MANHOLES

I. CAST-IN-PLACE STRUCTURES

I.1. GENERAL

Cast-in-place structures are specified when existing cables or adjacent buildings, etc. preclude the possibility of setting a pre-cast unit. This normally dictates that the excavation be sheet piled and built around existing energized cables.

I.2. DESIGN

I.2.1. Cast-in-place structures are individually designed by the Design Consultant based on soil information, water levels, anticipated loading, etc.

I.2.2. The design consultant may require that a base course of several feet thickness and extending beyond the perimeter of the structure by 18" to 24" be placed, or that the structure be constructed on piling. This may or may not preclude the use of the sheet piling to form the outer wall of the manhole.

I.3. DESIGN CLASSES

The component parts of the structure may be designed in various ways as itemized below:

I.3.1. Bottom (with Sump Holes):

- I.3.1.1. Pile Cap, rectangular or hexagonal.
- I.3.1.2. Mat Foundation, rectangular or hexagonal.

I.3.2. Walls:

- I.3.2.1. Bearing walls with 2 way reinforcement.
- I.3.2.2. Walls designed for future knock-out with 2 way reinforcement and plastered columns.

I.3.3. Top:

- I.3.3.1. Elevated flat plate slab with 2 way reinforcement and angled reinforcement around openings.
- I.3.3.2. Elevated 2 way beam and slab.

I.3.4. Columns, Plastered, Rectangular:

- I.3.4.1. Square tied reinforcement.

I.3.5. Access:

- I.3.5.1. Pre-cast grade extension rings.
- I.3.5.2. Curb, straight, reinforced with imbedded grate frame.

I.4. ADDITIONAL ITEMS

Sump holes, pulling irons, ground rods, and duct bell ends will be installed in all manholes. In addition, sump pump drain pipes will be installed in transformer vaults.

I.5. CONSTRUCTION

Specifications for concrete work including formwork, shore removal and placement of reinforcing steel are prescribed in the Concrete and Piles Section.

I.6. MODIFYING EXISTING STRUCTURES

This work will consist of replacing portions of existing structures with one or more of the design classes indicated above.

I.7. PLATING INSTRUCTIONS

To plate a cast-in-place structure, it is necessary to plate the following items separately, obtaining quantities from the design consultants' plans.

Excavation	EXC ___ X ___ - ___
Forms	FORM -
Rebar	REBAR - ___ * ___
Concrete	CONC ___
Manhole Neck and Frame and Cover	MBLD-MH-NECK
	BLD-MH-NECK.

I.8. ADDITIONAL PLATES

PLATE	DESCRIPTION	UNIT
PULL-IRONS	Installation of Pulling Irons	EA
GROUT-DUCT*C **GROUT-DUCT*H**	Fill and Seal Around Duct (C=COLD, H=HOT)	EA
MPUMP-MH **PUMP-MH**	Pump out Manhole	EA
MCLEAN-MH **CLEAN-MH**	Clean out Manhole	EA
MSTUB-OUT **STUB-OUT**	Drill Hole in Manhole Wall for up to 6" Duct, Grout around Duct	EA

II. PRECAST STRUCTURES

II.1. GENERAL

II.1.1. Includes well-pointing, sheeting, installation, backfilling, compaction and building of neck, depth in feet indicated by option.

II.1.2. Pre-cast structures may be set in locations where there may or may not be existing cables. Excavations may or may not need to be sheeted, but in most cases will require well-pointing.

II.1.3. Excavations where there are existing cables must be large enough to allow the bottom portion of the structure to be swung under the cables.

II.1.4. A driven ground rod megged to 25 OHMS or less is to be installed at each structure location.

II.2. INSTALLING SECTIONS

Pre-cast concrete sections shall be set so the structure will be vertical and with sections in true alignment. Joint surfaces between the sections shall be sealed with a pre-molded plastic joint sealer equal to "Ramnek" applied to the bottom section according to the structure manufacturer's instructions.

II.3. NON-SHRINK JOINTS

All holes in structures for entering pipes or ducts shall be thoroughly plugged with non-shrinking mortar, applied so there will be zero leakage around pipes and ducts. The mortar will be finished smooth and flush with the ducts, pipes, etc. and the adjoining interior walls.

II.4. DUCT TERMINATION

Plastic bell-ends will be installed on each duct flush with inside walls. If bell-ends with a membrane to seal the duct are available they will be used.

II.5. TEMPORARY DUCT SEALS

Once all duct entering the manhole is declared satisfactory, an expandable foam mixture, if available, will be placed in each duct opening. This will provide a watertight, temporary seal to prevent duct from becoming clogged and to prevent water from traveling between adjacent manholes. If foam is not available, use proper size PVC conduit plug.

II.6. ADDITIONAL PLATES

Listed below are plates not otherwise covered by a Construction Standard Plate and Drawing.

Plate	Description	Unit
FOAM-DUCT	Installing Expandable Foam	EA
MFOAM-DUCT	Mixture in Duct Opening	
I.CODBE001	2" PVC BELL END	EA
I.CODBE002	3" PVC BELL END	EA
I.CODBE003	4" PVC BELL END	EA
I.CODBE004	6" PVC BELL END	EA
I.CODRC001	3" - 2" PVC REDUCER COUPLING	EA
I.CODRC002	3" - 2-1/2" PVC REDUCER COUPLING	EA
I.CODRC042	4" - 2" PVC REDUCER COUPLING	EA
I.CODRC043	4" - 3" PVC REDUCER COUPLING	EA
I.CODRC062	6" - 2" PVC REDUCER COUPLING	EA
I.CODRC063	6" - 3" PVC REDUCER COUPLING	EA
I.CODRC064	6" - 4" PVC REDUCER COUPLING	EA

III. MANHOLE AND VAULT GRADE ADJUSTMENT

III.1. GENERAL

III.1.1. For grade adjustment in setting a manhole frame, brick masonry shall be used on top of the manhole or on top of a pre-cast concrete grade extension ring in accordance with the drawings.

III.1.2. For grade adjustment of vault frames a cast-in-place concrete curb shall be constructed on the vault top, the work under this section shall also include the adjustment of existing structures.

III.2. MATERIAL

III.2.1. Brick:

The brick shall be clay or shale brick, sound, hard and uniform in shape and size meeting the requirements of ASTM Standard Specifications for Sewer Brick, Designation C-32, Grade MM.

III.2.2. Mortar for Brickwork:

The mortar shall be composed of one part Portland Cement (ASTM C150-71, Type I), and two parts washed silica sand (ASTM C144-70). Lime shall not be used.

III.2.3. Concrete:

The concrete used in construction shall be as specified in the Project Documents.

III.2.4. Grade Extension Ring:

The standard grade extension ring has a 36" inside diameter, has a 6" wall and is 15" high. Rings 6" and 9" high are also available.

III.2.5. Frames and Covers:

Specifications for frames, grates, and covers are as specified by the Standards Section.

III.3. LAYING BRICKWORK

Only clean brick shall be used. All brick shall be saturated with water before being laid. Each brick shall be laid in a full bed and joint of mortar without requiring subsequent grouting, flushing, or filling and shall be thoroughly bonded.

III.4. PLASTERING AND CURING BRICK-MASONRY

III.4.1. Outside faces of brick masonry shall be plastered with mortar from 1/4 inch to 3/8 inch thick. If required, the masonry shall be properly moistened prior to application of the mortar.

III.4.2. The plaster shall be carefully spread and troweled so that all cracks are thoroughly worked out.

III.4.3. After hardening, the plaster shall be carefully checked, by being tapped, for bond and soundness. Unbonded or unsound plaster shall be removed and replaced.

III.4.4. Brick masonry and plaster shall be protected from too rapid drying by the use of burlaps kept moist, or by other approved means, and shall be protected from the weather and frost, all as required.

III.5. SETTING MANHOLE FRAMES

III.5.1. Manhole frames and covers shall be set to conform accurately to the finished ground or pavement surface as established by the drawings, unless otherwise directed by the Engineer.

III.5.2. Frames shall be set concentric with the masonry and in a full bed of mortar so that the space between the top of the manhole masonry and the bottom flanges of the frame shall be completely filled and made water tight.

III.5.3. A ring of mortar at least one inch thick and pitched to shed water away from the frame shall be placed around the outside of the bottom flange. Mortar shall extend to the outer edge of the masonry and shall be finished smooth and flush with the top of the flange.

III.6. TRAFFIC BEARING COVERS

Grade adjustment of manholes subject to traffic shall be done according to City Specifications. This requires that an 18 inch ring of 4000 PSI concrete, a minimum of 6 inches in thickness be poured around the frame. See Manhole Cover Adjustment Plate.

III.7. ADDITIONAL PLATES:

Listed below are plates not otherwise covered by a Construction Plate and Drawing.

PLATE	DESCRIPTION	UNIT
ADD-BRICK	One additional course of brick to adjust manhole frame and cover.	EA
MADD-BRICK		
REP-BFLY-SP (See notes)	Remove existing "Butterfly" manhole roof and replace it with a 1" thick steel plate (Grade B minimum - per ASTM A238-81).	EA

REP-BFLY-SP Notes:

a. Steel plate to be cut one (1) foot longer and wider than interior dimensions of manhole.
b. Do not use this Plate for manholes larger than 4'x 6'.
c. 36" diameter hole to be cut in center of plate.
d. After all cuts are made coat both sides of steel plate with an asphalt base emulsion as per ASTM-D1187-82
e. Use other appropriate Plates to build neck or adjust cover to grade.

IV. MANHOLE ABANDONMENT

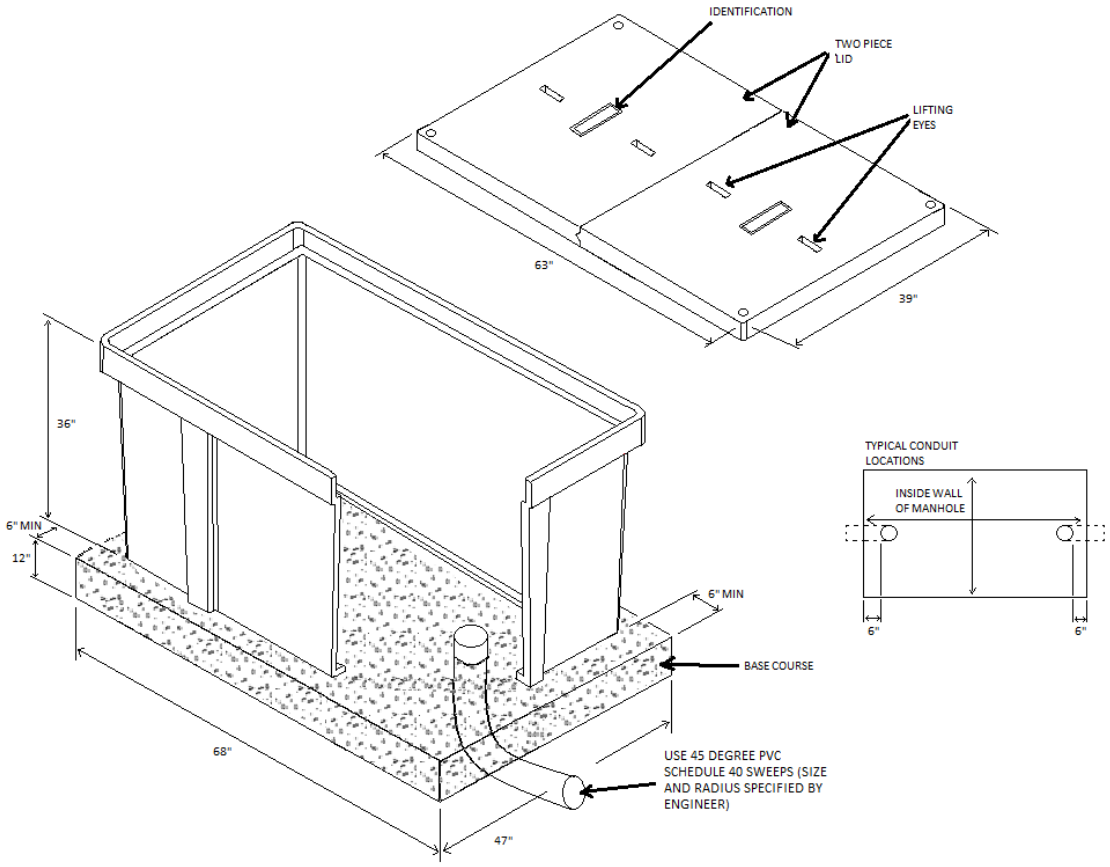
PLATE	DESCRIPTION	UNIT
MH-ABND	See Notes Below	CU FT

IV.1. MANHOLE ABANDONMENT NOTES

IV.1.1. This construction plate provides for the abandonment of manholes, vaults, or other underground structures which have no further use to JEA.

IV.1.2. The unit of measure shall be one (1) cubic foot. Measurements shall be the volume of the interior of the manhole prior to demolition, expressed in cubic feet rounded off to the next whole cubic foot. All materials shall be furnished by the contractor.

SET-PVC-MH
MSET-PVC-MH
REINFORCED PLASTIC MANHOLE
NON TRAFFIC RATING



Maximum Allowed: 3-Cables, 3-Splices, Cable Size – 1/0 Primary

MSET-PVC-MH OPTION:

INSTALLATION CONDITIONS:

C = Cold, New Construction

H = Hot, Construction around existing Cables

EXAMPLE: MSET-PVC-MH*C

ITEM	QTY	DESCRIPTION
MANHO005	1	MANHOLE, REINFORCED PLASTIC
	1 CU. YD.	BASE COURSE *

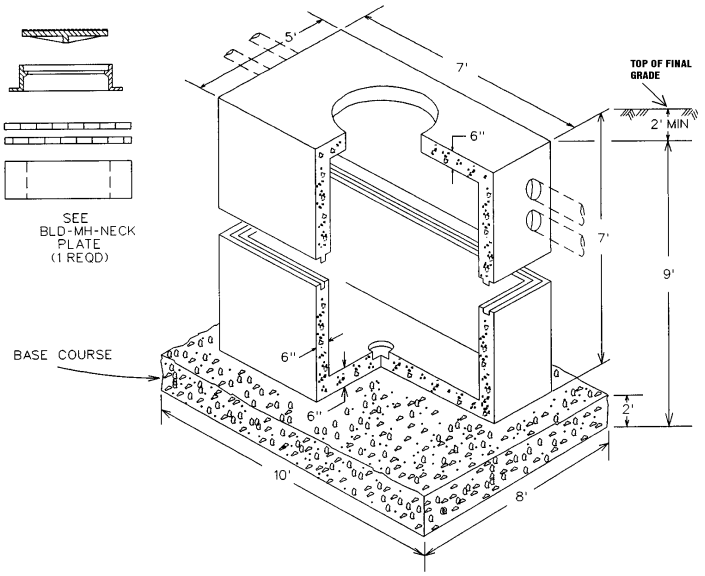
***NOTE:**

A compacted base course footing shall be included in this plate. Footing shall be level, minimum of one (1) foot deep, and extend a minimum of six (6) inches beyond the outside edges of the manhole base. (+/- 4.0' x 6.0' x 1.0'deep)

SET-4 X 6*_

PRE-CAST STRUCTURES (NOT FOR COMMERCIAL USE)

RESIDENTIAL MANHOLE



Maximum Allowed: 6-Cables; 6-Splices; Cable Size-1/0 Primary; 4" Stub-outs

Needs to be Plated with Grounding Plates: G2P, G3P, and (G2P-C or G2P-CT)

For all applications, 1' - 6" concrete poured-in-place collar is required. See Plate ADJ-MH pg19.

MSET OPTIONS

DEPTH: Depth of excavation in feet indicated by option: 9, 10, 11, 12

INSTALLATION: Installation condition indicated by option:
C - New construction (cold) or
H - Construction around existing cables (hot).
EXAMPLE: MSET-4X6*9C

SET OPTIONS

DEPTH: All manholes are to be set with two feet (2') of cover minimum above roof (Max 3').

INSTALLATION: Installation condition indicated by option:
U - Undeveloped area (new) or
D - Developed area (existing).

EXAMPLE: SET-4X6*D

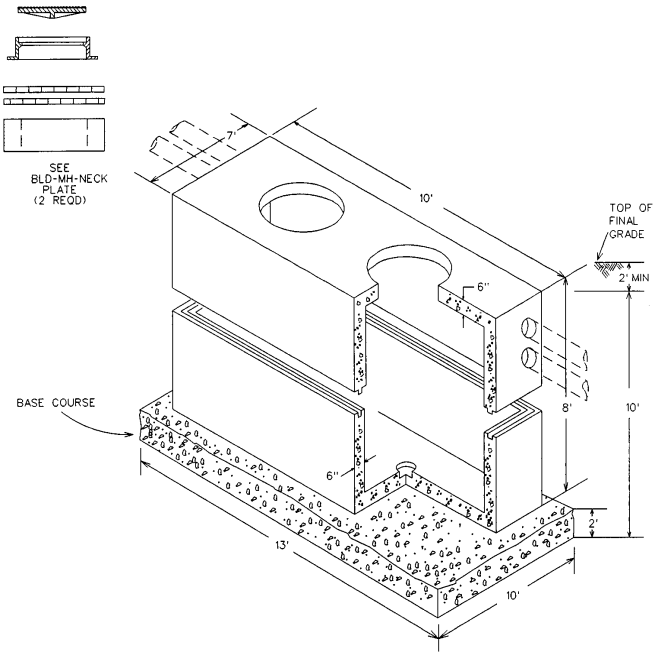
ITEM	QTY	DESCRIPTION
	42	BRICK, COMMON
	1	CEMENT, MORTAR, 96# BAG
COVMA001	1	COVER, MANHOLE
FRAMC001	1	FRAME, MANHOLE COVER
MANER003	1	GRADE EXTENSION RING
MANH0001	1	MANHOLE, PRECAST CONCRETE
	AS REQUIRED	BASE COURSE *

*** NOTE:**

A compacted base course footing shall be included in this plate.

SET-6 X 9*_

PRE-CAST STRUCTURES



NOTE: Do Not Install 1000 **MCM** Cables In The 6x9 Manhole.

Needs to be Plated with Grounding Plates: G2P, G3P, and (G2P-C or G2P-CT)

For all applications, 1' - 6" concrete poured-in-place collar is required. See Plate ADJ-MH pg19.

MSET OPTIONS

DEPTH: Depth of excavation in feet indicated by option: 9, 10, 11, 12

INSTALLATION: Installation condition indicated by option:
C - New construction (cold) or
H - Construction around existing cables (hot).

Example: MSET-6X9*9C

SET OPTIONS

DEPTH: All manholes are to be set with two feet (2') of cover minimum above roof (Max 3').

INSTALLATION: Installation condition indicated by option:
U - Undeveloped area (new) or
D - Developed area (existing).

Example: SET-6X9*D

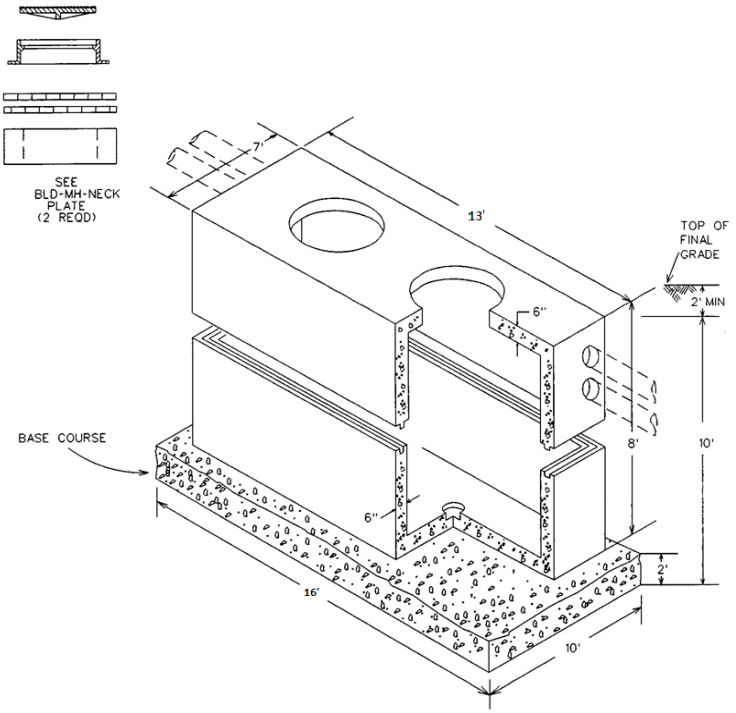
ITEM	QTY	DESCRIPTION
	84	BRICK, COMMON
	2	CEMENT, MORTAR, 96# BAG
COVMA001	2	COVER, MANHOLE
FRAMC001	2	FRAME, MANHOLE COVER
MANER003	2	GRADE EXTENSION RING
MANH0006	1	MANHOLE, PRECAST CONCRETE
	AS REQUIRED	BASE COURSE *

***NOTE:**

A compacted base course footing shall be included in this plate.

SET-6 X 12*_

PRE-CAST STRUCTURES



Needs to be Plated with Grounding Plates: G2P, G3P, and (G2P-C or G2P-CT)
For all applications, 1' - 6" concrete poured-in-place collar is required. See Plate ADJ-MH pg19.

MSET OPTIONS

DEPTH: Depth of excavation in feet indicated by option: 10, 11, 12, 13
INSTALLATION: Installation condition indicated by option:
C - New construction (cold) or
H - Construction around existing cables (hot).

Example: MSET-6X12*11C

SET OPTIONS

DEPTH: All manholes are to be set with two feet (2') of cover minimum above roof (Max 3').
INSTALLATION: Installation condition indicated by option:
U - Undeveloped area (new) or
D - Developed area (existing).

Example: SET-6X12*D

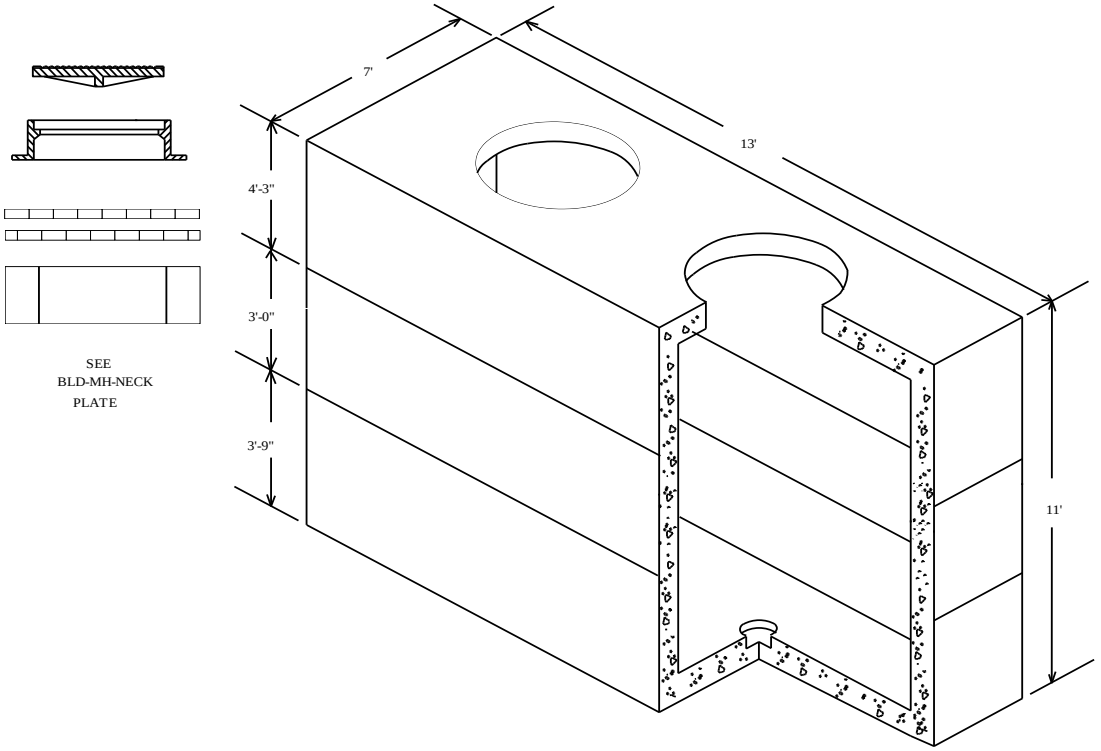
ITEM	QTY	DESCRIPTION
	84	BRICK, COMMON
	2	CEMENT, MORTAR, 96# BAG
COVMA001	2	COVER, MANHOLE
FRAMC001	2	FRAME, MANHOLE COVER
MANER003	2	GRADE EXTENSION RING
MANH0002	1	MANHOLE, PRECAST CONCRETE
	AS REQUIRED	BASE COURSE *

***NOTE:**

A compacted base course footing shall be included in this plate.

MSET 6 X 12 X 10*_

PRE-CAST STRUCTURES



Needs to be Plated with Grounding Plates: G2P, G3P, and (G2P-C or G2P-CT)
For all applications, 1' - 6" concrete poured-in-place collar is required. See Plate ADJ-MH pg19.

MSET OPTIONS

DEPTH: Depth of excavation in feet indicated by option: 13, 14, 15, 16

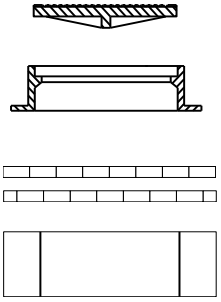
INSTALLATION: Installation condition indicated by option:
C - New construction (cold) or
H - Construction around existing cables (hot).

EXAMPLE: MSET6X12X10*14C

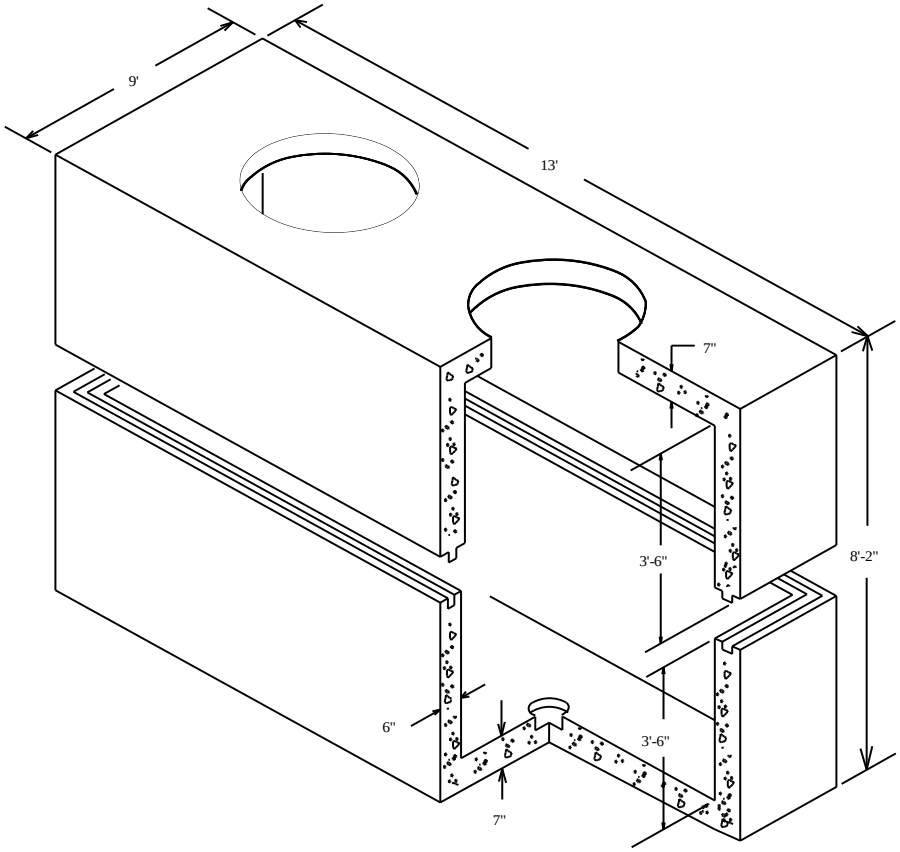
ITEM	QTY	DESCRIPTION
	84	BRICK, COMMON
	2	CEMENT, MORTAR, 96# BAG
COVMA001	2	COVER, MANHOLE
FRAMC001	2	FRAME, MANHOLE COVER
MANER003	2	GRADE EXTENSION RING
MANH0002	1	MANHOLE, PRECAST CONCRETE
MANEX001	1	MANHOLE EXTENSION, PRECAST CONCRETE
	AS REQUIRED	BASE COURSE

MSET-8 X 12*_

PRE-CAST STRUCTURES



SEE
BLD-MH-NECK
PLATE



Needs to be Plated with Grounding Plates: G2P, G3P, and (G2P-C or G2P-CT)
For all applications, 1' - 6" concrete poured-in-place collar is required. See Plate ADJ-MH pg19.
MSET OPTIONS

DEPTH: Depth of excavation in feet indicated by option: 10, 11, 12, 13
INSTALLATION: Installation condition indicated by option:
C - New construction (cold) or
H - Construction around existing cables (hot).

EXAMPLE: MSET-8X12*13C

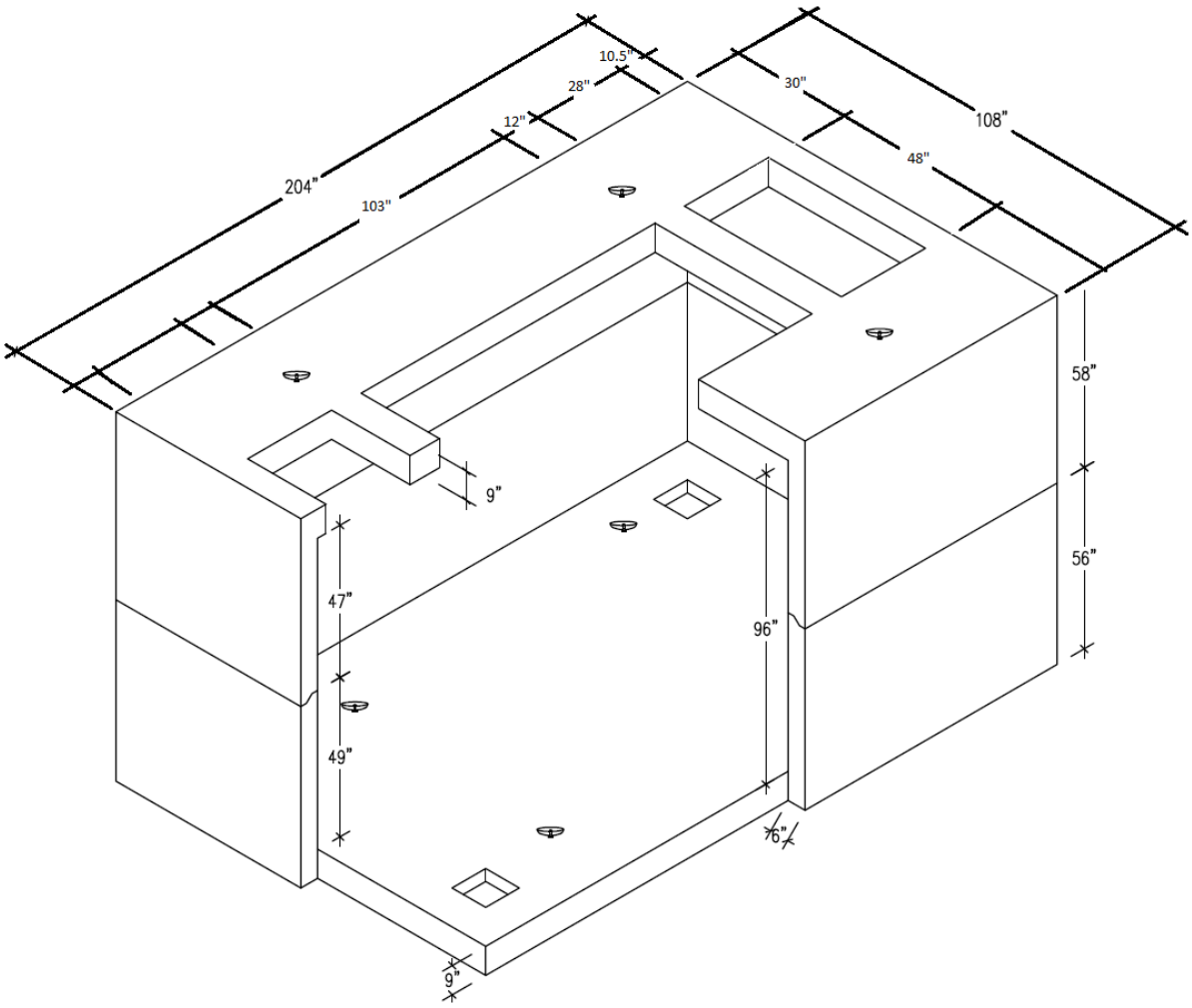
ITEM	QTY	DESCRIPTION
	84	BRICK, COMMON
	2	CEMENT, MORTAR, 96# BAG
COVMA001	2	COVER, MANHOLE
FRAMC001	2	FRAME, MANHOLE COVER
MANER003	2	GRADE EXTENSION RING
MANH0003	1	MANHOLE, PRECAST CONCRETE
	AS REQUIRED	BASE COURSE

NOTE:

Install Racks as Needed.

MSET-8 X 16*_

PRE-CAST STRUCTURES



Needs to be Plated with Grounding Plates: G2P, G3P, and (G2P-C or G2P-CT)
For all applications, 1' - 6" concrete poured-in-place collar is required. See Plate ADJ-MH pg19.

MSET OPTIONS

DEPTH: Depth of excavation in feet indicated by option: 10, 11, 12, 13, 14

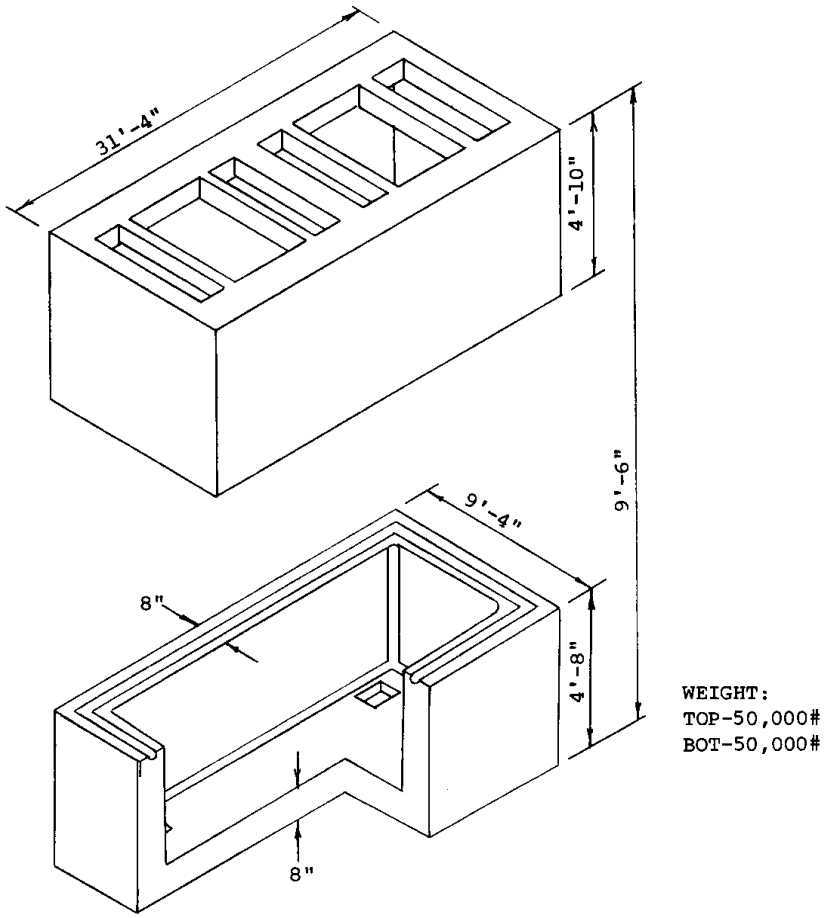
INSTALLATION: Installation condition indicated by option:
C - New construction (cold) or
H - Construction around existing cables (hot).

Example: MSET-8X16*12C

ITEM	QTY	DESCRIPTION
GRAMH001	2	VENTILATED GRATE COVER
GRAMH002	2	FILLED GRATE COVER
FRAGR002	2	VENTILATED GRATE FRAME
FRAGR001	1	FILLED GRATE FRAME
MANHO004	1	VAULT, PRECAST CONCRETE

SET-8 X 30*_

PRE-CAST STRUCTURES



Needs to be Plated with Grounding Plates: G2P, G3P, and (G2P-C or G2P-CT)
For all applications, 1' - 6" concrete poured-in-place collar is required. See Plate ADJ-MH pg19.

MSET OPTIONS

DEPTH: Depth of excavation in feet indicated by option: 10, 11, 12, 13, 14

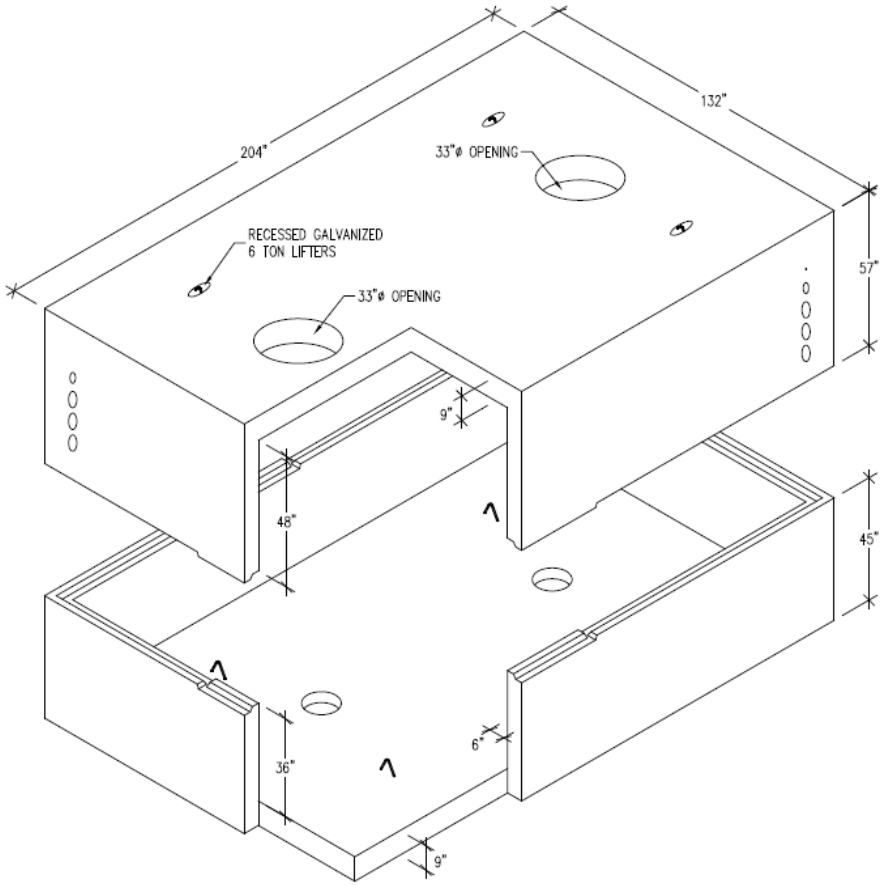
INSTALLATION: Installation condition indicated by option:
C - New construction (cold) or
H - Construction around existing cables (hot).

Example: SET-8X30*14H

ITEM	QTY	DESCRIPTION
GRAMH001	4	VENTILATED GRATE COVER
GRAMH002	4	FILLED GRATE COVER
FRAGR002	4	VENTILATED GRATE FRAME
FRAGR001	2	FILLED GRATE FRAME
SPECIAL ORDER	1	VAULT, PRE CAST CONCRETE

SET-10 X 16*_

PRE-CAST STRUCTURES



Needs to be Plated with Grounding Plates: G2P, G3P, and (G2P-C or G2P-CT)
For all applications, 1' - 6" concrete poured-in-place collar is required. See Plate ADJ-MH pg19.
MSET OPTIONS

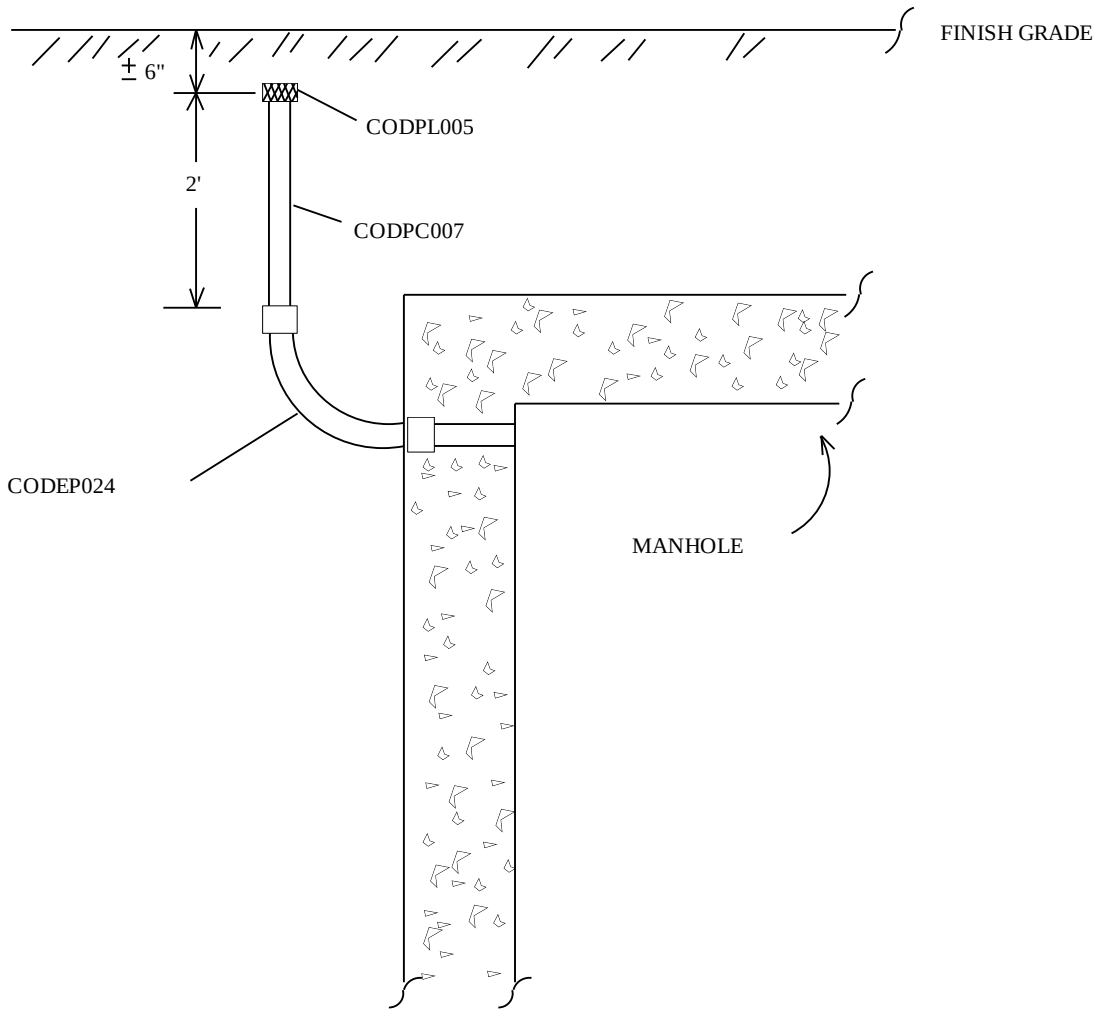
DEPTH: Depth of excavation in feet indicated by option: 10, 11, 12, 13, 14
INSTALLATION: Installation condition indicated by option:
C - New construction (cold) or
H - Construction around existing cables (hot).

Example: SET-10X16*14H

ITEM	QTY	DESCRIPTION
	84	BRICK, COMMON
	2	CEMENT, MORTAR, 96# BAG
COVMA001	2	COVER, MANHOLE
FRAMC001	2	FRAME, MANHOLE COVER
MANER003	2	GRADE EXTENSION RING
MANH0009	1	MANHOLE, PRECAST CONCRETE
	AS REQUIRED	BASE COURSE

MANHOLE GROUND

GROUNDING PROVISIONS

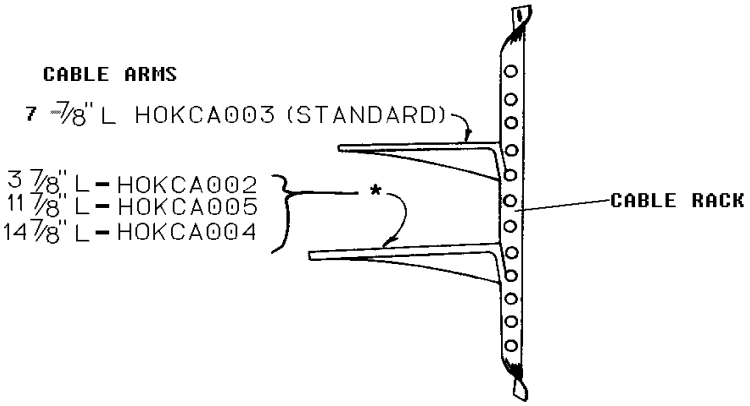


ITEM	QTY	DESCRIPTION
CODEP024	1	ELBOW, 1" PVC SCH 40, 90 DEG., 18"RAD.
CODPC007	2 FT	CONDUIT, 1" PVC DB-120
CODPL005	1	PLUG, CONDUIT, 1" PVC

NOTES:

1. Please see the grounding Plate G2P-C.
2. This material is issued with all SET-_X_ Manhole plates.

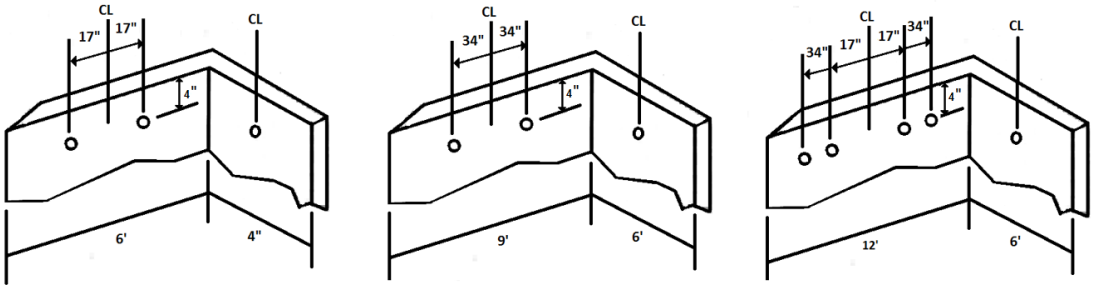
CBL-ARM
CBL-RACK
MANHOLE CABLE ARM & CABLE RACK



*There are four sizes of hooks. Itemize other hooks as required.

	ITEM	QTY	DESCRIPTION
CBL-ARM (CABLE-ARM)	HOKCA003	1	HOOK, CABLE 7-7/8 INCH EXT. LOCK TYPE
	INSCA001	1	INSULATOR, CABLE RACK
CBL-RACK (CABLE-RACK)	ANCSD001	2	ANCHOR, SELF DRILLING 1/2 X 2 INCHES
	BOLMH002	2	BOLT, MACHINE HEX HEAD 1/2 X 2 INCHES
	RACUC003	1	RACK, CABLE 55 INCHES

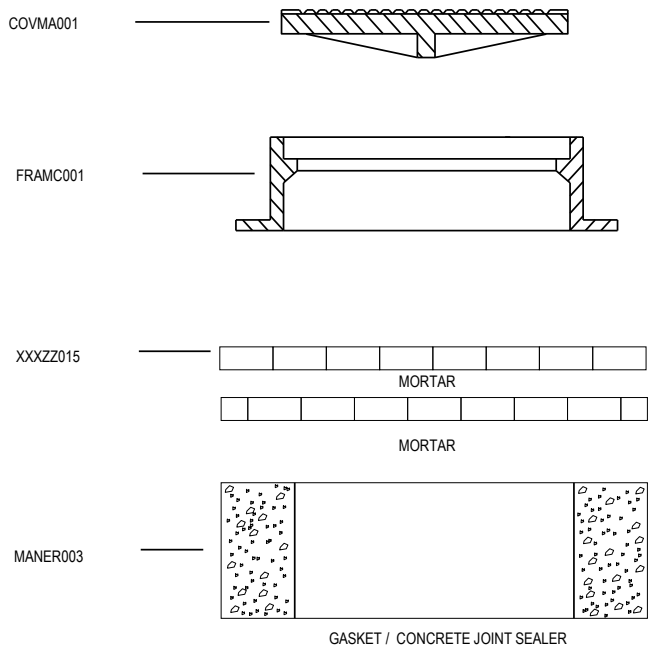
Cable Rack Anchor Hole Dimension



BLD-MH-NECK

BUILD MANHOLE NECK

DETAILING ENGINEER:
FOR MORE BRICKS OR
SMALLER EXTENSION RING,
ITEMIZE BUILD OR REMOVE



BLD-MH-NECK

ITEM	QTY	DESCRIPTION
	1	CEMENT, MORTAR 96LB. BAG
	42	BRICK, COMMON 2”
COVMA001	1	COVER, MANHOLE 34 3/4” DIAMETER, REGULAR
FRAMC001	1	FRAME, MANHOLE COVER 33-1/4” CAST IRON, 4-1/8” HIGH
MANER003	1	GRADE EXTENSION RING, CONCRETE, 15” HIGH (JEA STOCK)

FORM-_

CAST IN PLACE MANHOLE

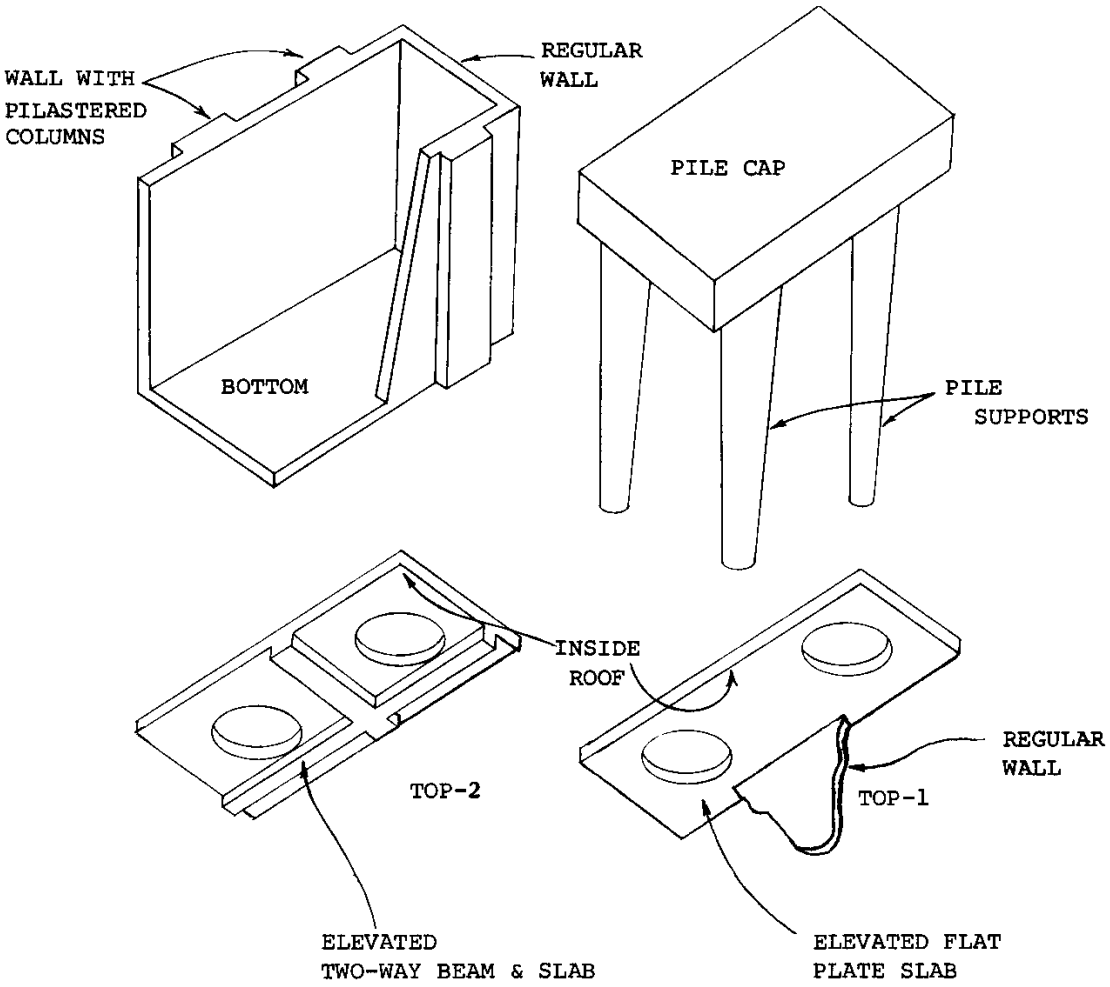
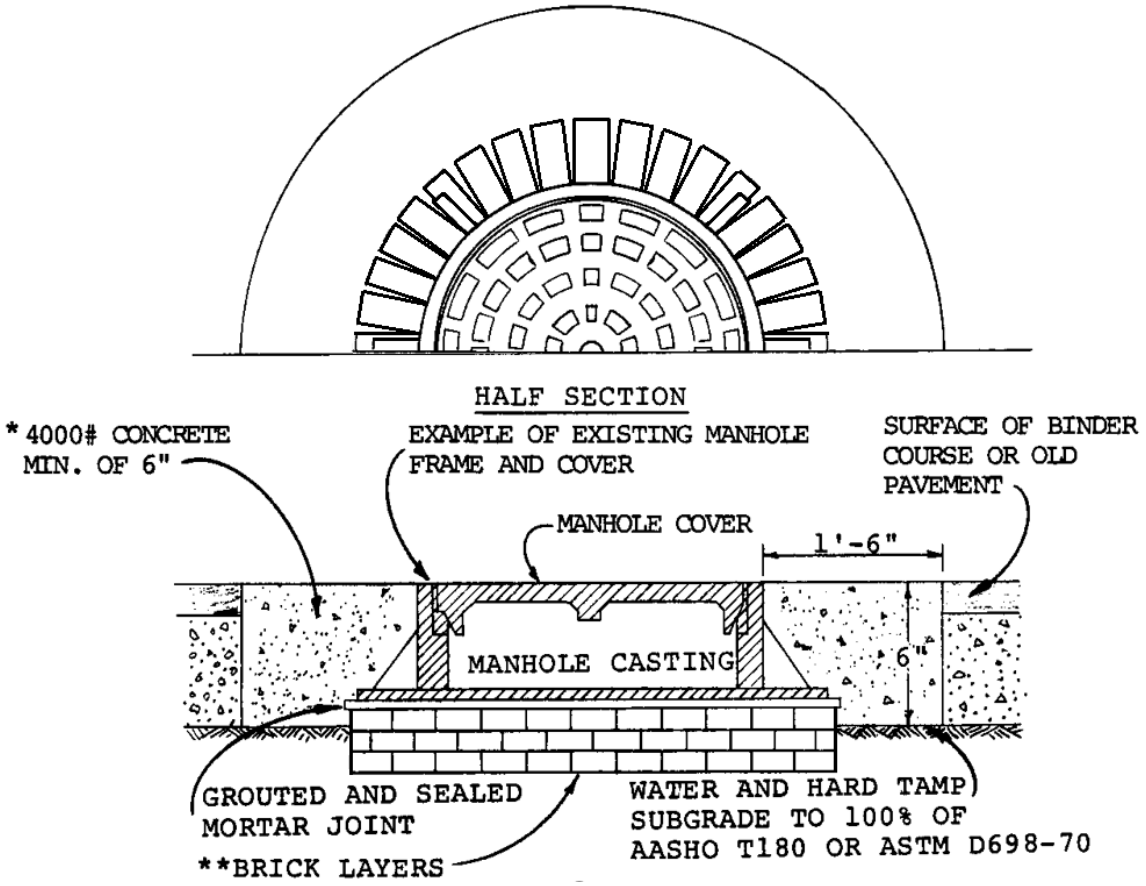


PLATE	DESCRIPTION	UNIT
FORM-PC	PILE CAPS	SQUARE FEET OF CONTACT AREA (SFCA)
FORM-SLAB	BOTTOM	
FORM-WALL	REGULAR WALL	
FORM-WC	WALLS WITH PILASTERED COLUMNS	
FORM TOP-1	ELEVATED FLAT PLATE SLAB	
FORM TOP-2	ELEVATED TWO-WAY BEAM & SLAB	
FORM-CURB	TRANSFORMER VAULT ACCESS CURB	

ADJ-MH-T
ADJ-MH-NT

MANHOLE COVER ADJUSTMENTS FOR GRADE CHANGES



MANHOLE ADJUSTMENT NOTES:

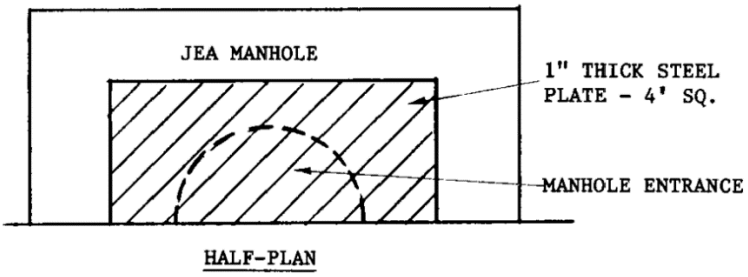
1. For all applications, 1' - 6" concrete poured-in-place collar is required.
2. ** Call for plate "ADD-BRICK" if additional courses of brick are required to adjust manhole cover to grade. Brick courses should not exceed 9".
3. No alterations to the brick shall be made that changes the Integrity of the brick.
4. If the Concrete poured-in-place collar is close enough to another Concrete poured-in-place collar the two may be combined into a rectangle pour.

RING EXTENSION OPTIONS

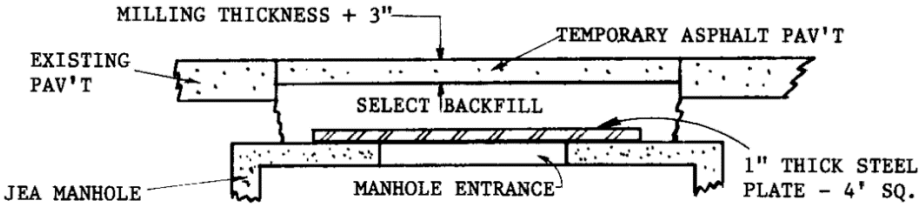
ITEM	DESCRIPTION
MANER001	RING, EXTENSION, GRADE, MANHOLE, 6" HEIGHT, 36" ID X 48" OD.
MANER002	RING, EXTENSION, GRADE, MANHOLE, 9" HEIGHT, 36" ID X 48" OD.
MANER003	RING, EXTENSION, GRADE, MANHOLE, 15" HEIGHT, 36" ID X 48" OD.

ADJ-MH-MILL-A
ADJ-MH-MILL-B

MANHOLE COVER ADJUSTMENTS FOR PAV'T MILLING

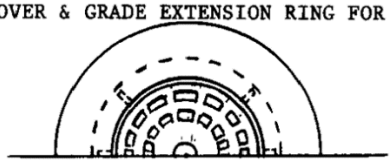


HALF-PLAN

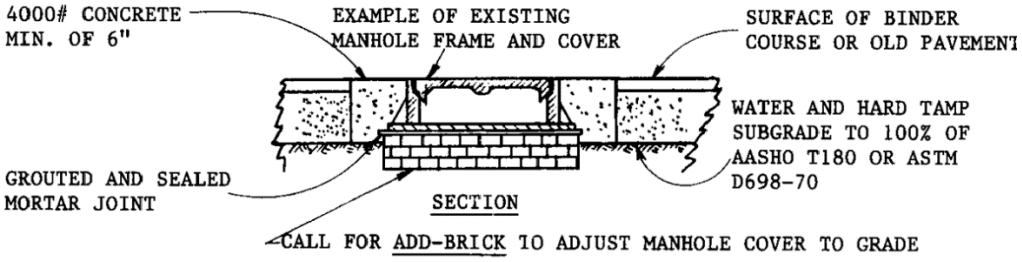


SECTION

ADJ-MH-MILL-B -BEFORE PAVEMENT MILLING - (PLATE INCLUDES MANHOLE COVER & NECK REMOVAL AND INSTALLATION OF STEEL PLATE)
NOTE: RETAIN FRAME, COVER & GRADE EXTENSION RING FOR LATER REINSTALLATION



HALF-PLAN



SECTION

CALL FOR ADD-BRICK TO ADJUST MANHOLE COVER TO GRADE

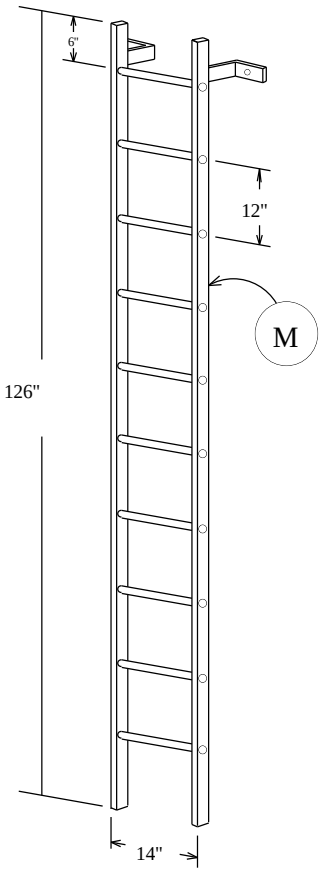
ADJ-MH-MILL-A - AFTER PAVEMENT MILLING - (PLATE INCLUDES REMOVING STEEL PLATE, BUILDING NEW MANHOLE NECK, ADJUSTING MANHOLE COVER TO NEW STREET GRADE AND POURING CONCRETE COLAR)

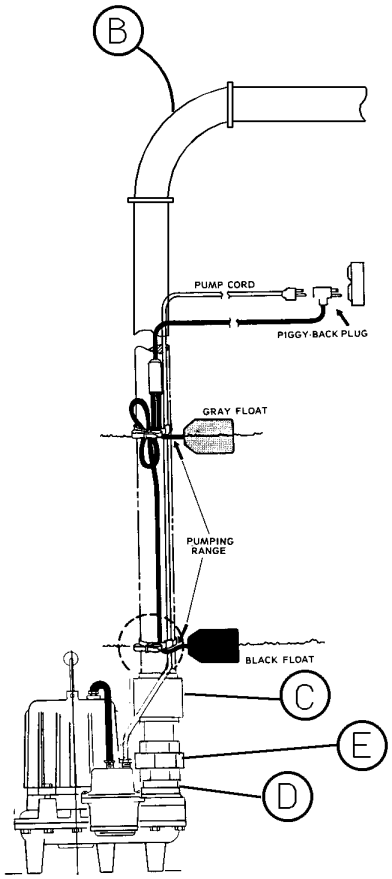
ADJ-MH-MILL -A

DESCRIPTION	QTY
CEMENT, MORTAR, 96# BAG	1
BRICK, COMMON, 2"	42
CONCRETE, 4000PS1, CU.FT	11

UDBP

LADDER AND SUMP PUMP





MANHOLE ACCESSORIES

UDBP

ITEM	QTY	DESCRIPTION
PPESC200	20	PIPE, PVC 2" SCHEDULE 40 WITH BELL END
B – FTGDH650	1	ELBOW, PVC 2" SCHEDULE 40 90º
C – VLVAA640	1	CHECK VALVE, 2" THREADED BRONZE
D – FTGDF165	1	ADAPTER, 2" SCHEDULE 40 MALE THREAD/SLIP
E – PFCUA400	1	UNION, 2" PVC
FUSHO003	1	FUSE HOLDER, WATERPROOF IN-LINE
FUSUG046	1	FUSE, ONE TIME 20 AMP
CAIUF001	15	CABLE, STREET LIGHT *12/2 AWG
PUMSU001	1	PUMP, SUMP 1/2 HP 120VAC
PUMSU004	1	DOUBLE FLOAT PUMP SWITCH
M	1	LADDER, GALVANIZED STEEL 10' – 6"

Traffic Load Rating Comparison Chart					
Category	Application	Gross Vehicle Weight (lb.)	Max Wheel Load (lb.)	Design Load (lb.)	Test Load (lb.)
Light Duty/ Pedestrian Only	Areas with minimal pedestrian traffic and no vehicular traffic, which includes grass surrounds.	5000	2000	2000	3000
Medium Duty/ Non-Deliberate Traffic	Areas with pedestrian traffic and non-deliberate vehicular traffic limited to class 5 (1 ½ ton truck, Light duty truck) such as areas generally protected in a sidewalk, i.e., adjacent to street cabinet or poll.	19500	7800	8000	12000
Heavy Duty/ Non-Deliberate Traffic	Areas that can experience non-deliberate vehicular traffic limited to class 7 (2 ½ ton truck, Medium duty truck) that generally includes areas in a sidewalk, but not at a corner or driveway.	40000	16000	15000	22500
Heavy Duty/ Non-Deliberate Traffic	Areas subject to traffic up to and including tractor-trailer trucks (class 8, Heavy-duty truck) that can include parking lots and highway easements. These installations benefit from a concrete collar. (H-20 / HS-20 start here)	40000	16000	22500	33750
Designated Roadway Traffic	Areas subject to continuous traffic, Highways and streets. Require steel covers to meet rating standards. (H-20 / HS-20)	40000	16000	20800	45136