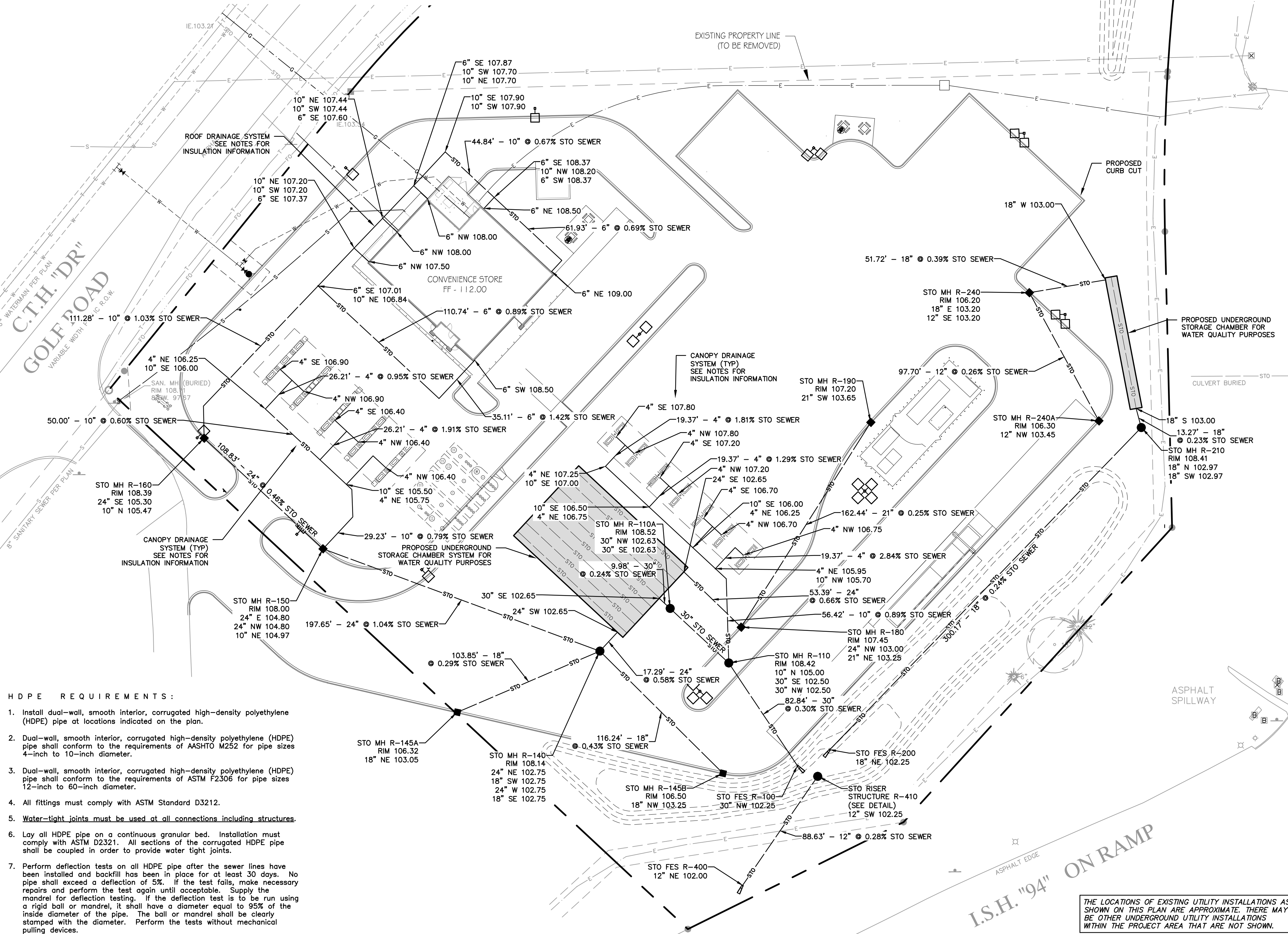


1. Unless otherwise indicated, use reinforced, precast, concrete manhole boxes and catchbasins conforming to ASTM C478, furnished with water stop rubber gaskets and precast bases. Joints for all precast manhole box sections shall have confined "O"-ring gaskets in accordance with ASTM C923. The inside boreal diameter shall not be less than 48 inches.
2. All joints and connections to catchbasins or manholes shall be watertight. Use resilient rubber seals, watertap gaskets, or approved equal. Cement mortar joints are not allowed.
3. Install catchbasin castings with specified top elevation at the front rim. TOP
4. Testing: Test all portions of storm sewer that will be within 10 feet of buildings, within 10 feet of buried water, lines, within 50 feet of water wells, or that will be in direct soil or water contact as being contaminated. Test all flexible storm sewer lines for deflection after the sewer line has been installed and backfill has been in place for at least 30 days. No pipe shall exceed a deflection of 5%. If the test fails, make necessary repairs and retest.
5. PVC PIPE: Use solid-free, SDR-35, ASTM D3034 Polyvinyl Chloride (PVC) Pipe for designated PVC storm sewer services 4 to 15-inches in diameter. Use SDR-35, or smaller, for designated PVC pipe. For designated PVC storm sewer services 18 to 27-inches in diameter, joints for all storm sewer shall have push-on joints with elastomeric gaskets. Lay all PVC pipe on a continuous granular bed. Installation must comply with ASTM D2321.
6. RCF: Reinforced concrete pipe (RCP) and fittings shall conform to ASTM C776, Design C, with circular reinforcing for the class of pipe specified. Use Class IV RCP for 36" and larger. The Class IV RCP shall be installed with 8" and smaller joints shall be Bureau of Reclamation type R-4, with confined rubber "O"-ring gaskets in accordance with ASTM C361.
7. Use Neenah R-367-DR/DL casting with curb box, or approved equal, on CB #145A, CB #145B, CB #150, CB #160, CB #240, CB #240A, CB #240A.

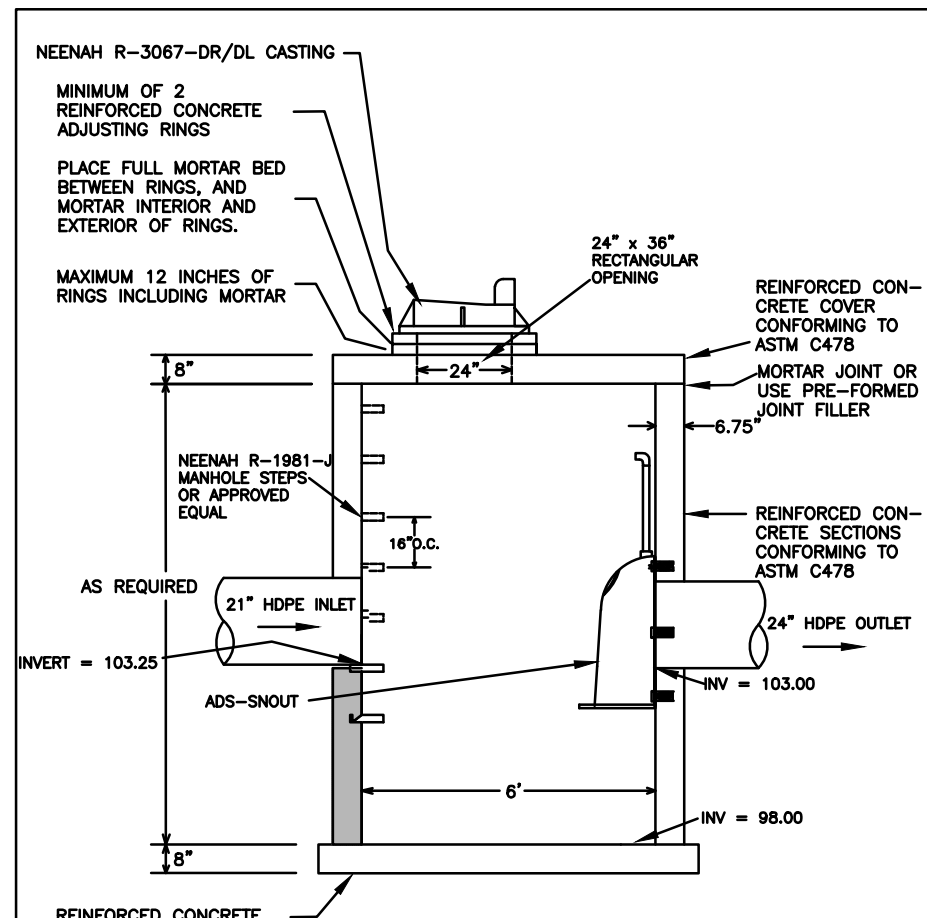
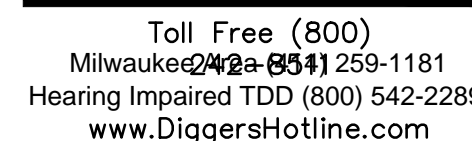
8. Use Neehan Foundry Co. R-1642 casting with self-sealing, solid, type B lid, or approved equal, on all storm sewer maintenance holes and manholes: MH #140 and MH #210. Covers shall bear the "Storm Sewer" label.
9. Install decorative underground marking tape directly above all pvc, polyethylene, and other nonconductive underground utilities at a depth of 457 mm (18 inches) below finished grade, unless otherwise indicated. Bring the tape to the surface at various locations in order to provide connection points for locating underground utilities. Install blue Rhino TruView Flex Location, or approved equal, with black caps at each surface location.
10. TRACER WIRE: Locating requirements – a means to locate buried underground exterior non metallic sewers/main shall be provided with tracer wire or other methods in order to be located in accord with the provisions of these code sections as per 182.07.15(2r) of the statutes.
11. Cleanouts: Install cleanouts on all roof drains. Cleanouts shall be installed at every T connection and bend. The distance between cleanouts in horizontal pipe shall not exceed 10 feet. Provide a minimum insulation thickness of 2 inches. Cleanout shall be of the same nominal size as the pipes they serve. Install a meter box frame and solid lid (Neehan R-1914-A, or approved equal) over all cleanouts.
12. The minimum depth of cover for building and canopy roof drain leaders without insulation is 5 feet. Insulate roof drain leaders at locations where the depth of cover is less than 5 feet. Provide a minimum insulation thickness of 2 inches. The insulation must be at least 4 feet wide and centered on the pipe. Install the insulation boards 6 inches above the tops of the pipes on mechanically compacted and leveled pipe bedding material. Use high density, closed cell, rigid board material equivalent to DOW Styrofoam HI-40 plastic foam insulation.
13. Install all pipe with the ASTM identification numbers to DOW for the inspection. Commence pipe laying at the lowest point in the proposed sewer line. Lay the pipe with the bell and/or receiving groove and of the pipe pointing upward. When connecting to an existing pipe, uncover the existing pipe in order to allow for proper alignments. Do not lay pipe before laying any pipe. Do not lay pipes in water or when the trench conditions are unsuitable for such work.



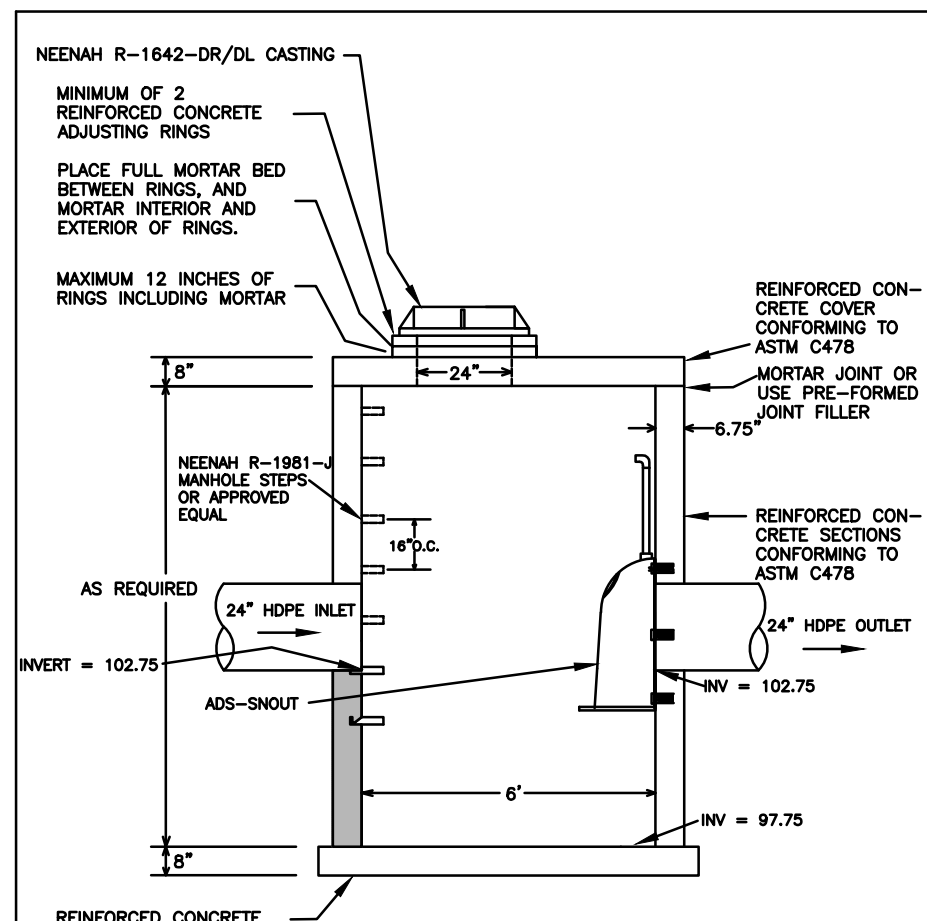
THE LOCATIONS OF EXISTING UTILITY INSTALLATIONS AS SHOWN ON THIS PLAN ARE APPROXIMATE. THERE MAY BE OTHER UNDERGROUND UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN.

CONTRACTOR SHALL PROVIDE EROSION CONTROL FACILITIES
IN ACCORDANCE WITH THE CITY OF WAUKESHA
EROSION CONTROL ORDINANCE, THE WISCONSIN DNR
STORMWATER CONSTRUCTION AND POST CONSTRUCTION
TECHNICAL STANDARDS, WDNR PERMIT CONDITIONS, AND
THESE DOCUMENTS; THE MOST STRINGENT TO APPLY.

R.A.SMITH NATIONAL ASSUMES NO RESPONSIBILITY FOR DAMAGES, LIABILITY OR COSTS RESULTING FROM CHANGES OR ALTERATIONS MADE TO THIS PLAN WITHOUT THE EXPRESSED WRITTEN CONSENT OF R.A.SMITH NATIONAL



OIL SKIMMER CB R-180



OIL SKIMMER CB R-140



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STORES



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STORM SEWER PLAN

CONVENIENCE STORE
WITH DIESEL

CITY OF WAUKESHA, WISCONSIN

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