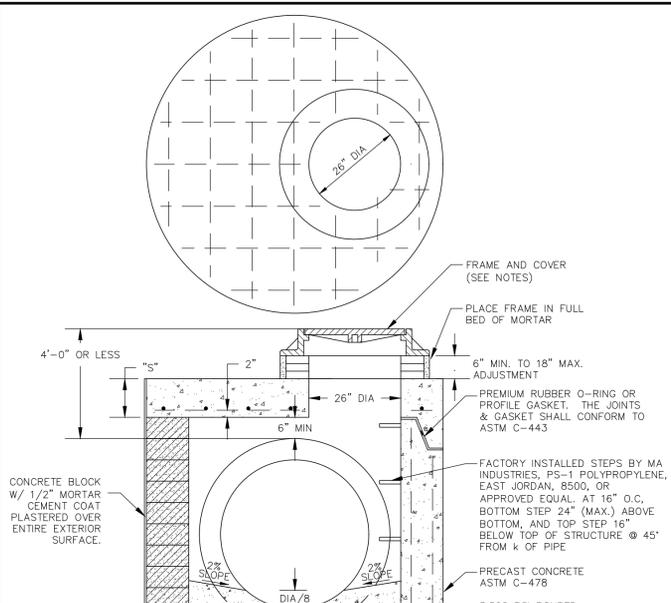
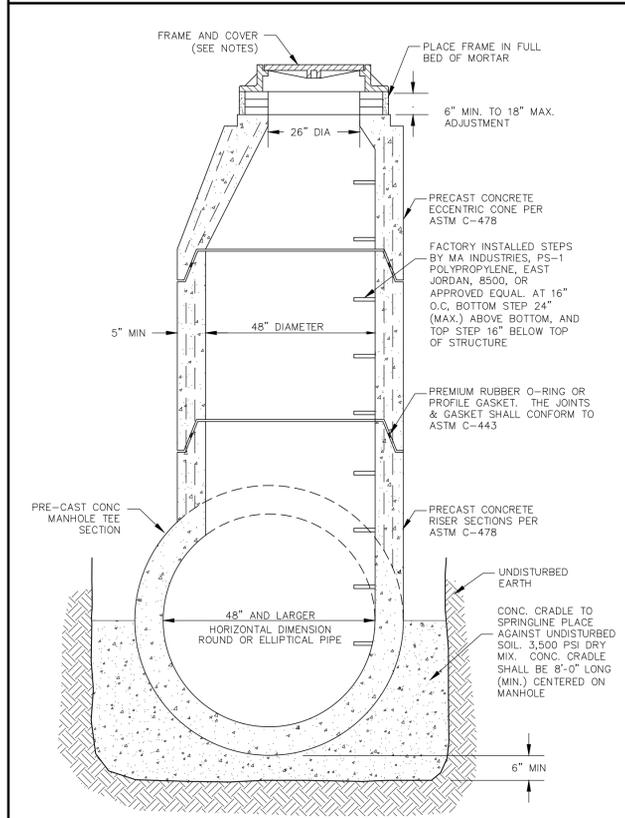


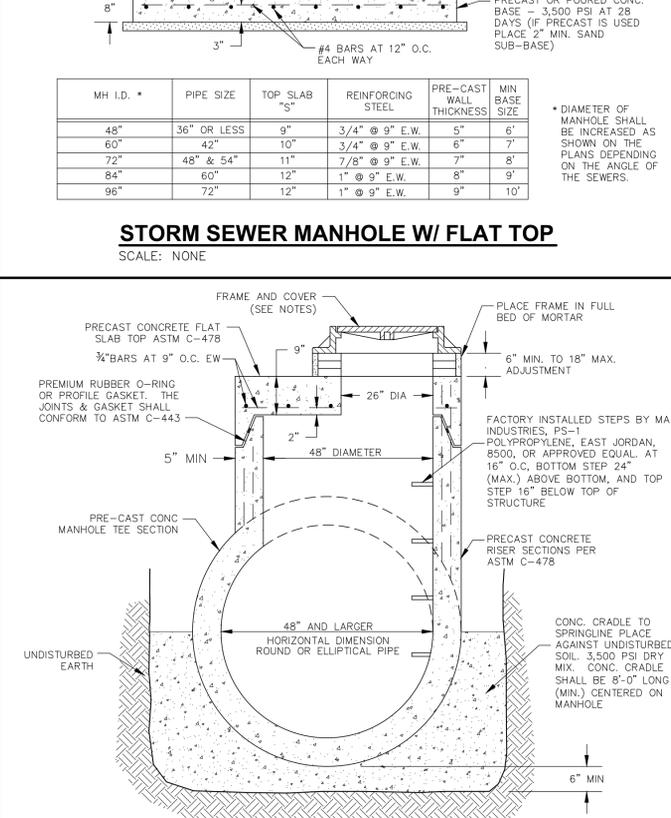
**STANDARD STORM SEWER MANHOLE**  
SCALE: NONE



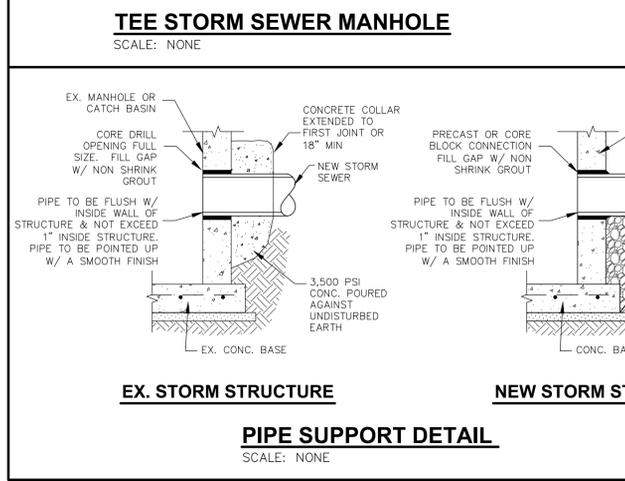
**STORM SEWER CATCH BASIN**  
SCALE: NONE



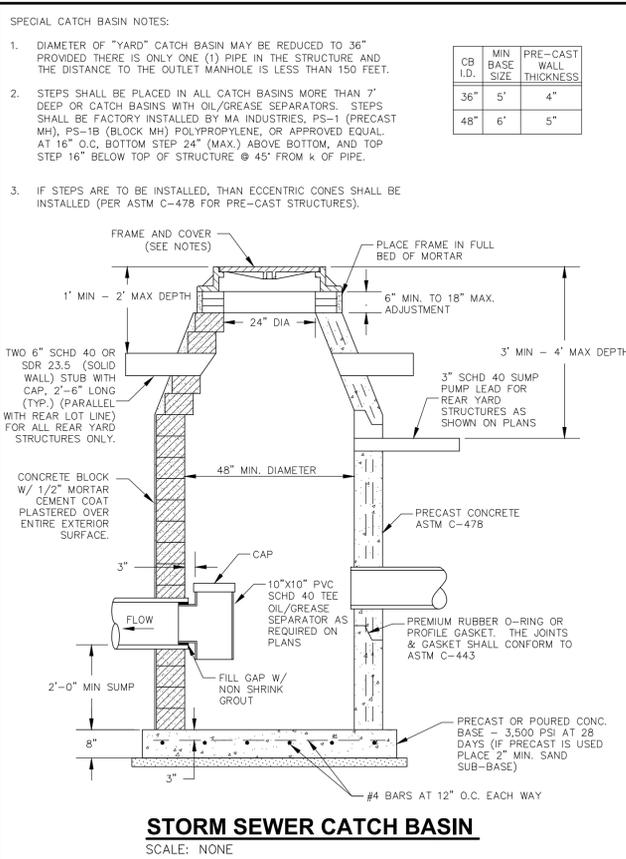
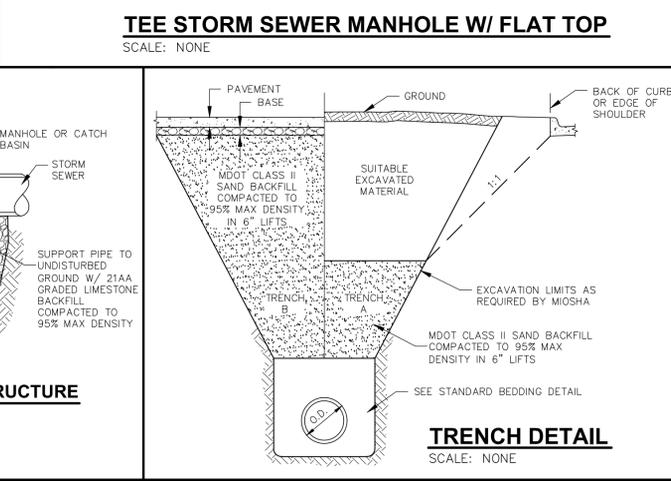
**TEE STORM SEWER MANHOLE**  
SCALE: NONE



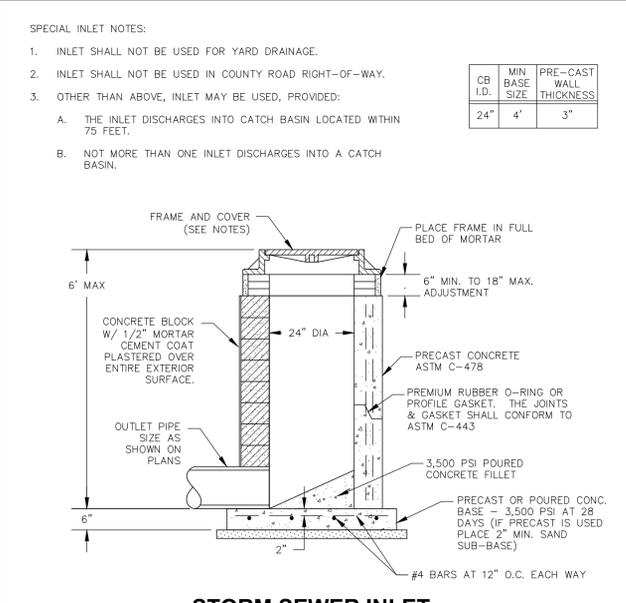
**TEE STORM SEWER MANHOLE W/ FLAT TOP**  
SCALE: NONE



**PIPE SUPPORT DETAIL**  
SCALE: NONE

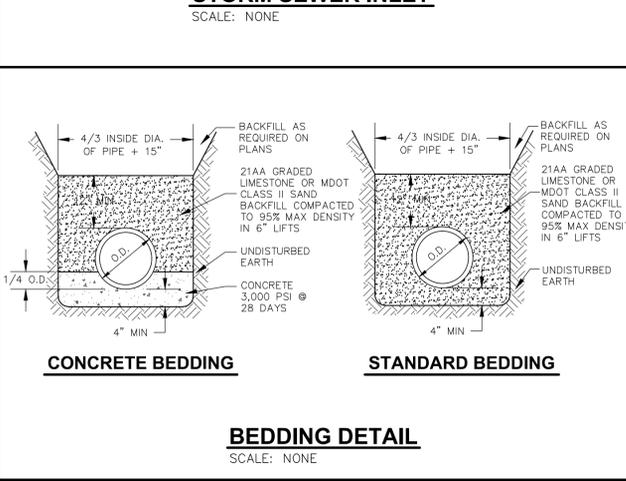


**STORM SEWER INLET**  
SCALE: NONE



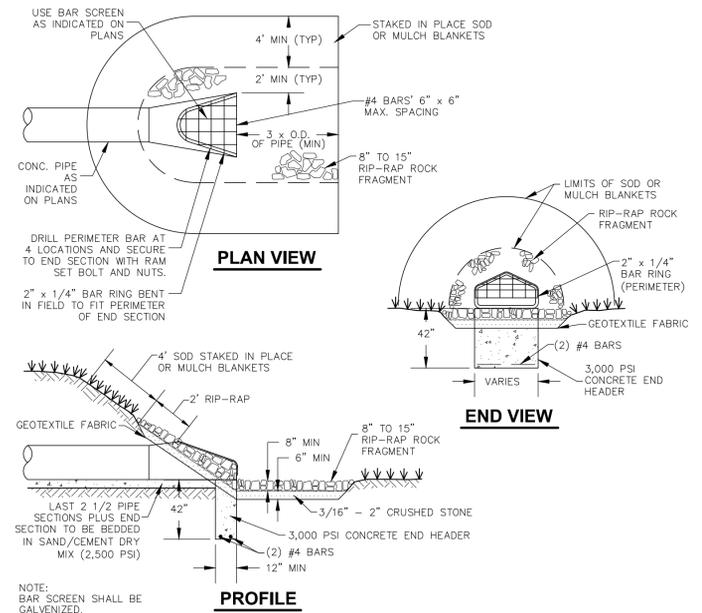
**CONCRETE BEDDING**

**STANDARD BEDDING**

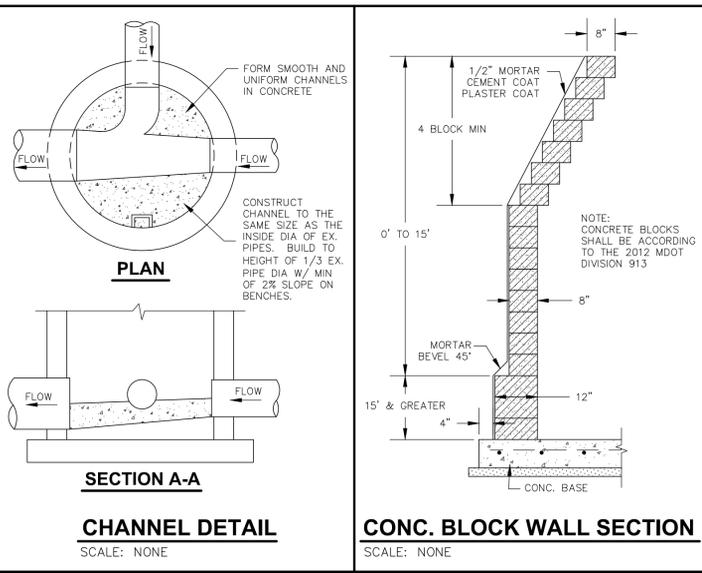


**GENERAL STORM SEWER NOTES**

- 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.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION MEETING AT A TIME AND PLACE AS ARRANGED BY MACOMB TOWNSHIP, AT WHICH VARIOUS UTILITY COMPANIES AND GOVERNMENTAL AGENCY REPRESENTATIVES WILL BE PRESENT.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR MUST HAVE IN THEIR POSSESSION A COPY OF A VALID PERMIT TO CONSTRUCT A CONNECTION TO, OR AN EXTENSION OF, THE STORM WATER DRAINAGE SYSTEM.
- THE CONTRACTOR SHALL SECURE PERMITS FROM THE OFFICE OF THE PUBLIC WORKS COMMISSIONER FOR TAPS AND CROSSINGS OF COUNTY DRAINS AND SHALL PAY THE COSTS OF SAID PERMITS AND THE COST OF ANY INSPECTION CHARGES BY THAT AGENCY FOR WORK DONE UNDER THE PERMITS.
- 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 STORM WATER DRAINAGE SYSTEM CONSTRUCTION SHALL CONFORM TO THE CURRENT STANDARDS AND SPECIFICATIONS OF MACOMB TOWNSHIP, MCDOR, MDOT, AND/OR THE OFFICE OF THE PUBLIC WORKS COMMISSIONER, AS REQUIRED.
- ALL STORM SEWER SHALL BE REINFORCED CONCRETE PIPE CONSTRUCTED TO ASTM C76 WITH CLASS III OR HIGHER AS DESIGNATION ON PLANS. THE TOWNSHIP MAY ALLOW PVC SDR 23.5, SCHEDULE 40 OR TRUSS PIPE FOR ROOF DRAIN CONNECTIONS TO MANHOLES OR CATCH BASINS. CORRUGATED STEEL PIPE (CSP) MAY BE USED FOR CULVERTS.
- UNLESS OTHERWISE INDICATED ON THE PLANS, ALL STORM SEWER BEDDING SHALL BE STANDARD BEDDING.
- ALL BUILDING SUMP PUMP SERVICE CONNECTIONS SHALL BE 3" PVC SCHEDULE 40 PIPE AND SHALL BE CONNECTED AT MANHOLES AND CATCH BASINS. NO FLANG TAPS TO THE STORM SEWER SHALL BE ACCEPTED.
- UNLESS OTHERWISE NOTED ON THE PLANS, STRUCTURE FRAME AND COVERS SHALL BE AS FOLLOWS:
  - MH IN CONC. ROADWAYS E.J.W 1047 - TYPE B VENTED COVER
  - MH IN ASPHALT ROADWAYS E.J.W 1048 - TYPE B VENTED COVER
  - MH OUTSIDE OF ROADWAYS E.J.W 1040 - TYPE B VENTED COVER
  - CB IN CONC. ROADS W/ MOUNTABLE CONC. CURBS E.J.W 5100 - TYPE M1 5105 GRATE
  - CB IN ASPHALT ROADS W/ MOUNTABLE CONC. CURBS E.J.W 5100 - TYPE M1 5105 GRATE
  - CB IN YARD AREAS E.J.W 1040 - TYPE N OVAL GRATE
  - CB IN STANDARD STRAIGHT CURBS E.J.W 7045 - W/ TYPE M2 ADJUSTING GRATE
  - CB IN PARKING LOTS AND DRIVEWAYS E.J.W 5100 - W/ TYPE M1 5105 GRATE
- ALL CONCRETE STORM SEWER JOINTS SHALL HAVE PREMIUM RUBBER O-RINGS OR PROFILE GASKETS AND SHALL CONFORM TO ASTM C-443. BITUMINOUS COMPOUND JOINT FILLER MATERIAL MAY BE ALLOWED FOR REAR YARD STORM SEWER (ASTM D994) PROVIDED JOINTS ARE COVERED IN GEOTEXTILE FABRIC AND THE PIPE IS BEDDED IN SAND.
- ONLY NEW UNDATED STORM SEWER PIPE SHALL BE USED. MACOMB TOWNSHIP SHALL HAVE THE RIGHT TO REJECT ANY AND ALL PIPE.
- AS PART OF THE FINAL INSPECTION, THE CONTRACTOR SHALL PROVIDE FOR TELEVISION INSPECTION OF THE STORM SEWER LINES IN ACCORDANCE WITH THE CURRENT DETAILED SPECIFICATIONS OF THE TOWNSHIP.



**STORM SEWER OUTLET END SECTION DETAIL**  
SCALE: NONE



**CHANNEL DETAIL**  
SCALE: NONE

**CONC. BLOCK WALL SECTION**  
SCALE: NONE

**MACOMB TOWNSHIP**  
5411 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 DETAILED UPON A UTILITY COMPANY'S PUBLISHED PLANS. THEIR LOCATION, IF SHOWN UPON 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**

**STORM 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-STM  
SCALE: N.T.S. SHEET NO. STM1