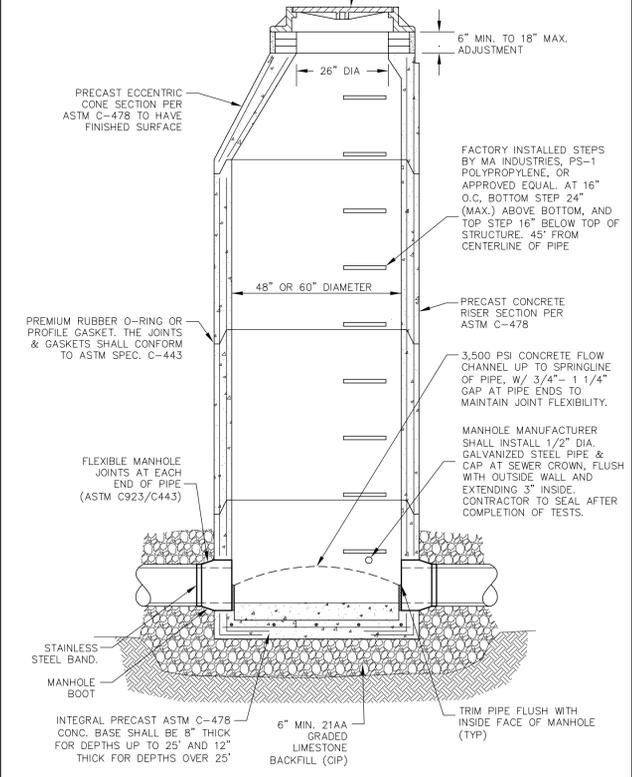
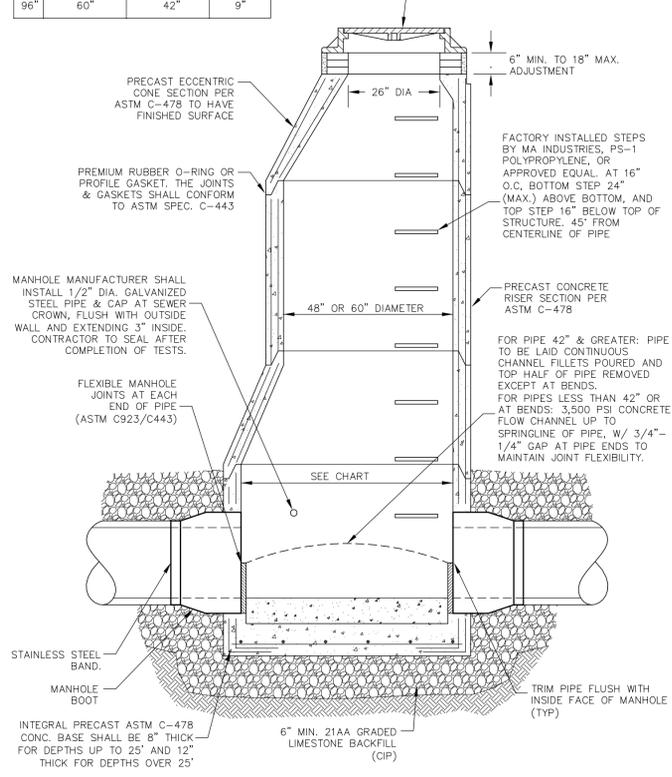


MH I.D.	MAX STRAIGHT THRU PIPE SIZE	MAX RIGHT ANGLE PIPE SIZE	MIN WALL THICKNESS
48"	24"	18"	5"
60"	36"	24"	6"

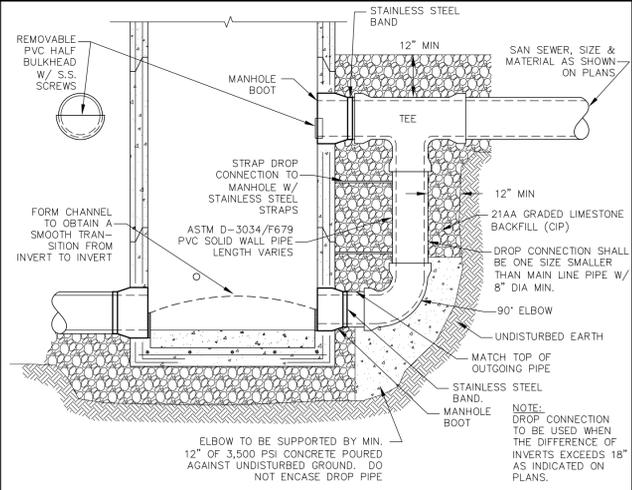


STANDARD SANITARY SEWER MANHOLE
SCALE: NONE

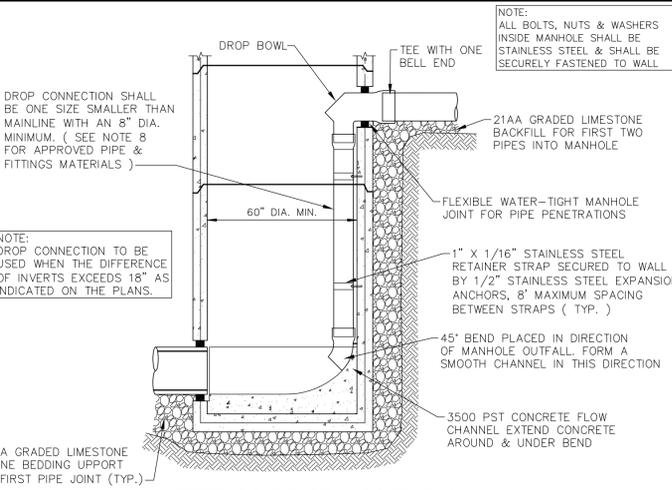
MH I.D.	MAX STRAIGHT THRU PIPE SIZE	MAX RIGHT ANGLE PIPE SIZE	MIN WALL THICKNESS
60"	36"	24"	6"
72"	42"	36"	7"
96"	60"	42"	9"



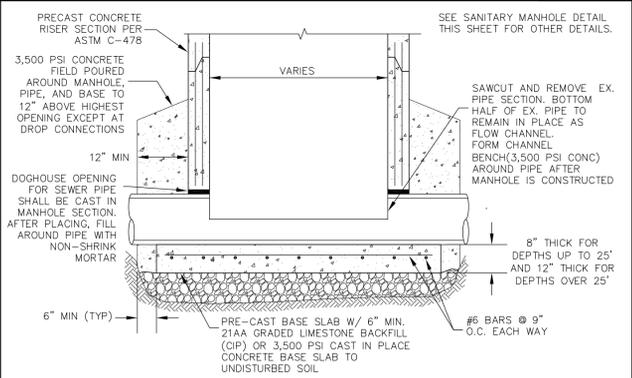
LARGE SANITARY SEWER MANHOLE
SCALE: NONE



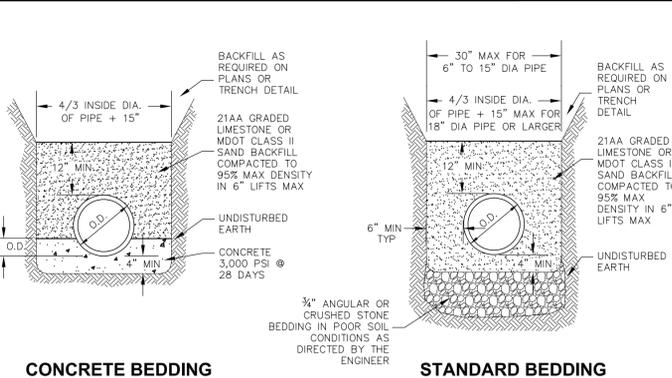
EXTERIOR DROP ASSEMBLY (W/ SPECIAL APPROVAL)
SCALE: NONE



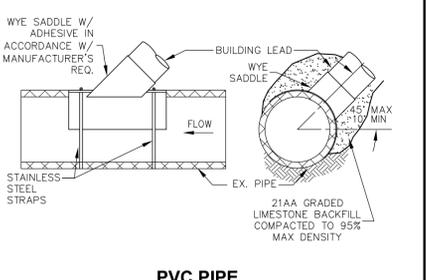
INTERIOR DROP ASSEMBLY
SCALE: NONE



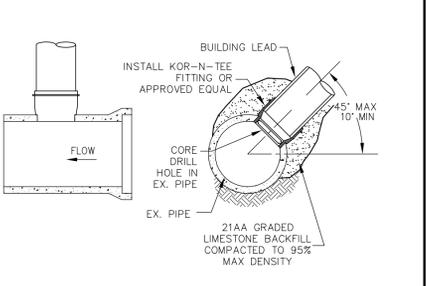
STANDARD SANITARY MANHOLE OVER EX. SEWER
SCALE: NONE



CONCRETE BEDDING
STANDARD BEDDING
BEDDING DETAIL
SCALE: NONE

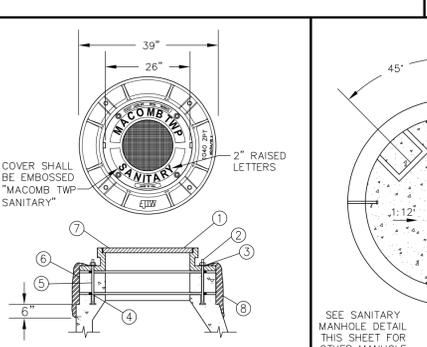


PVC PIPE



CONCRETE PIPE

TAPPING EXISTING SEWER
SCALE: NONE

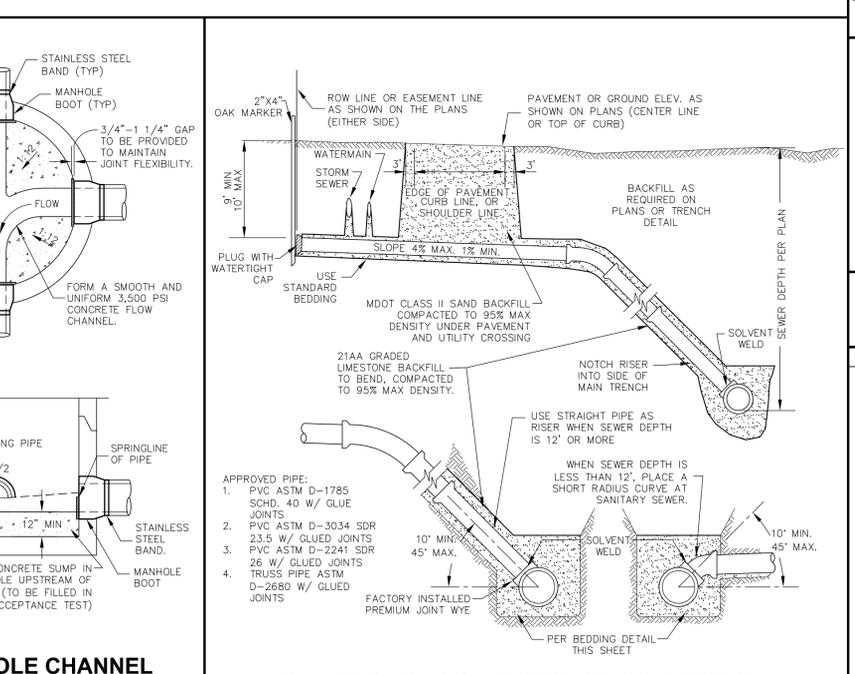


- BOLTED WATERPROOF COVER EJIW 1040ZPT WITH PRESSURE TIGHT COVER WITH GASKET SEAL AND 1" ANCHOR BASE FLANGE HOLES, FOUR (4) AS SHOWN.
- FOUR (4) CADMIUM COATED 5/8" THREADED STUDS, 3/4"x2"x1/16" FLAT WASHERS & NUTS.
- FOUR (4) 3/4"x2"x1/16" NEOPRENE FLAT SEALING WASHERS.
- 21/32" DIA. RUBBER O-RING GASKETS BETWEEN GRADE RINGS I.D. IS 36" MIN. (2 MIN REQUIRED).
- FOUR (4) 5/8" THREADED INSERTS CAST AS SHOWN
- GRADE RING, PROVIDE 6" MIN.-18" MAX. ADJUSTMENT.
- COVERS EQUIPPED WITH 1/2" STAINLESS STEEL CAP SCREWS COUNTERSUNK FLUSH WITH COVER. TAPS IN COVERS & BOLTS PROVIDED BY MANUFACTURER & SHALL NOT BE FIELD TAPPED.
- EXTERNAL "RAPID SEAL" PER MANUFACTURER'S REQUIREMENTS OR APPROVED EQUAL IN PAVEMENT OR FLOOD AREAS.

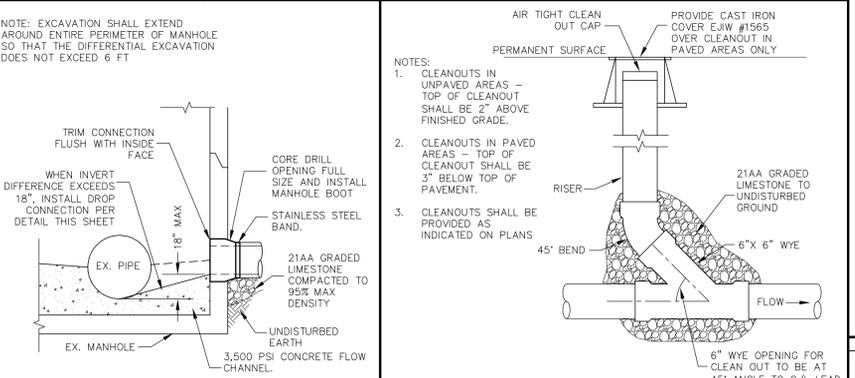
MANHOLE FRAME & COVER
SCALE: NONE

GENERAL SANITARY SEWER NOTES

- AT LEAST SEVENTY TWO (72) HOURS PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL GIVE NOTIFICATION OF THEIR INTENTION TO BEGIN CONSTRUCTION TO MACOMB TOWNSHIP, THE OFFICE OF THE PUBLIC WORKS COMMISSIONER, MCDOR, MDOT, AND OTHER AGENCIES HAVING JURISDICTION. ALL SANITARY SEWER CONSTRUCTION SHALL HAVE FULL TIME INSPECTION PROVIDED BY MACOMB TOWNSHIP.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION MEETING, AT A TIME AND PLACE AS ARRANGED BY THE TOWNSHIP, AT WHICH VARIOUS UTILITY COMPANIES AND GOVERNMENTAL AGENCY REPRESENTATIVE WILL BE PRESENT.
- PRIOR TO CONSTRUCTION OF ANY SANITARY SEWERS WHICH ARE TO BE CONNECTED TO THE TOWNSHIP SANITARY SEWER SYSTEM, THE CONTRACTOR MUST HAVE IN THEIR POSSESSION A COPY OF A TOWNSHIP PERMIT TO CONSTRUCT A CONNECTION TO, OR AN EXTENSION OF THE WASTEWATER DISPOSAL SYSTEM OF THE TOWNSHIP.
- PRIOR TO ANY EXCAVATION, THE CONTRACTOR SHALL TELEPHONE MISS DIG (800-482-7171) FOR THE LOCATION OF UNDERGROUND FACILITIES, AND SHALL ALSO NOTIFY REPRESENTATIVES OF ANY OTHER FACILITIES, LOCATED IN THE VICINITY OF THE WORK, WHICH MAY NOT BE HANDLED BY MISS DIG.
- ALL SANITARY SEWER CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF MACOMB TOWNSHIP, MCDOR, MDOT, AND/OR MCOFW, AS REQUIRED.
- UNLESS OTHERWISE SPECIFIED ON THE PLANS, ALL SANITARY SEWERS GREATER THAN 15" SHALL BE REINFORCED CONCRETE C76 CLASS IV IN ACCORDANCE WITH ASTM SPECIFICATIONS. JOINTS SHALL HAVE PREMIUM RUBBER O-RINGS OR PROFILE GASKETS CONFORMING TO ASTM C-443.
- UNLESS OTHERWISE SHOWN ON PLANS, ALL SANITARY SEWERS 8" THRU 15" SHALL BE PVC SDR 26 (PS115) SEWER PIPE (ASTM D3034) WITH GASKETED JOINTS (ASTM D3212) OR PVC COMPOSITE (TRUSS) SEWER PIPE (ASTM D2680) WITH GASKETED JOINTS (ASTM D3212).
- ALL SANITARY SEWER BEDDING SHALL BE STANDARD BEDDING UNLESS OTHERWISE SHOWN ON THE PLANS.
- ALL SANITARY SEWER WYE OPENINGS SHALL BE FACTORY INSTALLED WITH SOLVENT WELD JOINTS FOR LEAD CONNECTION.
- NO GROUND WATER, STORM WATER, CONSTRUCTION WATER, DOWNSPOUT DRAINAGE, OR WEEP TILE DRAINAGE SHALL BE ALLOWED TO ENTER ANY SANITARY SEWER INSTALLATION.
- NO SANITARY SEWER INSTALLATION OR PORTION THEREOF SHALL HAVE LEAKAGE EXCEEDING 100 GALLONS PER INCH DIAMETER PER MILE OF PIPE PER TWENTY FOUR (24) HOUR PERIOD. EX-FILTRATION TESTING SHALL BE CONDUCTED WHERE GROUND WATER IS INSUFFICIENT.
- AS PART OF THE FINAL INSPECTION AFTER ROAD PAVEMENT HAS BEEN PLACED, THE CONTRACTOR SHALL CLEAN THE SANITARY SEWER AND PROVIDE FOR TELEVISION INSPECTION OF THE SANITARY SEWER LINES IN ACCORDANCE WITH THE CURRENT DETAIL SPECIFICATIONS OF THE TOWNSHIP. A PAN AND TILT CAMERA SHALL BE USED FOR THE TELEVISION INSPECTION WHICH IS CAPABLE OF SCANNING 360° CIRCUMFERENCE AND 270° ON A HORIZONTAL AXIS. THE CAMERA SHALL HAVE A HIGH RESOLUTION LENS WHICH CAN OPERATE IN 100% HUMIDITY.
- DEFLECTION TESTS SHALL BE PERFORMED ON ALL FLEXIBLE PVC SEWER PIPE A GO-NO-GO MANDREL SHALL BE PULLED THROUGH THE PIPE A MINIMUM OF 30 DAYS AFTER THE FINAL PLACEMENT OF BACKFILL AND LOADING. THE DEFLECTION OF THE SEWER PIPE SHALL NOT EXCEED 7.5 PERCENT WHEN TESTED WITH A MANDREL SPECIFICALLY DESIGNED FOR THE TYPE AND SIZE OF PIPE INSTALLED. PIPE SEGMENTS FAILING THE MANDREL TEST SHALL BE REMOVED AND REPLACED.
- AIR TEST SHALL, AT MINIMUM, BE PERFORMED ACCORDING TO ASTM G924 FOR CONCRETE AND ASTM F1417 FOR PLASTIC PIPE.
- MANHOLE LIFTING RINGS MUST BE FILLED W/ NON-SHRINK MORTAR AFTER SETTING MANHOLE.
- THE CONTRACTOR SHALL MAINTAIN ALL EXISTING SANITARY SEWER, WATER OR STORM SEWER SERVICE CONNECTIONS DURING CONSTRUCTION.
- THE CONTRACTOR SHALL ABIDE BY ALL THE REQUIREMENTS OF THE ROAD RIGHT-OF-WAY OWNER REGARDING CONSTRUCTION OF SANITARY SEWERS, MAINTAINING TRAFFIC, BARRICADING, BORING, BACKFILL, AND RESTORATION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING UTILITIES DURING CONSTRUCTION. THIS INCLUDES LOCATING, REMOVING AND REPLACING, OR TEMPORARILY OR PERMANENTLY RELOCATING EXISTING UTILITIES WITHIN THE INFLUENCE OF CONSTRUCTION. ALL UTILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED WITH LIKE MATERIAL. THE CONTRACTOR SHALL VERIFY DEPTH AND HORIZONTAL LOCATION OF ALL EXISTING UTILITIES PRIOR TO ANY WORK BEING DONE.



SANITARY BUILDING SERVICE CONNECTION
SCALE: NONE



CONNECTION TO EX. MANHOLE
SCALE: NONE

SANITARY SEWER CLEANOUT
SCALE: NONE



MACOMB TOWNSHIP
54111 BROUGHTON ROAD
MACOMB, MI 48042
586-992-0710

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171
For free location of public utility lines

NOTE: UTILITY INFORMATION ON THIS DRAWING MAY BE FROM INFORMATION DISCLOSED TO THIS FIRM BY THE VARIOUS UTILITY COMPANIES, CITY/COUNTY AGENCIES AND OTHER VARIOUS SOURCES. UNDERGROUND UTILITIES WHICH ARE ON PRIVATE PROPERTY ARE USUALLY NOT DELINEATED UPON A UTILITY COMPANY'S PUBLISHED PLANS. THEIR LOCATION, IF SHOWN UNDER THIS SURVEY, ARE APPROXIMATED FROM FOUND PAINT MARKS/STAKES, ETC. AS LOCATED BY THIS FIRM FROM SOURCES WHICH ARE UNKNOWN. NO GUARANTEE IS GIVEN AS TO THE COMPLETENESS OR ACCURACY THEREOF.

PRIOR TO CONSTRUCTION, ALL LOCATIONS AND DEPTHS OF EXISTING UTILITIES (IN CONFLICT WITH PROPOSED IMPROVEMENTS) SHALL BE VERIFIED IN THE FIELD. CALL MISS DIG 3 WORKING DAYS PRIOR TO CONSTRUCTION.

TOWNSHIP OF MACOMB

SANITARY SEWER STANDARD DETAILS

TOWN 3 NORTH RANGE 13 EAST
MACOMB TOWNSHIP
MACOMB COUNTY

NO.	DATE	REVISION
1	10-15-14	SHEET UPDATE
2	11-6-15	SHEET UPDATE
3	5-10-16	SHEET UPDATE
4	7-11-17	SHEET UPDATE
5	10-02-24	ADD SDR 26 SEWER
6	12-5-24	UPDATE INTERIOR DROP

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

JOB NO. DRAWING NO. MA-DET-SAN
SCALE: N.T.S. SHEET NO. OF