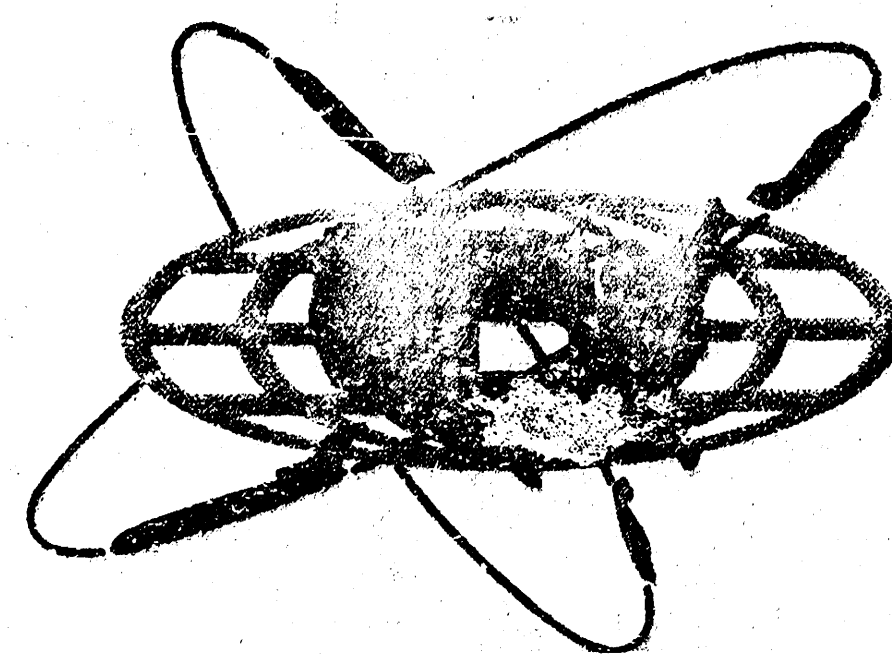


THE WICHITA AIRPORT AUTHORITY
WICHITA, KANSAS
COLONEL JAMES JABARA AIRPORT

PLANS FOR
TAXIWAY "L" SITE DEVELOPMENT
~~WATER MAIN EXTENSION~~
PROJECT NO. 920PPW (607 857)
SANITARY SEWER EXTENSION
PROJECT NO. 908PPS (607 861)

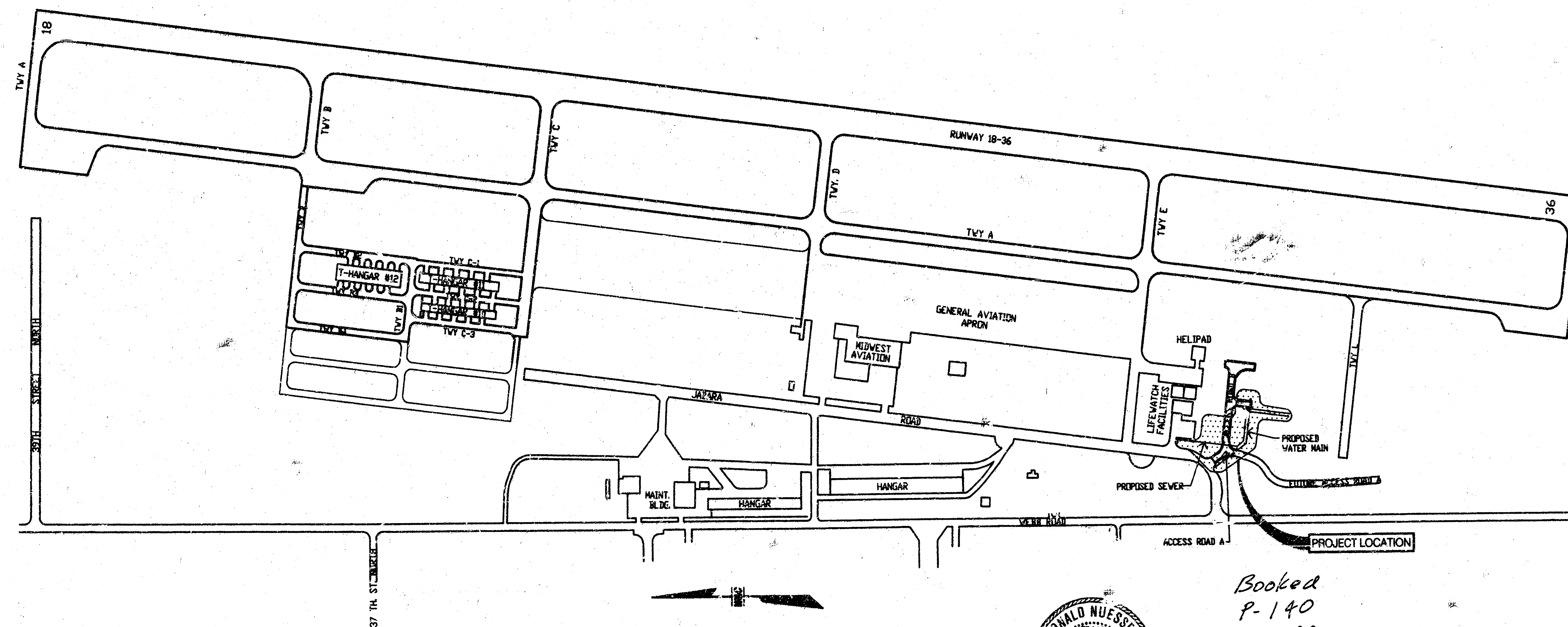
INDEX TO DRAWINGS

SHEET NO.	DESCRIPTION
1	TITLE SHEET AND INDEX TO DRAWINGS
2	DETAILS
3	WATER LINE PLAN AND PROFILE
4	WET WELL LAYOUT DETAILS
5	WET WELL ELECTRICAL DETAILS
6	STANDARD TYPE P" MANHOLES
7	SANITARY SEWER PLAN AND PROFILE

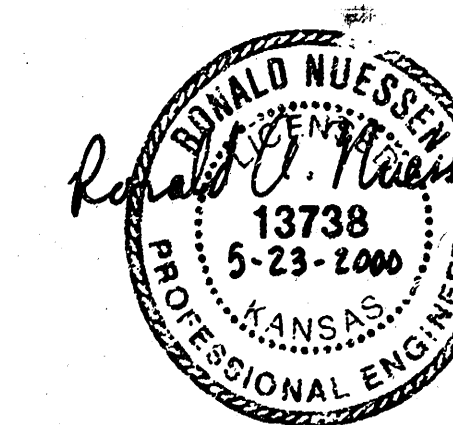


THE WICHITA AIRPORT AUTHORITY

ROBERT L. ALFORD, PRESIDENT
JAMES M. GREGORY, 1ST VICE PRESIDENT
RONALD CORNEJO, 2ND VICE PRESIDENT
ELIZABETH BAKER, MEMBER
DAVID BAYOUTH, MEMBER
ALAN COBB, MEMBER
DALE DIGGS, JR., MEMBER
JOHN E. DUGAN, MEMBER
RONALD MAPNELL, MEMBER



LOCATION MAP
SCALE: 1"=300'



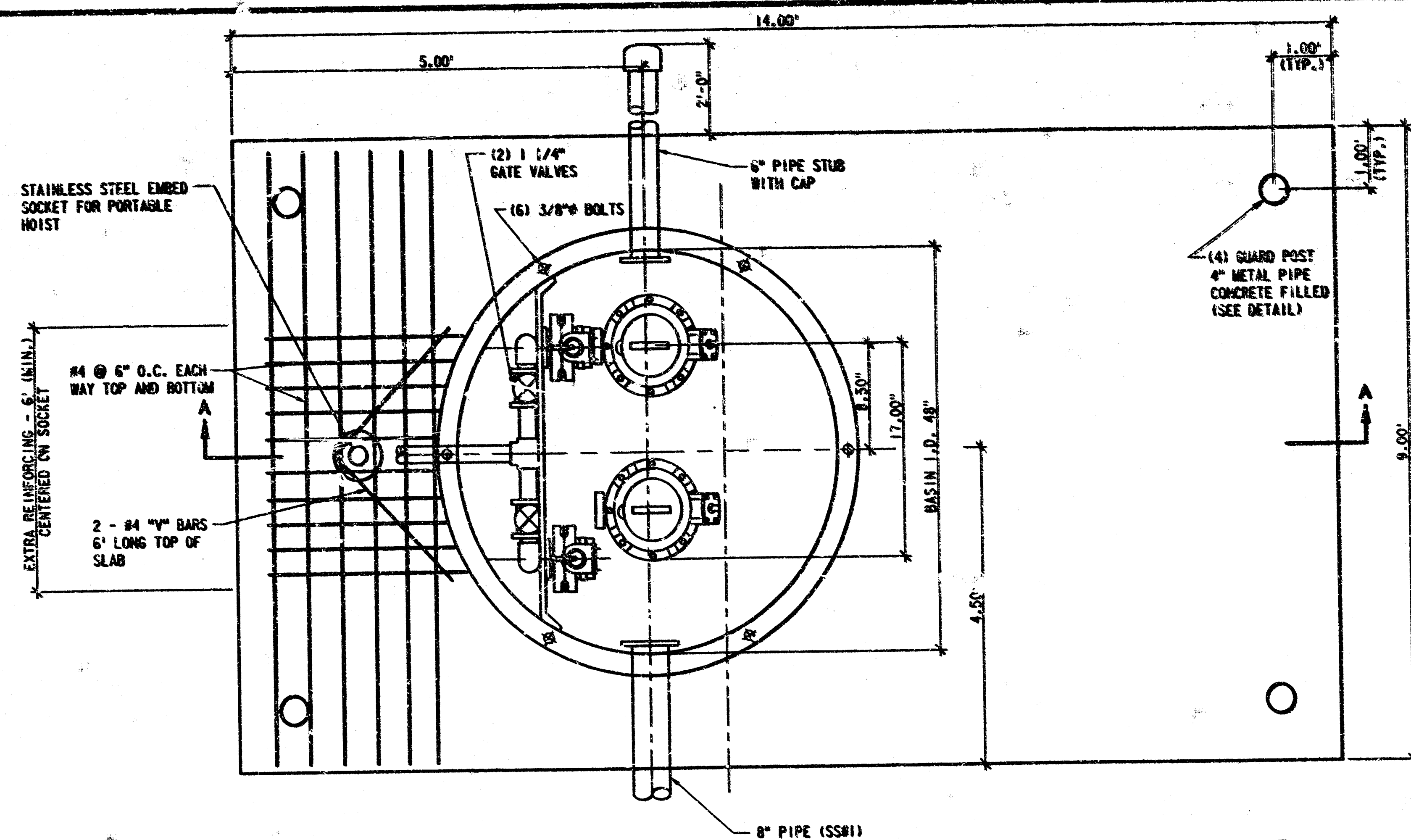
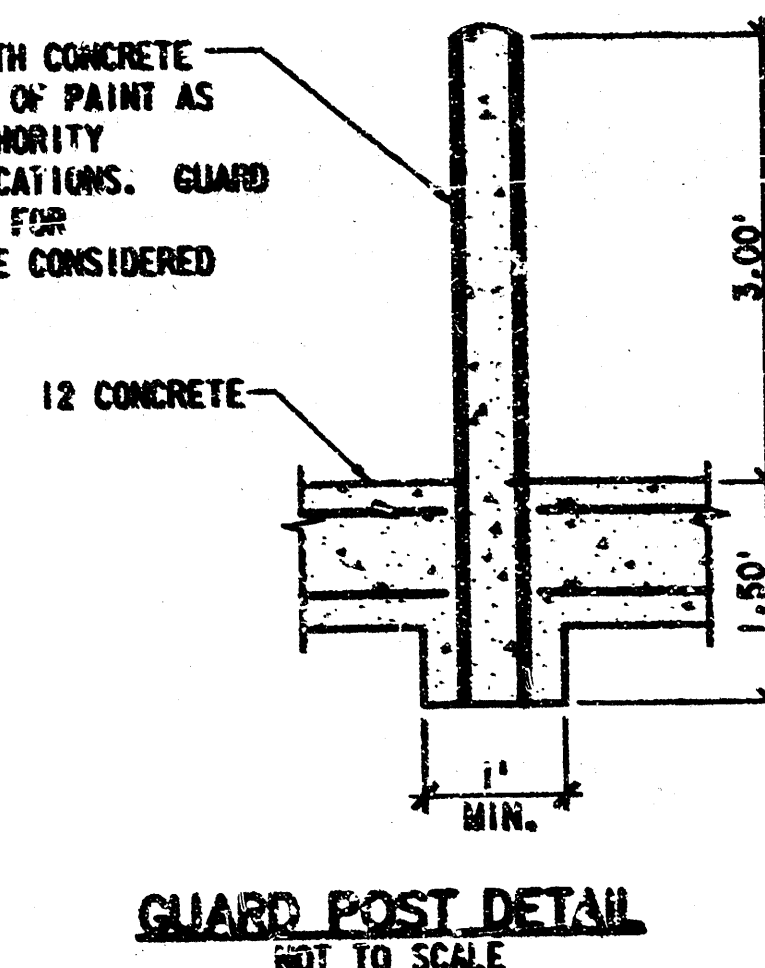
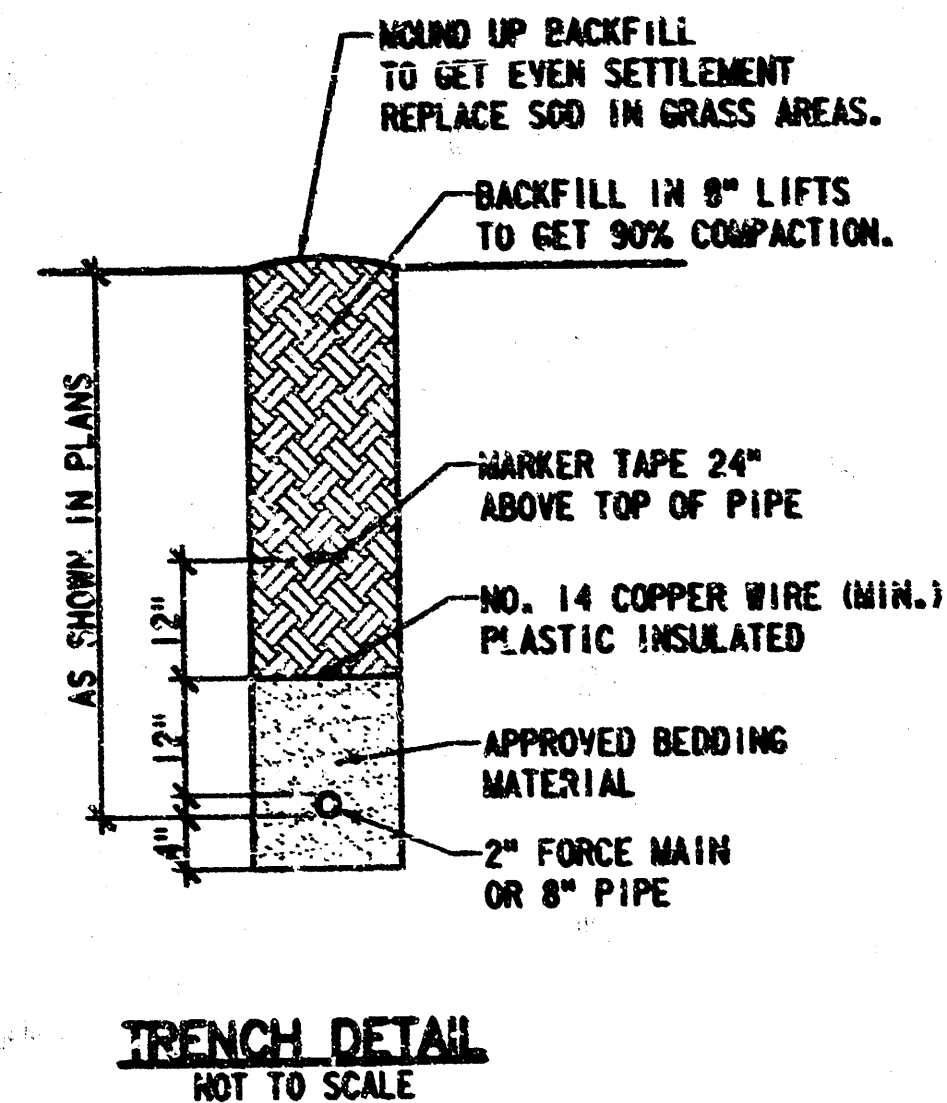
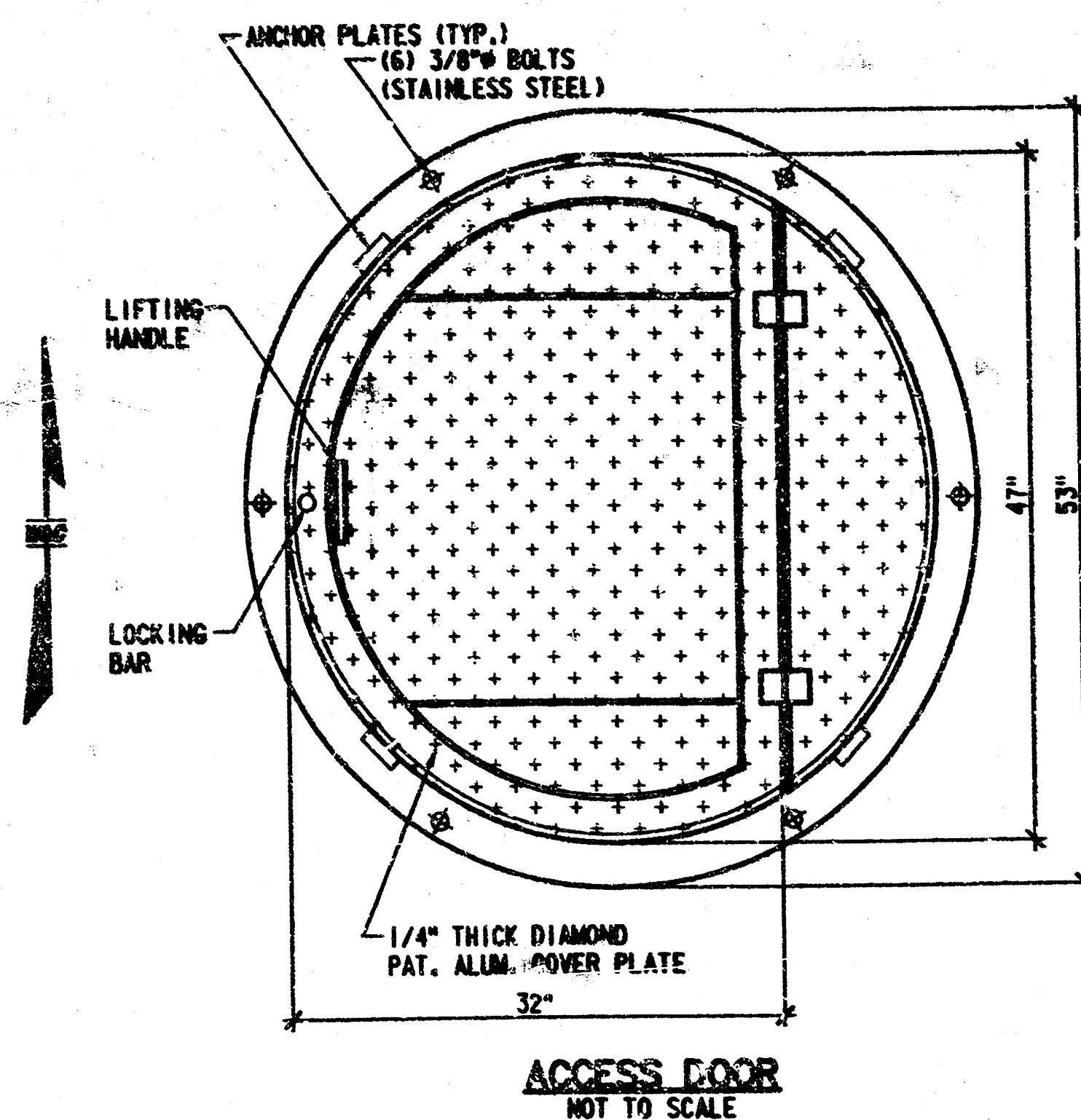
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P-140
8-11-00
RPL

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DATED: 5-12-00

APPROVED AS NOTED
BY CITY ENGINEER OF WICHITA &
BY WICHITA FIRE DEPARTMENT

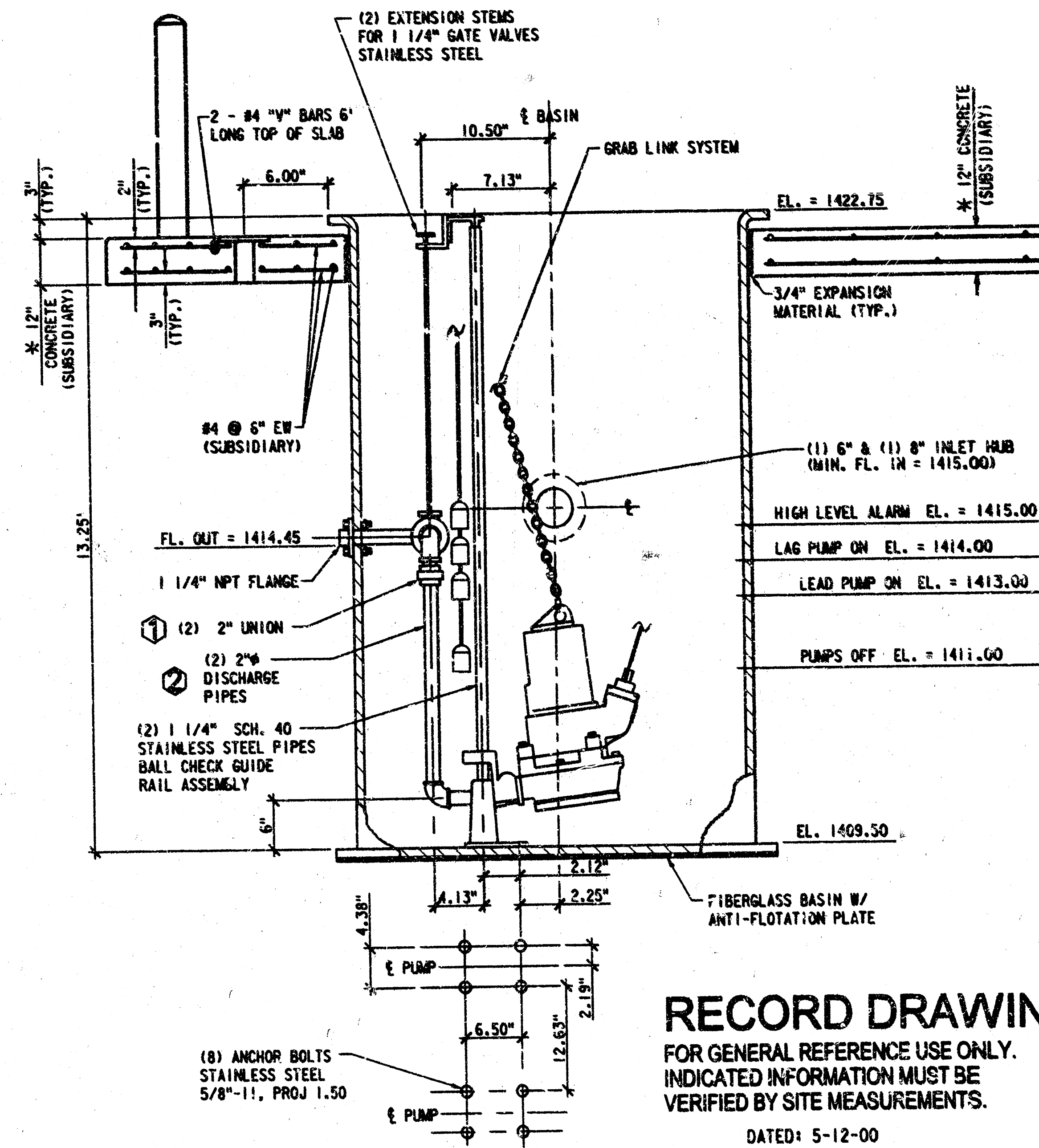
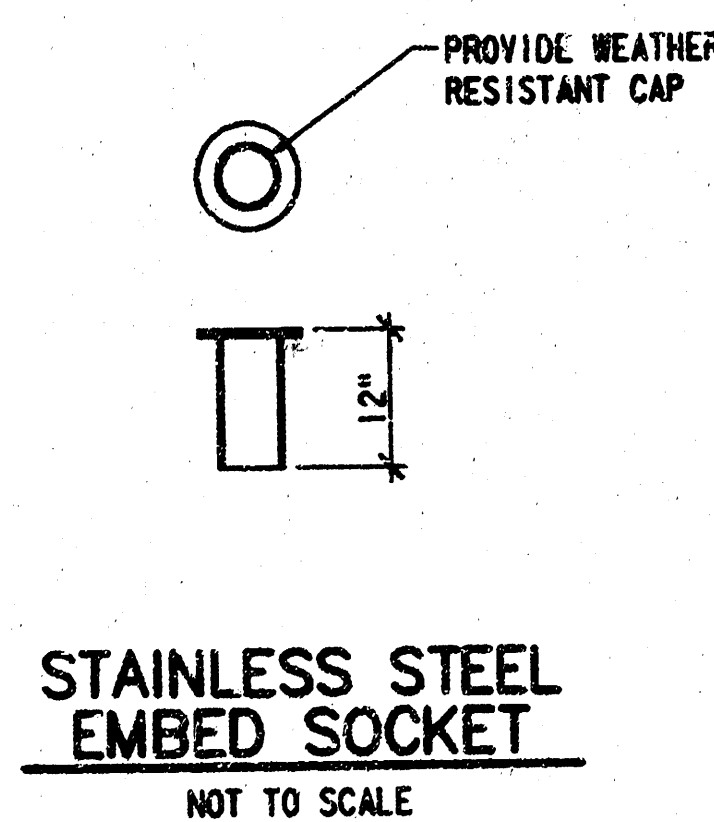
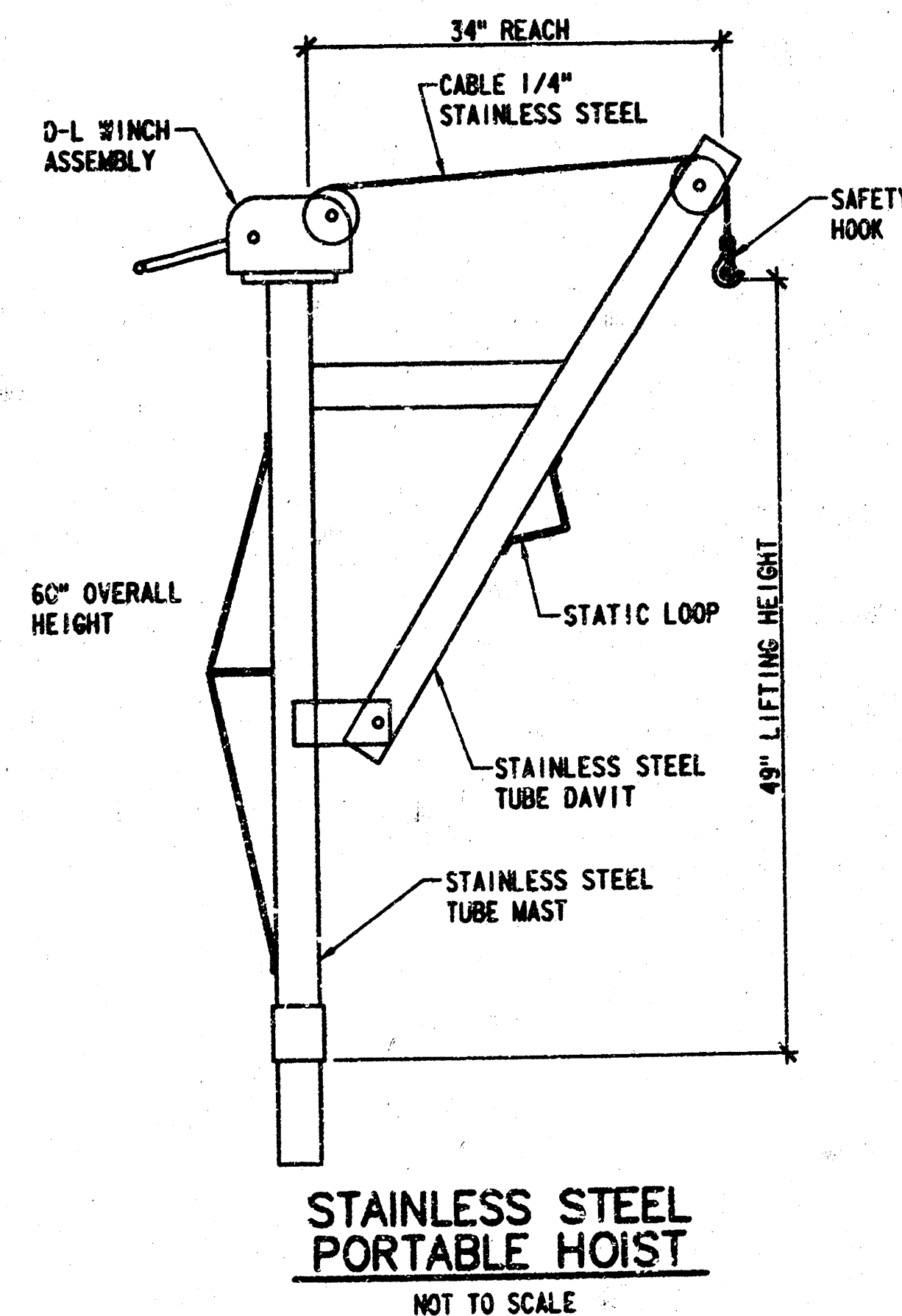
Water Mains
Fire Prot. Line
NOTE TO CONTRACTORS
Public Property:
Inspection and testing for the waterline is to be provided by a licensed Consulting Engineering Firm under contract with the Owner/Developer. Said inspection to be in accordance with the City of Wichita standard construction engineering practices and certified by a Licensed Professional Engineer. No work shall be performed in dedicated easements of public right-of-way by the Contractor without such inspection nor shall any work be commenced without written authorization by the City Engineer. All Construction and Materials shall comply with the City of Wichita Specifications and Standards (on file and available in the City Engineer's Office).
Private Property:
Inspection and testing for the fire protection line is to be performed by a City of Wichita certified fire protection contractor in accordance with the fire codes as adopted by the City of Wichita. All materials and construction practices for the fire protection line shall comply with the fire codes as adopted by the City of Wichita (available from the City of Wichita Fire Department). The Contractor shall not commence work without notification to and approval of the Wichita Fire Department.

APPROVED	
THE WICHITA AIRPORT AUTHORITY	
BAULIS F. BELL, DIRECTOR OF AIRPORTS	DATE
JOHN M. GONALD, P.E. DIRECTOR OF ENGINEERING AND PLANNING	DATE
PLANS PREPARED BY WILSON & COMPANY WICHITA - KANSAS	
97-450-022-01 97-450-022-02	MAY 1999



SPECIFICATIONS

ACCESS FRAME AND COVER SHALL HAVE A 1/4" THICK, MILL FINISH, EXTRUDED ALUMINUM FRAME, INCORPORATING EMBED ANCHOR PLATES. THE DOOR PANEL SHALL BE 1/4" ALUMINUM DIAMOND PLATE, REINFORCED TO WITHSTAND A LIVE LOAD OF 300 LBS. PSF. DOOR SHALL OPEN TO 90° AND AUTOMATICALLY LOCK WITH A STAINLESS STEEL HOLD OPEN ARM WITH ALUMINUM RELEASE HANDLE. DOOR SHALL CLOSE FLUSH WITH THE FRAME. HINGES AND ALL FASTENING HARDWARE SHALL BE STAINLESS STEEL. UNIT SHALL LOCK WITH A NON-CORROSIVE LOCKING BAR AND HAVE A NON-CORROSIVE HANDLE. UNIT SHALL BE GUARANTEED AGAINST DEFECTS IN MATERIAL AND/OR WORKMANSHIP FOR A PERIOD OF 10 YEARS.



- NOTES:**
1. THE CONCRETE SHALL BE A MINIMUM OF 4,000 LB MIX. CONCRETE AND REINFORCING SHALL BE SUBSIDIARY.
 2. CONTRACTOR TO LOCATE AND INSTALL INLET HUBS IN FIELD AND CAP BY APPROVED METHODS. VERIFY LOCATIONS WITH OWNER.
 3. GRAB LINK SYSTEM: EACH SUBMERSIBLE PUMP SHALL BE FURNISHED WITH A STAINLESS STEEL CHAIN LIFT ASSEMBLY. THIS SHALL CONSIST OF ONE SCREW PIN ANCHOR, SHACKLE AND ONE 12 INCH LENGTH OF CHAIN FOR ATTACHMENT TO PUMP. CHAIN WILL IN ALL CASES BE SHORT ENOUGH NOT TO REACH PUMP SECTION WHEN ATTACHED TO LIFTING BAIL ON PUMP. THERE SHALL ALSO BE INCLUDED ONE NYLON ROPE 20 FEET LONG TO EXTEND TO THE TOP OF THE GUIDE RAIL SYSTEM.
 - GRAB LINK SHALL SLIDE DOWN THE NYLON ROPE AND GRAB THE SHORT LENGTH OF CHAIN WHEN THE ROPE IS GIVEN SLACK. THE HOIST OR OTHER MECHANICAL DEVICE SHALL BE ABLE TO RETRIEVE THE PUMP. THE GRAB LINK SYSTEM SHALL BE SIZED FOR A MINIMUM OF 50 PERCENT MORE THAN THE WEIGHT OF THE PUMP.
 - NOTE: FOR EASE OF LINK RETRIEVAL A 20 FOOT LENGTH OF ROPE WILL BE SUPPLIED FOR ATTACHMENT TO INVERT THE LINK AND ALLOW EASE OF CHAIN RELEASE DURING REINSTALLATION.
 4. STAINLESS STEEL PORTABLE HOIST: HALLIDAY PRODUCTS MODEL NO. D1248 OR EQUAL. EQUIPPED WITH 30' OF STAINLESS STEEL CABLE, SAFETY HOOK AND DUTTON-LAINSON HAND WINCH OR EQUAL.
 5. ACCESS DOOR: HALLIDAY PRODUCTS MODEL NO. R1948 OR EQUAL. LID MUST BE CAPABLE OF BEING LOCKED CLOSED WITH A PAD LOCK.
 6. PUMP CONTROL PANEL DOORS MUST BE CAPABLE OF BEING LOCKED CLOSED WITH PADLOCK OR APPROVED METHODS.

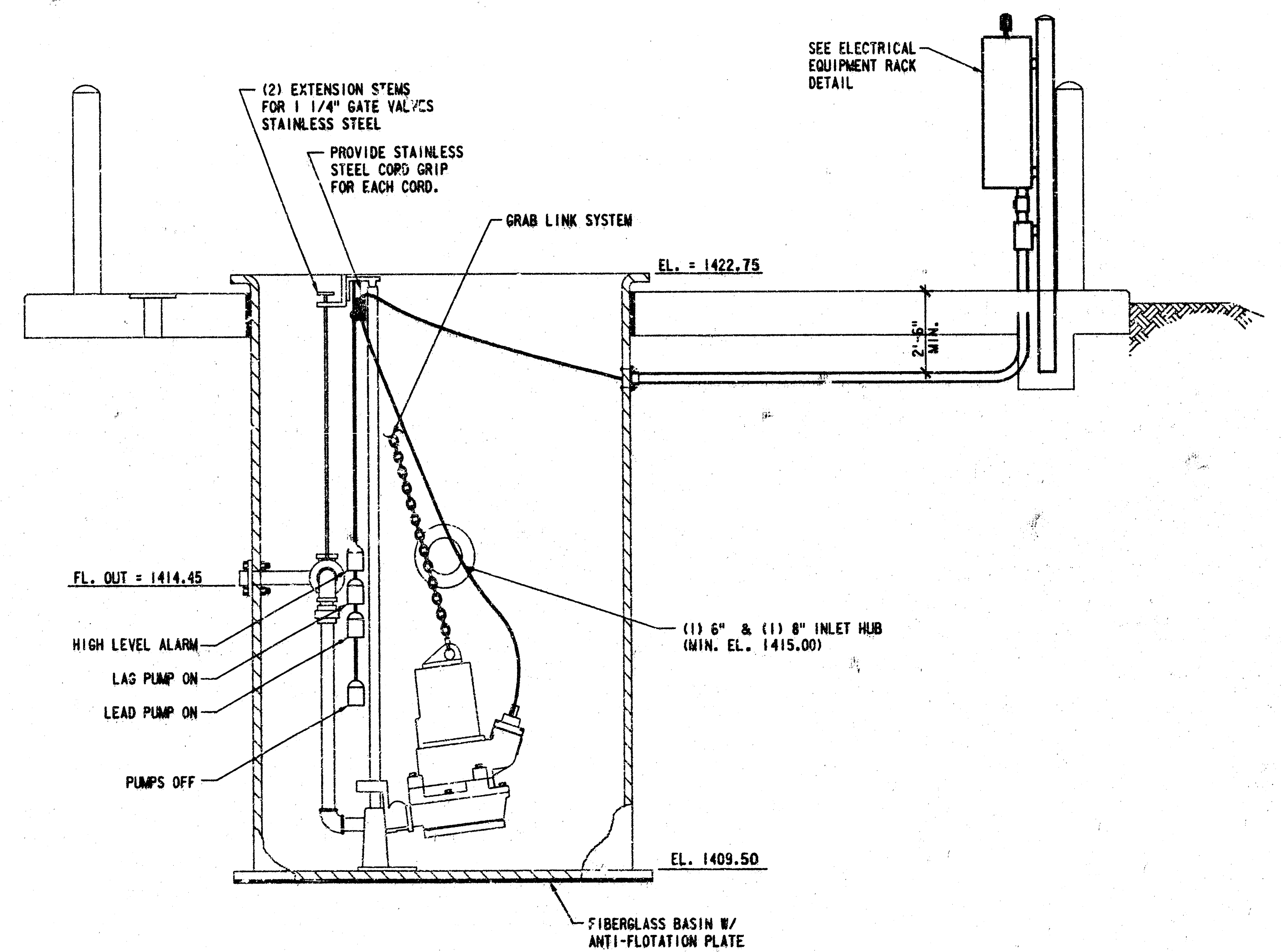
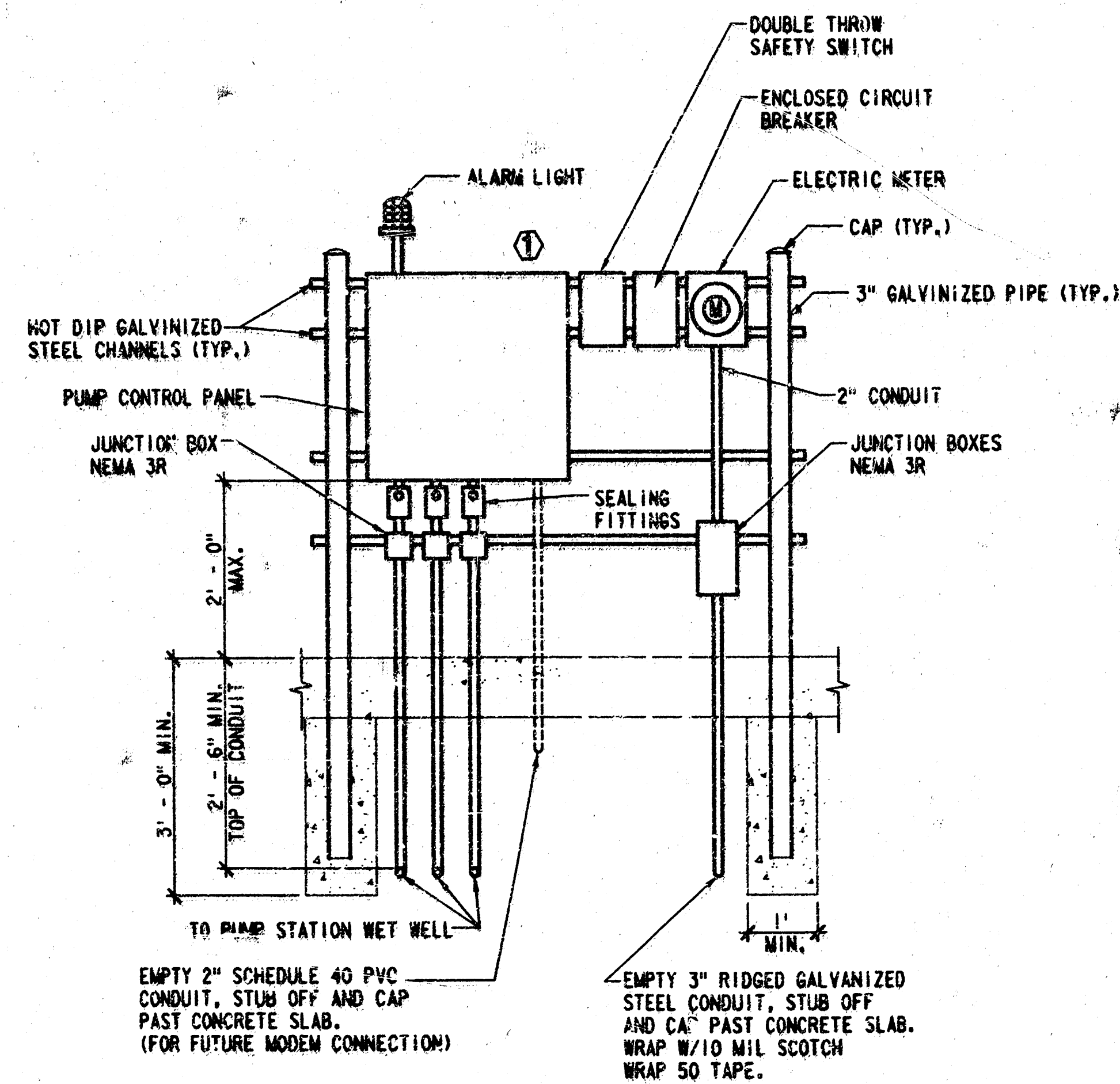
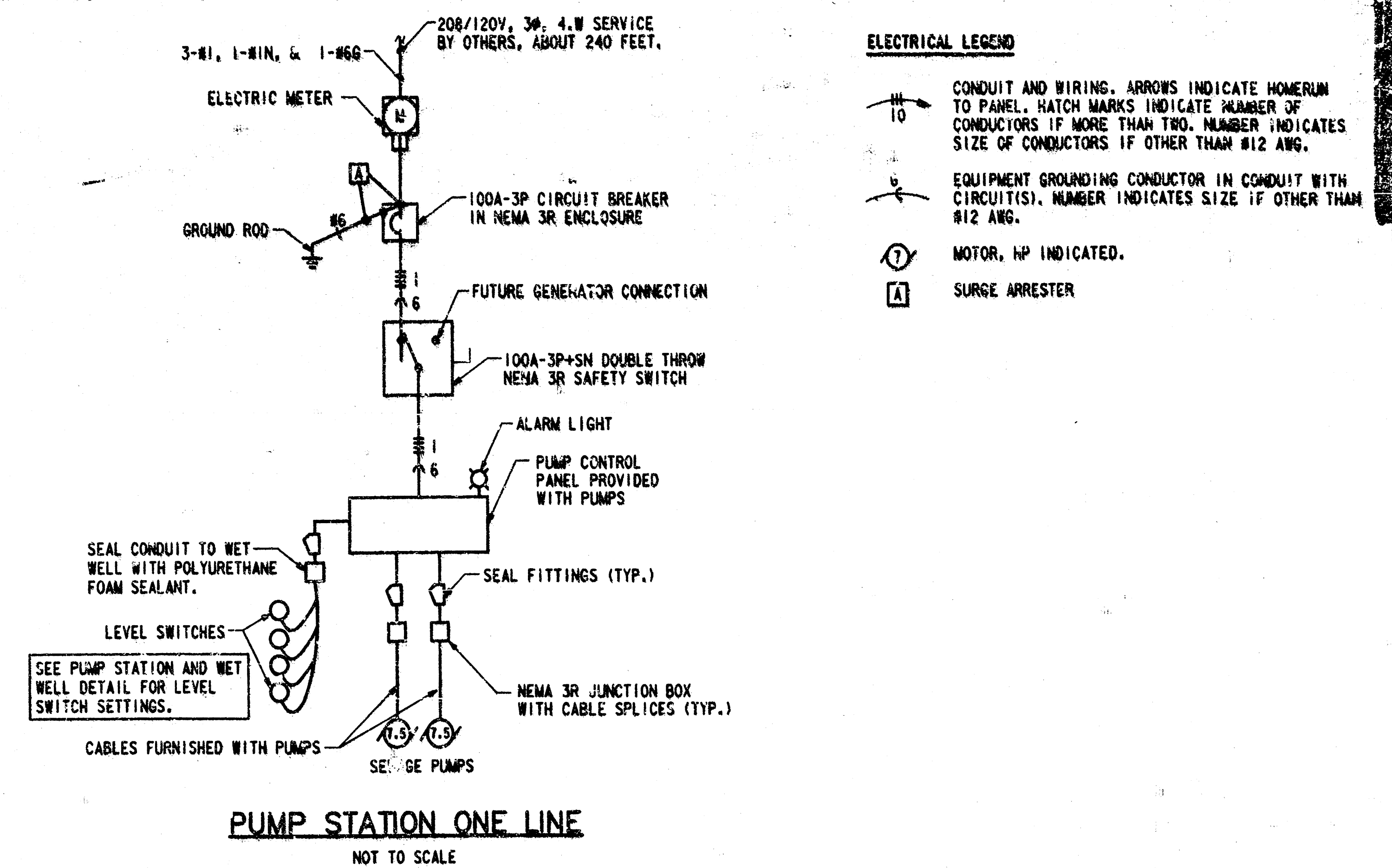
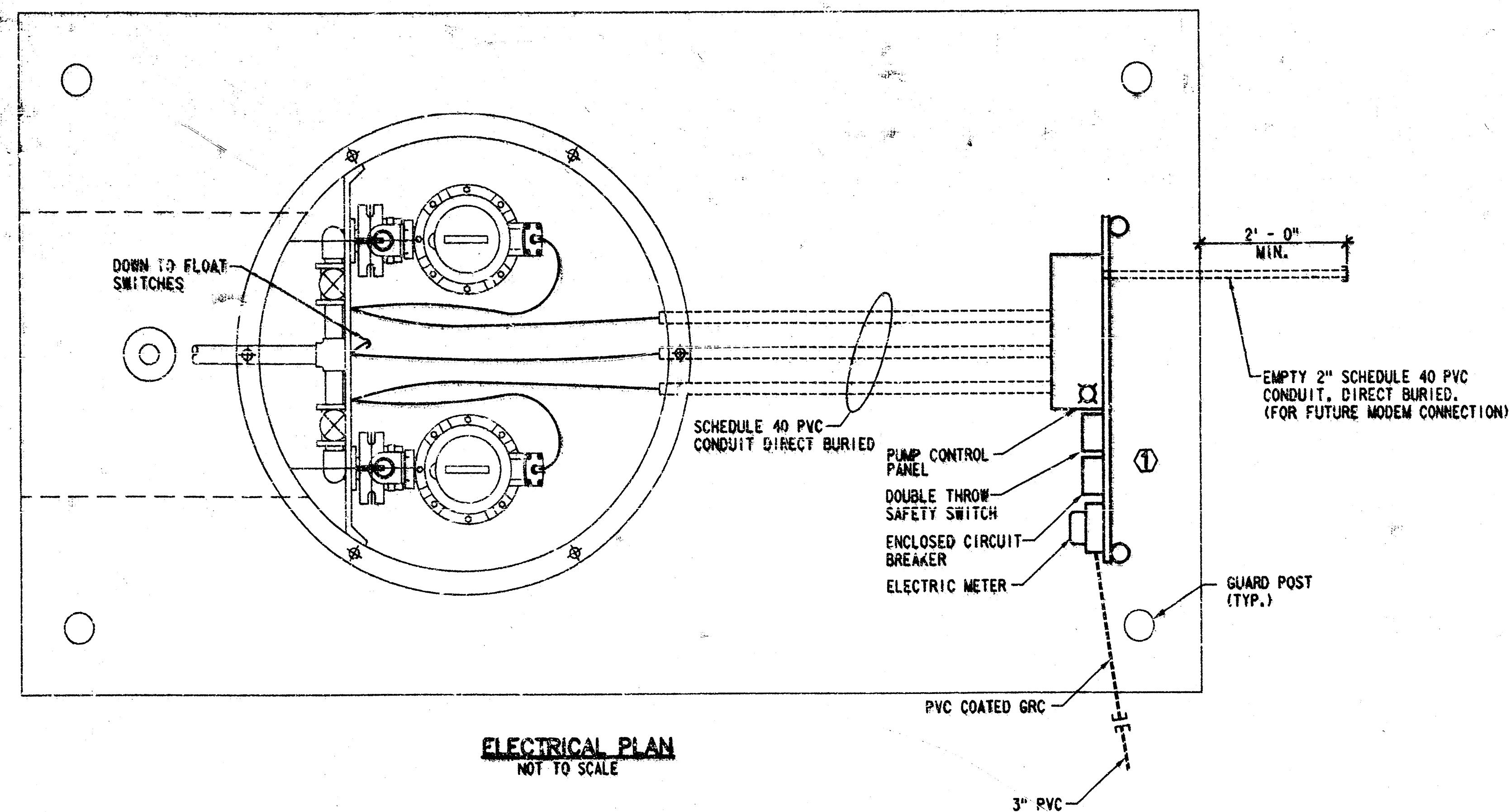
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DATED: 5-12-00

WET WELL / SECTION A-A
NOT TO SCALE

REVISIONS	DATE	BY	REVISIONS	DATE	BY
1 CHANGED 1 1/4" TO 2"					
2 CHANGED 1 1/4" TO 2"					

COLONEL JAMES JABARA AIRPORT
TAXIWAY "L" SITE DEVELOPMENT
SANITARY SEWER EXTENSION
WET WELL LAYOUT DETAILS

SCALE	NOT TO SCALE	DESIGN	RAN	CHECKED	WILSON & COMPANY	DATE	MAY 1999	FILE NO.	97-460-022 (02)
		DRAWN	MSM	APPROVED	WICHITA - KANSAS			SHEET	4 of 7



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DATED: 5-12-00

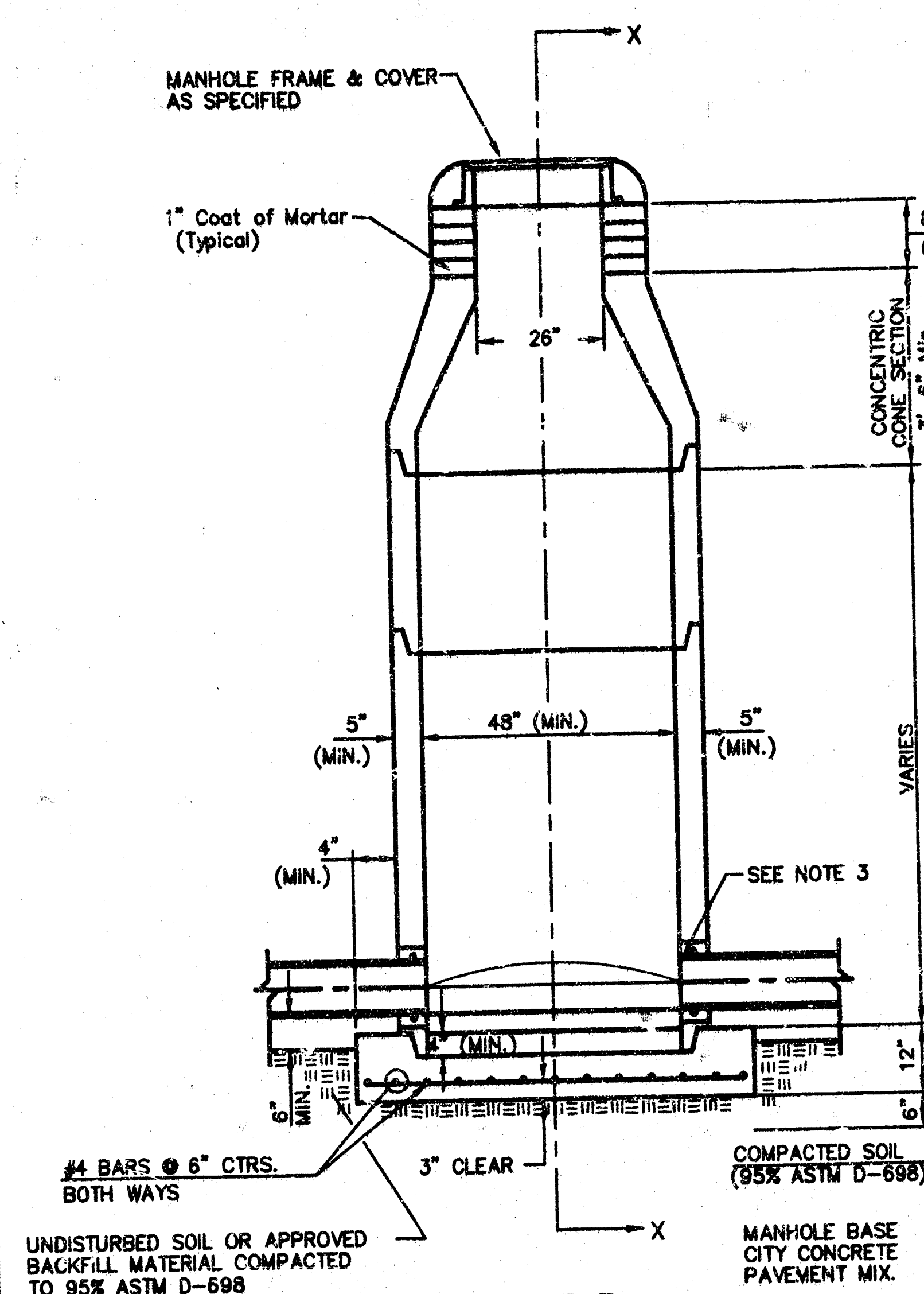
① REVERSED ELECTRICAL EQUIPMENT RACK	5-10-00	MVB			
REVISIONS	DATE	BY	REVISIONS	DATE	BY

COLONEL JAMES JABARA AIRPORT
TAXIWAY "L" SITE DEVELOPMENT
SANITARY SEWER EXTENSION
WET WELL ELECTRICAL DETAILS

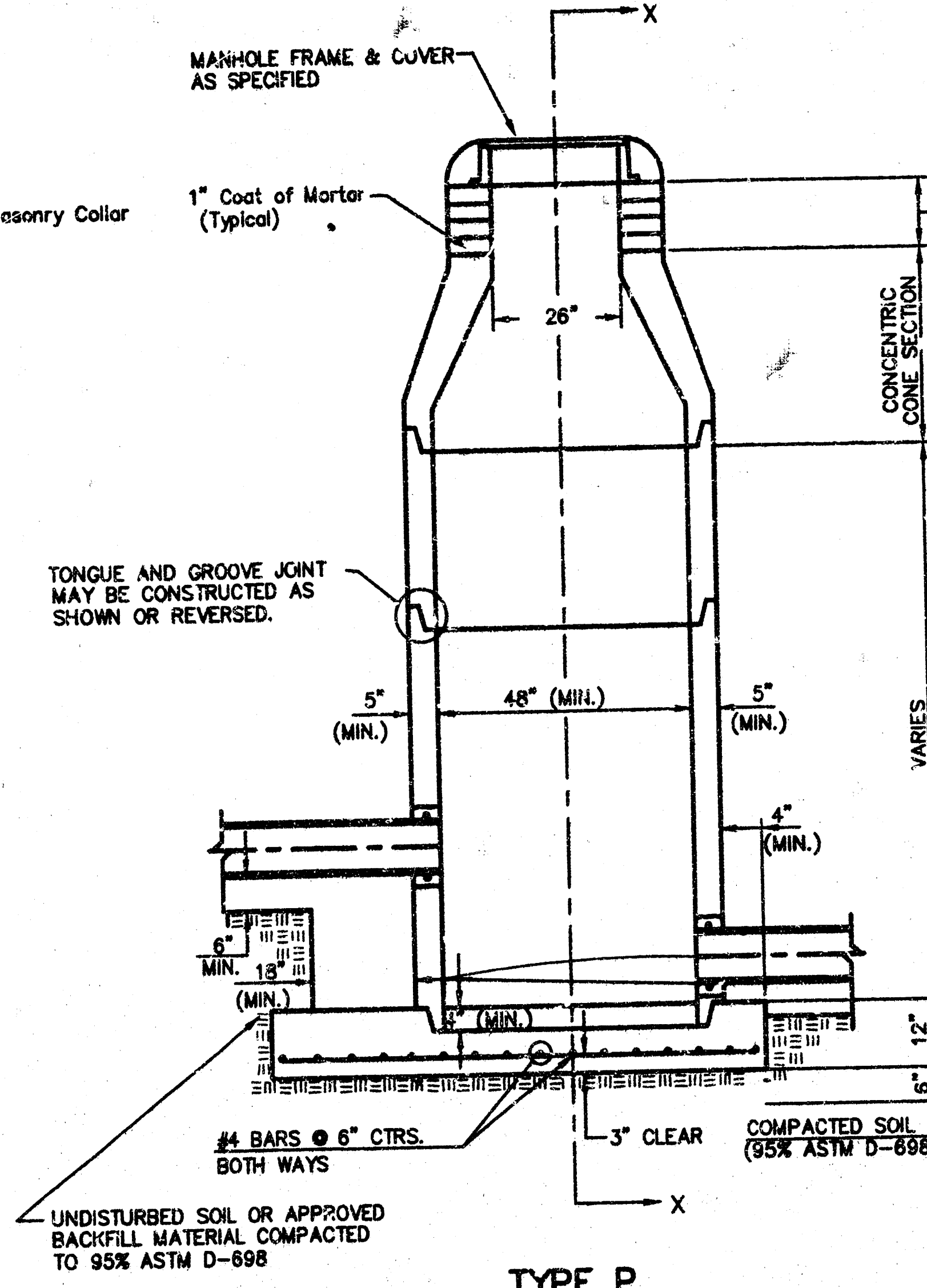
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NOT TO SCALE	RAN	APPROVED	MAY 1999	97-460-022 (02)
	DAN			SHEET
				5 of 7

WILSON & COMPANY
WICHITA - KANSAS

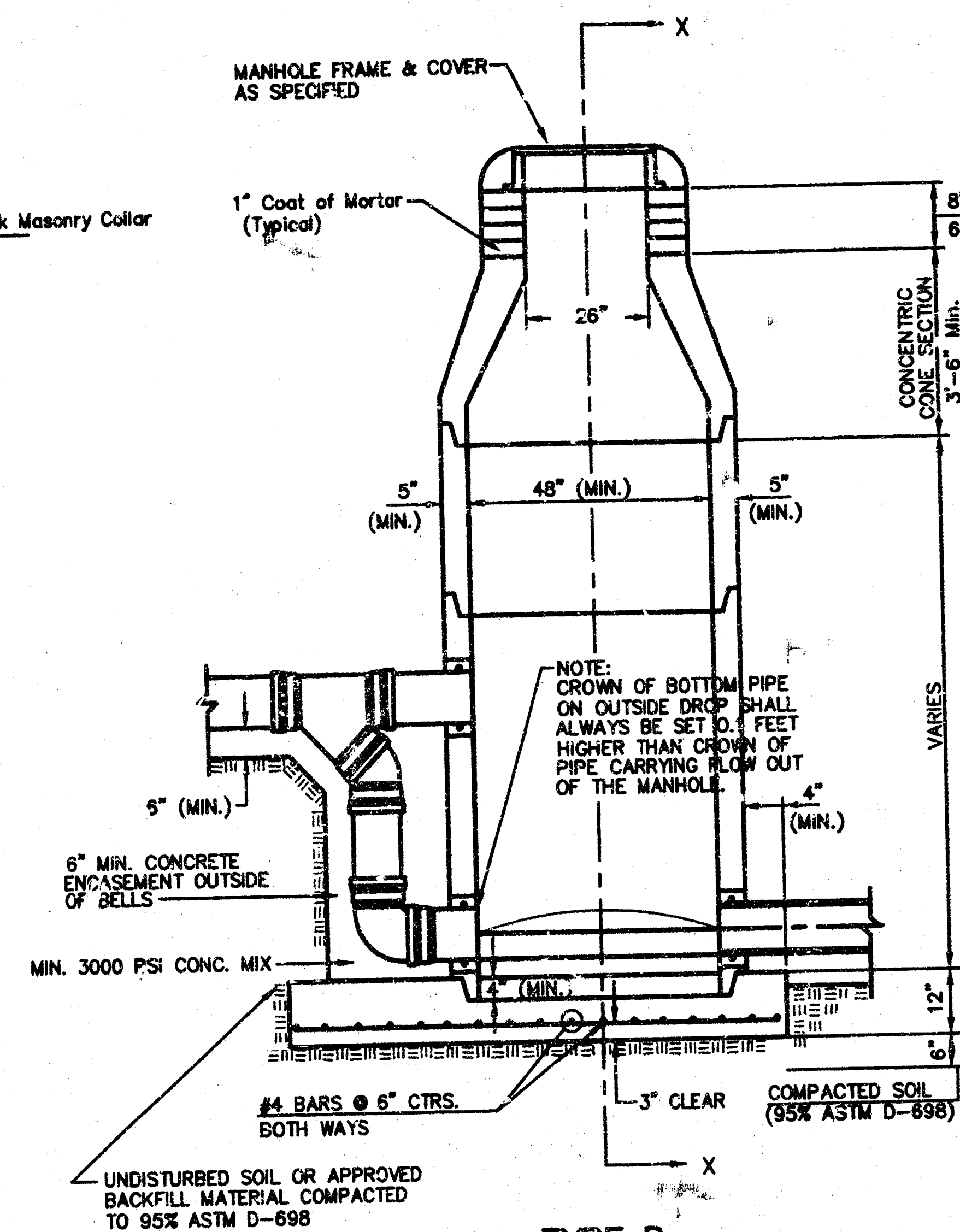
SEWER APPURTENANCES DETAILS



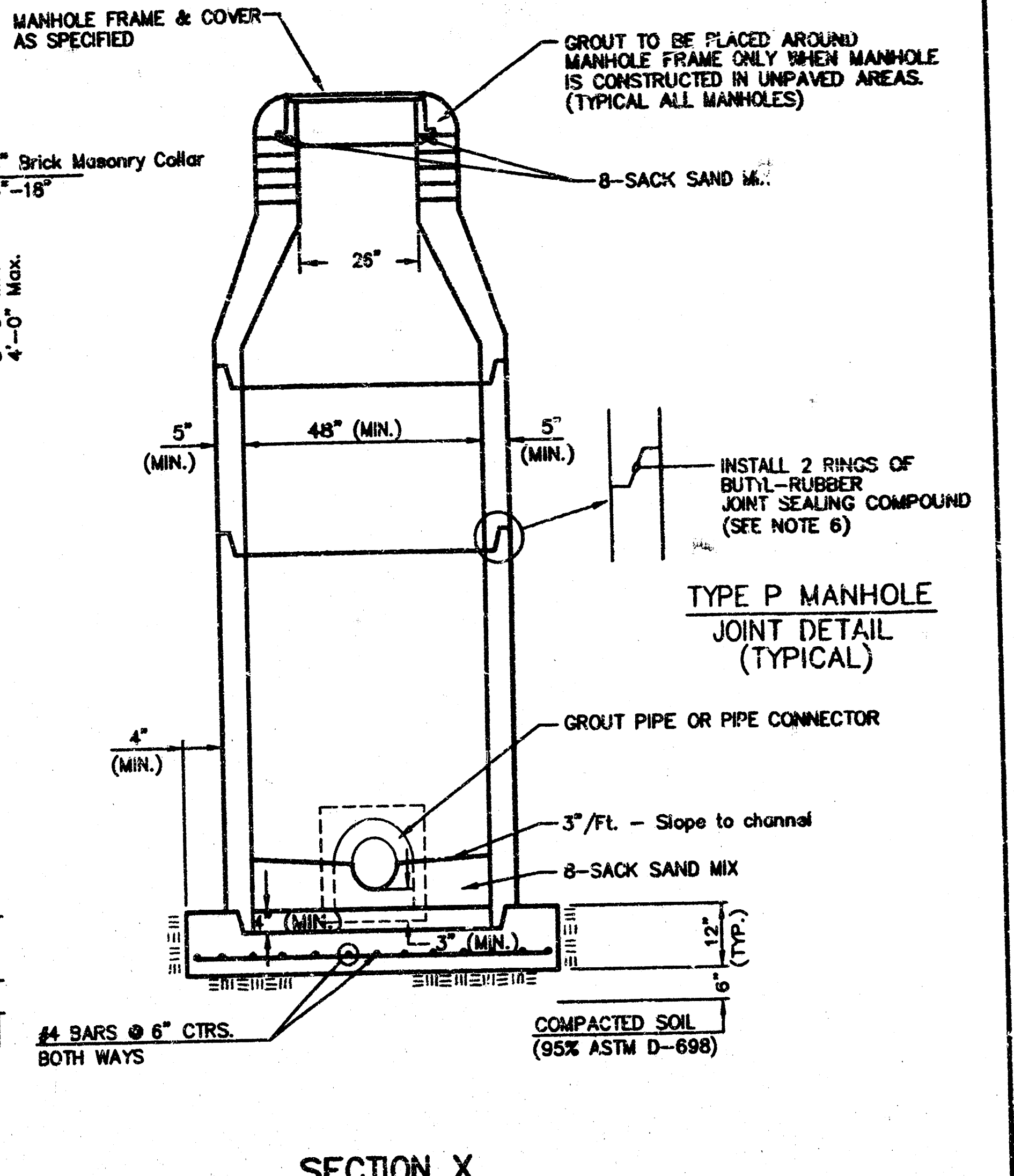
**TYPE P
STANDARD MANHOLE**



**TYPE P
INSIDE DROP MANHOLE**



**TYPE P
OUTSIDE DROP MANHOLE**



**SECTION X
(TYPICAL)**

GENERAL 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 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 TNEEC SERIES 68 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 SPECIFICATIONS 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 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 MAFF 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.

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DATED: 5-12-00

THE CITY OF WICHITA CITY ENGINEER'S OFFICE CITY HALL - SEVENTH FLOOR 400 SOUTH MAIN STREET WICHITA, KANSAS 67202 (316) 268-4100 FAX (316) 268-4114 FAX	STANDARD TYPE 'P' MANHOLES	
	M. E. UNDERK P.E. - CITY ENGINEER	
	PROJECT NUMBER XXXX-XXXXX	DRAWING NUMBER XXXXXX
	DATE MAR 00	SHEET 6 OF 7

PMH.DWG

GENERAL NOTES

1. 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 as to suitability, appearance and site location. Locations that, in the opinion of the Engineer, will leave an unsightly appearance will not be approved.
2. 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 archeological investigations unless buried in a previously approved borrow location.
3. 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 identify a utility to be adjusted by the Owner during construction. Existing utilities and their locations, as shown on the plans, represent the best information obtainable for design. Location information has been obtained from the various utility companies and is either from company record drawings or company provided field locations. The Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.
4. The Contractor shall notify pipeline companies at least 24 hours in advance of any work being performed across and/or adjacent to pipelines.
5. At least 72 hours prior to beginning excavation (excluding weekends and holidays), the Contractor shall contact the Kansas On-Call system, a utility location service, at (316) 682-2470 to request the local utility companies mark any existing lines within the project area.
6. 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 identify a utility to be adjusted by the Owner during construction. Existing utilities and their locations, as shown on the plans, represent the best information obtainable for the design. The Contractor will be required to work around existing utilities within the right-of-way which do not conflict with proposed construction.
7. Contractor shall provide positive drainage away from all manhole covers.
8. All lawn/lawn areas disturbed by construction of the proposed improvements shall be restored with the same grass/sod as existing. Restoration of disturbed areas shall include, but not be limited to, top soil preparation, seeding, mulch, and/or reseeded. All seeding/sodding work shall be in accordance with the City of Wichita standard specifications and the City of Wichita Administrative Regulation No. AR78 which governs cleanup and restoration or replacement following construction.
9. 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.
10. The Contractor shall prevent any construction debris from entering the existing sanitary sewer during construction.
11. The Contractor is required to maintain continuous flow of sewage in existing mains at all times.
12. The Contractor shall seed all areas disturbed by construction activities with temporary rye grass. Rye grass seed shall be planted at a minimum rate of six (6) pounds per one thousand (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.
13. Existing utilities and their locations as shown on the plans, represent the best information obtainable for design. It should be noted that other buried utilities may exist which are not shown on these plans. The Contractor shall exercise extreme caution during trenching operations to avoid damaging these lines. Any utilities damaged shall be replaced or repaired immediately as directed by the Engineer at the Contractor's expense. The Contractor shall protect from damage and support existing utilities through construction as approved by the utility owner and the Engineer at the Contractor's expense.
14. A pre-construction meeting will be held prior to the start of construction. The Owner, Engineer, Official Testing Laboratory, Contractor, and other interested parties shall attend.
15. Contractor disturbed areas beyond the limits of construction, shall be required and re-seeded or re-sodded at no additional cost to the Owner. The work area, the staging area, and the excess soil disposal area shall be considered limits of construction.
16. Utility Contact: John M. Oswald, P.E.
Wichita Airport Authority
(316) 946-4715
17. The Contractor shall be responsible for protecting the existing pavements and related facilities and use whatever means are necessary to protect the pavements during construction activities. Any damage shall be repaired to the satisfaction of and at no extra cost to the Owner.
18. The Contractor shall be responsible for maintaining pavements clear of construction debris and shall keep clean all pavements used by construction traffic or roads dirty by the construction project. Subsidiary.
19. Dust control of the project site is the Contractor's responsibility. Subsidiary.
20. Positive drainage is required at all times.
21. Place construction warning signs at locations required by the Owner. Subsidiary.
22. The Project access road must be used for access to the entire project.
23. For the Duration of the project a temporary "Keep Out" sign will be provided by the Road and Drainage Project Contractor to be used near the construction entrance. This sign is intended to notify the public that the entrance is off limits. This sign is to be weather resistant, easy to read from Jabara Road and located as per the Owner's instructions. This sign is to be erected prior to the Contractor using the construction entrance. Coordinate with Road and Drainage Project Contractor.
24. The staging area is provided for the use of the Contractor for materials storage, private vehicle parking, job trailer, Engineer's field office, etc. The area will be specifically outlined by the Owner at the start of construction. This area will be shared with the Road and Drainage Contractor as well as Water Main Contractor. No parking on Jabara Road.
25. The staging area is adjacent to Jabara Road and visible to the public. Keep area clean and presentable as practical.
26. Upon completion of the project, restore staging area to the pre-construction condition.
27. A temporary construction gate will be provided by Road and Drainage Project Contractor. This gate is to be kept locked with a chain and padlock when there is no construction activity occurring. Coordinate with Owner, Road and Drainage Project Contractor, and Water Main Project Contractor.
28. Wichita Airport Authority to close Taxiway "L" prior to construction.

RECORD DRAWING

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DATE: 5-12-00

DESIGN	CHECKED	 WILSON & COMPANY WICHITA - KANSAS	DATE	FILE NO.
RAN	RAN		MAY 1999	97-460-022-02
DRAWN	APPROVED			SHEET
MEK	RAN			7 of 7

