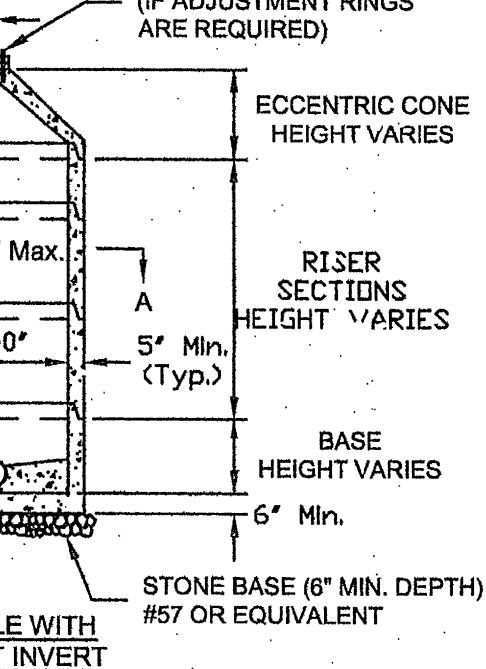


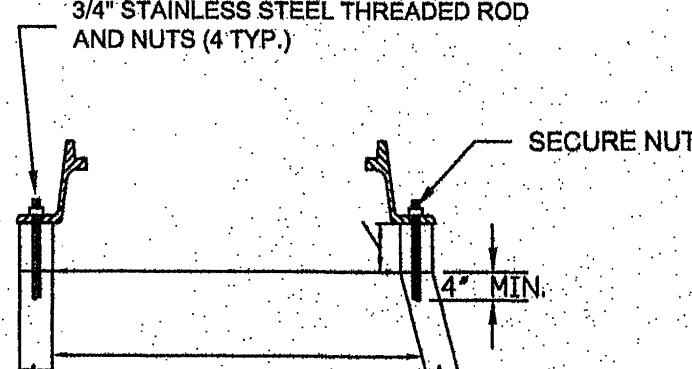
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- Diagram illustrating the connection detail for a flexible boot with stainless steel band and grout annular space. The diagram shows a cross-section of a circular structure with a central hole. The hole is labeled "PRECAST HOLE (TYP.)". The space between the hole and the outer structure is labeled "GROUT ANNULAR SPACE (TYP. INLET & OUTLET)". The diameter of the hole is indicated as "4'-0\"/>



4' STANDARD MANHOLE
FOR PIPE 15" OR SMALLER
(FOR DEPTHS UP TO 15 FEET)

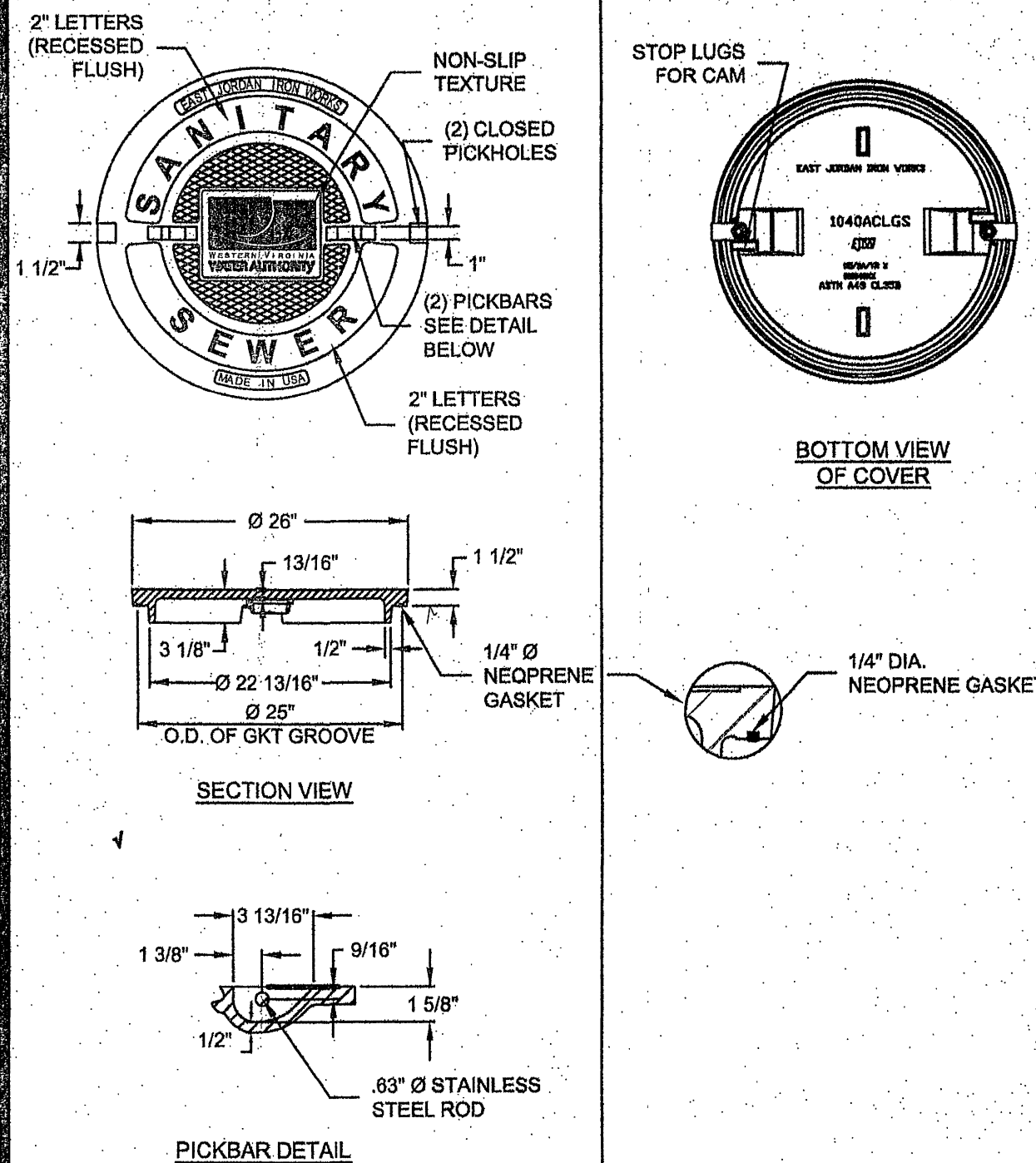
01/01/14

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WATERTIGHT
MANHOLE FRAME

01/01/14



STANDARD MAN-HOLE COVER

BOLT-DOWN MANHOLE COVER

WATERTIGHT
MANHOLE COVER

01/01/1.

-

SANITARY SEWER LATERAL

01/01/14

-
- The diagram illustrates the cross-section of a gravity sanitary sewer installation. Key components and labels include:
- FINISHED GRADE:** The top surface of the excavation.
 - EXCAVATION LIMITS:** Indicated by a bracket at the top, showing a width of 12" on either side of the pipe diameter.
 - PIPE DIA.:** The diameter of the pipe, shown as a vertical rectangle.
 - NORMAL SOIL CONDITIONS:** The soil above the bedding layer, indicated by a hatched pattern.
 - 3" MIN.:** The minimum thickness of the bedding layer above the pipe.
 - BACKFILL ONLY WITH APPROVED MATERIAL PER APPLICABLE LOCALITY OR VDOT STANDARDS:** The material filling the excavation above the bedding layer.
 - PIPE SIZE & MATERIAL AS SHOWN ON PLAN:** The pipe itself, shown as a circle within the bedding layer.
 - FOR WATERLINES INSTALL BEDDING STONE TO SPRING LINE OF PIPE AT A MINIMUM, OR PER MANUFACTURER'S RECOMMENDATION:** A note for waterline installations.
 - FOR SEWER LINES BEDDING SHALL BE MIN. 6" ABOVE PIPE:** A note for sewer line installations.
 - (4" MIN. - 6" IN ROCK CONDITIONS):** The minimum bedding thickness in rock conditions, indicated by a hatched pattern.
 - LOCATION OF TRACER WIRE WITH NON-METALLIC PRESSURE PIPE. TRACER WIRE NOT REQUIRED FOR TYPICAL GRAVITY SANITARY SEWER. SEE DETAIL G-4 FOR ADDITIONAL REQUIREMENTS:** A note indicating the location of the tracer wire for non-metallic pressure pipes.
 - NON-DETECTABLE WARNING TAPE, 3 TO 5 MILS IN THICKNESS, TO BE INSTALLED APPROX. 24" ABOVE PIPE AND AT A MINIMUM OF 6" BELOW GRADE:** A note indicating the location of the warning tape.

BEDDING AND BACKFILL OUTSIDE OF PAVED AREAS

-

NOTING: FOR WATERLINES, INSTALL BEDDING STONE TO SPRING LINE OF PIPE AT A MINIMUM, OR PER MANUFACTURER'S RECOMMENDATION, FOR SEWER LINES, BEDDING SHALL BE MINIMUM 6" ABOVE PIPE.

BEDDING AND BACKFILL
UNDER PAVEMENT AND IN RIGHT-OF-WAY

-

VDOT LAND USE PERMIT
OPEN CUT PAVEMENT RESTORATION

1. THIS PLAN WAS PREPARED WITHOUT BENEFIT OF A TITLE REPORT AND IS SUBJECT THERETO. THEREFORE, THERE MAY EXIST ENCUMBRANCES WHICH AFFECT THE PROPERTY NOT SHOWN HEREON.
2. THE SUBJECT PROPERTY IS WITHIN THE LIMITS OF ZONE "X" AS SHOWN ON THE FEMA FLOOD INSURANCE RATE MAP PANEL 51161C0119G, REVISED SEPTEMBER 28, 2007. THIS DETERMINATION IS BASED ON GAGE DATA AND HAS BEEN VERIFIED BY ACTUAL FIELD ELEVATIONS.
3. THIS MAP WAS PREPARED FROM THE DATA OF ROANOKE & WYVMA MAPPING AND FIELD SURVEY INFORMATION CONDUCTED BY WYVMA.
4. CONTOURS ARE SHOWN AT ONE (2) FOOT INTERVALS AND ARE BASED ON NAVD 88 DATUM. BENCHMARKS ARE SHOWN ON PLAN.
5. THIS MAP IS LOCATED IN THE FIELD AND AVAILABLE RECORDS AND SHOULD BE CONSIDERED APPROXIMATE. "MISS UTILITY" HAS NOT MARKED ANY UTILITIES. THE WYVMA DOES NO WARRANT THE LOCATION OF THE UNDERGROUND UTILITIES.

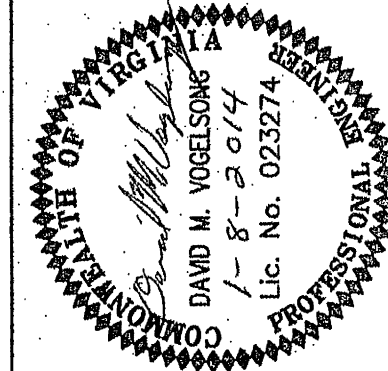
THE LOCATION OF ALL OFF-SITE FILL, BORROW AND STORAGE AREAS ASSOCIATED WITH THE CONSTRUCTION PROJECT SHALL BE PROVIDED BY THE CONTRACTOR TO VVWA. AN EROSION PLAN OR MEASURES MAY BE REQUIRED FOR THIS AREA.

THE CONTRACTOR WILL BE RESPONSIBLE FOR MATERIAL STORAGE AND STOCKPILES. THIS PLAN DOES NOT ACCOUNT FOR ANY LOCATION FOR SUCH. IF ADDITIONAL STORAGE AREAS ARE REQUIRED FOR THIS PROJECT, THE CONTRACTOR WILL COORDINATE THOSE LOCATIONS WITH THE WYWA INSPECTOR AND MAKE REDLINED CHANGES TO THE APPROVED PLAN.

**WESTERN VIRGINIA
WATER AUTHORITY**

ENGINEERING SERVICES
601 S JEFFERSON ST, SUITE 300
ROANOKE, VA 24011

540-853-5641 or 540-853-5770



CHEROKEE HILLS SEWER

DETAILS

[illegible]

Designed: AAS
Drawn: AAS
Checked: DMV
Approved:
Date: 1-8-1
Project:

4

Sheet 4 of 4