

RESOURCE LIST

GAS CO.
KANSAS GAS & ELECTRIC
 JIM STULTZ, P.E.
 1621 EAST 26TH STREET NORTH
 WICHITA, KANSAS 67218
 PH: (316) 622-3122

KANSAS DEPT. OF TRANSPORTATION
 DISTRICT FIVE - AREA ONE
 BEAUFORT P. TAYLOR - AREA ENGINEER
 3225 EAST 45TH STREET N
 WICHITA, KS. 67220-1432
 PH: (316) 744-1271
 FAX: (316) 672-3478

CIVIL ENGINEER
SPEAR & McCALEB CO., P.C.
 815 W. MAIN
 OKLAHOMA CITY, OK 73106
 TERRY HAYNES, P.E.
 PH: (405) 232-7715
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ELECTRIC
KANSAS GAS & ELECTRIC
 HANK VEGIJE
 1906 E. CENTRAL
 WICHITA, KANSAS 67261

WATER
CITY OF WICHITA & SEWER MAINTENANCE
 BILL PERKINS
 451 N. MAIN
 WICHITA, KANSAS

TELEPHONE
 SHIRT
 GREG SHARPE
 114 NORTH BROADWAY, ROOM 400
 WICHITA, KANSAS 67202
 PH: (316) 268-2245

BENCHMARKS

BM #1 - 1/2" BAR W/CLS #20 CAP
 @ N.W. PROPERTY CORNER
 OF WICHITA INN TRACT
 CITY ELEV= 120.77
 USGS ELEV= 1308.17

BM #2 - CHESELED "X" IN CONCRETE
 CURB @ S.W. CORNER OF WICHITA
 INN TRACT
 CITY ELEV= 118.87
 USGS ELEV= 1306.27

**LOCATION / DEMOLITION
 SANITARY SEWER PLAN**

WAL*MART

SUPERCENTER #1221-02

PROJECT NUMBER 1317 PPS (607861)

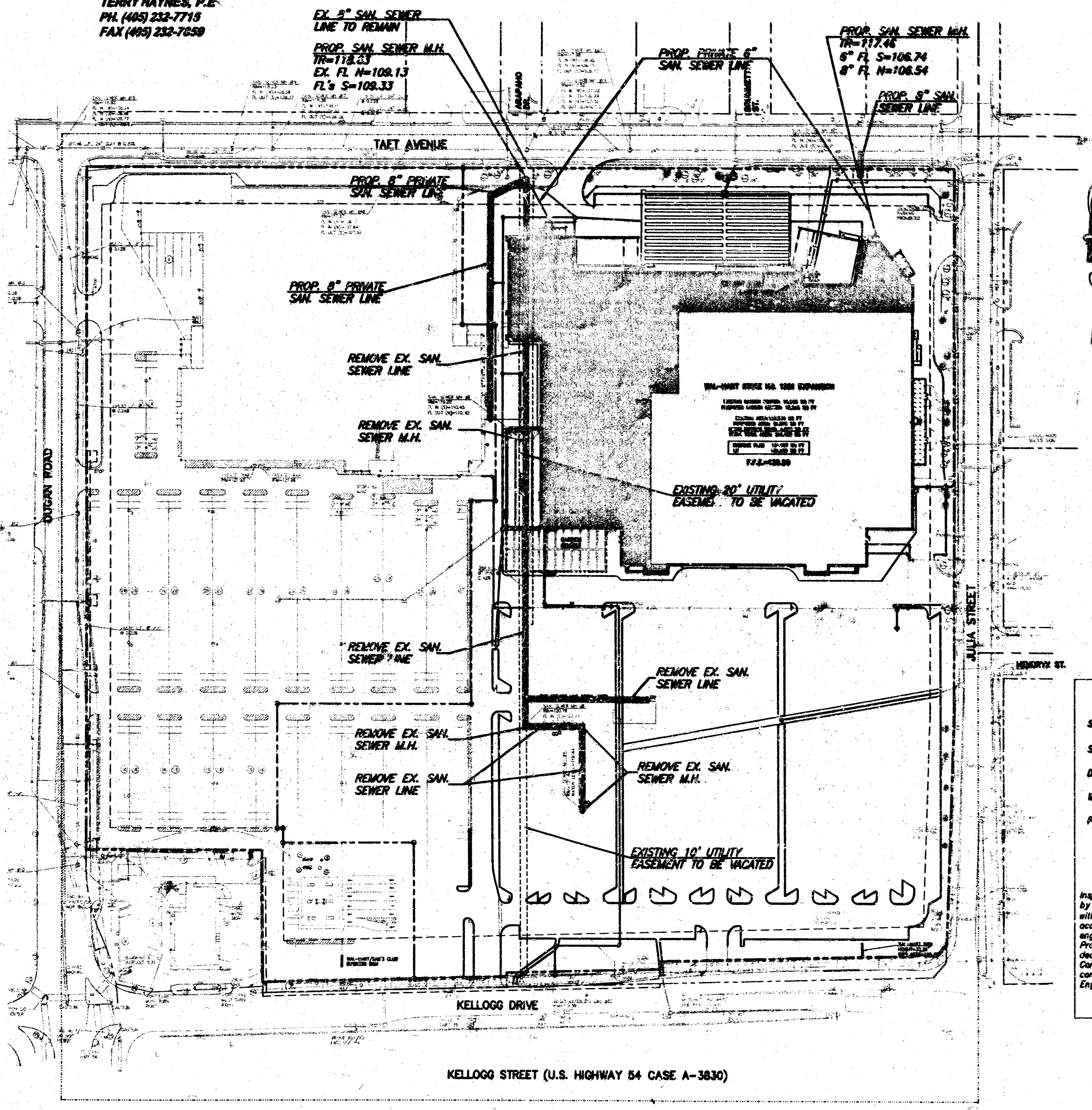
CITY OF WICHITA, KANSAS

NEIL D. CABLE, P.E. CITY ENGINEER

FEBRUARY 2003,

Legal Description

Lots 1 & 2, Block 1
 The Landing 2nd Addition
 Wichita, Sedgwick County, Kansas



APPROVED AS SHOWN
 BY CITY ENGINEER OF WICHITA
 Sanitary Sewer VRH 3/10/03
 Storm Sewer _____
 Driveway Approaches _____
 Water Mains _____
 Parking _____

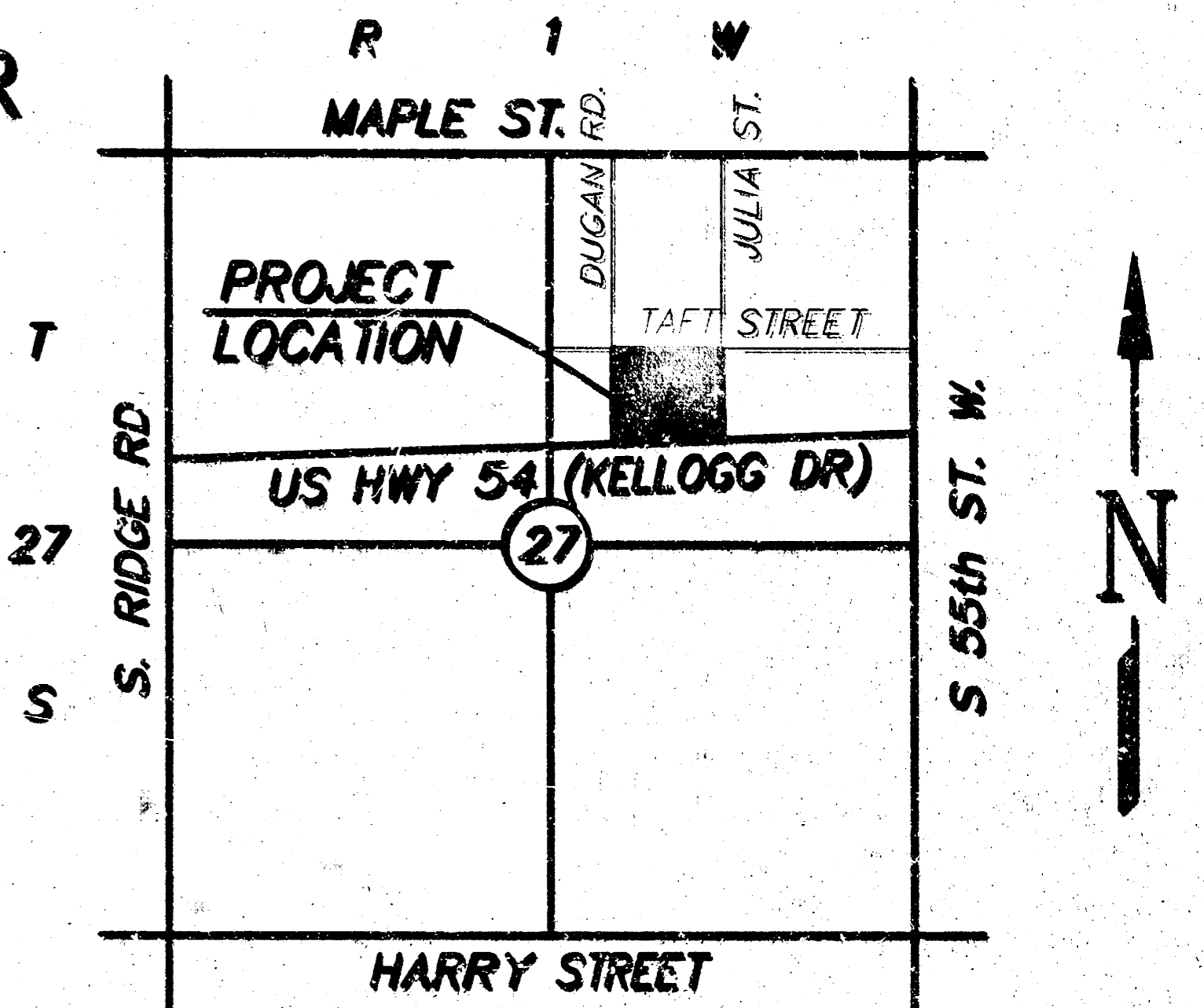
NOTE TO CONTRACTORS
 Inspection and Testing for this project are to be provided by a Licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection to be in accordance with the City of Wichita standard construction engineering practices and certified by a Licensed Professional Engineer. No work shall be performed in dedicated easements or public right-of-way by the Contractor without such inspection, nor shall any work be commenced without written authorization by the City Engineer.

SHEET INDEX

- SS1 SANITARY SEWER PLAN
- SS2 SANITARY SEWER PLAN & PROFILE
- SS3 SANITARY SEWER DETAILS
- SS4 MISCELLANEOUS SANITARY DETAILS

General Notes

1. Contractor will be required to provide notice to utility companies a minimum of forty-eight (48) hours prior to any excavation, as follows:
 Kansas Gas-Cut 687-2470
 The Contractor must notify the following in case of an emergency:
 Cox Communications 252-0681
 Kansas Gas Service Company 343-8800
 Kansas Gas & Electric Company 383-8800
 Republic Gas Company 7-800-251-0357
 Southwestern Bell Telephone Company 1-800-870-8390
 City of Wichita Sewer Department 262-0200
 City of Wichita 262-4077
2. All disturbed R/W areas not intended for pavement or sidewalk construction shall be seeded with Kansas Premium Fescue Seed at a rate of 8 lb./1000 Sq. Ft. fertilized with a 16-20-8 ratio at a rate of 4 lb./1000 Sq. Ft. and mulched with Prairie Hay at a rate of 92 lb./1000 Sq. Ft. Mulch shall be "patted" with forks or punched into soil to reduce loss due to wind.
3. Utility service lines, poles, water boxes, meters, etc. are to be adjusted as necessary by others prior to construction unless the plans specifically call for their adjustment by the Contractor or unless the plans specifically identify a utility to be relocated by the owner during construction. Existing utilities and their location, as shown on the plans represent the best information obtainable for design and shall be well verified. The contractor will be required to work around existing utilities which the right-of-way which do not conflict with proposed construction.
4. 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 for direct and this cost shall be considered as subsidiary to the other pay items of work.
5. Contractor shall not start work on the project until the project inspector is assigned to the project and is present on the site. Contractor shall not start on the project until all necessary permits and approvals have been obtained. Any work done without inspection will be required to be uncovered for inspection.
6. Rubble from the removal of miscellaneous structures and excess excavation which is to be wasted shall be disposed of on sites to be provided by the Contractor. These sites shall be approved by the Engineer or to suitability, appearance and site location. Locations that, in the opinion of the Engineer, will cause an unsightly appearance will not be approved. All disposal sites must be approved by the Kansas Department of Health and Environment. Material either stockpiled or disposed of in a flood plain would require a Kansas State Board of Agriculture permit. Any material dumped in waters of the United States or wetlands is subject to U.S. Corps of Engineers permitting regulations. Any material buried or stockpiled beyond approved construction limits would require additional archaeological investigations unless buried in a previously approved borrow location.
7. Cuts made to paved surfaces on public property will be repaired by the City's contractor and charged against the contractor's bid and cost items are outside from the City of (316) 268-6418. A surcharge may be applicable call (316) 268-6418 for details. Repair costs to be paid prior to release of water service if water service is affected.
8. The fee for proposed 6" building sanitary sewer service line to be connected to the sewer mainline must be included by a licensed sewer contractor with permits and inspections from the office of Central Inspection (CI). The CI sewer permits cannot be issued until the work extensions have been released by the City Engineer's office.



**LOCATION MAP
 NOT TO SCALE**

11/05/03
 RDL
 .PDF

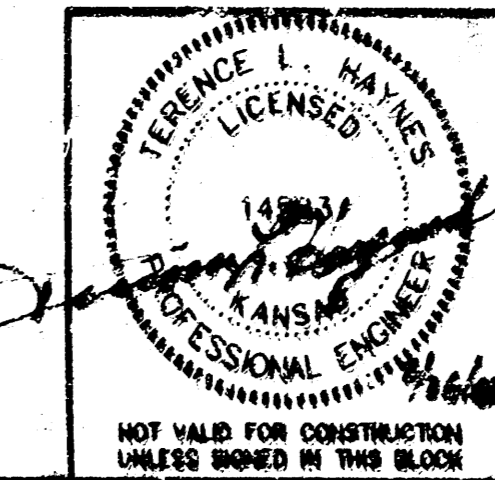
"ASBUILT"

**LOCATION / DEMOLITION
 SANITARY SEWER PLAN**
 KELLOGG STREET & JULIA STREET
 SUPERCENTER #1221-02
 CITY OF WICHITA
 SEDGWICK COUNTY, KANSAS

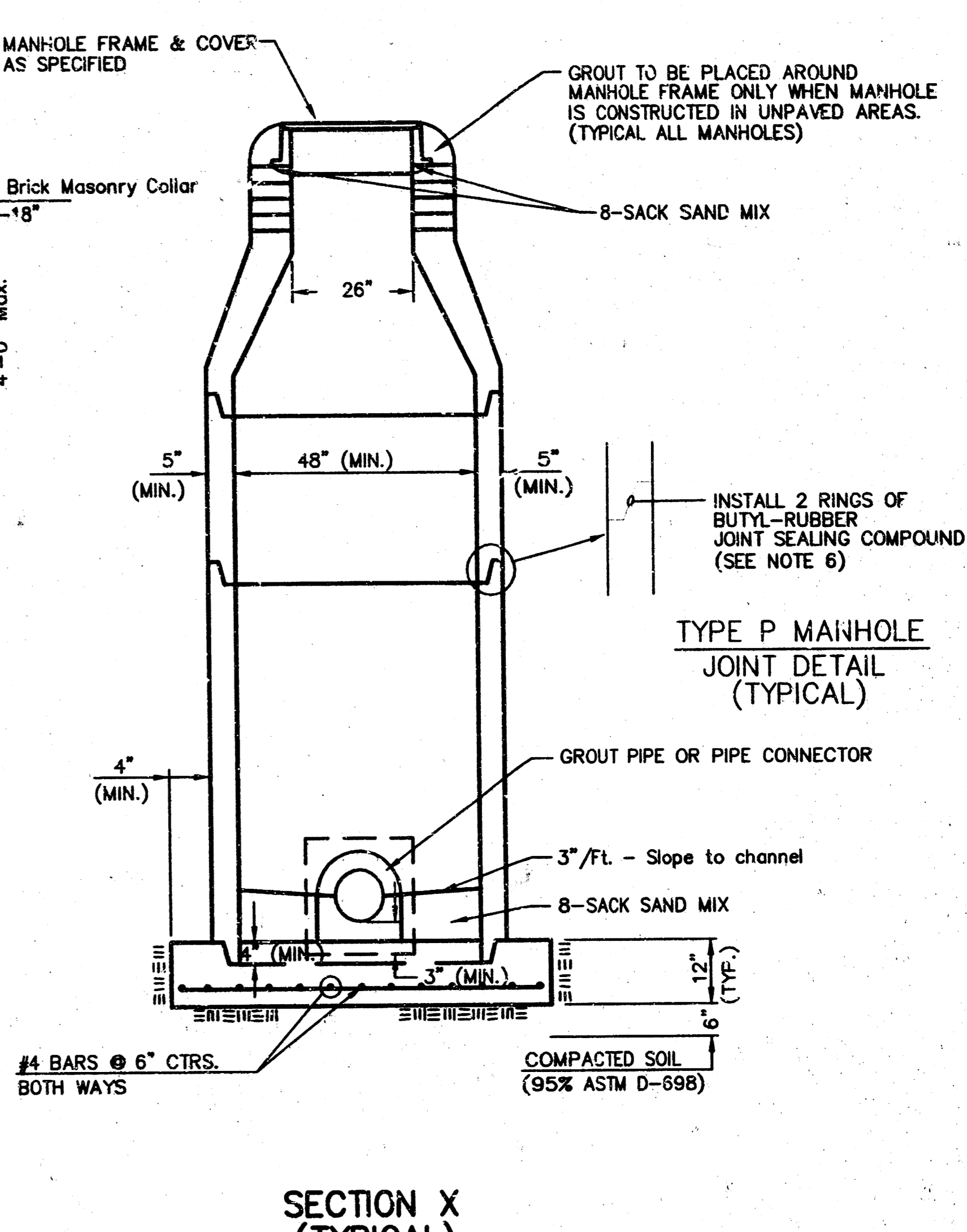
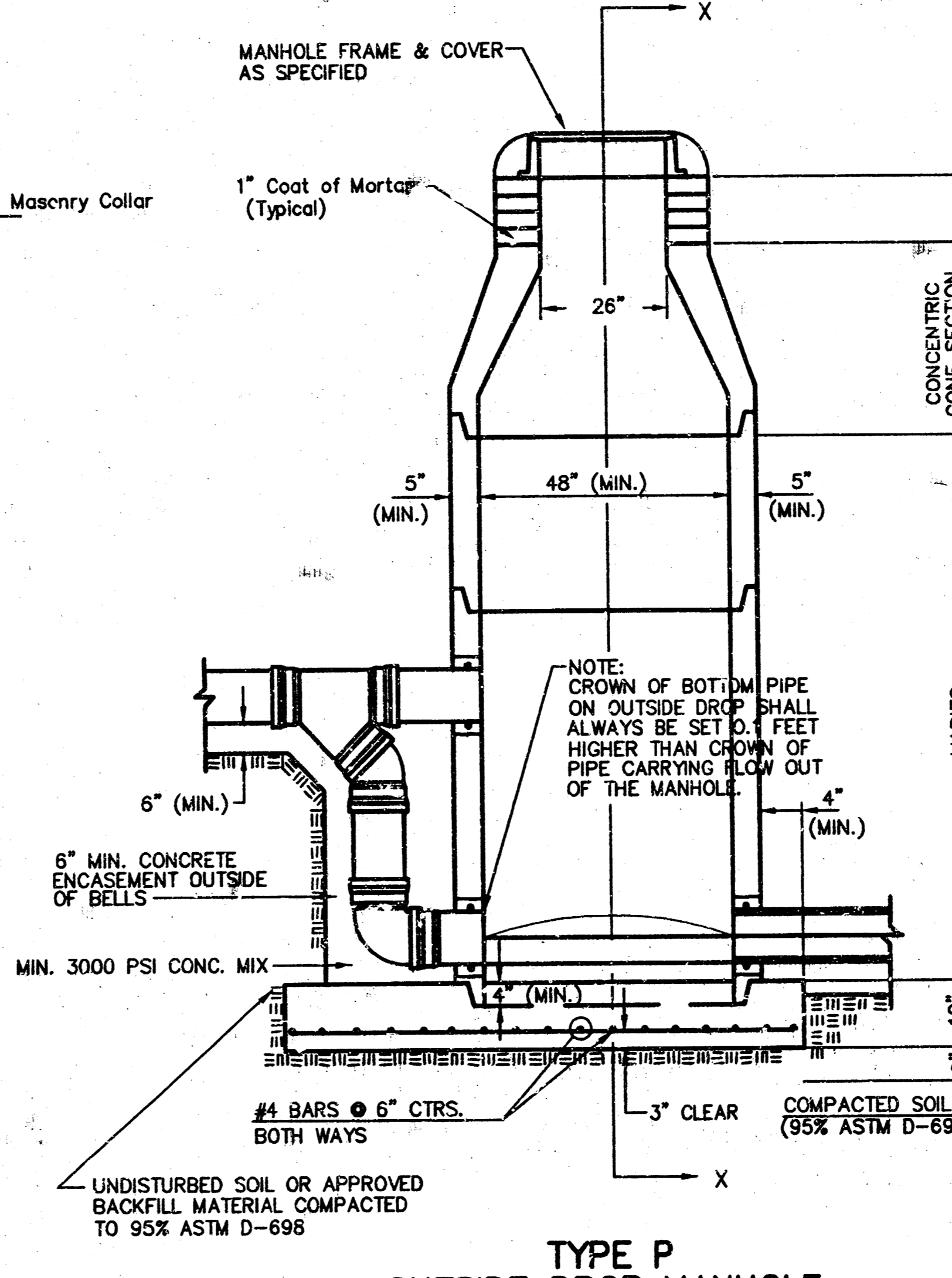
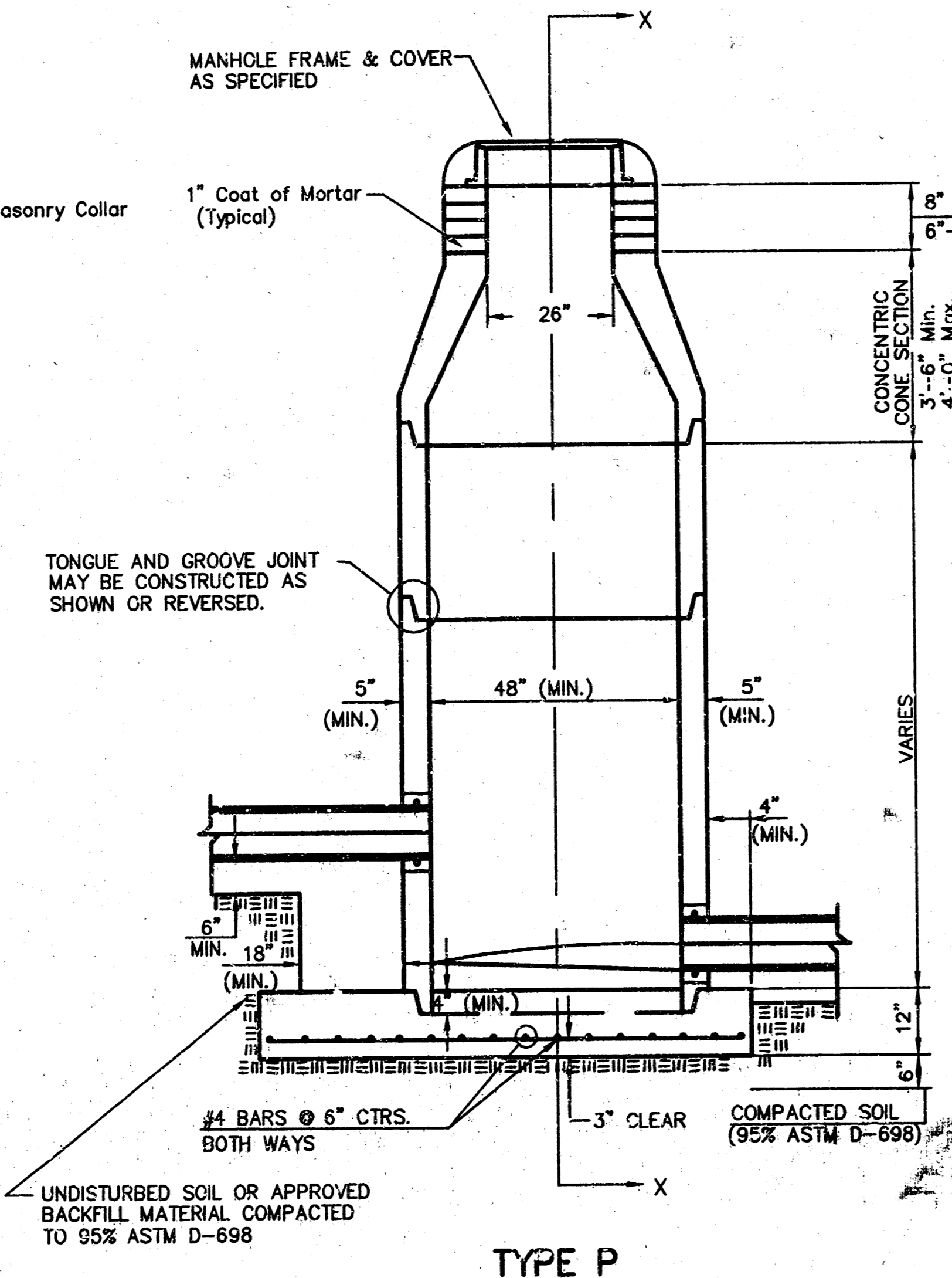
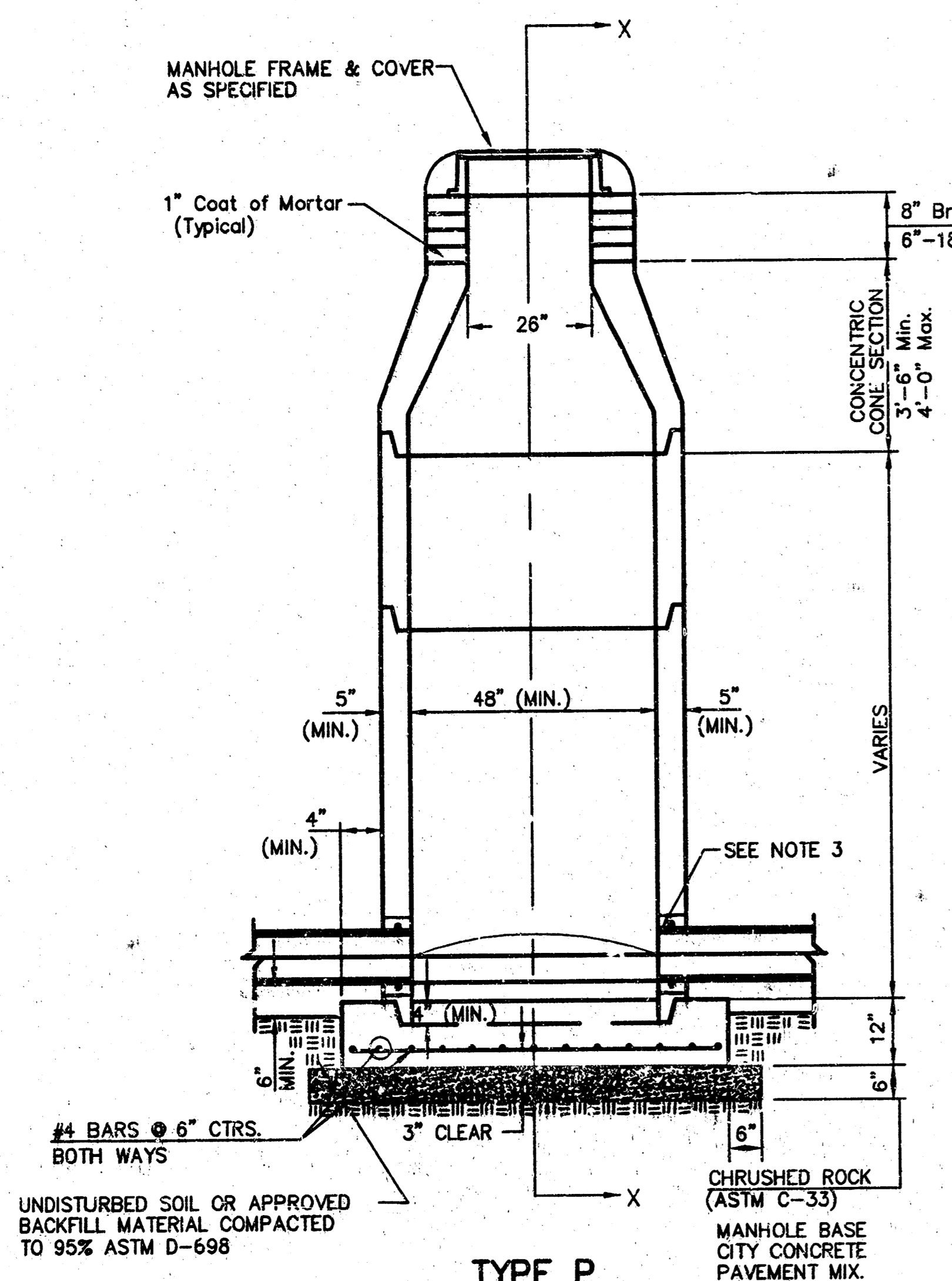
SPEAR & McCALEB CO., P.C.
 815 West Main - Oklahoma City, OK 73108
 PH: 405-232-7715 Fax: 405-232-7659
 KANSAS CERTIFICATE OF AUTHORIZATION NO. E-333 EXP. DEC. 2002

SMC

DATE: 01/14/03	SCALE: N.T.S.	SHEET NO.
DRAWN BY: KST		SS1
PROJECT NO: 3818		
ENGINEER: TERENCE L. HAYNES, P.E. #14583		



SEWER APPURTENANCES DETAILS

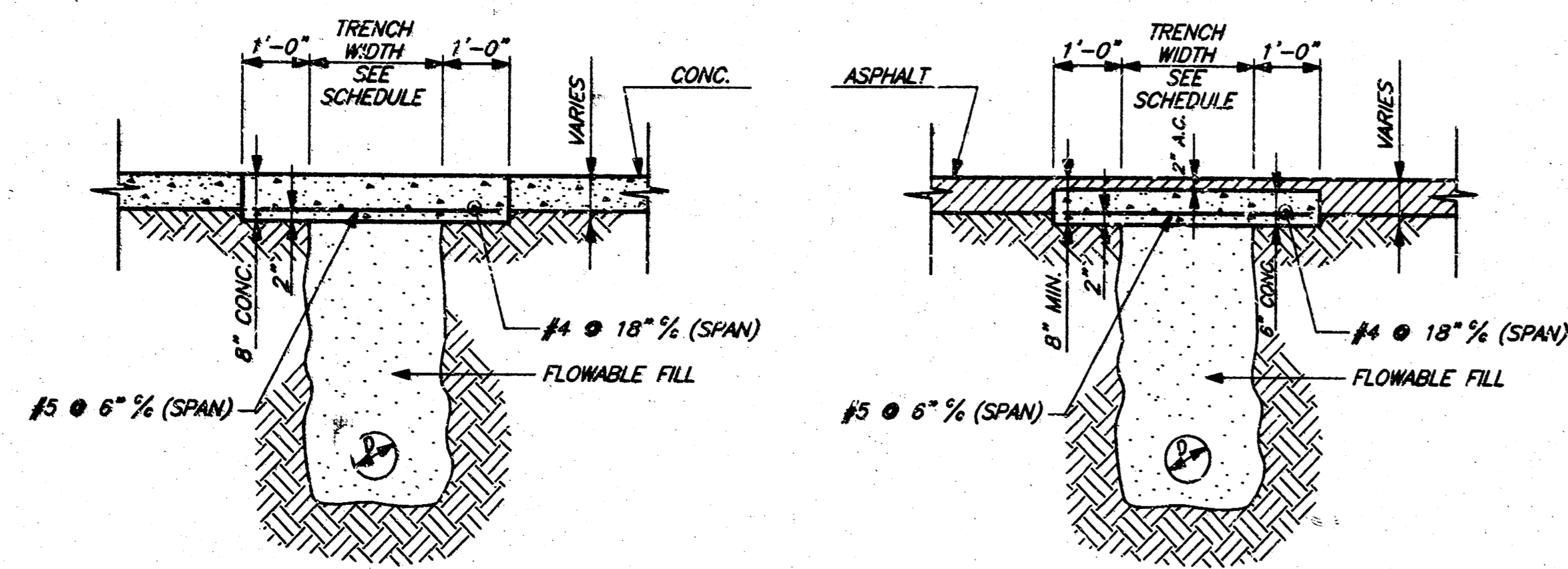


GENERAL NOTES

- PRECAST MANHOLE NOTES
- ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISIONS OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
 - NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
 - APPROVED FLEXIBLE WATERSTOP GASKETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN A.B.S. COMPOSITE PIPE OR P.V.C. PIPE IS USED. FOR OTHER TYPES OF PIPE THE SEWER PIPE SHALL BE GROUDED IN PLACE WITH NON-SHRINK GROUT. THE SEWER PIPE SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.P.C. SUCH THAT THE JOINT REMAINS FLEXIBLE.
 - ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS THEMEC SERIES 66 HI-BUILD EPOXYLINE, DRY THICKNESS OF 8 MILS (MIN.).
 - EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINOUS COATING.
 - JOINT SEALING COMPOUND SHALL BE KENT SEAL NO. 2 OR APPROVED EQUAL.
 - PRECAST MANHOLES SHALL BE SET AT LEAST 4 INCHES INTO THE MANHOLE BASE.
 - 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.
 - LIFTING HOLES SHALL BE FILLED WITH NON-SHRINK GROUT AND THE INTERIOR SURFACE COATED AS SPECIFIED.
 - MORTAR USED IN MASONRY CONSTRUCTION SHALL CONTAIN 8 SACKS OF CEMENT PER CUBIC YARD. CONCRETE USED IN MANHOLE BASES SHALL CONFORM TO THE REQUIREMENTS OF CONCRETE FOR CONCRETE PAVING CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN ON THE DRAWINGS WHEN MANHOLES ARE CONSTRUCTED IN UNPAVED AREAS. MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE SMALLER THAN 24" SHALL HAVE AN INSIDE DIAMETER OF 4". MANHOLES CONSTRUCTED WHERE PIPE SIZES ARE 24" OR LARGER SHALL HAVE AN INSIDE DIAMETER OF 5". COMPLETED MANHOLE SHALL BE WITHOUT LEAKS AND WATER TIGHT.
 - REINFORCING STEEL SHALL BE INSTALLED IN THE MANHOLE BASES AND SHALL CONSIST OF NO. 4 BARS PLACED ON CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
 - OPENINGS SHALL BE CUT INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS CUT INTO EXISTING MANHOLES SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUDED THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. AND A.B.S. COMPOSITE PIPE. THE NEW PIPE SHALL BE GROUDED INTO THE OPENING USING AN APPROVED NONSHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. FLOOR OF MANHOLE SHALL BE MODIFIED TO FORM NEW FLOW CHANNEL FOR THE NEW CONNECTION AS INDICATED BY THE DRAWING. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR OUTSIDE DROP STACK CONSTRUCTED ON EXISTING MANHOLE.
 - THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPES. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS EXCEPT FOR INSIDE DROP MANHOLES. FLOW CHANNELS FOR INSIDE DROP MANHOLES SHALL BE CONSTRUCTED AS INDICATED BY THE DRAWING. MANHOLE FLOORS SHALL HAVE SLOPES OF 3 INCHES PER FOOT IN THE AREAS OUTSIDE OF THE FLOW CHANNELS SLOPED TOWARD THE FLOW CHANNELS. PIPES LAID THROUGH MANHOLES SHALL HAVE THE TOP HALF REMOVED TO NEAT LINES FOR THE FULL INSIDE DIAMETER OF THE MANHOLE. MANHOLE FLOORS SHALL THEN BE SHAPED AROUND THE BOTTOM HALF OF THE PIPE WHICH FORMS THE FLOW CHANNEL.
 - PIPES INSTALLED WITHIN THE EXCAVATION MADE FOR THE MANHOLE SHALL BE CRADLED WITH CONCRETE TO THE LIMITS OF THE MANHOLE EXCAVATION. WHEN CLAY PIPE IS USED, THE CRADLE SHALL EXTEND TO THE FIRST JOINT OUTSIDE THE MANHOLE. THE CRADLE SHALL BE TERMINATED AT THE CLAY PIPE JOINT IN A MANNER WHICH WILL MAINTAIN THE FLEXIBILITY OF THE JOINT. COST OF CRADLE WITHIN MANHOLE EXCAVATION OR TO CLAY PIPE JOINTS ADJACENT TO MANHOLE SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
 - MANHOLE COVER CASTINGS AND MANHOLE FRAME CASTINGS SHALL CONFORM TO THE REQUIREMENTS AS INDICATED IN THE STANDARD SPECIFICATIONS AND AS SHOWN IN THE STANDARD DETAIL DRAWING.
 - THE VERTICAL DROP IN INSIDE DROP MANHOLES SHALL NOT EXCEED 2' FOR INFLOWING PIPES SIZED 12" OR SMALLER AND 2' FOR INFLOWING PIPES LARGER THAN 12". THE CROWNS OF INFLOWING PIPES SHALL NEVER BE SET LOWER THAN THE CROWN OF THE OUTFLOWING PIPE.
 - STANDARD MANHOLES AND STANDARD INSIDE DROP MANHOLES SHALL BE BID AS STANDARD MANHOLES FOR THE TYPE AND DIAMETER INDICATED. OUTSIDE DROP MANHOLES SHALL BE BID AS STANDARD OUTSIDE DROP MANHOLES FOR THE TYPE AND DIAMETER INDICATED. ALL MANHOLE DIAMETERS WILL BE 4' UNLESS INDICATED OTHERWISE.
 - A BRICK MASONRY COLLAR SHALL BE INSTALLED BETWEEN THE CAST IRON FRAME AND THE CONCENTRIC CONE. THE COLLAR WILL HAVE 8" WALLS AND A VERTICAL HEIGHT OF 6" MINIMUM AND 18" MAXIMUM. A 1" COAT OF MORTAR WILL BE PLASTERED ON THE OUTSIDE OF THE COLLAR. THE USE OF PRE-CAST CONCRETE SPACERS FOR MANHOLE TOP ADJUSTMENT IS ALSO ALLOWED.
 - CHURSHED ROCK CONFORMING TO ASTM C-33 WITH A GRADATION OF NO. 67 SHALL BE INSTALLED AT THE BASE OF THE MANHOLE TO A DEPTH OF NO LESS THAN 6" AND SHALL EXTEND NO LESS THAN 6" OUTSIDE THE DIAMETER OF THE CONCRETE FLOOR OF THE MANHOLE.

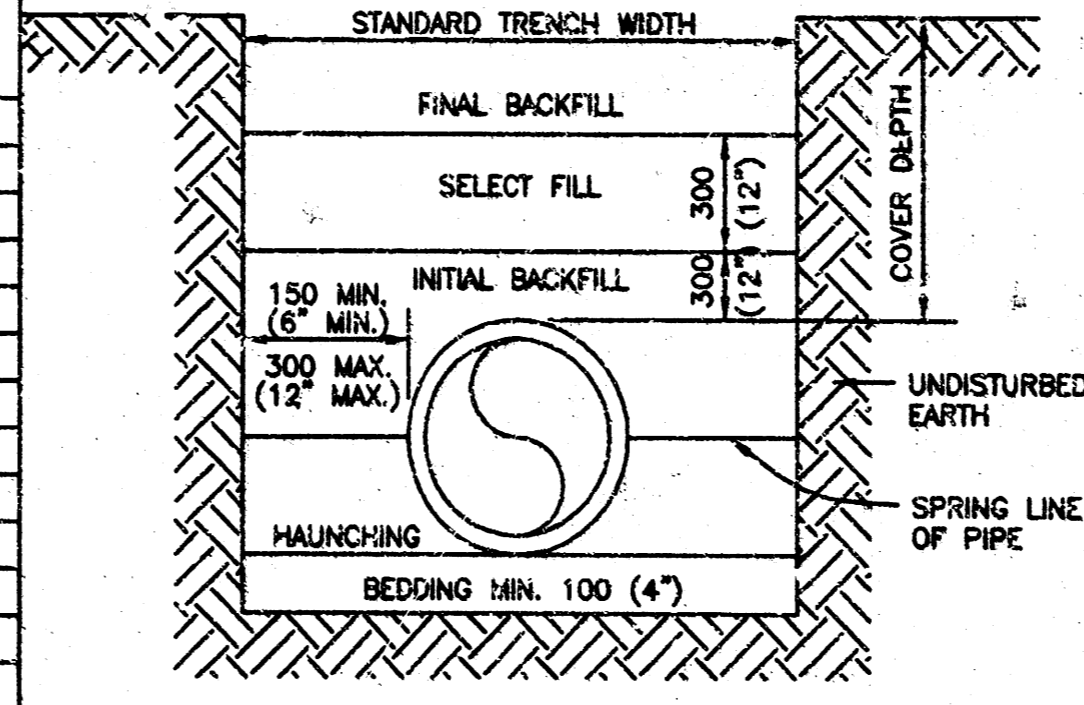
<p>THE CITY OF WICHITA</p> <p>CITY ENGINEER'S OFFICE</p> <p>CITY HALL - SEVENTH FLOOR</p> <p>100 SOUTH MAIN STREET</p> <p>WICHITA, KANSAS 67202</p> <p>(316) 266-1114 FAX</p>	<p>STANDARD</p> <p>TYPE 'P'</p> <p>MANHOLES</p>	
	<p>NEIL D. CABLE, P.E. - CITY ENGINEER</p>	
	<p>PROJECT NUMBER</p> <p>XXX-XXXX</p>	<p>INDEX CODE</p> <p>XXXXXX</p>
	<p>DATE</p> <p>MAR 98</p>	<p>SHEET NO. SS3</p>

ASBUILT



TYPICAL SECTION PAVING CUTS AND PERMANENT REPAIRS
(TAFT AVENUE)

PIPE INSIDE DIAMETER		STANDARD TRENCH WIDTH	
MM	IN.	MM	IN.
150	6	450	18
200	8	600	24
250	10	750	30
300	12	900	36
375	15	900	36
450	18	900	36
525	21	1,050	42
600	24	1,050	42
675	27	1,200	48
750	30	1,200	48
900	36	1,350	54
1,050	42	1,500	60
1,200	48	1,650	66



BACKFILL DESCRIPTION	NON-PAVED AREAS			PAVED AREAS (See Note 6)		
	PVC	DUCTILE IRON	H D P E	PVC	DUCTILE IRON	H D P E
FINAL BACKFILL	EXCAVATED MATERIAL	EXCAVATED MATERIAL	EXCAVATED MATERIAL	SBM	SBM	SBM
SELECT BACKFILL	SELECT FILL	SELECT FILL	SELECT FILL	SBM	SBM	SBM
INITIAL BACKFILL	COVER ≤ 10" SAND OR SBM > 10" SBM	SELECT FILL	COVER ≤ 10" SAND OR SBM > 10" SBM	SBM	SBM	SBM
HAUNCHING	COVER ≤ 10" SAND OR SBM > 10" SBM	SELECT FILL	COVER ≤ 10" SAND OR SBM > 10" SBM	SBM	SBM	SBM
BEDDING	See Note 5	See Note 5	See Note 5	See Note 5	See Note 5	See Note 5

- NOTES:
- INSTALLATION AND BACK FILLING SHALL MEET MANUFACTURERS RECOMMENDATIONS.
 - SELECT FILL CONSISTS OF EXCAVATED MATERIALS CONTAINING NO ROCKS LARGER THAN 50 MM (2").
 - STANDARD BEDDING MATERIAL (SBM) SHALL CONFORM KDOT, TYPE AB-3 AGGREGATE BASE OR FLOWABLE FILL PER CITY OF WICHITA STANDARDS.
 - COMPACTION REQUIREMENTS:
 - 95% MAXIMUM STANDARD PROCTOR DENSITY IN ACCORDANCE WITH ASTM D698.
 - BEDDING SHALL BE 100 MM (4") SAND OR TYPE AB-3 AGGREGATE BASE.
 - IN SANDY SOIL, CONTRACTOR MAY BACKFILL WITH NATIVE MATERIAL AND USE WARNING TAPE 18" ABOVE PIPE.
 - NO WATER JETTING ALLOWED.
 - THE BACKFILL MATERIAL SHALL EXTEND A MINIMUM OF 2-FEET BEHIND THE BACK OF CURB, OR THE EDGE OF PAVEMENT WHERE NO CURB EXISTS.
- METRIC UNITS ARE IN MM WITH ENGLISH UNITS IN PARENTHESIS, UNLESS INDICATED OTHERWISE.

PIPE TRENCHING AND BEDDING

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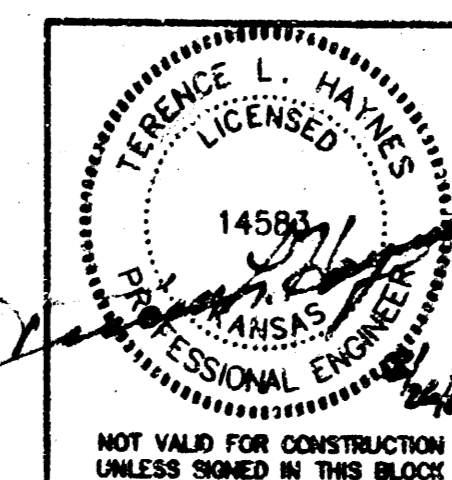
(PRIVATE) SANITARY SEWER DETAILS

WAL-MART EXPANSION #1221-02

KELLOGG STREET & JULIA STREET
WICHITA, KANSAS

SPEAR & McCALEB CO., P.C. **SMC**
815 West Main - Oklahoma City, OK 73106
PH: 405-232-7715 Fax: 405-232-7859
KANSAS CERTIFICATE OF AUTHORIZATION NO. E-335 EXP. DEC. 2004

DATE: 01/30/03	SCALE: N.T.S.	SHEET NO. SS4
DRAWN BY: KST	PROJECT NO.: 3815	ENGINEER:



"ASBUILTS" 18 12 05 03