



ARCHITECTS • PLANNERS • LANDSCAPE ARCHITECTS  
125 S. WASHINGTON STREET, KANSAS 67202  
P.O. BOX 308 WICHITA, KANSAS 67202  
TEL. 316-263-0401 • FAX 316-263-1465

**FIRE STATION NO. 18**  
**2808 N. WEBB RD.**  
**WICHITA, KANSAS**



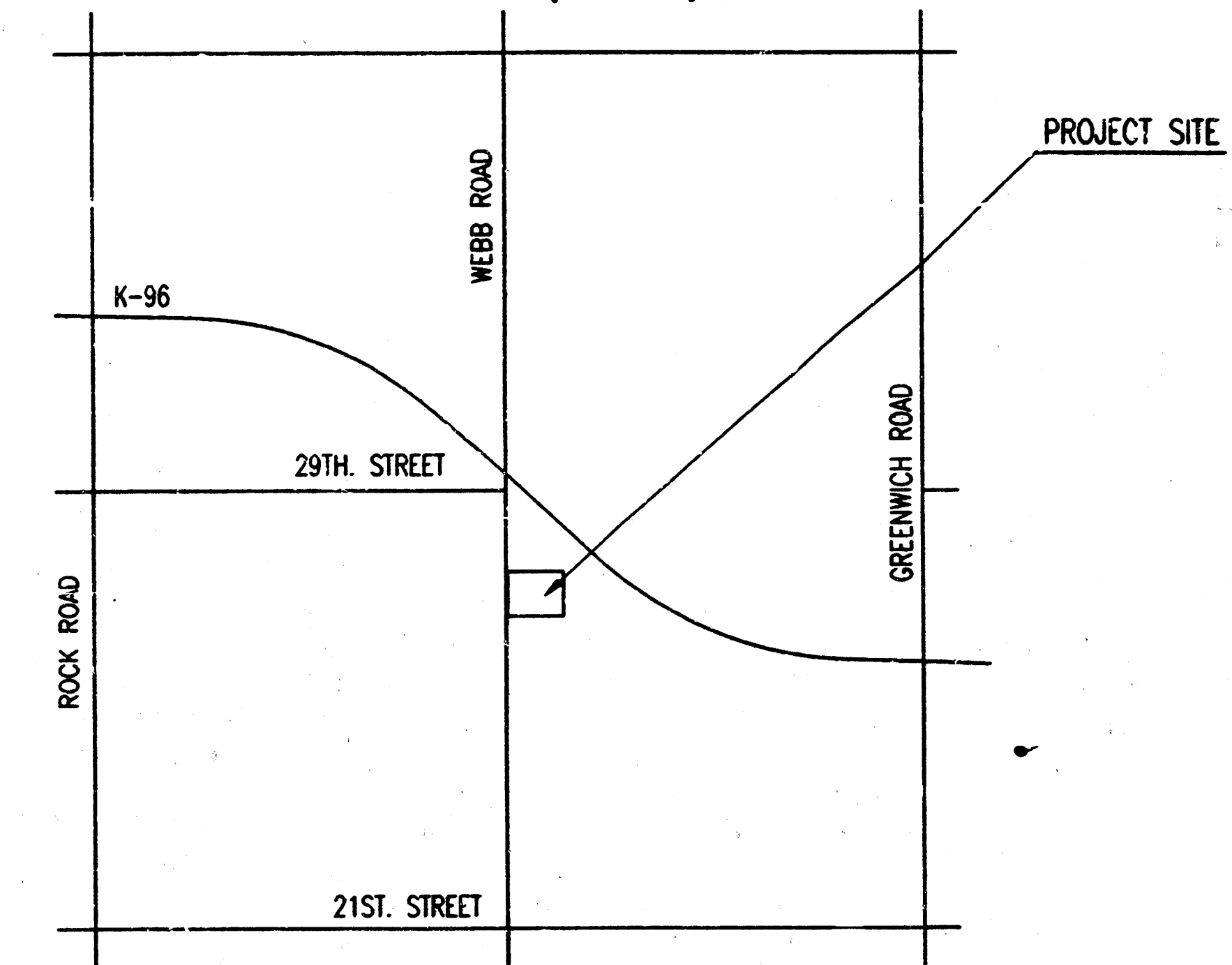
**Japanese  
Communist  
Congress**  
Hosokawa, Chairman

303 S. Topoka, Wichita, Kansas 67202

PROJECT NO. 9613  
DATE: JUNE 23, 1997  
REVISED:

# C1

**OF** **CLIPPING**



ELEV.=224.39 CITY DATUM

11. THE CONTRACTOR SHALL AVOID REMOVAL OR TRIMMING OF ANY TREES OR SHRUBS WHERE POSSIBLE. WHERE THE CONTRACTOR BELIEVES THE REMOVAL OR TRIMMING IS UNAVOIDABLE, HE SHALL COORDINATE SUCH WORK WITH THE ENGINEER.
12. THE CONTRACTOR SHALL PREVENT ANY CONSTRUCTION DEBRIS FROM ENTERING THE EXISTING SANITARY SEWER DURING CONSTRUCTION.
13. THE CONTRACTOR SHALL GIVE ALL PROPERTY OWNERS AND/OR TENANTS OF DEVELOPED PROPERTY ADJACENT THE CONSTRUCTION OF THIS PROJECT A MINIMUM OF TEN (10) DAYS ADVANCE NOTICE PRIOR TO START OF CONSTRUCTION.
14. CONTRACTOR IS REQUIRED TO MAINTAIN CONTINUOUS FLOW OF SEWAGE IN EXISTING MAINS AT ALL TIMES.
15. THE CONTRACTOR SHALL SEED ALL AREA DISTURBED BY CONSTRUCTION ACTIVITIES WITH TEMPORARY RYE GRASS. RYE GRASS SEED SHALL BE APPLIED AT A MINIMUM OF ONE (1) LB. PER SQ. YD. (1,000) SQUARE FEET. THIS TEMPORARY SEEDING MAY BE OMITTED ONLY IF OTHER SEEDING IS REQUIRED IN ACCORDANCE WITH GENERAL NOTE NO. 9 ABOVE. TEMPORARY SEEDING OR PERMANENT SEEDING/SODDING SHALL BE APPLIED WITHIN 14 DAYS AFTER THE AREA HAS BEEN DISTURBED.
16. INTERURBAN TRAFFIC GENERATED OUTSIDE THE PROJECT AREA AND LOCAL BUSINESS OR RESIDENTIAL TRAFFIC GENERATED WITHIN THE PROJECT AREA IS TO BE MINIMIZED THROUGH CONSTRUCTION AS FURTHER PROMULGATED BY PROJECT SPECIAL PROVISIONS.

REVISED "AS BUILT" 2/2/98 SB  
3/1/98 JR

Sanitary Sewers VRH 7/31/97

Storm Sewers \_\_\_\_\_

Driveway Approaches \_\_\_\_\_

Water Mains \_\_\_\_\_

Paving \_\_\_\_\_

INSPECTION AND TESTING FOR THIS PROJECT IS TO BE PROVIDED BY A LICENSED CONSULTING ENGINEERING FIRM CONTRACTED BY THE OWNER/DEVELOPER. SAID INSPECTION AND TESTING SHALL BE IN ACCORDANCE WITH THE CITY OF LOS ANGELES ENGINEERING PRACTICES AND CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER. NO WORK SHALL BE PERFORMED IN DEDICATED EASEMENTS OR THE PUBLIC RIGHT-OF-WAY BY THE CONTRACTOR WITHOUT SUCH INSPECTION NOR SHALL ANY WORK BE COMENCED IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY WITHOUT WRITTEN AUTHORIZATION BY THE CITY ENGINEER.

DSNR: RRY OPER: IDS SCALE: 1=20.00  
Q:\1997\97784\plan 07-24-1997 3:25:46 pm

PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE THE EXISTING 8" CIP SANITARY SEWER AT STA. 66+77.16 TO VERIFY PIPE SIZE AND HORIZONTAL AND VERTICAL LOCATIONS. THE CONTRACTOR SHALL REPORT HIS FINDINGS TO THE ENGINEER SO THAT ANY NECESSARY PLAN MODIFICATIONS MAY BE MADE. ANY ADDITIONAL LABOR OR MATERIALS NECESSARY TO COMPLETE THE CONNECTION SHALL BE CONSIDERED SUBSIDIARY TO THE PROJECT.

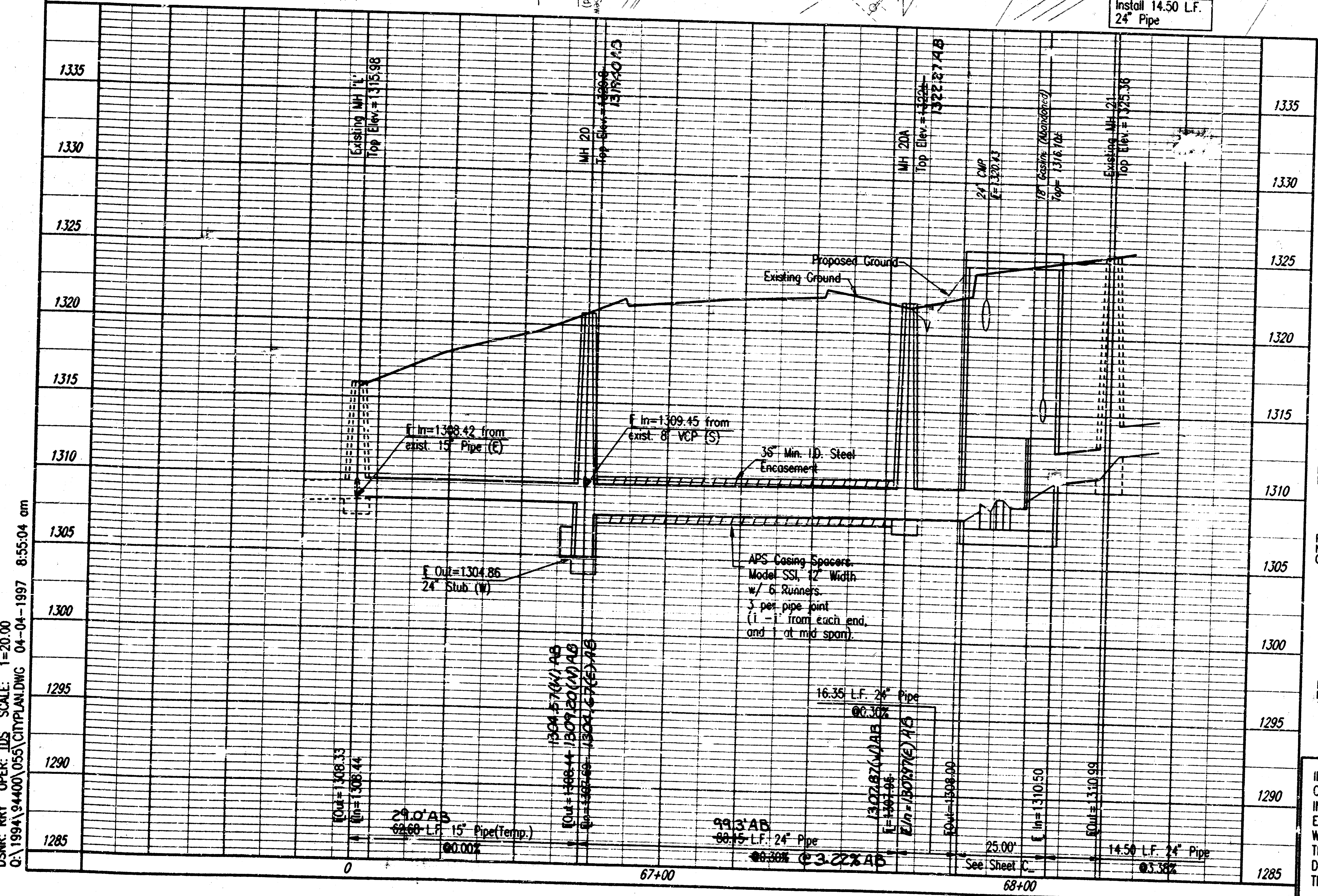
Sta. 83+09.03, 85.78' LT. Existing Boeing S.S. MH 1" L Temp. SS Sta. 0+00.00 Break into exist. MH and install 15" Pipe(S). Grout in place water tight with non-shrink grout. Reshape MH floor as req'd. to provide smooth flow.

Sta. 83+14.01 23.00' Temp. SS Sta. 0+62.68= Sta. 66+77.16 Const. MH 20 over existing 3" CIP Sanitary Sewer Standard MH, 5' dia.

\* Temporary 15" Sanitary Sewer to be sand filled and abandoned in place by others after the future 24" Sanitary Sewer is in service.

\*\* Prior to beginning construction, the Contractor shall contact Williams Natural Gas, Mr. Bill Hogemann @316-529-6800 to verify the horizontal and vertical location of the abandoned 18" Gasline, and to make sure no pressure exists. The Contractor shall not cut the existing line.

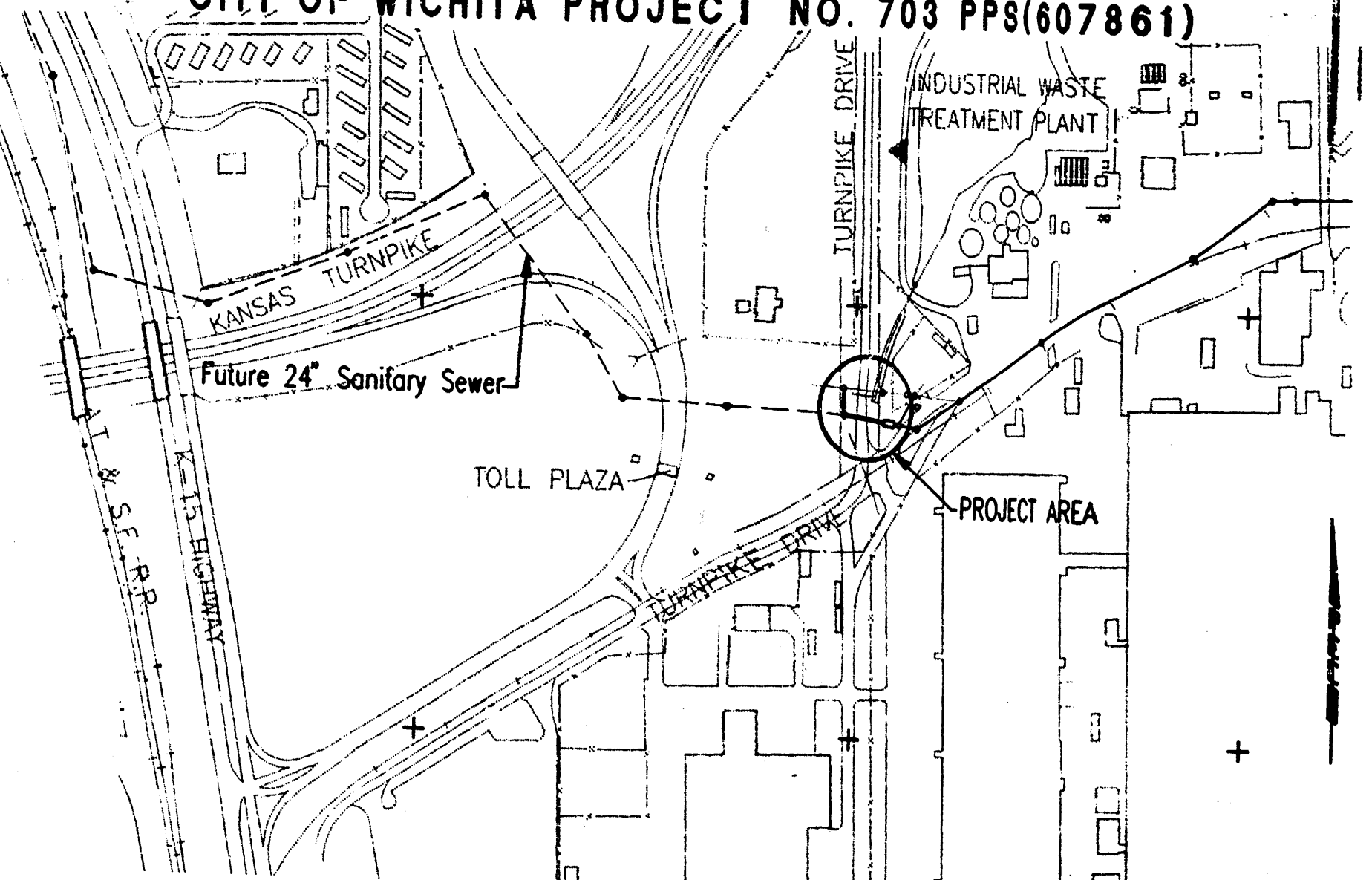
SCALE:  
PLAN: LAT. & LONG. 0 20 40  
PROFILE: HORIZ. SAME AS ABOVE  
VERT. 0 20 40



BENCH MARKS  
MTP-DATUM BM - CHISELED "a" 3RD STEP AT SW CORNER OF INDUSTRIAL WASTE TREATMENT PLANT. (BASELINE STA. 89+43.83, 122.52' LT.) ELEV. = 1332.51  
BM 22 - CHISELED "a" 1/2" ON SOUTH CORNER OF BARRIER WALL (BASELINE STA. 82+83.10, 39.57' RT.) ELEV. = 1321.575  
BM 23 - CHISELED "a" 1/2" ON TOP OF EAST END OF RCP. (BASELINE STA. 87+94.70, 40.08' RT.) ELEV. = 1329.205

# CONSTRUCTION PLANS FOR BOEING NORTHWEST CAMPUS SANITARY SEWER EXTENSION

CITY OF WICHITA PROJECT NO. 703 PPS(607861)



- GENERAL NOTES
- ALL ELEVATIONS SHOWN ARE USGS DATUM. (USGS -1187.4= CITY OF WICHITA 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 888-2470 TO REQUEST THE FOLLOWING UTILITY COMPANIES TO LOCATE ANY EXISTING LINES WITHIN THE PROJECT AREA: MULTIMEDIA CABLE, TV, WICHITA WATER, KANSAS STATE BOARD OF AGRICULTURE, K.G. & E-GAS, CONOCO PIPELINE, WILLIAMS NATURAL GAS AND U.S. SPRINK.
  - 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:  
SEDCWICK COUNTY BUREAU OF PUBLIC SERVICES  
1250 S. SENECA  
WICHITA, KS 67213  
MR. DAVID SPEARS  
(316) 383-7901  
KANSAS TURNPIKE AUTHORITY  
9401 E. KELLOGG  
WICHITA, KS 67207  
MR. WASON LEONARD  
(316) 682-4537, EXT. 2532
  - THE CONTRACTOR SHALL OBTAIN 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.
  - AFTER CONSTRUCTION AND BEFORE THE FINAL INSPECTION, A LETTER SIGNED BY A LICENSED LAND SURVEYOR CERTIFYING REPLACEMENT OF ALL DISBURSED PROPERTY CORNERS SHALL BE SUBMITTED TO THE ENGINEER.
  - THE CONTRACTOR SHALL CONTAIN HIS OPERATIONS TO PERMIT TRAFFIC THROUGHOUT AND ACCESS 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. THE CONTRACTOR SHALL LIMIT THE EXTENT OF TRAFFIC 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. COME WITH THE PROPOSED WORK HEREIN, THEY SHALL BE REMOVED AND REPLACED OR RESET. THE REPLACEMENT OF ALL THE AFFECTED ITEMS, INCLUDING SEEDING, FERTILIZER AND MULCH, SHALL BE CONSIDERED SUBSIDIARY TO OTHER ITEMS OF WORK.
  - 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 CONSTRUCTION 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 DRAINAGEWAYS SHALL BE MAINTAINED.
  - THE CONTRACTOR SHALL PROVIDE POSITIVE DRAINAGE AWAY FROM ALL MANHOLE COVERS.
  - 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 OR PROPOSED SANITARY SEWER DURING CONSTRUCTION.
  - RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES INCLUDING ANY TREES REMOVED, TREE TRUNKS, AND EXCESS EXCAVATION WHICH THE CONTRACTOR 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. MATERIALS EITHER STOCKPILED OR DISPOSED IN A FLOOD PLAIN WILL REQUIRE A KANSAS STATE BOARD OF AGRICULTURE PERMIT. ANY MATERIAL DUMPED IN WATERS OF THE UNITED STATES OR REGULATIONS. ANY MATERIAL BURIED OR STOCKPILED BEYOND APPROVED CONSTRUCTION LIMITS MAY REQUIRE ARCHAEOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED DISPOSAL LOCATION.
  - UNDERGROUND UTILITY SERVICE LINES AND OVERHEAD UTILITY POLE LINES ARE TO BE ADJUSTED AS NECESSARY BY OTHERS PRIOR TO CONSTRUCTION UNLESS THE PLANS SPECIFICALLY CALL FOR THEIR ADJUSTMENT BY THE CONTRACTOR OR UNLESS THE PLANS SPECIFICALLY CONSTRUCT. EXISTING UTILITIES AND THEIR LOCATIONS, AS SHOWN ON THE PLANS, REPRESENT THE BEST INFORMATION OBTAINABLE FOR THE DESIGN. LOCATION INFORMATION HAS BEEN OBTAINED FROM RECORD DRAWINGS OR COMPANY PROVIDED FIELD LOCATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION OF THE WITHIN THE RIGHT-OF-WAY WHICH DO NOT CONFLICT WITH PROPOSED CONSTRUCTION.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE PROPOSED METHOD FOR MAINTAINING SEWAGE FLOW SHALL BE APPROVED BY THE ENGINEER. COST OF MAINTAINING FLOW OF SEWAGE THROUGH CONSTRUCTION WILL NOT BE THE CONTRACTOR'S RESPONSIBILITY AND THIS COST SHALL BE CONSIDERED AS SUBSIDIARY TO THE PROJECT.
  - THE CONTRACTOR SHALL TAKE THE APPROPRIATE PRECAUTIONS (I.E., BREATHING APPARATUS, BLOOMERS, ETC.) PRIOR TO ENTERING THE EXISTING MANHOLES ON THE EXISTING SANITARY SEWER. REFER TO "CONFINED SPACE ENTRY PROCEDURES" PER OSHA REGULATION. ACCUMULATIONS OF HAZARDOUS GASES (HYDROGEN SULFIDE, METHANE, ETC.) ARE LIKELY IN THE EXISTING MANHOLES.
  - THE CONTRACTOR SHALL SUBMIT AN APPLICATION TO THE SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES FOR A "UTILITY PERMIT AGREEMENT" FOR USE OF PUBLIC ROAD RIGHT-OF-WAY. COPIES OF THE "SEDCWICK COUNTY BUREAU OF PUBLIC SERVICES APPROVED PERMIT" SHALL BE DELIVERED TO THE ENGINEER PRIOR TO BEGINNING CONSTRUCTION. UTILITY PERMIT FEES, IF ANY, SHALL BE BORNE BY THE CONTRACTOR. THE SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES WILL REQUIRE THE CONTRACTOR TO PROVIDE PROOF OF INSURANCE PRIOR TO COMMENCING WORK ON COUNTY RIGHT-OF-WAY. PERMIT FORMS FOR THIS PROJECT ARE AVAILABLE FROM THE SEDGWICK COUNTY BUREAU OF PUBLIC SERVICES OFFICE LISTED BELOW:  
SEDCWICK COUNTY BUREAU OF PUBLIC SERVICES  
COUNTY ENGINEER  
1250 S. SENECA  
WICHITA, KS 67213-4498  
MR. DAVID C. SPEARS, P.E.  
(316) 383-7901
  - ALL GRASSED AREAS DISTURBED BY CONSTRUCTION OF THE PROPOSED SANITARY SEWER SHALL BE REPAIRED WITH GRASS AND FERTILIZED IN ACCORDANCE WITH THE FOLLOWING CRITERIA:  
NATIVE GRASS MIX:  
BIG BLUESTEM - 8 LBS/ACRE  
BROME GRASS - 8 LBS/ACRE  
SWITCH GRASS - 8 LBS/ACRE  
WESTERN WHEATGRASS - 8 LBS/ACRE  
INDIAN GRASS - 8 LBS/ACRE  
LITTLE BLUESTEM - 5 LBS/ACRE  
SIDE OATS GRASS - 5 LBS/ACRE  
TOTAL = 45 LBS/ACRE  
SEED APPLICATION = 1 LB/1,000 SQ. FT.  
FERTILIZER APPLICATION (N-P-K) = 12-24-12  
MULCH = PRAIRIE HAY  
MULCH APPLICATION = 90 LBS/1,000 SQ. FT.

INSPECTION AND TESTING FOR THIS PROJECT IS TO BE PROVIDED BY A LICENSED CONSULTING ENGINEERING FIRM CONTRACTED BY 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. WORK SHALL BE PERFORMED IN DEDICATED EASEMENTS OR THE PUBLIC RIGHT-OF-WAY BY THE CONTRACTOR WITHOUT SUCH INSPECTION NOR SHALL ANY WORK BE COMMENCED IN THE CITY ENGINEER.

APPROVED AS NOTED  
By CITY ENGINEER OF WICHITA  
Sanitary Sewers VRH 4/6/97  
Storm Sewers \_\_\_\_\_  
Driveway Approaches \_\_\_\_\_  
Water Mains \_\_\_\_\_  
Paving \_\_\_\_\_

PLANT ENGINEERING CONTACT:  
JERRY PUCKETT 526-1894

|                                            |              |      |              |      |
|--------------------------------------------|--------------|------|--------------|------|
| ACCEPTABILITY<br>SPECIFICATION IS APPROVED | BY           | DATE | REVISION     | DATE |
|                                            | FOR          | DATE | FOR          | DATE |
|                                            | APPROVED     | DATE | NOT REVIEWED | DATE |
|                                            | NOT REQUIRED | DATE | NOT REQUIRED | DATE |

MUFFIN MONSTER - MAIN SEWER  
PLAN/PROFILE  
BOEING COMMERCIAL AIRPLANE GROUP  
WICHITA  
KANSAS

PROFESSIONAL ENGINEERING CONSULTANTS  
professional association  
303 South Topeka / (316) 262-2881  
Wichita, Kansas 67202

Job No. 34-94400-55-196  
RBY  
TDS

Sheet C2 of 2  
Drawing No. 6G-102-0

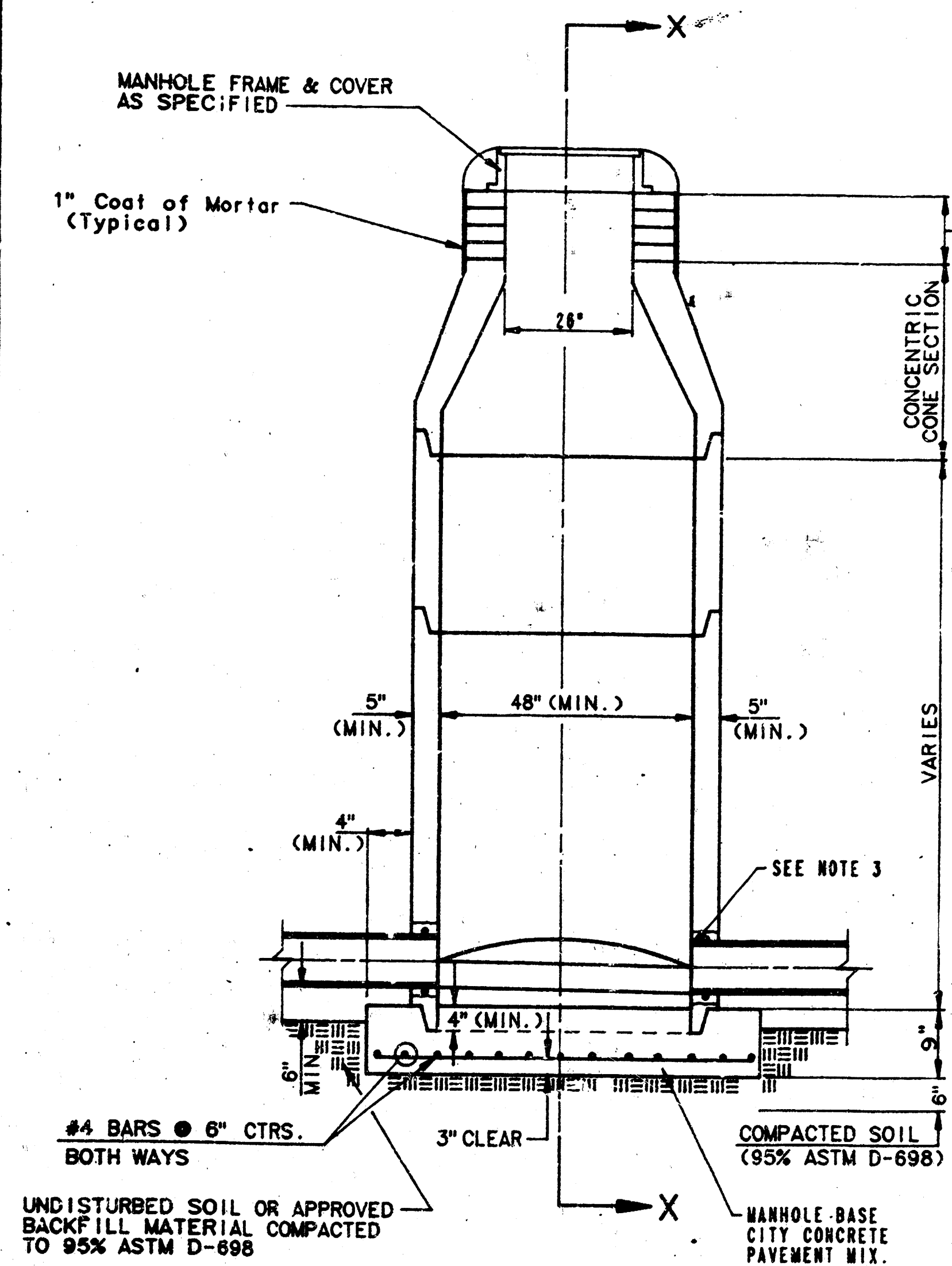


# SEWER APPURTENANCES DETAILS

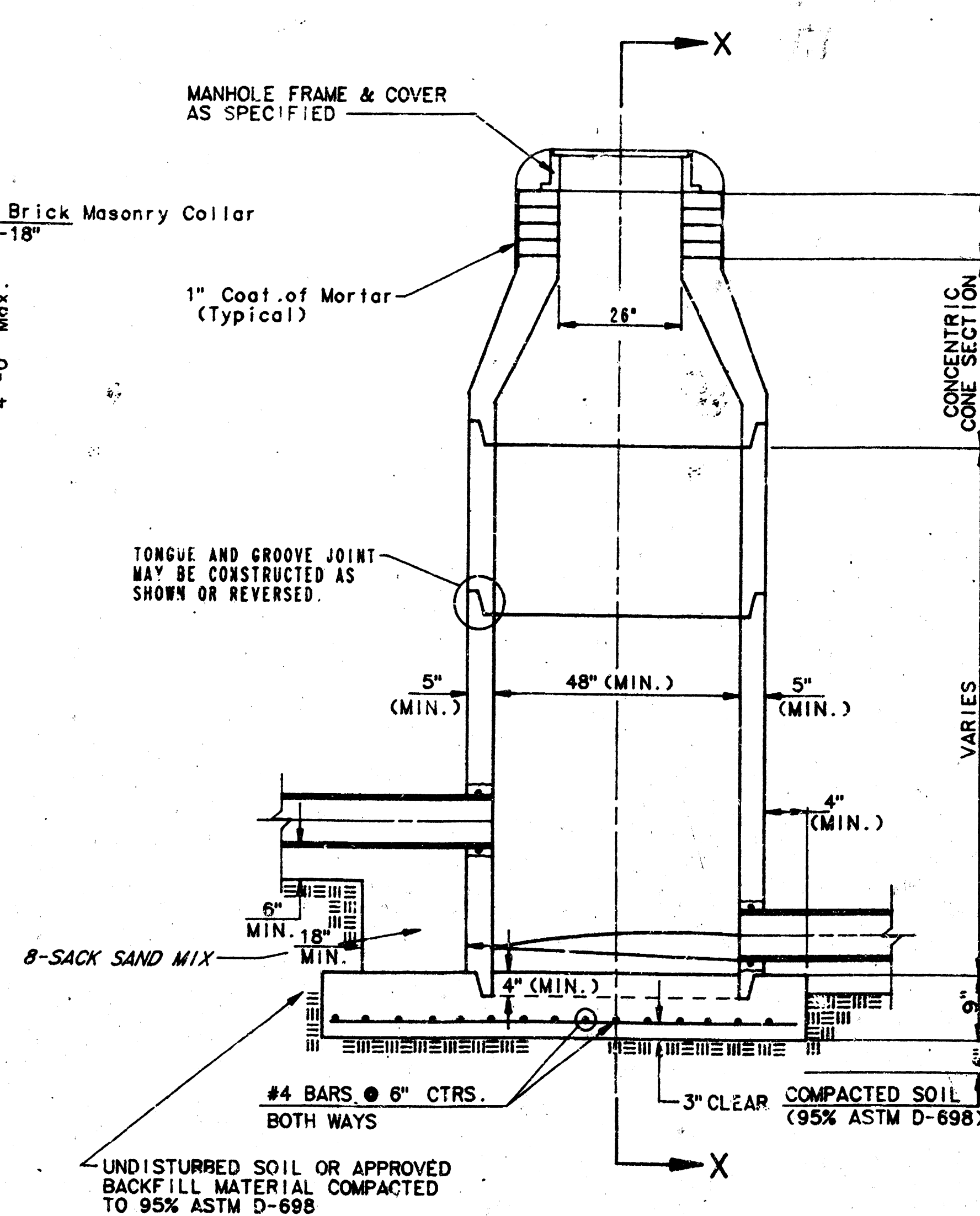
## ADOPTED AS STANDARD DESIGN

### BY

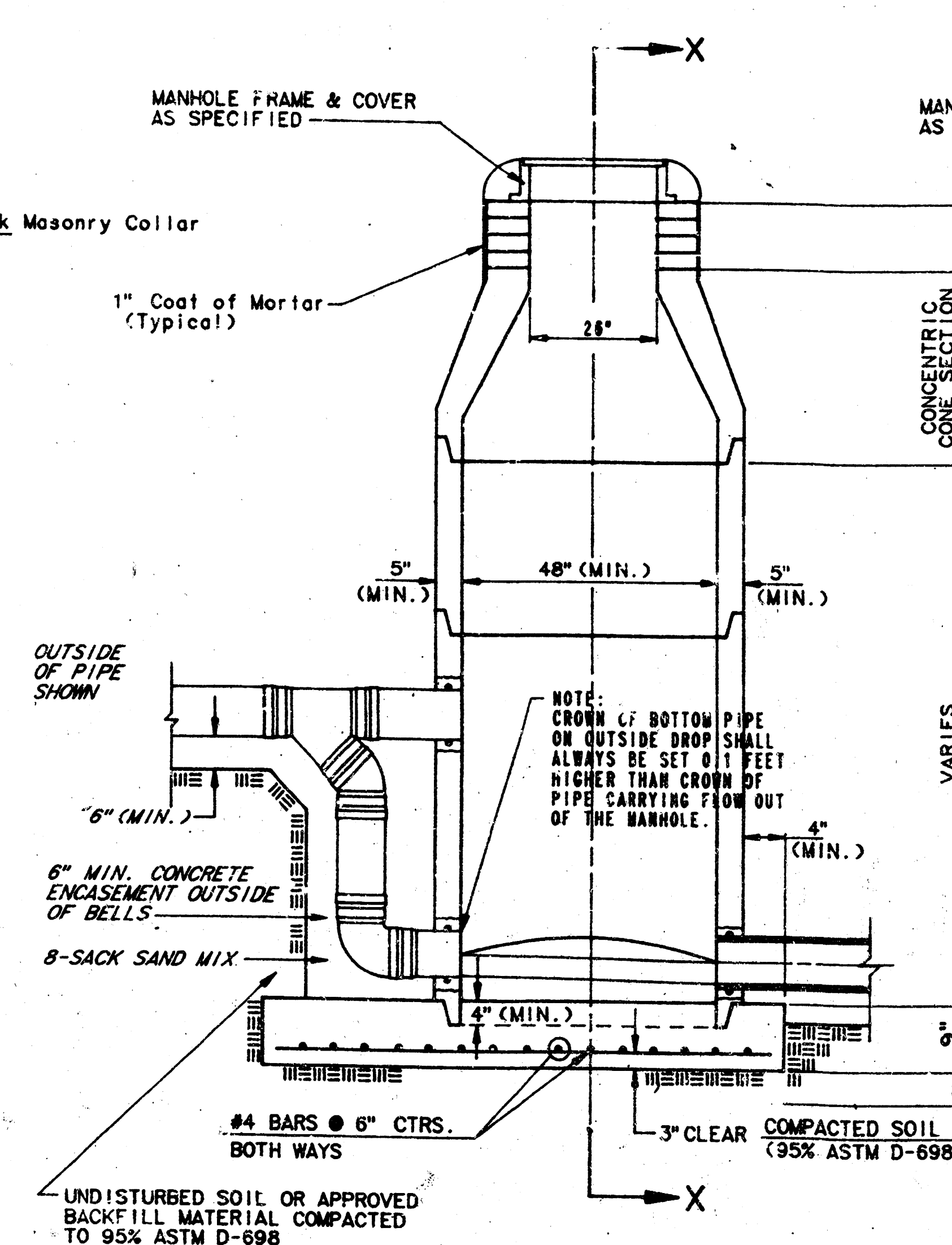
### CITY OF WICHITA



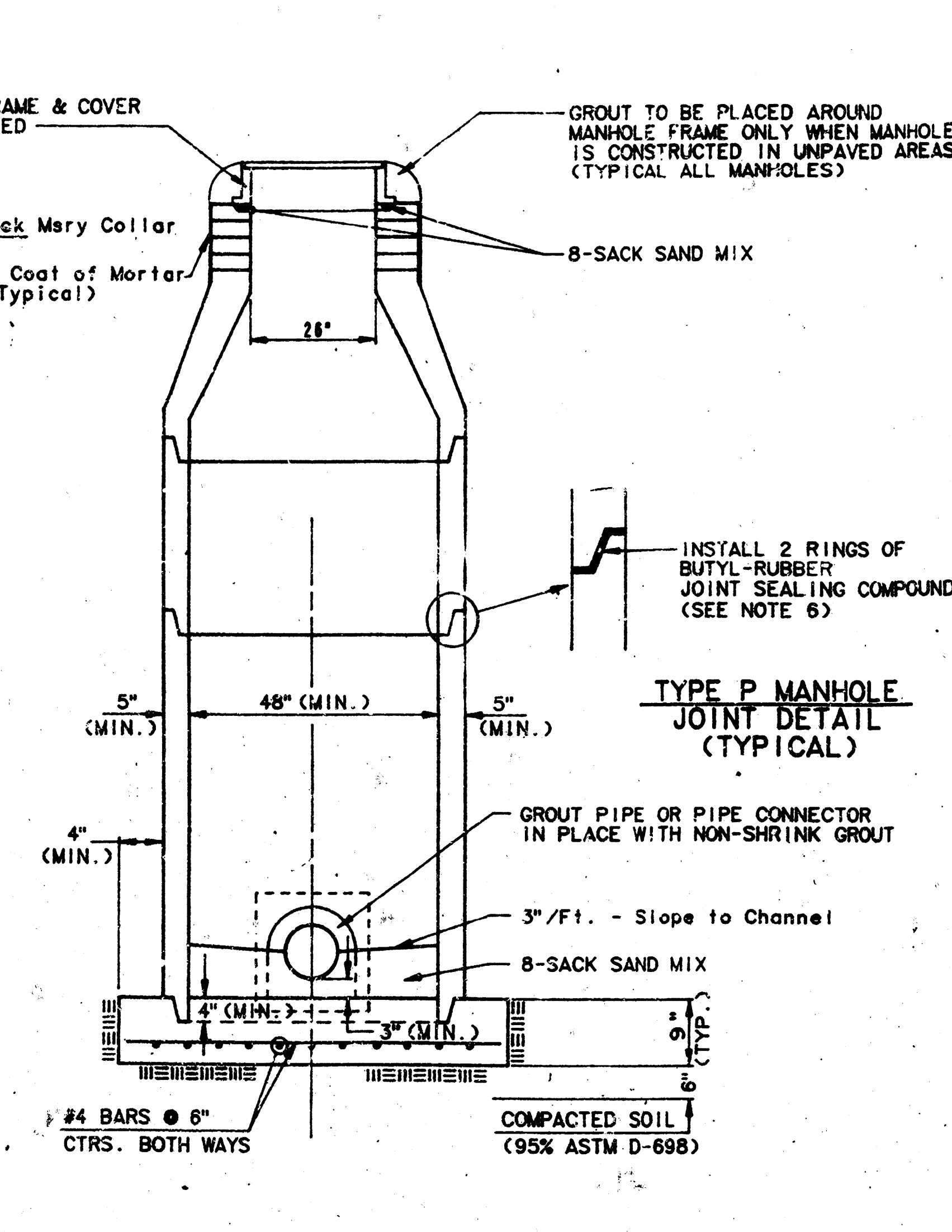
TYPE P  
STANDARD MANHOLE



TYPE P  
INSIDE DROP MANHOLE



TYPE P  
OUTSIDE DROP MANHOLE



SECTION X  
(TYPICAL)

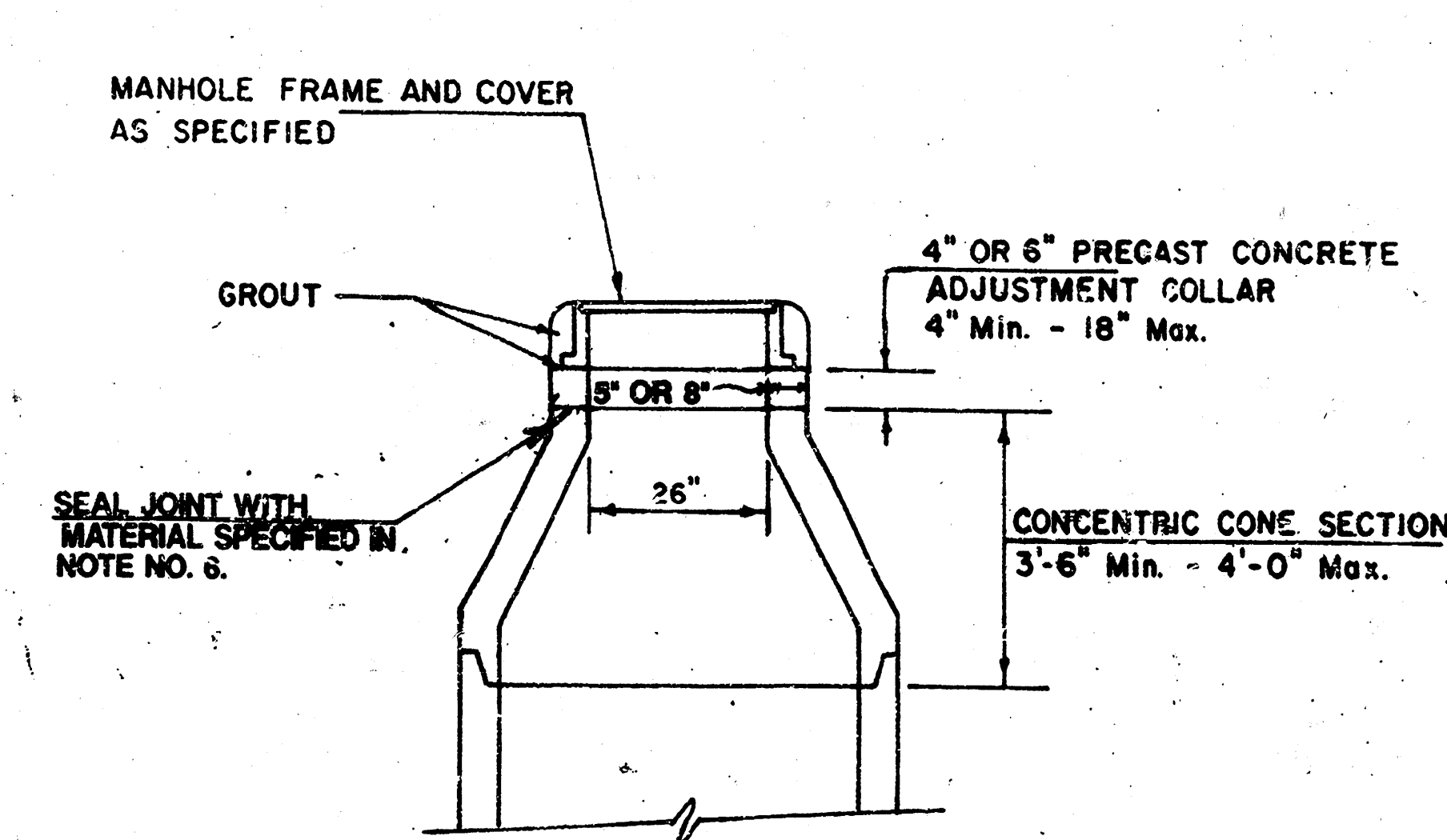
#### GENERAL NOTES

#### PRECAST MANHOLE NOTES

- ALL PRECAST CONCRETE MANHOLE SECTIONS SHALL CONFORM TO THE LATEST REVISION OF A.S.T.M. C478 AS MODIFIED BY THE SPECIFICATIONS.
- NON-SHRINK GROUT SHALL BE NON-METALLIC TYPE.
- APPROVED FLEXIBLE WATERSTOP CASSETS SHALL BE INSTALLED TO JOIN THE SEWER TO THE MANHOLE WALL WHEN A P.V.C. 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 ENCASUREMENT 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 THEWEC SERIES 66 HI-BUILD EPOXYLINE, DRY THICKNESS OF 8 MILS (MIN.)
- EXTERIOR MANHOLE WALLS SHALL BE COATED WITH 1 COAT MOBILARMA 633 BITUMINUS 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 SLAB SHALL BE AT LEAST 3 INCHES BELOW THE FLOW LINE OF OUTLET PIPE TO INSURE SUFFICIENT MINIMUM THICKNESS 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 PAVEMENT CONSTRUCTION AS SPECIFIED IN THE CITY STANDARD PAVING SPECIFICATIONS USING CITY CONCRETE PAVEMENT MIX WITHOUT AIR ENTRAINING ADMIXTURE. MORTAR SHALL BE PLACED AROUND THE MANHOLE RING AS SHOWN OR 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 CASSETS 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 BITUMINUS 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 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 INCOMING PIPES AND THE OUTFLOWING PIPES 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 REAT 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 FREE FALL DROP INSIDE MANHOLES SHALL NOT EXCEED 2'. 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.



ALTERNATE CONSTRUCTION  
IN UNPAVED AREAS

REVISED NOV. 1993  
NOTE NO. 16 REVISED JAN. 1991  
Revised 3-21-89  
Revised 8-10-88  
Revised: June 12, 1986

PLANT ENGINEERING CONTACT:  
JERRY PUCKETT 526-1894

|                                                        |                          |                                     |
|--------------------------------------------------------|--------------------------|-------------------------------------|
| APPROVED                                               | BY                       | DATE                                |
| ISSUED FOR CONSTRUCTION                                | REVISION                 | DATE                                |
| ENGINEER                                               | FOR                      | DATE                                |
| APPROVED                                               | NOT REVIEWED             | NOT REQUIRED                        |
| DESIGNED BY                                            | DATE                     |                                     |
| ACCEPTABILITY FOR THE DESIGN SPECIFICATION IS APPROVED | DATE                     |                                     |
| MUFFIN MONSTER - MAIN SEWER                            |                          |                                     |
| MANHOLE DETAILS                                        |                          |                                     |
| BOEING COMMERCIAL AIRPLANE GROUP KANSAS                |                          |                                     |
| WICHITA                                                |                          |                                     |
| PROFESSIONAL ENGINEERING CONSULTANTS                   | professional association | 303 South Telescop / (316) 282-2881 |
| Wichita, Kansas 67202                                  | Job #                    | 94400-055-196                       |
| Drawn by                                               | Sheet                    | C4 of 7                             |
| Designed by                                            | Drawn by                 |                                     |
| Project No.                                            | 70-6042-00               |                                     |
| Sheet                                                  | C4 of 7                  |                                     |
| Drawing No.                                            | 56-104-14                |                                     |

10-1-3-8