SHEET NO.	TOTAL SHEETS
C1	5

CITY OF WICHITA, KANSAS
MICHAEL E. LINDEBAK, P.E., CITY ENGINEER

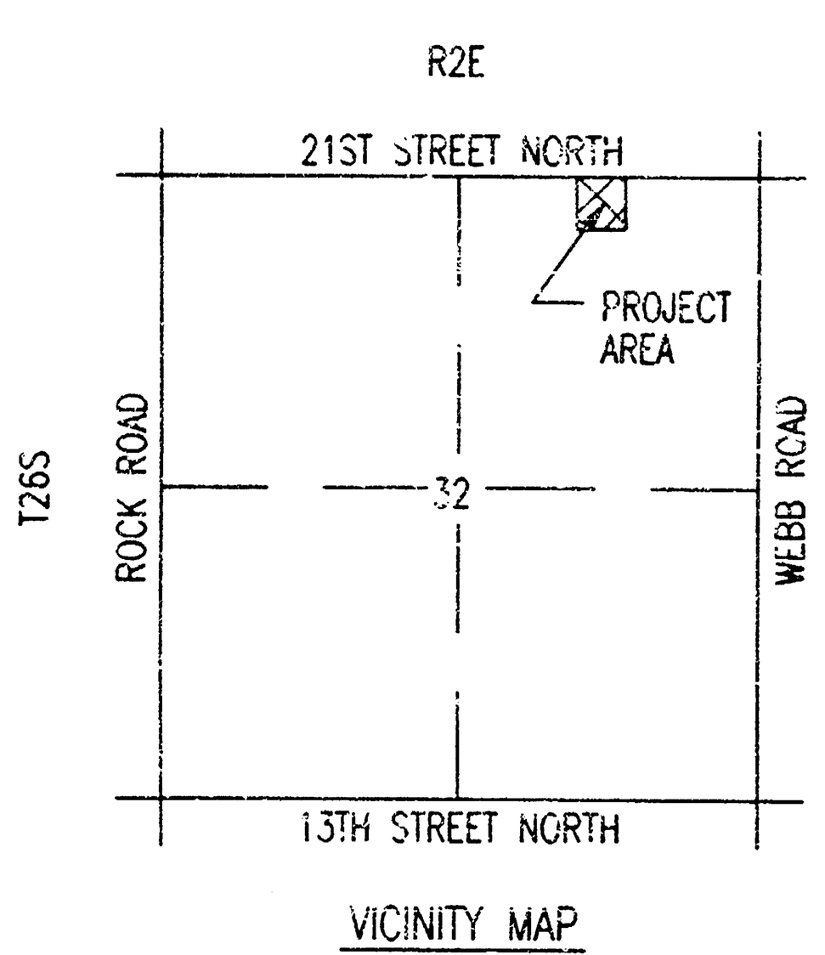
STORM WATER SEWER EXTENSION

IN

WILSON RETIREMENT ADDITION

CITY OF WICHITA PRIVATE PROJECT NO. 831PPS (607861)

INDEX OF SHEETS



VICINITY MAP

GENERAL NOTES

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. EXISTING UTILITIES AND THEIR LOCATION, 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. CONTRACTOR SHALL SATISFY HIMSELF OF SUBSURFACE CONDITIONS PRIOR TO BIDDING.

TREES AND SHRUBS IN PUBLIC RIGHT-OF-WAY WHICH ARE IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR WITH THE ENGINEER'S APPROVAL. TREES AND SHRUBS WHICH ARE NOT IN DIRECT CONFLICT WITH PROPOSED NEW CONSTRUCTION SHALL BE SAVED AND PROTECTED FROM DAMAGE.

RUBBLE FROM THE REMOVAL OF MISCELLANEOUS STRUCTURES SHALL BE DISPOSED OF ON SITES TO BE PROVIDED BY THE CONTRACTOR AND APPROVED AS NOTED.

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 ARCHOLOGICAL INVESTIGATIONS UNLESS BURIED IN A PREVIOUSLY APPROVED BORROW LOCATION.

EXCESS EXCAVATED MATERIAL AND EXCESS TOPSOIL SHALL BE STOCKPILED OR WASTED WITHIN THE PLAT LIMITS. THE CONTRACTOR SHALL CONTACT THE OWNER'S ENGINEER AT 262-2691 FOR INFORMATION PERTAINING TO THE ACCEPTABLE LOCATIONS FOR THE DISPOSITION OF EXCESS MATERIAL. WASTE MATERIAL SHALL BE GRADED SMOOTH AND SLOPED TO DRAIN.

CONTRACTOR SHALL PROVIDE A MINIMUM FORTY-EIGHT (48) HOUR ADVANCE NOTICE (EXCLUDING WEEKENDS AND HOLIDAYS) PRIOR TO BEGINNING ANY EXCAVATION, TO KANSAS ONE-CALL SYSTEM, A UTILITY LOCATION SERVICE, AT (316) 687-2470 TO REQUEST THE FOLLOWING UTILITY COMPANIES TO LOCATE ALL EXISTING LINES WITHIN THE PROJECT AREA: K.G.E GAS, PEOPLES NATURAL GAS, K.G.E. ELECTRIC, SOUTHWESTERN BELL TELEPHONE, MULTIMEDIA CABLEVISION, CITY OF WICHITA SEWER MAINTENANCE AND CITY OF WICHITA WATER DEPARTMENT.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING PROPERTY IRONS. THE CONTRACTOR WILL 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.

THE WATER DEPARTMENT SHALL FIELD LOCATE WATER VALVES ONE TIME DURING CONSTRUCTION WHEN REQUESTED BY THE CONTRACTOR. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PRESERVE SUCH FIELD LOCATIONS DURING THE CONSTRUCTION PROCESS. WATER VALVES, WATER VALVE BOXES OR FIRE HYDRANTS DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED BY THE CONTRACTOR AT HIS OWN EXPENSE.

THE CONTRACTOR SHALL ADJUST WATER VALVE BOXFS AS DIRECTED BY THE ENGINEER.

ALL AREAS DISTURBED DURING CONSTRUCTION SHALL BE SEEDED, FERTILIZED, AND MULCHED ACCORDING TO CITY OF WICHITA STANDARDS AND SPECIFICATIONS.

ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH CITY OF WICHITA STANDARD SPECIFICATIONS.

BOOKED 8-2-00 NCG D-471

APPROVED AS NOTED
BY CITY ENGINEER OF WICHITA

SANITARY SEWERS ____________
STORM SEWERS VRH 9/1/98
DRIVEWAY APPROACHES ____________
WATER MAINS ____________
PAVING ____________

DARWIN R. CR... LICENSED 14896 KANSAS PROFESSIONAL ENGINEER 8-27-98

AS-BUILT PREPARED BY:
MUNICIPAL ENGINEERS, P.A.
1-4-99

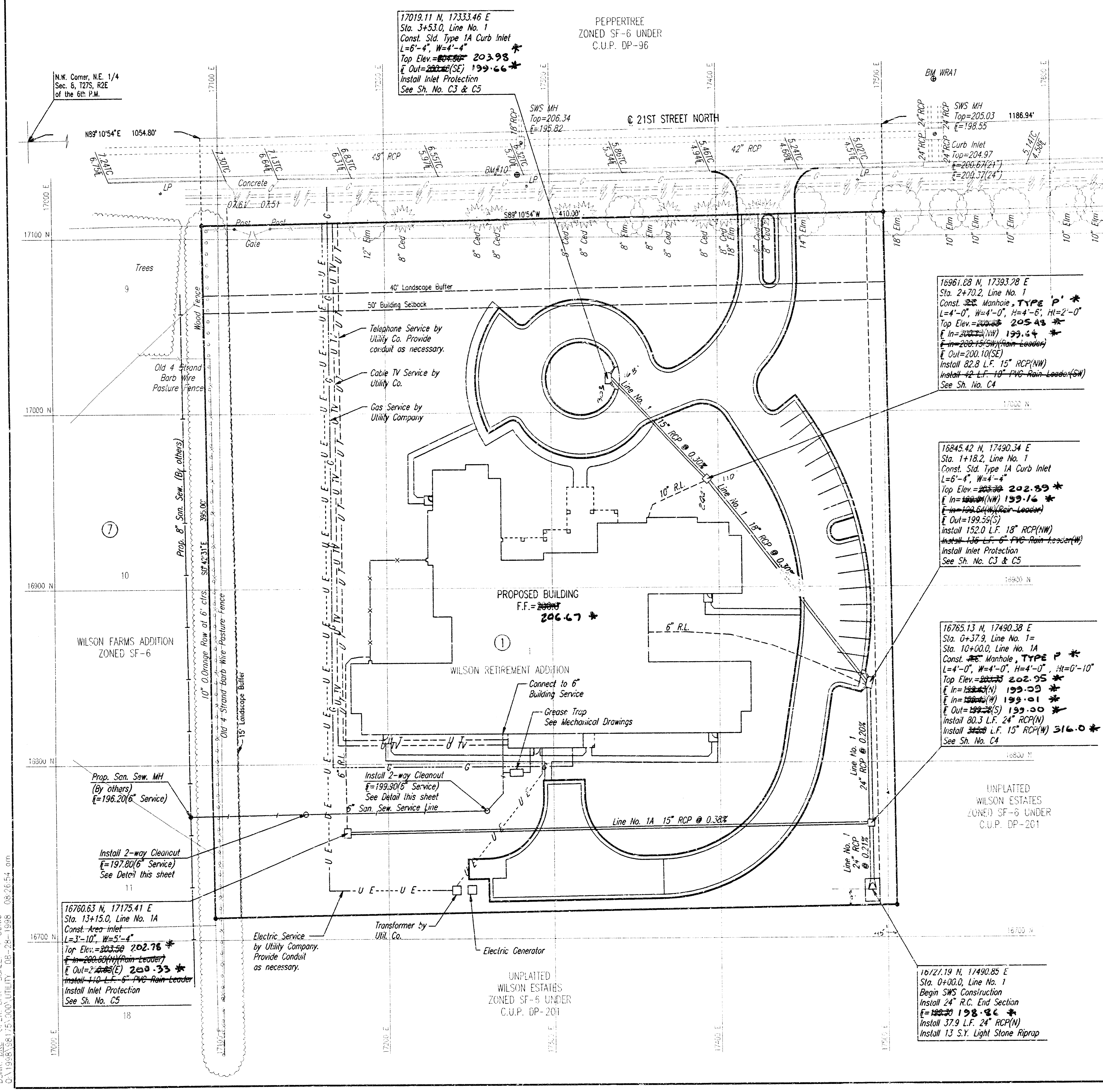
INSPECTION AND TESTING FOR THIS PROJECT IS TO BE PROVIDED BY A LICENSED CONSULTING ENGINEERING FIRM CONTRACTED BY THE OWNER/DEVELOPER. SAID INSPECTION TO BE IN ACCORDANCE WITH THE CITY OF WICHITA STANDARD CONSTRUCTION ENGINEERING PRACTICES AND CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER. NO WORK SHALL BE PERFORMED IN DEDICATED EASEMENTS OR THE PUBLIC RIGHT-OF-WAY BY THE CONTRACTOR UNTIL SUCH INSPECTION IS ARRANGED FOR AND REQUIRED BONDS HAVE BEEN SUBMITTED TO AND APPROVED BY THE CITY; NOR SHALL ANY WORK BE COMMENCED IN DEDICATED EASEMENTS OR PUBLIC RIGHT-OF-WAY WITHOUT WRITTEN AUTHORIZATION BY THE CITY ENGINEER. IMPROVEMENTS PERFORMED UNDER THIS PROJECT SHALL NOT BE ACCEPTED BY THE CITY UNTIL ALL APPLICABLE DOCUMENTATION HAS BEEN SUBMITTED TO THE CITY ENGINEER. THIS MAY INCLUDE: AS-BUILT DRAWINGS, INSPECTION LOGS, TEST DOCUMENTATION, TV TAPES, AND A CERTIFICATE OF COMPLETION. THE ABOVE SHALL BE PERFORMED BY THE CONSULTING FIRM CONTRACTED TO INSPECT THIS PROJECT.

AUGUST 1998

PLANS PREPARED BY
PROFESSIONAL ENGINEERING CONSULTANTS, P.A.
ENGINEERS
WICHITA, KANSAS

DSNR: DRC OPER: DAR SCALE: 1=150.00
O:\1998\98175\000\PRVTITLE 08-28-1998 08:25:42 am

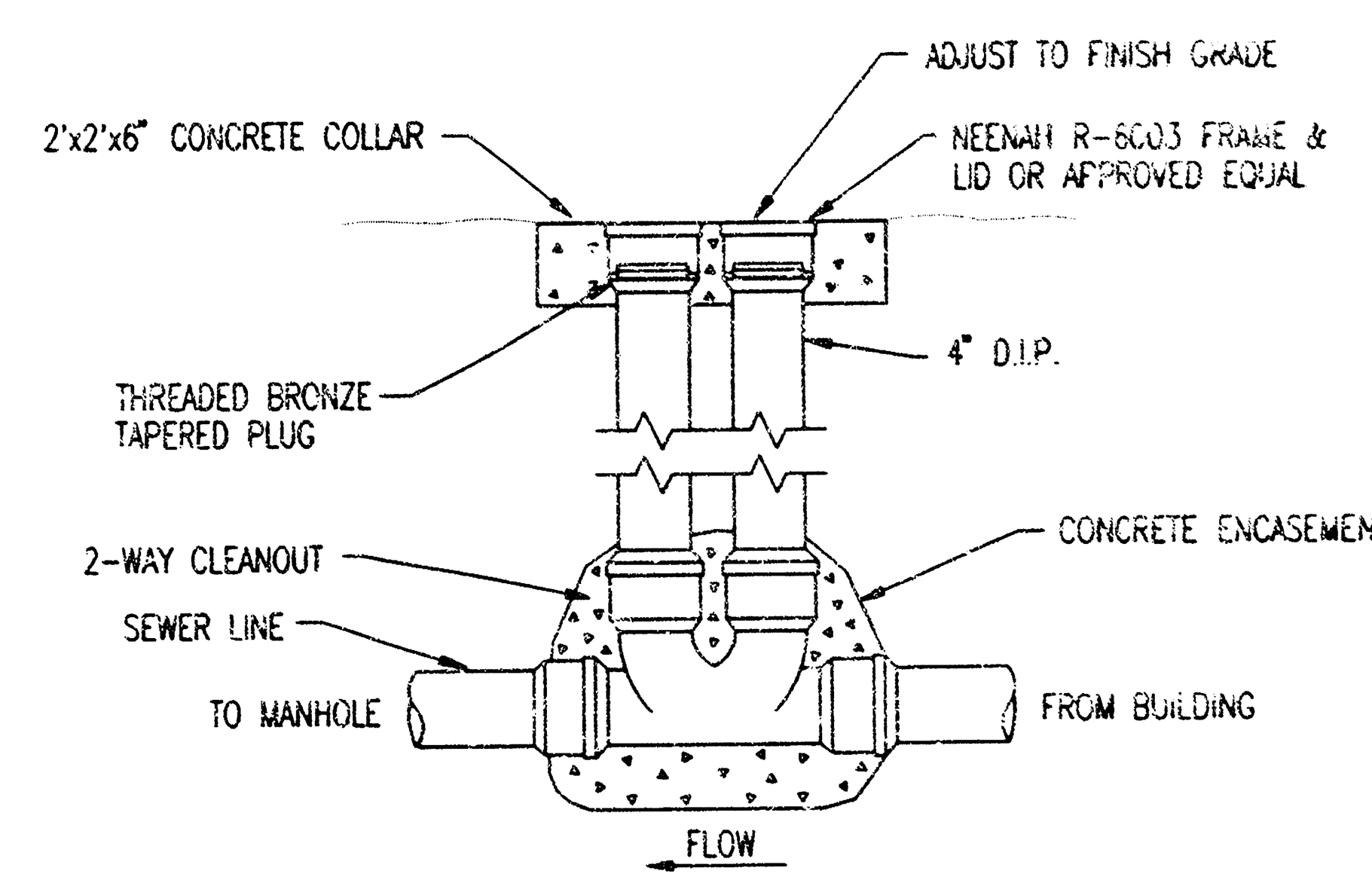
SHEET NO. C2



SCALE: 1"=30'

B.M. – CITY OF WICHITA BENCH MARK DISC 44 FEET SOUTH AND 48 FEET EAST OF THE INTERSECTION OF CENTERLINES OF WEBB ROAD AND 21ST STREET NORTH. ELEV.=205.238 CITY DATUM

SEE SH. NO. C10–C15 FOR FIRE MAIN AND DOMESTIC WATER SERVICE PLAN



2-WAY CLEANOUT DETAIL

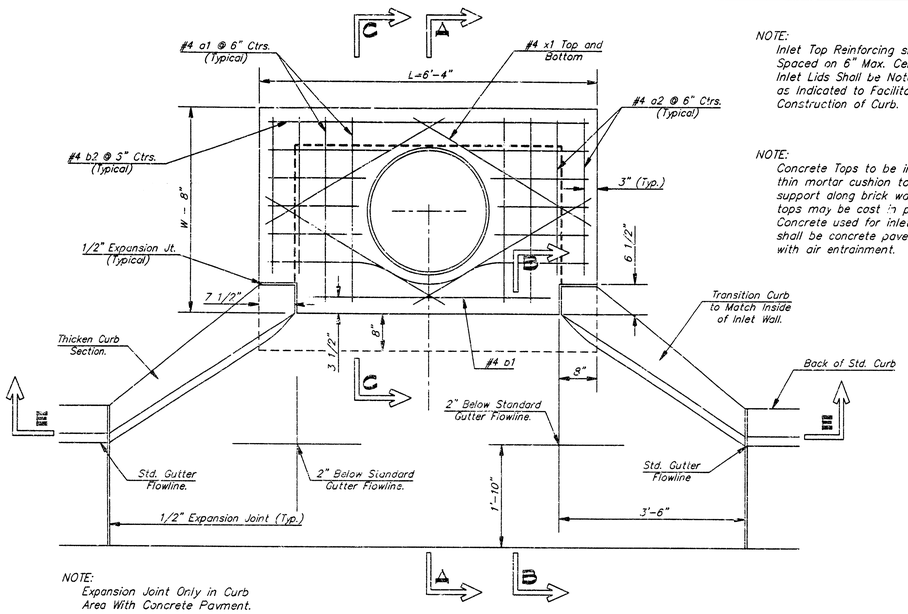
* AS-BUILT ; 1/4/99

UTILITY PLAN

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

Designed by	DRC	Checked by	
Drawn by	DEP	Date AUG 1998	Job No. 98175

DSNR: DRC OPER: DAR SCALE: 1=30.00 Q:\1998\98175\98175-UTILITY 08-28-1998 08:26:54 am

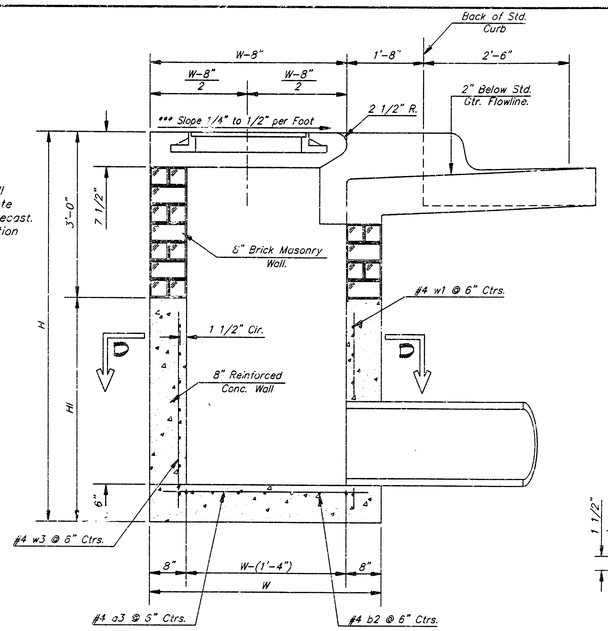


NOTE:
Expansion Joint Only in Curb Area With Concrete Pavment.

PLAN

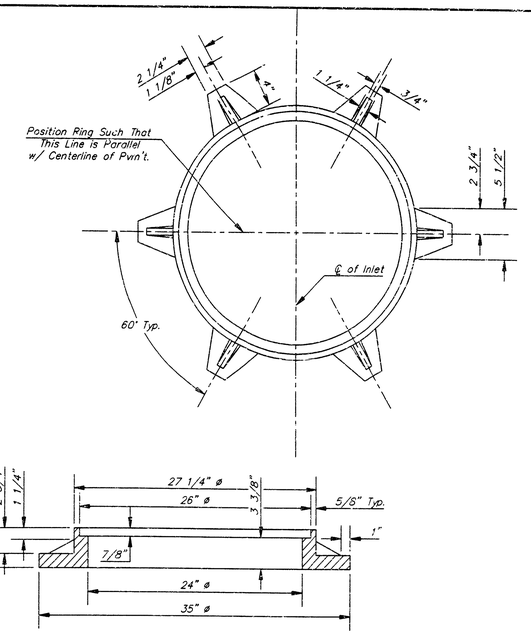
NOTE:
Inlet Top Reinforcing shall be Spaced on 6" Max. Centers. Inlet Lids Shall be Notched Out as Indicated to Facilitate Construction of Curb.

NOTE:
Concrete Tops to be installed on thin mortar cushion to insure full support along brick walls. Concrete tops may be cast in place or precast. Concrete used for inlet construction shall be concrete pavement mix with air entrainment.



SECTION A–A

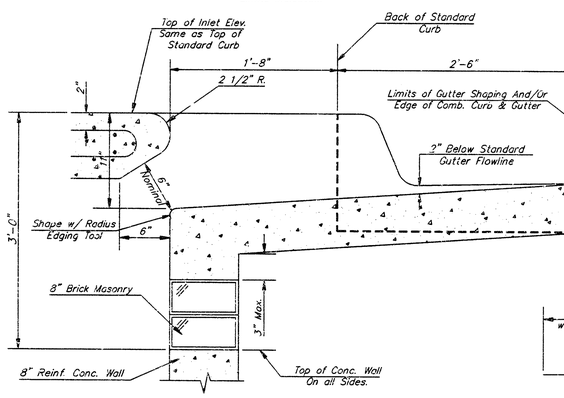
***NOTE: Slope of inlet tops to match Sidewalk or Parking Slopes within Limits Indicated.



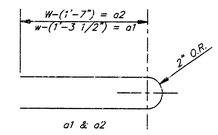
MANHOLE RING AND COVER

Weight = 180 Lbs.

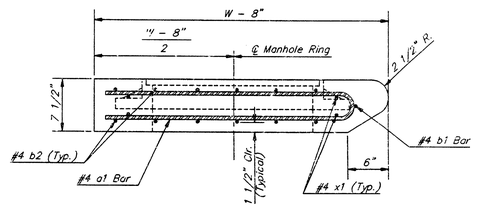
*See City of Wichita Standard Manhole Ring and Cover Detail Sheet for Cover Details to Be Used With Inlet Frame.



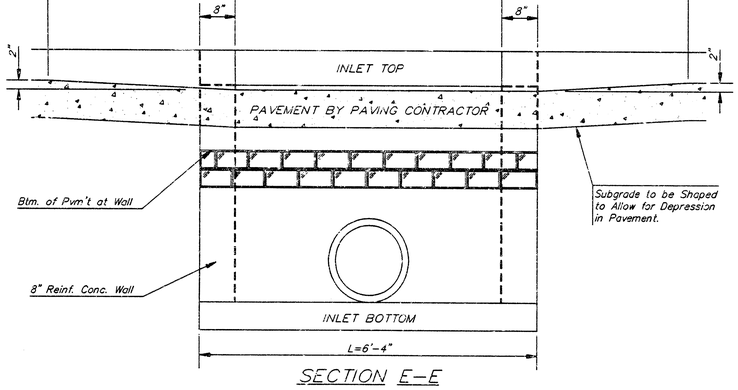
SECTION B–B



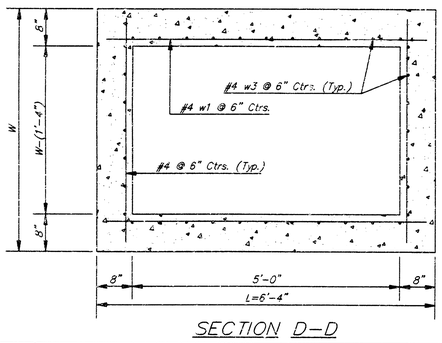
BENDING DIAGRAM



SECTION C–C



SECTION E–E



SECTION D–D

NOTE: Contractor shall have the option of constructing 8" brick masonry walls between the concrete inlet base and top on this inlet when W=6'-4" and H=7'-0" or less.

Additional curb and gutter construction necessary to connect set-back inlet to pavement will be paid for at the unit price bid for each inlet hookup.

Inlet invert shall be shaped with 6 sack sand mix concrete to create flow channels and to increase hydraulic efficiency such that the inlet will be self-cleaning between all inlet and/or outlet pipes.

The ends of all pipes installed in inlets shall be cut off flush with the inside face of the inlet wall

PRECAST SLAB AND FLOOR REINFORCING

		W = 4'-4"		W = 5'-4"		W = 6'-4"		W = 7'-4"		W = 8'-4"	
MARK	SIZE	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
* a1	#4	6	6'-7"	6	8'-7"	6	10'-7"	6	12'-7"	6	14'-7"
a2	#4	4	6'-0"	4	8'-0"	4	10'-0"	4	12'-0"	4	14'-0"
a3	#4	13	4'-1"	13	5'-1"	13	6'-1"	13	7'-1	13	8'-1"
b1	#4	1	4'-9"	1	4'-9"	1	4'-9"	1	4'-9"	1	4'-9"
* b2	#4	23	6'-1"	29	6'-1"	35	6'-1"	41	6'-1"	47	6'-1"
x1	#4	8	3'-10"	8	4'-2"	8	4'-6"	8	4'-10"	8	5'-2"

WALL REINFORCING

		W = 4'-4"		W = 5'-4"		W = 6'-4"		W = 7'-4"		W = 8'-4"	
MARK	SIZE	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	NO.	LENGTH
w1	#4	①	6'-1"	①	6'-1"	①	6'-1"	①	6'-1"	①	6'-1"
w2	#4	①	5'-1"	①	5'-1"	①	6'-1"	①	7'-1"	①	8'-1"
w3	#4	32	②	36	②	40	②	44	②	48	②

* Field Bend or Cut Reinforcing as Required for Clearance.

① 4 (HI - 12") (HI - 21") Rounded down to nearest 0.5'

② HI - 3"

STANDARD CURB INLET PRECAST TOPS

W	PRE-CAST TOP SIZE	PIPE SIZE	CU. YD. CONC.
4'-4"	3'-8" x 6'-4" x 7 1/2"	21" & SMALLER	0.38±
5'-4"	4'-8" x 6'-4" x 7 1/2"	24" & 30"	0.51±
6'-4"	5'-8" x 6'-4" x 7 1/2"	36" & 42"	0.64±
7'-4"	6'-8" x 6'-4" x 7 1/2"	48" & 54"	0.77±
8'-4"	7'-8" x 6'-4" x 7 1/2"	60" & 66"	0.90±

THE CITY OF WICHITA

CITY ENGINEER'S OFFICE
CITY HALL – SEVENTH FLOOR
455 NORTH MAIN STREET
WICHITA, KANSAS 67202
(316) 268-4501
(316) 268-4114 FAX

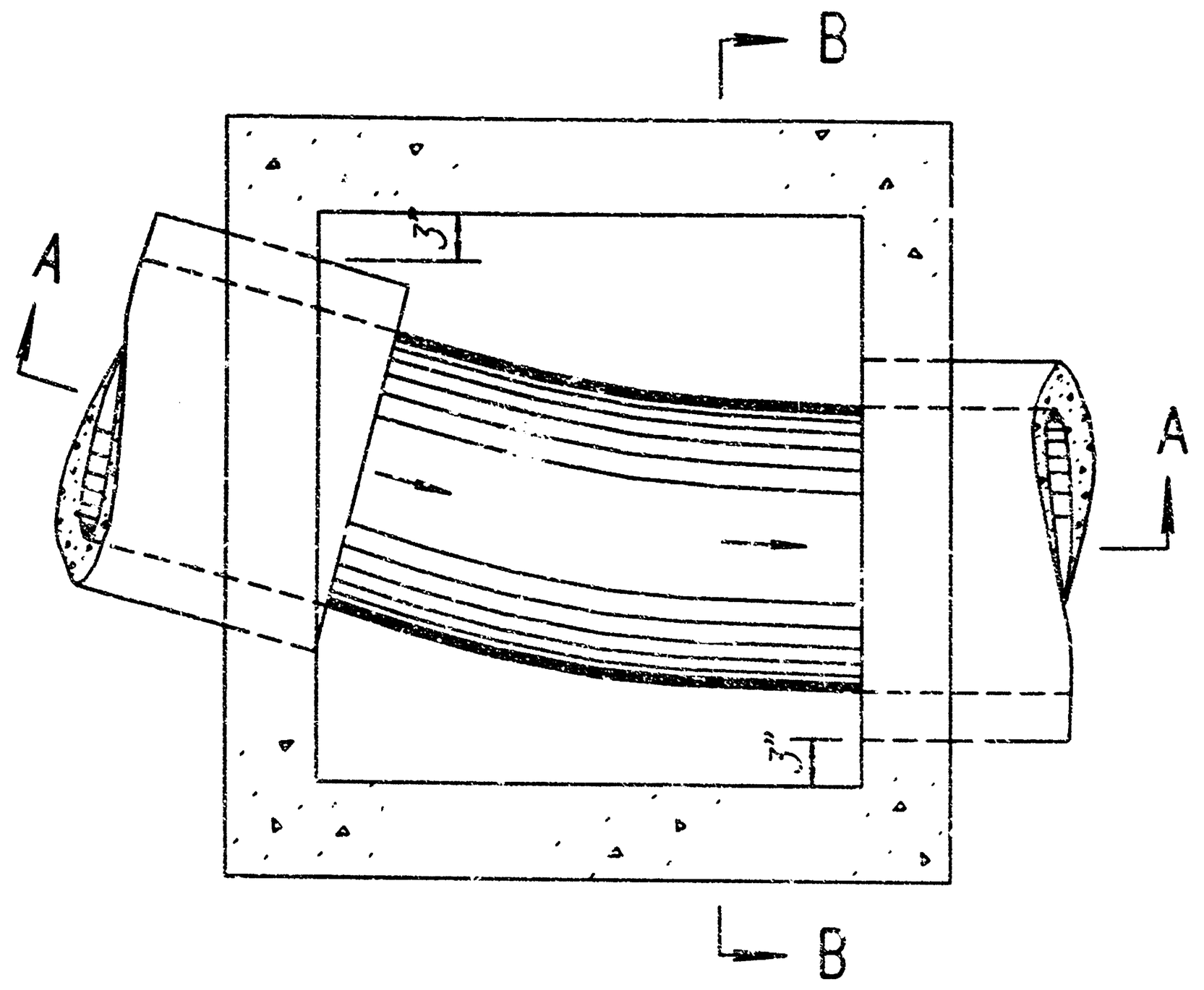
STANDARD TYPE 1-A CURB INLET OPENING = 6" x 5'-0" L=6'-4"

M. E. LINDEBAK P.E. – CITY ENGINEER

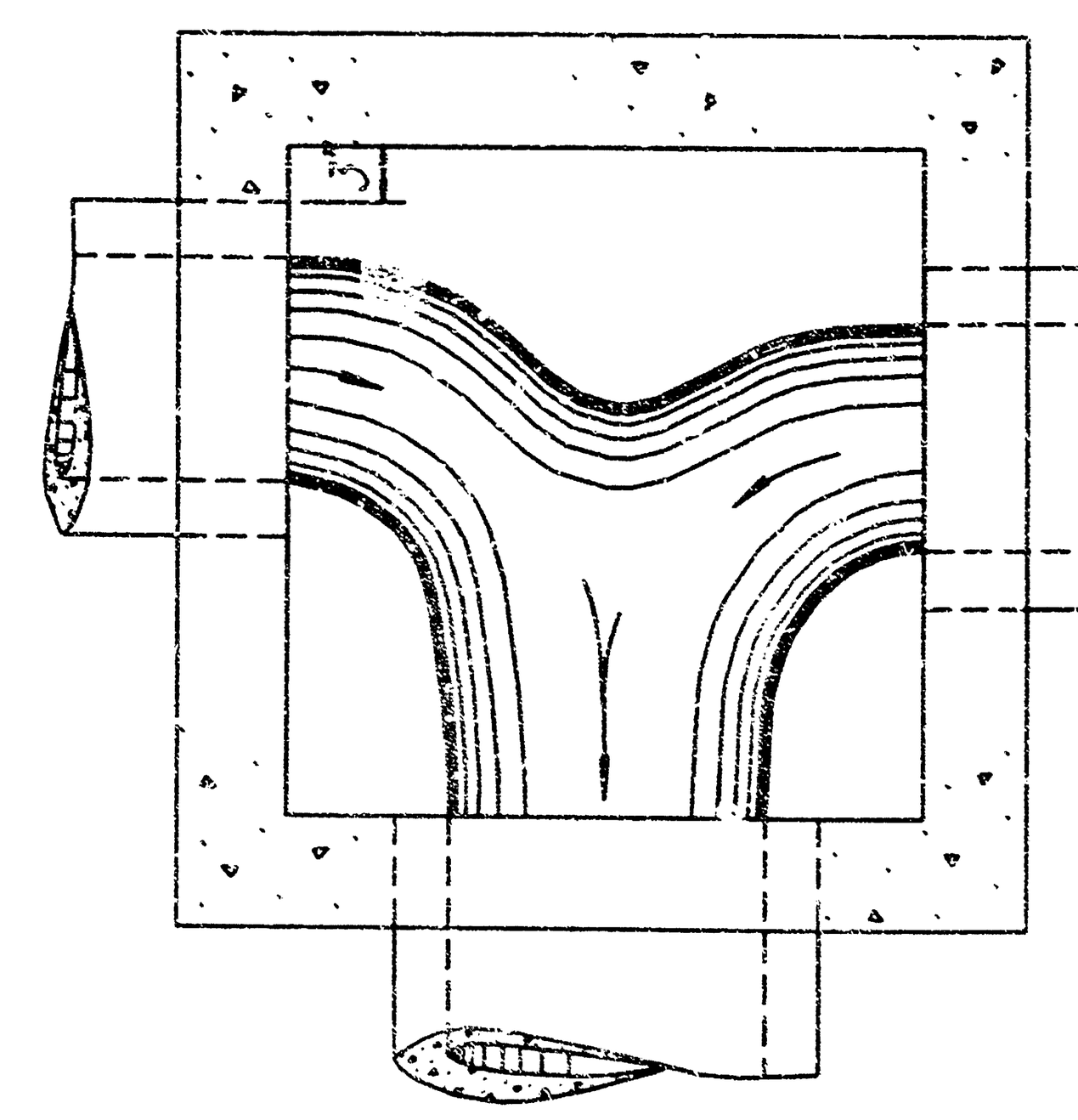
PROJECT NUMBER | INDEX CODE

DATE: AUG. 98 | SHEET C3

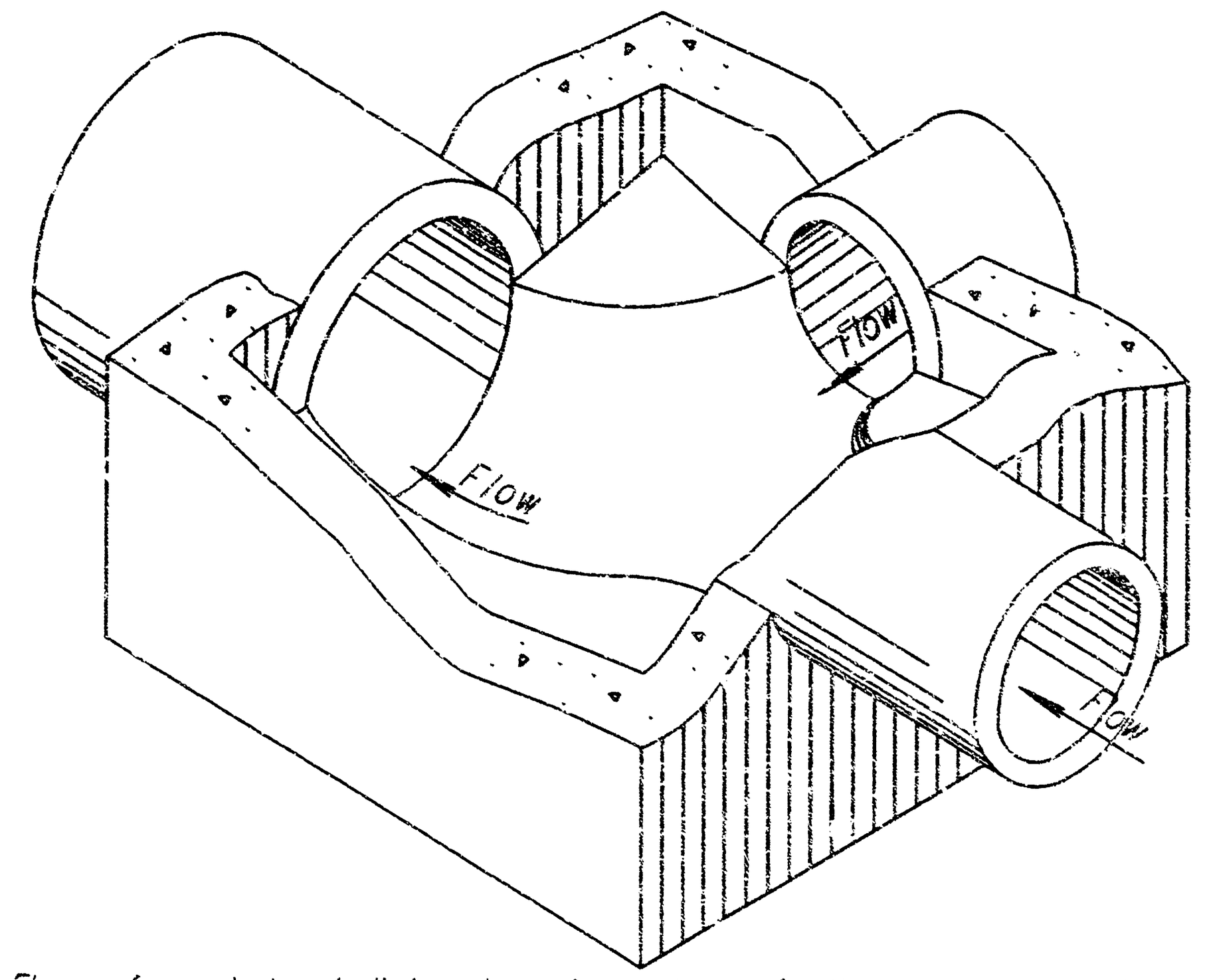
DSNR: DAS OPER: DAR SCALE: 1=1.00
Q:\1998\981175\000\Type1a 08-28-1998 08:38:39 am



PLAN - FLOOR (Example I)



PLAN - FLOOR (Example III)



Floor of manhole shall be shaped as shown in the examples to increase hydraulic efficiency.

ISOMETRIC VIEW (Example IV)

Note: Use 4000 p.s.i. compressive strength concrete throughout. All exposed edges shall be finished with an edging tool.

In general, pipes will enter and leave manhole at various positions. Where possible bend bars around pipes.

Floor of manhole shall be shaped as shown in various "EXAMPLES" with unreinforced Concrete. Manhole opening and steps, where used, shall be placed to afford easy access to top of shaped invert. Top reinforcing bars shall be adjusted accordingly.

All castings shall be gray iron and shall comply with the Specifications. All exposed cast iron surfaces not subjected to traffic shall be painted with a coat of inorganic zinc primer and then with a topcoat or a field coat of organic zinc, each coat to be 3 to 4 mils.

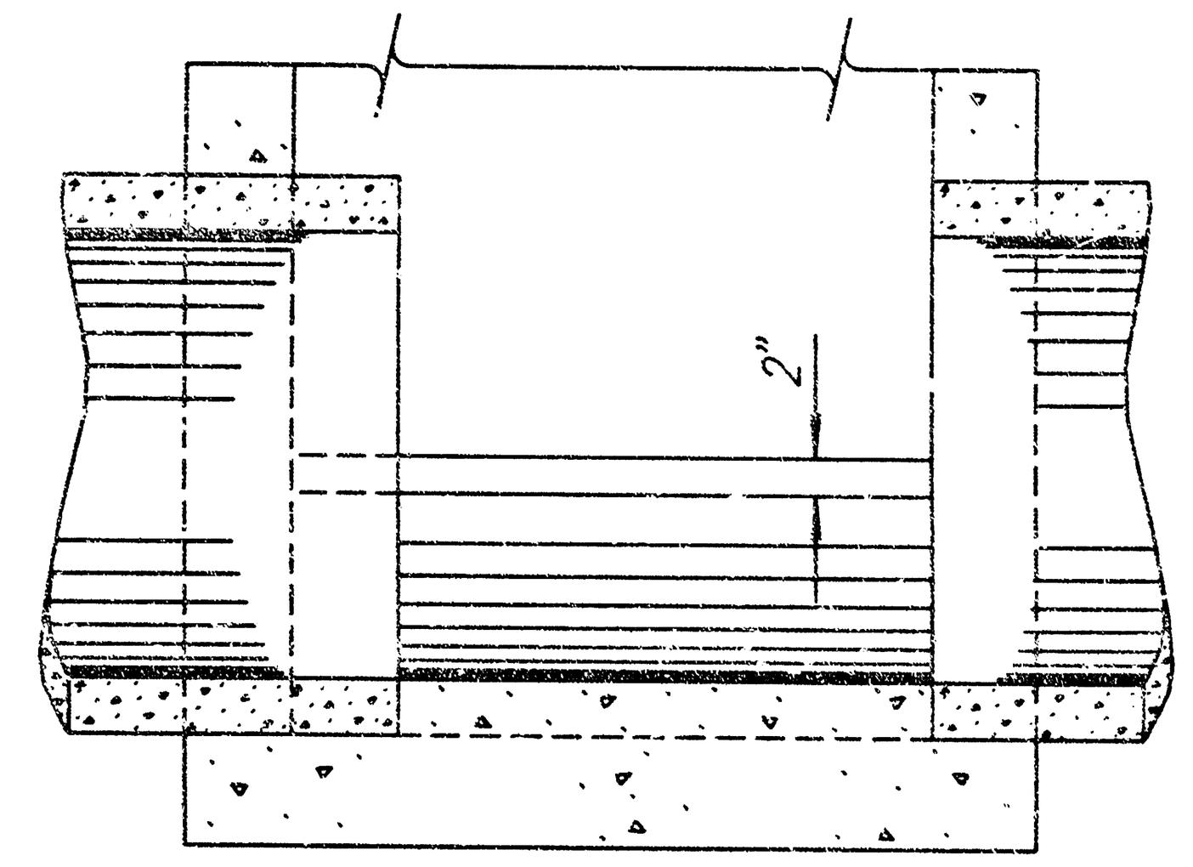
The top of the manhole shall be sloped slightly to approximately fit the ground line or other condition as directed by the Engineer.

Dimensions and weights of cast iron as shown on this sheet are minimum. Larger dimensions and/or heavier weights of cast iron may be used.

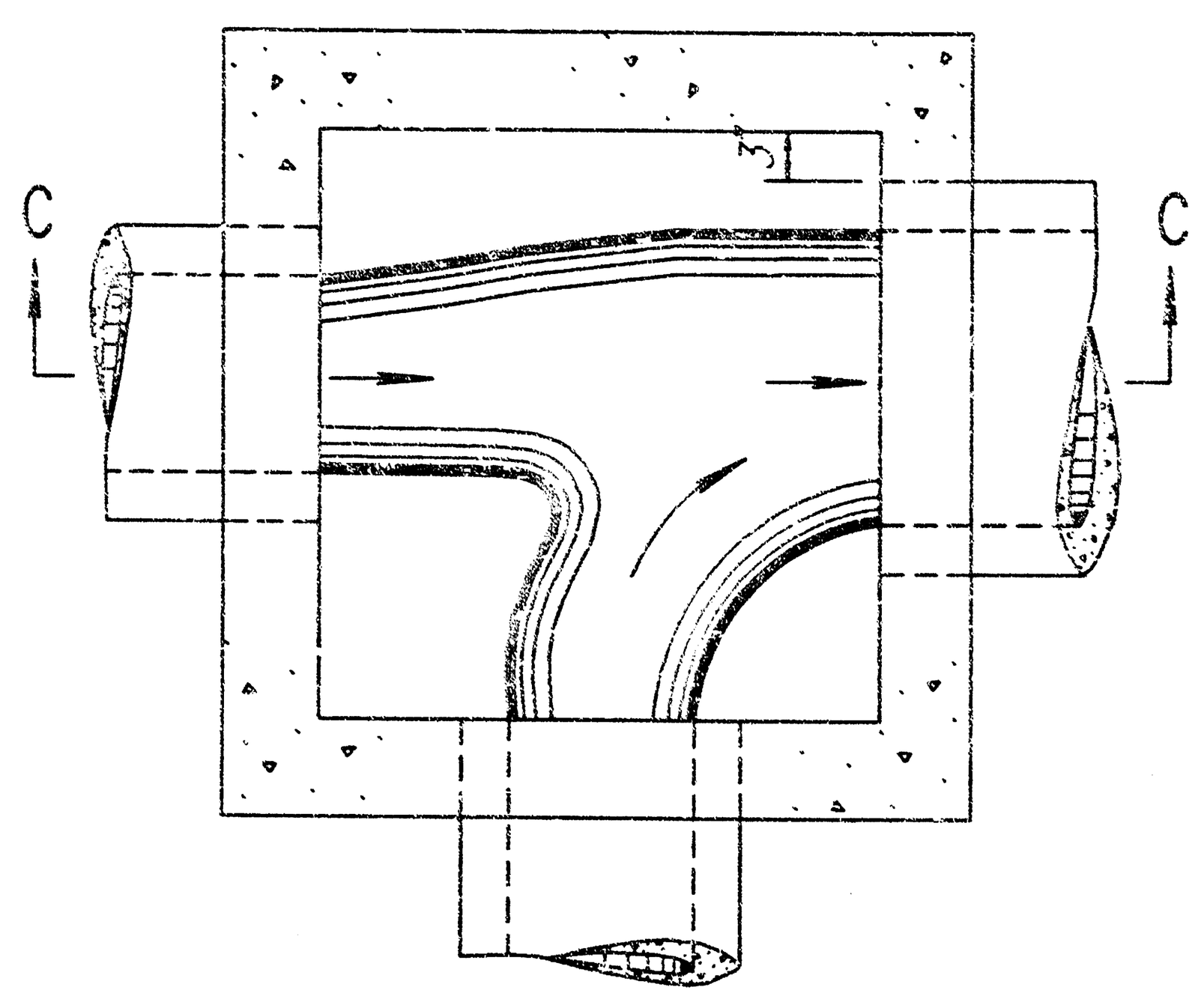
The Contractor has the option of using precast manholes, as approved by the Engineer.

Steps shall not be installed on this project.

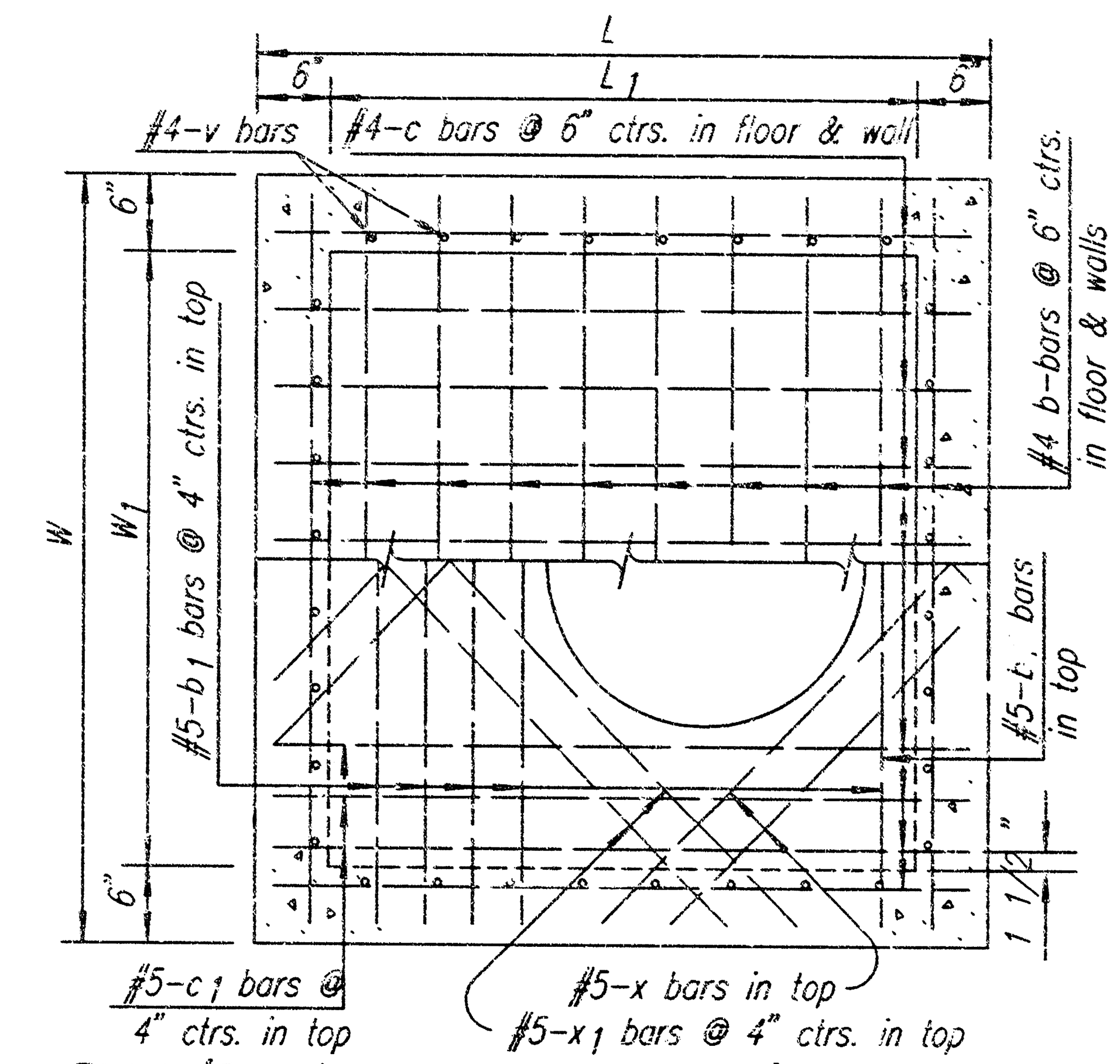
Manhole Frame and Cover shall be per City of Wichita standards.



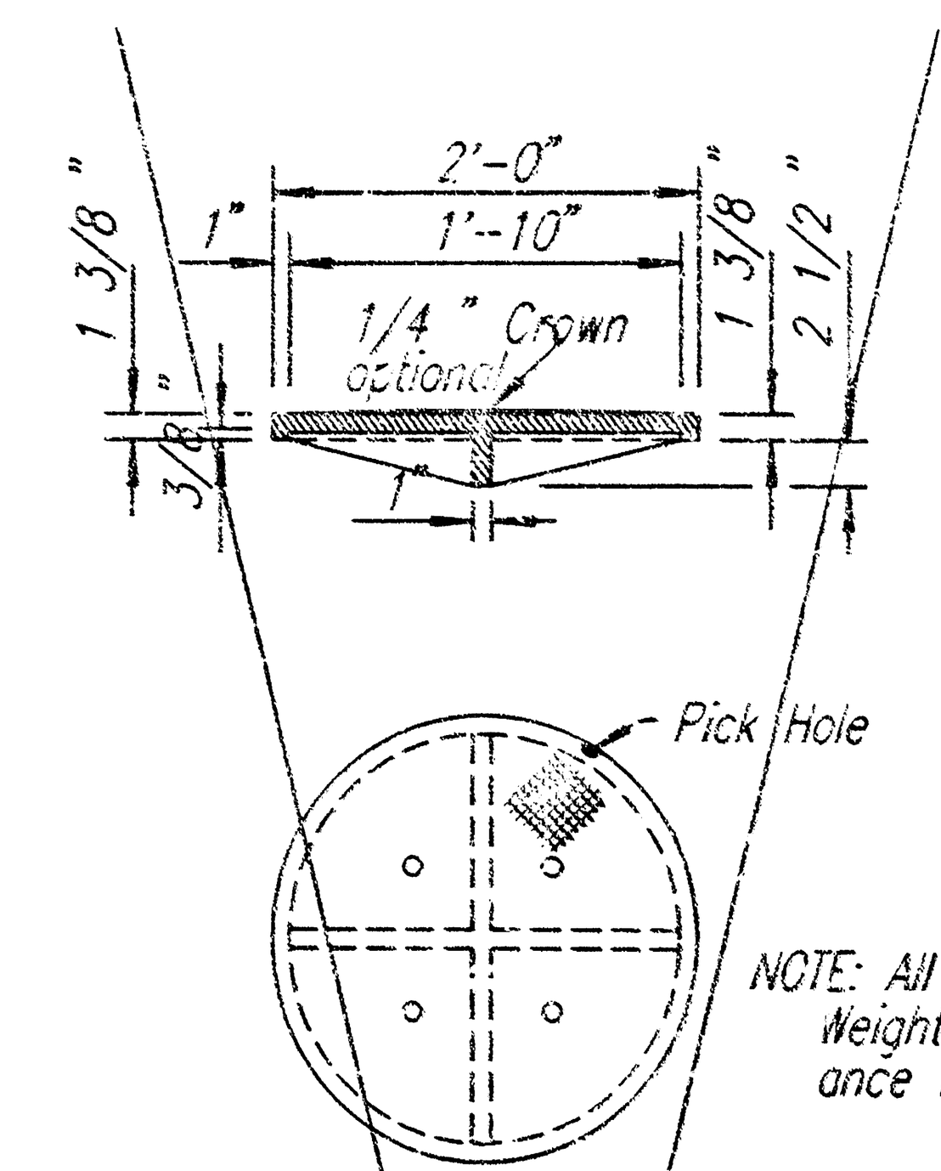
SECTION A-A (Example I)



PLAN - FLOOR (Example IV)

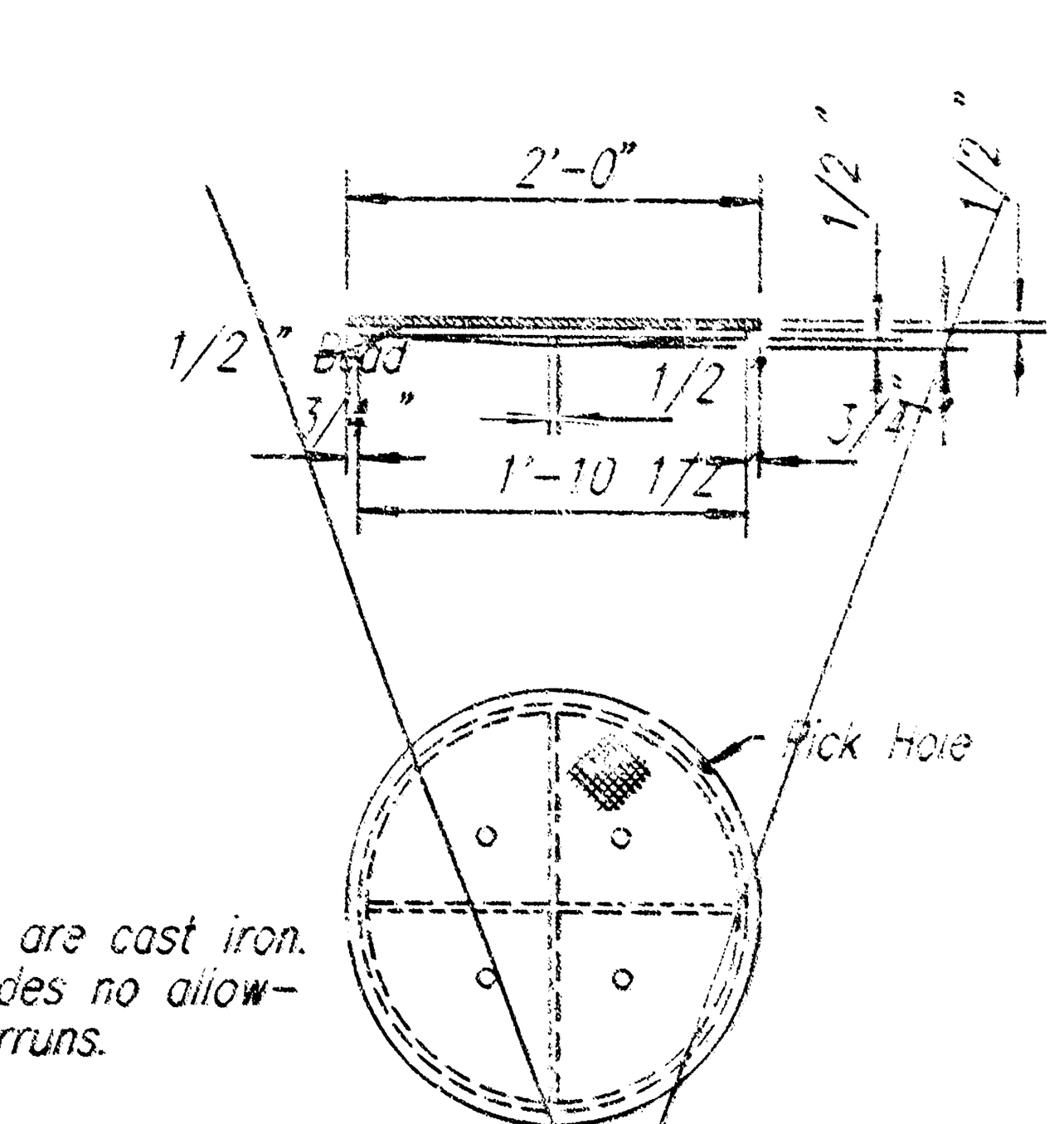


PLAN (Showing top & floor reinf.)

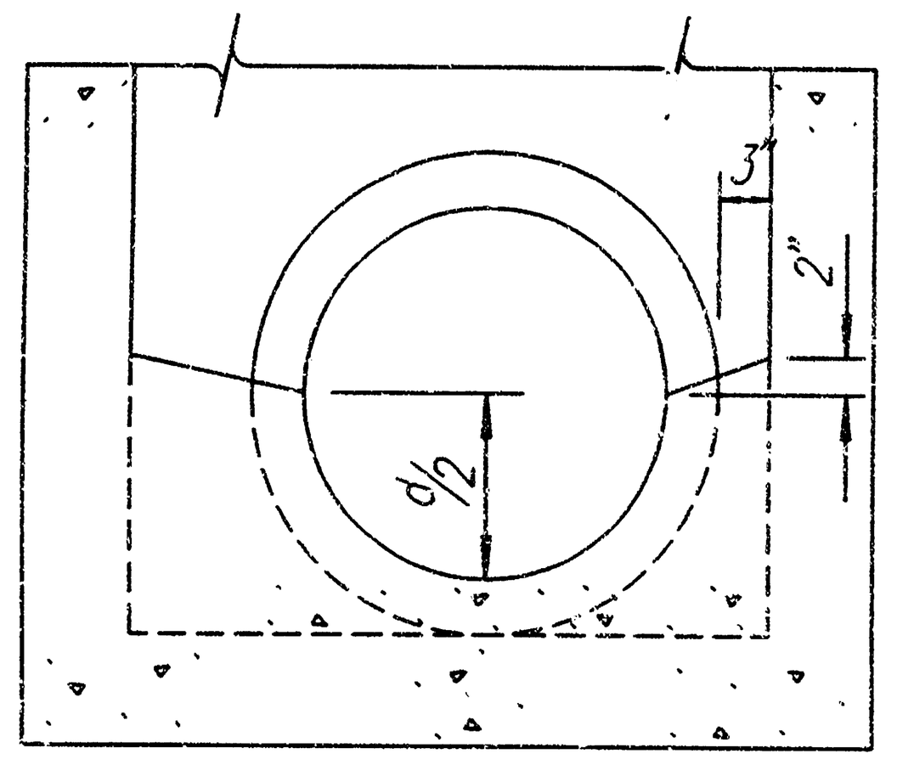


NOTE: All manhole castings are cast iron. Weight of castings includes no allowance for fillets and overruns.

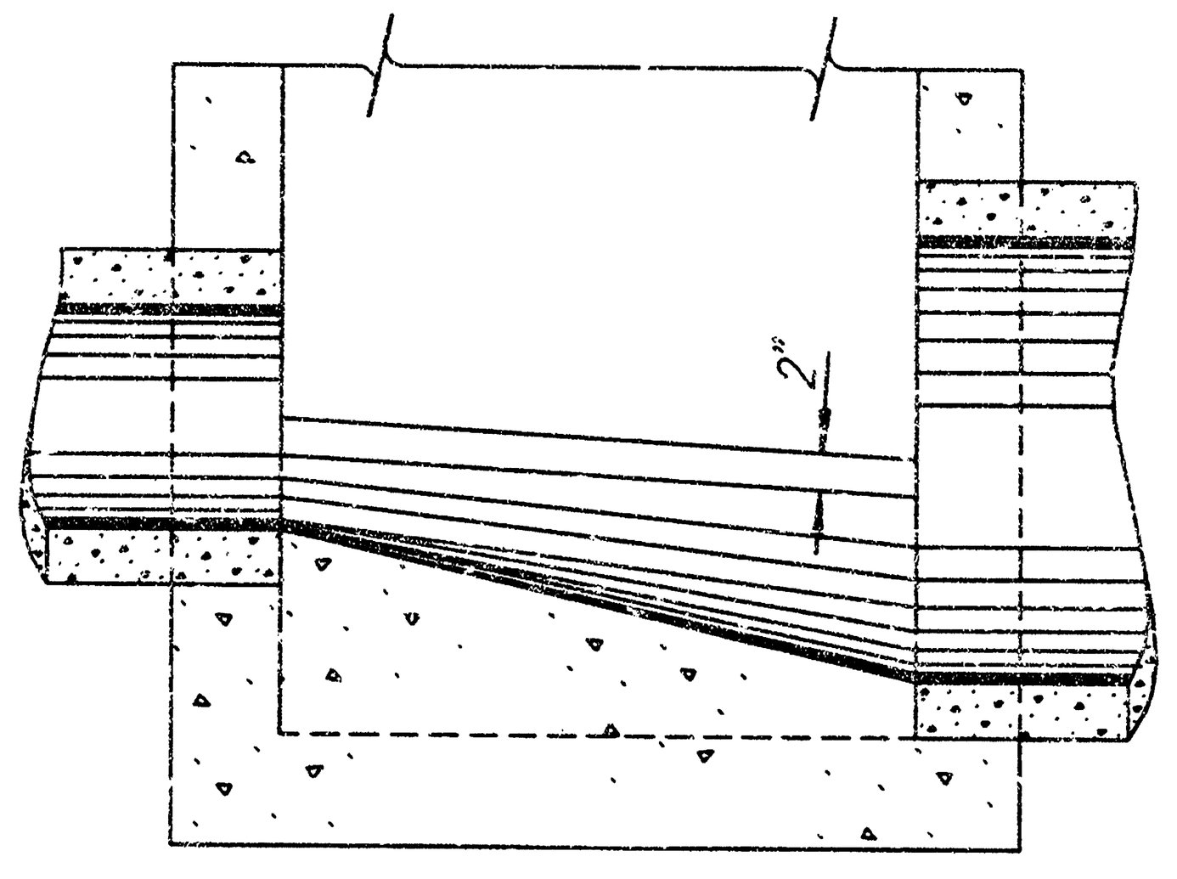
MANHOLE COVER TYPE A & B
(Weight=134 lbs., without 1/4" Crown= 125 lbs.)



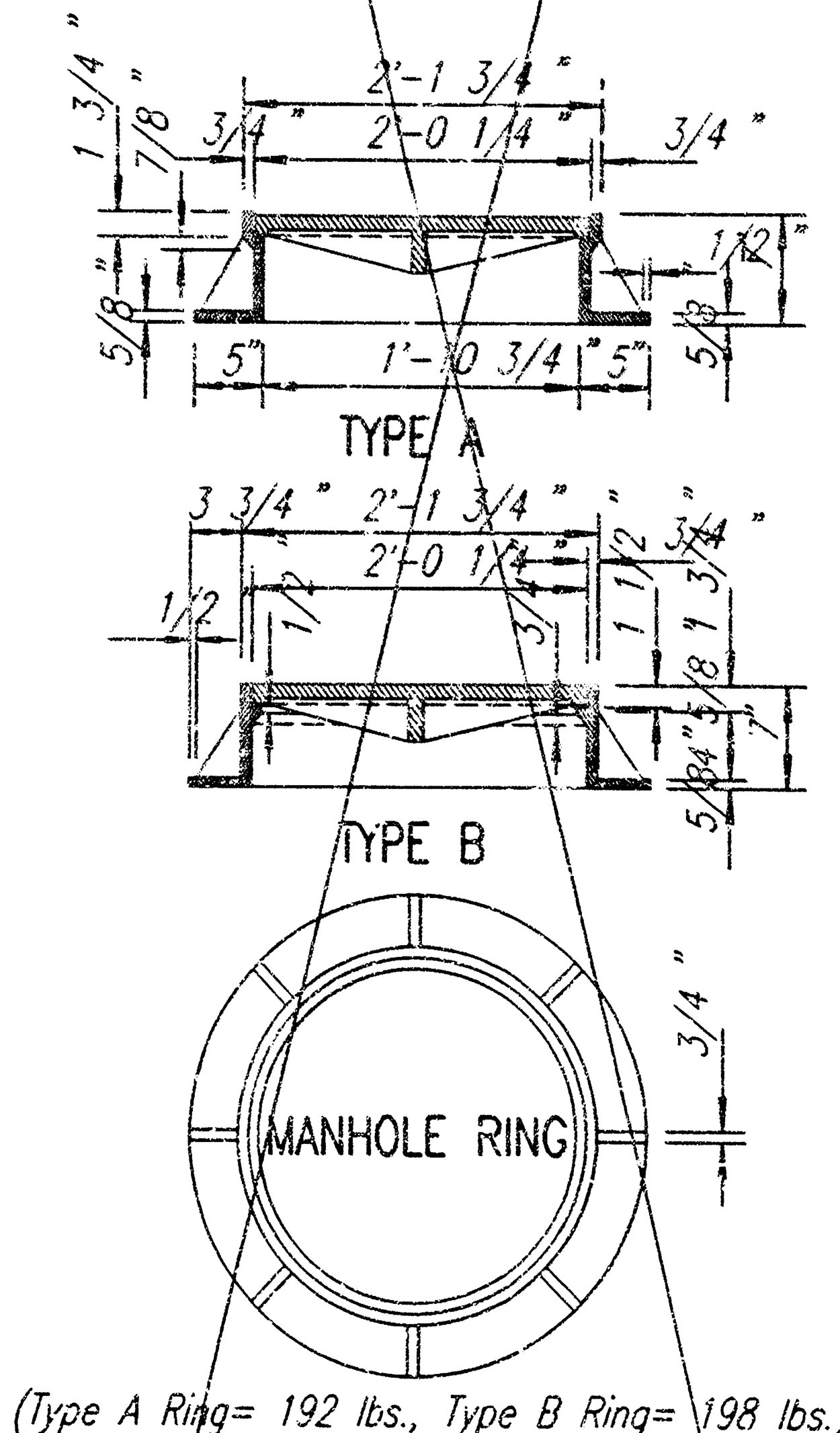
MANHOLE COVER TYPE C
(Weight= 64 lbs.)



SECTION B-B (Example I)



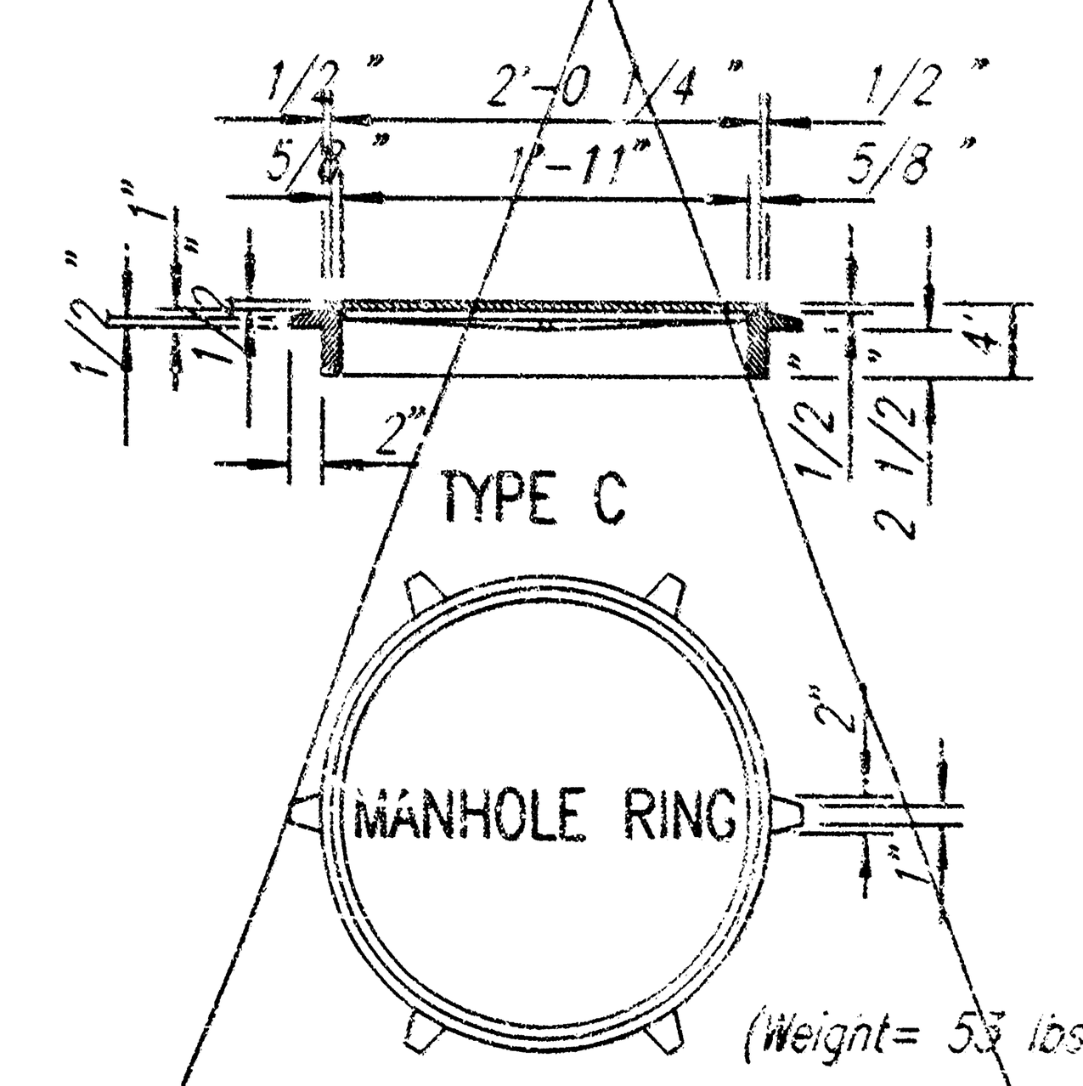
SECTION C-C (Example IV)



(Type A Ring= 192 lbs., Type B Ring= 198 lbs.)

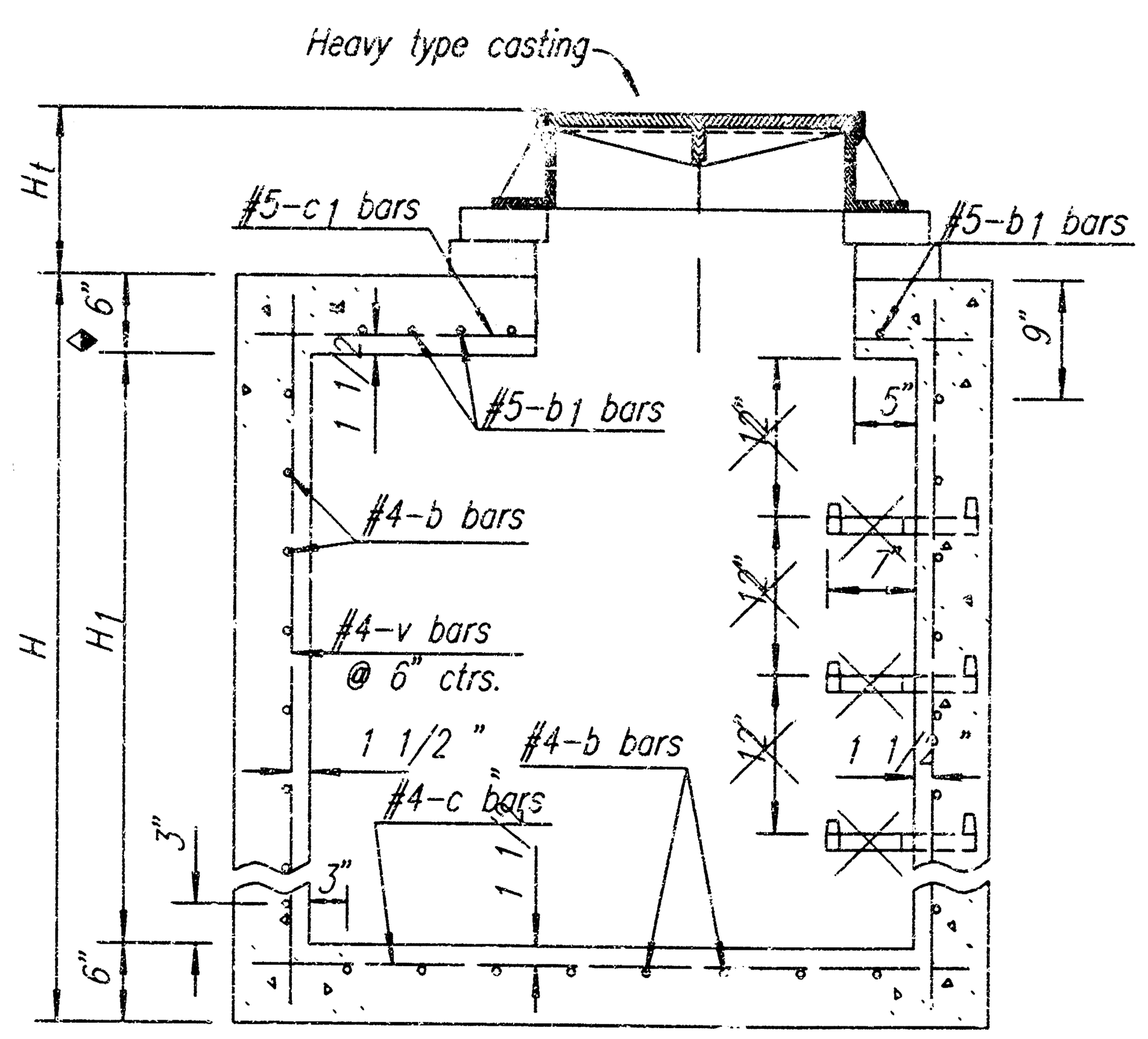
HEAVY TYPE
MANHOLE COVER AND RING

Note: Either Type A or Type B may be used.



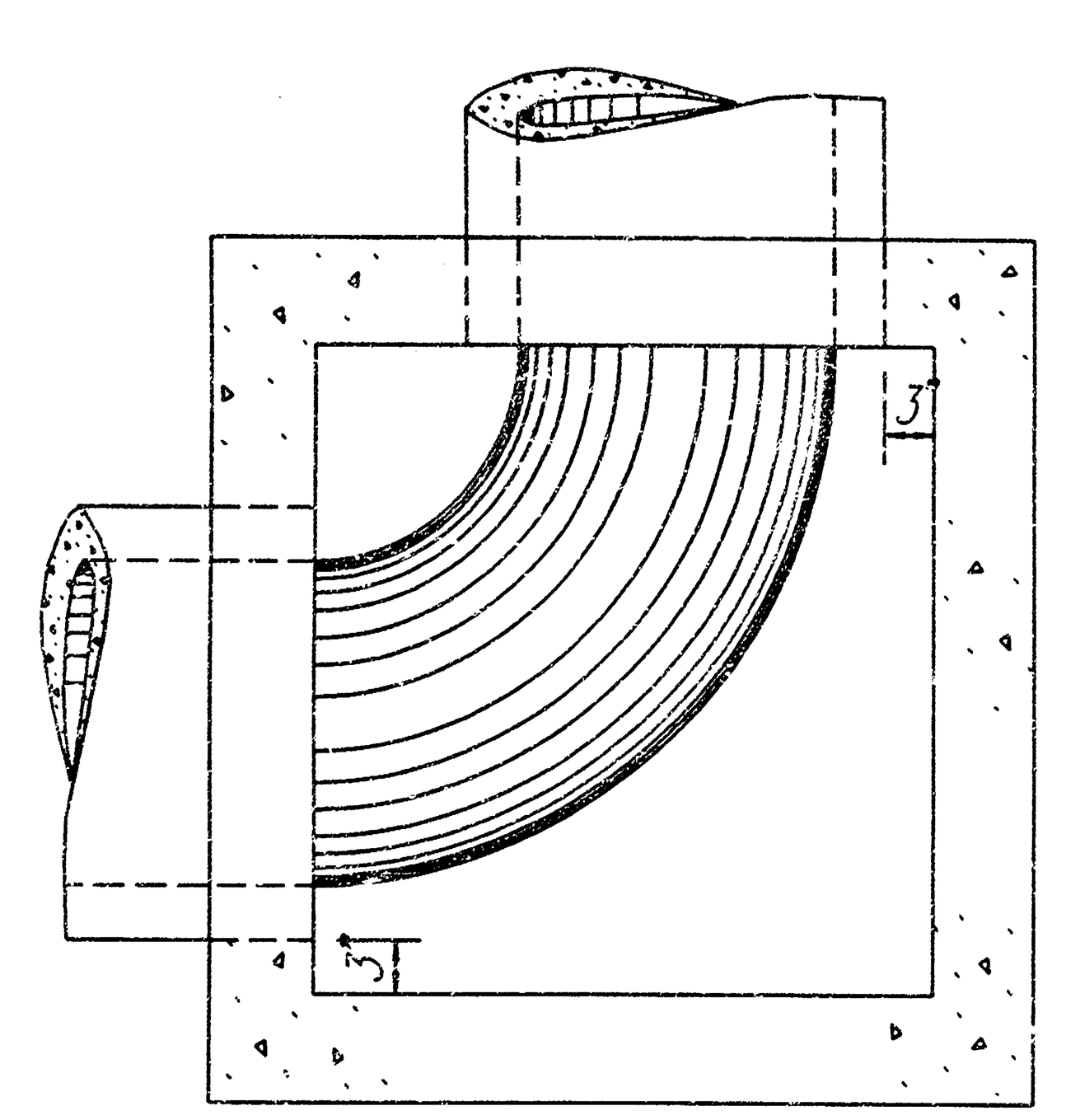
* LIGHT TYPE
MANHOLE COVER & RING

* *Rings with four equally spaced lugs will be permitted.*

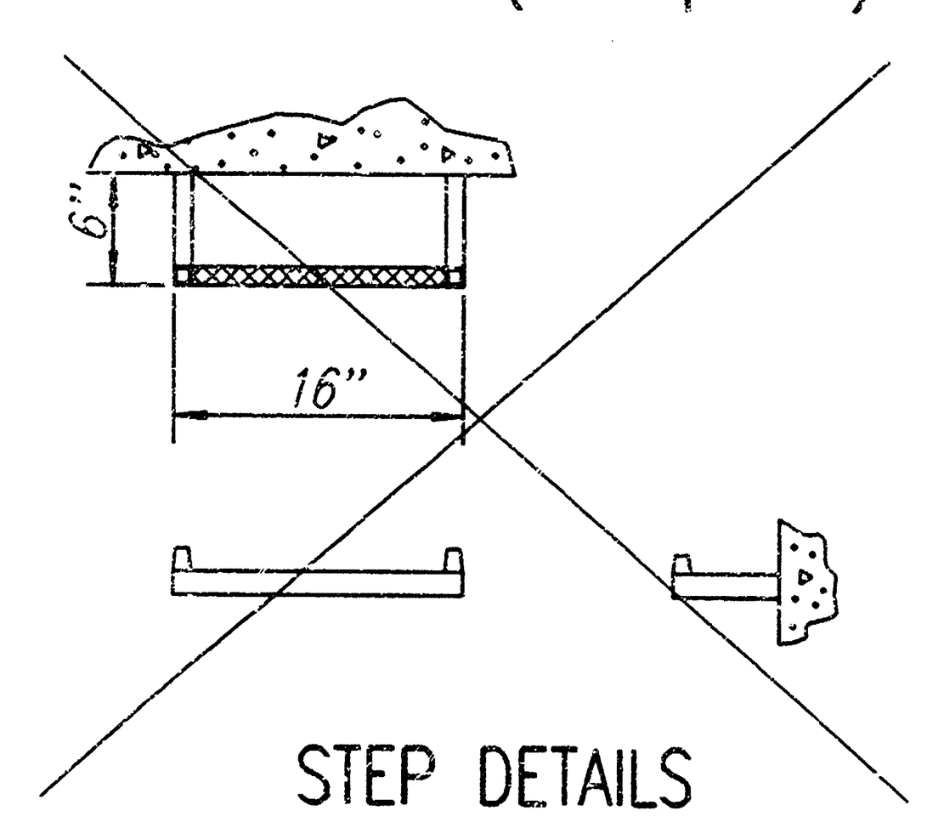


◆ *Where dimension "L" or "W" is greater than 6'-0" use 8" slab thickness.*

SECTION (Exclusive of floor shaping)



PLAN - FLOOR (Example II)



STEP DETAILS

NO.	DATE	REVISIONS	BY	APP'D
28	1-30-92	Rev. paint&step notes, ent. on CADD	R.J.S.	J.O.B.

KANSAS DEPARTMENT OF TRANSPORTATION

REINFORCED CONCRETE MANHOLE

~~STD. NO. 633~~

FHWA APPROVAL	2-27-92	APP'D James O. Brewer	
DESIGNED	DETAILED	QUANTITIES	TRACED Bowser
DESIGN CK.	DETAIL CK.	QUAN. CK.	TRACE CK. Seitz

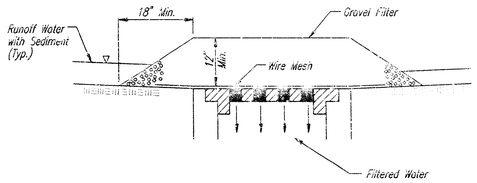
GENERAL NOTES
INLET PROTECTION

1. INLET PROTECTION METHOD MAY BE ANY OF THE APPLICABLE TYPES SHOWN, AT THE CONTRACTORS OPTION.
2. GRAVEL FILTER SHALL BE A DURABLE, WELL-GRADED SAND-GRAVEL OR CRUSHED STONE, MAXIMUM 1-1/2 IN. SIPE. AS AN ALTERNATE GRAVEL FILLED BAGS OF BURLAP OR OTHER FABRIC MAY BE USED. WHERE BAGS ARE USED, THE WIRE SCREEN, WHERE SHOWN, MAY BE OMITTED.
3. FILTER FABRIC, WHERE USED, SHALL BE RESISTANT TO ULTRAVIOLET LIGHT. MATERIALS MAY BE SUPPLIED BY THE FOLLOWING MANUFACTURERS:

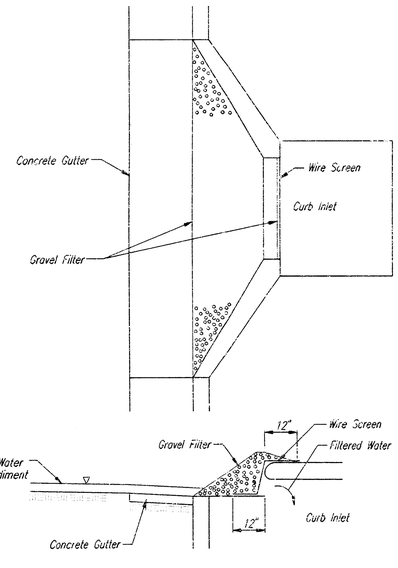
MIRAFI, INC.	–	100X
HOECHST FIBERS INDUSTRIES	–	TREVIRA 1115
EXXON	–	TYPAR 3301 W

MATERIALS SUPPLIED BY THE ABOVE NAMED MANUFACTURERS SHALL BE ACCEPTED UPON VISUAL INSPECTION BY THE ENGINEER. OTHER COMPARABLE MATERIALS MAY BE USED IF APPROVED BY THE ENGINEER.

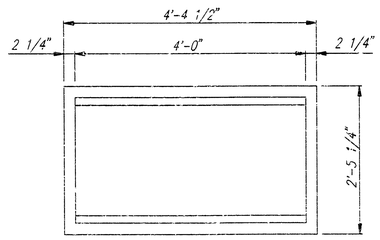
4. INLET PROTECTION SHALL BE ERECTED AS SOON AS THE STRUCTURE HAS BEEN BACKFILLED. MEASURES SHALL BE TAKEN TO PRECLUDE ENTRY OF SEDIMENT INTO THE STORM WATER SEWER SYSTEM DURING CONSTRUCTION OF THE STRUCTURE.
5. REMOVAL AND DISPOSAL OF ACCUMULATED SILT AND DEBRIS AND/OR REMOVAL AND RECONSTRUCTION OF INLET PROTECTION INSTALLATIONS SHALL BE PERFORMED THROUGHOUT THE PROJECT LIFE WHENEVER DEBRIS REACHES ONE-THIRD THE BARRIER HEIGHT, OR AS DEEMED NECESSARY BY THE ENGINEER. ULTIMATE REMOVAL AND DISPOSAL OF INLET PROTECTION AND DEBRIS WILL BE PERFORMED BY THE DEVELOPER.



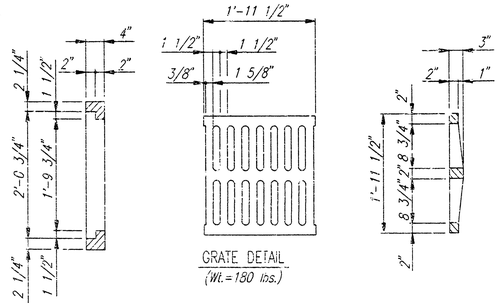
AREA INLET PROTECTION
GRAVEL AND WIRE MESH



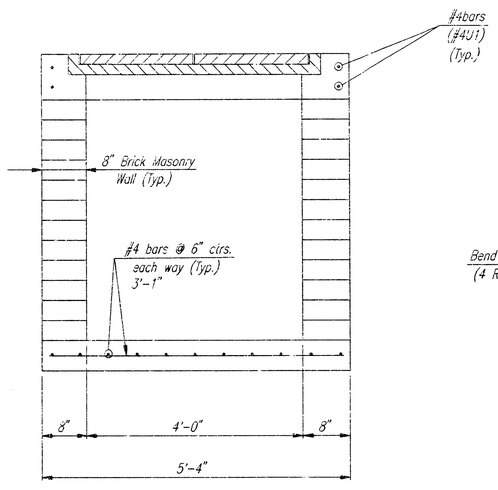
CURB INLET PROTECTION
GRAVEL AND WIRE MESH FILTER



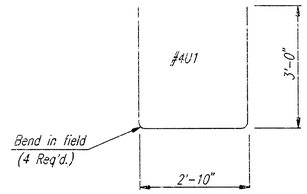
FRAME DETAIL
(Wt.=460 lbs.)



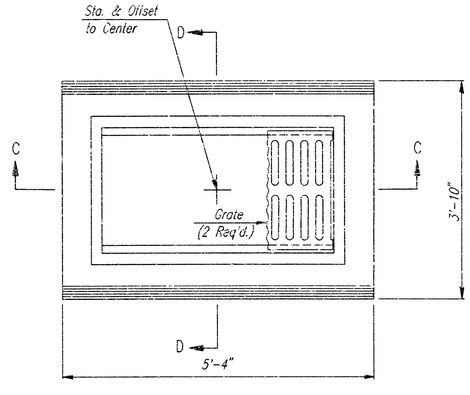
GRATE DETAIL
(Wt.=180 lbs.)



SECTION C-C

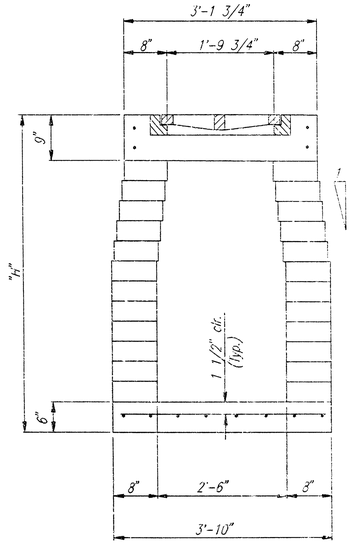


BENDING DIAGRAM



PLAN

AREA INLET



SECTION D-D

INLET NOTES

CONCRETE SHALL HAVE A MIN. 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI. ALL EXPOSED EDGES SHALL BE FINISHED WITH AN APPROVED EDGING TOOL.

REINFORCING STEEL SHALL BE A MINIMUM GRADE 40, A.S.T.M. A615. ALL DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO THE CENTERLINE OF BARS UNLESS OTHERWISE NOTED.

INLET CASTINGS SHALL BE MANUFACTURED USING GOOD QUALITY GRAY IRON CONFORMING TO CLASS 30 OF A.S.T.M. DESIGNATION A-48. DIMENSIONS AND WEIGHTS SHOWN ON THE DETAILED DRAWINGS SHALL BE CONSIDERED AS MINIMUM REQUIREMENTS AND ANY DEVIATIONS FROM THE DIMENSIONS SHOWN MUST BE SPECIFICALLY APPROVED. THE FINISHED CASTINGS SHALL BE OF UNIFORM QUALITY, FREE FROM BLOWHOLES, POROSITY, HARD SPOTS, SHRINKAGE DISTORTIONS OR OTHER DEFECTS.

CONSTRUCTION REQUIREMENTS AND MATERIALS FOR MASONRY WALLS SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS.

INLET FLOOR SHALL BE SHAPED WITH UNREINFORCED CONCRETE (8 SACK SAND MIX) TO CREATE FLOW CHANNELS AND TO INCREASE HYDRAULIC EFFICIENCY SUCH THAT THE INLET WILL BE SELF CLEANING BETWEEN ALL INLET AND/OR OUTLET PIPES.

INLET PROTECTION AND AREA INLET DETAILS

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

Designed by	BER, CDD	Checked by	
Drawn by	REP	Date AUG, 1998	Job No. 98175

REVISED 1/95