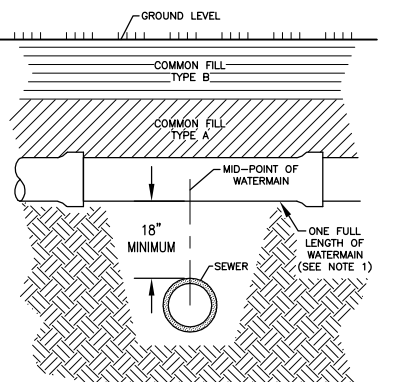
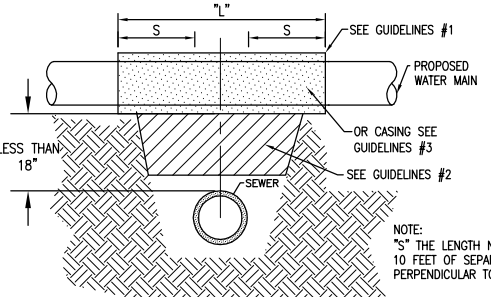


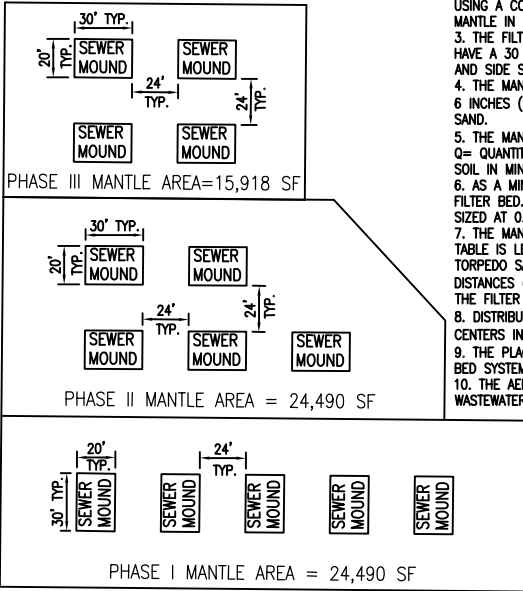
- OPTION A - PRESSURE CLASS SEWER MAIN**
- 1.) REPLACE EXISTING SEWER WITH A PRESSURE CLASS MAIN IN LIEU OF CASING THE WATER MAIN.
  - 2.) THE SEWER SHALL BE REPLACED A MINIMUM OF 10' EACH SIDE OF THE WATER MAIN.
- NOTES:**
- 1.) FOLLOW TRENCH MATERIAL DETAIL WHEN BACK-FILLING WATER MAIN.
  - 2.) THE SELECTED OPTION MUST BE APPROVED BY AN IL-AWC REPRESENTATIVE.
- WATER MAIN CROSSING UNDER SEWER**



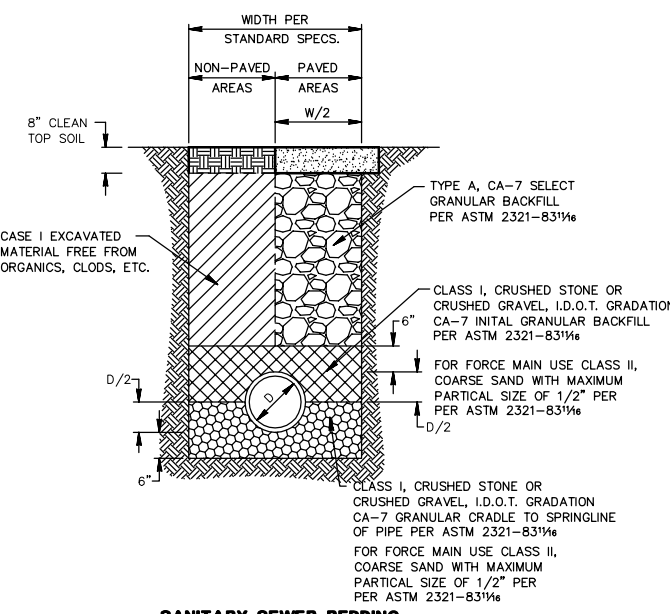
- OPTION B - WATER INSTALLATION**
- 1.) MID-POINT OF THE FULL LENGTH OF THE WATER MAIN IS TO BE CENTERED ABOVE SEWER LINE.
  - 2.) PROVIDE ADEQUATE SUPPORT FOR THE WATER MAIN TO PREVENT DAMAGE DUE TO SETTLEMENT.
- NOTES:**
- 1.) FOLLOW TRENCH MATERIAL DETAIL WHEN BACK-FILLING WATER MAIN.
  - 2.) THE SELECTED OPTION MUST BE APPROVED BY AN IL-AWC REPRESENTATIVE.
- WATER MAIN CROSSING OVER SEWER**



- GUIDELINES:**
1. OMIT SELECT GRANULAR EMBEDMENT AND GRANULAR BACKFILL TO ONE (1) FOOT OVER TOP OF WATER MAIN AND USE SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT THE LENGTH OF "L".
  2. IF SELECT GRANULAR BACKFILL EXISTS, REMOVE WITHIN WIDTH OF EXISTING SEWER LINE TRENCH AND REPLACE WITH SELECT EXCAVATED MATERIAL (CLASS IV) AND COMPACT.
  3. USE "L" FEET OF WATER MAIN MATERIAL FOR CASING OF PROPOSED WATER MAIN AND SEAL ENDS OF CASING.
  4. POINT LOADS SHALL NOT BE ALLOWED BETWEEN WATER MAIN CASING AND SEWER.
- WATER AND SEWER SEPARATION**

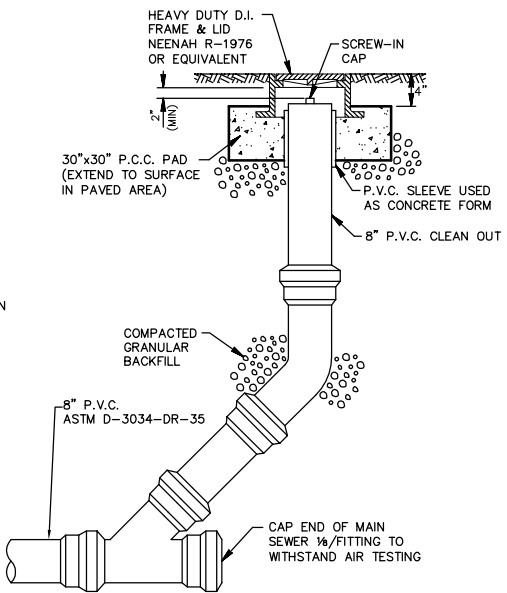


- ILLINOIS FILTER BED NOTES:**
1. RAISED FILTER BED DISPOSAL SYSTEMS USE AN APPLICATION RATE TO THE FILTER OF 4 GAL./SQ. FT./DAY FOR RESIDENTIAL SYSTEMS OF UP TO 1500 GPD FLOWS
  2. THE MAXIMUM SIZE OF ANY FILTER BED IS 600 S.F. IF A LARGER AREA IS NEEDED, THEN MULTIPLE BEDS MUST BE USED, SEPARATED BY A MINIMUM DISTANCE OF 15 FT. USING A COMMON MANTLE. THE FILTER BED(S) CAN BE PLACED AT ANY POINT ON THE MANTLE IN ORDER TO ACCOMMODATE EXISTING GROUND CONTOURS.
  3. THE FILTER MEDIUM MUST BE ILLINOIS D.P.H. APPROVED SAND FOR SAND FILTERS AND HAVE A 30 INCH DEPTH. SIDE SLOPE OF FILTER SAND IS TO BE NO LESS THAN 3 TO 1 AND SIDE SLOPE OF LOAM SOIL ON FILTER BED TO BE NO LESS THAN 3 TO 1.
  4. THE MANTLE AREA IS TO BE CUT INTO THE ORIGINAL SOIL TO A MINIMUM DEPTH OF 6 INCHES (LEVEL TO +/- 1 INCH) AND BACK FILLED WITH 12 INCHES OF #2 TORPEDO SAND.
  5. THE MANTLE IS SIZED BY THE FORMULA:  $A=Q/T/25$ , WHERE: A= MANTLE AREA; Q= QUANTITY OF WASTEWATER PER DAY; AND T= PERCOLATION TIME OF THE ORIGINAL SOIL IN MINUTES PER INCH.
  6. AS A MINIMUM, THE MANTLE SHALL BE AT LEAST EQUAL TO THE FOOTPRINT OF THE FILTER BED. FOR PERCOLATION RATES ABOVE 250 MINUTES PER INCH, THE MANTLE IS SIZED AT 0.10 GALLONS PER SQUARE FOOT.
  7. THE MANTLE AREA MUST BE AT LEAST 12 INCHES DEEP. IF THE HIGH GROUND WATER TABLE IS LESS THAN 6 INCHES FROM THE BOTTOM OF THE FILTER BED, ADDITIONAL TORPEDO SAND MUST BE USED TO INCREASE THE ISOLATION DISTANCE. OTHER SEPARATION DISTANCES (EG. WELL, PROPERTY LINE, ETC...) SHALL BE MEASURED FROM THE TOE OF THE FILTER BED.
  8. DISTRIBUTION GRID (4 INCH PERFORATED PIPE) IS TO BE PLACED LEVEL, ON 15 INCH CENTERS IN 12 INCHES OF WASHED 3/4 INCH STONE. (SEE DRAWING)
  9. THE PLACEMENT OF SOD OVER THE FILTER BED(S) IS A REQUIRED PART OF THE FILTER BED SYSTEM.
  10. THE AEROBIC TREATMENT PLANT TANK SIZE SHALL BE AT LEAST 3 TIMES THE DAILY WASTEWATER FLOW FOR RESIDENTIAL USE.

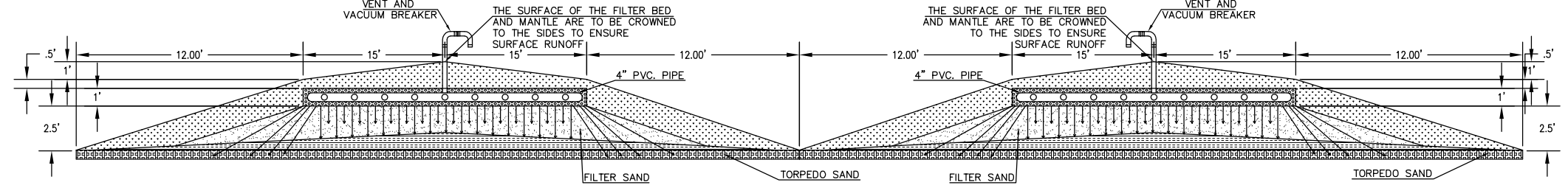


**SANITARY SEWER BEDDING  
THERMOPLASTIC CONDUIT BEDDING**

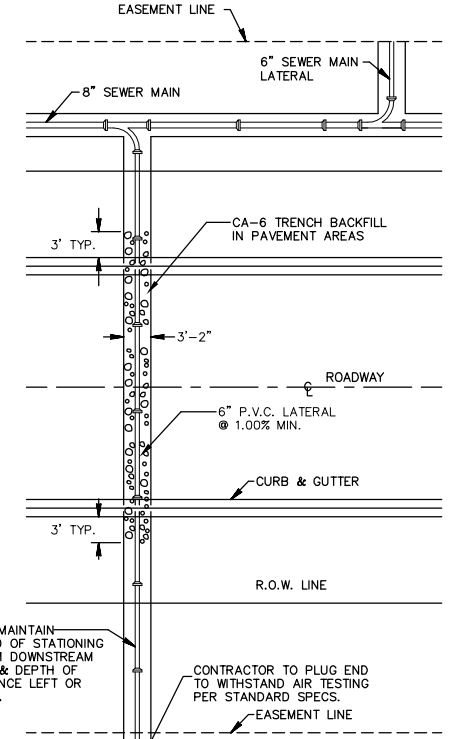
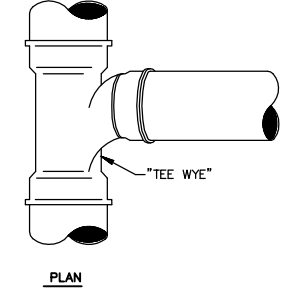
**SPECIFICATIONS:** SANITARY SEWER PIPE SHALL CONFORM TO ASTM D-3034-DR-35 WITH ELASTOMERIC JOINTS IN CONFORMANCE WITH ASTM D-3212.



**CLEANOUT DETAIL**

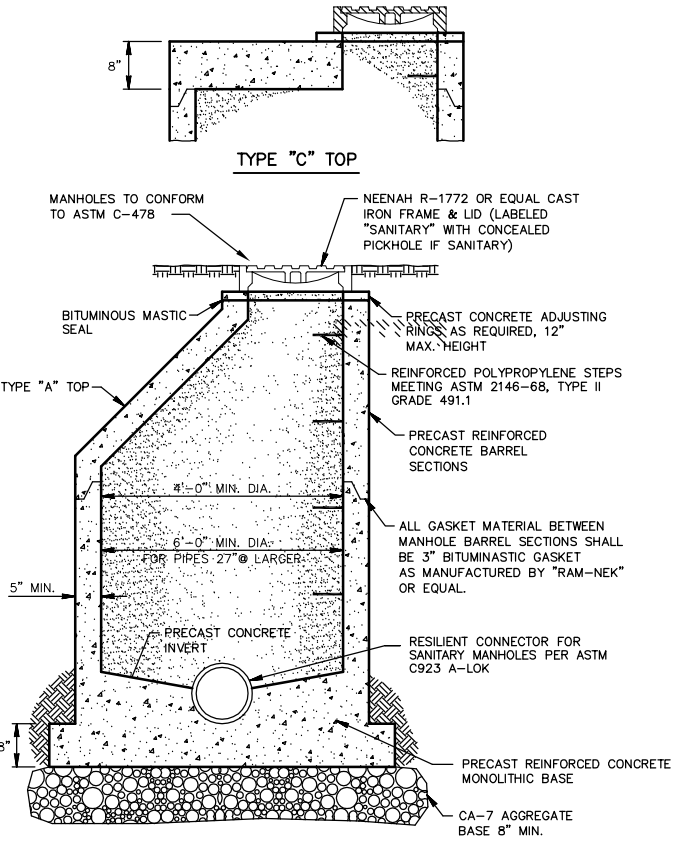


**RAISED FILTER BED DETAIL**

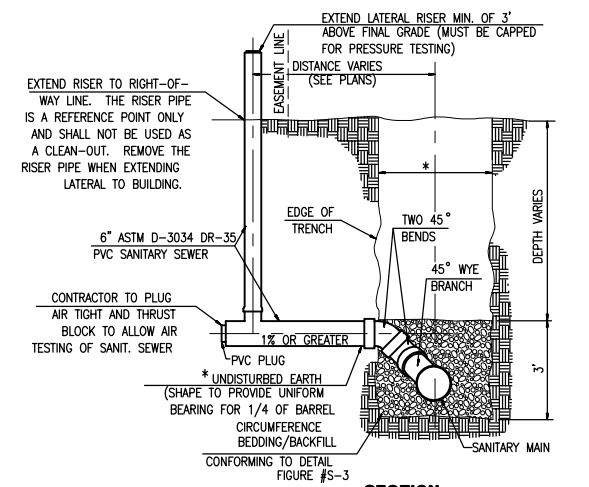


**SEWER LATERAL DETAIL**

**SPECIFICATIONS:** ALL WORK, INSTALLATION, MATERIALS, PROCEDURES, AND TESTING SHALL CONFORM TO THE LATEST EDITION OF THE ILLINOIS STANDARD SPECIFICATIONS FOR WATER AND SEWER MAIN CONSTRUCTION.

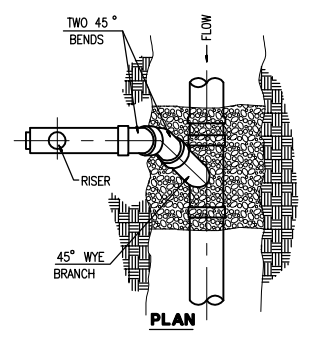


**MANHOLE DETAIL**



**SECTION**

\* UTILIZE FA-6 FOR ALL BEDDING, HAUNCHING, AND INITIAL BACKFILL AND CA-6 BACKFILL WHERE THE EDGE OF THE TRENCH IS WITHIN TWO (2) FEET OF A PERMANENT SURFACE, INCLUDING DRIVEWAYS AND SIDEWALK. USE CASE I BACKFILL FREE FROM ORGANICS AT ALL OTHER LOCATIONS.



**TYPICAL SANITARY SEWER CONSTRUCTION DETAILS**

**THOUVENOT, WADE & MOERCHEN, INC.**  
ENGINEERS • SURVEYORS • PLANNERS



- CORPORATE OFFICE**  
4940 OLD COLLINSVILLE RD.  
SWANSEA, ILLINOIS 62226  
TEL (618) 624-4488  
FAX (618) 624-6688  
corp@twm-inc.com
- WATERLOO OFFICE**  
113 SOUTH MAIN STREET  
WATERLOO, ILLINOIS 62298  
TEL (618) 939-5050  
FAX (618) 939-3938  
waterloo@twm-inc.com
- ST. LOUIS OFFICE**  
1001 CRAIG ROAD, SUITE 260  
ST. LOUIS, MISSOURI 63146  
TEL (314) 236-5052  
FAX (314) 872-2194  
stlouis@twm-inc.com

PROFESSIONAL REGISTRATIONS	LICENSE NO.
ILLINOIS PROFESSIONAL DESIGN FIRM	184-001220
PROFESSIONAL ENGINEERING CORP.	62-035370
PROFESSIONAL STRUCTURAL ENGR. CORP.	81-005202
ILLINOIS PROF. LAND SURVEYING CORP.	048-000029
MISSOURI PROFESSIONAL ENGR. CORP.	NC 001528
MISSOURI LAND SURVEYING CORP.	NC 000346

Signature: \_\_\_\_\_  
Signature Date: \_\_\_\_\_  
Expiration Date: \_\_\_\_\_

**STATEMENT OF RESPONSIBILITY**

I hereby confirm that the document herein to be authenticated by my seal is restricted to this sheet, and I hereby disclaim any responsibility for all other drawings, specifications, estimates, reports or other documents or instruments relating to or intended to be utilized for any other part of the architectural, engineering or survey project.

**SANITARY SEWER AND SEWER MOUND DETAILS**

**OAK VALLEY ESTATES  
FIRST ADDITION  
CITY OF WATERLOO  
MONROE COUNTY, ILLINOIS**

TITLE: \_\_\_\_\_  
PROJECT: \_\_\_\_\_

REV.	DATE	DESCRIPTION
1	8/28/2007	CREATED ON
2	10/16/07	REVISIONS PER JOINT PLAT MEETING ON 9/26/07

DRAWN BY:	ALH	SHEET
DESIGNED BY:		22
CHECKED BY:		
APPROVED BY:		
PROJECT NUMBER	D33060065	OF 23 SHEETS

ISSUED FOR REVIEW  RECORD DRAWING

G:\SDSK\PRJ\060065.dwg 060065-DTL-03.dwg 8/28/2007 10:03:53 AM CDT