

**LEGAL DESCRIPTION**

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Real property in the City of Rochester Hills, County of Oakland, State of Michigan, described as follows:  
Part of the South East one quarter of Section 15, Town 3 North, Range 11 East, described as follows:  
Commencing at the Southeast corner of said Section 15, thence North along the East line of said Section 15, 1169.40 feet; thence North 89 degrees, 52 minutes, 23 seconds West, 80 feet to the point of beginning, which point is on the Westerly right-of-way line of State Highway M-150; thence North 89 degrees, 52 minutes, 23 seconds West, 315.00 feet; thence South 140.04 feet; thence South 89 degrees, 52 minutes, 50 seconds East, 315.00 feet to a point on the Westerly right-of-way line of said State Highway M-150; thence North, 140.00 feet to the point of beginning.

CONTAINS 44,106 SQ. FT. OR 1.0125 ACRES OF LAND  
TAX I.D. # 70-15-15-476-020

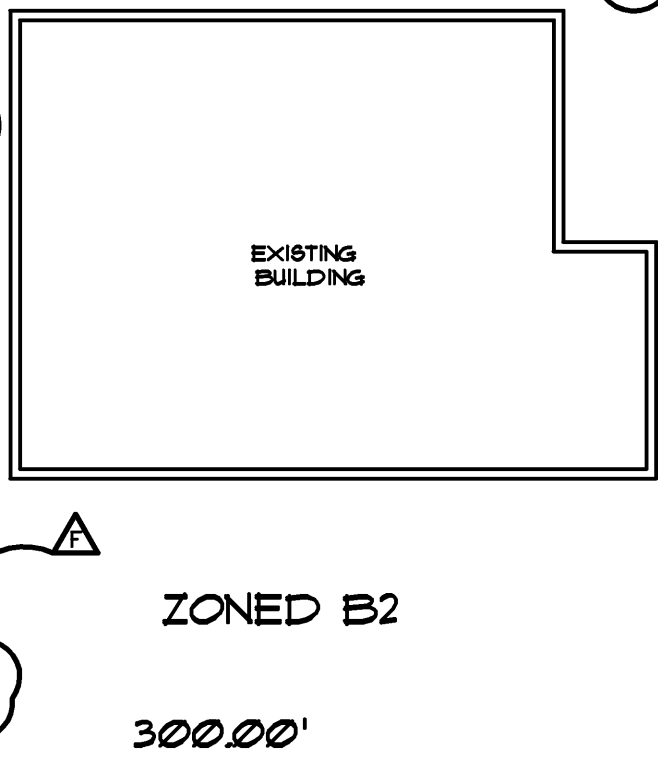
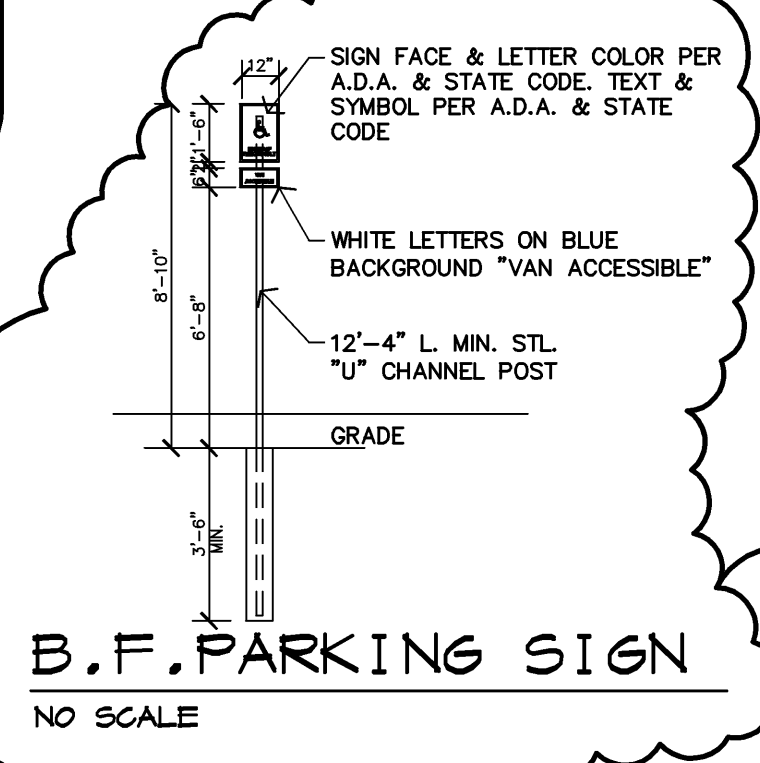
**B.F. ACCESSIBLE PATH**

----- INDICATES ACCESSIBLE ROUTE FOR BARRIER-FREE

NOTE: PATHWAY RAMPS MUST BE ADA COMPLIANT  
MAXIMUM CURB RAMP SLOPE = 1:12  
MAXIMUM SLOPE = 1:20  
MAXIMUM CROSS SLOPE = 1:48

**PEDESTRIAN CLEARANCE**

THE DRIVEWAY APPROACH 15 FOOT PEDESTRIAN CORNER CLEARANCE TRIANGLE MUST BE FREE OF VISUAL OBSTRUCTIONS BETWEEN THE HEIGHT OF 30 INCHES AND SEVEN (7) FEET.



- GENERAL NOTES**
- McDONALD'S ROAD SIGN: SEE DETAILS AND NOTES, THIS SHEET, IF APPLICABLE.
  - BASES, ANCHOR BOLTS, CONDUIT AND WIRING FOR ALL OTHER SIGNS ARE BY THE GENERAL CONTRACTOR.
  - ALL NEW LOT LIGHTING FIXTURES, BASES, POLES, CONDUIT AND WIRING INSTALLED BY GENERAL CONTRACTOR AND PAID FOR BY OWNER/OPERATOR. SEE SITE LIGHTING PLAN.
  - N/A
  - ALL LANDSCAPE AREAS SHALL BE ROUGH GRADED TO 6" BELOW TOP OF ALL WALKS AND CURBS. FINISH GRADING, LANDSCAPING AND IRRIGATION SYSTEMS ARE PAID FOR BY THE OWNER/OPERATOR. SEE LANDSCAPE PLANS, IF APPLICABLE.
  - GENERAL CONTRACTOR SHALL CONTACT "MISS DIG" 1-800-482-7171 (72) HOURS PRIOR TO CONSTRUCTION TO ALLOW FOR ACCURATE LOCATION OF ALL UNDERGROUND UTILITIES.
  - REFER TO CIVIL ENGINEERING DRAWINGS FOR EXISTING AND PROPOSED UTILITIES, GRADING, PAVING SECTIONS, SOIL EROSION AND DETAILS.
  - REFER TO SITE LIGHTING AND SITE DETAIL SHEETS FOR LIGHTING TYPE, HEIGHT, SPACING AND LIGHTING LEVELS.
  - NEW TRASH CORRAL TO MATCH BUILDING MATERIALS. SEE SHEET C16 AND REFER TO "McDONALD'S SITE DETAILS & SPECIFICATIONS GUIDE" FOR DETAILS. SOUTH WALL OF STORAGE BUILDING TO BE FIRE RESISTANCE RATED PER TABLE 602.10.1.1. CORRAL TO BE SET OUT ON SHEET C1 SHALL BE A MINIMUM OF 2'-0".
  - BARRIER FREE RAMP TO BE 8'-0" WIDE WITH A MAXIMUM SLOPE OF 1:12 AND HAVE A NON-SLIP SURFACE - TYPICAL. ALL PATHWAY RAMPS IN PUBLIC RIGHT-OF-WAY MUST BE ADA COMPLIANT.
  - ALL PAINTED LINES, DIRECTIONAL ARROWS AND SYMBOLS TO BE WHITE AND TO BE PROVIDED BY OPERATOR AND PLACED PER PLANS AND McDONALD'S DRIVE-THRU BRANDING SPECIFICATIONS.
  - N/A
  - PROVIDE "DO NOT ENTER" SIGN PER MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES CODE #90-1, WHEN SIGNS ARE REQUIRED, AS NOTED ON SITE PLAN.

**LAND/BUILDING/PARKING DATA AND NOTES**

LAND AREA:	44,100 S.F. OR 1.01 ACRES
ZONING CLASSIFICATION:	B-2 GENERAL BUSINESS FB-2 FLEXIBLE BUSINESS OVERLAY
ADJACENT ZONING:	B-2 GENERAL BUSINESS B-3 SHOPPING CENTER BUSINESS
GROSS BUILDING AREA:	5,117 S.F.
USABLE FLOOR AREA:	2,229 S.F.
LOT COVERAGE AREA:	5,117 S.F./44,100 S.F. = .116 OR 12%
<b>BUILDING SETBACKS REQUIRED:</b>	
FRONT YARD SETBACK:	50 FEET
SIDE YARD SETBACK:	25 FEET
REAR YARD SETBACK:	25 FEET
<b>BUILDING SETBACKS PROVIDED:</b>	
FRONT YARD SETBACK:	65 FEET
SIDE YARD SETBACK (NORTH):	63 FEET, 8 INCHES
SIDE YARD SETBACK (SOUTH):	25 FEET
REAR YARD SETBACK:	108 FEET, 5 INCHES
<b>BUILDING HEIGHT REQUIREMENT:</b>	
MAXIMUM BUILDING HEIGHT ALLOWED:	30 FEET
PROPOSED BUILDING HEIGHT:	18 FEET, 2 INCHES
<b>BUILDING CONSTRUCTION TYPE:</b>	TYPE VB
<b>BUILDING USE GROUP:</b>	A2 ASSEMBLY RESTAURANT
<b>CORRAL CONSTRUCTION TYPE:</b>	TYPE VB
<b>CORRAL USE GROUP:</b>	U UTILITY
<b>PARKING REQUIRED:</b>	
1 SPACE / (2) PERSONS @ MAXIMUM OCCUPANCY	
100 SEATS / 2 = 50 SPACES	
<b>TOTAL PARKING REQUIRED</b>	<b>50 SPACES</b>
NUMBER OF H.C. SPACES REQUIRED = 2 SPACES (UP TO 50 SPACES, PROVIDE (1) B.F. ACCESS AND (1) VAN ACCESS)	
<b>PARKING PROVIDED:</b>	
STANDARD SPACES PROVIDED	42 SPACES
NUMBER OF H.C. SPACES PROVIDED	2 SPACES
<b>TOTAL SPACES PROVIDED</b>	<b>44 SPACES</b>
<b>LOADING / UNLOADING AREA REQUIRED:</b>	
(1) 10' x 40'	
<b>TOTAL LOADING / UNLOADING AREA PROVIDED:</b>	<b>400 S.F.</b>
<b>LOADING / UNLOADING AREA PROVIDED:</b>	
(1) 10' x 40'	
<b>TOTAL LOADING / UNLOADING AREA PROVIDED:</b>	<b>400 S.F.</b>
<b>LANDSCAPE REQUIRED AND PROVIDED:</b>	SEE LANDSCAPE PLAN

**PARKING INFORMATION**

19	SPACES	10' X 18' @ 60'
2	B.F. SPACES	8' X 18' @ 60'
4	SPACES	10' X 18' @ 90'
11	SPACES	8'-6" X 22' @ 0'
6	EMPL. SPACES	9' X 20'-1" @ 60'
2	EMPL. SPACES	10' X 18'-0" @ 90'
<b>44</b>	<b>TOTAL SPACES</b>	

**ARCHITECT/PLANNER**

**Dorchen/Martin Associates, Inc.**  
Architects/Planners  
2995 Greenfield Rd., Suite 107  
Southfield, Michigan 48076  
(248) 557-1092  
Fax: (248) 557-1231  
e-mail: dm@dmarchitect.com  
www.dorchenmartin.com

**SURVEYOR**  
DIFFIN Development Consultants  
22660 TRILLIUM DRIVE  
NOVI, MI 48375  
(248) 943-8244  
JOB NO.

**CIVIL ENGINEER**  
HH ENGINEERING, LTD.  
220 BAGLEY, STE. 500  
DETROIT, MI 48226  
(313) 963-6560  
JOB NO.

**SITE LOCATION**

PROJECT STREET ADDRESS  
**808 ROCHESTER ROAD**

CITY: ROCHESTER HILLS STATE: MICHIGAN COUNTY: OAKLAND

REGIONAL DWG. NO: DET-00 SITE LOCATION CODE NO: 021-0208

**PLAN APPROVALS (2 REQUIRED)**

REGIONAL MGR.	CONST. MGR.	OPERATIONS DEPT.	REAL ESTATE DEPT.

**CO-SIGN SIGNATURES**

CONTRACTOR	OWNER

**STATUS**

DATE DRAWN	DATE	BY
	3FEB11	DMA

**AS-BUILT**

**C1**

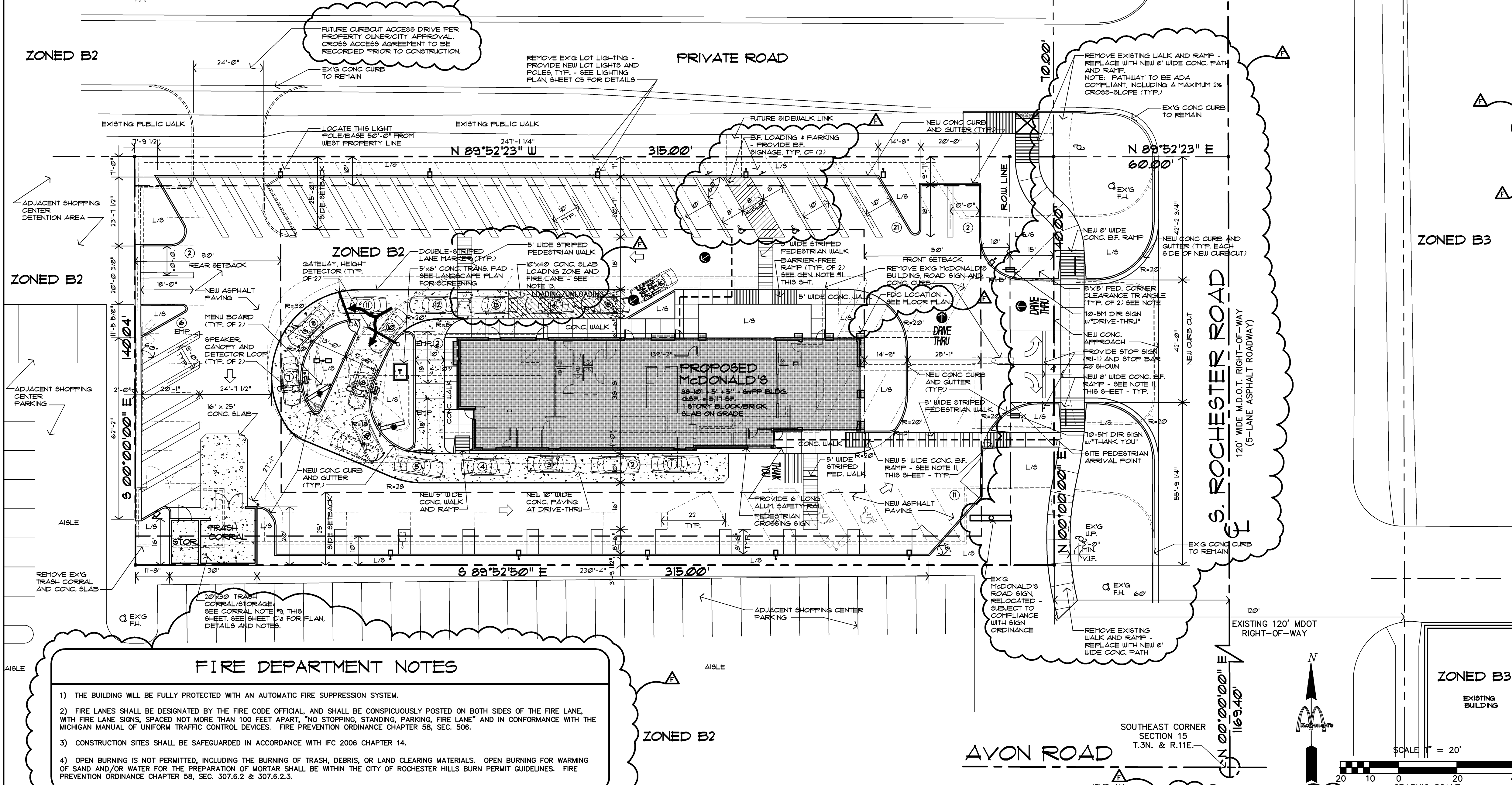
**McDonald's**

THESE PLANS AND SPECIFICATIONS ARE THE PROPERTY OF McDONALD'S CORPORATION AND SHALL NOT BE REPRODUCED WITHOUT THEIR WRITTEN PERMISSION.

OFFICE: MICHIGAN ADDRESS: 1021 KARL GREIMEL DR., BRIGHTON, MI 48116 PH: (734) 335-9000

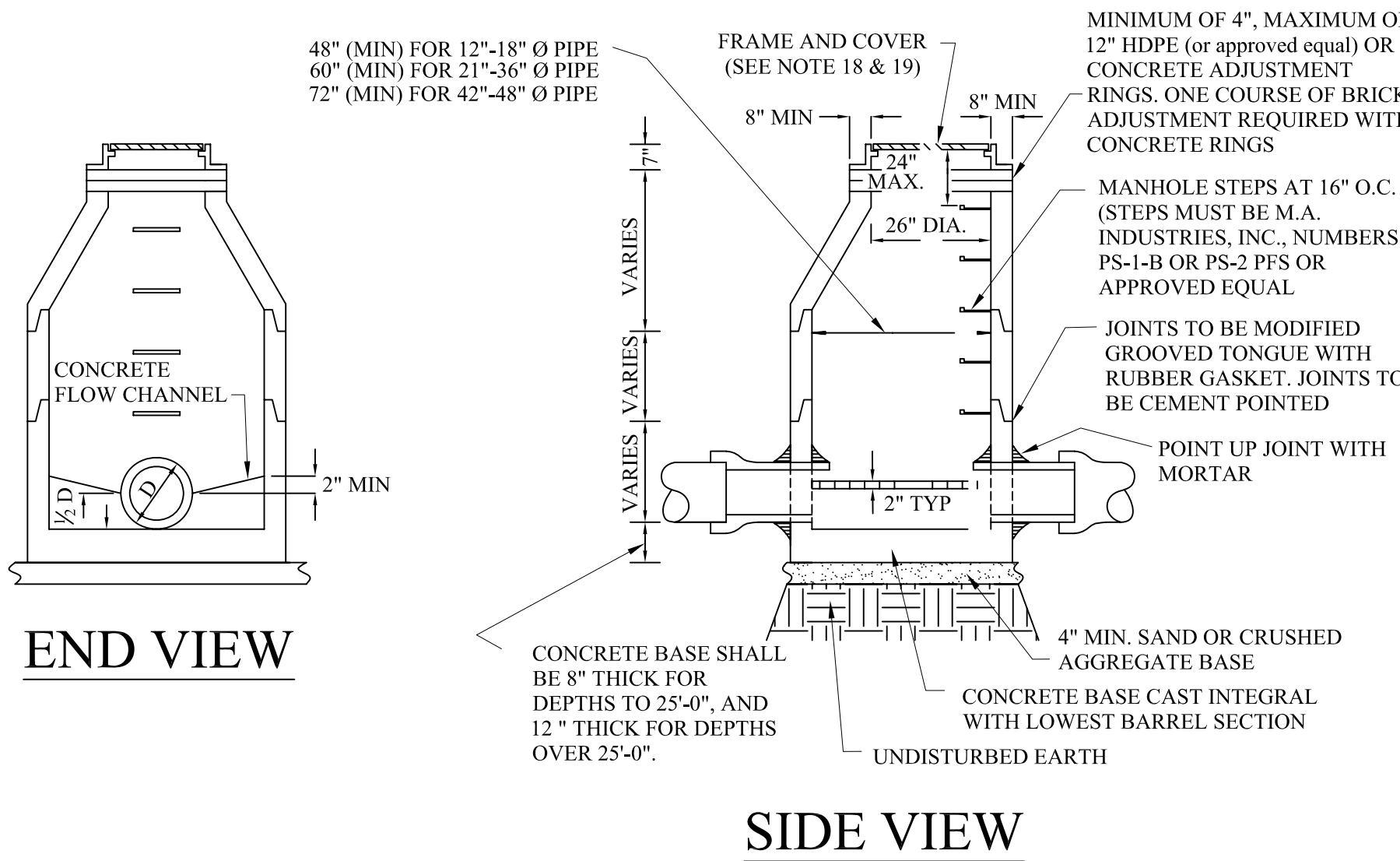
**DATE**

DATE	DESCRIPTION	BY
01-21-11	McDONALD'S REVIEW	
2-3-11	CITY SITE DETAIL PRE-VIEW	
2-14-11	REVISED SITE PLAN	
2-22-11	SPA DISCUSSION SUBMITTAL	
3-9-11	FINAL SPA SUBMITTAL	
4-9-11	REVISIONS PER SPA REVIEW LETTER 4-B-11	

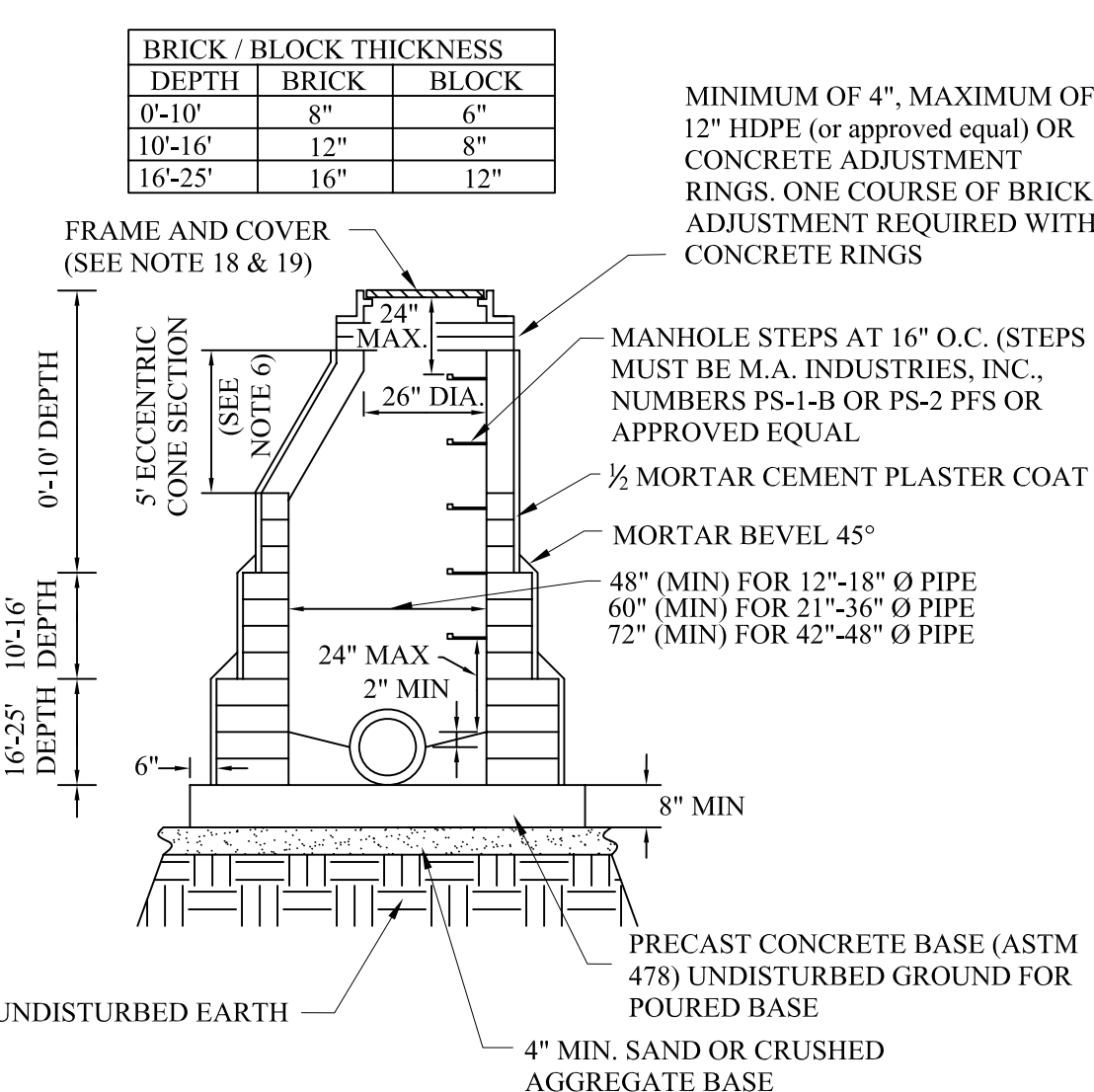


**FIRE DEPARTMENT NOTES**

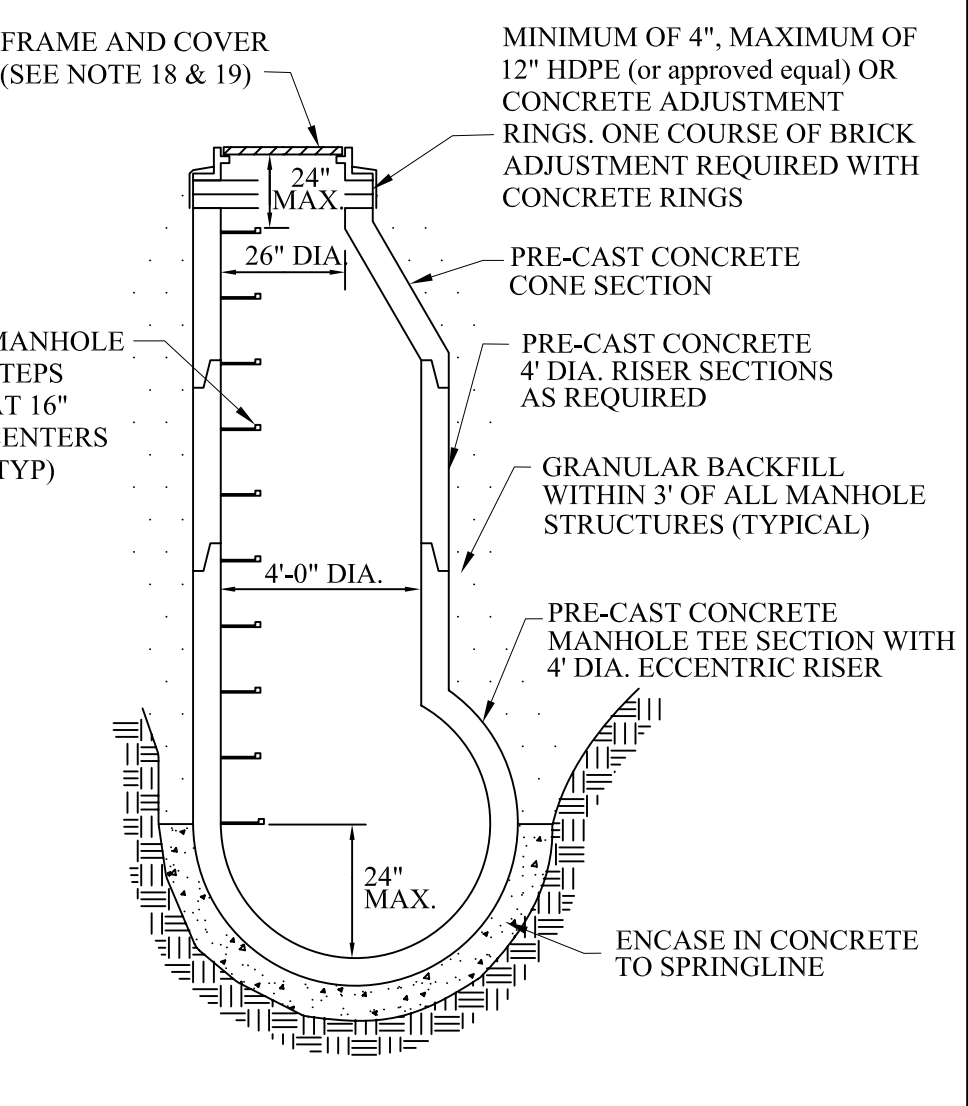
- THE BUILDING WILL BE FULLY PROTECTED WITH AN AUTOMATIC FIRE SUPPRESSION SYSTEM.
- FIRE LANES SHALL BE DESIGNATED BY THE FIRE CODE OFFICIAL, AND SHALL BE CONSPICUOUSLY POSTED ON BOTH SIDES OF THE FIRE LANE. WITH FIRE LANE SIGNS SPACED NOT MORE THAN 100 FEET APART. "NO STOPPING, STANDING, PARKING, FIRE LANE" AND IN CONFORMANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. FIRE PREVENTION ORDINANCE CHAPTER 58, SEC. 506.
- CONSTRUCTION SITES SHALL BE SAFEGUARDED IN ACCORDANCE WITH IFC 2006 CHAPTER 14.
- OPEN BURNING IS NOT PERMITTED, INCLUDING THE BURNING OF TRASH, DEBRIS, OR LAND CLEARING MATERIALS. OPEN BURNING FOR WARMING OF SAND AND/OR WATER FOR THE PREPARATION OF MORTAR SHALL BE WITHIN THE CITY OF ROCHESTER HILLS BURN PERMIT GUIDELINES. FIRE PREVENTION ORDINANCE CHAPTER 58, SEC. 307.6.2 & 307.6.2.3.



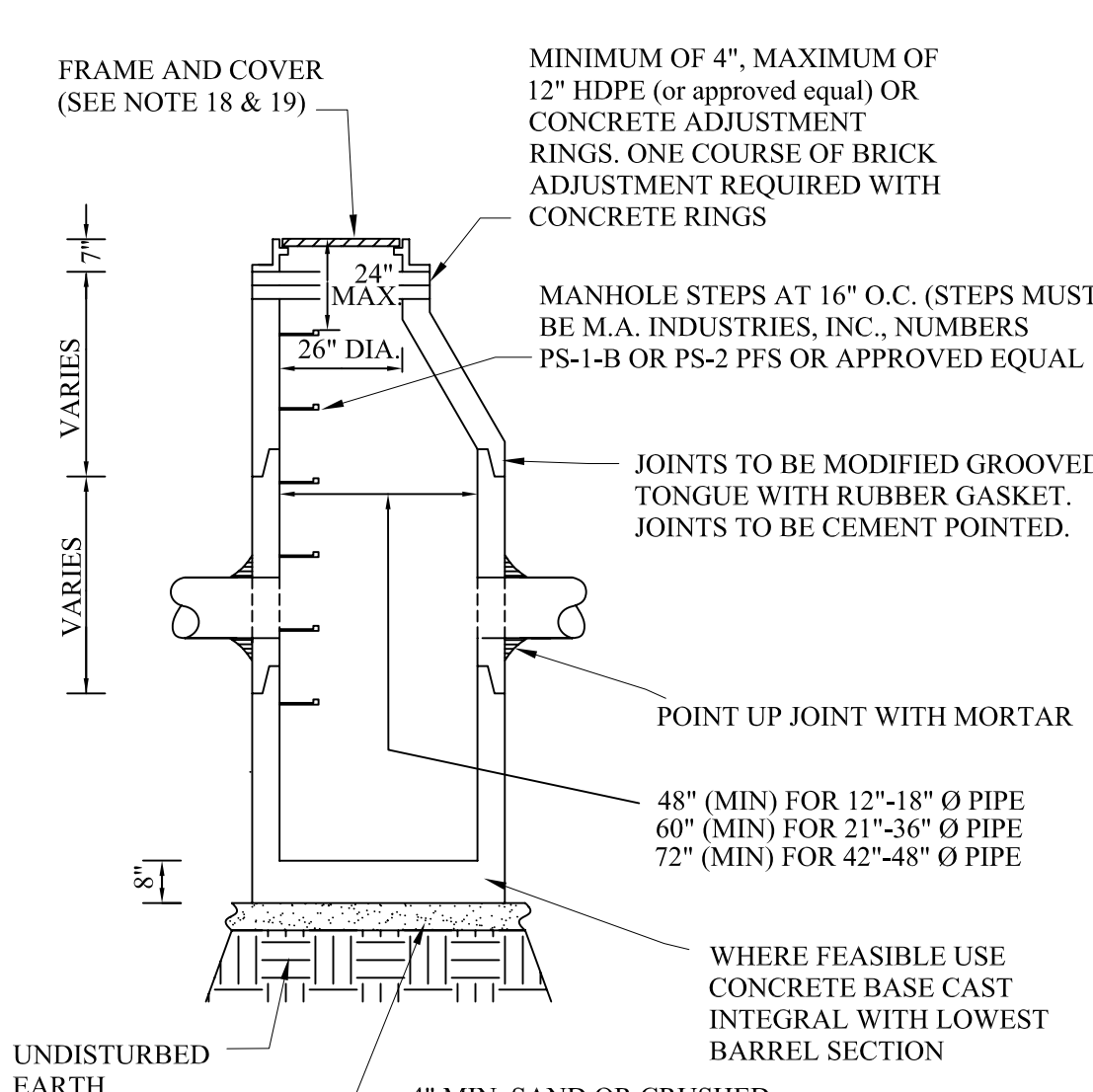
**PRE-CAST STORM MANHOLE**



**BRICK OR BLOCK MANHOLE**



**PRE-CAST TEE MANHOLE DETAIL**



**PRECAST STORM CATCH BASIN**

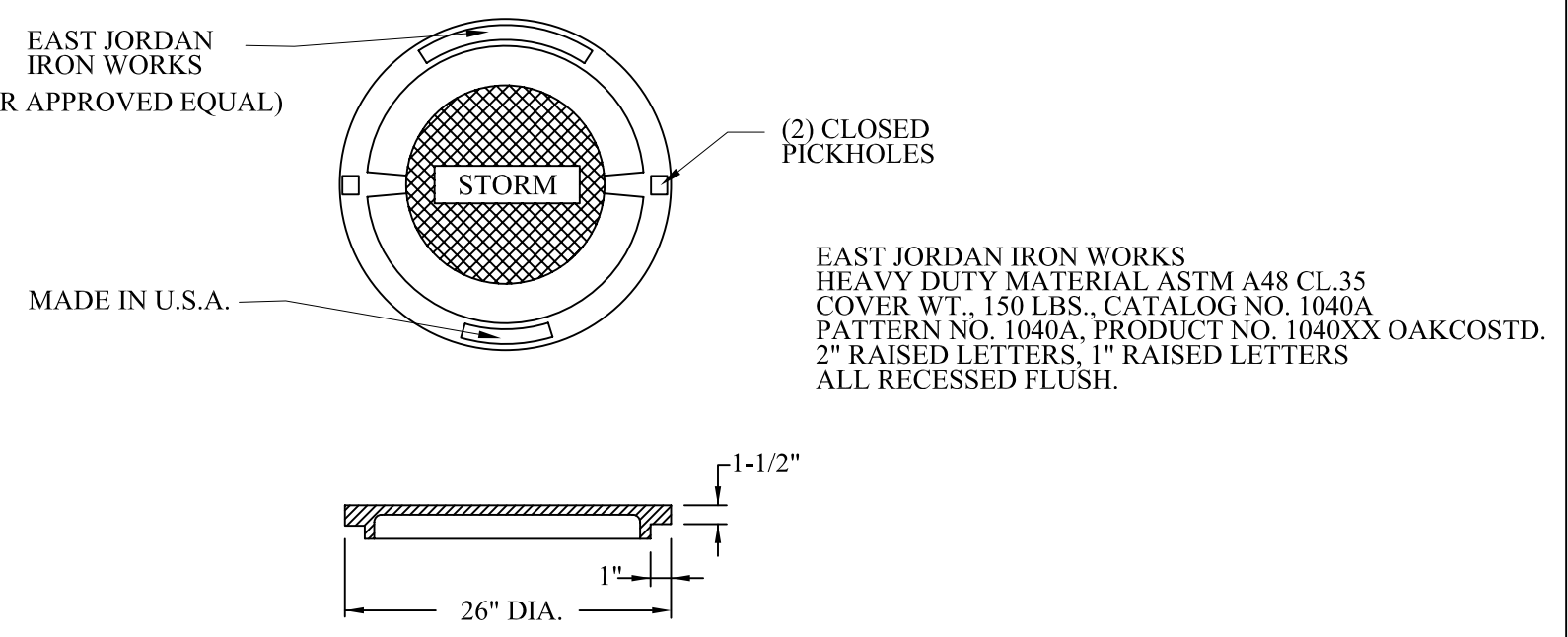
**GENERAL NOTES:**

- ALL EXISTING AND NEW STORM SYSTEMS SHALL BE CLEANED AND FLUSHED ONCE SITE IS 90% BUILT OUT AND VEGETATED. SEDIMENT, ROCK AND OTHER DEBRIS SHALL BE COLLECTED AND DISPOSED OF IN A PROPER MANNER. IN NO CASE SHALL DEBRIS BE FLUSHED DOWN A STORM OR SANITARY SEWER FOR DISPOSAL. ALL DAMAGED IRRIGATION AND HOUSE DRAINAGE PIPE, DRAIN TILES, SEWER LATERALS AND CULVERTS SHALL BE REPAIRED EXPEDITIOUSLY. DEBRIS COLLECTED SHALL BE DISPOSED IN A COMMERCIAL LANDFILL OR OTHER APPROVED LOCATION.
- STORM SEWER PIPE SHALL BE OF SIZE AND TYPE NOTED ON THE APPROVED PLANS.
- REINFORCED CONCRETE PIPE (RCP) SHALL BE MODIFIED GROOVED TONGUE JOINTS WITH O-RING TYPE RUBBER GASKET, PER ASTM C443.
- ALL CATCH BASIN LEADS AND INLET LEADS SHALL BE ASTM C76-CLASS IV PIPE.
- MINIMUM PIPE SIZE FOR SEWERS, CATCH BASINS LEADS, AND INLET LEADS SHALL BE 12" NOMINAL INTERNAL DIAMETER.
- ECCENTRIC CONES SHALL BE PROVIDED ON ALL STRUCTURES, REGARDLESS OF THE MATERIAL USED. PRECAST REINFORCED CONCRETE MANHOLE, BLOCK, OR BRICK TO PROVIDE A TRUE VERTICAL FACE FOR PLACEMENT OF MANHOLE STEPS.
- THE INSIDE JOINTS OF PIPES SIZES 42" AND LARGER DIAMETER SHALL BE POINTED UP WITH MORTAR UPON COMPLETION OF BACKFILLING OPERATIONS.
- ALL PIPES SHALL HAVE CLASS, LOT NUMBER, AND DATE OF MANUFACTURED CONSPICUOUSLY MARKED ON EACH LENGTH BY MANUFACTURER.
- ALL END SECTIONS 18" AND LARGER SHALL BE PROVIDED WITH A GALVANIZED BAR SCREEN.
- PRECAST REINFORCED CONCRETE SECTIONS SHALL CONFORM TO ASTM 2478.
- IN DRY, STABLE SOILS, PEASTONE (EQUIVALENT TO M.D.O.T. 34R SPECIFICATIONS) MAY BE SUBSTITUTED FOR THE STANDARD BEDDING, IF THE TRENCH IS WET OR UNSTABLE A GEOTEXTILE FABRIC MUST BE USED TO LINE THE TRENCH PRIOR TO THE PLACEMENT OF THE 2NS SAND, PEASTONE, OR 1/4" - 1/2" ANGULAR GRADED STONE.
- SCHEDULE INSPECTIONS 48 HOURS PRIOR TO START OF CONSTRUCTION BY CALLING THE CITY'S INSPECTION LINE AT 248-841-2510. FULL TIME INSPECTION SHALL BE REQUIRED FOR ALL UNDERGROUND STORM SEWER CONSTRUCTION.
- THE CONTRACTOR SHALL CONTACT MISS DIG 72 HOURS BEFORE CONSTRUCTION AT (811) TO LOCATE EXISTING UNDERGROUND UTILITIES.
- PRIOR TO START OF CONSTRUCTION CONTRACTOR SHALL HAVE IN HIS POSSESSION A CURRENT SOIL EROSION CONTROL PERMIT AS ISSUED BY THE O.C.D.C.
- MINIMUM SUMP DEPTH IS 2' FOR CATCH BASINS.
- A FLOATABLE TRAP IS REQUIRED FOR THE OUTLET, IN ACCORDANCE WITH CURRENT CITY OF ROCHESTER HILLS DESIGN STANDARDS.
- AS A MEANS OF INSURING PROPER INSTALLATION OF THE STORM SEWER PIPE, AT THE DISCRETION OF THE CITY ENGINEER, THE CONTRACTOR SHALL VIDEO INSPECT, ACCORDING TO THE CITY OF ROCHESTER HILLS VIDEO INSPECTION STANDARDS, 100% OF THE STORM SEWER PIPE 12" AND LARGER IN DIAMETER. IF VIDEO INSPECTION IS REQUIRED BY THE CITY ENGINEER THE CONTRACTOR SHALL PROVIDE 24 HOURS NOTICE TO THE CITY OF ROCHESTER HILLS PRIOR TO VIDEO INSPECTION, SO A REPRESENTATIVE MAY BE PRESENT. ROCHESTER HILLS WILL BE PROVIDED WITH A DIGITAL COPY OF THE VIDEO INSPECTION AND LOG IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS VIDEO INSPECTION STANDARDS.

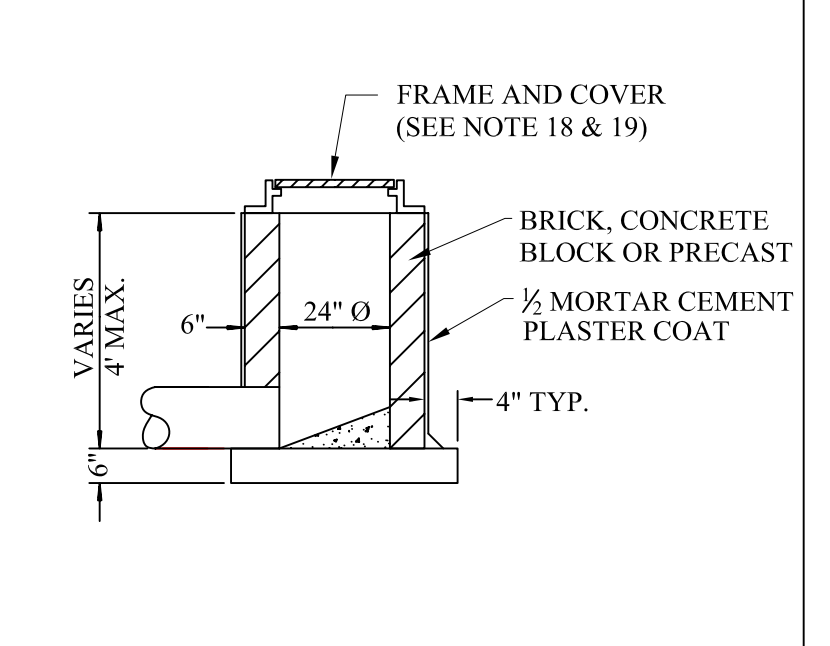
- PROJECTS THAT THE CITY ENGINEER MAY IMPOSE THESE REQUIREMENTS ARE:
- ALL PUBLIC PROJECTS OR PROJECTS BEING CONSTRUCTED ON PUBLIC PROPERTY.
  - ANY PROJECT INVOLVING A DEVELOPMENT, SUBDIVISION, SITE CONDOMINIUM, CONDOMINIUM, OR ASSOCIATION.
  - ANY PROJECT THAT WILL RESULT IN MORE THEN ONE OWNER RESPONSIBLE FOR THE OPERATION AND MAINTENANCE OF THE COMPLETE STORM DRAINAGE SYSTEM

**COVERS FOR MANHOLES, CATCH BASINS, AND INLETS**

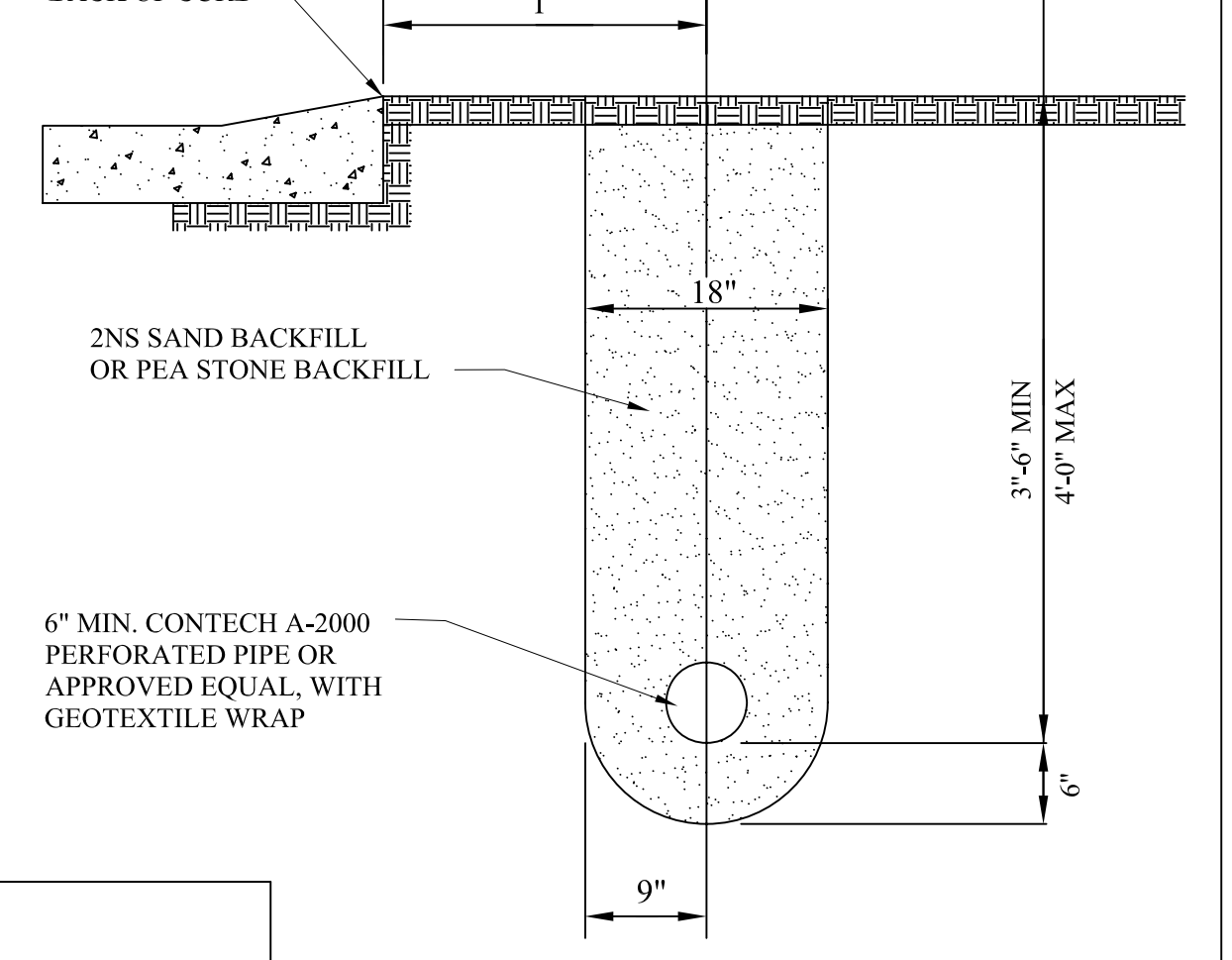
- MANHOLE FRAME AND COVER SHALL BE EIHW 1040, TYPE A COVER OR EQUIVALENT.
  - CATCH BASINS AND INLET FRAME AND COVER SHALL BE AS FOLLOWS:
    - EIHW 7045 WITH TYPE M1 GRATE AND 7050 T1 BACK, OR EQUAL, FOR USE WITH CONCRETE CURB AND GUTTER. (STRAIGHT CURB/ M.D.O.T. F CURB) AND WITH CONCRETE PAVEMENT WITH INTEGRAL CURB.
    - EIHW 7085 WITH TYPE M1 GRATE OR EQUAL, FOR USE WITH CONCRETE B-2 MODIFIED MODIFIED CURB AND GUTTER, AND WITH CONCRETE WITH B-2 MODIFIED INTEGRAL CURB.
    - EIHW 7065 WITH TYPE M1 GRATE AND 7060 T1 BACK, OR EQUAL, FOR USE WITH MOUNTABLE CURB AND GUTTER, AND WITH CONCRETE PAVEMENT WITH MOUNTABLE INTEGRAL CURB.
    - EIHW FRAME 1040 WITH TYPE N OVAL GRATE OR TYPE 02 BEEHIVE GRATE, OR EQUAL, FOR USE ON OPEN DITCH STRUCTURES AND ON CATCH BASINS LOCATED IN SWALES, AND IN EASEMENTS OUTSIDE THE PUBLIC STREET RIGHT-OF-WAY.
    - EIHW FRAME 7030 WITH TYPE M6 VANE GRATE AND T1 BACK, OR EQUAL, FOR USE WITH RELIEF BASINS WHICH ARE ON LONGITUDINAL ROAD SLOPES OF 4% OR GREATER.
    - EIHW FRAME 5105 WITH TYPE M1 SINUSOIDAL GRATE, OR EQUAL, FOR USE IN NON-CURB PAVEMENT AREAS.
- NOTE: COVERS MUST HAVE THE "DUMP NO WASTE! DRAINS TO WATERWAY" LETTERING (WHEN APPLICABLE).



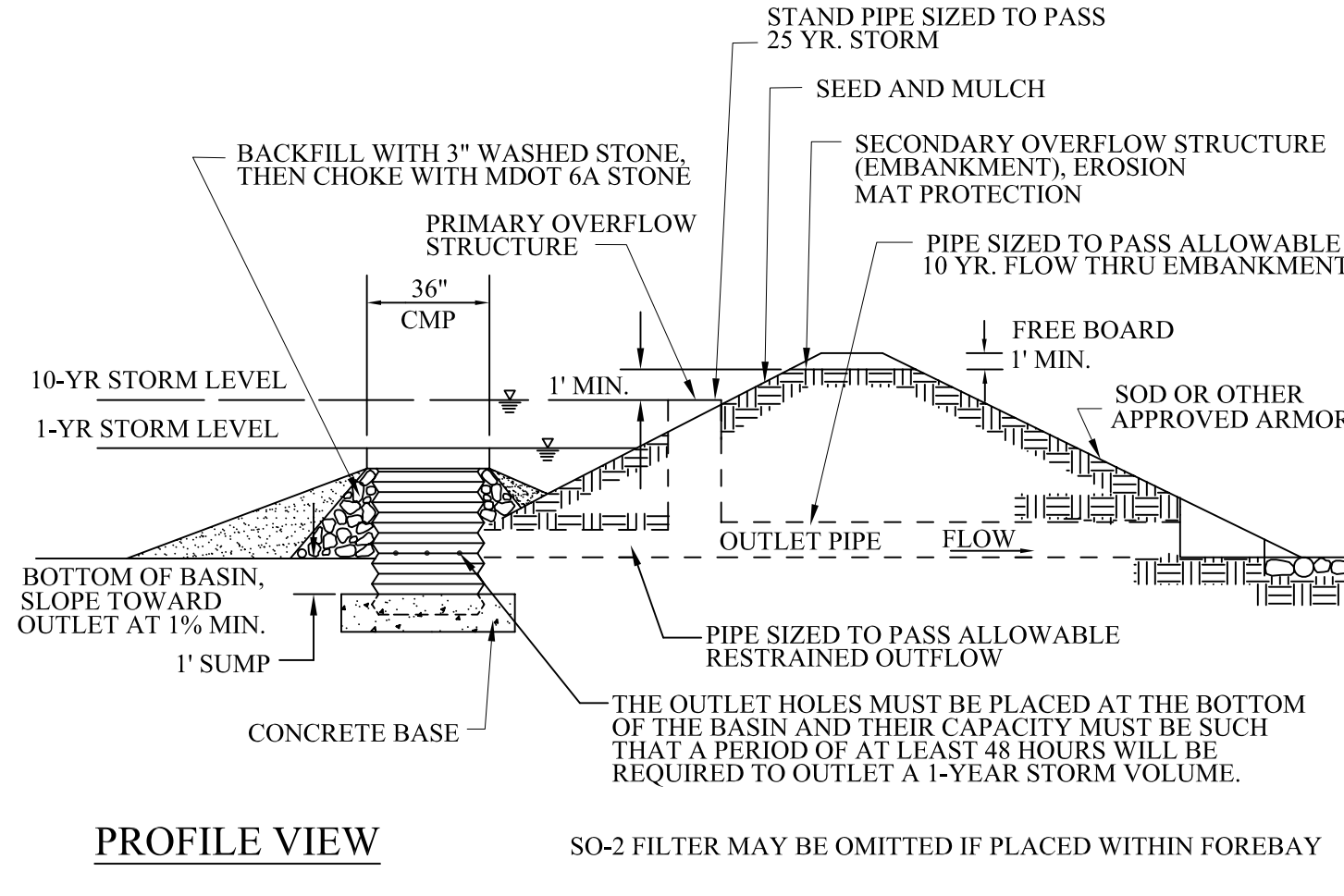
**LETTERED MANHOLE COVER**



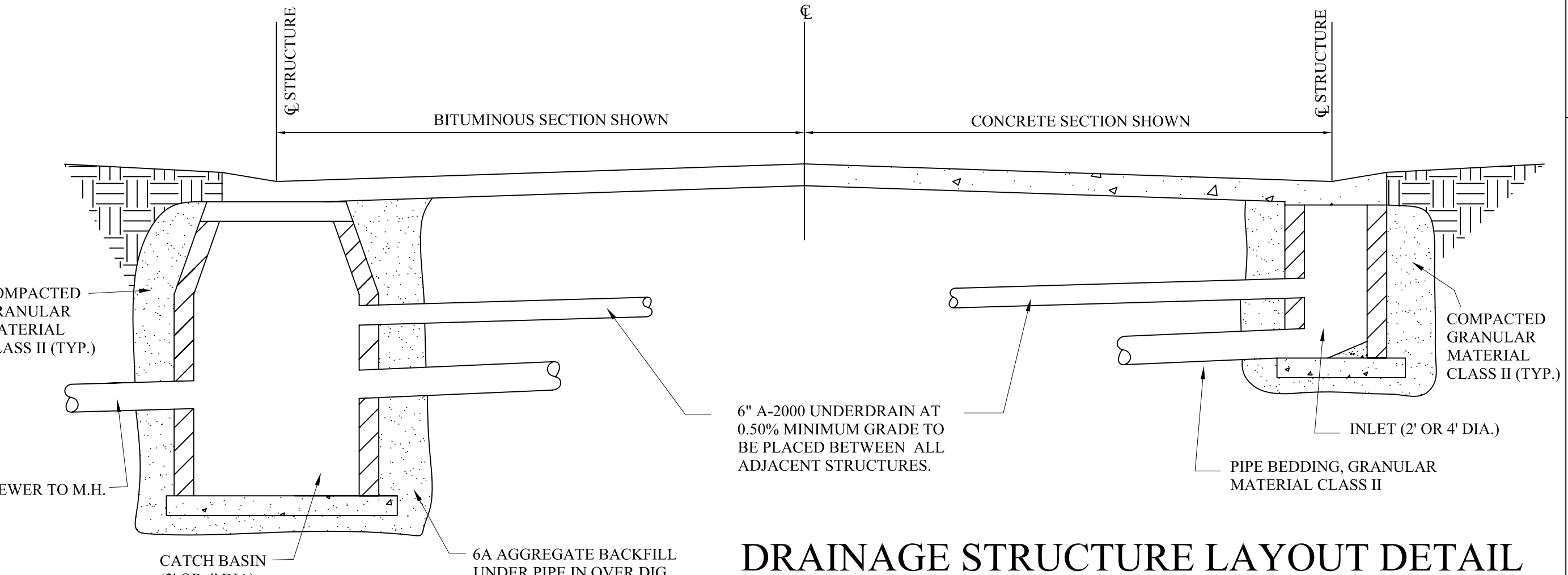
**INLET DETAIL**



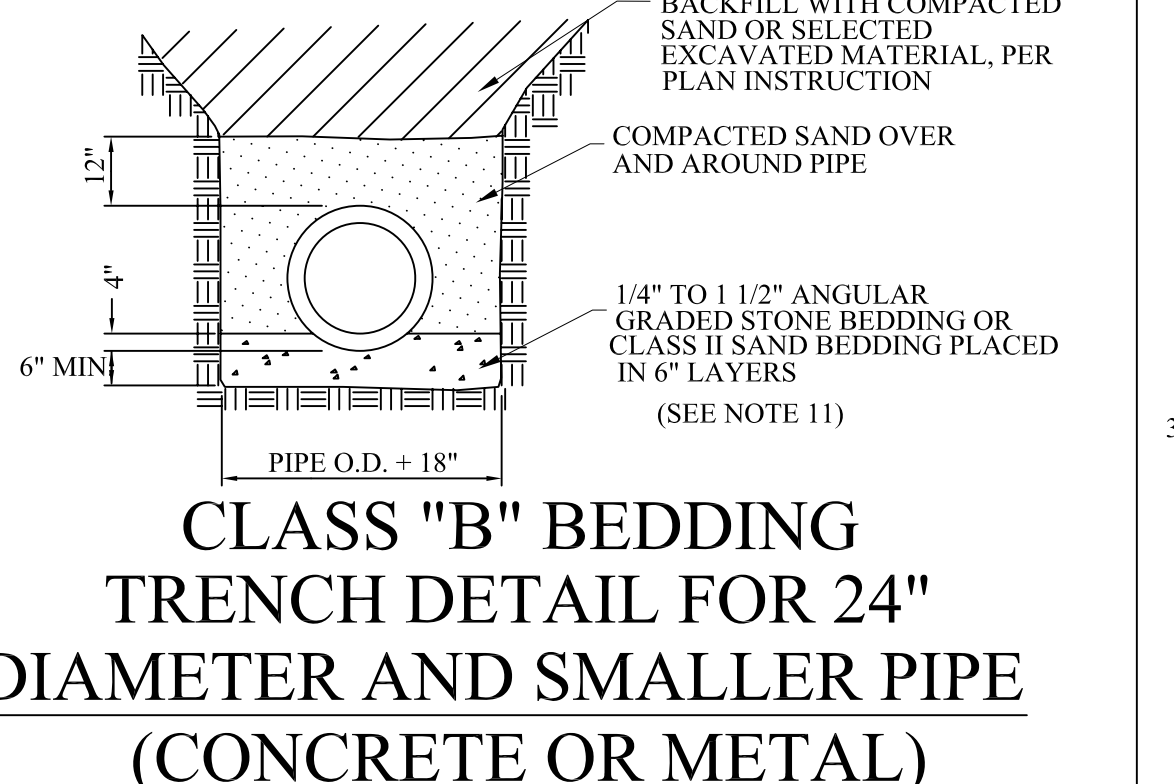
**EDGE DRAIN DETAIL FOR PUBLIC AND PRIVATE ROADS**



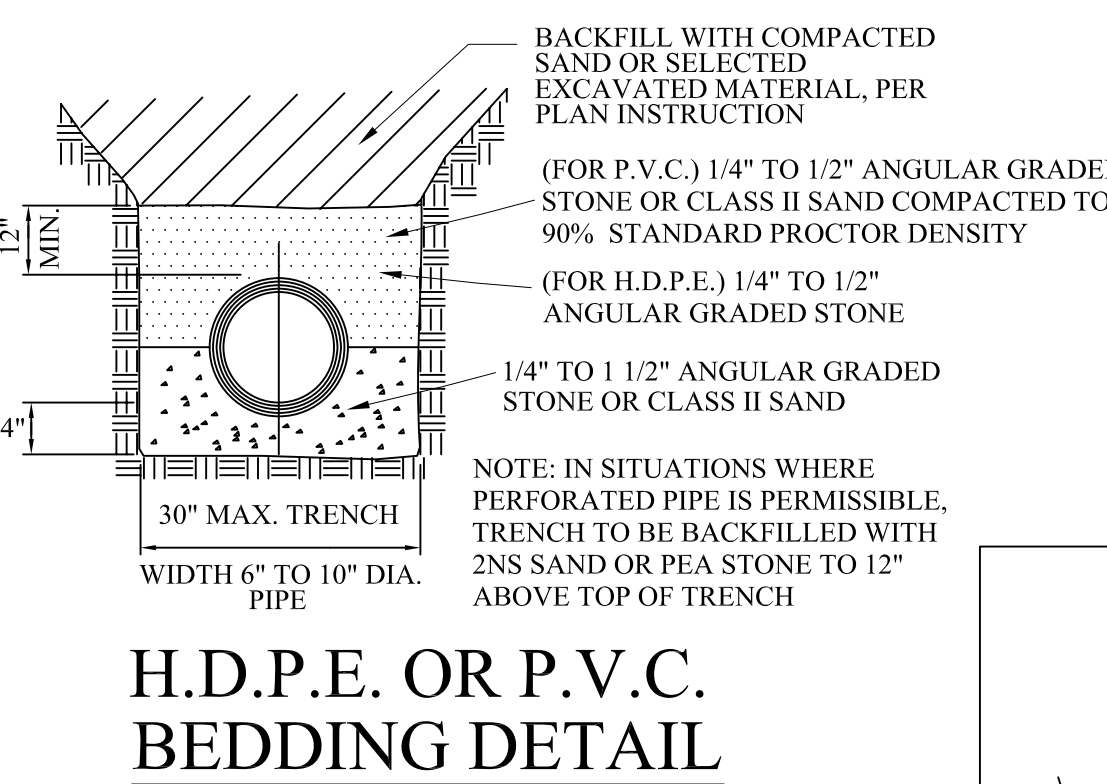
**SO-2 DETENTION BASIN OUTLET FILTER (CMP)**  
(SEE OCDC STANDARD DETAILS FOR SEDIMENT BASIN OR FOREBAY OUTLET STRUCTURE)



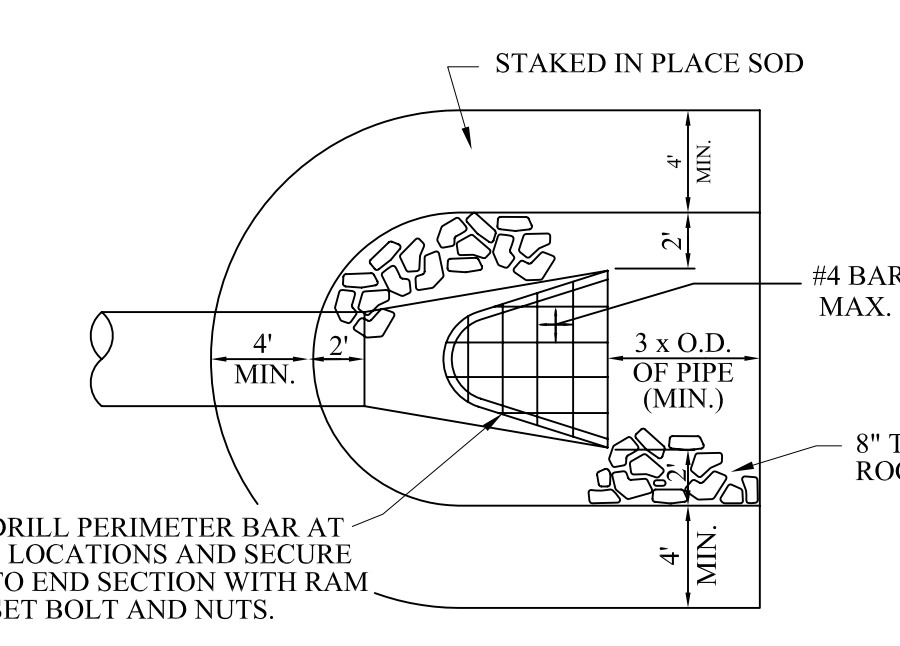
**DRAINAGE STRUCTURE LAYOUT DETAIL**



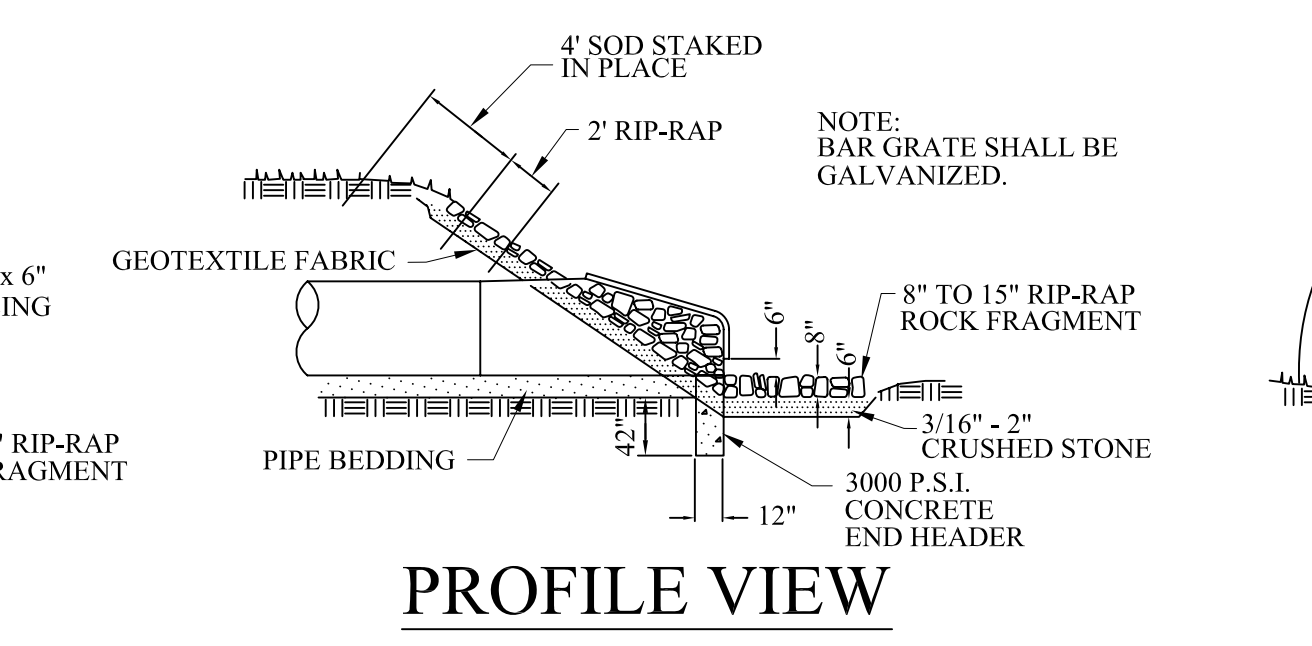
**CLASS "B" BEDDING TRENCH DETAIL FOR 24" DIAMETER AND SMALLER PIPE (CONCRETE OR METAL)**



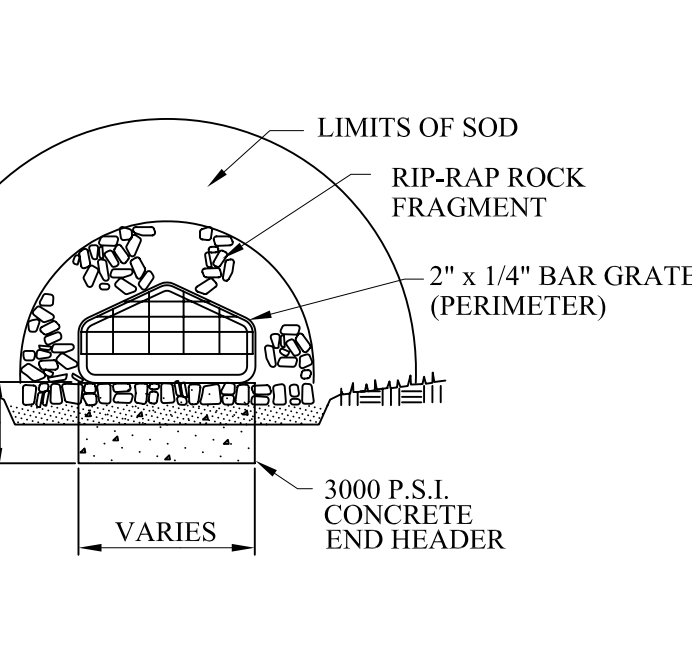
**H.D.P.E. OR P.V.C. BEDDING DETAIL**



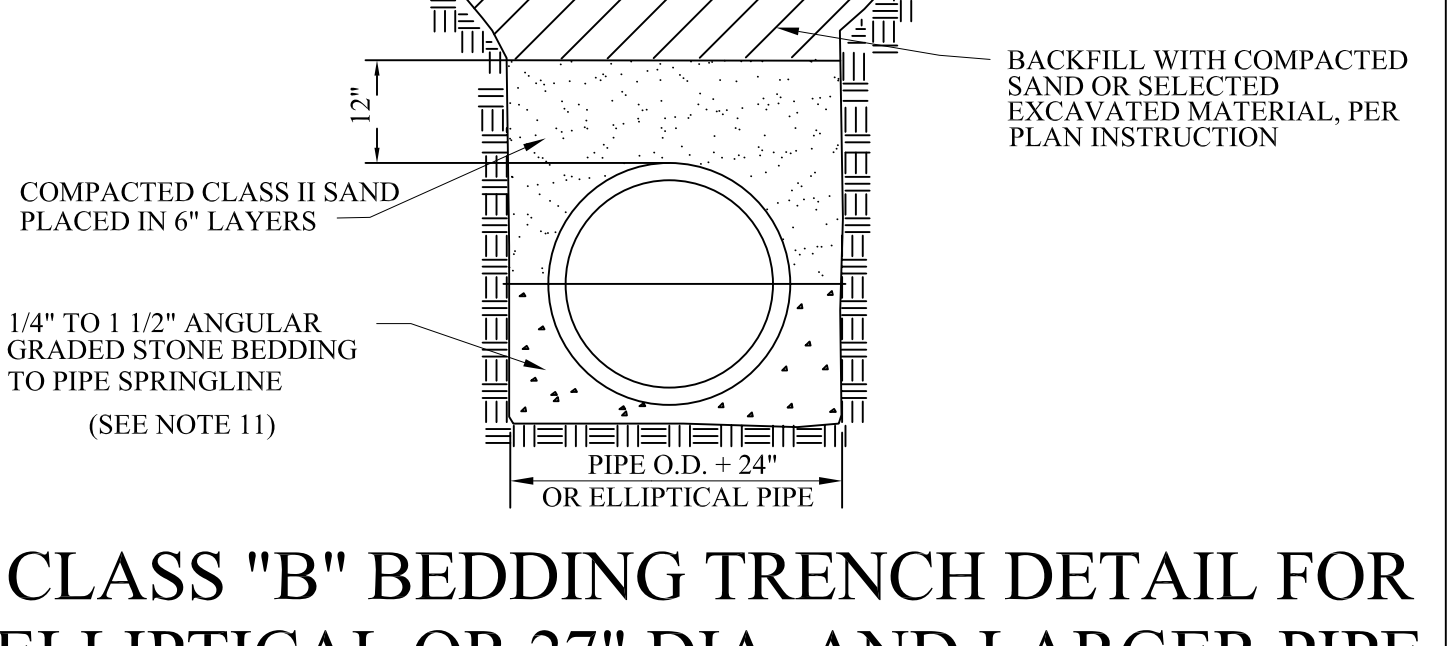
**PLAN VIEW**



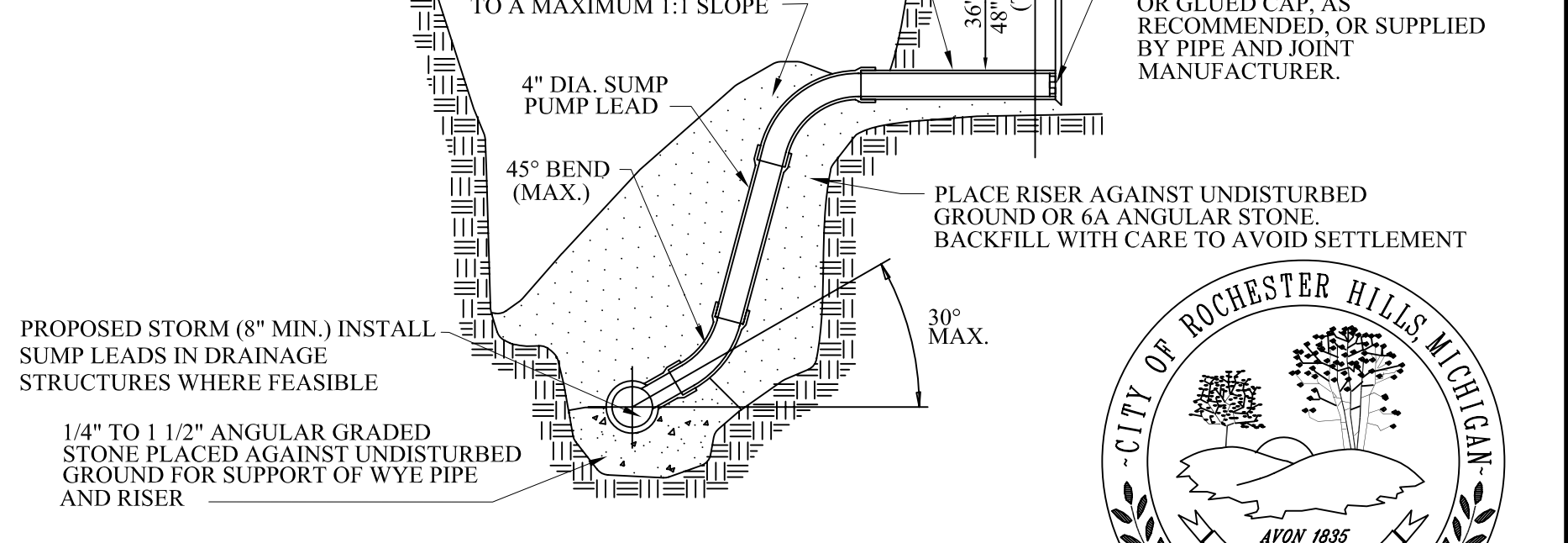
**END SECTION AND BAR GRATE DETAIL**



**END VIEW**



**CLASS "B" BEDDING TRENCH DETAIL FOR ELLIPTICAL OR 27" DIA. AND LARGER PIPE (CONCRETE OR METAL)**



**HOUSE LEAD DETAIL FOR 3" OR 4" DIA. PLASTIC SUMP PUMP LEADS**



REVISIONS	DATE	APPROVED BY
		CITY COUNCIL, DATE: JULY 21, 2008
		PREPARED BY ENGINEERING DIVISION DEPARTMENT OF PUBLIC SERVICES

NOTIFY ROCHESTER HILLS ENGINEERING DEPARTMENT @ 248-841-2510 48 HRS. PRIOR TO START OF CONSTRUCTION

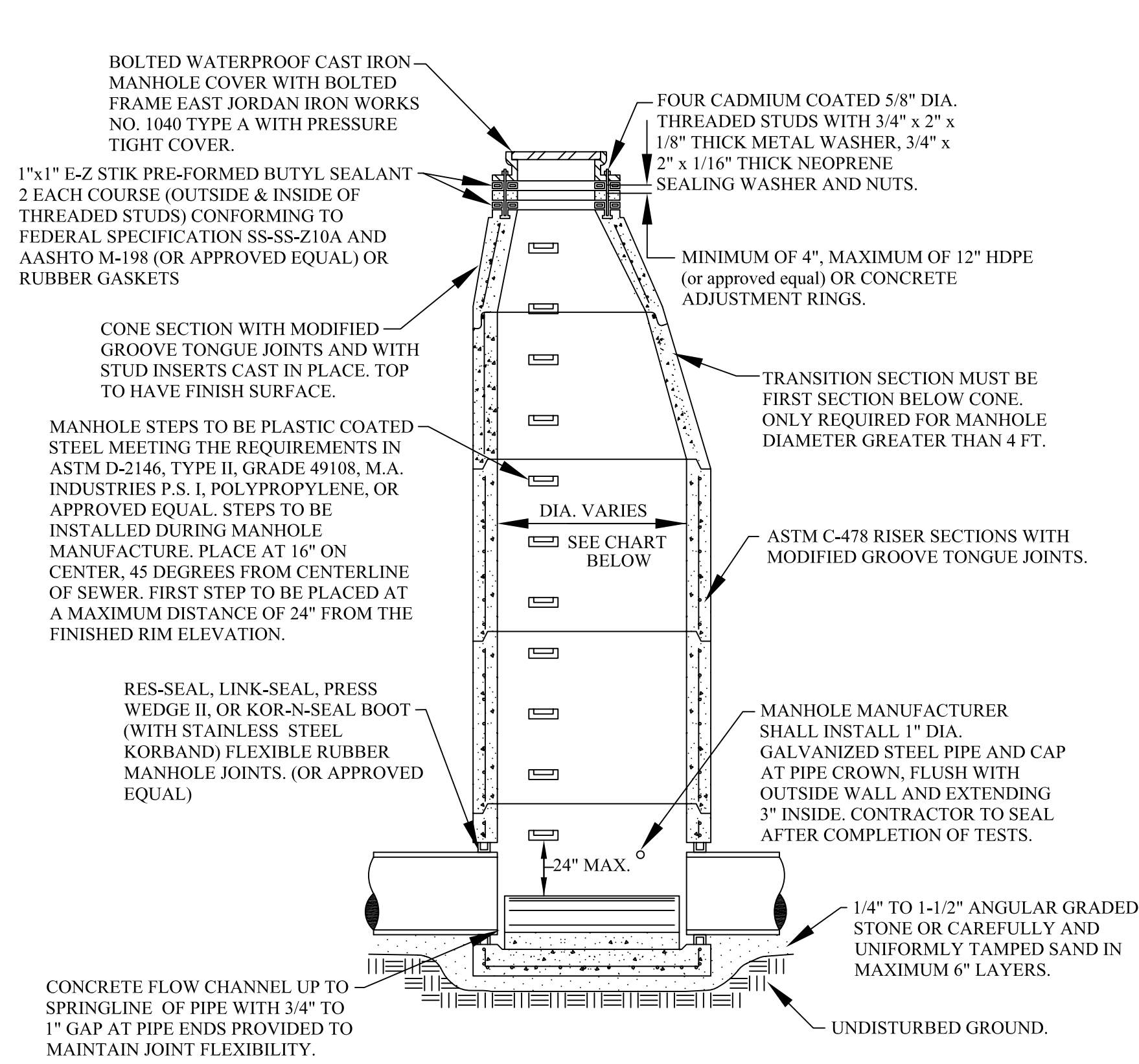
**City of Rochester Hills**  
1000 Rochester Hills Drive, Rochester Hills, Michigan 48309

**STORM SYSTEM STANDARD DETAILS**

NOT TO SCALE	DATE: 7/21/2008
SHEET 1 OF 1	

## SANITARY SEWER CONSTRUCTION NOTES

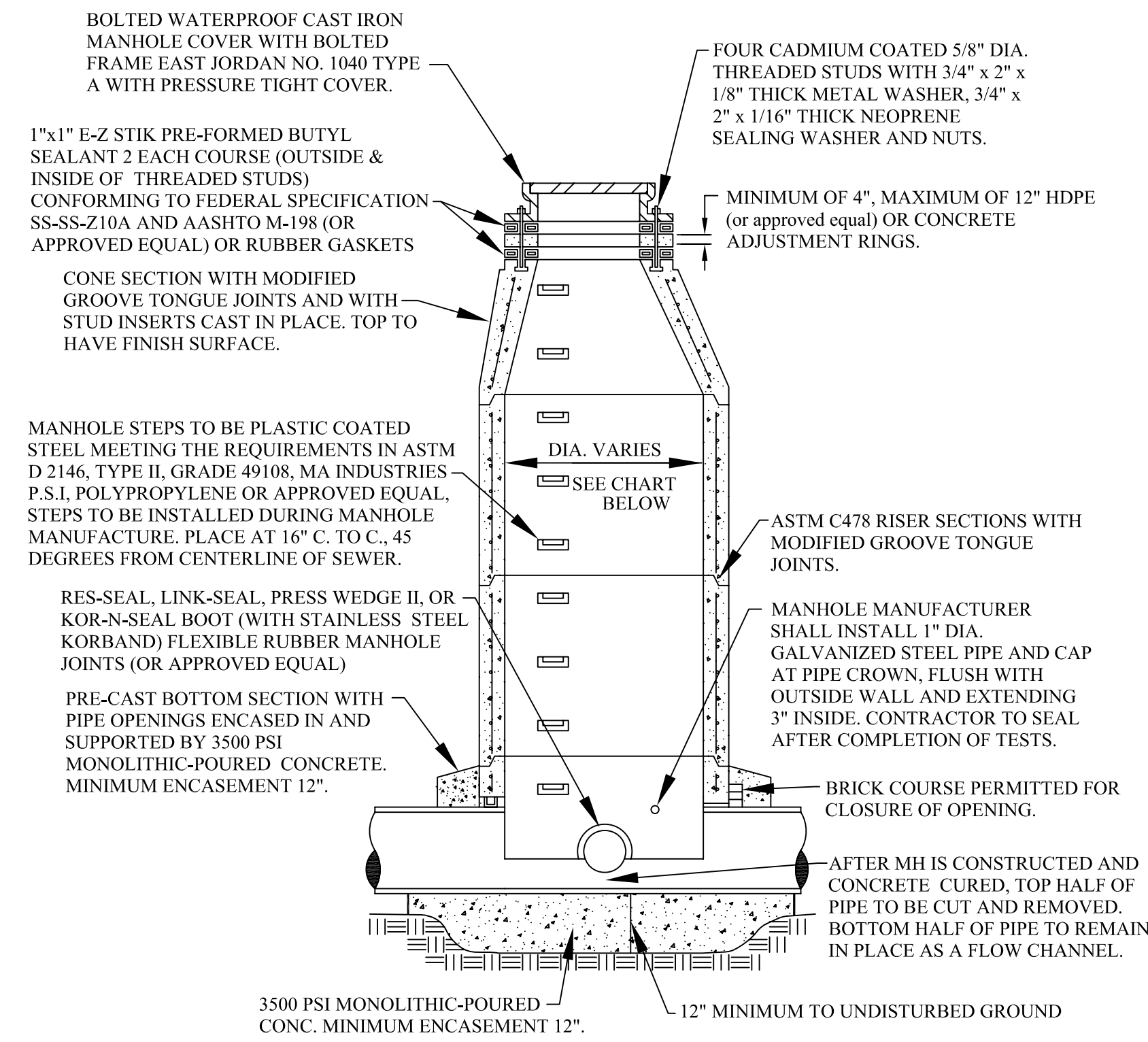
- ALL CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF THE CITY OF ROCHESTER HILLS AND THE OAKLAND COUNTY DRAIN COMMISSIONER (OCD). ALL SANITARY SEWER CONSTRUCTION SHALL HAVE FULL-TIME INSPECTION SUPERVISED BY THE CITY OF ROCHESTER HILLS INSPECTION SERVICES.
- NO SEWER INSTALLATION SHALL HAVE AN INFILTRATION EXCEEDING 100 GALLONS PER INCH DIAMETER PER MILE OF PIPE IN A 24 HOUR PERIOD, AND NO SINGLE RUN OF SEWER BETWEEN MANHOLES SHALL EXCEED 100 GALLONS PER INCH DIAMETER PER MILE. AIR TESTS IN LIEU OF INFILTRATION TESTS SHALL BE AS SPECIFIED IN THE OAKLAND COUNTY DRAIN COMMISSIONER STANDARDS. PRELIMINARY-AIR TESTS ARE WITNESSED BY THE CITY AND FINAL AIR TESTS ARE WITNESSED BY BOTH THE CITY AND THE OCD. ONLY PIPE AND PIPE JOINTS APPROVED BY THE CITY MAY BE USED FOR SANITARY SEWER CONSTRUCTION.
- LOCATED IN THE FIRST MANHOLE UPSTREAM FROM THE POINT OF ALL CONNECTIONS TO AN EXISTING SEWER, OR EXTENSION, A TEMPORARY 12-INCH DEEP SUMP SHALL BE PROVIDED IN THE FIRST MANHOLE ABOVE THE CONNECTION WHICH WILL BE FILLED IN AFTER SUCCESSFUL COMPLETION OF ANY ACCEPTANCE TEST UP TO THE STANDARD FILLET PROVIDED FOR THE FLOW CHANNEL. A WATERTIGHT BULKHEAD SHALL BE PROVIDED ON THE DOWNSTREAM SIDE OF THE SUMP MANHOLE.
- AT ALL TIMES WHEN LAYING OF NEW PIPE IS NOT ACTUALLY IN PROGRESS, THE UPSTREAM OPEN END OF THE PIPE SHALL BE CLOSED BY TEMPORARY WATERTIGHT PLUGS OR BY OTHER APPROVED MEANS. IF WATER IS IN THE TRENCH WHEN WORK IS RESUMED, THE PLUG SHALL NOT BE REMOVED UNTIL THE DANGER OF WATER ENTERING THE PIPE HAS PASSED. ALL MAIN LINE PIPE SHALL BE LAID WITH A PIPE LASER BEAM FOR LINE AND GRADE. A TARGET MUST BE INSTALLED AT THE END OF THE PIPE BEING LAID.
- ALL BUILDING LEADS AND RISERS SHALL BE SIX INCH SDR 23.5 PVC PIPE WITH CHEMICALLY FUSED JOINTS OR GASKETED JOINTS APPROVED BY CITY ENGINEER. BUILDING LEADS TO BE FURNISHED WITH REMOVABLE AIRTIGHT AND WATERTIGHT STOPPERS.
- ALL SEWER PIPE SHALL BE INSTALLED IN CLASS "B" BEDDING OR BETTER.
- ALL NEW MANHOLES SHALL HAVE CITY APPROVED FLEXIBLE, WATERTIGHT SEALS WHERE PIPES PASS THROUGH WALLS. MANHOLES SHALL BE OF PRE CAST SECTIONS WITH MODIFIED GROOVE TONGUE AND RUBBER GASKET TYPE JOINTS. PRE CAST MANHOLE CONE SECTIONS SHALL BE CITY APPROVED MODIFIED ECCENTRIC CONE TYPE. ALL MANHOLES SHALL BE PROVIDED WITH BOLTED, WATERTIGHT COVERS.
- AT ALL CONNECTIONS TO MANHOLES IN ALL SEWERS, OR EXTENSIONS, DROP CONNECTIONS WILL BE REQUIRED WHEN THE DIFFERENCE IN INVERT ELEVATIONS EXCEEDS 18 INCHES.
- GROUND WATER, STORM WATER, CONSTRUCTION WATER, DOWN SPOUT DRAINAGE OR WEEP TILE DRAINAGE SHALL NOT BE ALLOWED TO ENTER ANY SANITARY SEWER INSTALLATION.
- PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL TELEPHONE MISS DIG THREE (3) DAYS IN ADVANCE (811) FOR THE LOCATION OF UNDERGROUND PIPELINE AND CABLE FACILITIES AND SHALL ALSO NOTIFY REPRESENTATIVES OF OTHER UTILITIES LOCATED IN THE VICINITY OF THE WORK.
- AN 18 INCH MINIMUM VERTICAL SEPARATION AND A 10 FOOT MINIMUM HORIZONTAL SEPARATION MUST BE MAINTAINED BETWEEN SANITARY SEWER AND ALL OTHER UTILITIES.
- AS A MEANS OF INSURING PROPER INSTALLATION OF THE SANITARY SEWER PIPE, THE CONTRACTOR SHALL VIDEO INSPECT, ACCORDING TO THE CITY OF ROCHESTER HILLS VIDEO INSPECTION STANDARDS, 100% OF THE SANITARY SEWER PIPE. THE CONTRACTOR SHALL PROVIDE 24 HOURS NOTICE TO THE OAKLAND COUNTY DRAIN COMMISSIONER OR THE CITY OF ROCHESTER HILLS PRIOR TO VIDEO INSPECTION, SO A REPRESENTATIVE MAY BE PRESENT. ROCHESTER HILLS WILL BE PROVIDED WITH A DIGITAL COPY OF THE VIDEO INSPECTION AND LOG IN ACCORDANCE WITH THE CITY OF ROCHESTER HILLS INSPECTION STANDARDS.



### STANDARD MANHOLE

MANHOLE SIZING CHART

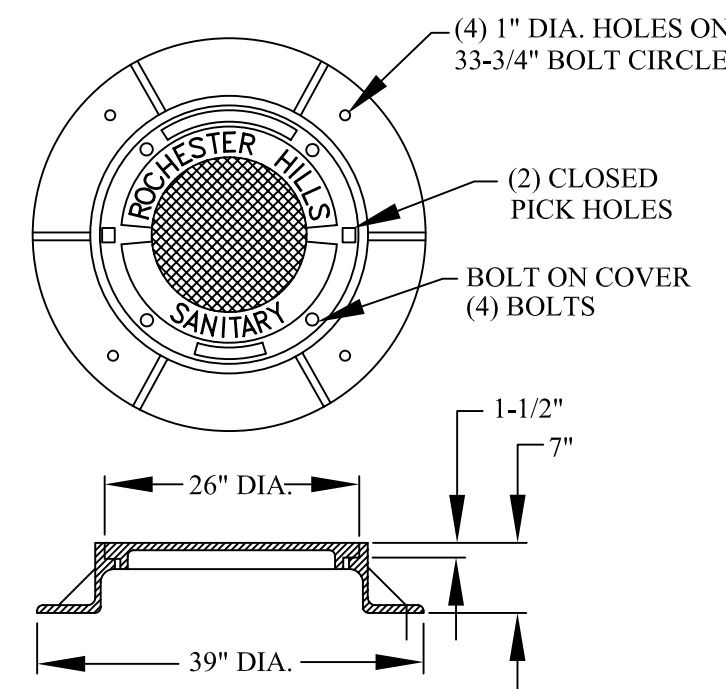
MANHOLE DIAMETER	MAX. PIPE SIZE FOR STRAIGHT THRU INST.	MAX. PIPE SIZE FOR RIGHT ANGLE INST.
4'	24"	18"
5'	36"	24"
6'	42"	36"
7'	60"	42"



### MANHOLE CONSTRUCTED OVER EXISTING SEWER

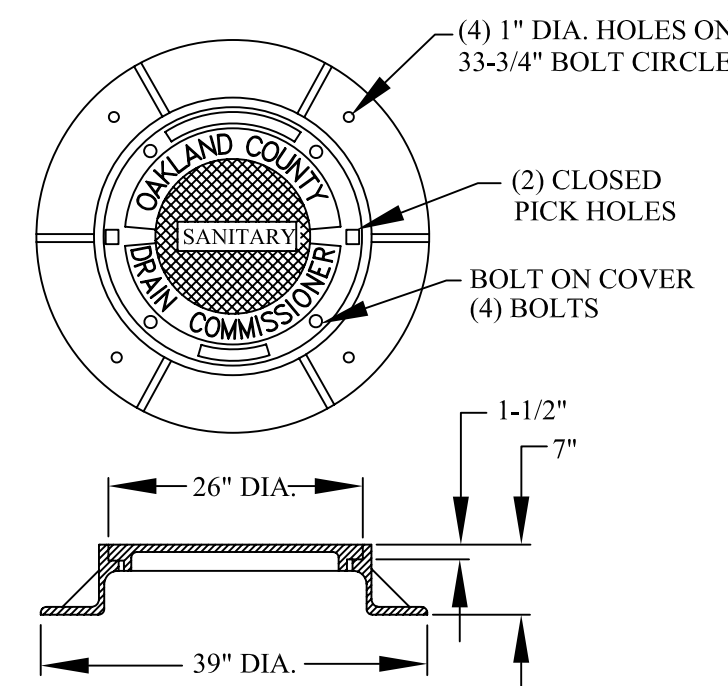
MANHOLE SIZING CHART

MANHOLE DIAMETER	MAX. PIPE SIZE FOR STRAIGHT THRU INST.
4'	24"
5'	36"
6'	42"
7'	60"



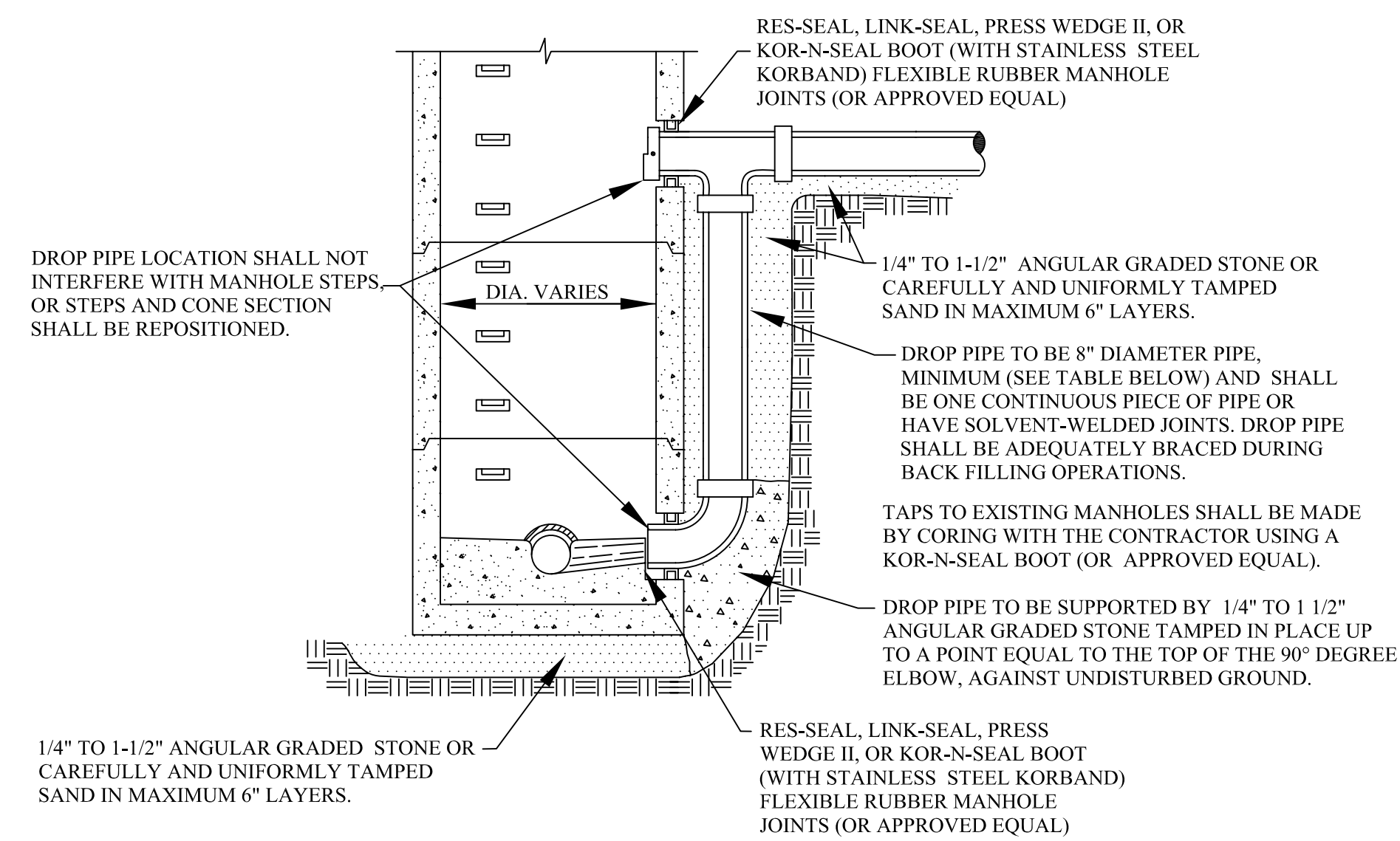
### ROCHESTER HILLS MANHOLE COVER

EAST JORDAN IRON WORKS HEAVY DUTY MATERIAL ASTM A48 CL.35 COVER WT., 150 LBS., CATALOG NO. 1040 TYPE A



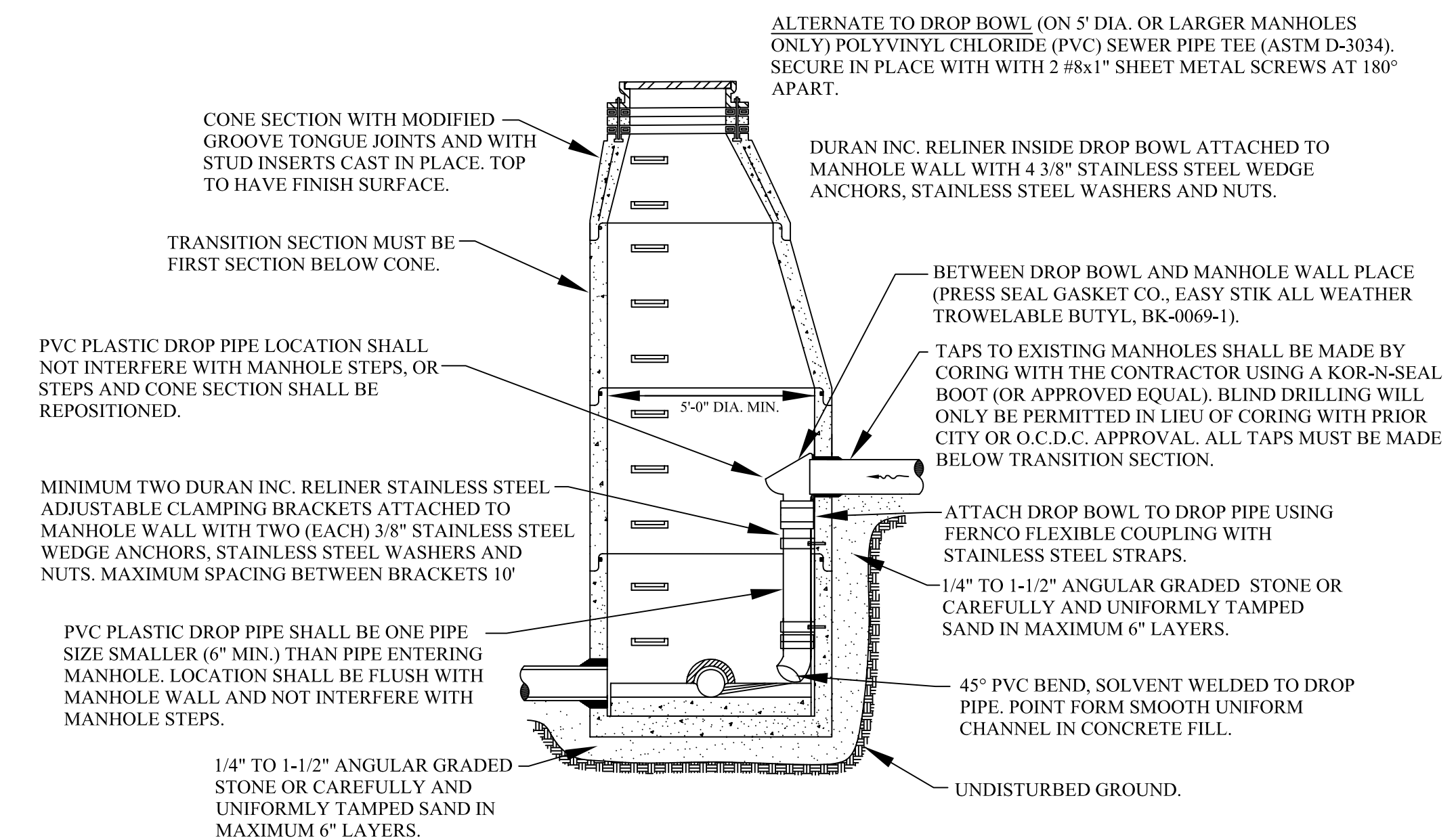
### O.C.D.C. LETTERED MANHOLE COVER

EAST JORDAN IRON WORKS HEAVY DUTY MATERIAL ASTM A48 CL.35 COVER WT., 150 LBS., CATALOG NO. 1040 TYPE A



### EXTERIOR DROP CONNECTION

SEWER SIZE	DROP SIZE	MH SIZE
UP TO 10"	8"	4'
UP TO 18"	10"	4'
UP TO 30"	18"	5'



### INTERIOR DROP CONNECTION

NOTE: INTERIOR DROP CONNECTION PERMITTED ONLY WHEN APPROVED BY CITY ENGINEER.

City File #73-175.2



REVISIONS	DATE	APPROVED BY
		CITY COUNCIL, DATE: JULY 21, 2008
		PREPARED BY ENGINEERING DIVISION DEPARTMENT OF PUBLIC SERVICES

NOTIFY ROCHESTER HILLS ENGINEERING DEPARTMENT @ 248-841-2510 48 HRS. PRIOR TO START OF CONSTRUCTION

**City of Rochester Hills**  
1000 Rochester Hills Drive, Rochester Hills, Michigan 48309

## SANITARY SEWER STANDARD DETAILS

NOT TO SCALE	DATE: 7/21/2008
SHEET 1 OF 2	