

GAS CO.
KANSAS GAS & ELECTRIC
JIM STULTZ, P.E.
1021 EAST 26TH STREET NORTH
WICHITA, KANSAS 67219
PH: (316) 82-3122

KANSAS DEPT. OF TRANSPORTATION
DISTRICT FIVE - AREA ONE
BEANY P. TARVERD - AREA ENGINEER
3500 EAST 45TH STREET N
WICHITA, KS. 67220-1432
PH: (316) 744-1271
FAX: (620) 673-7478

CIVIL ENGINEER
SPEAR & McCALEB CO., P.C.
813 W. MAIN
OKLAHOMA CITY, OK 73108
TERRY HAYNES, P.E.
PH. (405) 232-7715
FAX (405) 232-7659

BM-83 - 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- CHISELED "X" IN CONCRETE
CURB @ S.W. CORNER OF WICHTA
INN TRACT
CITY ELEV= 118.87
USGS ELEV= 1306.27

WAL★MART

PROJECT NUMBER 1317 PPS (607861)

NEIL D. CABLE, P.E. CITY ENGINEER

FEBRUARY 2003.

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

2. Contractor will be required to provide notice to utility companies a minimum of forty-eight (48) hours prior to any excavation, as follows:

Kansas One-Call 687-2470

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

Cox Communications	262-0661
Kansas Gas Service Company	383-0600
Kansas Gas & Electric Company	383-0600
People's Gas Company	383-0600
Southeastern Bell Telephone Company	1-800-321-0357
City of Wichita Water Department	1-800-870-3390
City of Wichita Sewer Department	265-4308
	262-0071

2. All disturbed R/W areas not intended for pavement or signal construction shall be seeded with Kansas Prairie Fescue Blend at a rate of 8 lb./1000 Sq. Ft., fertilized with a 16-20-8 rate at a rate of 4 lb./1000 Sq. Ft., and mulched with straw. Hay of the rate of 3 lb./1000 Sq. Ft. Much about "puffed" with foam or punched into soil to reduce loss due to wind.
3. Utility service lines, poles, wires, boxes, manholes, etc. are to be relocated or reconstructed by others prior to construction unless the plans specifically call for their adjustment by the Contractor or unless otherwise specifically stated. If relocation is to be conducted by its owner during construction, existing easements and their locations shall be clearly marked to represent the best information available for design and shall be field verified. The contractor will be required to maintain existing utility easements and/or utility that 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 directly and this cost shall be considered as subsidiary to the other pay items of work.

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

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: 405-232-7658

KANSAS CERTIFICATE OF AUTHORIZATION NO. E-335 EXP. DEC. 2002			
No.	Revision	By	Date
1	CHANGES TO PER CITY REQUEST	SAC/AST	02/25/03

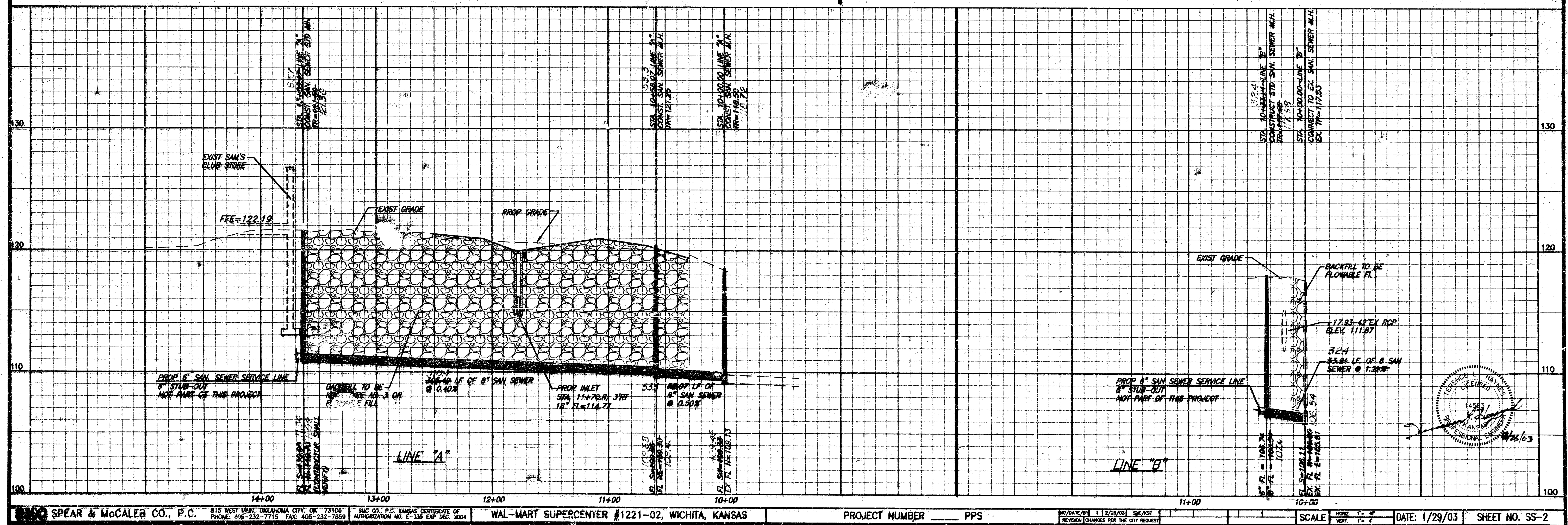
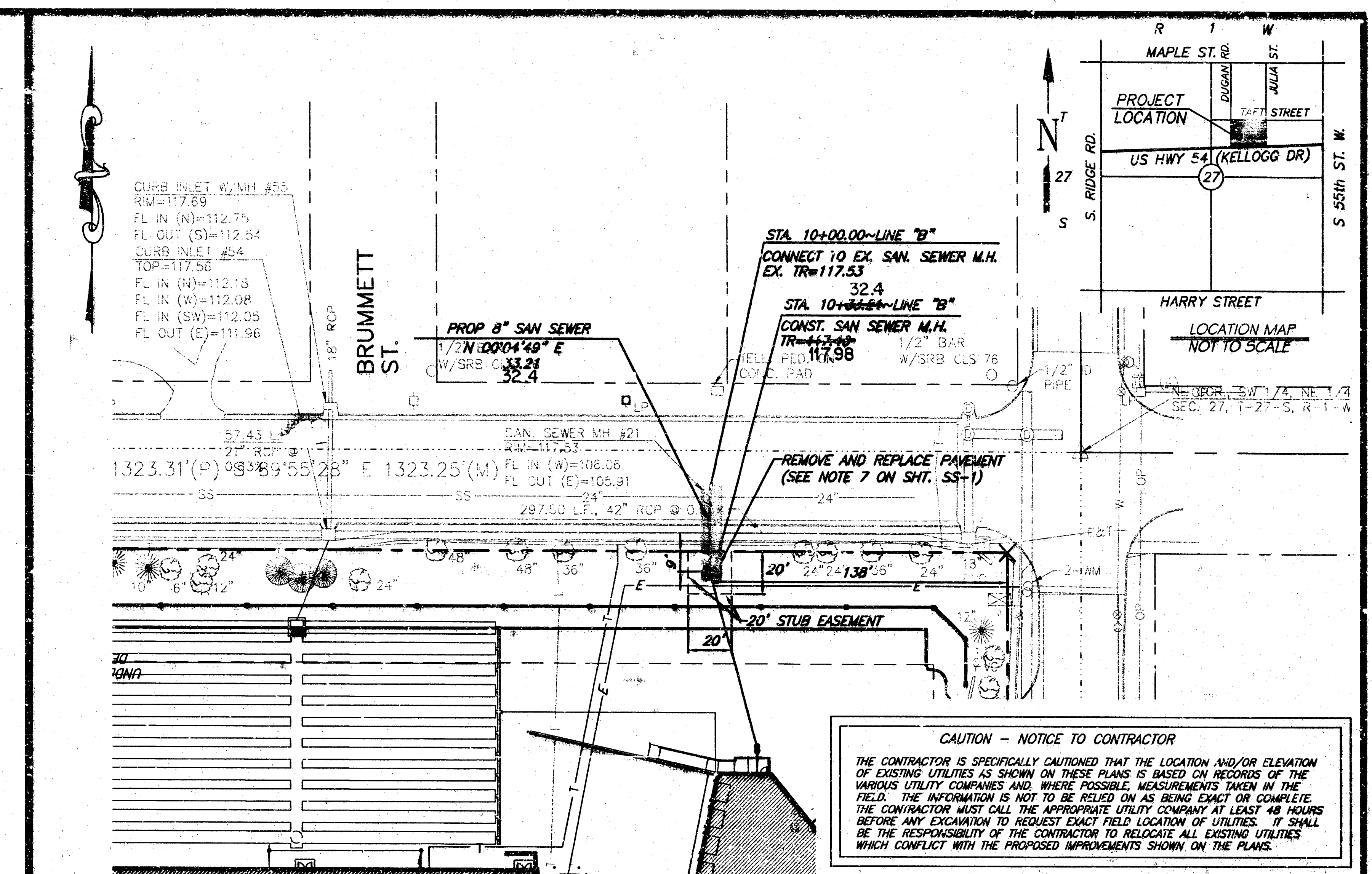
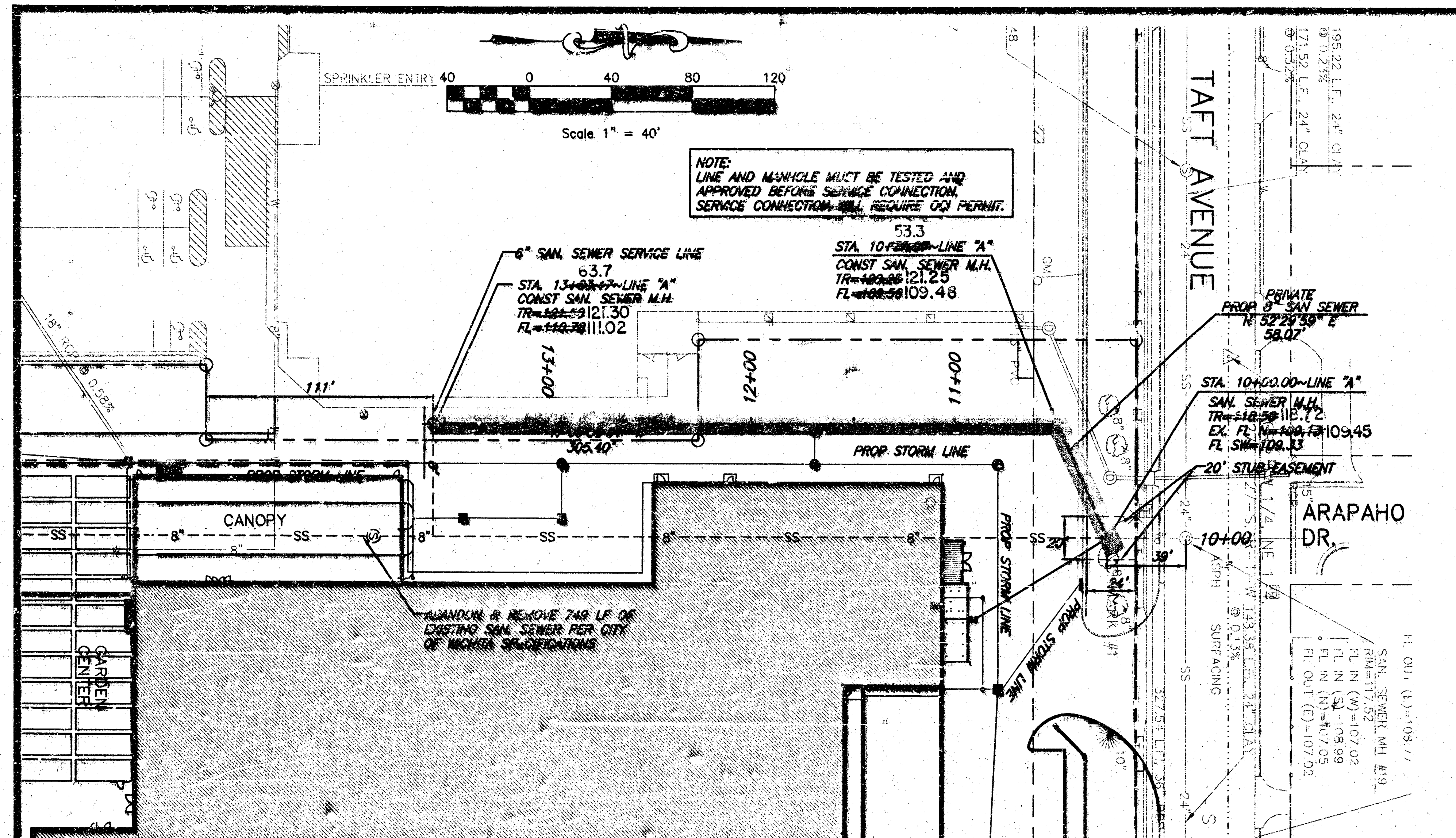
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DATE: 01/14/03	SCALE:	SHEET NO.
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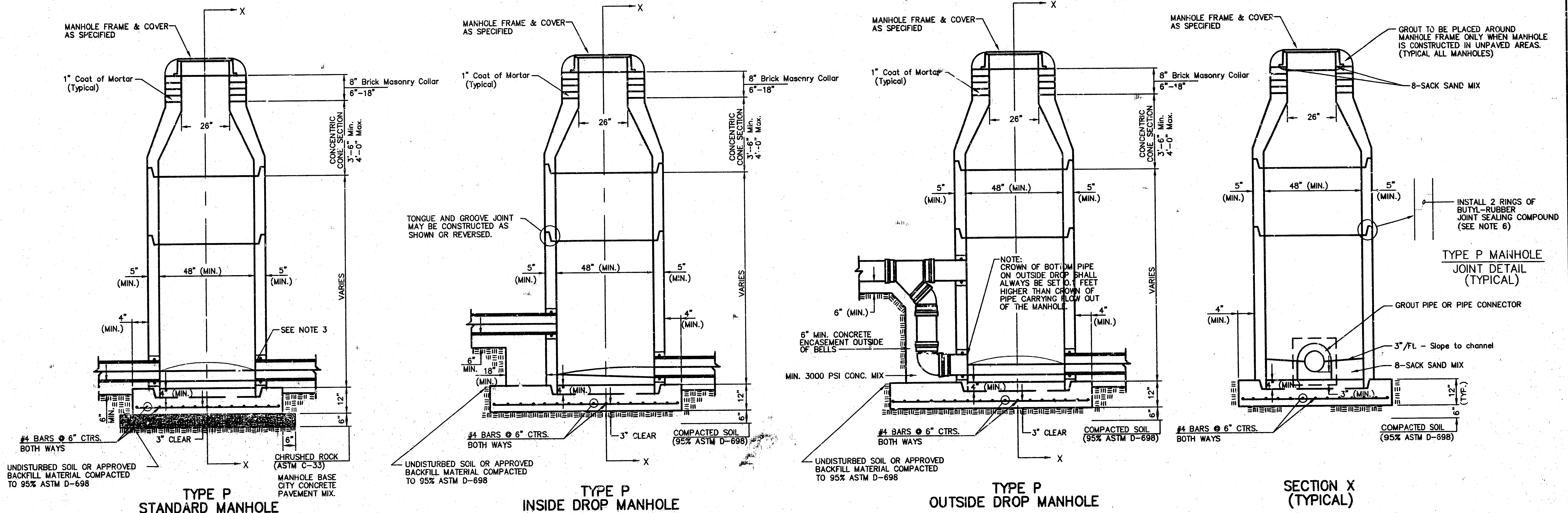
DRAWN BY: RST PROJECT NO.: 3018	N.T.S. SS1
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ENGINEER: TERENCE L. HAYNES, P.E. #14583

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SEWER APPURTENANCES DETAILS



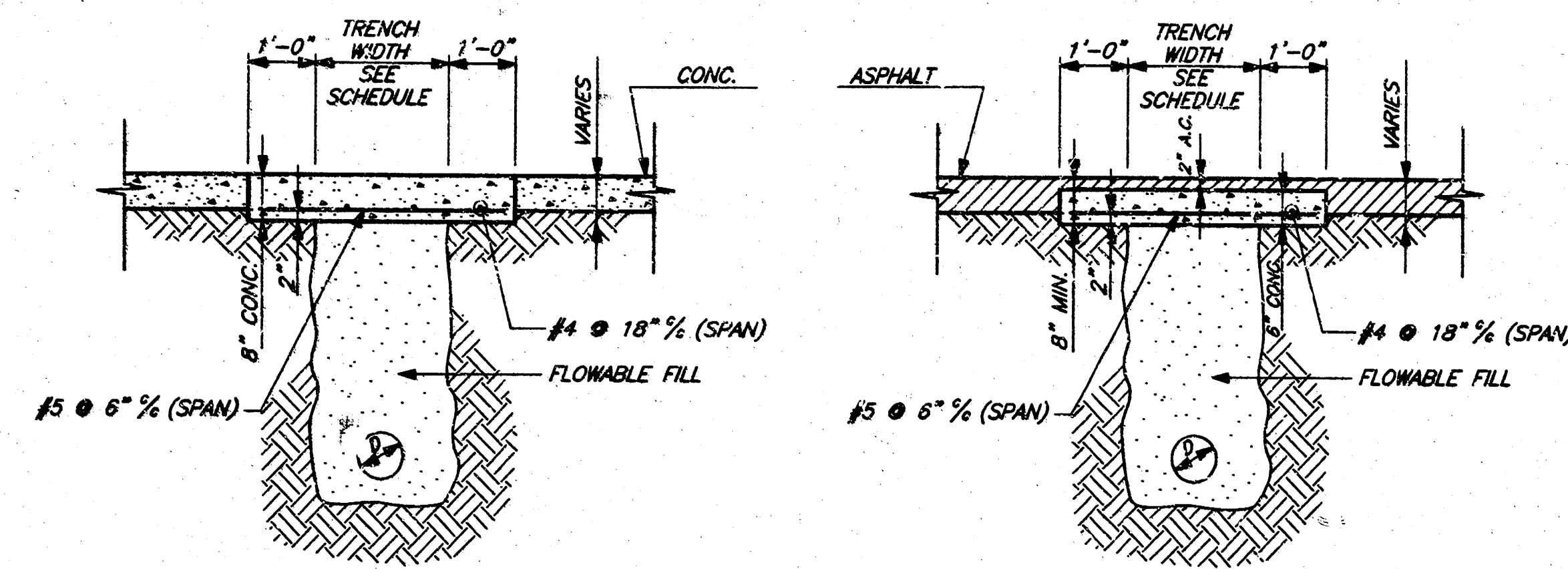
GENERAL NOTES

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 SHALL BE GROUTED IN PLACE WITH NON-SHRINK GROUT. THE SEWER PIPE SHALL BE SUPPORTED WITH CONCRETE ENCASEMENT A MINIMUM OF 3 FEET FROM THE MANHOLE WALL AND TO THE FIRST JOINT FOR V.C.P. SUCH THAT THE JOINT REMAINS FLEXIBLE.
- ALL INSIDE SURFACES OF THE CONCRETE MANHOLE WHICH WOULD BE EXPOSED TO SEWER GAS SHALL BE COATED WITH 2 COATS TNEC 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 6" CENTERS IN BOTH DIRECTIONS. THE MANHOLE BASE REINFORCEMENT SHALL BE PLACED AT LEAST 3" ABOVE THE BOTTOM OF THE MANHOLE BASE. ALL COSTS FOR FURNISHING AND INSTALLING REINFORCING STEEL SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE MANHOLE.
- OPENINGS SHALL BE CUT INTO THE MANHOLE WALL WHEN OUTSIDE DROPS ARE CONSTRUCTED ON EXISTING MANHOLES. SUCH OPENINGS CUT INTO EXISTING MANHOLES SHALL BE AS SMALL AS PRACTICAL TO FACILITATE INSTALLING AND GROUTING THE NEW PIPE IN PLACE. WATERSTOP GASKETS SHALL BE USED WITH P.V.C. AND A.B.S. COMPOSITE PIPE. THE NEW PIPE SHALL BE GROUTED INTO THE OPENING USING AN APPROVED NONSHRINK GROUT FOR THE FULL MANHOLE WALL THICKNESS. THE EXTERIOR OF THE COMPLETED CONNECTION SHALL BE SEALED WITH AN APPROVED BITUMINOUS COATING SUCH THAT THE CONNECTION WILL BE WATER TIGHT. FLOOR OF MANHOLE SHALL BE MODIFIED TO FORM NEW FLOW CHANNEL FOR THE NEW CONNECTION AS INDICATED BY THE DRAWING. THIS WORK, INCLUDING MODIFICATION OF MANHOLE FLOOR, SHALL BE PAID FOR AT THE UNIT PRICE BID FOR OUTSIDE DROP STACK CONSTRUCTED ON EXISTING MANHOLE.
- THE FLOORS OF ALL MANHOLES SHALL BE SHAPED WITH FLOW CHANNELS SUCH THAT THE MANHOLES WILL BE SELF CLEANING AND FREE OF AREAS WHERE SOLIDS COULD BE DEPOSITED AS SEWAGE FLOWS THROUGH THE MANHOLE FROM ALL INLET PIPES TO THE OUTLET PIPE. FLOW CHANNELS SHALL BE FORMED TO MATCH THE BOTTOM HALVES OF THE INFLOWING PIPES AND THE OUTFLOWING PIPE AS SHOWN BY THE DRAWINGS EXCEPT FOR INSIDE DROP MANHOLES. FLOW CHANNELS FOR OUTSIDE 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.
- CHRUSHED 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.

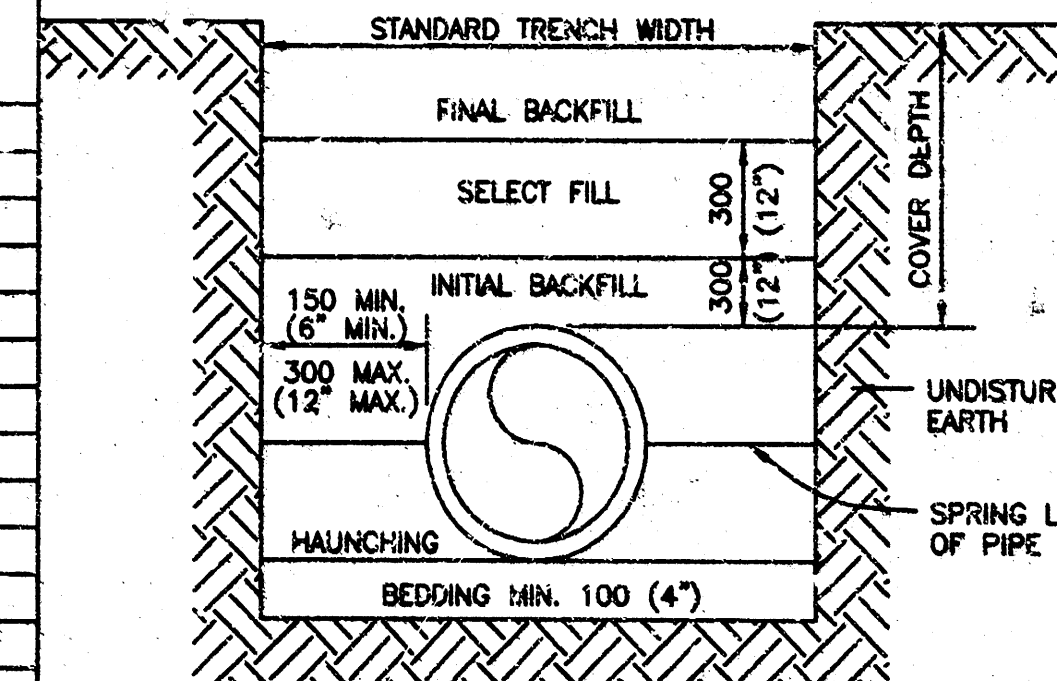
THE CITY OF WICHITA CITY ENGINEER'S OFFICE CITY HALL, SEVENTH FLOOR ONE SOUTH MAIN STREET WICHITA, KANSAS 67202 (316) 266-1114 FAX		STANDARD TYPE 'P' MANHOLES	
NEIL D. CABLE, P.E. - CITY ENGINEER		INDEX CODE XXX-XXXX	
PROJECT NUMBER XXX-XXXX		SHEET NO. SS3	
DATE MAR 98		PMH.DWG	

ASBUILT



TYPICAL SECTION PAVING CUTS AND PERMANENT REPAIRS
(TAFT AVENUE)

PIPE INSIDE DIAMETER	STANDARD TRENCH WIDTH	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

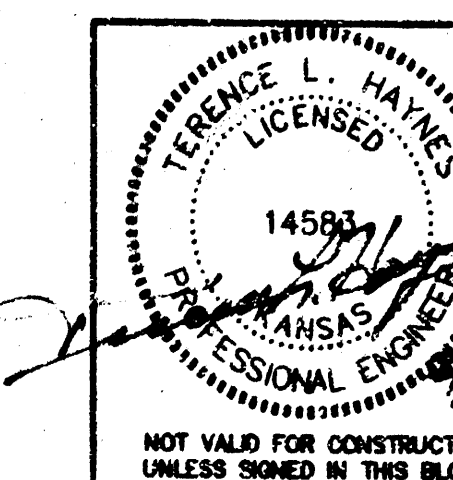


BACKFILL DESCRIPTION	NON-PAVED AREAS			PAVED AREAS (See Note 8)		
	P V C	DUCTILE IRON	H D P E	P V C	DUCTILE IRON	H D P E
FINAL BACKFILL	EXCAVATED MATERIAL	EXCAVATED MATERIAL	EXCAVATED MATERIAL	SBM	SBM	SBM
SELECT BACKFILL	SELECT FILL	SELECT FILL	SELECT FILL	SBM	SBM	SBM
INITIAL BACKFILL	COVER ≤ 10'-SAND 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:
1. INSTALLATION AND BACK FILLING SHALL MEET MANUFACTURERS' RECOMMENDATIONS.
 2. SELECT FILL CONSISTS OF EXCAVATED MATERIALS CONTAINING NO ROCKS LARGER THAN 50 MM (2").
 3. STANDARD BEDDING MATERIAL (SBM) SHALL CONFORM TO DOT, TYPE AB-3 AGGREGATE BASE OR FLOWABLE FILL PER CITY OF WICHITA STANDARDS.
 4. COMPACTION REQUIREMENTS:
 - a. 95% MAXIMUM STANDARD PROCTOR DENSITY IN ACCORDANCE WITH ASTM D698.
 5. BEDDING SHALL BE 100 MM (4") SAND OR TYPE AB-3 AGGREGATE BASE.
 6. IN SANDY SOIL, CONTRACTOR MAY BACKFILL WITH NATIVE MATERIAL AND USE WARNING TAPE 18" ABOVE PIPE.
 7. NO WATER JETTING ALLOWED.
 8. 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 PARENTHESES, UNLESS INDICATED OTHERWISE.

PIPE TRENCHING AND BEDDING

(PRIVATE) SANITARY SEWER DETAILS	
WAL-MART EXPANSION #1221-02	
KELLOGG STREET & JULIA STREET WICHITA, KANSAS	
SPEAR & McCALEB CO., P.C. 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.
DRAWN BY: KST	SHEET NO. SS4
PROJECT NO.: 3815	ENGINEER:



"ASBUILTS" 18 12 05 03