

DESIGN GUIDELINE
 BRICK MANHOLE WITH ECCENTRIC ACCESS OPENING
 OVER EXISTING SEWER
 WITH CAST IN PLACE CONCRETE BASE

APPROVED BY:

REVIEWED BY: W.DARROW

PREPARED BY: OBG/BKJV

REVISION NO.: 0

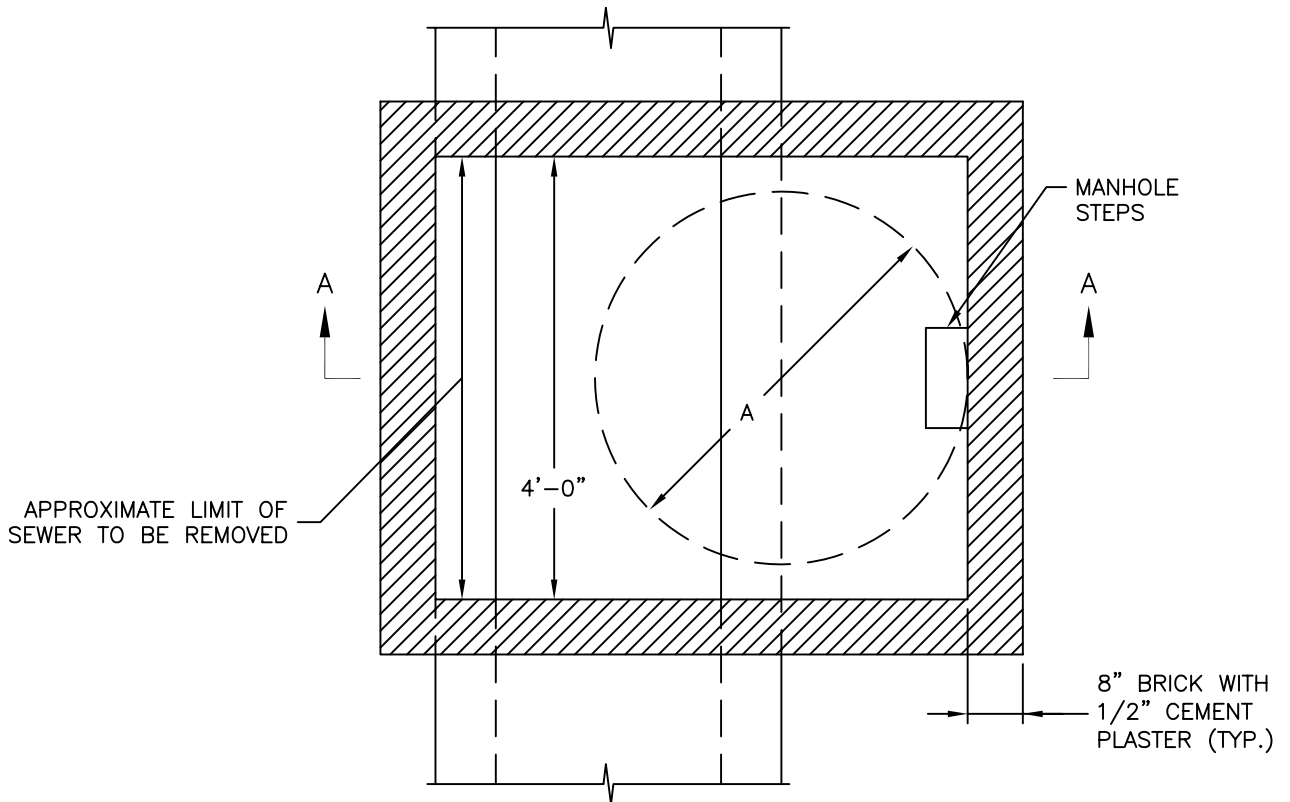
DATE: June 20, 2003

SEWER DIAMETER	FRAME DIAMETER (A)
10" THRU 21"	24"
24" AND 36"	36" *

* IF SURFACE TO INVERT < 15', A 36"X 24" DIA. ADAPTER RING WITH 24" DIA. COVER SHALL BE USED.

NOTE:

1. ALL CONCRETE TO BE CLASS 4000, AIR ENTRAINED, TYPE II CEMENT.
2. REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60.
3. WHEN THE MANHOLE DEPTH EXCEEDS 15 FEET, THE BRICK WALL THICKNESS SHALL BE INCREASED TO 12 INCHES BELOW THE 15 FEET DEPTH.



SECTIONAL PLAN

DESIGN GUIDELINE
CAST IN PLACE CONCRETE MANHOLE BASE
FOR NEW 54" DIAMETER AND LARGER SEWERS
WITH PIPE OR BRICK RISER OPTION

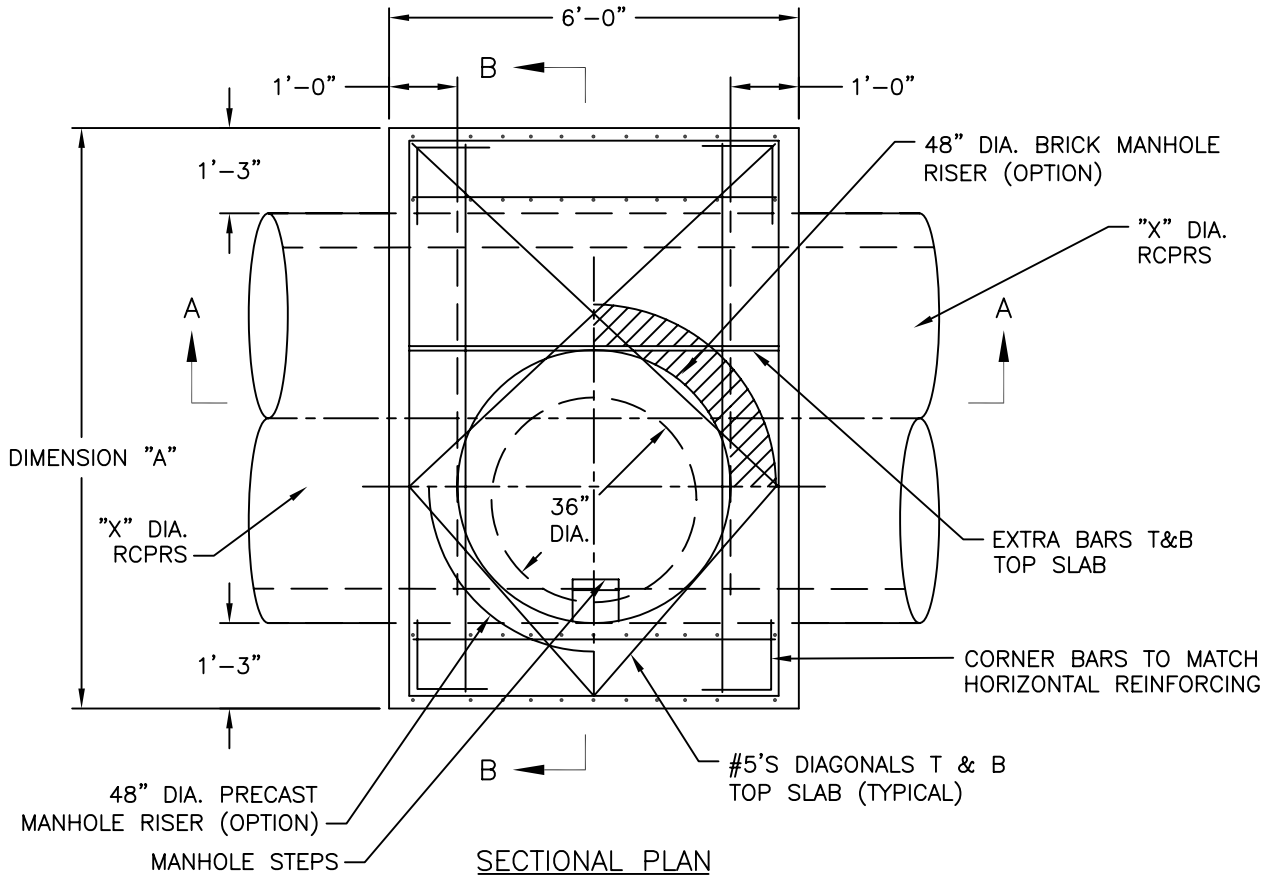
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'X' - INSIDE PIPE DIAMETER - INCHES	DIMENSION "A" (PIPE OD + 30")	DIMENSION "B" (PIPE OD + 50")
54	7' - 11"	9' - 7"
60	8' - 6"	10' - 2"
66	9' - 1"	10' - 9"
72	9' - 8"	11' - 4"
78	10' - 3"	11' - 11"
84	10' - 10"	12' - 6"
90	11' - 5"	13' - 1"
96	12' - 0"	13' - 8"
108	13' - 2"	14' - 10"

NOTES:

- SEWER MANHOLE BASE SHALL BE DESIGNED FOR AASHTO HS-20 LIVE LOADING.
- ALL CONCRETE TO BE CLASS 4000, AIR ENTRAINED, TYPE II CEMENT.
- REINFORCING STEEL SHALL CONFORM TO ASTM A-615, GRADE 60.
- FOR MANHOLE DEPTHS GREATER THAN 15' TO INVERT, USE 36" DIA. CAST IRON FRAME AND COVER. FOR MANHOLE DEPTHS EQUAL TO 15' OR LESS, USE A 36" X 24" ADAPTER RING WITH A 24" DIA. COVER.
- DIMENSIONS "A" AND "B" SHOWN ON TABLE CORRESPOND TO A CLASS III, WALL B REINFORCED CONCRETE SEWER PIPE.

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 FOR NEW 54" DIAMETER AND LARGER SEWERS
 WITH PIPE OR BRICK RISER OPTION

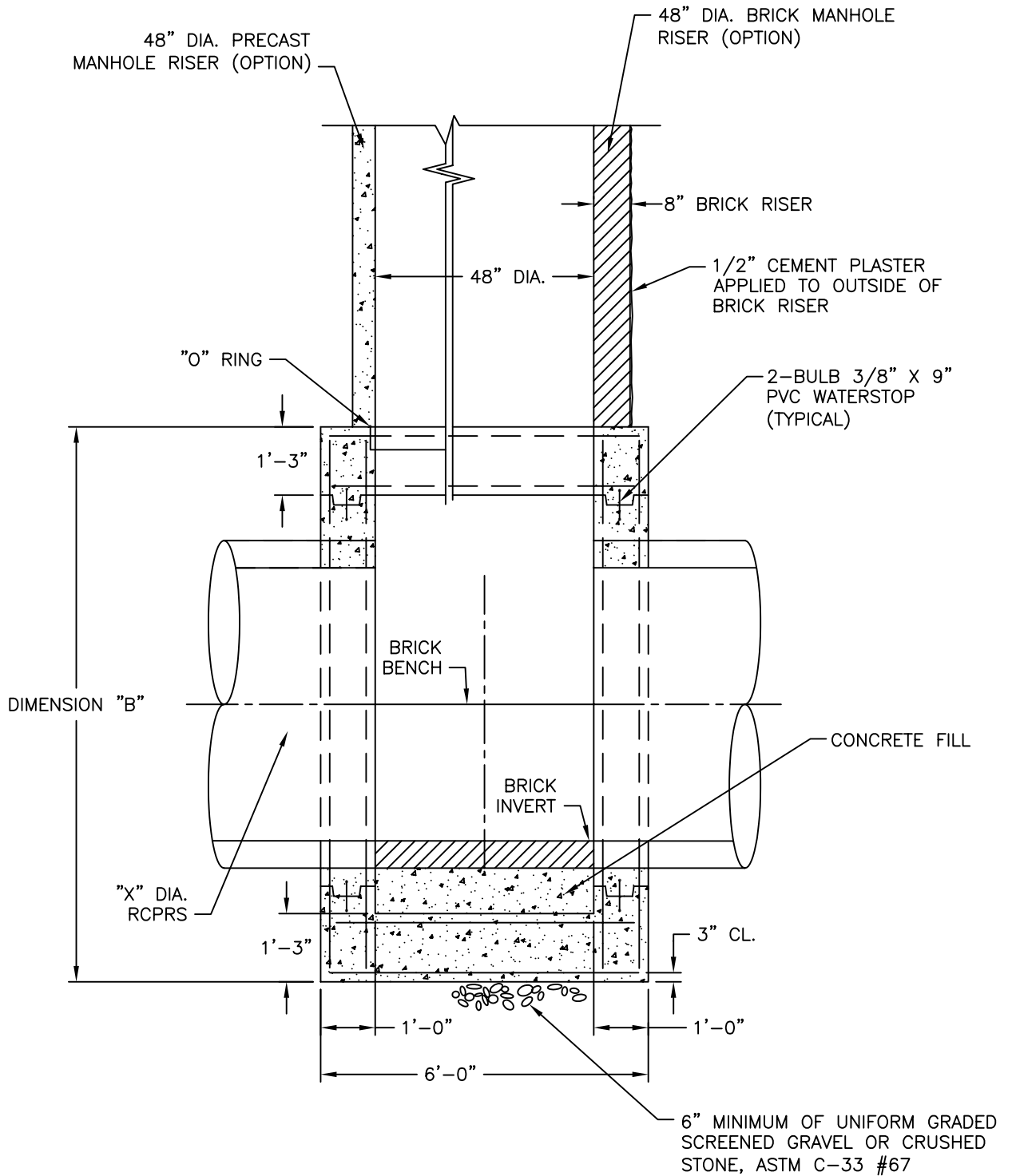
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SECTION A - A

DESIGN GUIDELINE
 CAST IN PLACE CONCRETE MANHOLE BASE
 FOR NEW 54" DIAMETER AND LARGER SEWERS
 WITH PIPE OR BRICK RISER OPTION

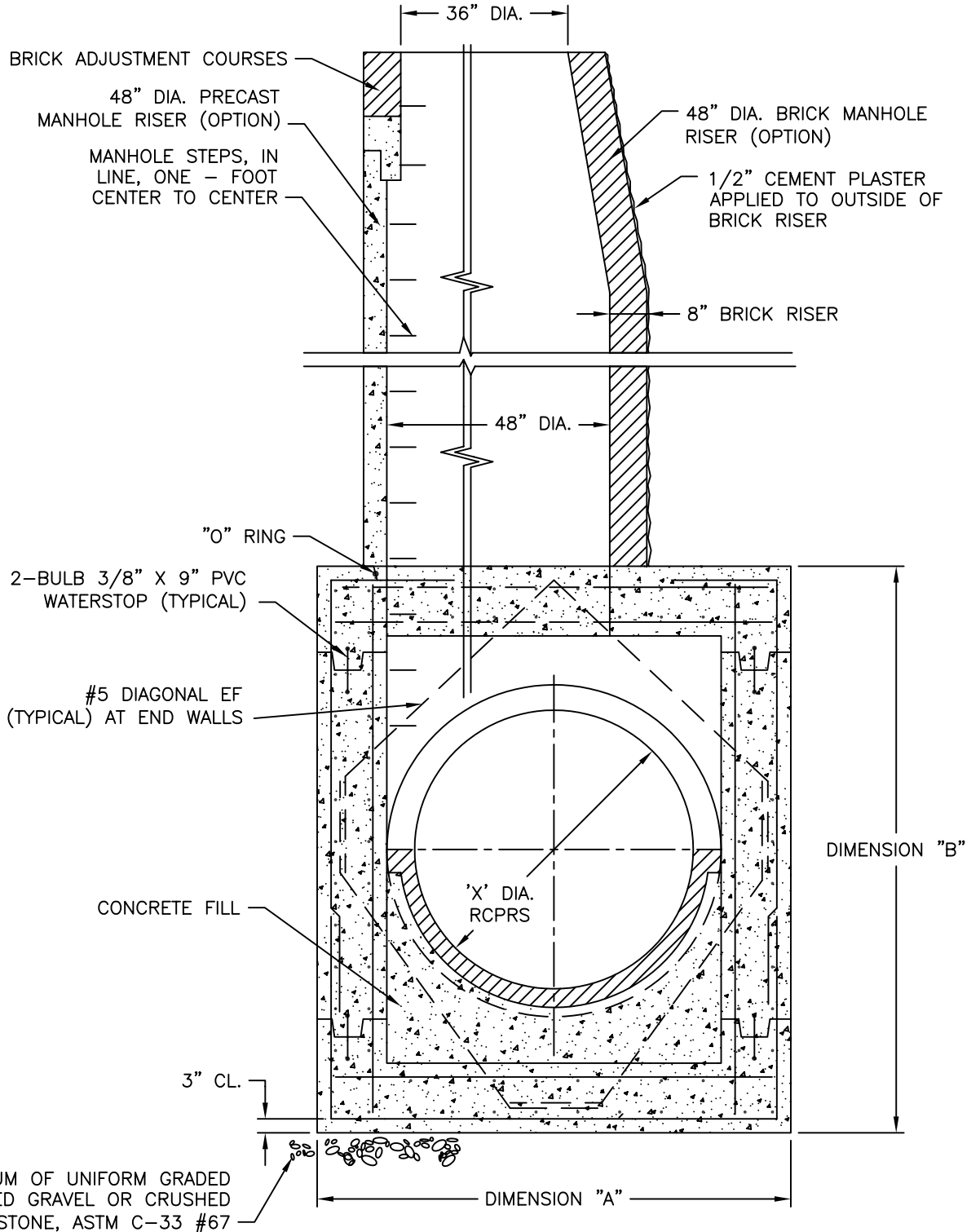
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SECTION B - B

DESIGN GUIDELINE

METER INSTALLATION
COMPOUND METER / TURBINE METER

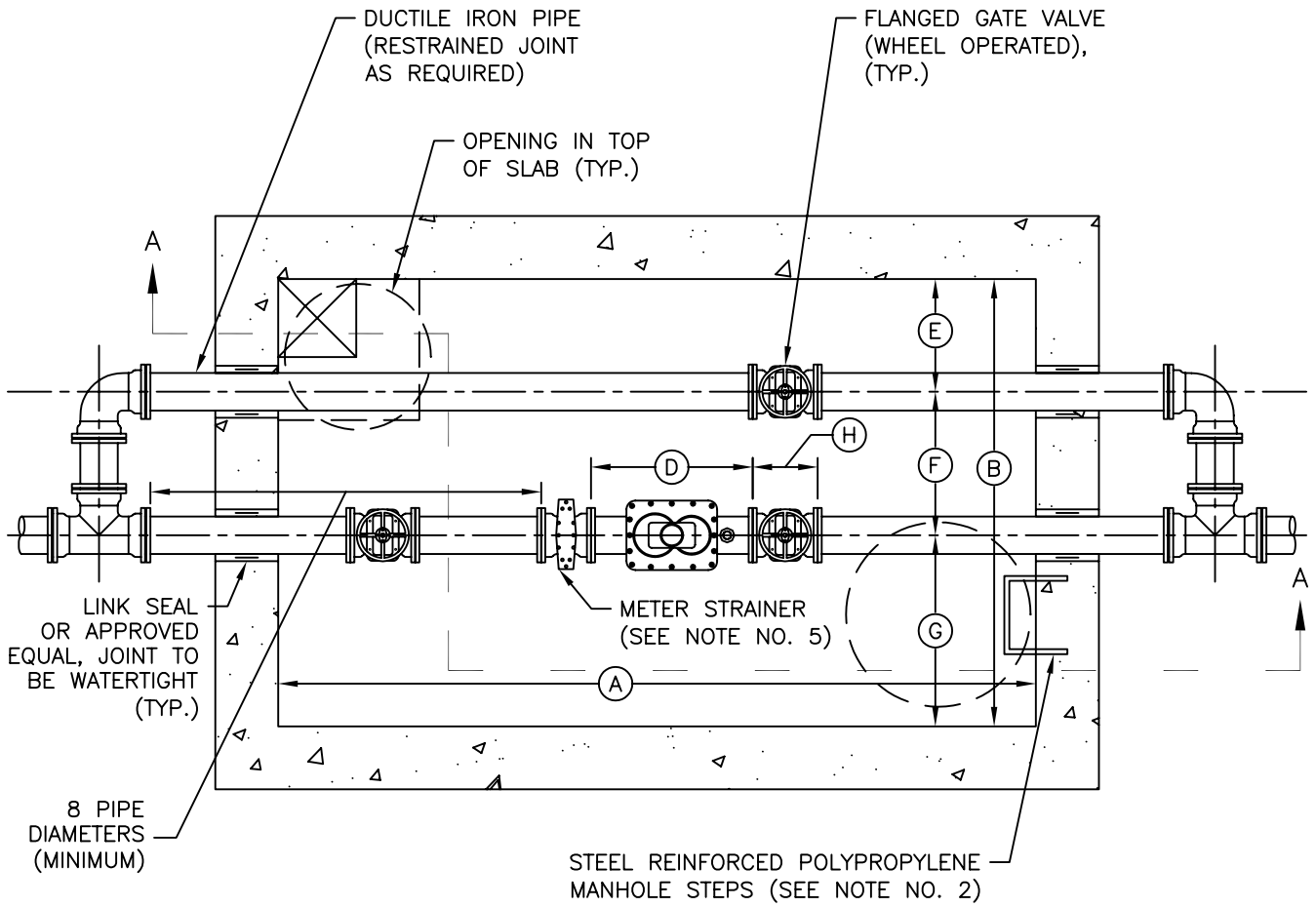
APPROVED BY:

REVIEWED BY: J. SHABELSKI

PREPARED BY: OBG/BKJV

REVISION NO.: 0

DATE: October 24, 2004



SECTIONAL PLAN
(NOT TO SCALE)

DESIGN GUIDELINE

METER INSTALLATION
COMPOUND METER / TURBINE METER

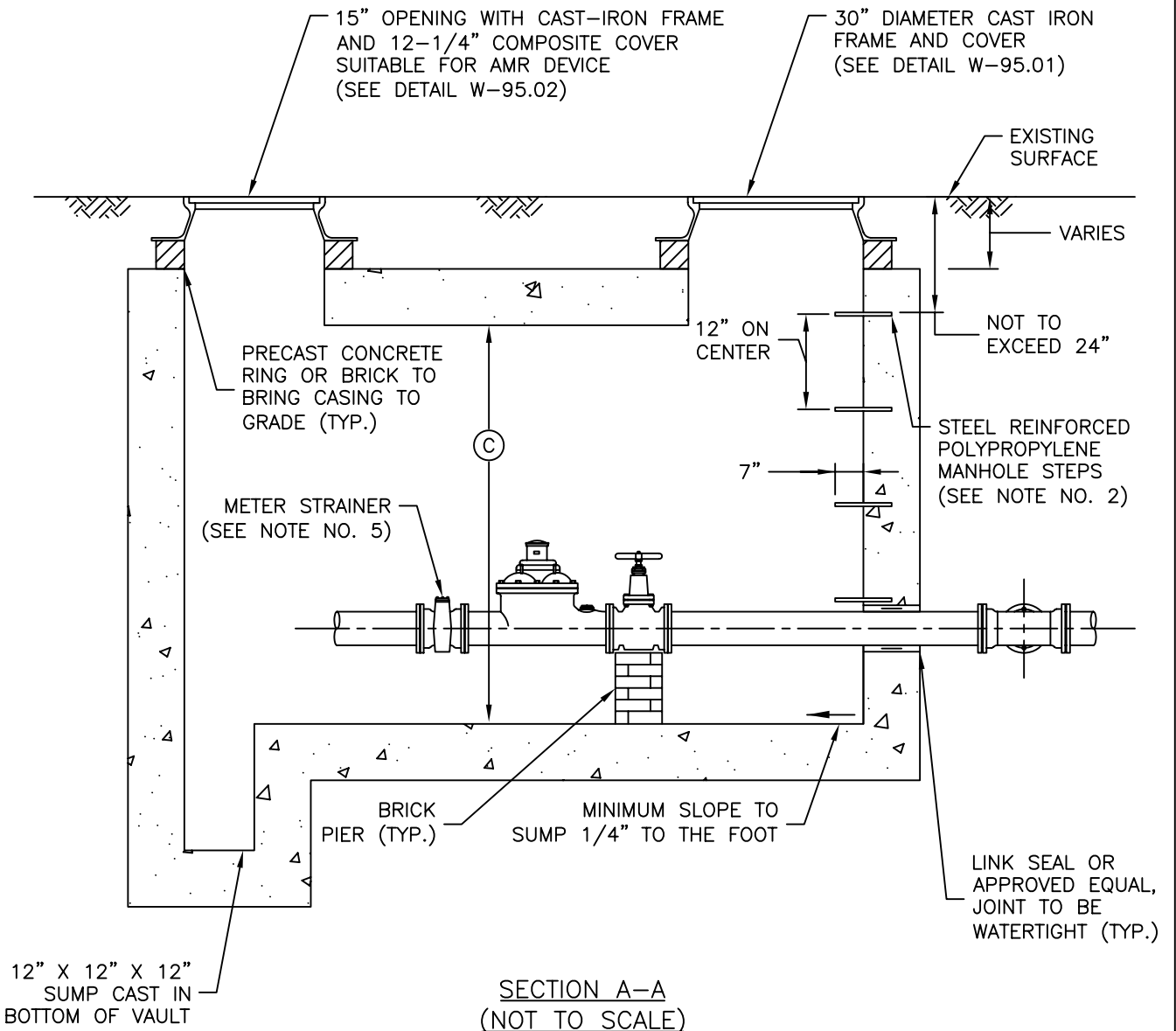
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DESIGN GUIDELINE

METER INSTALLATION
 COMPOUND METER / TURBINE METER

APPROVED BY:

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COMPOUND METER								
SIZE	A	B	C	D	E	F	G	H
3"	72"	72"	72"	17"	18"	30"	24"	8"
4"	72"	72"	72"	20"	18"	30"	24"	9"
6"	84"	72"	72"	24"	18"	30"	24"	10.5"
8"	84"	72"	72"	24"	18"	30"	24"	10.5"
DISC METER								
2.5"	72"	60"	72"	20"	11"	24"	25"	7.5"

NOTES:

1. SEALED STRUCTURAL COMPUTATIONS AND REINFORCING DETAILS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATIONS.
2. MANHOLE STEPS TO BE M.A. INDUSTRIES MODEL PS3-PFC OR APPROVED EQUAL. CAST INSERTS IN WALL 12" ON CENTER.
3. CONCRETE TO BE CLASS 4000, TYPE II CEMENT.
4. DUCTILE IRON PIPE JOINTS WITHIN VAULT SHALL BE FLANGED.
5. COMPOUND METERS REQUIRE THE INSTALLATION OF METER STRAINERS. HOWEVER, TURBINE METERS DO NOT REQUIRE THE INSTALLATION OF METER STRAINERS. METER STRAINERS SHALL BE INSTALLED BETWEEN THE METER AND SHUTOFF VALVE ON THE STREET SIDE OF THE METER AND HAVE 8 PIPE LENGTHS (MINIMUM) BETWEEN THE METER STRAINER AND NEAREST FITTING.
6. THIS DRAWING SUPERCEDES DRAWING G-808 DATED 2-01-1992.

DESIGN GUIDELINE

METER INSTALLATION
DETECTOR CHECK METER

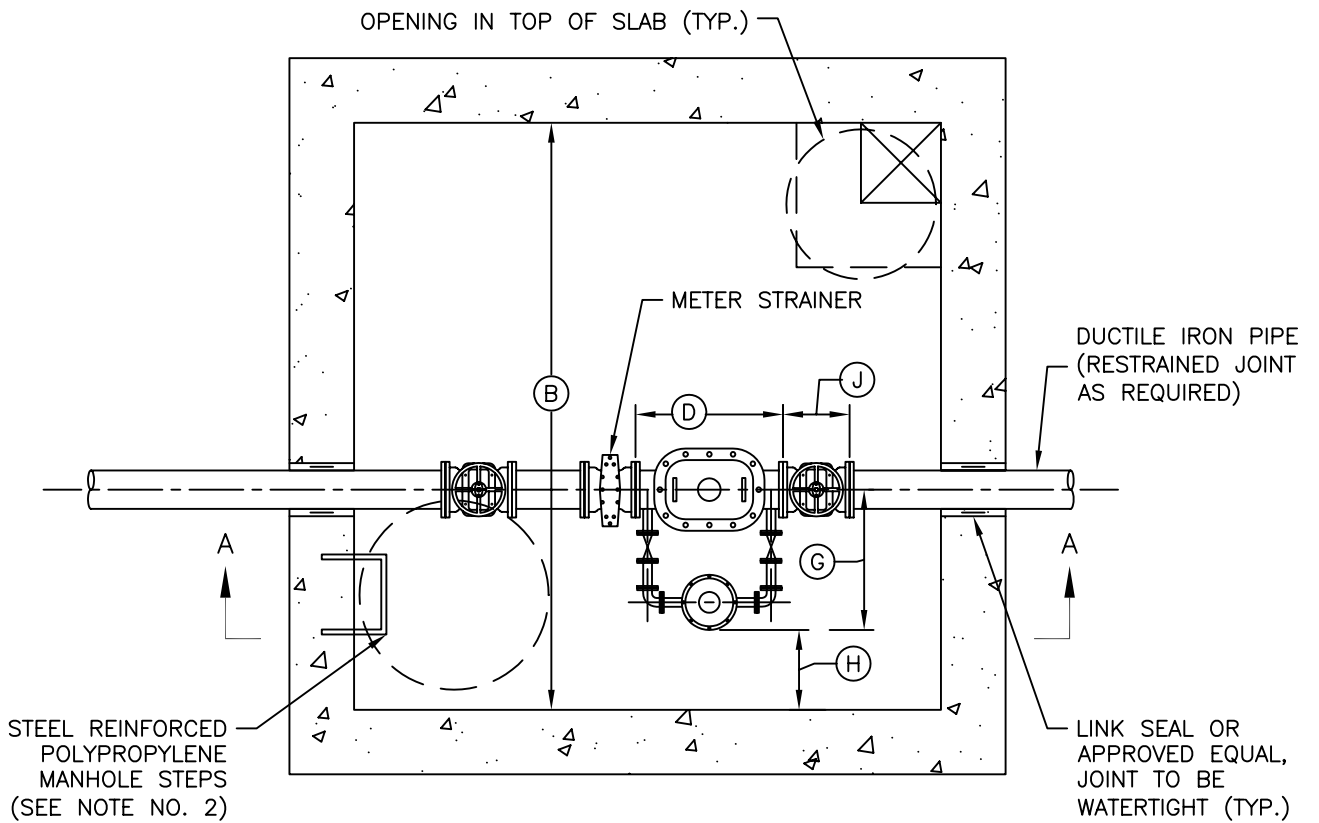
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SECTIONAL PLAN
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DESIGN GUIDELINE

METER INSTALLATION
DETECTOR CHECK METER

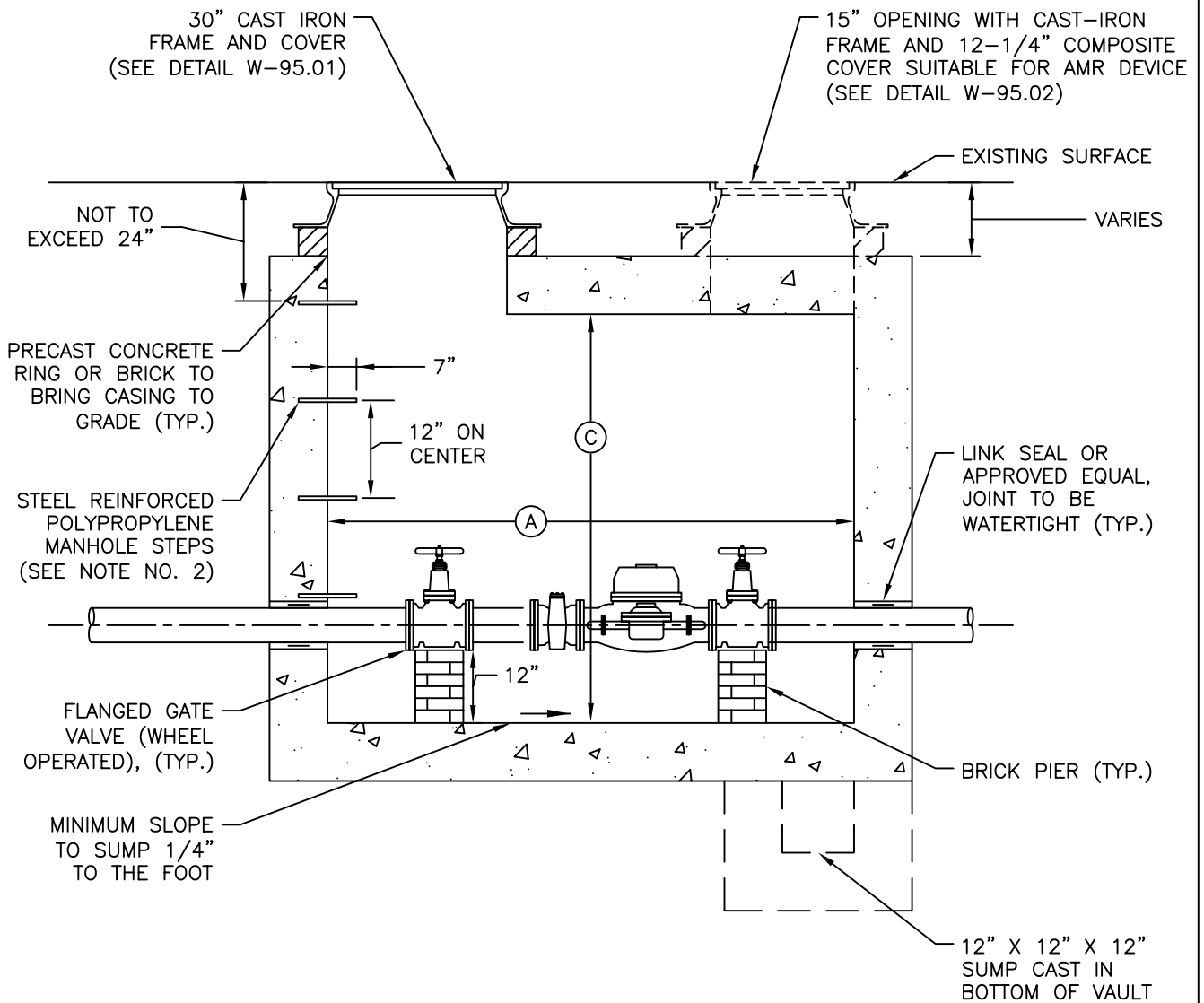
APPROVED BY:

REVIEWED BY: J. SHABELSKI

PREPARED BY: OBG/BKJV

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DATE: October 24, 2004



SECTION A-A
(NOT TO SCALE)

DESIGN GUIDELINE

METER INSTALLATION
 DETECTOR CHECK METER

APPROVED BY:

REVIEWED BY: J. SHABELSKI

PREPARED BY: OBG/BKJV

REVISION NO.: 0

DATE: October 24, 2004

DETECTOR CHECK METER										
SIZE	A	B	C	D	E	F	G	H	I	J
3"	72"	72"	72"	16.5"	-	-	10"	12"	-	8"
4"	72"	72"	72"	16.5"	-	-	10.5"	12"	-	9"
6"	72"	72"	72"	22.5"	-	-	11.625"	12"	-	10.5"
8"	72"	72"	72"	26.5"	-	-	12.625"	12"	-	11.5"
10"	96"	72"	72"	36"	-	-	13.75"	12"	-	13"

NOTES:

1. SEALED STRUCTURAL COMPUTATIONS AND REINFORCING DETAILS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATIONS.
2. MANHOLE STEPS TO BE M.A. INDUSTRIES MODEL PS3-PFC OR APPROVED EQUAL. CAST INSERTS IN WALL 12" ON CENTER.
3. CONCRETE TO BE CLASS 4000, TYPE II CEMENT.
4. DUCTILE IRON PIPE JOINTS WITHIN VAULT SHALL BE FLANGED.
5. DETECTOR CHECK METERS MUST MEET ASSE #1048 AND ANSI/AWWA C510-97 FOR DOUBLE CHECK TYPES; AND ASSE#1047 AND ANSI/AWWA C511-97 FOR REDUCED PRESSURE DETECTOR CHECK METERS.
6. IF A REDUCED PRESSURE BACKFLOW PREVENTER IS REQUIRED ON THE FIRE SERVICE LINE, THEN A REDUCED PRESSURE DETECTOR CHECK METER MUST BE INSTALLED INSIDE OF THE BUILDING ACCORDING TO THE DCWASA INSIDE DESIGN CRITERIA.
7. THIS DRAWING SUPERCEDES DRAWING G-813 DATED 1-09-1964.

DESIGN GUIDELINE

METER INSTALLATION
FIRE SERVICE TYPE

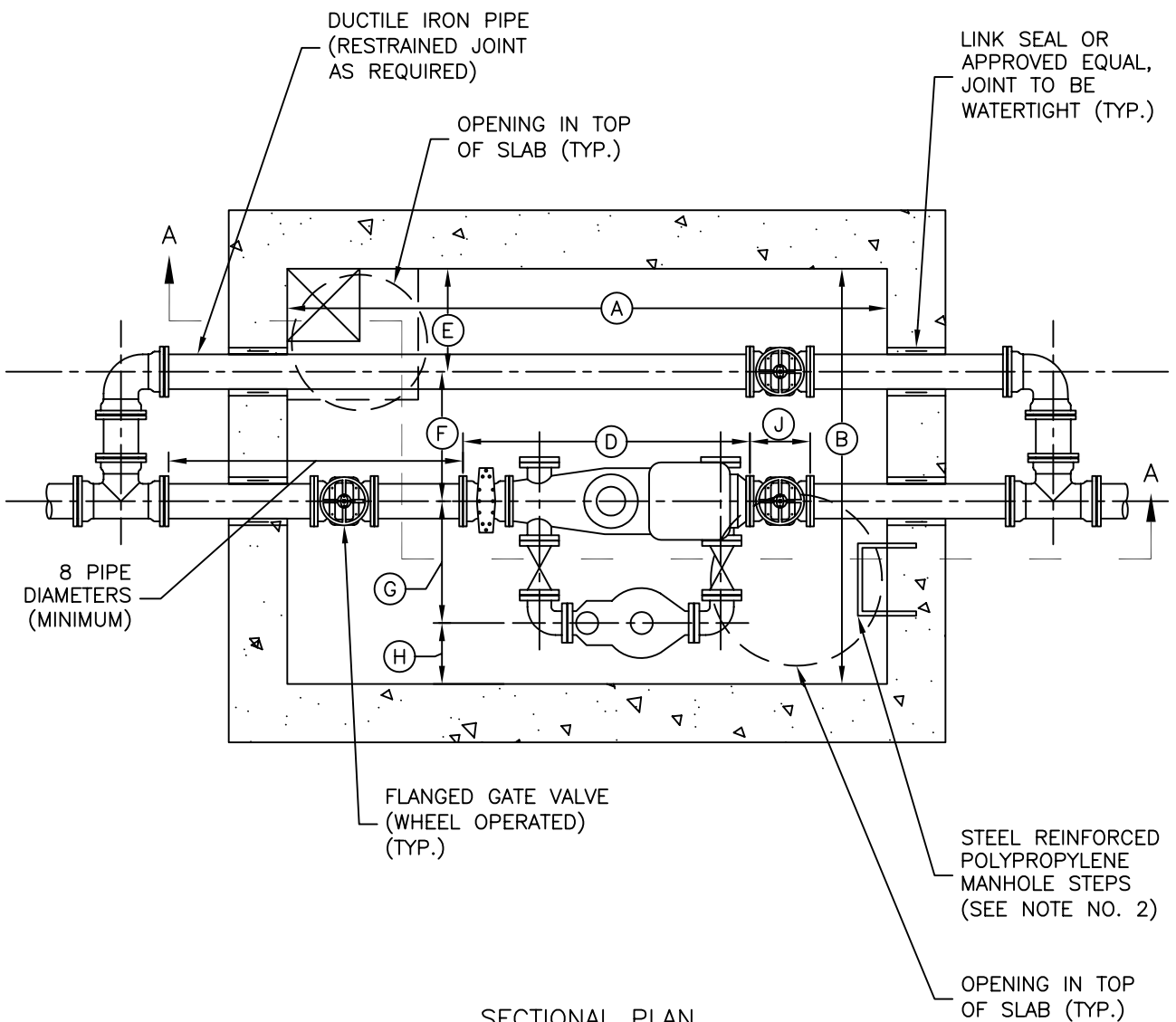
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SECTIONAL PLAN
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DESIGN GUIDELINE

METER INSTALLATION
FIRE SERVICE TYPE

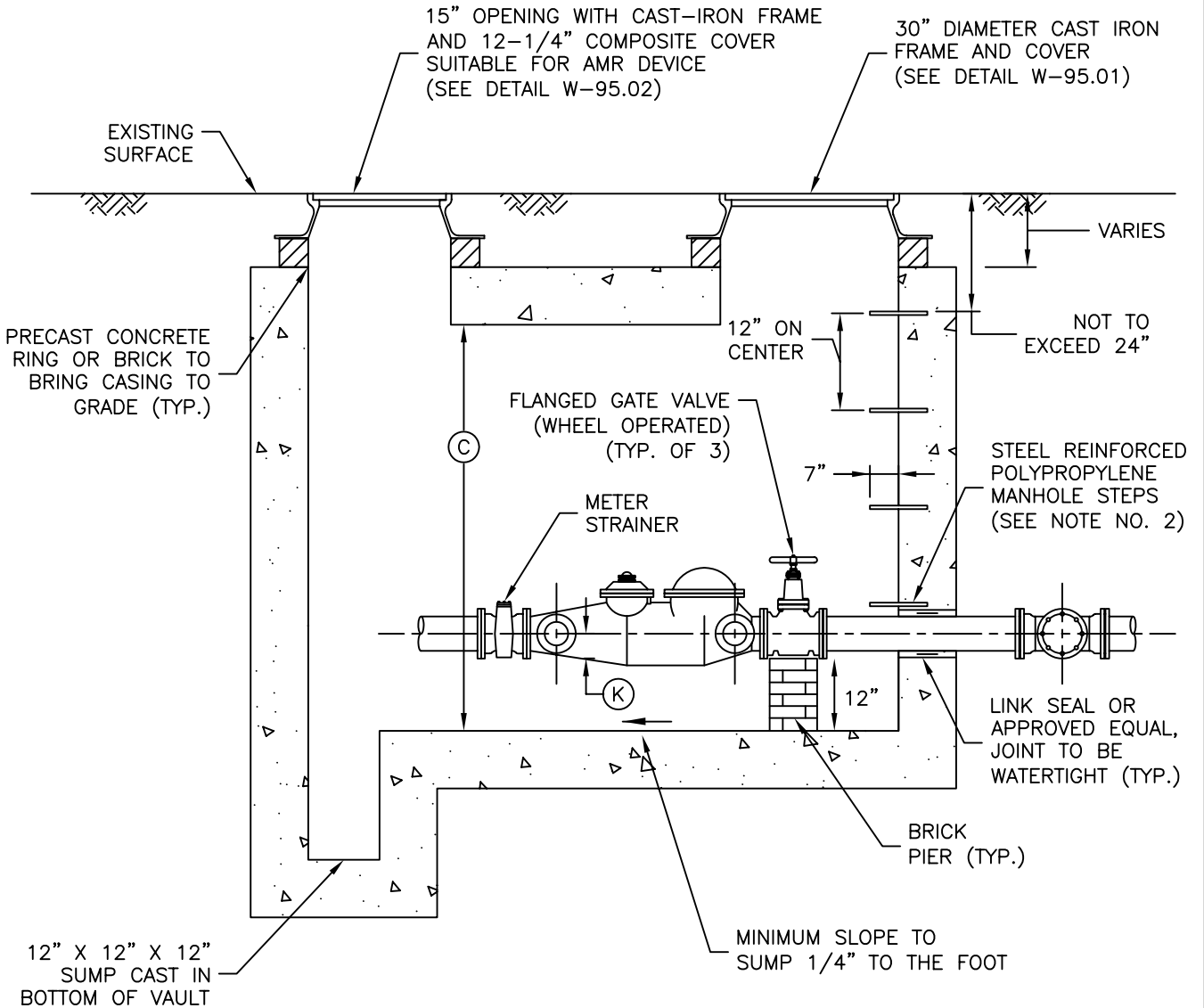
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SECTION A-A
(NOT TO SCALE)

DESIGN GUIDELINE

METER INSTALLATION
 FIRE SERVICE TYPE

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FM DETECTOR METER WITH BY-PASS METER *

SIZE	A	B	C	D	E	F	G	H	I	J	K
3"	100"	72"	72"	33"	12"	26"	16.75"	17.25"	-	8"	4"
4"	100"	74"	72"	33"	12"	26"	17.75"	18.25"	-	9"	5"
6"	120"	90"	72"	45"	18"	29"	21.625"	21.375"	-	10.5"	6"
8"	130"	100"	72"	53"	18"	32"	26.5"	23.5"	-	11.5"	7.5"
10"	144"	115"	72"	68"	20"	36"	33.75"	25.25"	-	13"	9.75"
12"	144"	115"	72"	68"	20"	36"	33.75"	25.25"	-	14"	10.75"

* METERING DESIGN FOR USE ON COMBINATION FIRE AND DOMESTIC SUPPLY.

NOTES:

1. SEALED STRUCTURAL COMPUTATIONS AND REINFORCING DETAILS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATIONS.
2. MANHOLE STEPS TO BE M.A. INDUSTRIES MODEL PS3-PFC OR APPROVED EQUAL. CAST INSERTS IN WALL 12" ON CENTER.
3. CONCRETE TO BE CLASS 4000, TYPE II CEMENT.
4. DUCTILE IRON PIPE JOINTS WITHIN VAULT SHALL BE FLANGED.
5. THIS DRAWING SUPERCEDES DRAWING G-807 DATED 6-12-2001.