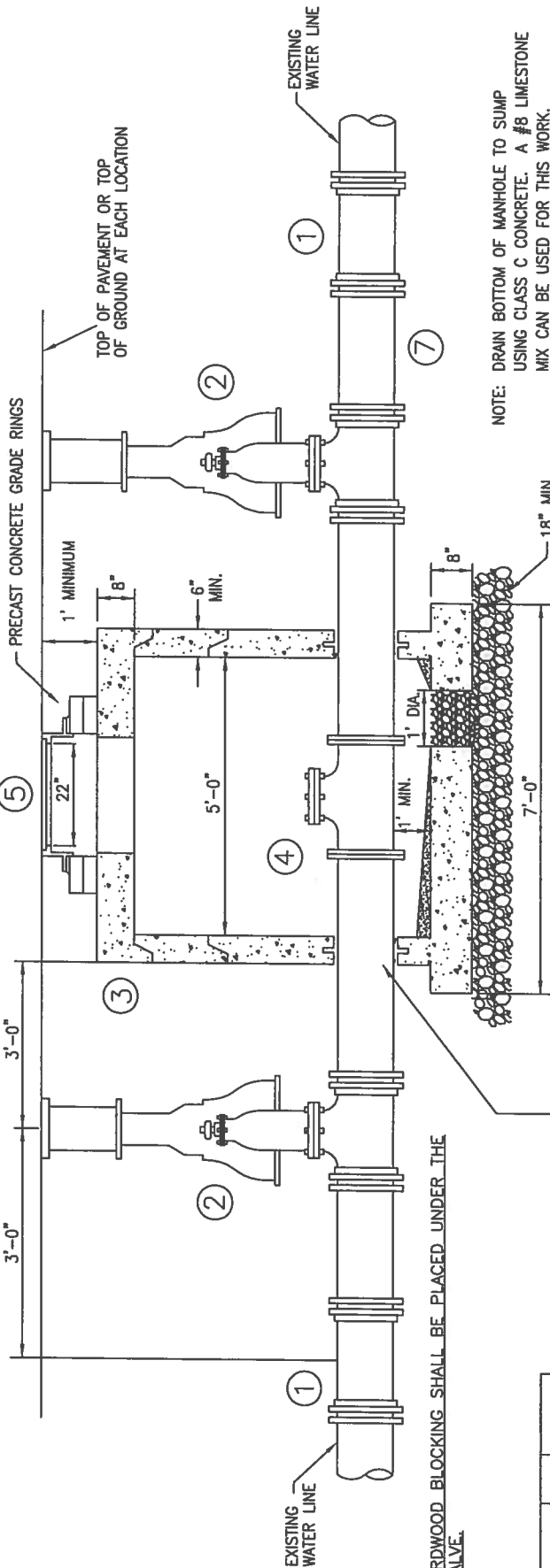


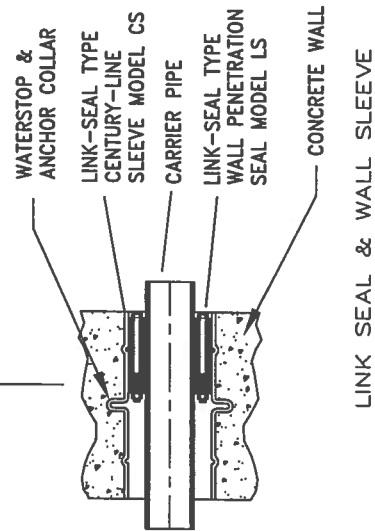
NOTE: THIS TYPICAL CHECK VALVE ASSEMBLY CAN BE MODIFIED TO ACCOMMODATE UTILITY CONFLICTS. ALL PROPOSED MODIFICATIONS MUST BE APPROVED BY THE PROJECT MANAGER PRIOR TO INSTALLATION.

TYPICAL MEASUREMENTS BOTH SIDES OF MANHOLE
3'-0"

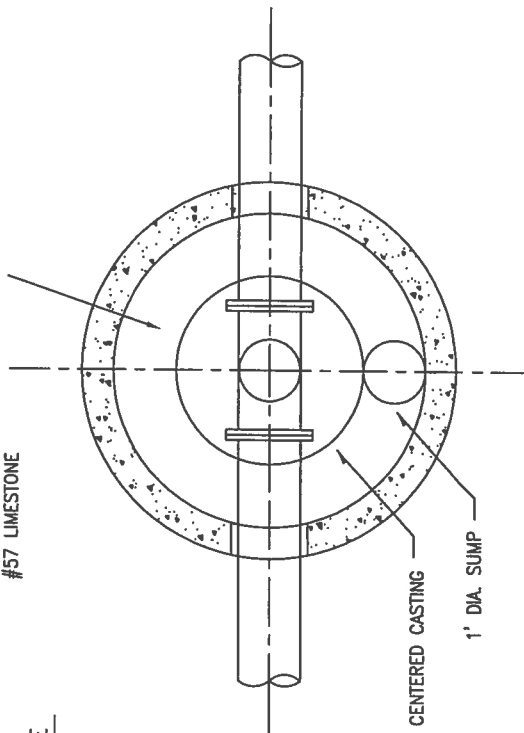


NOTE: DRAIN BOTTOM OF MANHOLE TO SUMP USING CLASS C CONCRETE. A #8 LIMESTONE MIX CAN BE USED FOR THIS WORK.

SECTION VIEW OF MANHOLE



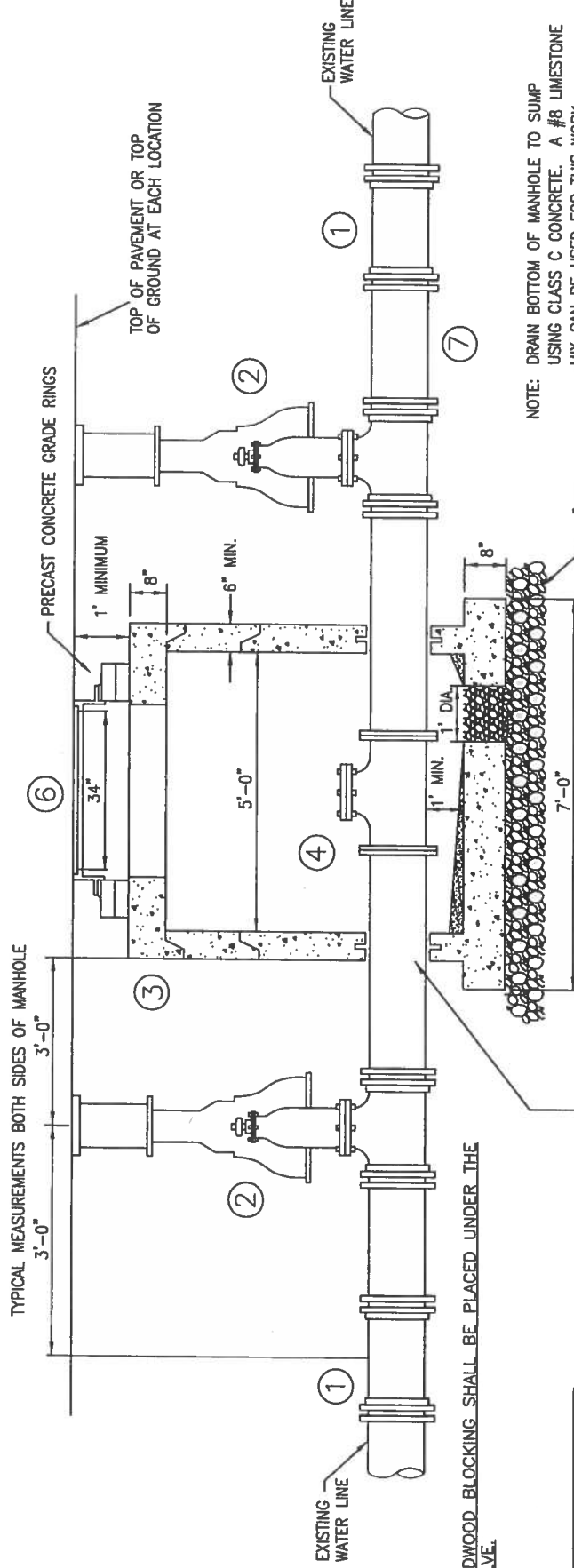
LINK SEAL & WALL SLEEVE



PLAN VIEW OF MANHOLE

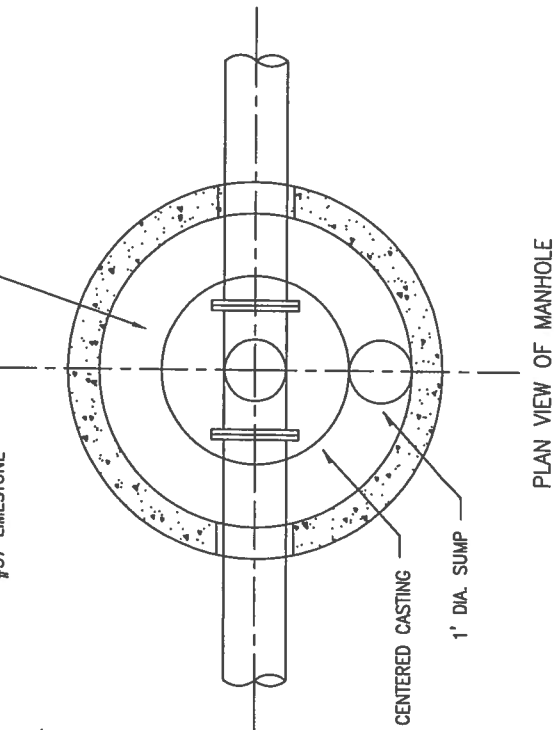
CITY OF KENT, OHIO DEPARTMENT OF PUBLIC SERVICE ENGINEERING DIVISION			
CONSTRUCTION DETAILS			
TYPICAL CHECK VALVE ASSEMBLY FOR 6" AND 8" WATER MAINS			
DATE	MARCH 2010	BY	PBH
		NO.	MC-4
ENGINEER			

NOTE: THIS TYPICAL CHECK VALVE ASSEMBLY CAN BE MODIFIED TO ACCOMMODATE UTILITY CONFLICTS. ALL PROPOSED MODIFICATIONS MUST BE APPROVED BY THE PROJECT MANAGER PRIOR TO INSTALLATION.

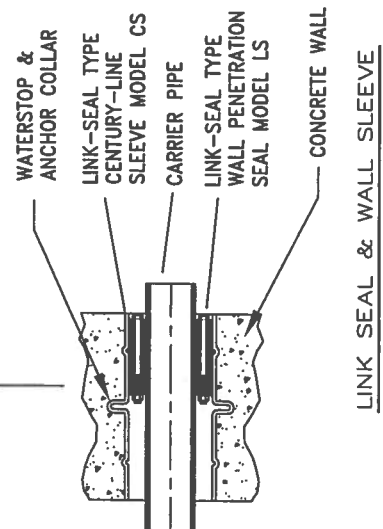


NOTE: DRAIN BOTTOM OF MANHOLE TO SUMP USING CLASS C CONCRETE. A #8 LIMESTONE MIX CAN BE USED FOR THIS WORK.

SECTION VIEW OF MANHOLE



PLAN VIEW OF MANHOLE



CITY OF KENT, OHIO DEPARTMENT OF PUBLIC SERVICE ENGINEERING DIVISION			
CONSTRUCTION DETAILS			
TYPICAL CHECK VALVE ASSEMBLY FOR 10" AND 12" WATER MAINS			
DATE	MARCH 2010	BY	PBH NO. MC-5
ENGINEER			

- 1.) MJ x MJ compact solid sleeve, Class 52, Ductile Iron Pipe
- 2.) All gate valves shall be Mueller A2360-20 resilient wedge MJ x MJ. All gate valves must turn right to open or in the clockwise direction. Alternate manufacturers may be used only if approved by the City of Kent Water Distribution Manager.
- 3.) Standard 5' diameter precast concrete manhole. All manholes shall have flat tops. A 1.0' diameter sump hole shall be formed or cored in the base of the manhole. See typical manhole detail for dimensions. A Link-Seal Century Line Model CS Sleeve and a Link-Seal Wall Penetration Seal Model LS shall be utilized where the watermain passes through the manhole walls.
- 4.) All check valves shall be Mueller A2600-6-01 swing type gravity operated with FL X FL connection points. Alternate manufacturers may be used only if approved by the City of Kent Water Distribution Manager.
- 5.) East Jordan Iron Works 2020 frame and cover or approved equal. Manhole cover must be solid and have the word "water" marked on it.
- 6.) East Jordan Iron Works 2455 frame and cover or approved equal. Manhole cover must have the word "water" marked on it.
- 7.) All fittings and ductile iron pipe must be a minimum of class 52 and meet all requirements as set forth in the City of Kent construction specifications. All fittings shall have mechanical joint connections except for the check valves.

CITY OF KENT, OHIO
 DEPARTMENT OF PUBLIC SERVICE
 ENGINEERING DIVISION

CONSTRUCTION DETAILS

CHECK VALVE ASSEMBLY NOTES

DATE MARCH 2010 BY PBH NO. MC-6
 ENGINEER _____

1. MANHOLES SHALL BE WATERTIGHT. NO VISIBLE INFILTRATION OR INFLOW SHALL BE ALLOWED.
2. ALL NEW MANHOLES SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 WITH O-RING JOINTS CONFORMING TO ASTM C-443. ALL JOINTS SHALL BE SEALED WITH TWO (2) COATS (ONE EACH JOINING END) OF BITUMINOUS JOINT FILLER MATERIAL CONFORMING TO ODOT ITEM 706.10 IN ADDITION TO THE O-RING GASKET.
3. NO BRICK SHALL BE ALLOWED IN NEW MANHOLE CONSTRUCTION UNLESS APPROVED BY THE ENGINEER. FIRED SEWER BRICK IS APPROVED FOR REPAIRS TO EXISTING BRICK MANHOLES.
4. MANHOLE CASTINGS SHALL BE ADJUSTED TO GRADE USING A MAXIMUM OF TWELVE INCHES (12") OF CONCRETE DOUGHTNUTS (MINIMUM EIGHT INCH (8") THICKNESS AND DEPTH AS REQUIRED. ALL JOINTS AND CASTINGS SHALL HAVE A FULL MORTOR BED MIXTURE OF TWO (2) PARTS SAND, ONE (1) PART PORTLAND CEMENT, MAXIMUM ONE PERCENT (1%) CALCIUM, NO LIME AND MOISTURE CURED FOR FORTY-EIGHT (48) HOURS).
5. UNLESS SEPARATE PAY ITEMS ARE PROVIDED, ALL PROTECTION AND SUPPORT OF EXISTING UTILITIES AND STRUCTURES AND PROTECTION AND/OR RESTORATION OF ALL SURFACES INCLUDING PAVEMENT, DRIVES, CURBS, SIDEWALKS, GRASS, AND ANY OTHER SURFACES SHALL BE INCLUDED IN THE UNIT PRICES BID FOR ALL SEWER ITEMS. RESTORATION SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS, SECTIONS PROVIDED ON THE DRAWINGS OR THE STANDARD CONSTRUCTION DRAWING, IN ACCORDANCE WITH ANY ROAD PERMITS, OR, IF NOT SHOWN OR SPECIFIED, SHALL BE REPLACED IN KIND WITH THE EXISTING ITEM THICKNESS AND MATERIAL REMOVED. INCLUDED ARE ALL EQUIPMENT, LABOR, AND MATERIALS NECESSARY FOR EXCAVATION, STONE FOUNDATION, BEDDING BACKFILL, GRANULAR BACKFILL, SHEETING, SHORING, BRACING, DEWATERING, COMPACTION OF ANY AND ALL MATERIALS, TOPSOILING, SEEDING, AGGREGATE, AND OTHER BASE MATERIALS, PAVEMENTS, SEALING OF JOINTS, CURBS, SIDEWALKS, AND RESTORATION OF ALL STRUCTURES AND SURFACES DISTURBED.

CITY OF KENT, OHIO
 DEPARTMENT OF PUBLIC SERVICE
 ENGINEERING DIVISION

CONSTRUCTION DETAILS

CHECK VALVE MANHOLE NOTES

DATE 02/20/10 BY PBH NO. MC-7

CITY ENGINEER _____