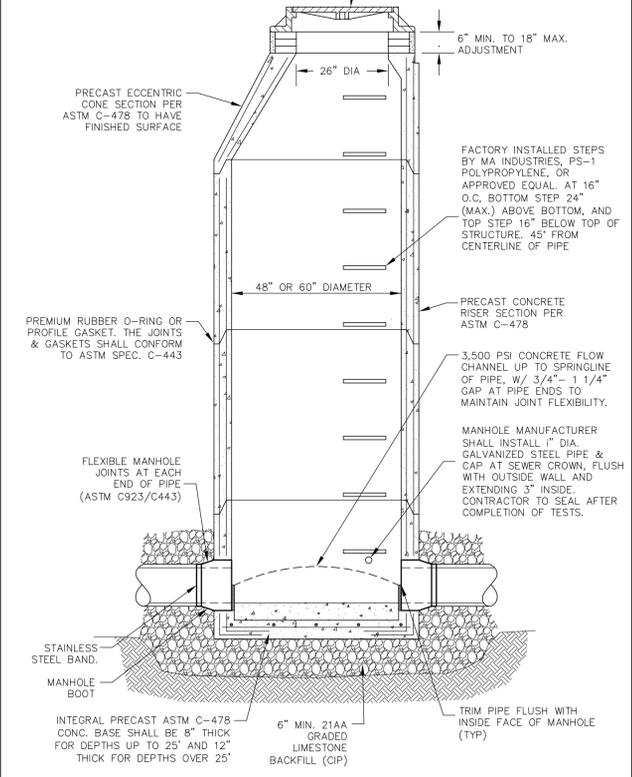
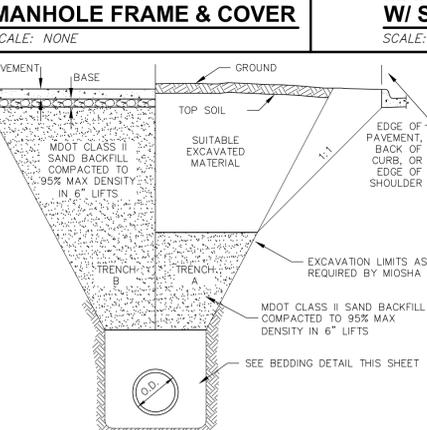
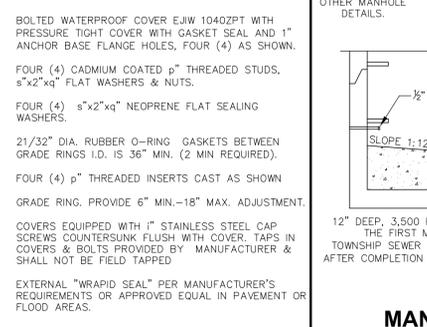
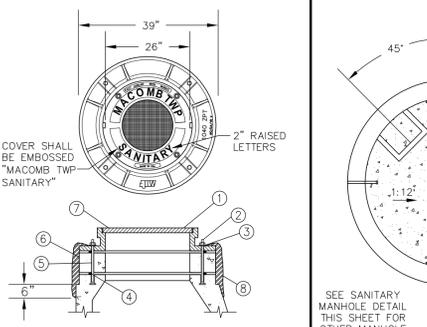
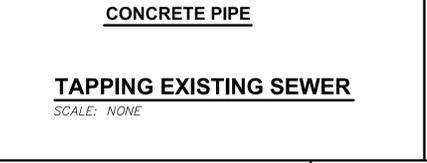
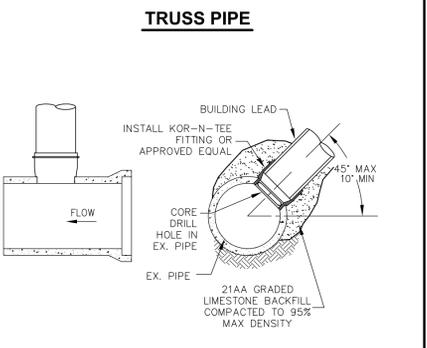
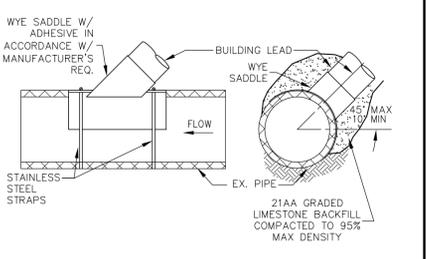
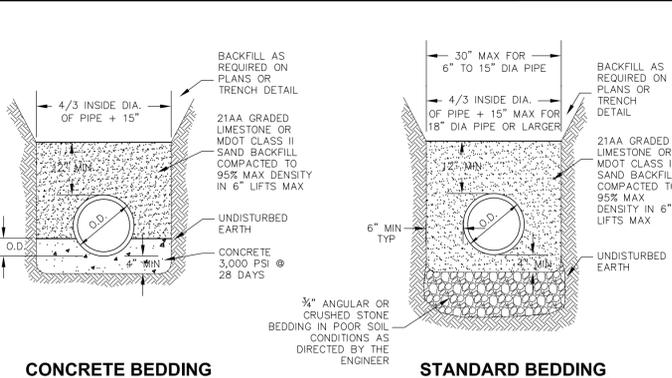
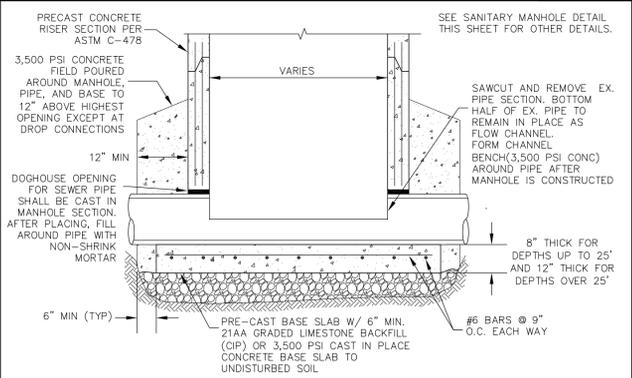
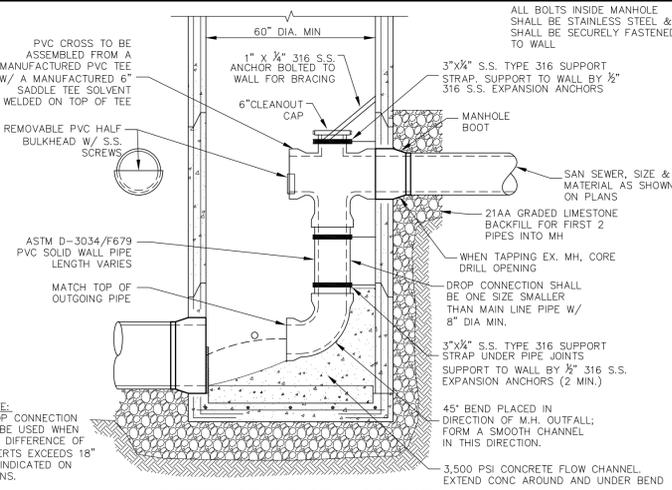
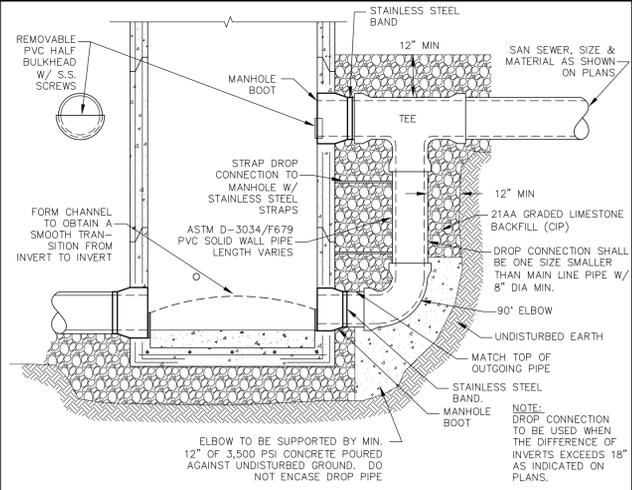
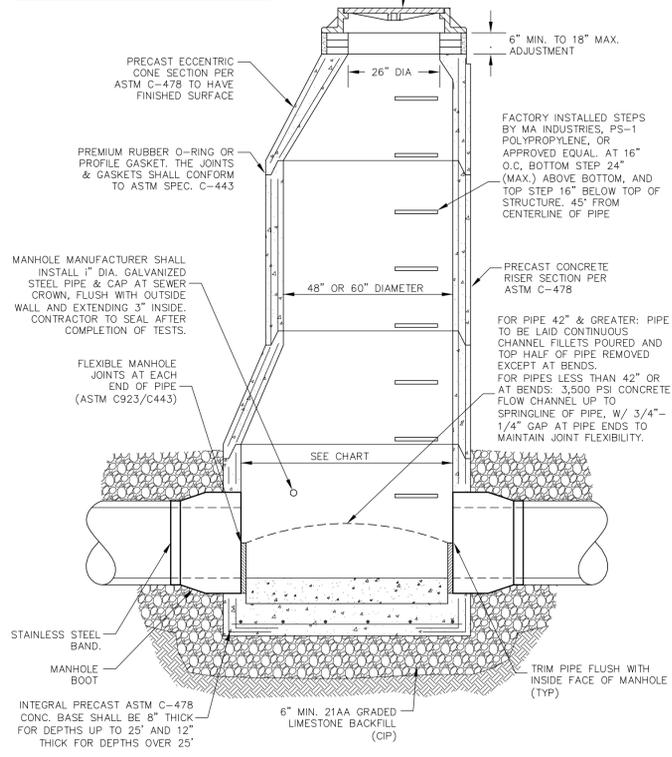


MH I.D.	MAX STRAIGHT THRU PIPE SIZE	MAX RIGHT ANGLE PIPE SIZE	MIN WALL THICKNESS
48"	24"	18"	5"
60"	36"	24"	6"

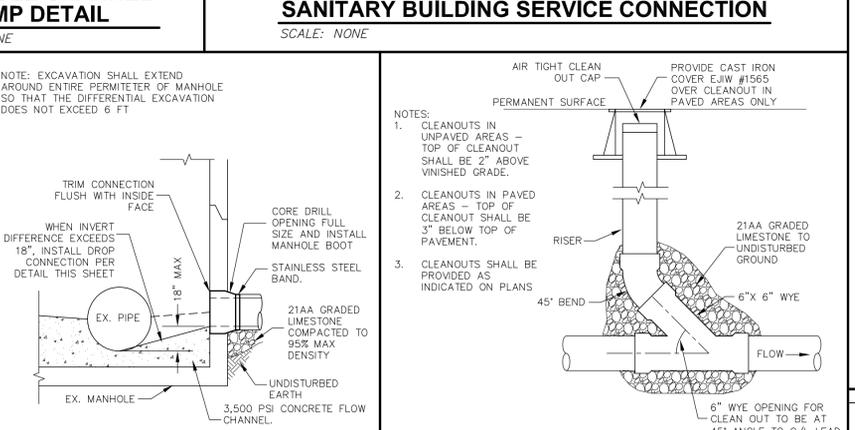
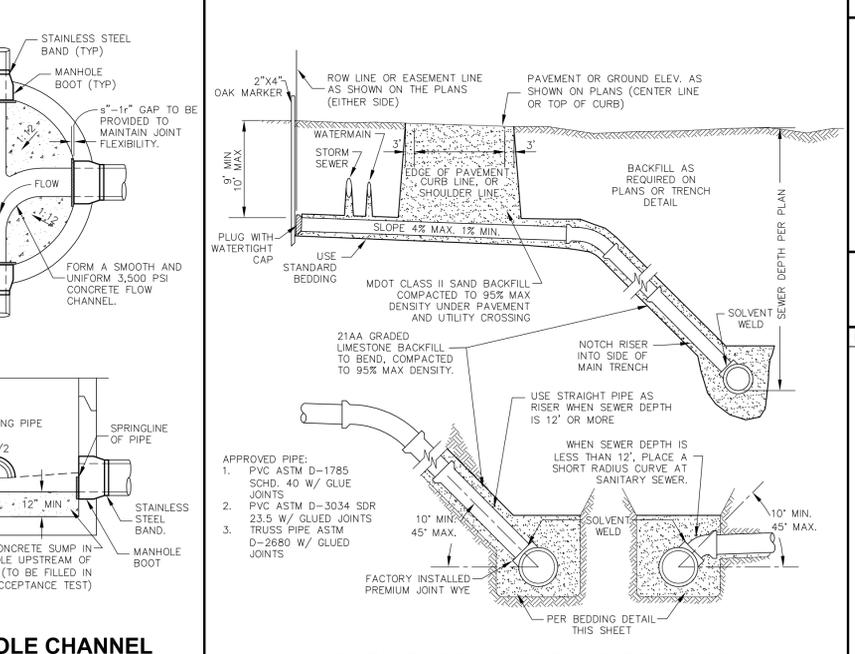


MH I.D.	MAX STRAIGHT THRU PIPE SIZE	MAX RIGHT ANGLE PIPE SIZE	MIN WALL THICKNESS
60"	36"	24"	6"
72"	42"	36"	7"
96"	60"	42"	9"



**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 OMCPCW, AS REQUIRED.
- UNLESS OTHERWISE SPECIFIED ON THE PLANS, ALL SANITARY SEWERS GREATER THAN 15" SHALL BE REINFORCED CONCRETE C76 CLASS 4 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 GASKETED TRUSS PIPE ASTM D-2680.
- 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 DETAILED SPECIFICATIONS OF THE TOWNSHIP. A PLAN 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.
- AT ALL CONNECTIONS TO AN EXISTING SANITARY SEWER, OR EXTENSION THERETO, A TEMPORARY WATERTIGHT BULKHEAD WITH A CAPPED ONE INCH DIAMETER PIPE TO PERMIT MEASURING INFILTRATION SHALL BE PROVIDED. A TEMPORARY 12 INCH DEEP MANHOLE SUMP SHALL ALSO BE PROVIDED IN THE FIRST MANHOLE ABOVE THE CONNECTION OR AT A LOCATION AS DIRECTED BY THE TOWNSHIP AND/OR AS INDICATED ON THE PLANS, WHICH WILL BE FILLED IN TO FORM SMOOTH AND UNIFORM CONCRETE FLOW CHANNELS AFTER THE SUCCESSFUL COMPLETION OF ANY INFILTRATION- EXFILTRATION TESTS, AT WHICH TIME THE TEMPORARY WATERTIGHT BULKHEAD SHALL BE REMOVED.
- AIR TEST SHALL, AT MINIMUM, BE PERFORMED ACCORDING TO ASTM C924 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.



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

**3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171**

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 ON 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

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