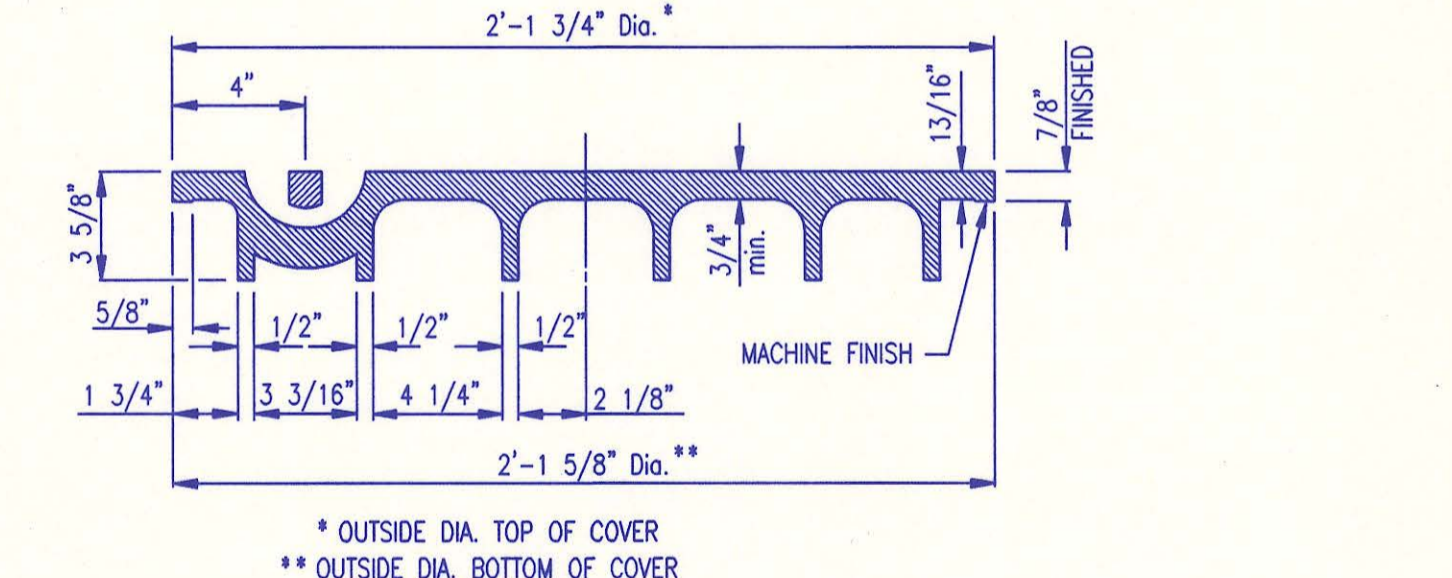
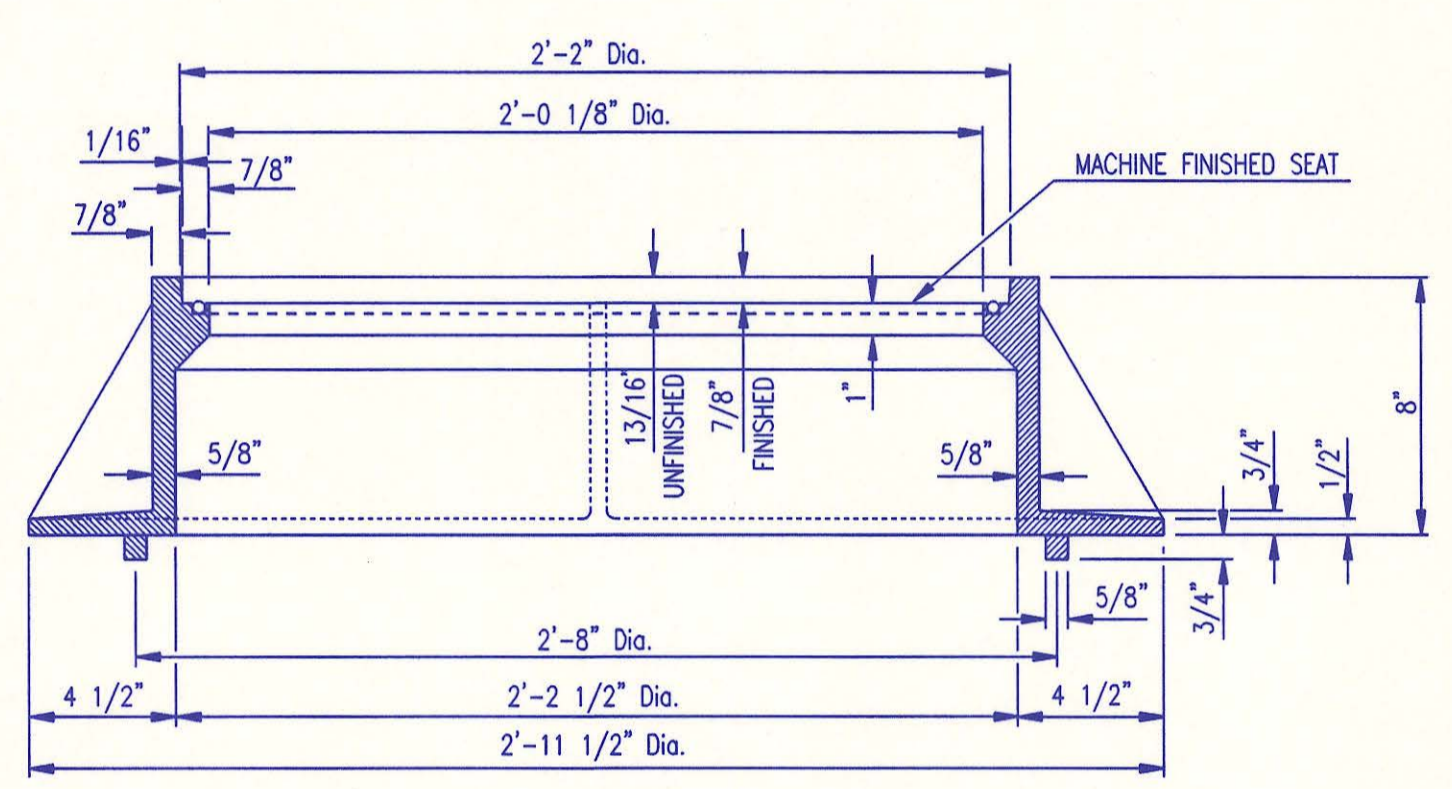
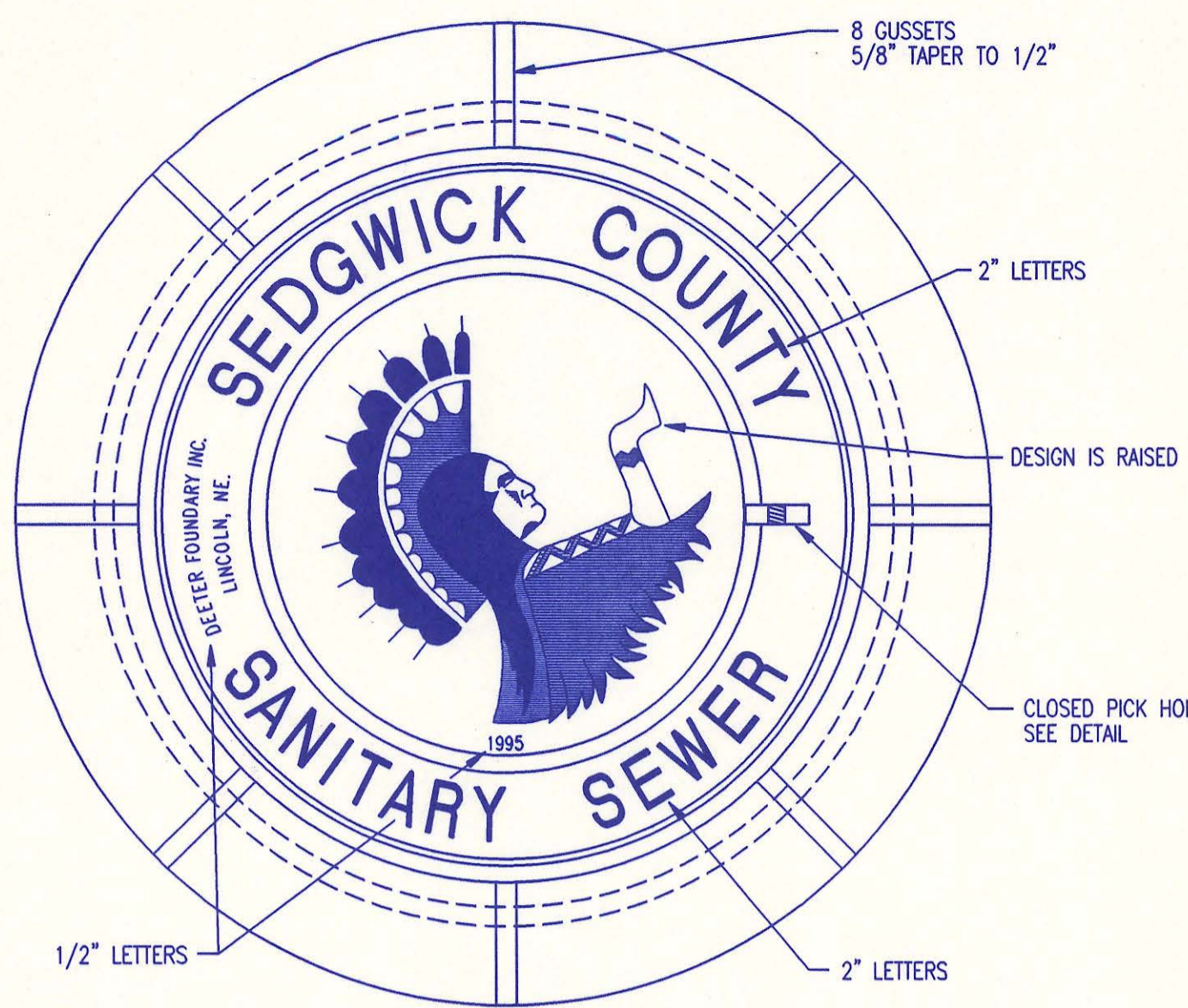
DATUM	BM #	DESCRIPTION	ELEV.
	#37	RAIL ROAD SPIKE IN NORTH FACE OF HEDGE TREE IN EAST-WEST ROW, 8' EAST OF SOUTH EAST CORNER OF LOT 53, BLOCK 4, WHITETAIL ADDITION.	1375.38
	#2	TEE POST 1' BELOW GROUND, 5' SOUTH AND 5' WEST OF THE NORTH EAST CORNER OF LOT 17, BLOCK 2, COUNTRY CLUB COURT ADDITION.	1373.59
	#3	CHISELED "a" TOP OF NORTH END OF 2-42" RCP NEAR THE SOUTH EAST CORNER OF LOT 24, BLOCK 1, COUNTRY CLUB COURT ADDITION.	1364.09
	#4	TEE POST 1' BELOW GROUND, 5' NORTH OF PC LOT 44, BLOCK 1, COUNTRY CLUB COURT ADDITION.	1368.44
	#5	RAIL ROAD SPIKE IN SOUTH FACE OF 30" HEDGE TREE, ±100' WEST OF EAST 1/4 CORNER SECTION 15, T27S, R2E, LOT 50, BLOCK 1, COUNTRY CLUB COURT ADDITION.	1373.41

THE PAVING AND STORM SEWER CONTRACTOR FOR COUNTRY CLUB COURT, (SEGWICK COUNTY PROJECT) WILL PERFORM ROUGH GRADING OF ALL RIGHT-OF-WAYS AND EASEMENTS WITHIN COUNTRY CLUB COURT PRIOR TO CONSTRUCTION OF THE SANITARY SEWER. THE CONTRACTOR SHALL COORDINATE GRADING WORK WITH THE STREET CONTRACTOR. THE ROUGH GRADING OF THE RIGHT OF WAYS AND THE EASEMENTS WILL INCLUDE ESTABLISHING GRADES WITHIN 0.5' FROM THE PROPOSED GROUND ELEVATIONS AS SHOWN IN THE PLANS. THE PAVING AND STORM SEWER CONTRACTOR WILL ALSO BE RESPONSIBLE FOR THE FINAL GRADING OF THE EASEMENTS AFTER THE SANITARY SEWER IS COMPLETE. THE CONTRACTOR SHALL COORDINATE SANITARY SEWER CONSTRUCTION OPERATIONS WITH THE PAVING AND STORM SEWER CONTRACTOR FOR THIS PROJECT.

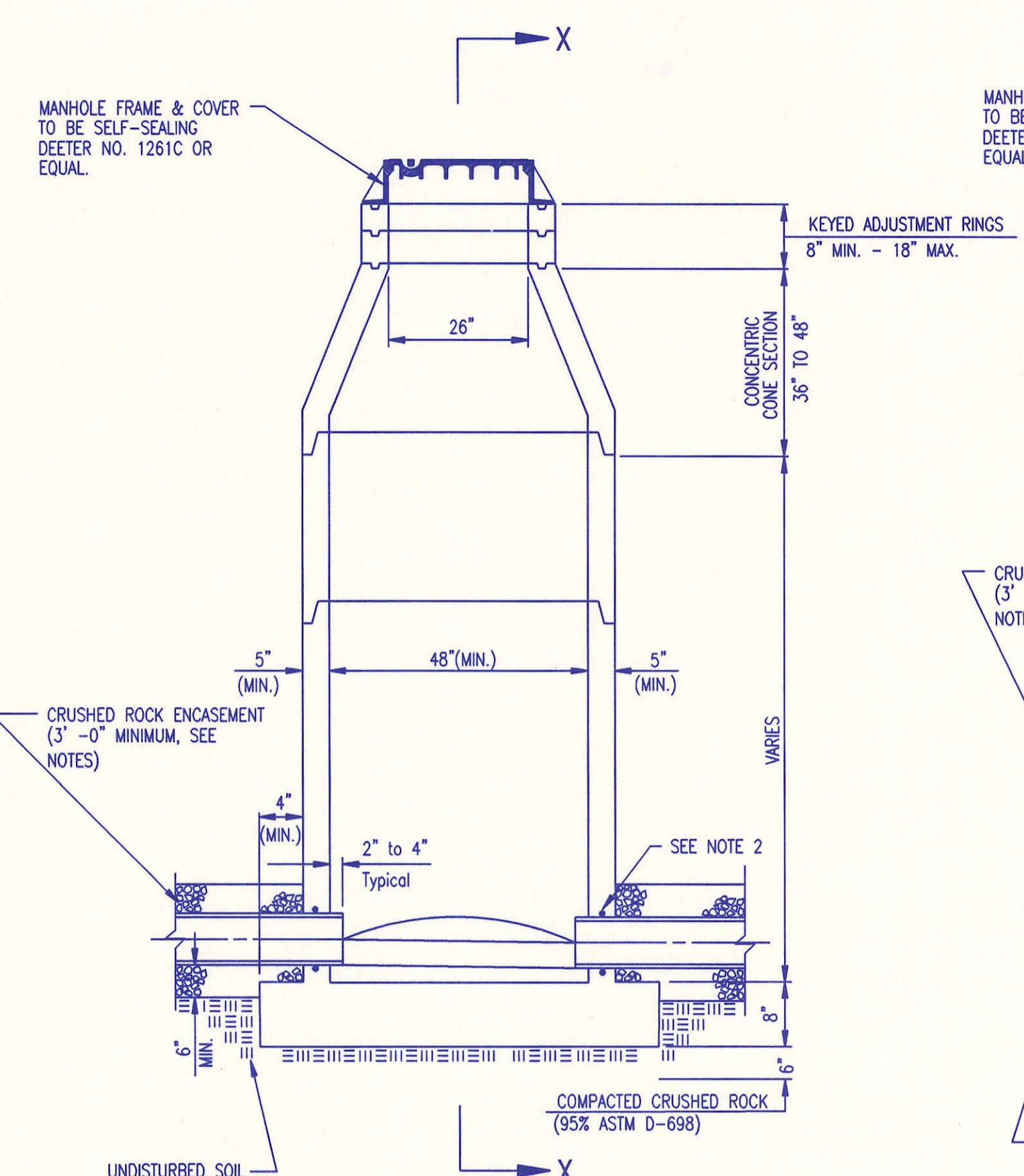
RECORD DRAWING



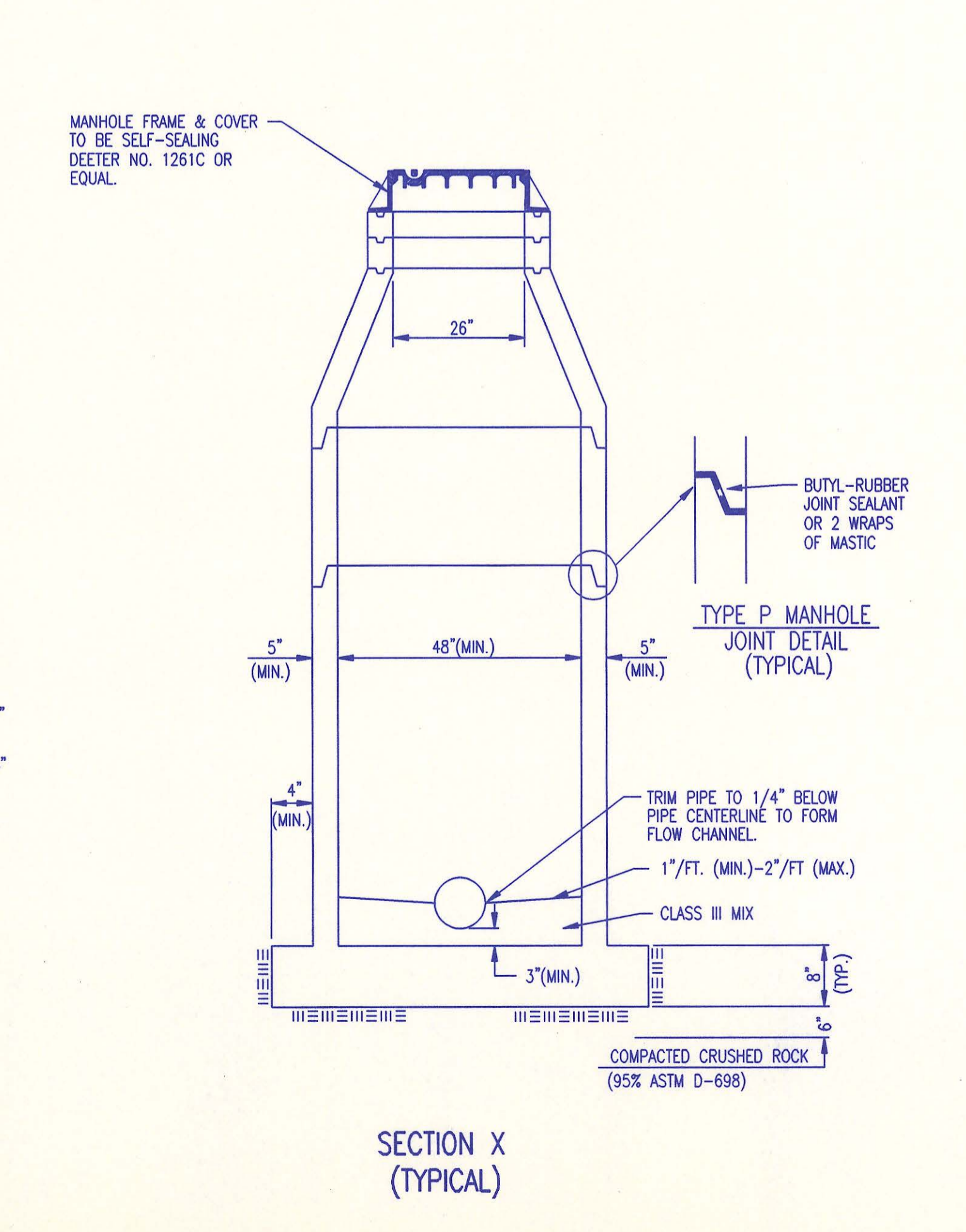
No.	Revision	By	Date
SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES DAVID C. SPEARS, P.E. DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER KEY MAP SANITARY SEWER IMPROVEMENTS COUNTRY CLUB COURT ADDITION PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS			
Designed by	MDK	Job No.	34-97B31-1
Drawn by	BB	Date	October 1997
			Sht. 2 of 11



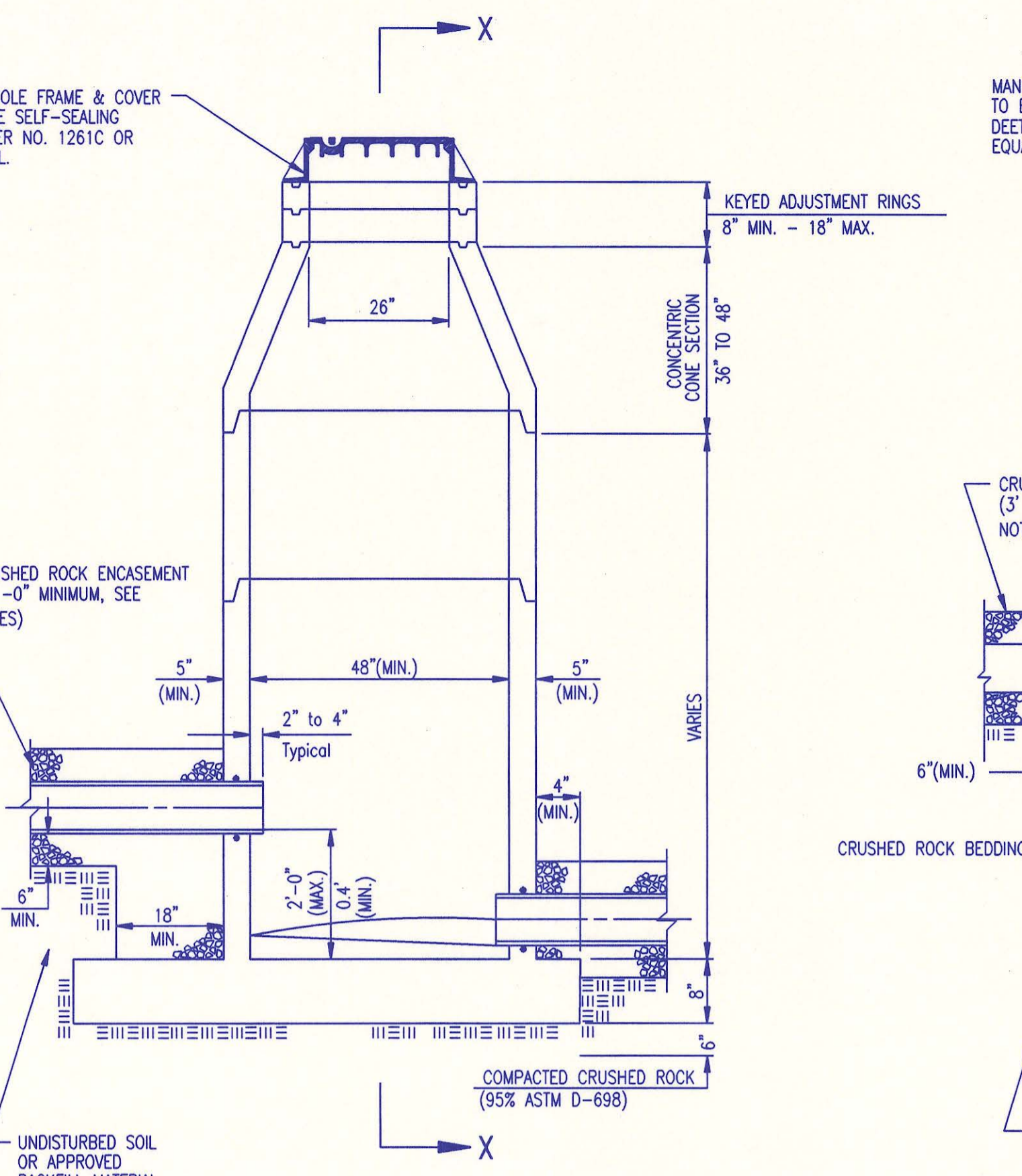
- MANHOLE FRAME AND COVER**
(TOTAL WEIGHT = 430 LBS.)
- MANHOLE FRAME AND COVER NOTES**
- CAST IRON MANHOLE FRAME AND COVER SHALL CONFORM TO ASTM A-48, CLASS 358, OR BETTER.
 - CASTINGS ARE TO BE MANUFACTURED TRUE TO PATTERN AND WITH SATISFACTORY FIT OF COMPONENT PARTS. CASTINGS SHALL BE FREE OF DEFECTS AND ALL BURRS SHALL BE GRIND SMOOTH. DIMENSIONS AS DETAILED ON PLAN SHALL NOT DEVIATE BY $\pm 1/16$ " 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 FOUNDRY INC. NO. 1261C 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.
 - 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 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.
- MANHOLE FRAME AND COVER NOTES**
- 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.
 - "ALOK" 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.
 - THE MANHOLE FRAME SHALL BE SEATED ON AN APPROVED BUTYL-RUBBER OR MASTIC SEALANT TO PROVIDE WATER-TIGHT SEAL BETWEEN THE MANHOLE ADJUSTMENT RING AND THE MANHOLE FRAME.
 - GASKETED PIPE CAPS SHALL BE PROVIDED BY THE PIPE SUPPLIER. GLUED OR CEMENTED CAPS WILL NOT BE ACCEPTED.
 - 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.
 - 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.
 - MANHOLES SHALL BE SUPPLIED WITH PRECAST 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. ALL MANHOLES WITH PRECAST BASES SHALL INCLUDE A-LOK GASKETS FOR ALL PIPE PENETRATIONS INTO THE MANHOLES.
 - 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.
 - 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.
 - 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.).
 - WHERE MANHOLES ARE TO BE BUILT OVER EXISTING SANITARY SEWER LINES, SEWER PIPES SHALL BE SUPPORTED WITH CLASS III CONCRETE ENCASEMENT A MINIMUM OF 3 FEET OUTSIDE THE MANHOLE WALL.
 - CRUSHED ROCK SHALL MEET THE REQUIREMENTS FOR GRANULAR BEDDING MATERIAL, AS OUTLINED IN THE SPECIFICATIONS.



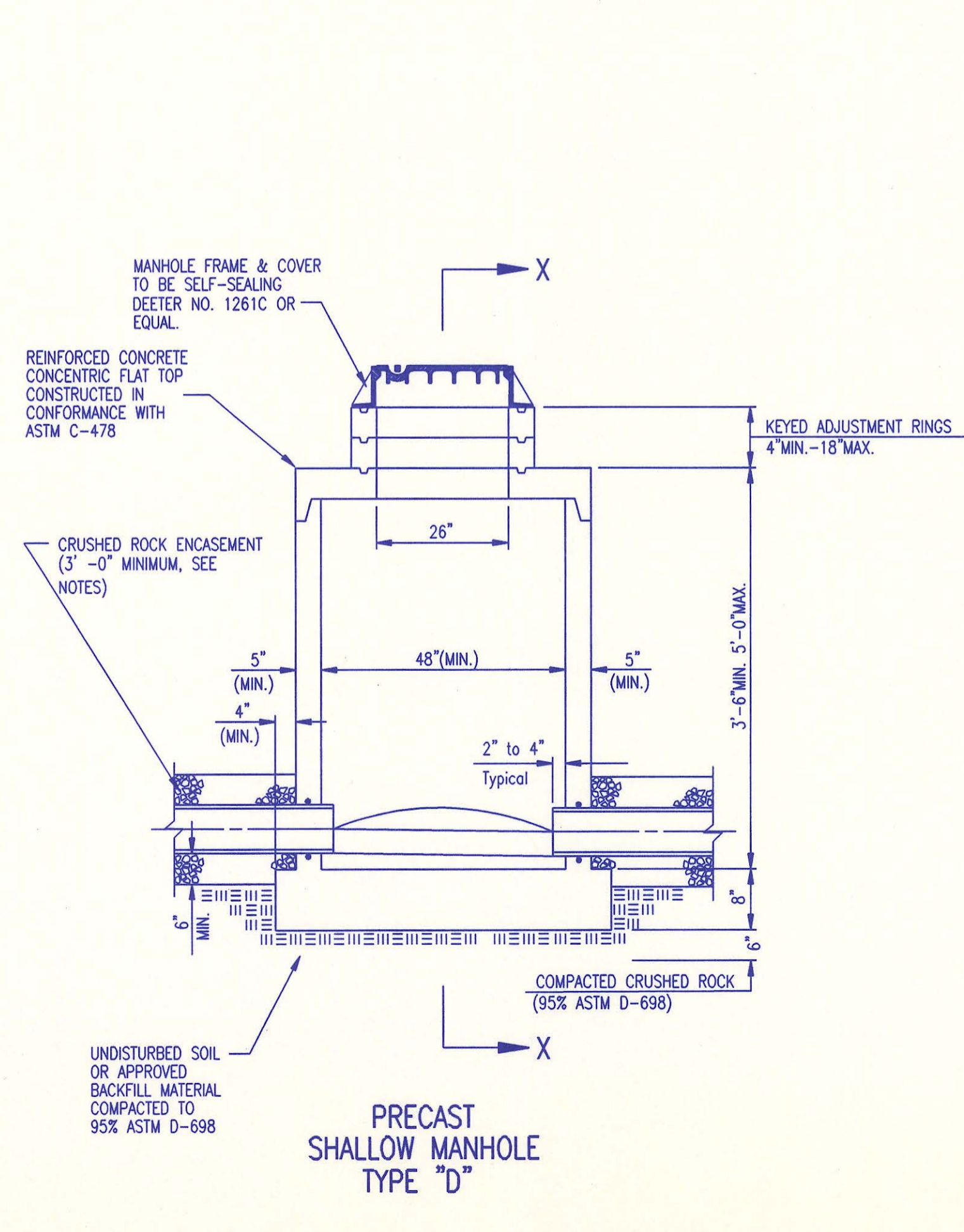
PRECAST STANDARD MANHOLE TYPE "A"



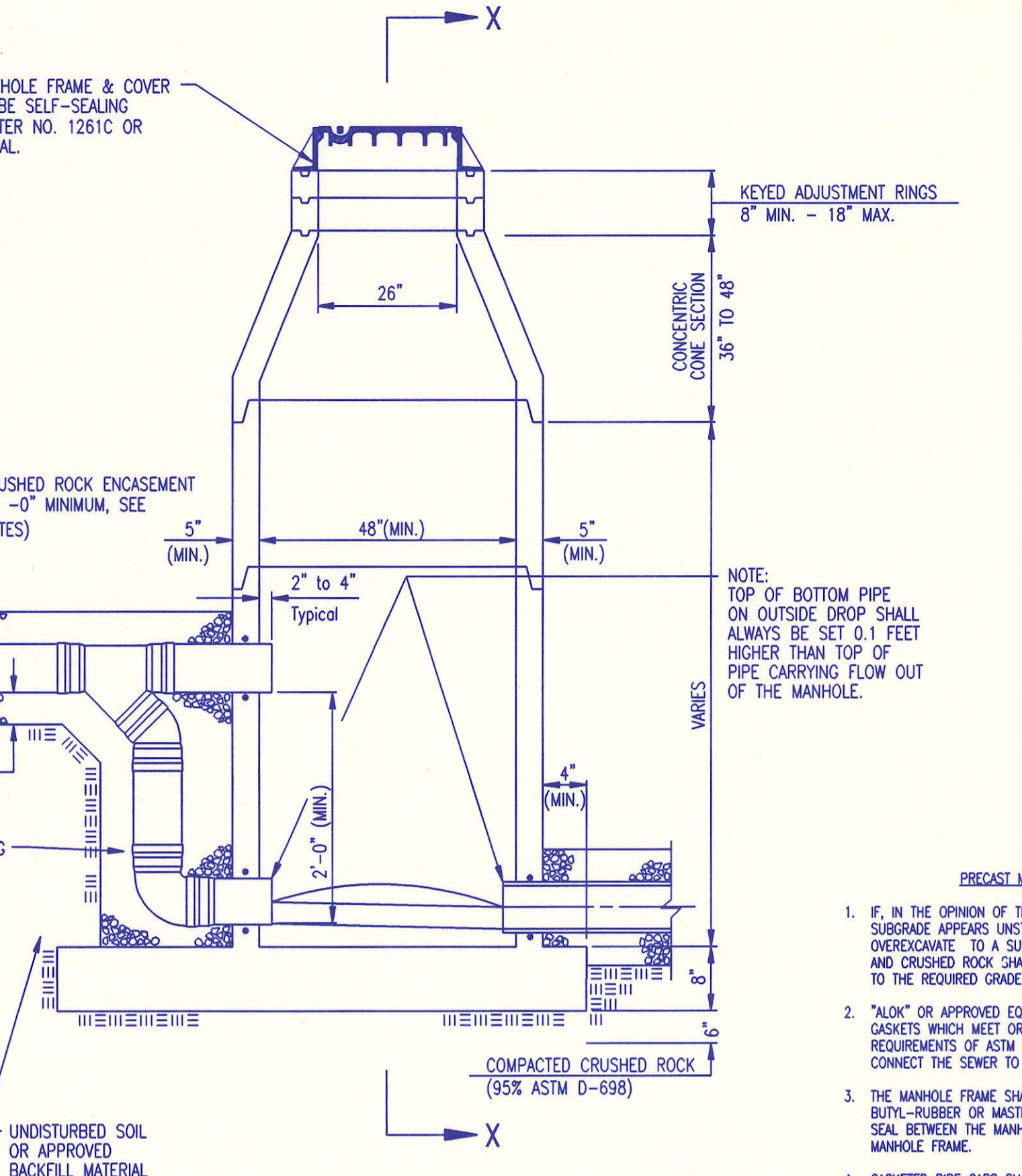
PRECAST SHALLOW MANHOLE TYPE "D"



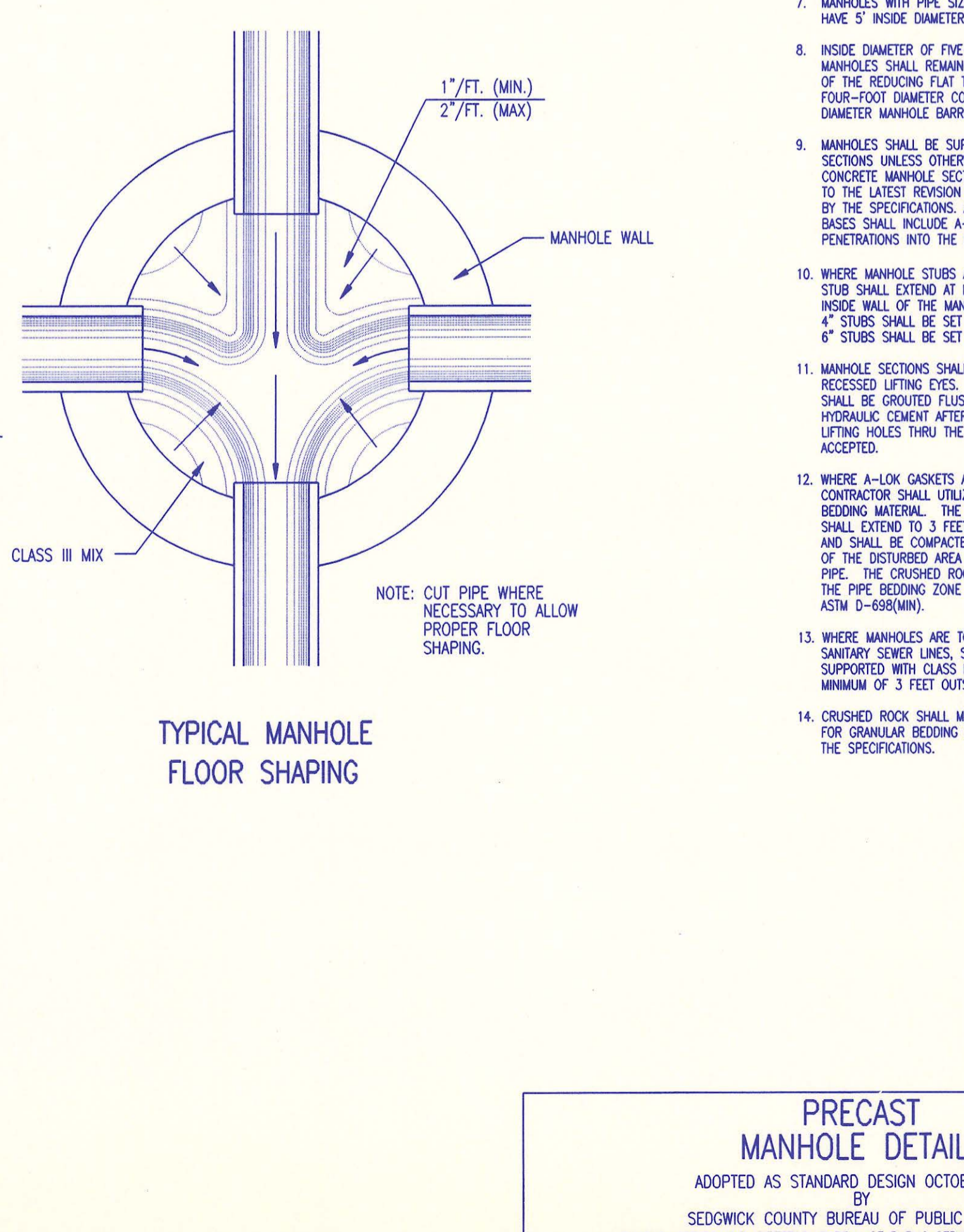
PRECAST INSIDE DROP MANHOLE TYPE "B"



PRECAST SHALLOW MANHOLE TYPE "D"



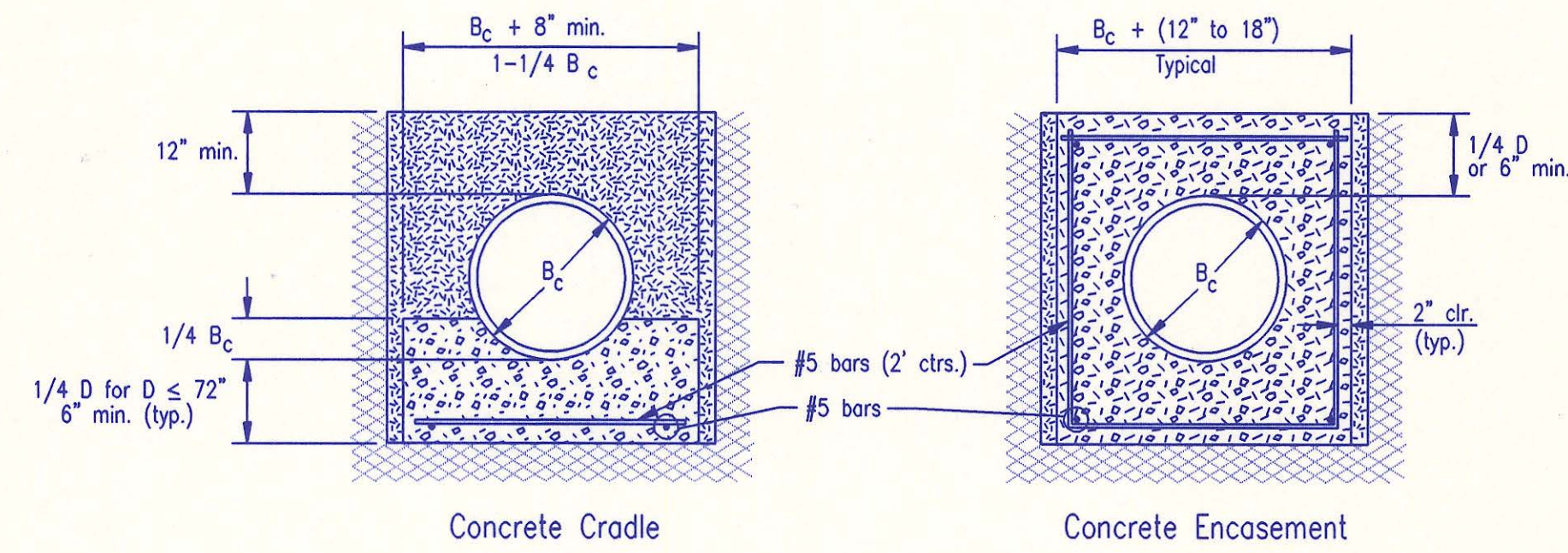
PRECAST OUTSIDE DROP MANHOLE TYPE "C"



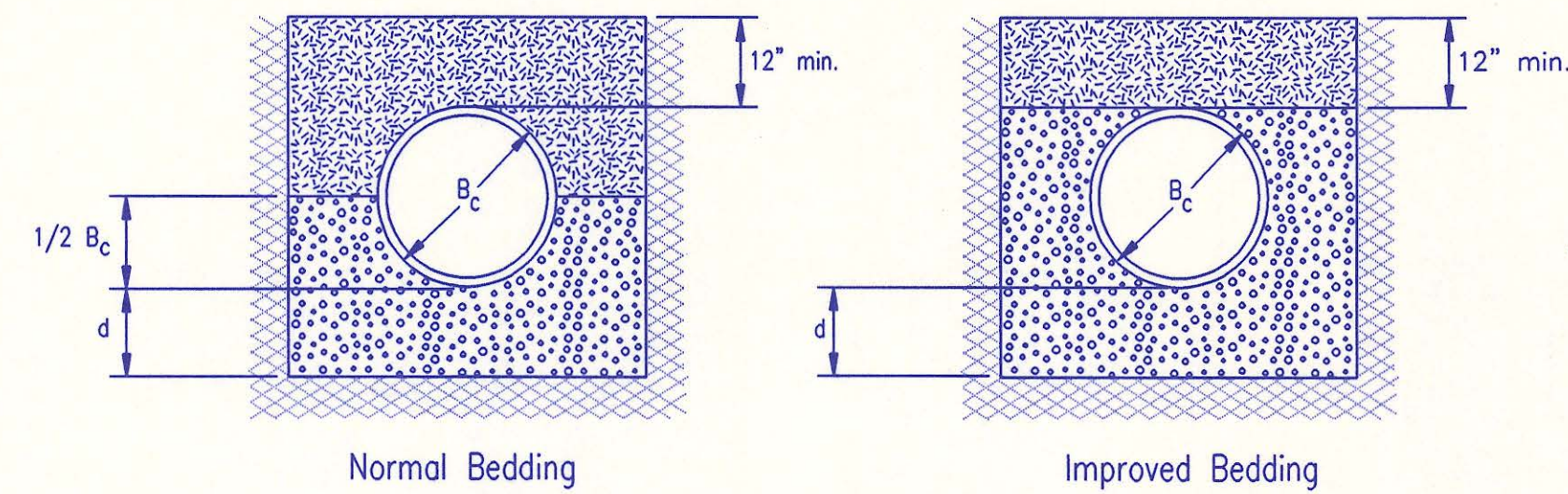
TYPICAL MANHOLE FLOOR SHAPING

- PRECAST MANHOLE NOTES**
- 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.
 - "ALOK" 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.
 - THE MANHOLE FRAME SHALL BE SEATED ON AN APPROVED BUTYL-RUBBER OR MASTIC SEALANT TO PROVIDE WATER-TIGHT SEAL BETWEEN THE MANHOLE ADJUSTMENT RING AND THE MANHOLE FRAME.
 - GASKETED PIPE CAPS SHALL BE PROVIDED BY THE PIPE SUPPLIER. GLUED OR CEMENTED CAPS WILL NOT BE ACCEPTED.
 - 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.
 - 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.
 - MANHOLES SHALL BE SUPPLIED WITH PRECAST 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. ALL MANHOLES WITH PRECAST BASES SHALL INCLUDE A-LOK GASKETS FOR ALL PIPE PENETRATIONS INTO THE MANHOLES.
 - 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.
 - 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.
 - 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.).
 - WHERE MANHOLES ARE TO BE BUILT OVER EXISTING SANITARY SEWER LINES, SEWER PIPES SHALL BE SUPPORTED WITH CLASS III CONCRETE ENCASEMENT A MINIMUM OF 3 FEET OUTSIDE THE MANHOLE WALL.
 - CRUSHED ROCK SHALL MEET THE REQUIREMENTS FOR GRANULAR BEDDING MATERIAL, AS OUTLINED IN THE SPECIFICATIONS.
- PRECAST MANHOLE DETAILS**
ADOPTED AS STANDARD DESIGN OCTOBER 1997
BY
SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, P.E. DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

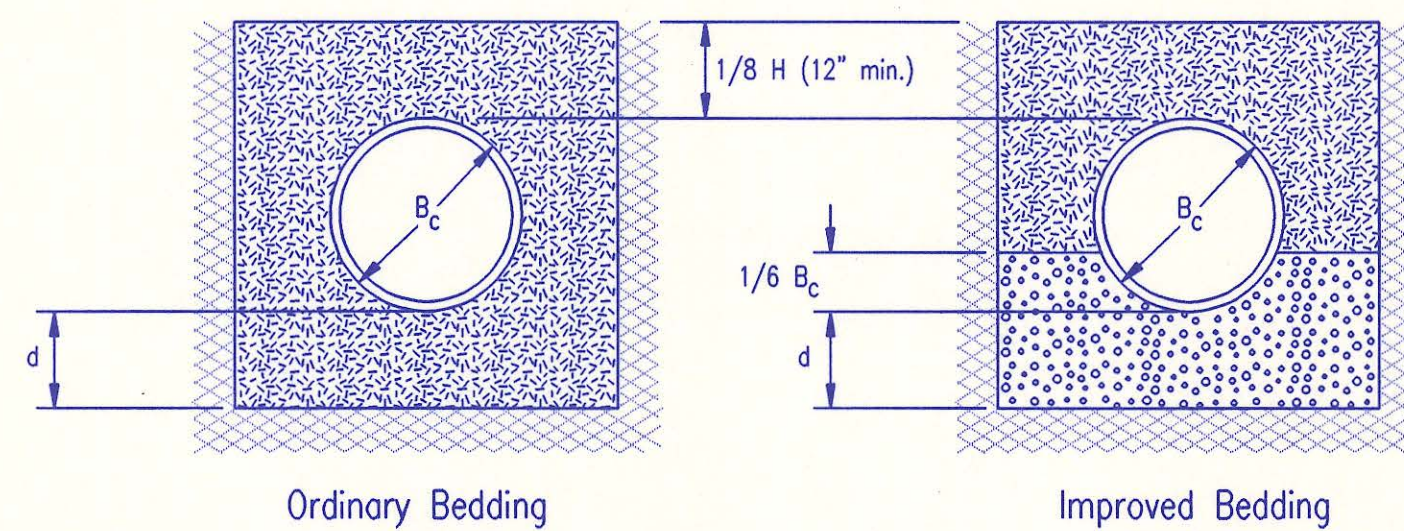
DSNR: GJM OPER: DEG SCALE: 1=1.00
 02-16-1998 01:18:08 pm
 02-16-1998 01:18:08 pm



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
- = Granular Bedding Material or Sand-Gravel Bedding
- = Compacted Embedment
- = 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"

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.

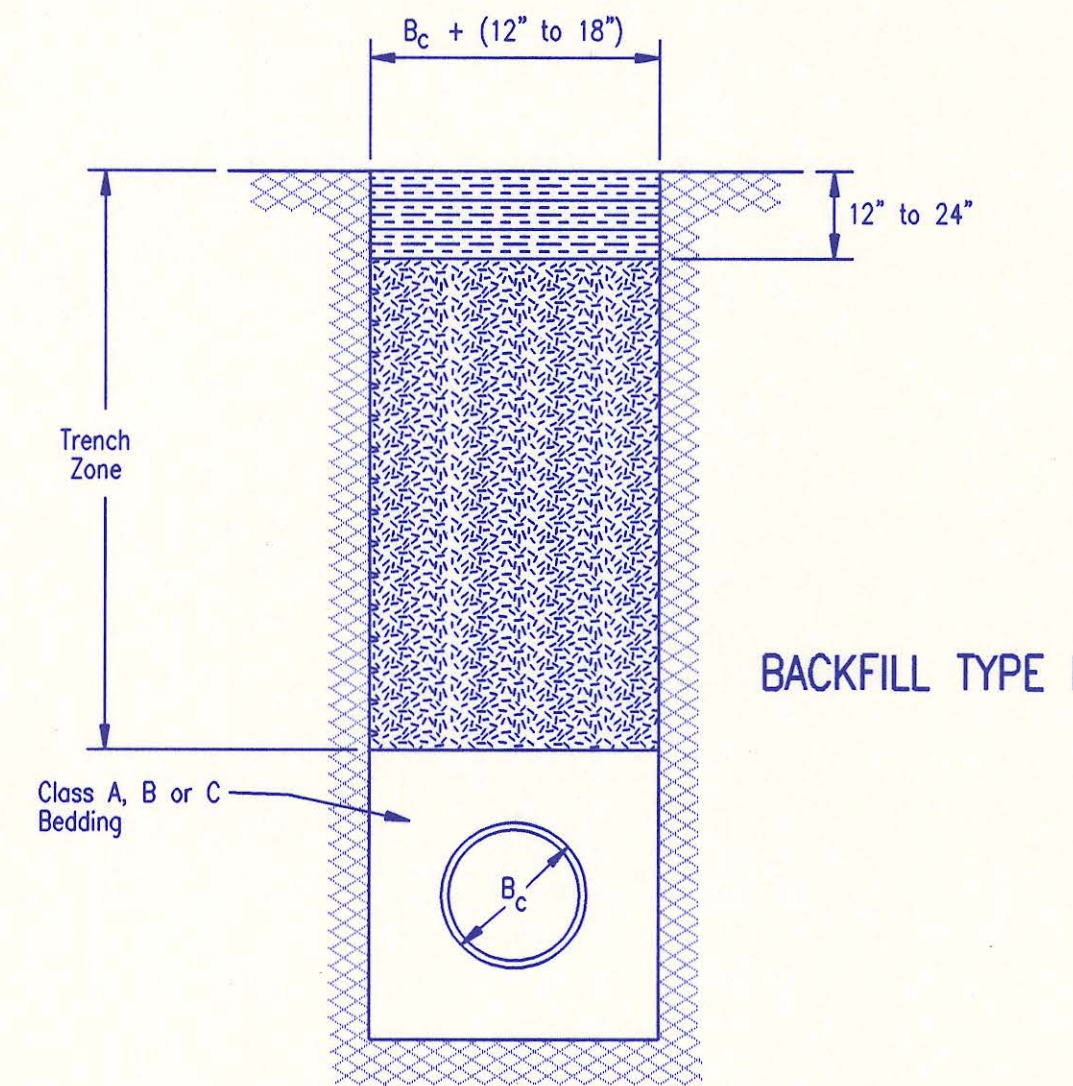
Class A "Concrete Cradle" and/or Class A "Concrete Encasement" is not required unless specified on the plans. However, where unexpected trench conditions exist or improper trenching is performed Class A Bedding may be required as determined by the Engineer.

Class B Bedding shall be used for all flexible pipe.

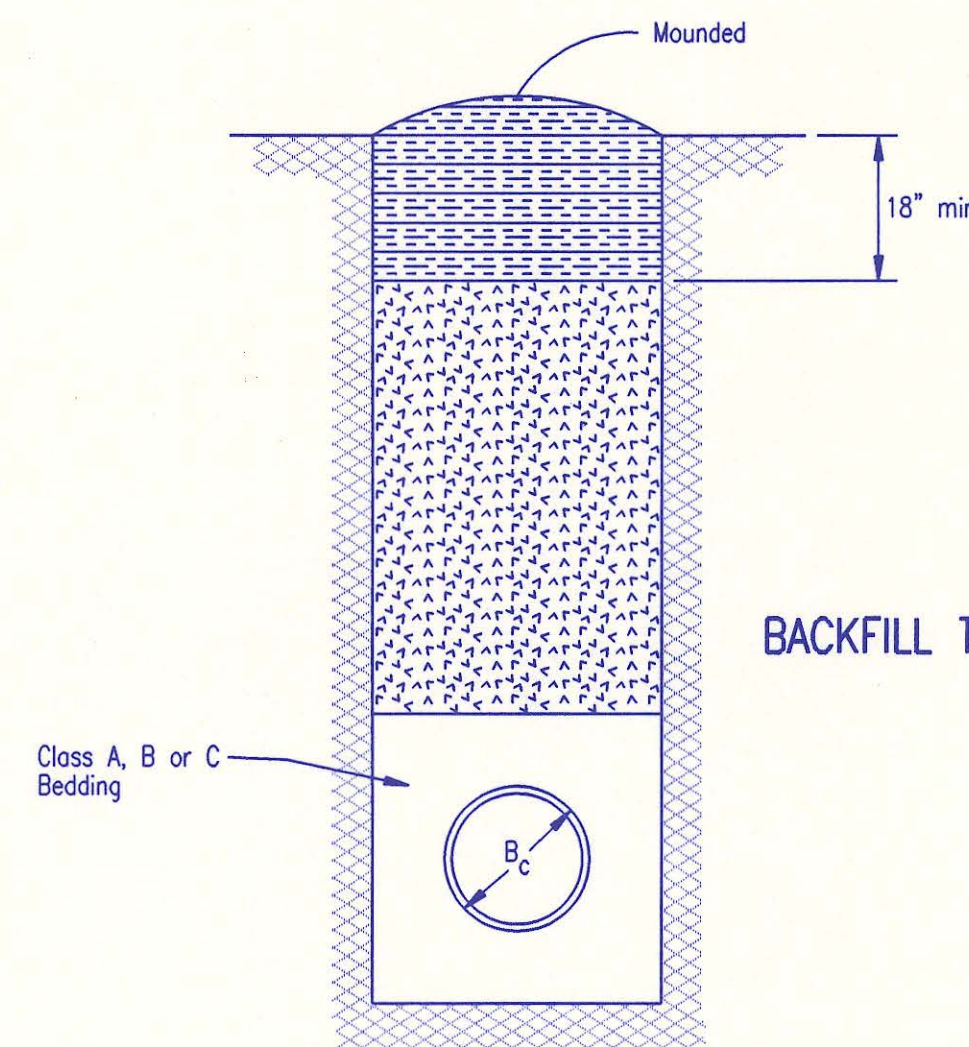
- a. Class B Normal Bedding shall be used for PVC Pipe unless wet conditions are encountered.
- b. Class B Improved Bedding shall be used for other flexible pipe, and for PVC pipe in wet conditions.

Class C Bedding shall be used for all rigid pipe.

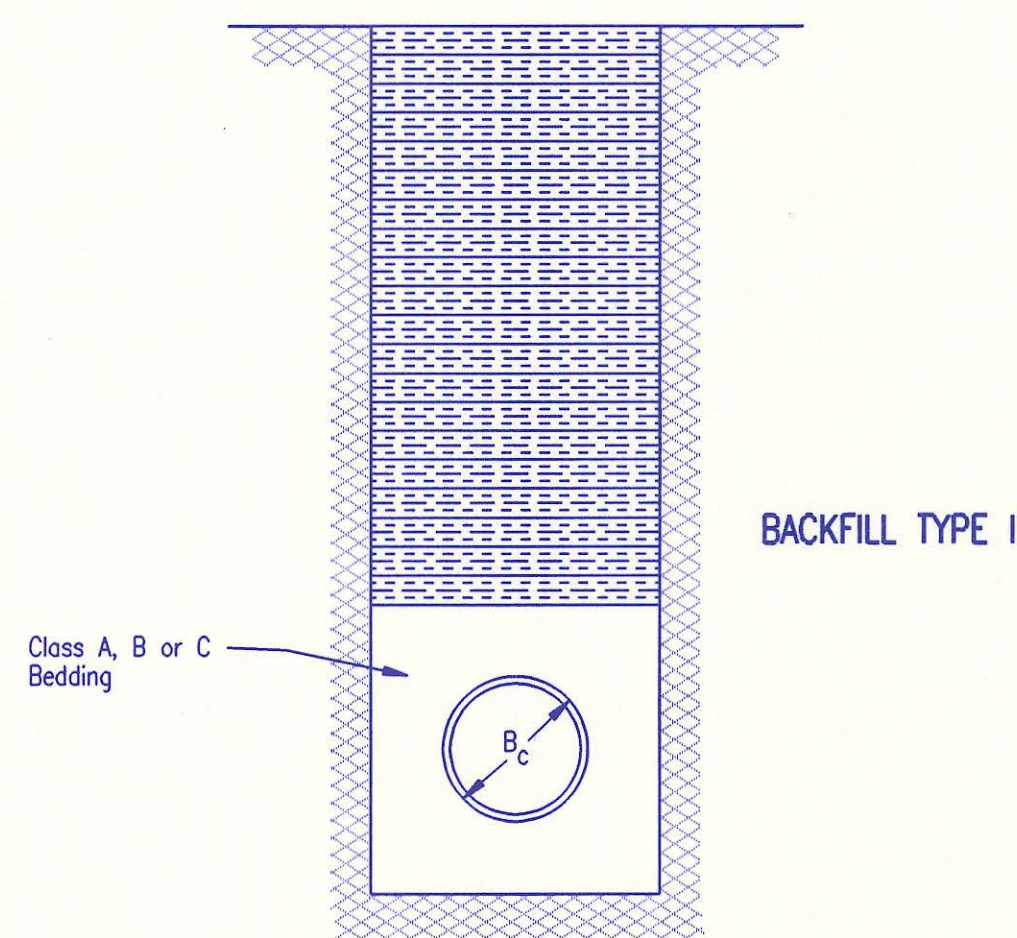
- a. Class C Ordinary Bedding shall be used for all rigid pipe unless wet conditions are encountered.
- b. Class C Improved Bedding shall be used for wet conditions existing in the trench, as directed by the Engineer, at no additional cost to the Owner. The dimensions shall be equal to that required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



BACKFILL TYPE I



BACKFILL TYPE II



BACKFILL TYPE III

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

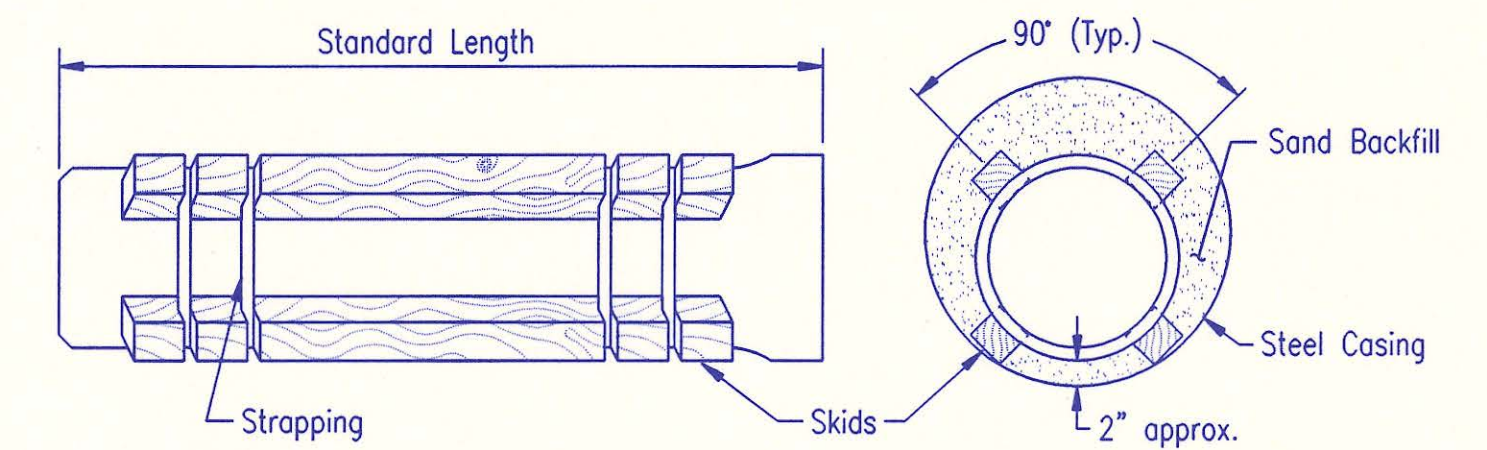
Compacted Earth Backfill shall consist of material existing prior to trenching or selected material as directed by the Engineer, and shall be compacted to 90% density as determined by ASTM D698.

Backfill: 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.

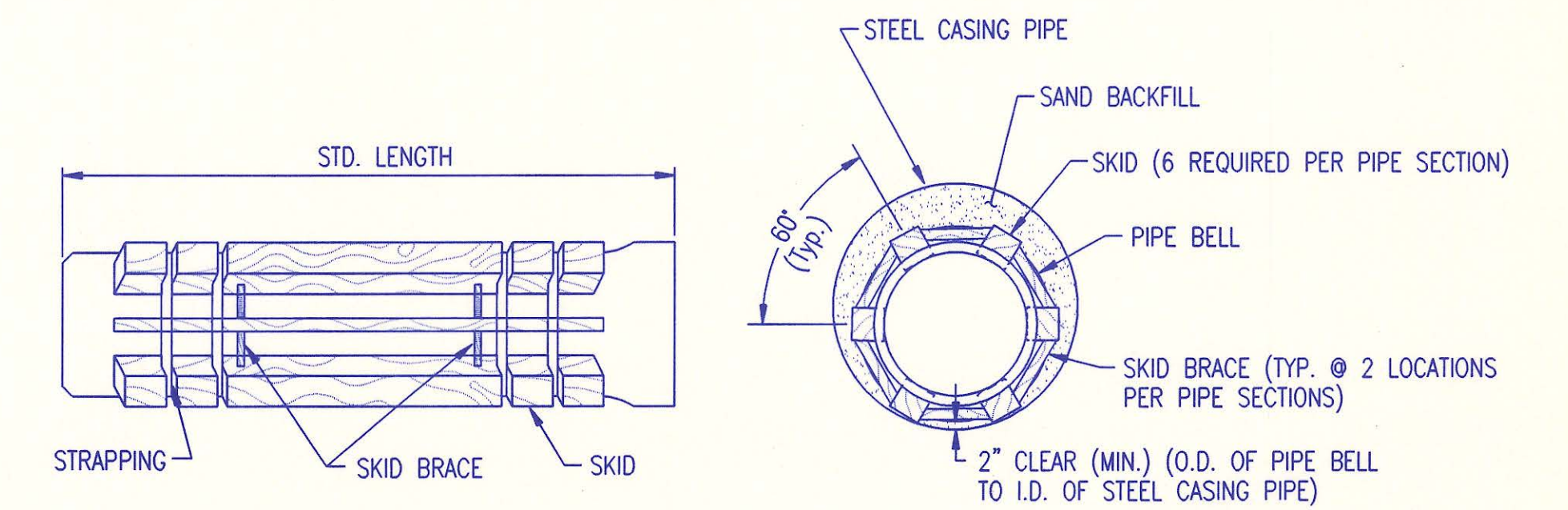
Backfilling Through Rock: Backfilling through rock shall be performed as specified in the paragraph Backfill above, except that the Pipe Zone is increased to provide eighteen (18) inches of cover over the pipe. When approved by the Engineer the remainder of the backfill may be excavated rock provided 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 standard density, in conformance with ASTM D698 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".



STEEL ENCASEMENT DETAIL
SEWER MAIN 12" AND UNDER



STEEL ENCASEMENT DETAIL
SEWER MAIN OVER 12"

BACKFILL DETAILS

ADOPTED AS STANDARD DESIGN OCTOBER 1997
BY
SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES
DAVID C. SPEARS, P.E. DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER

Sta. 0+00.00
Existing MH 72-11-1
Core concrete MH wall and install new 8" pipe. Seal new 8" pipe to MH with an approved waterstop gasket and quick-set hydraulic cement. Construct a minimum of 3' reinforced concrete encasement from MH wall. Reshape invert to provide smooth flow. This work shall be considered subsidiary to the price bid for pipe in place.

CAUTION!!!
Cable Box and Buried cable shall be relocated as required by Multimedia Cablevision. Coordinate with Multimedia Cablevision, Mr. Don Shue at 942-2525. (Provide at least 2 weeks notice.) Relocation costs if any to be borne by Multimedia Cablevision.

Sta. 1+04.97
Const. MH 95-8-1
Type A

CAUTION !!!
Buried CATV (Multimedia Cablevision)
Buried Telephone (SWB)
Buried Electric (KGE)

Install 104.97 L.F. 8" Pipe

Sta. 34+15.21
Existing MH 72-14-13
Core concrete MH wall and install new 8" pipe. Seal new 8" pipe to MH with an approved waterstop gasket and quick-set hydraulic cement. Construct a minimum of 3' reinforced concrete encasement from MH wall. Reshape invert to provide smooth flow. This work shall be considered subsidiary to the price bid for pipe in place.

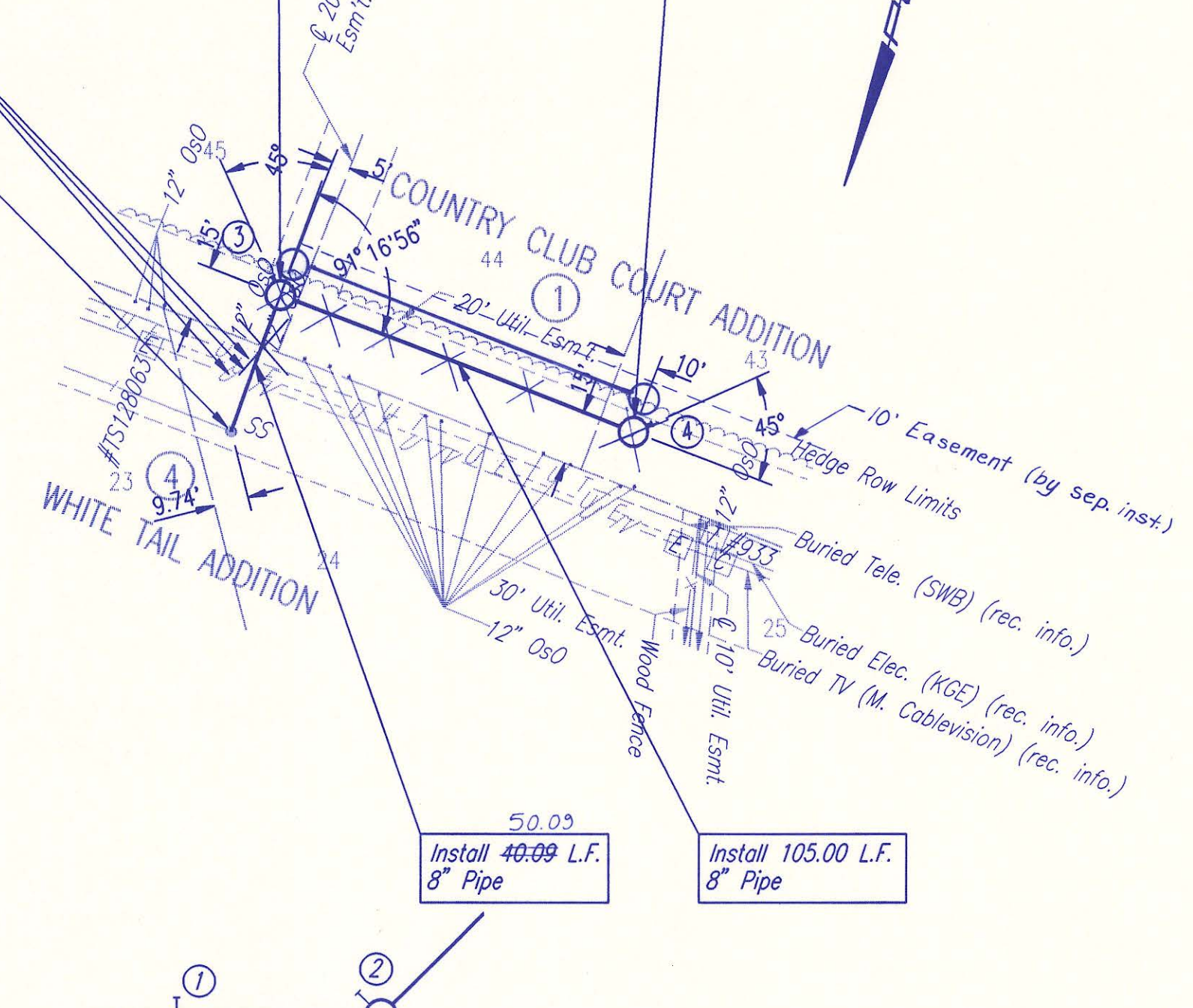
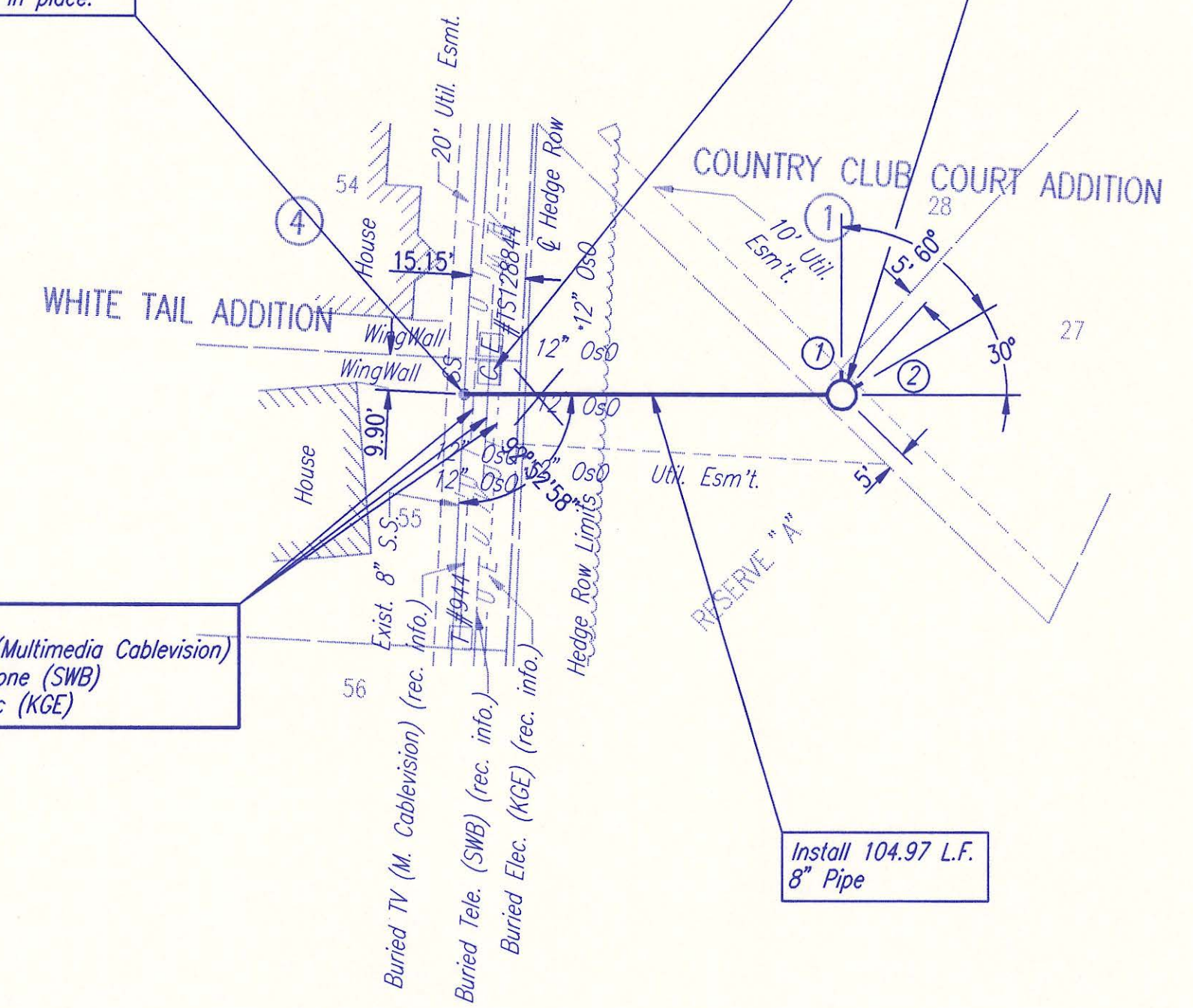
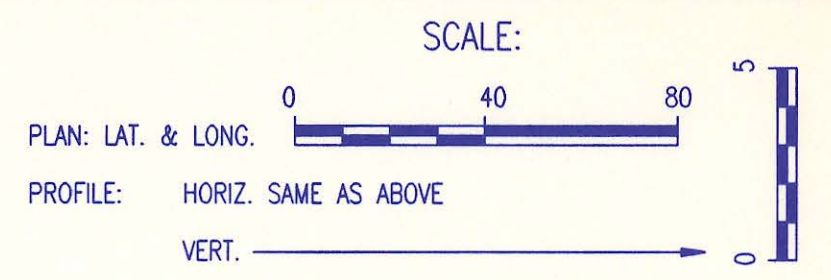
CAUTION !!!
Buried CATV (Multimedia Cablevision)
Buried Electric (KGE)
Buried Telephone (SWB)

Sta. 34+65.30
Const. MH 72-14-14
Type A

Sta. 35+70.30
Const. MH 72-14-15
Type A

Install 40.09 L.F. 8" Pipe

Install 105.00 L.F. 8" Pipe



① ②
DENOTES SEWER SERVICE. SEE SHEET NO. 6 FOR SEWER SERVICE SCHEDULE AND DETAILS

SANITARY SEWER PIPE SLOPES HAVE NOT BEEN REVISED TO REFLECT AS CONSTRUCTED CONDITIONS.

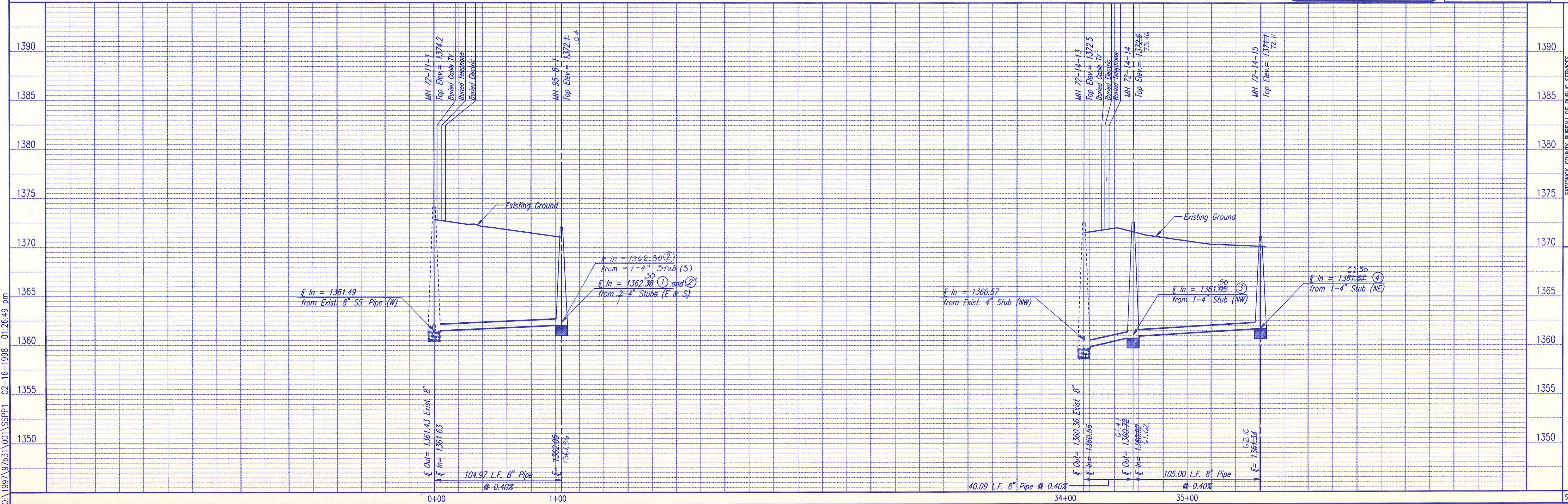
ALL PIPE INSTALLED IS PVC PIPE.

RECORD DRAWING



LATERAL NO. 72-11

LATERAL NO. 72-14



DSMR: MDK OPER: DEG SCALE: 1"=40.00
0:1997\97631\001\SSPP1 02-16-1998 01:26:49 pm

SEDCOMCK COUNTY BUREAU OF PUBLIC SERVICES
DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER
LATERAL NO. 72-11 AND 72-14
SANITARY SEWER MAIN
COUNTRY CLUB COURT ADDITION

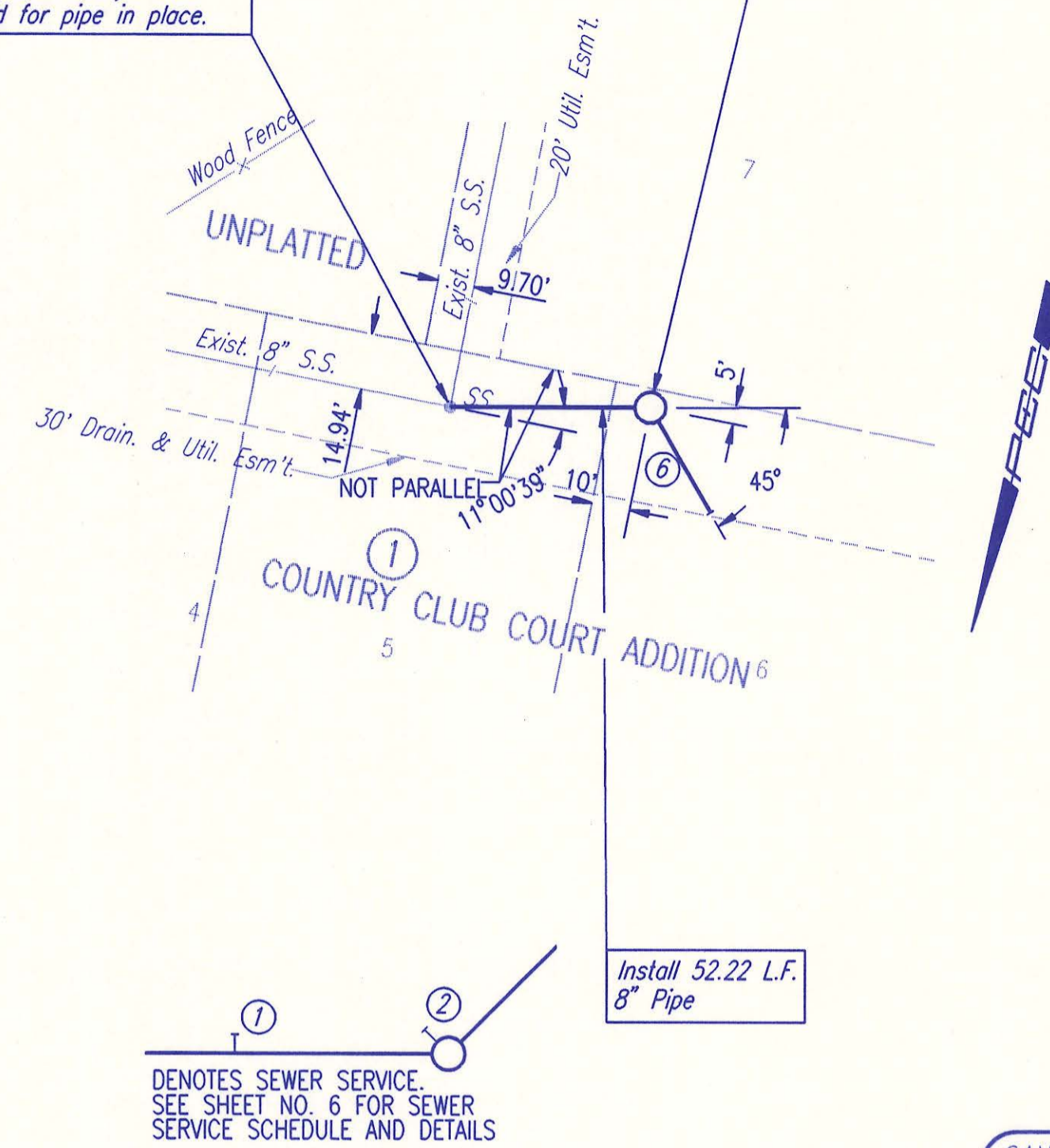
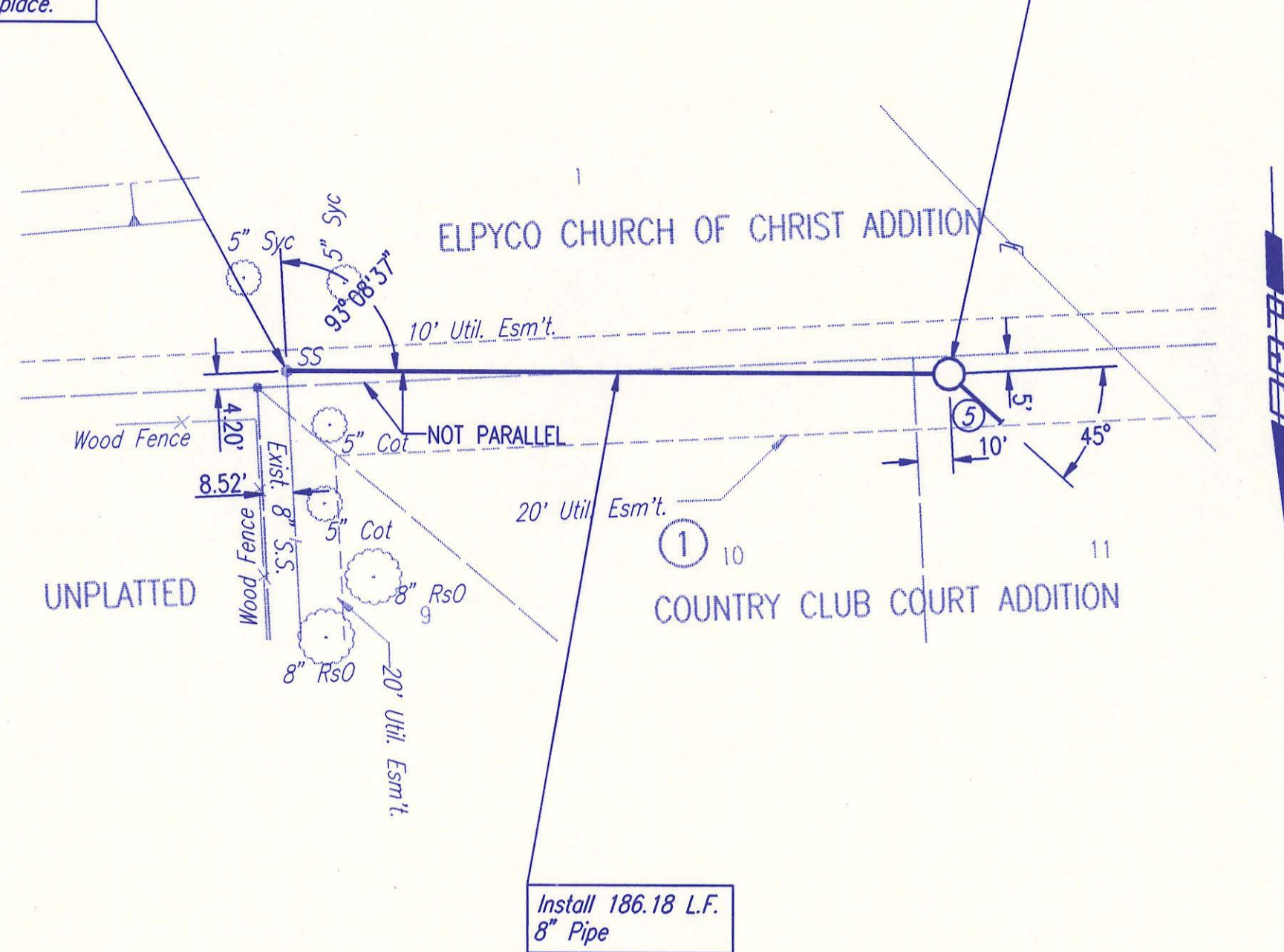
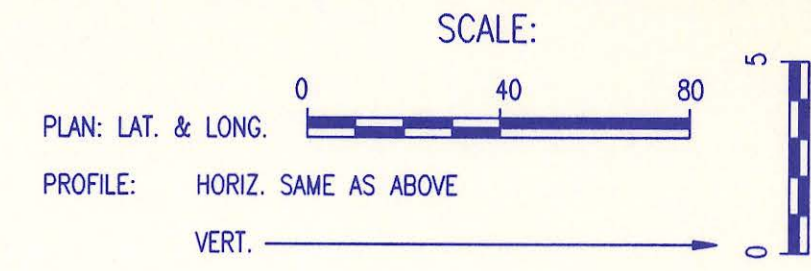
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS
Job No. 34-97631-1
Date October 1997
Designed By MDK
Drawn By BB
Sheet 7 of 11

Sta. 13+18.40
Existing MH 95-1-5
Core concrete MH wall and install new 8" pipe. Seal new 8" Pipe to MH with an approved waterstop gasket and quick-set hydraulic cement. Construct a minimum of 3' reinforced concrete encasement from MH wall. Reshape invert to provide smooth flow. This work shall be considered subsidiary to the price bid for pipe in place.

Sta. 15+04.58
Const. MH 95-1-6
Type A

Sta. 0+00.00
Existing MH 95-1-3
Core concrete MH wall and install new 8" pipe. Seal new 8" Pipe to MH with an approved waterstop gasket and quick-set hydraulic cement. Construct a minimum of 3' reinforced concrete encasement from MH wall. Reshape invert to provide smooth flow. This work shall be considered subsidiary to the price bid for pipe in place.

Sta. 0+52.22
Const. MH 95-2-1
Type A



Install 186.18 L.F. 8" Pipe

Install 52.22 L.F. 8" Pipe

① ②
DENOTES SEWER SERVICE. SEE SHEET NO. 6 FOR SEWER SERVICE SCHEDULE AND DETAILS

SANITARY SEWER PIPE SLOPES HAVE NOT BEEN REVISED TO REFLECT AS CONSTRUCTED CONDITIONS.

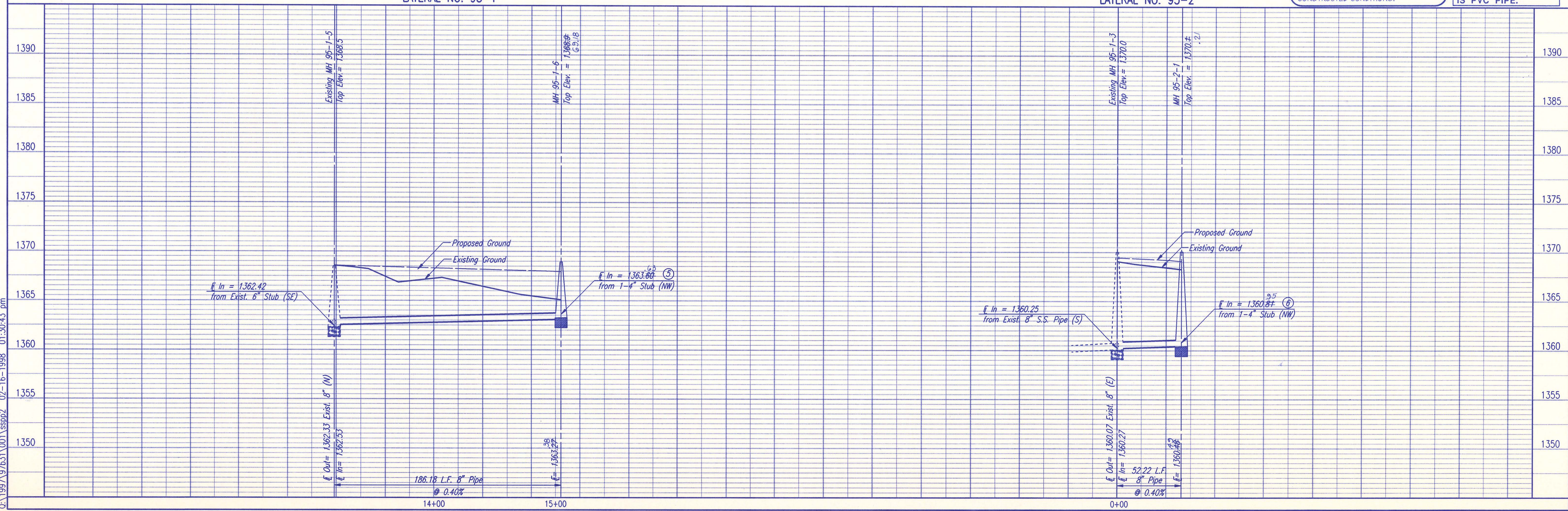
ALL PIPE INSTALLED IS PVC PIPE.

RECORD DRAWING



LATERAL NO. 95-1

LATERAL NO. 95-2



DSWR: MDK OPER: DEG SCALE: 1"=40.00
C:\1997\97631\001\sspp02_02-16-1998 01:30:43 pm

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

LATERAL NO. 95-1 AND 95-2
SANITARY SEWER MAIN
COUNTRY CLUB COURT ADDITION

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

Designed By: MDK
Drawn By: BB

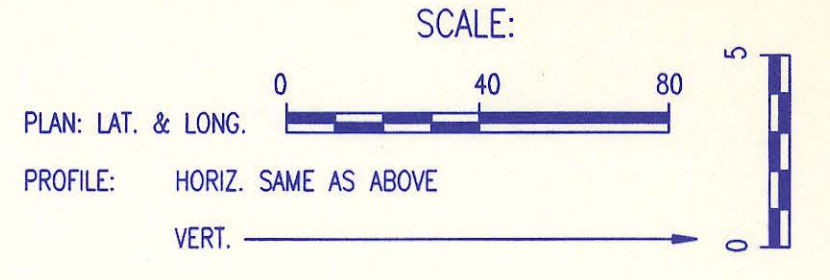
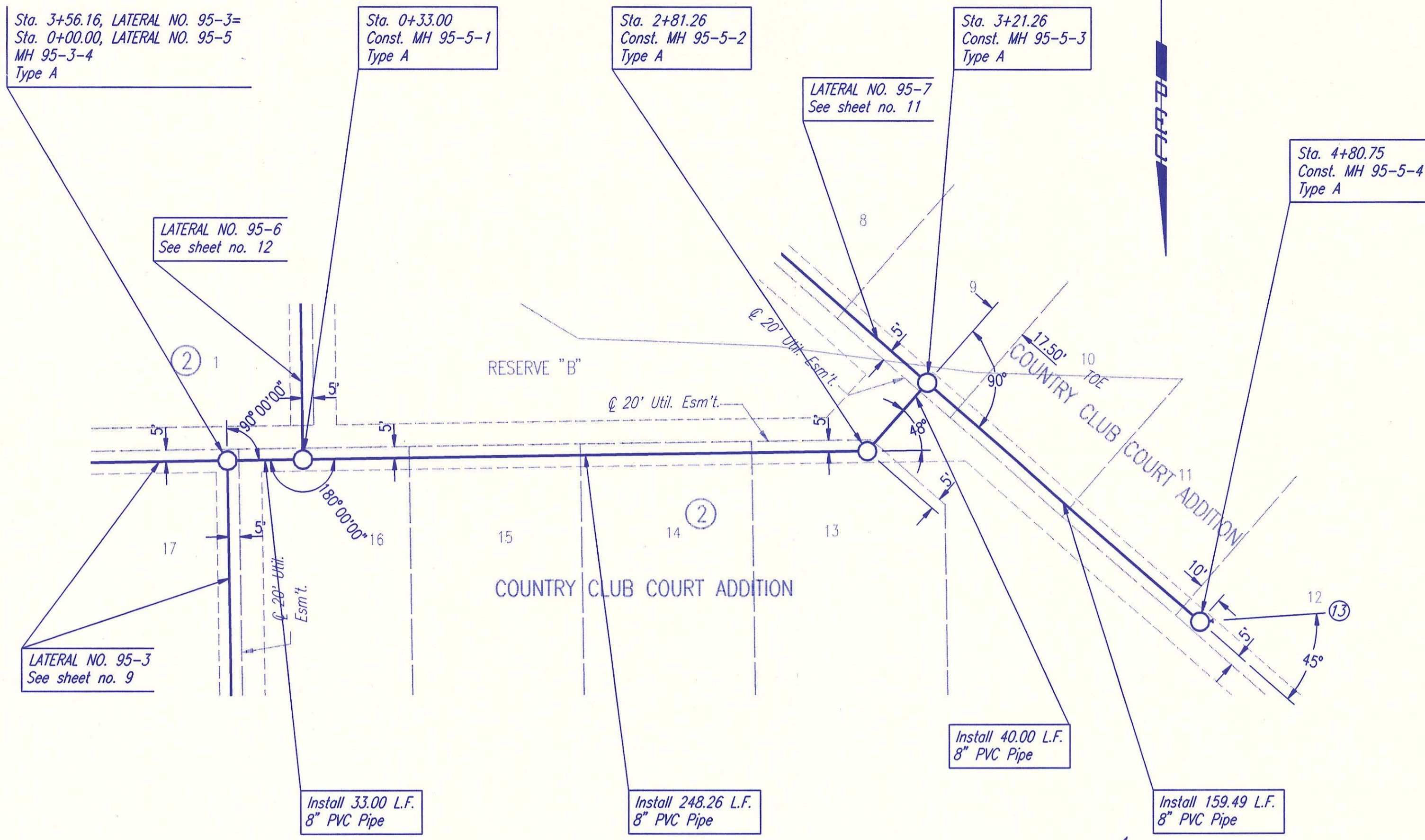
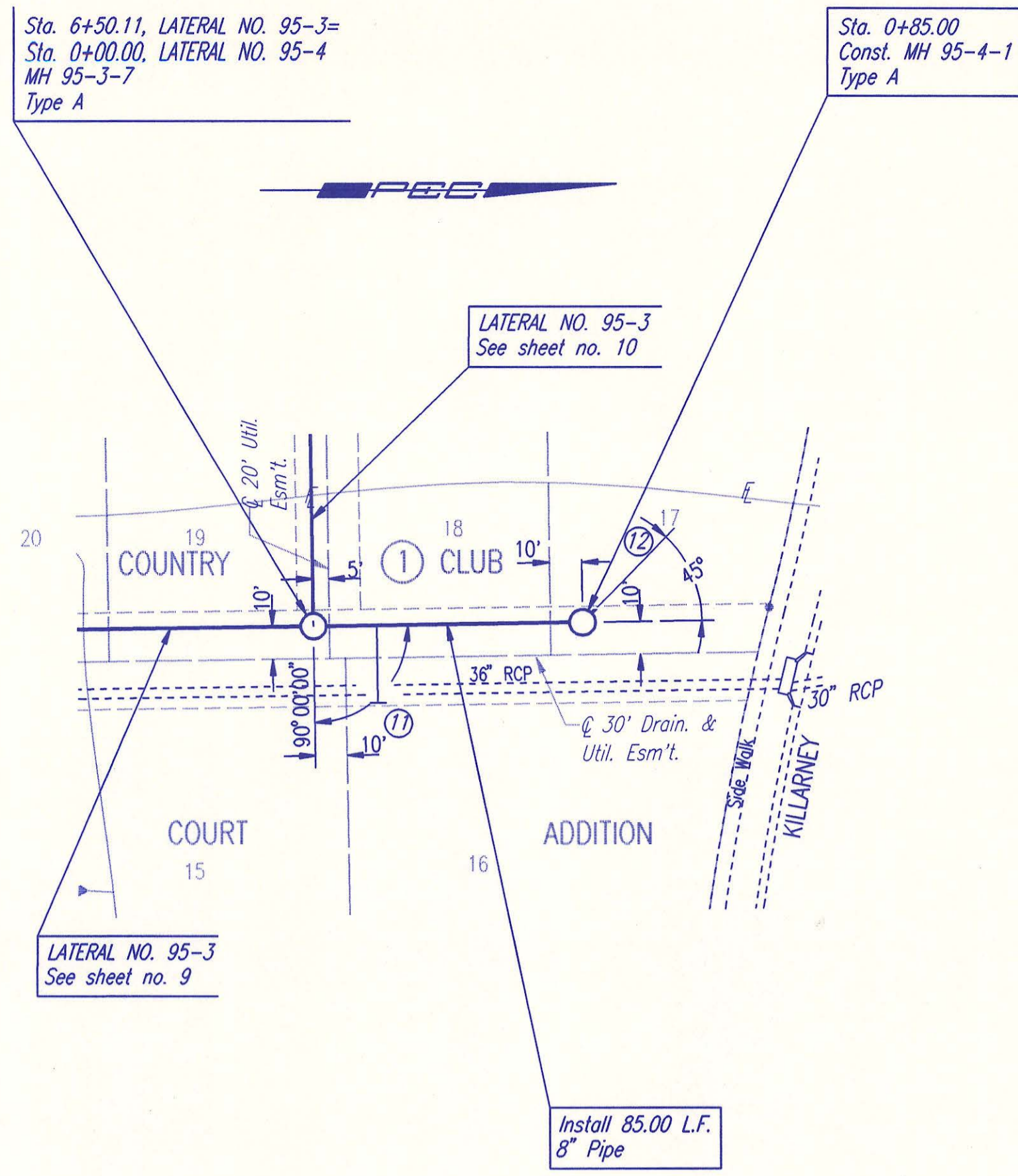
Job No. 34-97B31-1
Date: October, 1997

Sheet 8 of 11

PLAN	CHECKED	CHECKED
BY	DATE	

PROFILE	CHECKED	CHECKED
BY	DATE	

DSNR: MDK OPER: BB SCALE: 1=40.00
 Q:\1997\970331\001\sspp4 02-24-1998 05:20:07 pm



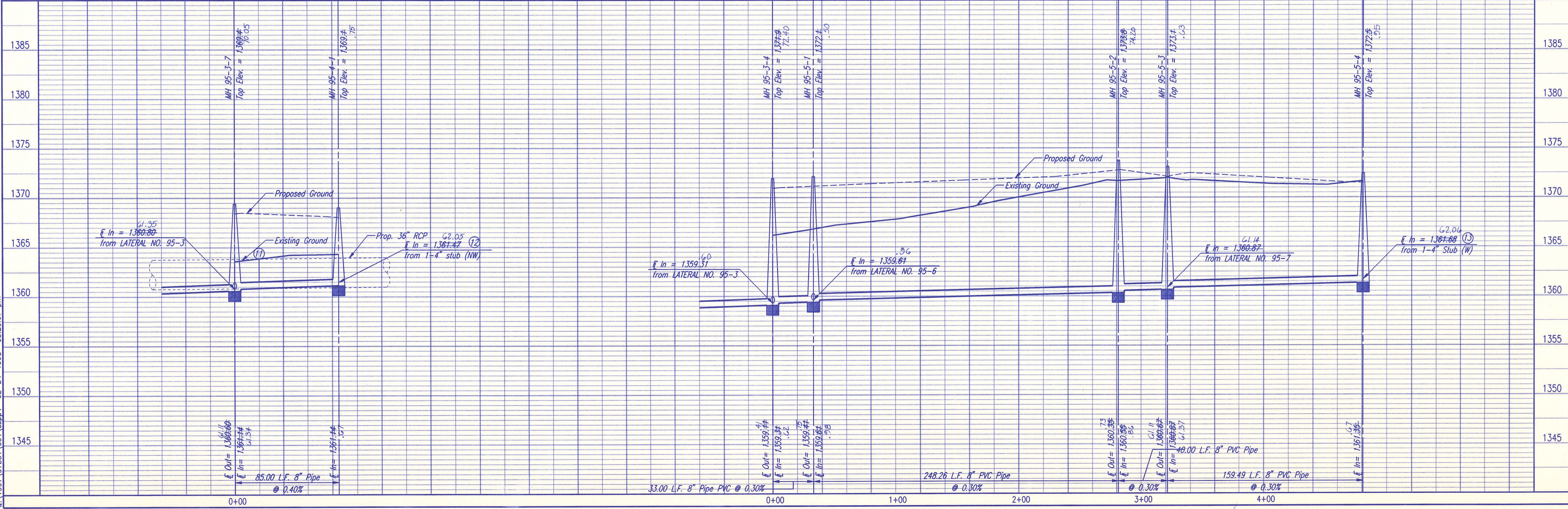
LATERAL NO. 95-4

LATERAL NO. 95-5

① DENOTES SEWER SERVICE. SEE SHEET NO. 6 FOR SEWER SERVICE SCHEDULE AND DETAILS

SANITARY SEWER PIPE SLOPES HAVE NOT BEEN REVISED TO REFLECT AS CONSTRUCTED CONDITIONS.

ALL PIPE INSTALLED IS PVC PIPE.



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

LATERAL NO. 95-4 AND 95-5
 SANITARY SEWER MAIN
 COUNTRY CLUB COURT ADDITION

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

Designed By: MDK
 Drawn By: BB

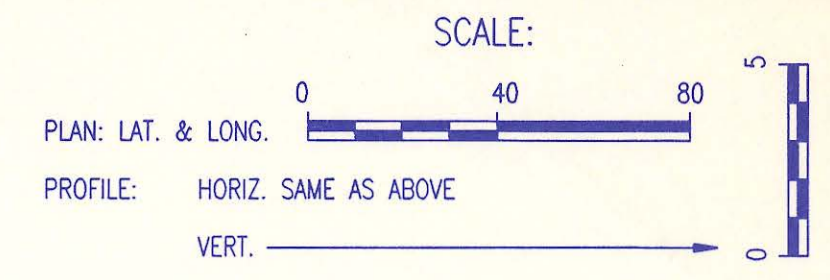
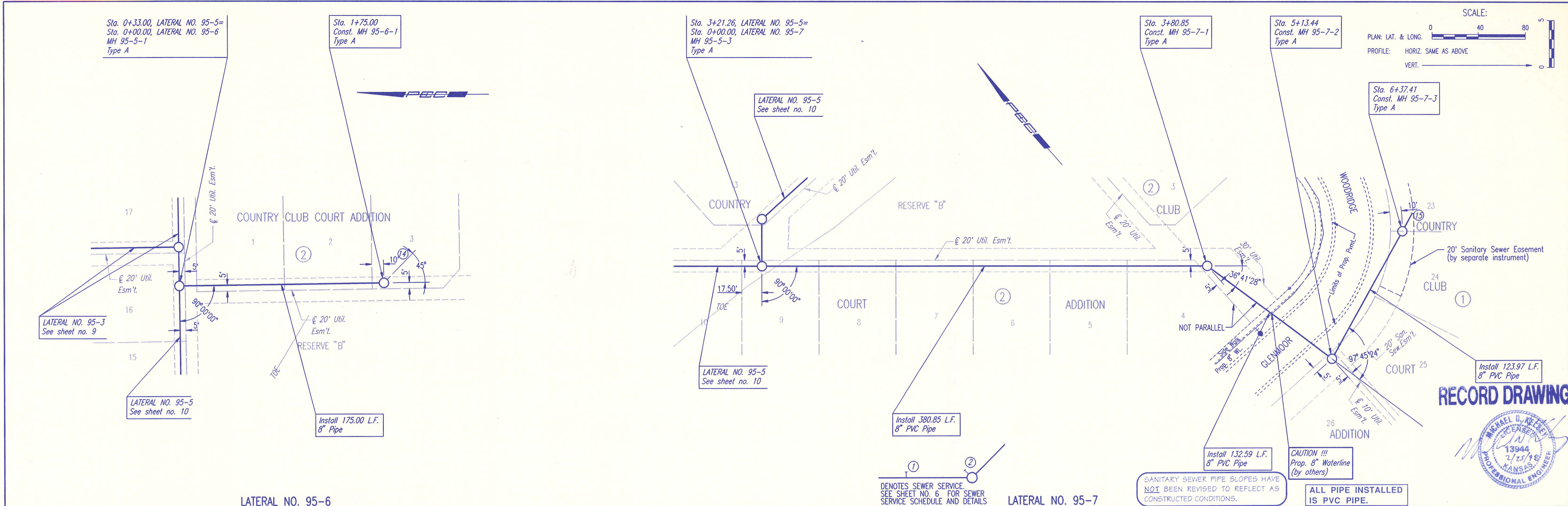
Job No. 34-97B31-1
 Date: October 1997

Sheet 10 of 11

DATE	
BY	
CHECKED	
CHECKED	
PLAN	

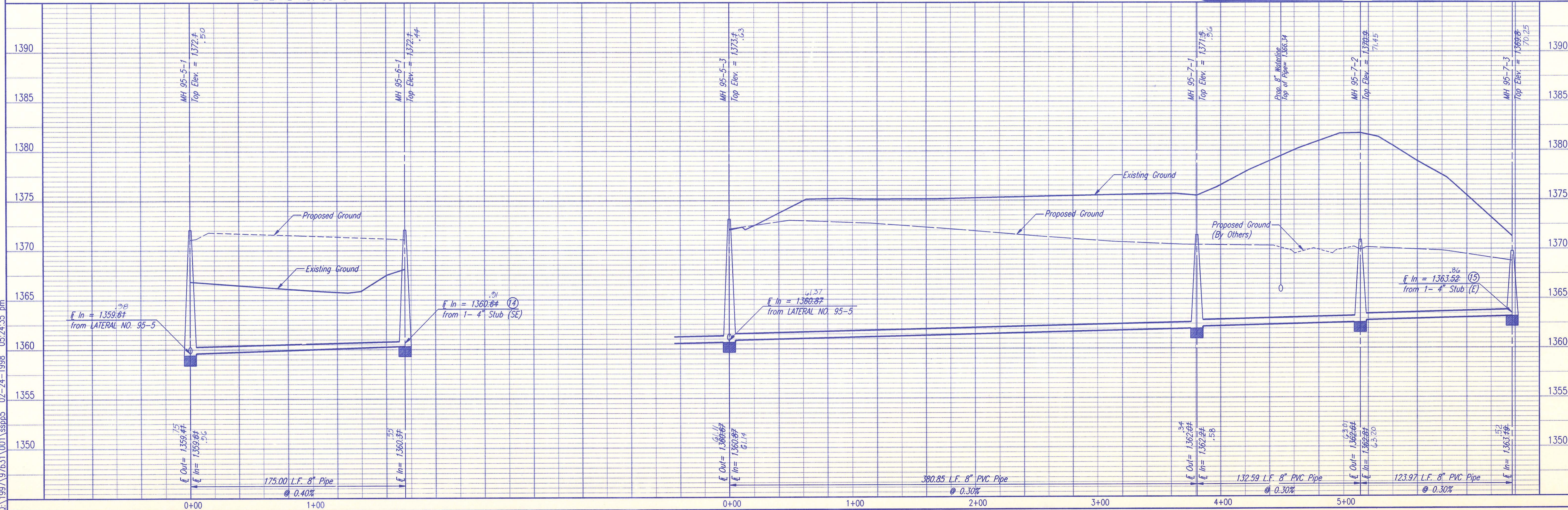
DATE	
BY	
CHECKED	
CHECKED	
PROFILE	

DSNR: MDK OPER: BB SCALE: 1"=40.00
 Q:\1997\97631\001\ssdp5 02-24-1998 05:24:35 pm



LATERAL NO. 95-6

LATERAL NO. 95-7



DENOTES SEWER SERVICE. SEE SHEET NO. 6 FOR SEWER SERVICE SCHEDULE AND DETAILS

SANITARY SEWER PIPE SLOPES HAVE NOT BEEN REVISED TO REFLECT AS CONSTRUCTED CONDITIONS.

ALL PIPE INSTALLED IS PVC PIPE.

RECORD DRAWING



SEDMICK COUNTY BUREAU OF PUBLIC SERVICES
 DIRECTOR, BUREAU OF PUBLIC SERVICES/COUNTY ENGINEER
LATERAL NO. 95-6 AND 95-7
 SANITARY SEWER MAIN
 COUNTRY CLUB COURT ADDITION

PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
 WICHITA, KANSAS

Job No. 34-97831-1
 Date October 1997

Designed By MDK
 Drawn By BB

Sheet 11 of 11