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- Diagram illustrating the correct and incorrect methods for grounding a tracer wire:
- Correct Method (Left):** The ground wire is connected to a **GROUND BAR** (5" wide) using a **LOCATING CLIP (TS19-IL-LC-C)**. The distance from the clip to the end of the wire is **5' TRACE SAFE**. The ground wire is labeled **GROUND WIRE** and **TO GROUNDING SOURCE**.
  - Incorrect Method (Right):** The ground wire is connected to a **TRACER WIRE ACCESS BOX LID** (3 1/8" wide) using a **LOCATING CLIP (TS19-IL-LC-C)**. The distance from the clip to the end of the wire is **5' TRACE SAFE**. The lid is labeled **TRACER WIRE ACCESS BOX LID** and the distance from the clip to the end of the wire is **1 1/2"**.

## TRACER WIRE FOR NON-METALLIC PRESSURE PIPE

09/06/16

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- The image contains two technical drawings of a proposed pier for a storm sewer or other pipes crossing a sanitary sewer or water pipe.
- Top Drawing (Plan View):**
- STORM SEWER OR OTHER PIPES:** Indicated by a line at the top.
  - PROPOSED PIER:** A rectangular structure crossing the storm sewer.
  - 6" MIN:** Dimension for the pier width.
  - 8" MIN:** Dimension for the pier length.
  - 15" MIN (TYP):** Dimension for the pier length.
  - L/2:** Dimension for the pier length.
  - L = LENGTH OF PIPE SECTION:** Dimension for the pipe section length.
  - 6" MIN (TYR):** Dimension for the pier width.
  - PIER AT NEAREST JOINT ON EACH SIDE:** Indicated by a line at the bottom.
  - SANITARY SEWER OR WATER:** Indicated by a line at the bottom.
  - COMPACTED GRAVEL NO. 57:** Material used for the pier.
- Bottom Drawing (Cross Section View):**
- PIPE:** Indicated by a line at the top.
  - 6" O.D.:** Dimension for the pipe outer diameter.
  - 6" STORM SEWER:** Dimension for the storm sewer width.
  - 5" SANITARY SEWER OR WATER:** Dimension for the sanitary sewer or water pipe width.
  - 8" MIN:** Dimension for the pier width.
  - 2'-0" (DR-14) C900 PVC PIPE:** Dimension for the pier length and material.

CONCRETE PIER

0101016

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BEDDING AND BACKFILL  
OUTSIDE OF PAVED AREAS

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

08/01/15

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- EXISTING PAVEMENT SURFACE
- MILL 1 1/2" FULL DEPTH DO NOT TAPER (TYP.)
- 10' ASPHALT CONCRETE COURSE TYPE SM-8.5A 165 LBS./SY
- 8" AGGREGATE BASE MATERIAL TYPE 'A' #215 SUB-BASE COURSE
- TACK COAT 0.45-0.15 GAL. SHALL CONFORM TO REQUIREMENTS OF ASHTO M208 PER SY (TYP.)
- 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
- BENCH 12" MIN. (TYP.)
- PIPELINE SIZE & MATERIAL AS SHOWN ON PLAN
- FOR WATERLINES PROVIDE BEDDING STONE TO SPRING LINE OF PIPE AT A MINIMUM, OR PER MANUFACTURER'S RECOMMENDATION
- AGGREGATE BACKFILL TYPE 1 #215 COMPACTED TO 95% MAX. DENSITY IN 6" LIFTS
- FOR SEWER LINES BEDDING SHALL BE 6" ABOVE PIPE
- LOCATION OF TRACE WIRE WITH NON-METALLIC PRESSURE PIPE. TRACER WIRE NOT REQUIRED FOR TYPICAL GRAVITY SANITARY SEWER SEE DETAIL G-4 FOR ADDITIONAL REQUIREMENTS.
- BEDDING 4" MIN. 5" MIN. IN ROCK CONDITIONS

VDOT LAND USE PERMIT  
OPEN CUT PAVEMENT RESTORATION

01/01/14

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- ROADWAY
- EDGE OF PAVEMENT
- MIN. 1.5" ASPHALT CONCRETE SURFACE COURSE TYPE (SM)
- 6" MIN.
- 6" MIN.
- EXISTING SURFACE (MAX ASPHALT)
- 21A OR B MIN. 10"
- 6" BENCH TYP.
- FOR SEWER LINES BEDDING SHALL BE 6" ABOVE PIPE
- FOR WATERLINES PROVIDE BEDDING STONE TO SPRING LINE OF PIPE AT A MINIMUM, OR PER MANUFACTURER'S RECOMMENDATION
- 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
- BACKFILL ONLY WITH APPROVED MATERIAL PER APPLICABLE LOCALITY OR VDOT STANDARDS
- PIPE SIZE & MATERIAL AS SHOWN ON PLAN
- LOCATION OF TRACE WIRE WITH NON-METALLIC PRESSURE PIPE. TRACER WIRE NOT REQUIRED FOR TYPICAL GRAVITY SANITARY SEWER. SEE DETAIL C-4 FOR ADDITIONAL REQUIREMENTS.
- TRENCH EXCAVATION LIMITS PIPE DIAMETER +12" EACH SIDE

PAVING NOTES:		PIPE DIAMETER +12" EACH SIDE
	* THE BASE ASPHALT MIX SHALL BE EQUAL TO THE EXISTING PAVEMENT THICKNESS OR 3 INCHES, WHICHEVER IS GREATER.	
**	IF THE REMAINING DISTANCE TO THE EXISTING EDGE OF PAVEMENT IS LESS THAN 2 FEET, THE REMOVAL AND REPLACEMENT OF NEW SURFACE MIX ASPHALT SHALL EXTEND TO THE ORIGINAL EDGE OF PAVEMENT.	
***	EXISTING PAVEMENT SURFACE MIX TO BE SAWCUT AND TACK COATED FOR A CLEAN CONTINUOUS JOINT.	

PAVEMENT RESTORATION  
FOR LONGITUDINAL TRENCHING  
PARALLEL TO THE VDOT ROADWAY CENTERLINE

01/01/14

[illegible]