

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

STANDARD AND DROP MANHOLES

T&M ASSOCIATES

10/11

S-S-01

SECTIONAL PLANS

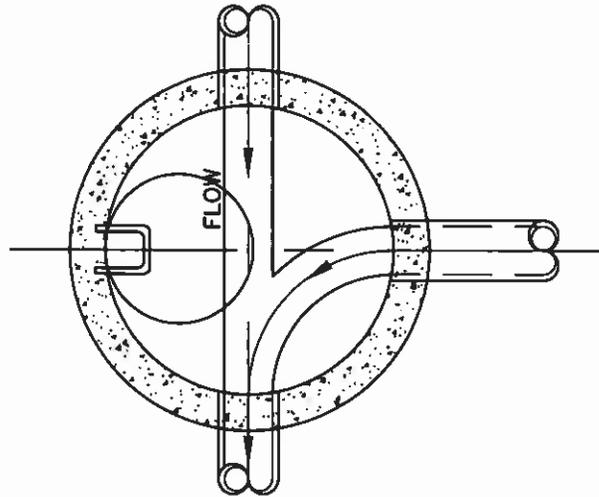
CONSULTING ENGINEERS

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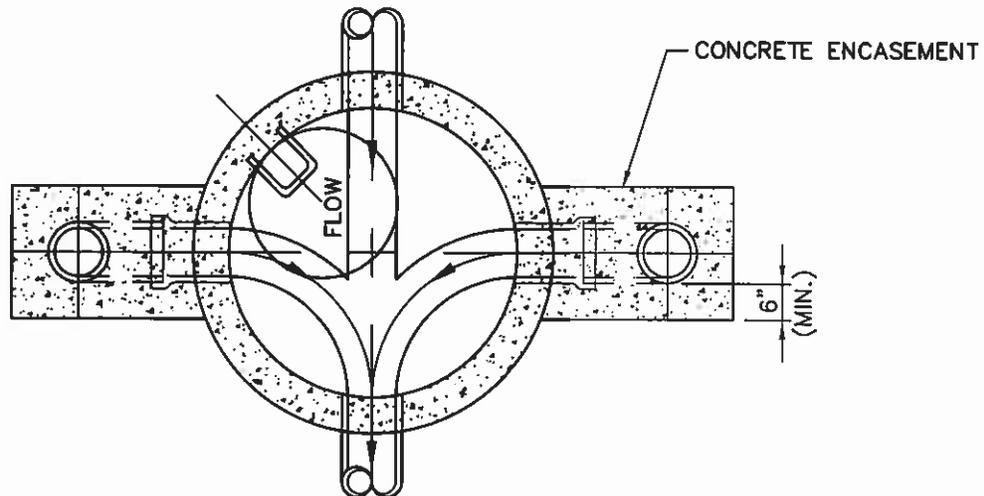
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SECTIONAL PLAN - STANDARD MANHOLE



NOTE: MANHOLE INVERTS OR CHANNELS TO BE PRECAST OR FORMED IN BASE, BY THE INSTALLATION OF CHANNEL PIPE AND FITTINGS, CHANGES IN SIZE, GRADE, AND DIRECTION TO BE MADE SMOOTHLY AND EVENLY WITH AS LARGE OF A RADIUS AS POSSIBLE.

SECTIONAL PLAN - DROP MANHOLE

## SECTIONAL PLANS STANDARD & DROP MANHOLES

NO SCALE

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

## STANDARD MANHOLE SECTION

T&M ASSOCIATES

10/11

S-S-02

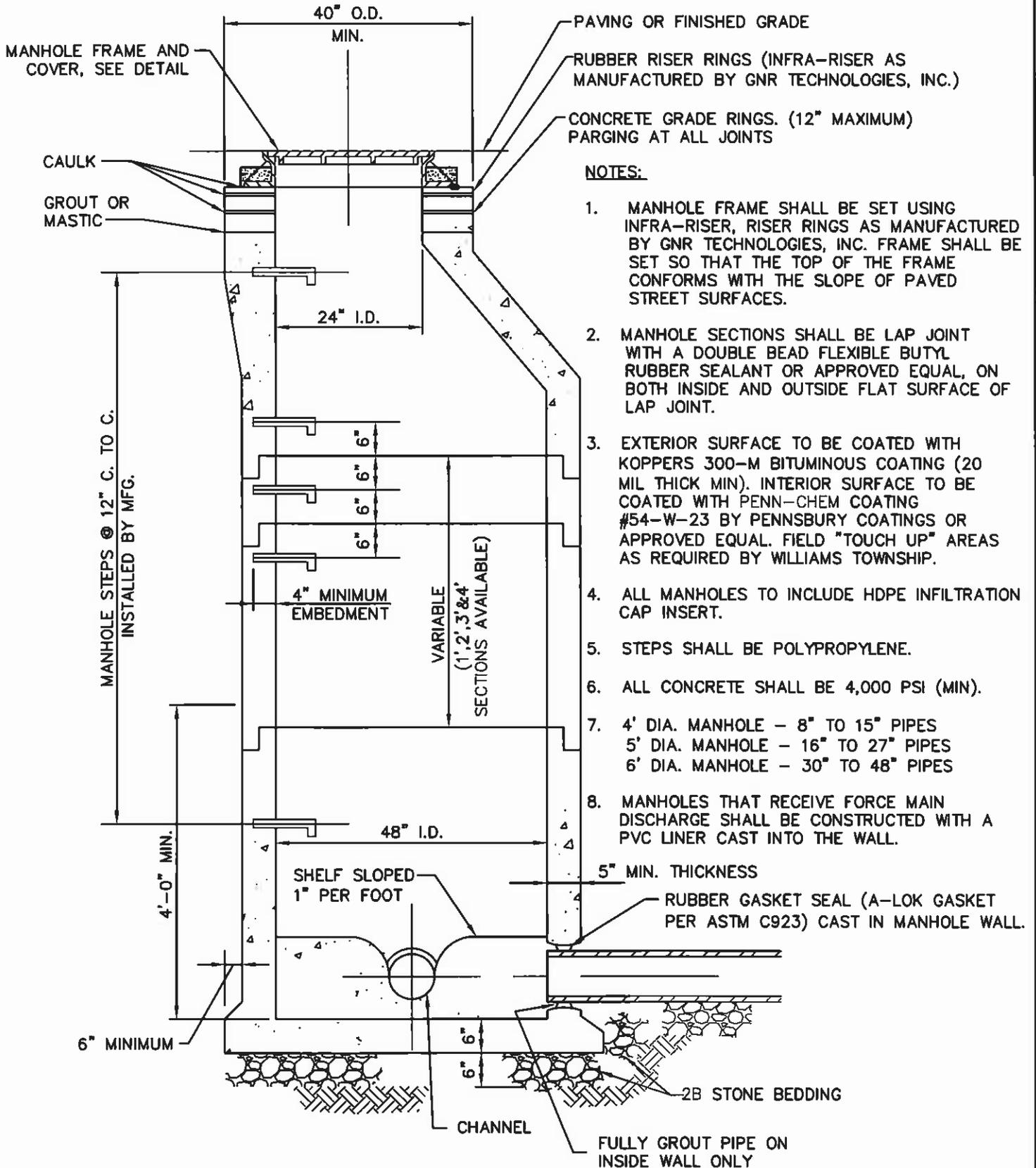
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DATE

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### NOTES:

1. MANHOLE FRAME SHALL BE SET USING INFRA-RISER, RISER RINGS AS MANUFACTURED BY GNR TECHNOLOGIES, INC. FRAME SHALL BE SET SO THAT THE TOP OF THE FRAME CONFORMS WITH THE SLOPE OF PAVED STREET SURFACES.
2. MANHOLE SECTIONS SHALL BE LAP JOINT WITH A DOUBLE BEAD FLEXIBLE BUTYL RUBBER SEALANT OR APPROVED EQUAL, ON BOTH INSIDE AND OUTSIDE FLAT SURFACE OF LAP JOINT.
3. EXTERIOR SURFACE TO BE COATED WITH KOPPERS 300-M BITUMINOUS COATING (20 MIL THICK MIN). INTERIOR SURFACE TO BE COATED WITH PENN-CHEM COATING #54-W-23 BY PENNSBURY COATINGS OR APPROVED EQUAL. FIELD "TOUCH UP" AREAS AS REQUIRED BY WILLIAMS TOWNSHIP.
4. ALL MANHOLES TO INCLUDE HDPE INFILTRATION CAP INSERT.
5. STEPS SHALL BE POLYPROPYLENE.
6. ALL CONCRETE SHALL BE 4,000 PSI (MIN).
7. 4' DIA. MANHOLE - 8" TO 15" PIPES  
5' DIA. MANHOLE - 16" TO 27" PIPES  
6' DIA. MANHOLE - 30" TO 48" PIPES
8. MANHOLES THAT RECEIVE FORCE MAIN DISCHARGE SHALL BE CONSTRUCTED WITH A PVC LINER CAST INTO THE WALL.

## STANDARD MANHOLE SECTION DETAIL

NO SCALE

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

STANDARD DROP MANHOLE SECTION

T&M ASSOCIATES

10/11

S-S-03

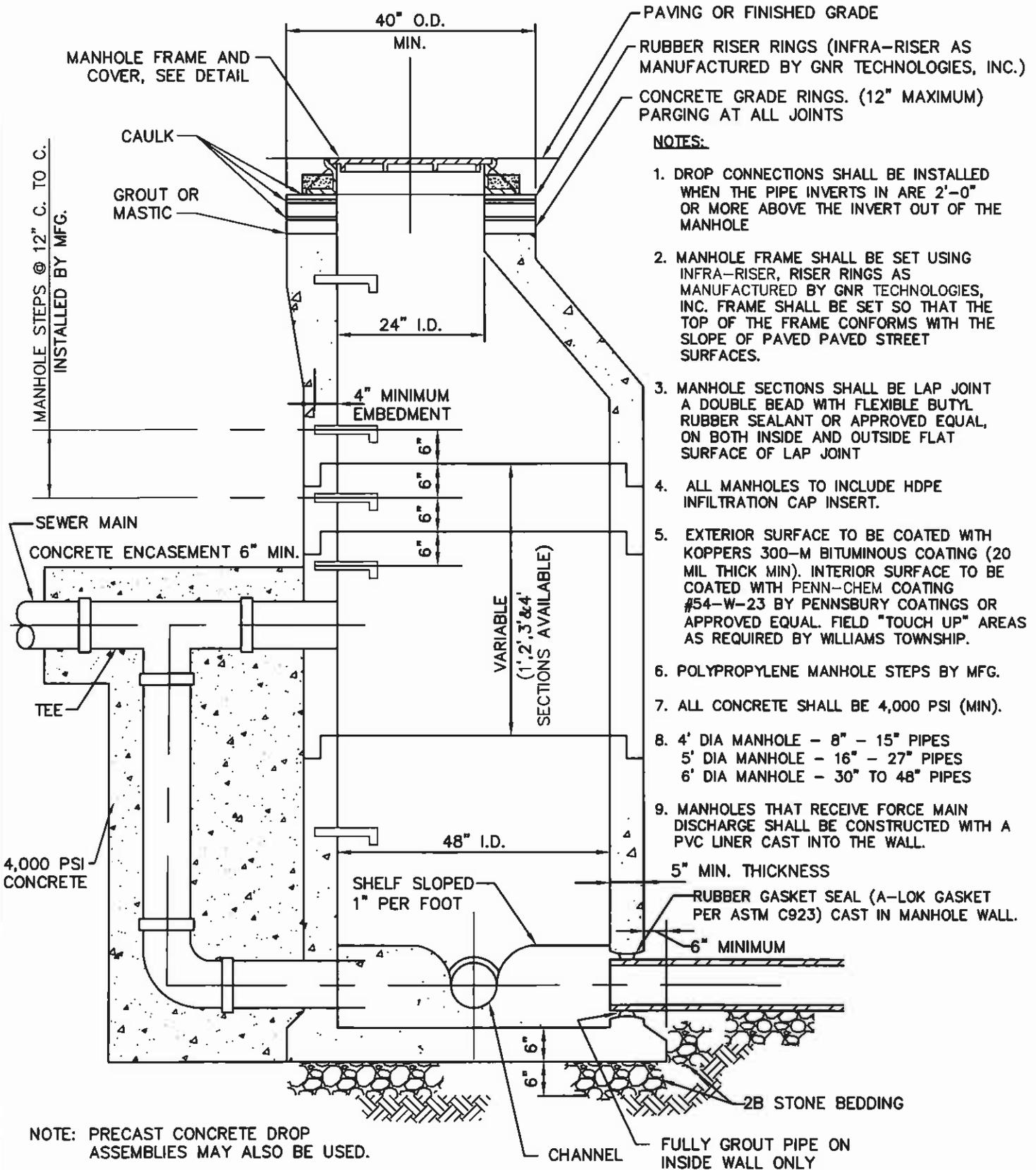
CONSULTING ENGINEERS

APP'D.

DATE

DRAWING NUMBER

REV.



**NOTES:**

1. DROP CONNECTIONS SHALL BE INSTALLED WHEN THE PIPE INVERTS IN ARE 2'-0" OR MORE ABOVE THE INVERT OUT OF THE MANHOLE
2. MANHOLE FRAME SHALL BE SET USING INFRA-RISER, RISER RINGS AS MANUFACTURED BY GNR TECHNOLOGIES, INC. FRAME SHALL BE SET SO THAT THE SLOPE OF THE FRAME CONFORMS WITH THE SLOPE OF PAVED PAVED STREET SURFACES.
3. MANHOLE SECTIONS SHALL BE LAP JOINT A DOUBLE BEAD WITH FLEXIBLE BUTYL RUBBER SEALANT OR APPROVED EQUAL, ON BOTH INSIDE AND OUTSIDE FLAT SURFACE OF LAP JOINT
4. ALL MANHOLES TO INCLUDE HDPE INFILTRATION CAP INSERT.
5. EXTERIOR SURFACE TO BE COATED WITH KOPPERS 300-M BITUMINOUS COATING (20 MIL THICK MIN). INTERIOR SURFACE TO BE COATED WITH PENN-CHEM COATING #54-W-23 BY PENNSBURY COATINGS OR APPROVED EQUAL. FIELD "TOUCH UP" AREAS AS REQUIRED BY WILLIAMS TOWNSHIP.
6. POLYPROPYLENE MANHOLE STEPS BY MFG.
7. ALL CONCRETE SHALL BE 4,000 PSI (MIN).
8. 4' DIA MANHOLE - 8" - 15" PIPES  
5' DIA MANHOLE - 16" - 27" PIPES  
6' DIA MANHOLE - 30" TO 48" PIPES
9. MANHOLES THAT RECEIVE FORCE MAIN DISCHARGE SHALL BE CONSTRUCTED WITH A PVC LINER CAST INTO THE WALL.

NOTE: PRECAST CONCRETE DROP ASSEMBLIES MAY ALSO BE USED.

## STANDARD DROP MANHOLE SECTION DETAIL

NO SCALE

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

48" DIA. SHALLOW MANHOLE

T&M ASSOCIATES

10/11

S-S-04

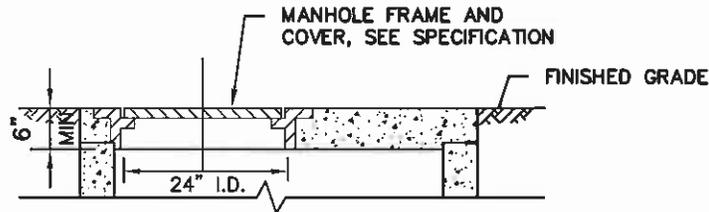
CONSULTING ENGINEERS

APP'D.

DATE

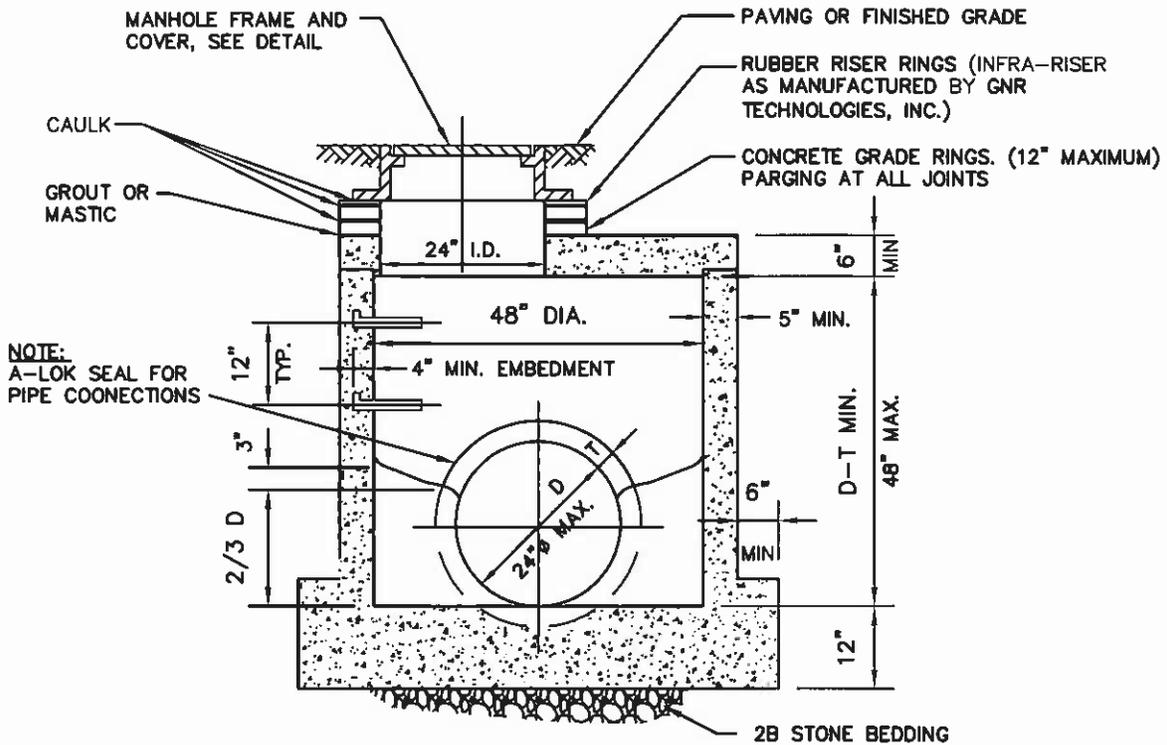
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REV.



## MANHOLE WITH FLUSH FRAME & COVER

NO SCALE



### NOTES:

1. MANHOLE FRAME SHALL BE SET USING INFRA-RISER, RISER RINGS AS MANUFACTURED BY GNR TECHNOLOGIES, INC. FRAME SHALL BE SET SO THAT THE TOP OF THE FRAME CONFORMS WITH THE SLOPE OF PAVED STREET SURFACES.
2. MANHOLE SECTIONS SHALL BE LAP JOINT WITH A DOUBLE BEAD FLEXIBLE BUTYL RUBBER SEALANT OR APPROVED EQUAL, ON BOTH INSIDE AND OUTSIDE FLAT SURFACE LAP JOINT.
3. EXTERIOR SURFACE TO BE COATED WITH KOPPERS 300-M BITUMINOUS COATING (20 MIL THICK MIN). INTERIOR SURFACE TO BE COATED WITH PENN-CHEM COATING #54-W-23 BY PENNSBURY COATINGS OR APPROVED EQUAL. FIELD "TOUCH UP" AREAS AS REQUIRED BY WILLIAMS TOWNSHIP.
4. POLYPROPYLENE MANHOLE STEPS BY MFG.
5. PROVIDE RUBBER GASKET SEAL (A-LOK GASKET PER ASTM C923) CAST IN MANHOLE WALL.

## SHALLOW MANHOLE WITH STANDARD FRAME & COVER

NO SCALE

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

STANDARD METERING MANHOLE

T&M ASSOCIATES

10/11

S-S-05

PIPE SIZE 6" TO 12"

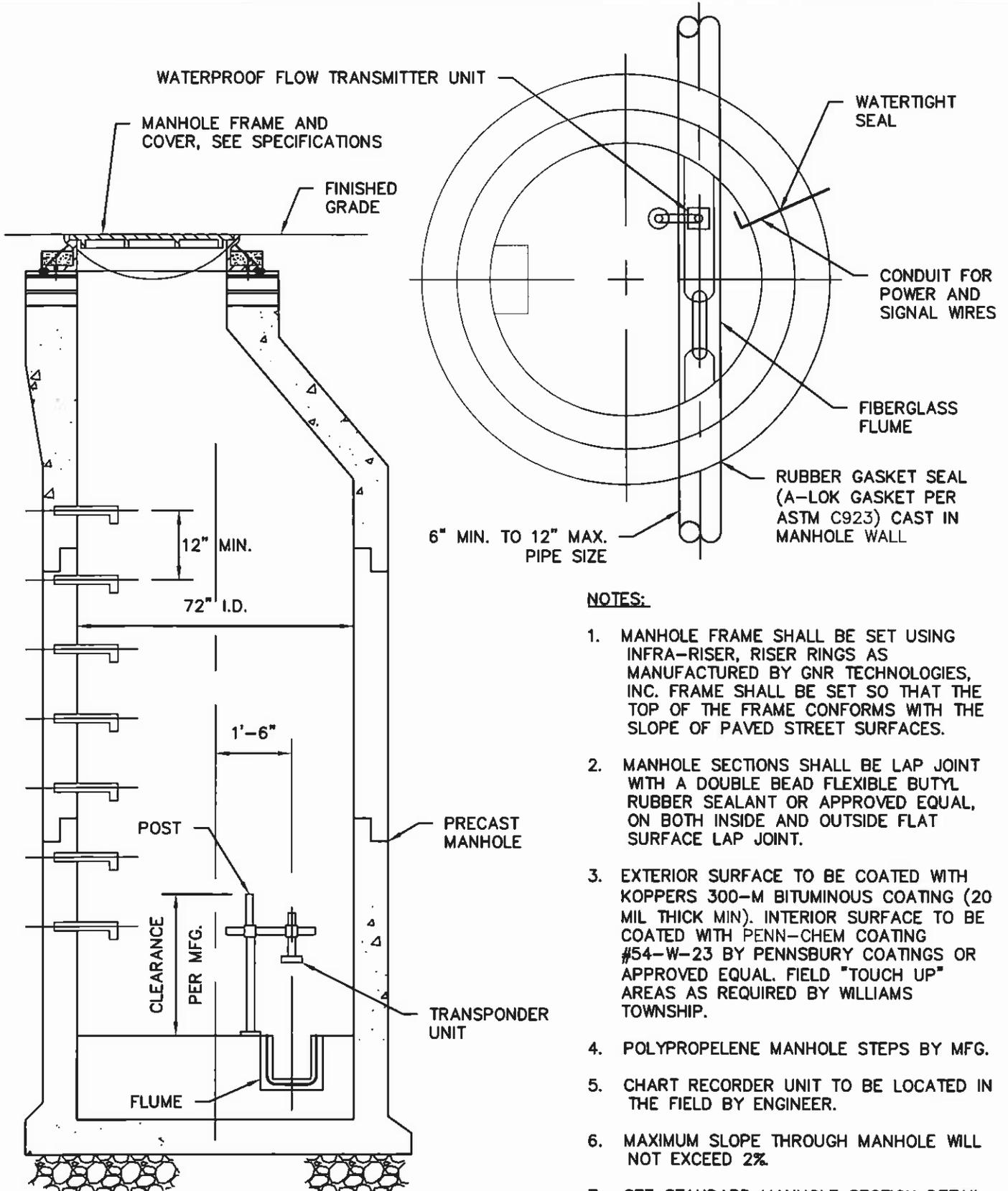
CONSULTING ENGINEERS

APP'D.

DATE

DRAWING NUMBER

REV.



**NOTES:**

1. MANHOLE FRAME SHALL BE SET USING INFRA-RISER, RISER RINGS AS MANUFACTURED BY GNR TECHNOLOGIES, INC. FRAME SHALL BE SET SO THAT THE TOP OF THE FRAME CONFORMS WITH THE SLOPE OF PAVED STREET SURFACES.
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3. EXTERIOR SURFACE TO BE COATED WITH KOPPERS 300-M BITUMINOUS COATING (20 MIL THICK MIN). INTERIOR SURFACE TO BE COATED WITH PENN-CHEM COATING #54-W-23 BY PENNSBURY COATINGS OR APPROVED EQUAL. FIELD "TOUCH UP" AREAS AS REQUIRED BY WILLIAMS TOWNSHIP.
4. POLYPROPELENE MANHOLE STEPS BY MFG.
5. CHART RECORDER UNIT TO BE LOCATED IN THE FIELD BY ENGINEER.
6. MAXIMUM SLOPE THROUGH MANHOLE WILL NOT EXCEED 2%.
7. SEE STANDARD MANHOLE SECTION DETAIL S-S-02 FOR ADDITIONAL REQUIREMENTS.

## STANDARD METERING MANHOLE DETAIL

NO SCALE

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

DOGHOUSE MANHOLE

T&M ASSOCIATES

10/11

S-S-06

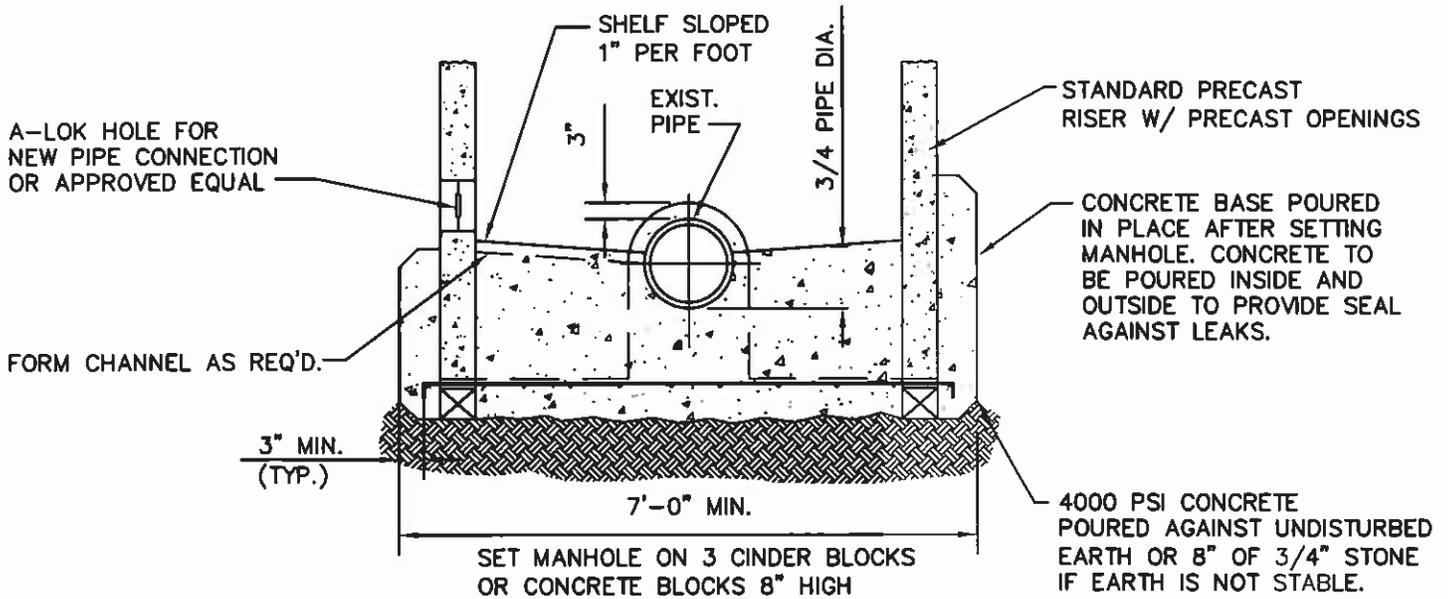
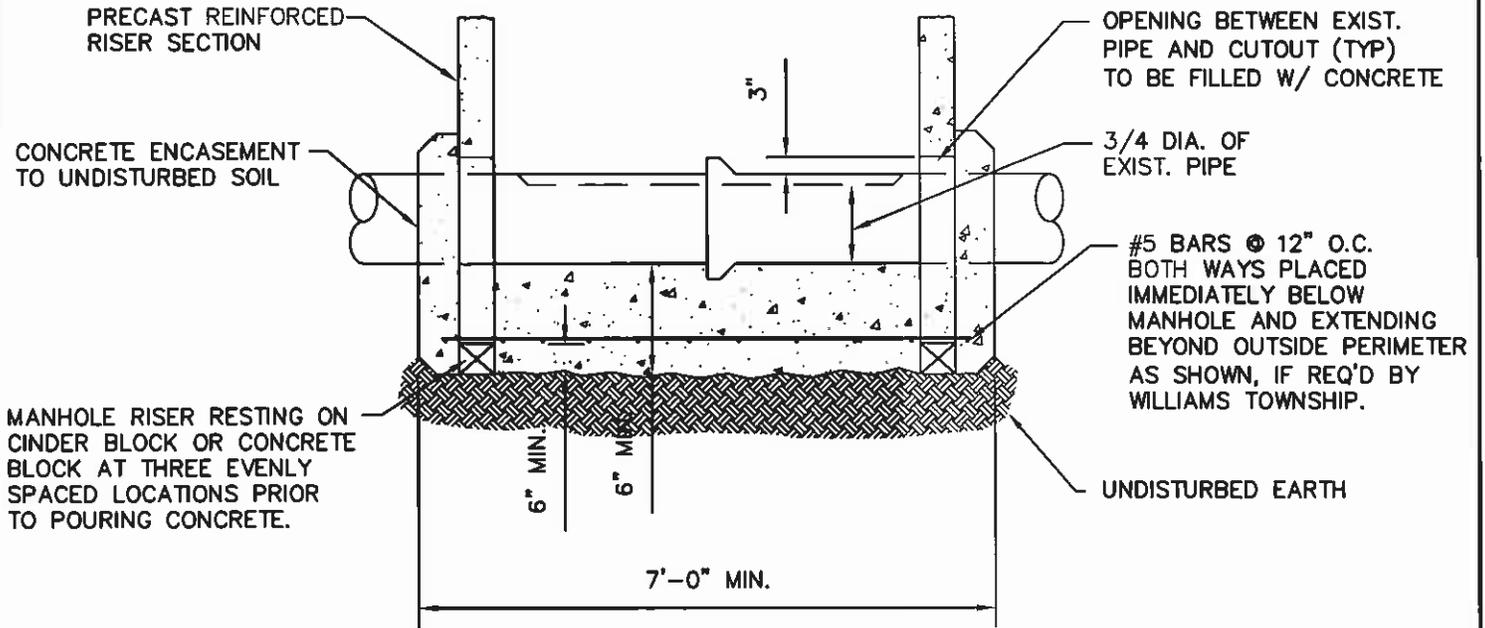
CONSULTING ENGINEERS

APP'D.

DATE

DRAWING NUMBER

REV.



**NOTES:**

1. EXISTING PIPE TO REMAIN UNTIL SATISFACTORY COMPLETION OF MANHOLE.
2. REMOVE CROWN OF EXISTING PIPE FLUSH WITH CONCRETE SHELF.
3. EXTERIOR SURFACE TO BE COATED WITH KOPPERS 300-M BITUMINOUS COATING (20 MIL THICK MIN). INTERIOR SURFACE TO BE COATED WITH PENN-CHEM COATING #54-W-23 BY PENNSBURY COATINGS OR APPROVED EQUAL. FIELD "TOUCH UP" AREAS AS REQUIRED BY WILLIAMS TOWNSHIP.

## DOGHOUSE MANHOLE

NOT TO SCALE

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

FORCE MAIN FLUSHING MANHOLE

T&M ASSOCIATES

10/11

S-S-07

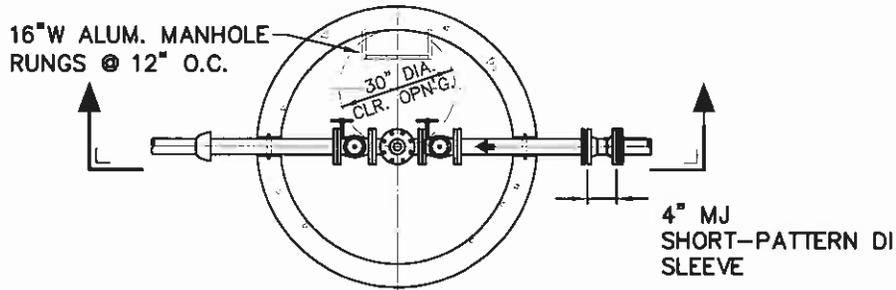
CONSULTING ENGINEERS

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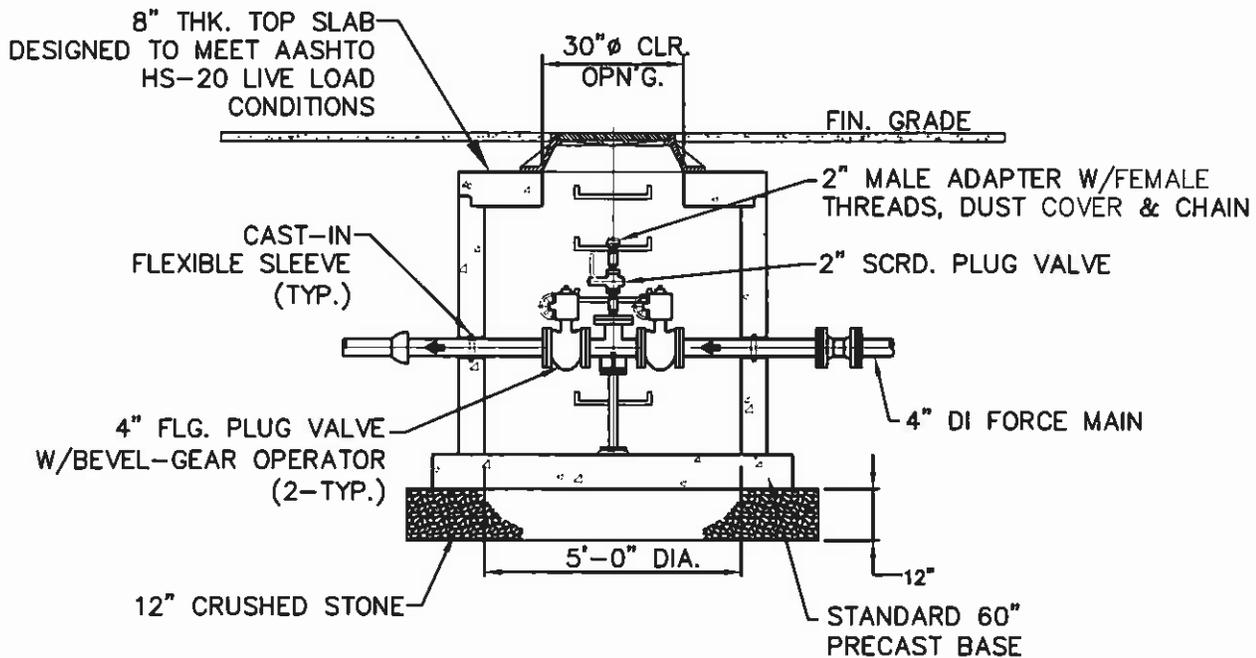
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REV.



PLAN BELOW ROOF



SECTION

FLUSHING MANHOLE NOTES:

1. EXTERIOR SURFACE TO BE COATED WITH KOPPERS 300-M BITUMINOUS COATING (20 MIL THICK MIN). INTERIOR SURFACE TO BE COATED WITH PENN-CHEM COATING #54-W-23 BY PENNSBURY COATINGS OR APPROVED EQUAL. FIELD "TOUCH UP" AREAS AS REQUIRED BY WILLIAMS TOWNSHIP.
2. THE CONTRACTOR SHALL PROVIDE BUOYANCY CALCULATIONS ASSUMING WATER AT GRADE ELEVATION. THE CALCULATIONS SHALL BE SIGNED & SEALED BY A LICENSED PENNSYLVANIA PROFESSIONAL ENGINEER AS PART OF THE SHOP DRAWING SUBMITTAL.
3. AREAS OF ALUMINUM IN CONTACT WITH CONCRETE SHALL BE PROVIDED WITH A BITUMASTIC COATING. AREAS IN WHICH DISSIMILAR METALS ARE IN CONTACT SHALL BE PROVIDED WITH NON-METALIC ISOLATORS.

## FORCE MAIN FLUSHING MANHOLE

NOT TO SCALE

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

FORCE MAIN

T&M ASSOCIATES

10/11

S-S-08

AIR RELEASE CHAMBER

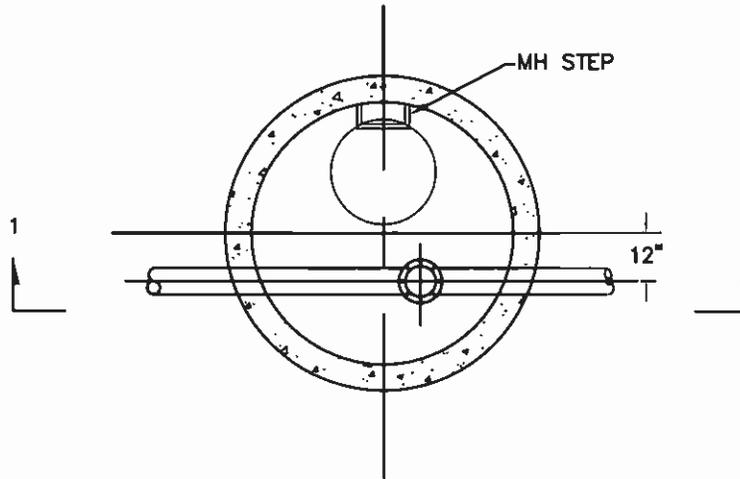
CONSULTING ENGINEERS

APP'D.

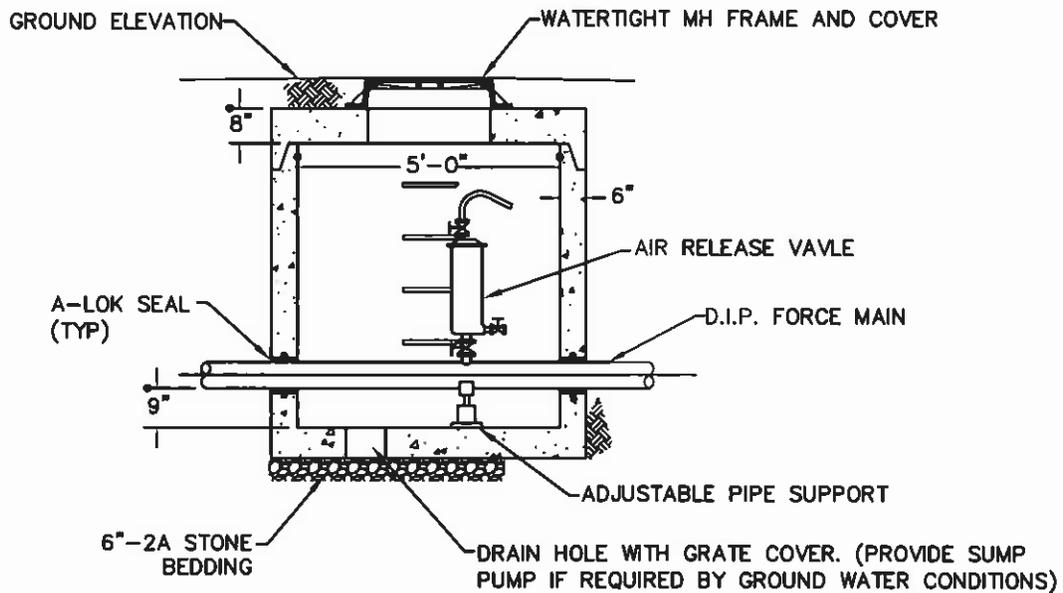
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DRAWING NUMBER

REV.



**PLAN SECTION**



**SECTION 1-1**

**AIR RELEASE CHAMBER NOTES:**

1. EXTERIOR SURFACE TO BE COATED WITH KOPPERS 300-M BITUMINOUS COATING (20 MIL THICK MIN). INTERIOR SURFACE TO BE COATED WITH PENN-CHEM COATING #54-W-23 BY PENNSBURY COATINGS OR APPROVED EQUAL. FIELD "TOUCH UP" AREAS AS REQUIRED BY WILLIAMS TOWNSHIP.
2. THE CONTRACTOR SHALL PROVIDE BUOYANCY CALCULATIONS ASSUMING WATER AT GRADE ELEVATION. THE CALCULATIONS SHALL BE SIGNED & SEALED BY A LICENSED PENNSYLVANIA PROFESSIONAL ENGINEER AS PART OF THE SHOP DRAWING SUBMITTAL.
3. AREAS OF ALUMINUM IN CONTACT WITH CONCRETE SHALL BE PROVIDED WITH A BITUMASTIC COATING. AREAS IN WHICH DISSIMILAR METALS ARE IN CONTACT SHALL BE PROVIDED WITH NON-METALIC ISOLATORS.

## FORCE MAIN AIR RELEASE CHAMBER

NO SCALE

# STANDARD DETAIL

WILLIAMS TOWNSHIP  
NORTHAMPTON COUNTY, PENNSYLVANIA

STANDARD MANHOLE

T&M ASSOCIATES

10/11

S-S-09

FRAME AND COVER INSTALLATION

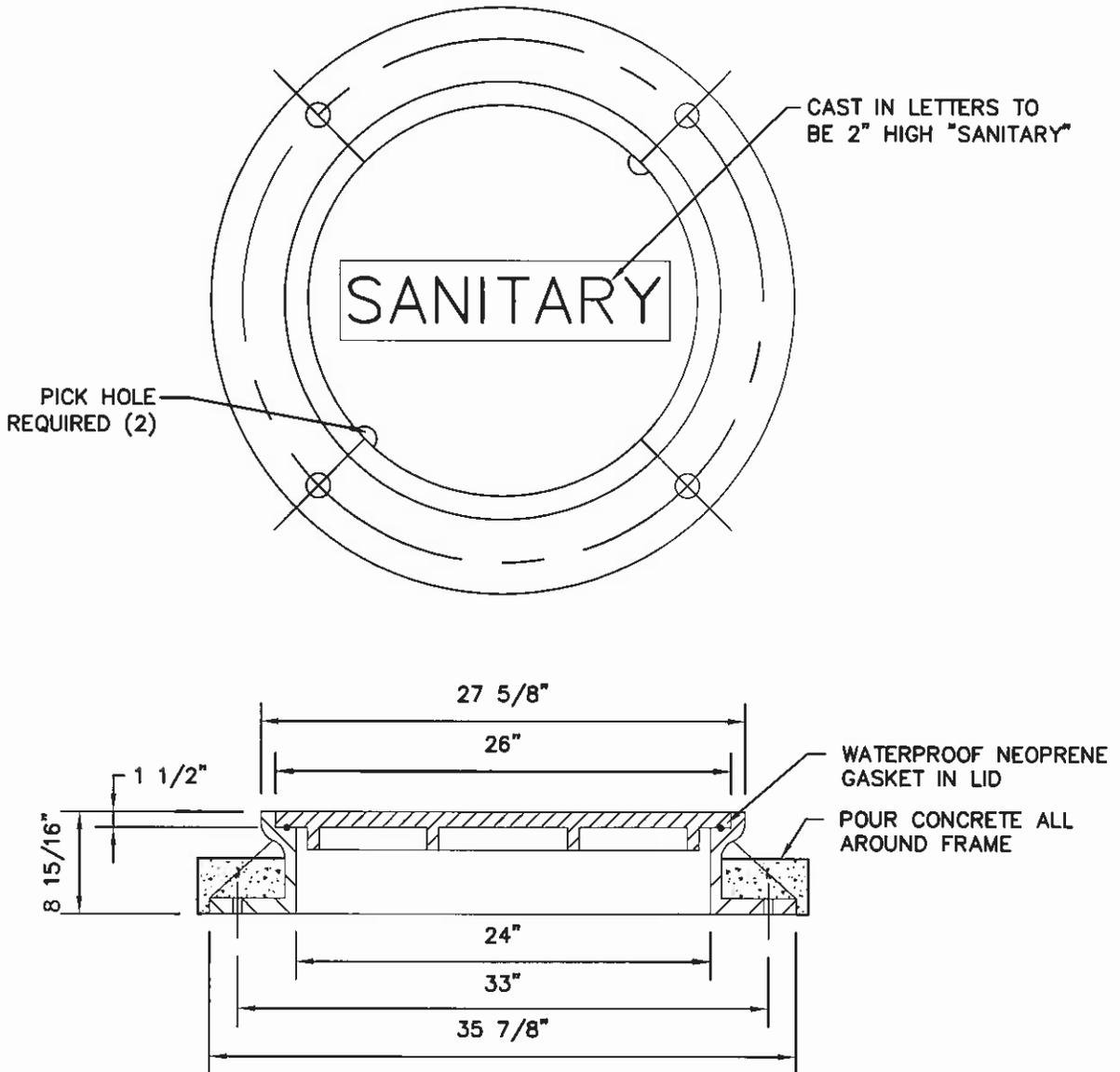
CONSULTING ENGINEERS

APP'D.

DATE

DRAWING NUMBER

REV.



SECTION

NOTES:

1. MANHOLE FRAME AND COVER SHALL BE NEENAH FOUNDRY COMPANY MODEL R-1642 WITH SELF SEALING GASKET TYPE COVER.
2. CASTING SHALL BE DESIGNED FOR AASHTO HIGHWAY LOADING CLASS HS - 25.
3. COVER SHALL HAVE THE WORD "SEWER" CAST THEREON.
4. FRAME AND COVER SHALL BE MADE OF CAST IRON AND CONFORM TO ASTM A-48.
5. PROVIDE FOUR (4) ANCHOR BOLTS IN FRAME TO ACCOMODATE 3/4" ANCHOR BOLTS.

## STANDARD MANHOLE FRAME & COVER

NO SCALE

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

WATERTIGHT MANHOLE

T&M ASSOCIATES

10/11

S-S-10

FRAME AND COVER INSTALLATION

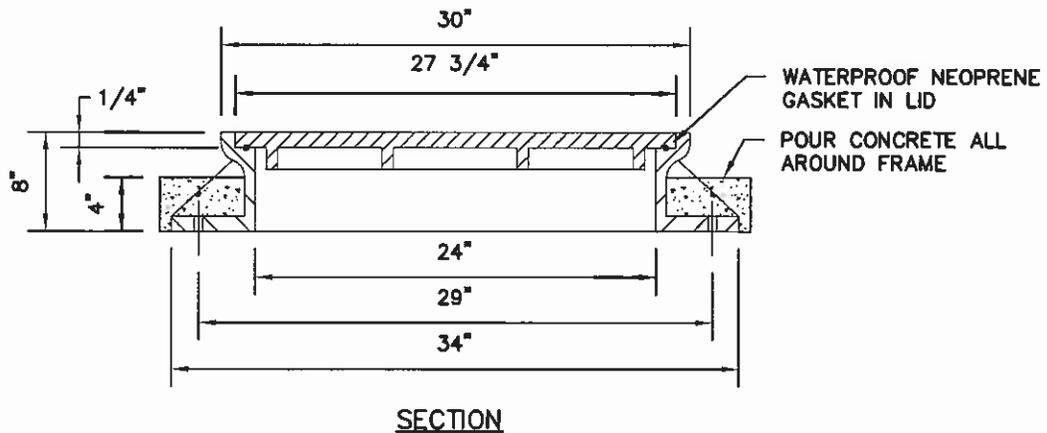
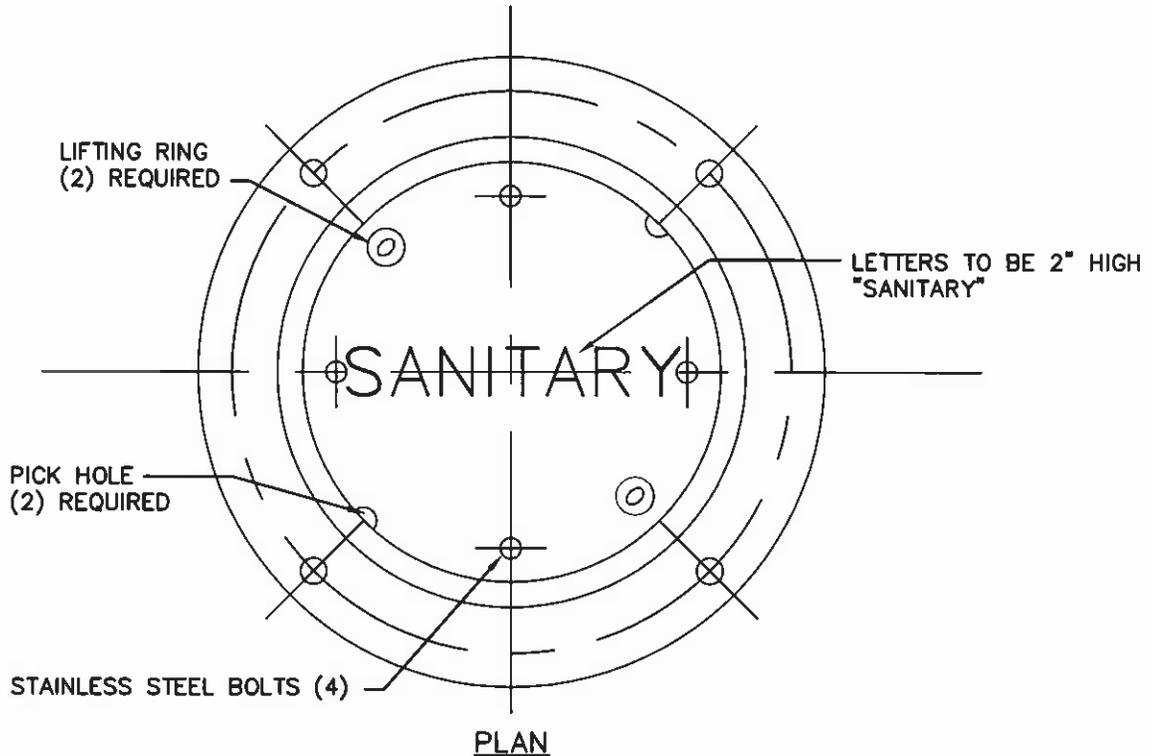
CONSULTING ENGINEERS

APP'D.

DATE

DRAWING NUMBER

REV.



**NOTES:**

1. MANHOLE FRAME AND COVER SHALL BE NEENAH FOUNDRY COMPANY MODEL R-1755 WITH SELF SEALING GASKET TYPE COVER.
2. CASTING SHALL BE DESIGNED FOR AASHTO HIGHWAY LOADING CLASS HS - 25.
3. COVER SHALL HAVE THE WORD "SEWER" CAST THEREON.
4. FRAME AND COVER SHALL BE MADE OF CAST IRON AND CONFORM TO ASTM A-48.
5. PROVIDE FOUR (4) ANCHOR BOLTS IN FRAME TO ACCOMODATE 3/4" ANCHOR BOLTS.

## WATERTIGHT MANHOLE

### FRAME & COVER

NO SCALE

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

SEWER LATERAL INSTALLATION

T&M ASSOCIATES

10/11

S-S-11

TYPICAL HOUSE CONNECTION

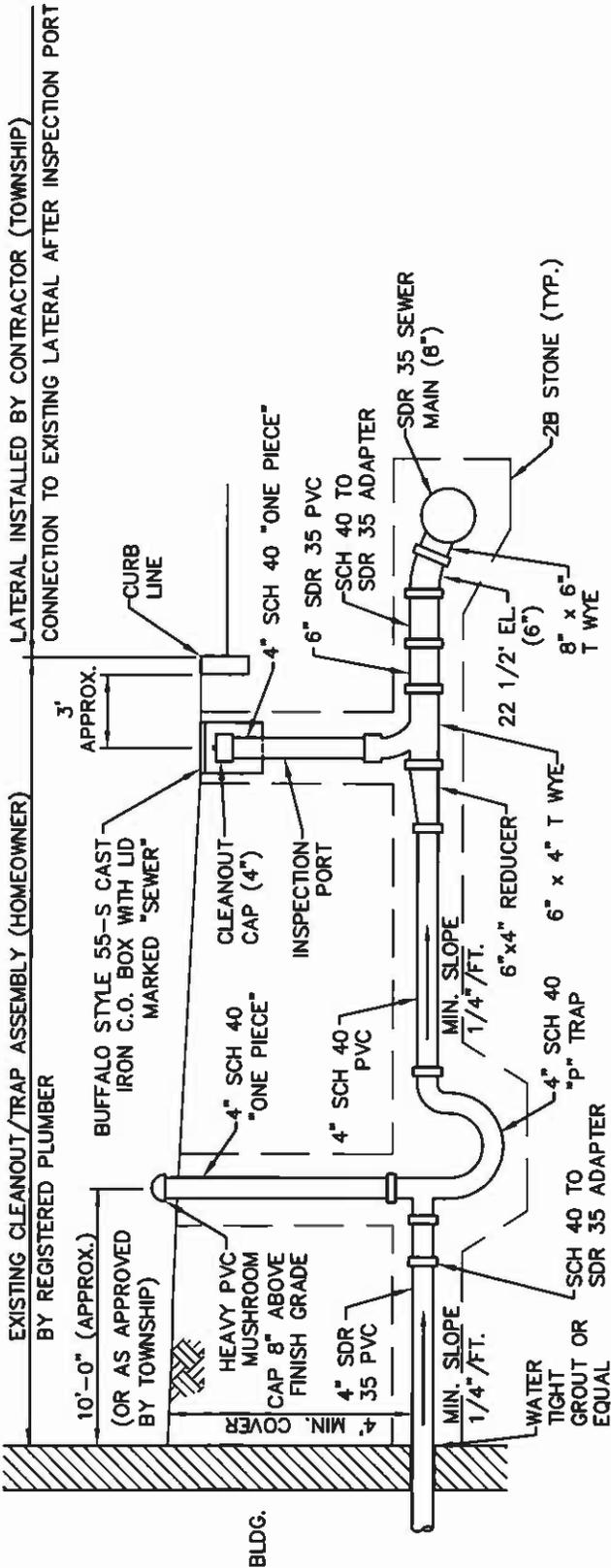
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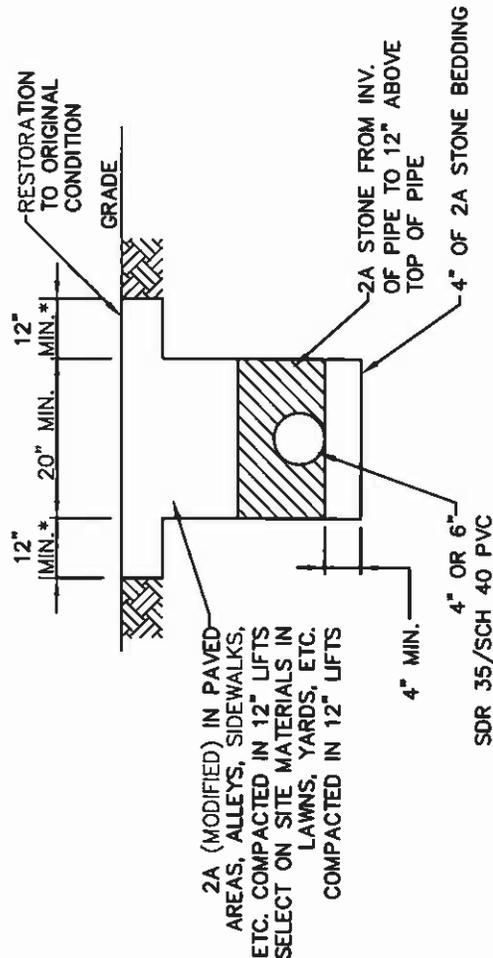
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DRAWING NUMBER

REV.



## ELEVATION



## SECTION

TRENCH DETAIL  
NO SCALE

### NOTES:

1. CONTRACTOR SHALL FIELD VERIFY EXIST. CONDITIONS AND DIMENSIONS PRIOR TO ORDERING AND/OR FABRICATION OF ANY MATERIALS.
2. INSTALLATION SHALL CONFORM TO TOWNSHIP SPECIFICATIONS.
3. SCHEDULE 40 PVC PIPE SHALL BE GLUED AT ALL JOINTS.
4. 12" MINIMUM CUTBACK IN PAVED AREAS (SEE PAVING REQUIREMENTS).



# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

GRADE ADJUSTMENT

T&M ASSOCIATES

10/11

S-S-13

CONSULTING ENGINEERS

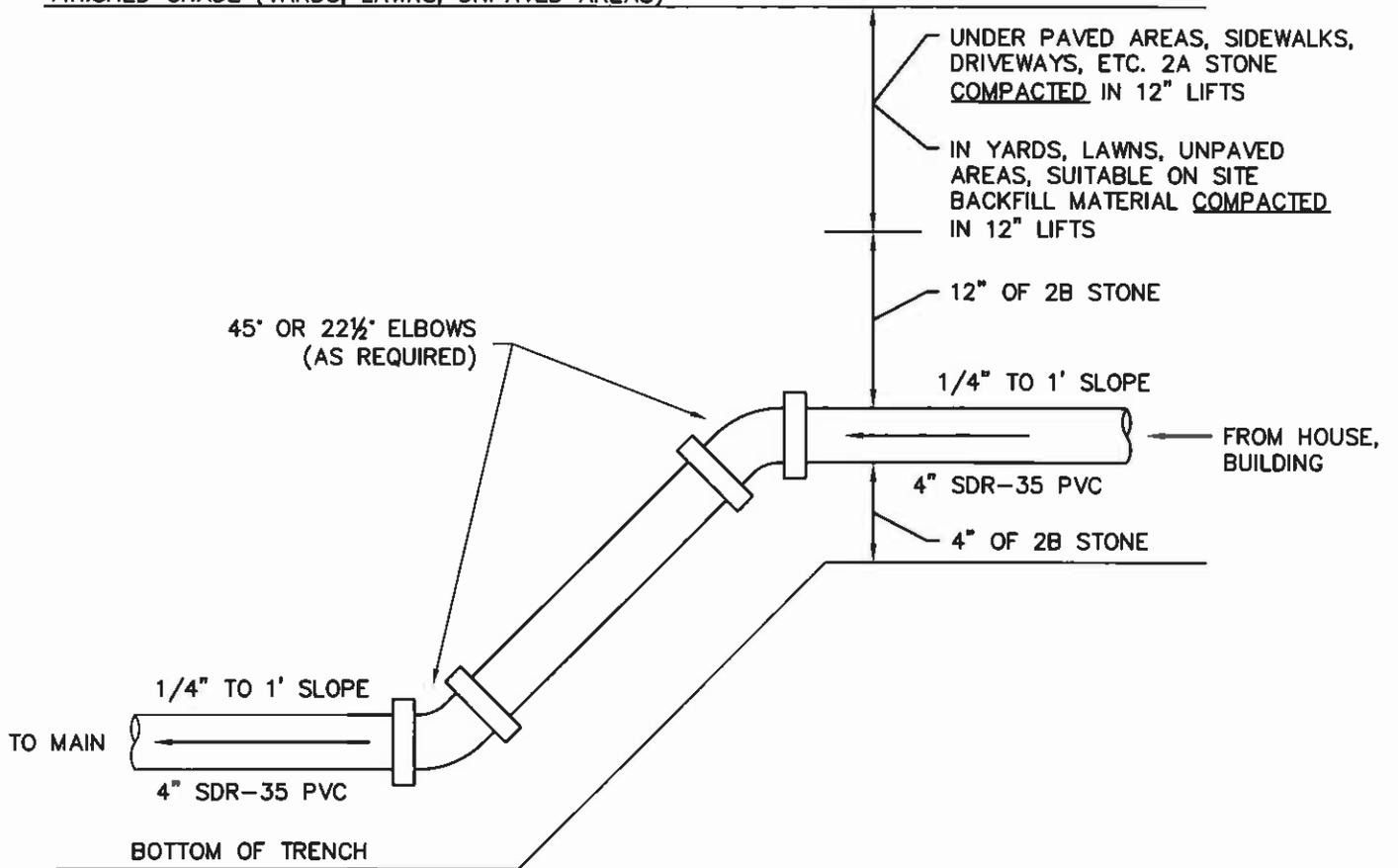
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DATE

DRAWING NUMBER

REV.

SUBBASE (PAVED AREAS, SIDEWALKS, DRIVEWAYS, ETC.)  
FINISHED GRADE (YARDS, LAWNS, UNPAVED AREAS)



## GRADE ADJUSTMENT DETAIL

NO SCALE

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

SERVICE LATERAL RISER

T&M ASSOCIATES

10/11

S-S-14

SINGLE SERVICE

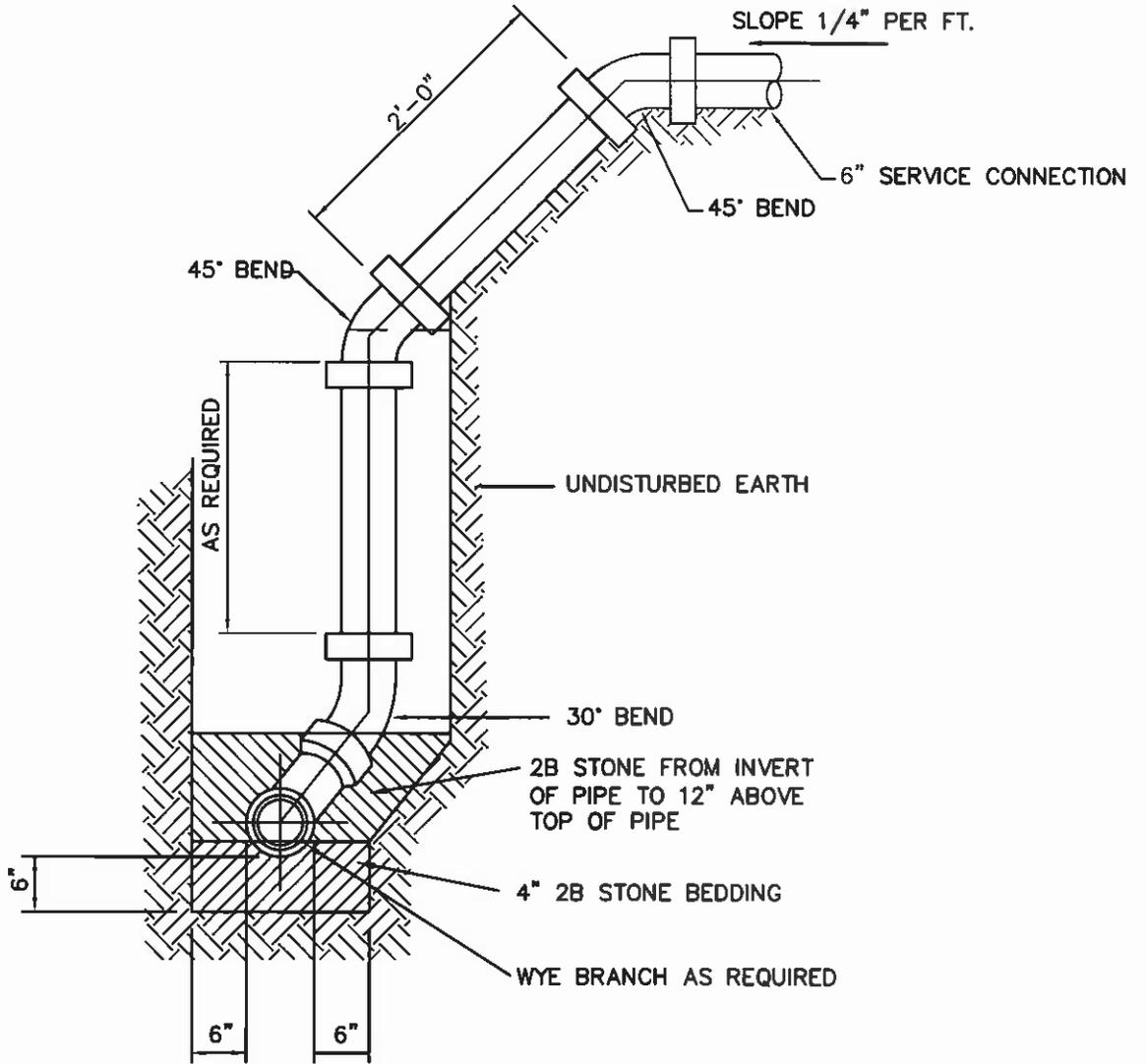
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DATE

DRAWING NUMBER

REV.



## SERVICE LATERAL RISER DETAIL

NO SCALE



# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

CLEAN-OUT PROTECTION SLEEVE

T&M ASSOCIATES

10/11

S-S-16

FOR USE IN OR NEAR PAVED ROADS

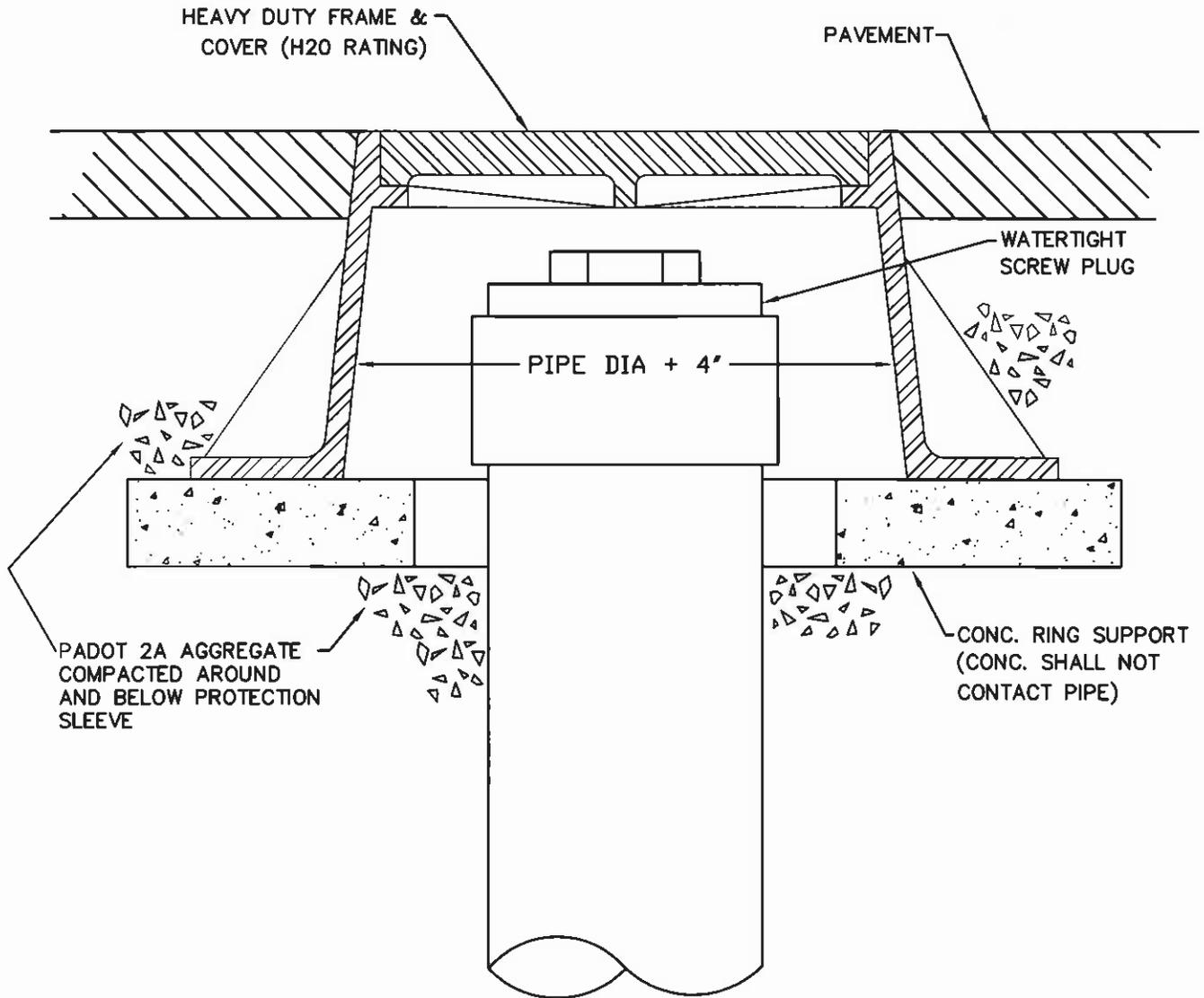
CONSULTING ENGINEERS

APP'D.

DATE

DRAWING NUMBER

REV.



NOTES:

1. FRAME AND COVER SHALL BE NEENAH FOUNDRY COMPANY MODEL R-1976 OR APPROVED EQUAL
2. CLEAN-OUT PROTECTION SLEEVES ARE TO BE INSTALLED FOR CLEAN-OUTS LOCATED IN PAVED AREAS, OR LESS THAN 3 FEET FROM A PAVED AREA.

## CLEAN-OUT PROTECTION SLEEVE

NO SCALE

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

SEWER SADDLE

T&M ASSOCIATES

10/11

S-S-17

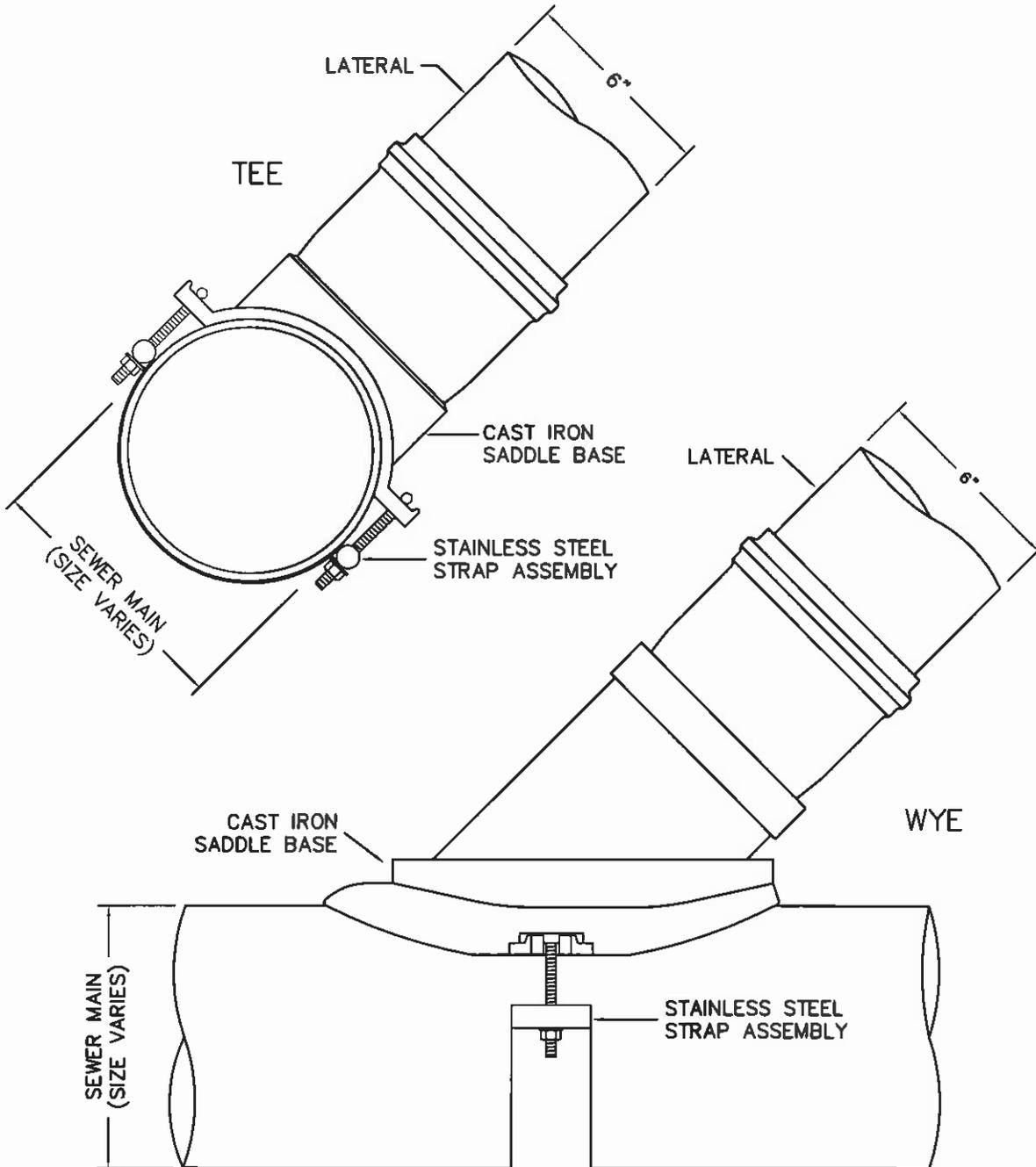
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APP'D.

DATE

DRAWING NUMBER

REV.



## SEWER SADDLE

**NOTES:**

1. SEALTITE SEWER PIPE SADDLE, MANUFACTURED BY GENECO OR APPROVED EQUAL
2. PLACE SADDLE SO THAT LATERAL CONNECTS TO TOP OF MAIN AT A 45° VERTICAL ANGLE

## SEWER SADDLE

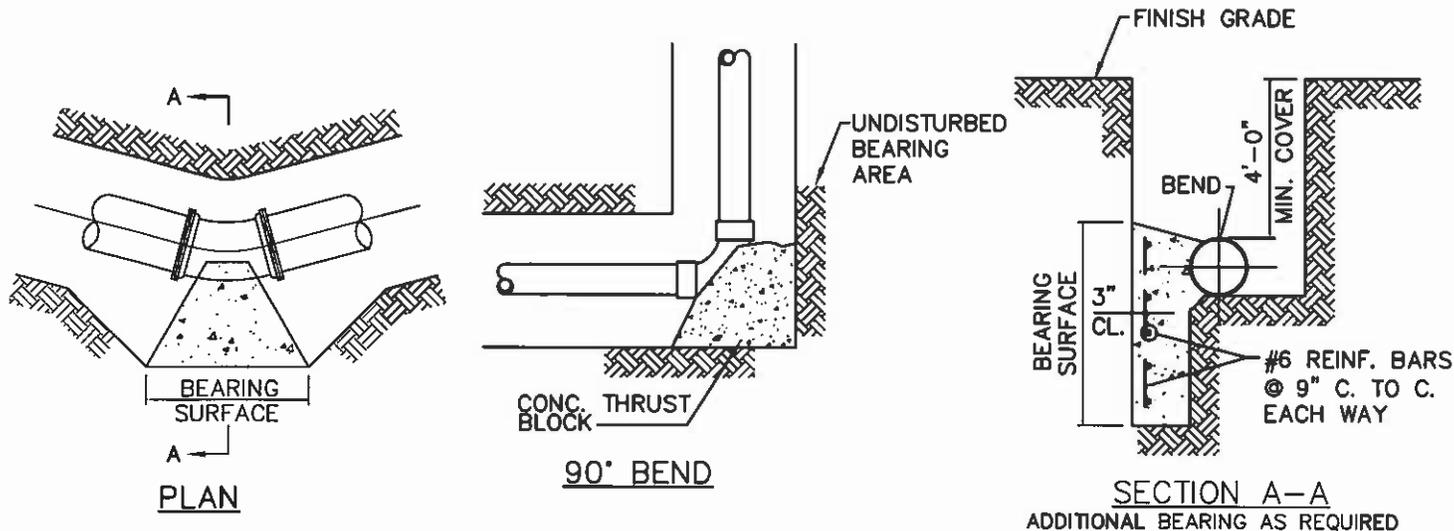
NOT TO SCALE

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

TYPICAL HORIZONTAL & VERTICAL THRUST BLOCKING	T&M ASSOCIATES		10/11	S-S-18	
DOWNWARD THRUSTS UP TO 150 PSI WORKING PRESSURE	CONSULTING ENGINEERS	APP'D.	DATE	DRAWING NUMBER	REV.



**NOTES:**

1. ALL CONCRETE SHALL HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH OF 3300 PSI.
2. ALL REINFORCING STEEL SHALL BE DEFORMED BARS.
3. NO COUPLING OR JOINTS SHALL BE COVERED WITH CONCRETE.
4. REINFORCING BAR STRAPS TO BE SHAPED TO PIPE CURVATURE.
5. ALL EXPOSED STEEL TO BE COATED WITH CARBOLINE BITUMASTIC 50 APPLIED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS WITH A MINIMUM DRY FILM THICKNESS OF 30 MILS.
6. THRUST BLOCKING FOR TEES SHALL HAVE THE SAME BEARING AREA AS 90° BENDS OF THE PIPE SIZE OF THE OUTLET. DEAD ENDS SHALL HAVE THE SAME BEARING AREA AS 90° BENDS.

**BEARING AREA REQUIRED, SQUARE FEET**

TYPE OF BEARING MATERIAL AND ALLOWABLE LOADS, PSF	4" AND LESS DEGREE BEND				6" AND 8" DEGREE BEND				10" AND 12" DEGREE BEND			
	11¼°	22½°	45°	90°	11¼°	22½°	45°	90°	11¼°	22½°	45°	90°
LOOSE SAND OR MEDIUM CLAY - 2,000	1.0	2.0	2.7	4.0	1.5	3.0	6.0	10.0	3.0	6.2	12.0	22.0
PACKED GRAVEL AND SAND - 4,000	1.0	1.0	1.5	2.0	1.0	1.5	3.0	5.0	1.5	3.1	6.0	11.0
ROCK - 10,000	1.0	1.0	1.0	1.0	1.0	1.0	1.2	2.0	1.0	1.3	2.4	4.4

**BEARING AREA REQUIRED, SQUARE FEET**

TYPE OF BEARING MATERIAL AND ALLOWABLE LOADS	14" AND 16" DEGREE BEND OR DEFLECTION				18" AND 20" DEGREE BEND OR DEFLECTION			
	11¼°	22½°	45°	90°	11¼°	22½°	45°	90°
LOOSE SAND OR MEDIUM CLAY - 2,000	6.0	12.0	22.5	40.0	9.5	19.0	37.0	67.0
PACKED GRAVEL AND SAND - 4,000	3.0	6.0	11.3	20.0	4.8	9.5	18.5	33.5
ROCK - 10,000	1.2	2.4	4.5	8.0	2.0	3.8	7.4	13.5

## TYPICAL BLOCKING FOR HORIZONTAL AND VERTICAL DOWNWARD THRUSTS UP TO 150 PSI WORKING PRESSURE

NO SCALE

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

STREAM CROSSING

T&M ASSOCIATES

10/11

S-S-19

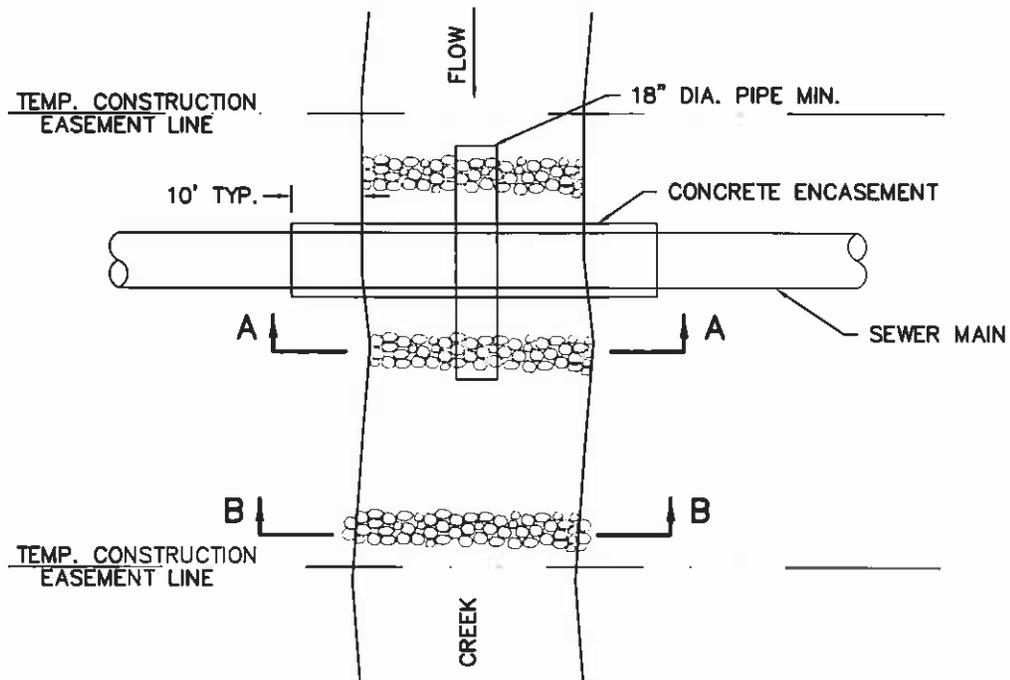
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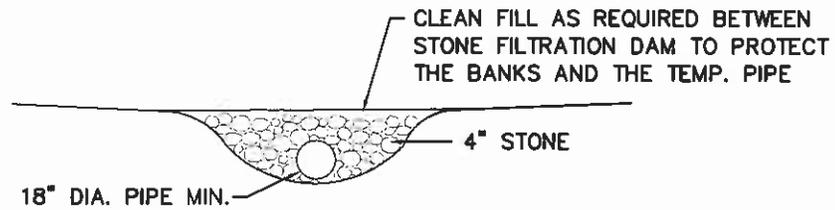
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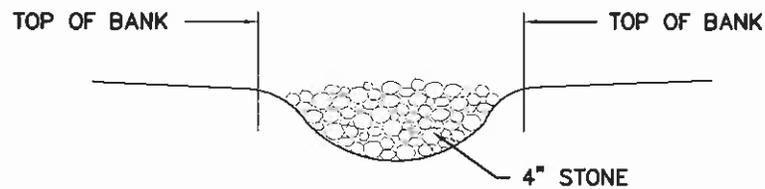
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PLAN VIEW



SECTION A-A



ROCK FILTRATION DAM

SECTION B-B

## STREAM CROSSING

NOT TO SCALE

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

CARRIER PIPE AND CASING CONDUIT

T&M ASSOCIATES

10/11

S-G-01

INSTALLATION

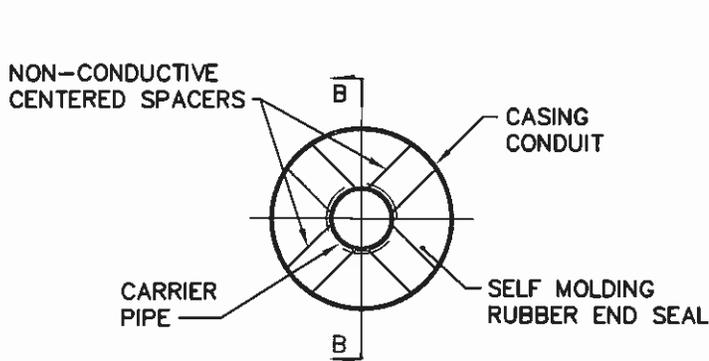
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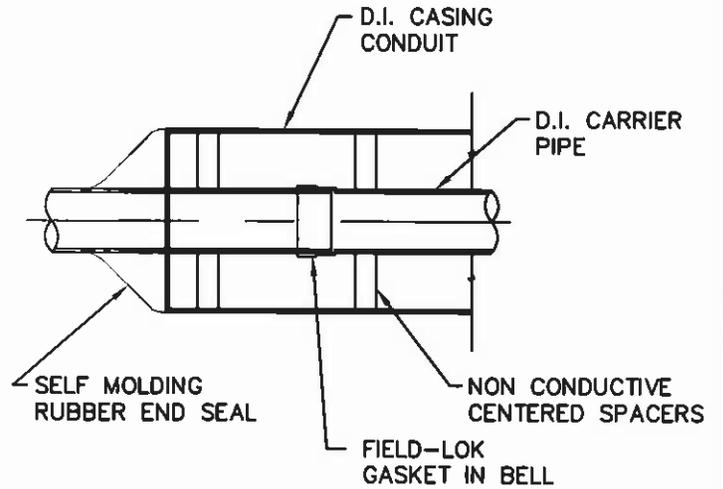
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REV.



END SECTION

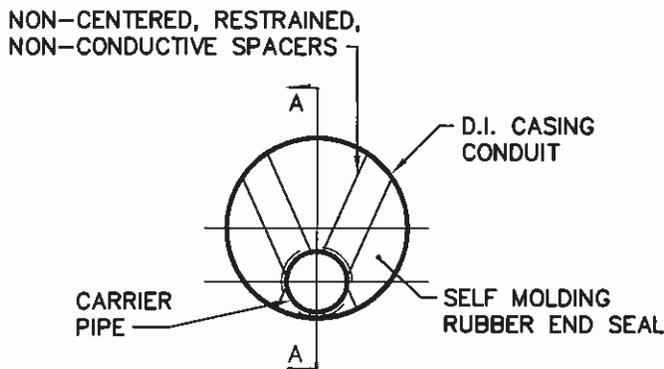


SECTION B-B

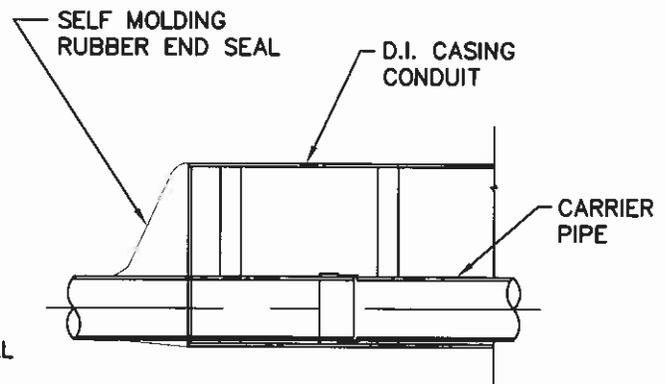
NOTE - FOR CASING CONDUIT REQUIREMENTS, SEE SPECIFICATIONS

## WATER OR FORCE MAIN

NO SCALE



END SECTION



SECTION A-A

NOTE - FOR CASING CONDUIT REQUIREMENTS, SEE SPECIFICATIONS

## GRAVITY SEWER

NO SCALE

**NOTE:**  
CONTRACTOR MAY USE SAND FILL AND BRICK AND GROUT END SEAL IF APPROVED BY TOWNSHIP.

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

REINFORCED CONCRETE SLOPE ANCHORS  
(FOR UTILITY LINES)

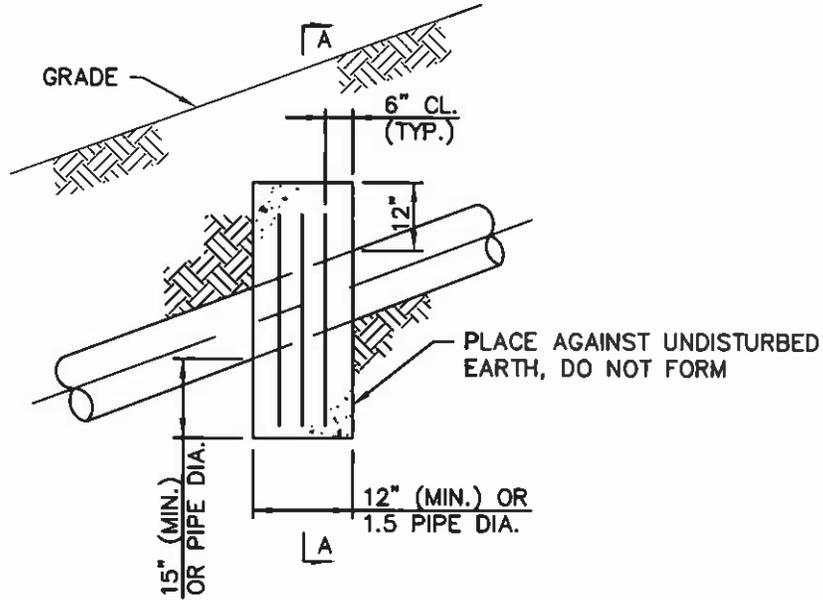
T&M ASSOCIATES  
CONSULTING ENGINEERS

APP'D.

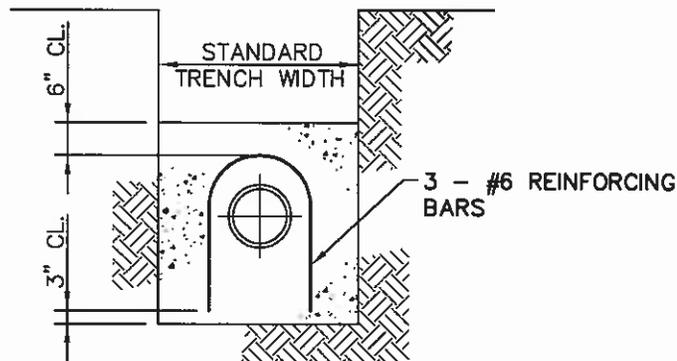
10/11  
DATE

S-G-02  
DRAWING NUMBER

REV.



ELEVATION



SECTION A-A

MAXIMUM SPACING	
36' C/C	20% TO 35% SLOPES
24' C/C	35% TO 50% SLOPES
16' C/C	50% OR GREATER SLOPES

## REINFORCED CONCRETE SLOPE ANCHORS

NO SCALE

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

BEDDING FOR PIPE

T&M ASSOCIATES

10/11

S-G-03

CRUSHED STONE

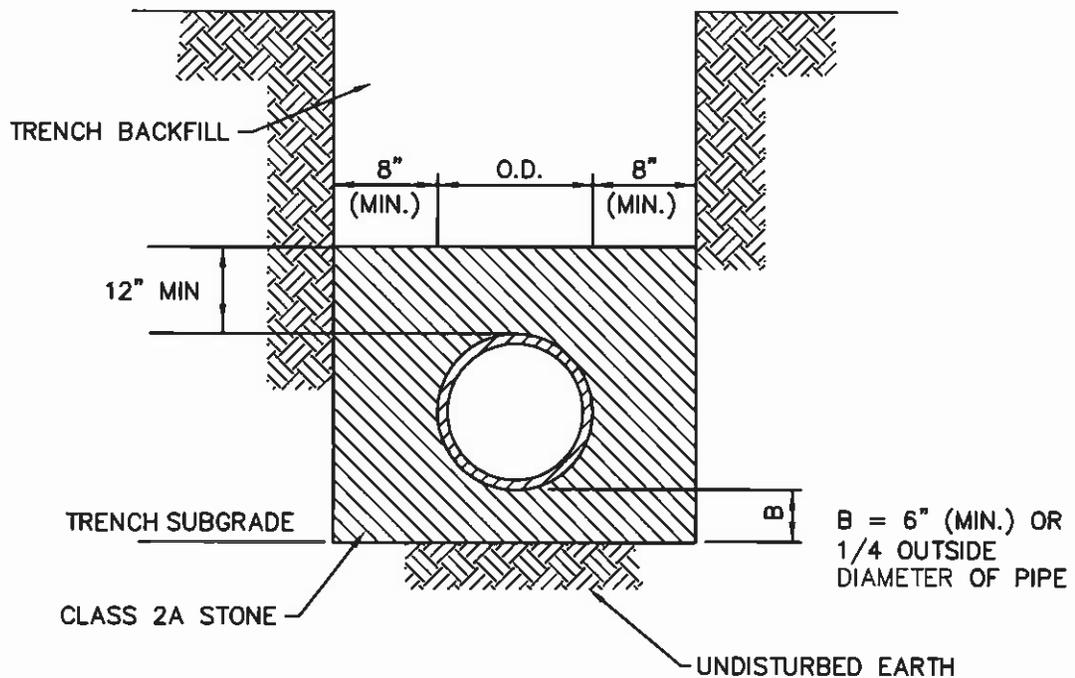
CONSULTING ENGINEERS

APP'D.

DATE

DRAWING NUMBER

REV.



## GRAVITY SANITARY SEWERS AND FORCE MAINS

### NOTE:

CONTRACTOR TO COMPLY WITH CURRENT OSHA STANDARD 29 CFR 1926 FOR TRENCH DIMENSIONS, SLOPING, BENCHING, SHORING AND INSPECTIONS.

## BEDDING DETAILS

NO SCALE

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

CONCRETE ENCASEMENT FOR PIPE

T&M ASSOCIATES

10/11

S-G-04

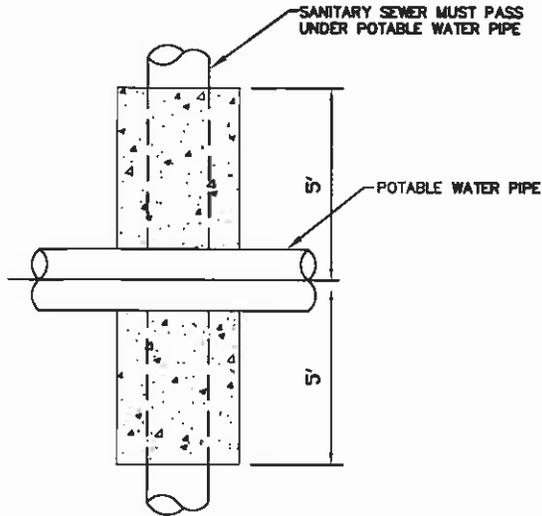
CONSULTING ENGINEERS

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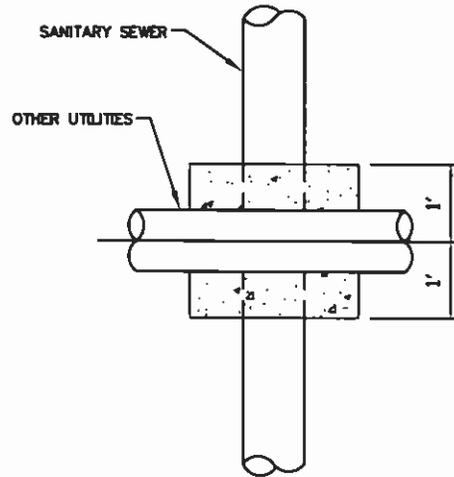
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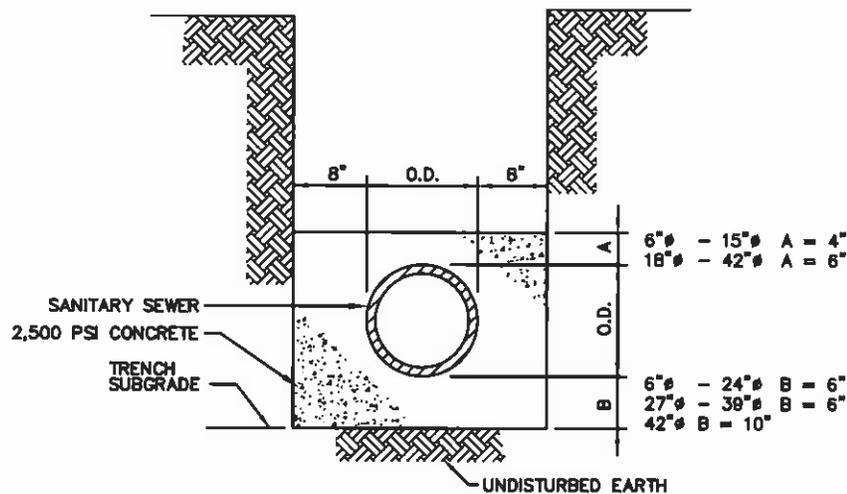
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WATER CROSSINGS



UTILITY CROSSINGS



**NOTE:**

1. CONTRACTOR TO COMPLY WITH CURRENT OSHA STANDARD 29 CFR 1926 FOR TRENCH DIMENSIONS, SLOPING, BENCHING, SHORING AND INSPECTIONS.

2. SANITARY SEWER PIPES MUST PASS UNDER POTABLE WATER PIPES.

## TYPICAL CONCRETE ENCASEMENT DETAIL

NO SCALE

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

STREET RESTORATION

T&M ASSOCIATES

10/11

S-G-05

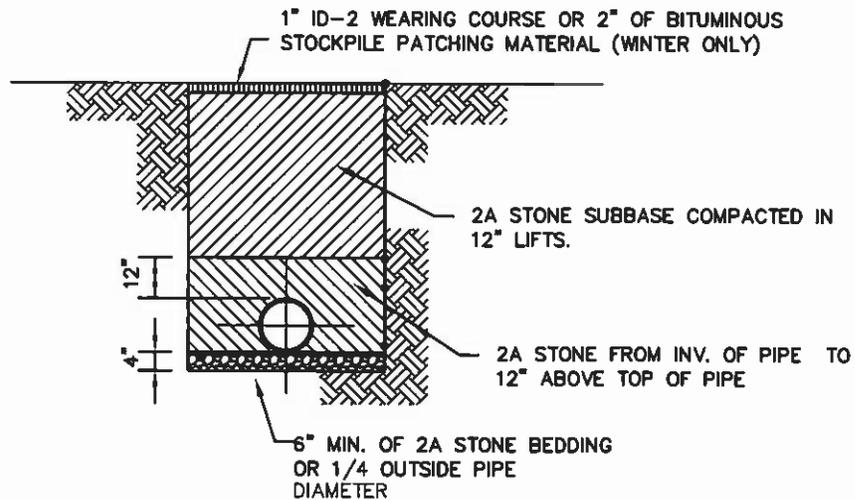
CONSULTING ENGINEERS

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DATE

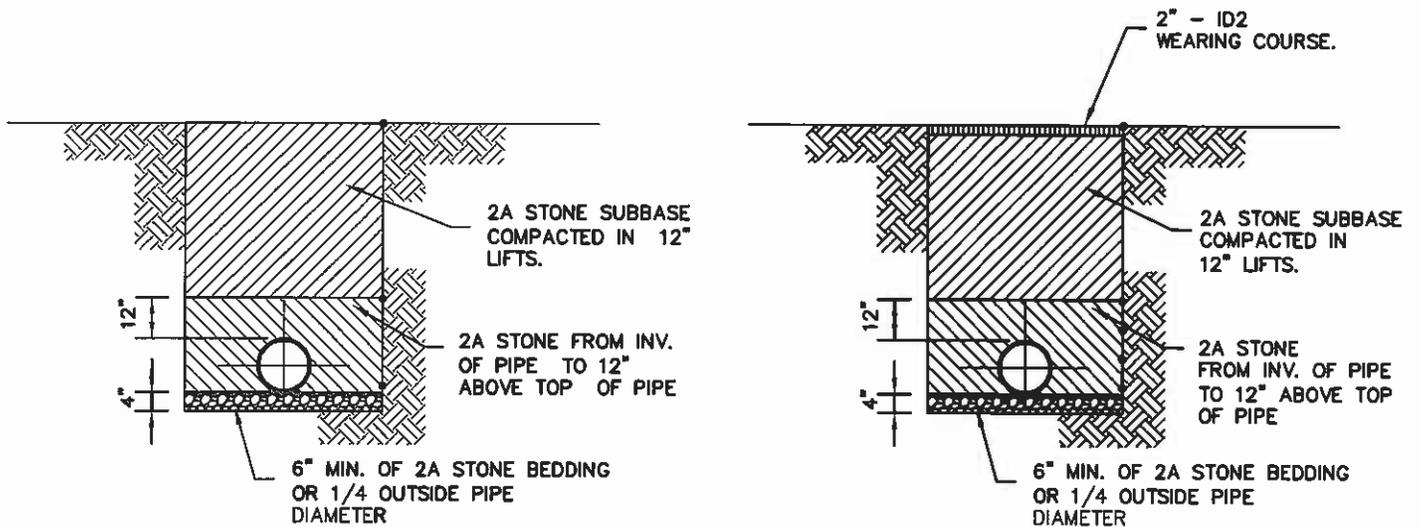
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## PAVED STREET TEMPORARY RESTORATION

NO SCALE



## UNPAVED STREET OR SHOULDER TEMPORARY RESTORATION

NO SCALE

## UNPAVED STREET OR SHOULDER PERMANENT RESTORATION

NO SCALE

## STREET RESTORATION DETAIL

NO SCALE

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

PERMANENT TOWNSHIP STREET RESTORATION

T&M ASSOCIATES

10/11

S-G-06

BITUMINOUS AND CONCRETE PAVING

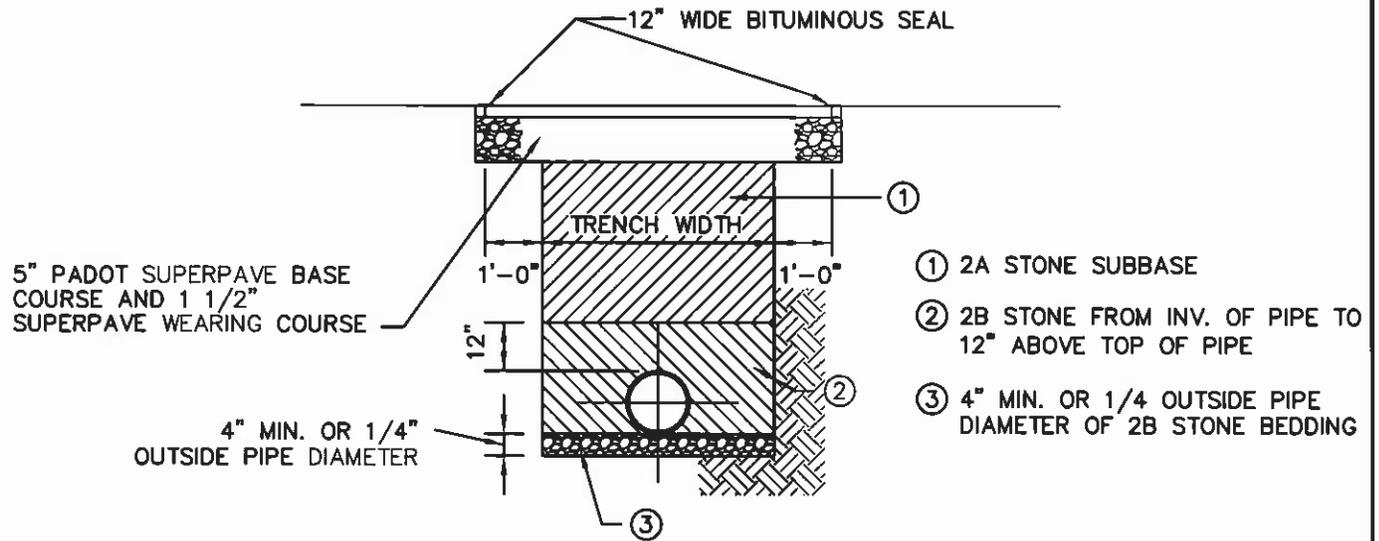
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APP'D.

DATE

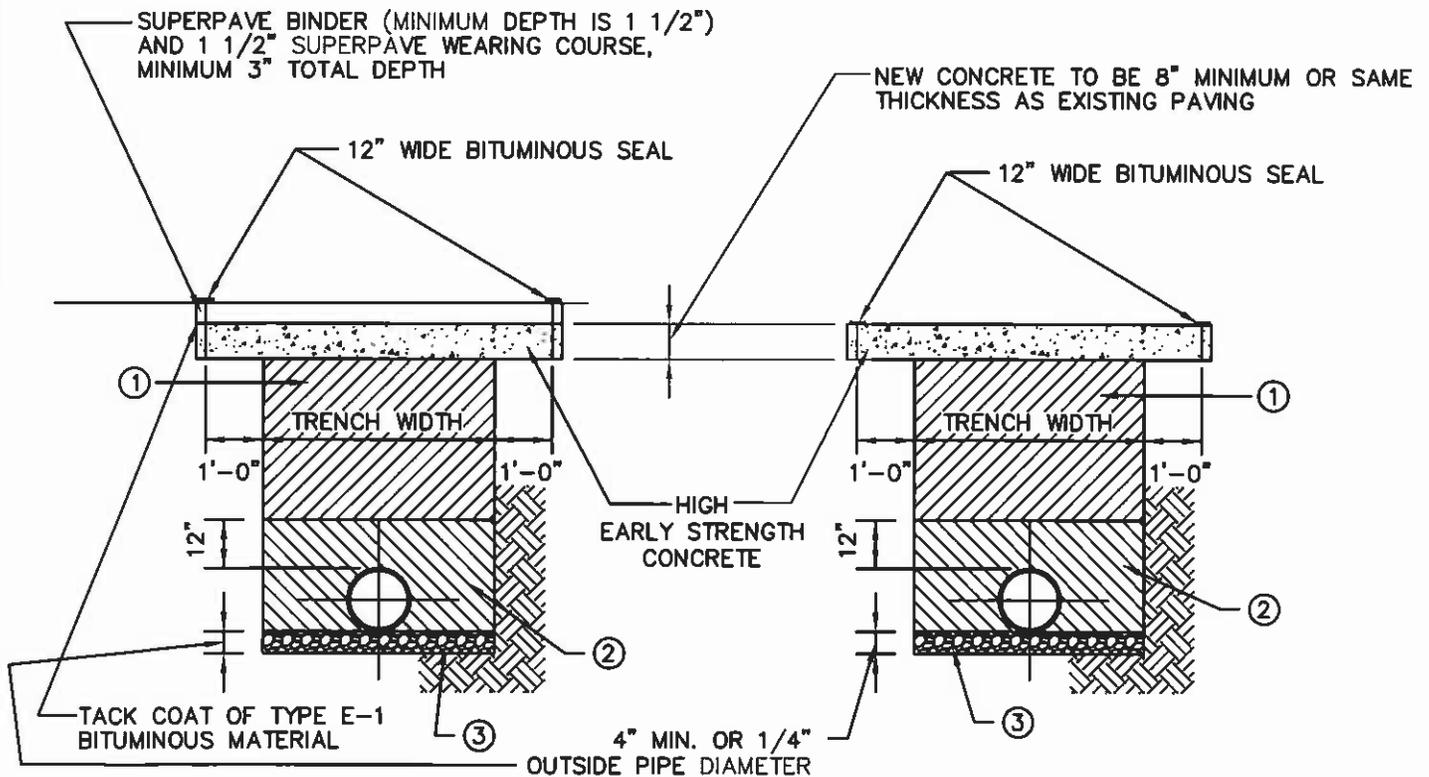
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## PADOT SUPERPAVE – PERMANENT RESTORATION

NO SCALE



CONCRETE BASE WITH SUPERPAVE WEARING SURFACE

FULL DEPTH CONCRETE PAVEMENT RESTORATION

## CONCRETE PAVING – PERMANENT RESTORATION

NO SCALE

FOR TEMPORARY PAVING SEE S-G-05

STANDARD DETAIL

WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

GRASSED AREA BACKFILLING AND RESTORATION

T&M ASSOCIATES

10/11

S-G-07

CONSULTING ENGINEERS

APP'D.

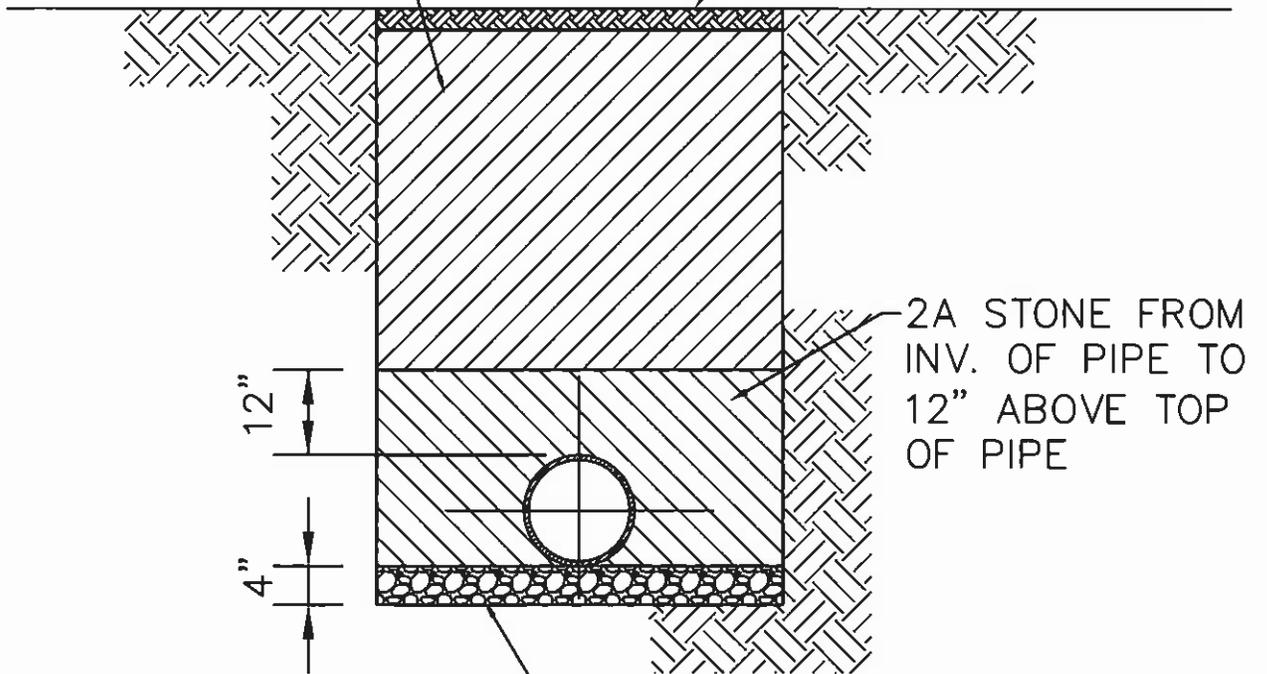
DATE

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REV.

SUITABLE ON SITE  
BACKFILL MATERIALS  
IN LAWNS, YARDS,  
ETC. COMPACTED IN  
12" LIFTS.

TOPSOIL AND  
SEED AS  
SPECIFIED.



6" MIN. OF 2A STONE  
BEDDING OR 1/4  
OUTSIDE PIPE  
DIAMETER

GRASSED AREA BACKFILLING AND RESTORATION DETAIL

NO SCALE

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

RIGID PAVEMENT RESTORATION

T&M ASSOCIATES

10/11

S-G-08

PA-DOT ROADS

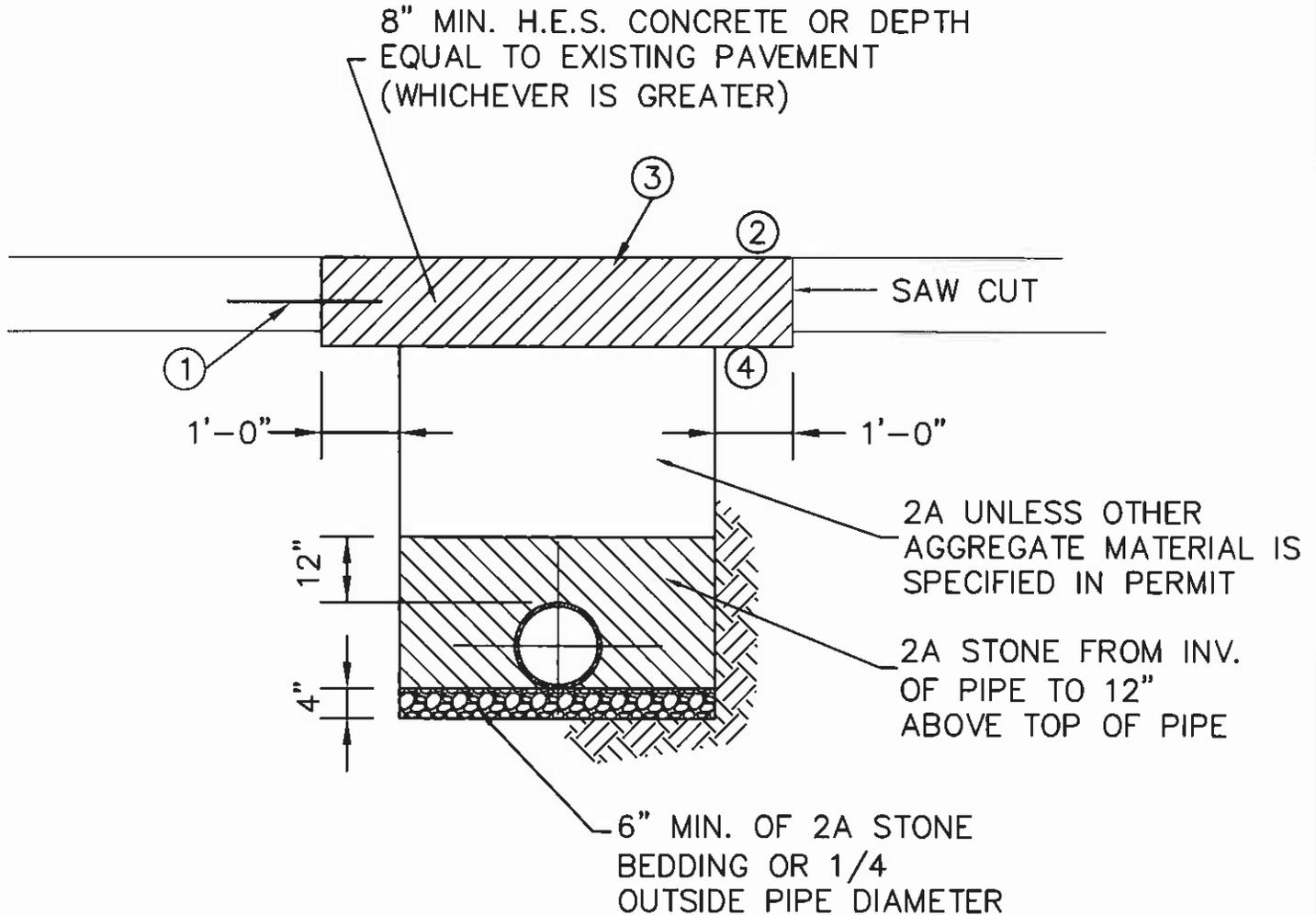
CONSULTING ENGINEERS

APP'D.

DATE

DRAWING NUMBER

REV.



1. ON R.C. PAVEMENT, PLACE REINFORCING STEEL, TIE BOLTS, AND LOAD TRANSFER DEVICES AS PER R.C. 26.
2. SURFACE TEXTURE AS PER PUBLICATION 408, SECTION 501.3(K).
3. FOR LIMITS OF CONCRETE REPLACEMENT SEE DEPT. REG. 459, SECTION 459.8(1)(4).
4. CUT BACK IS NOT REQUIRED BEYOND A TRANSVERSE OR LONGITUDINAL JOINT OR CURB.

PA-DOT ROADS - RIGID PAVEMENT RESTORATION

NO SCALE

# STANDARD DETAIL

# WILLIAMS TOWNSHIP

NORTHAMPTON COUNTY, PENNSYLVANIA

FLEXIBLE PAVEMENT RESTORATION

T&M ASSOCIATES

10/11

S-G-09

PA-DOT ROADS

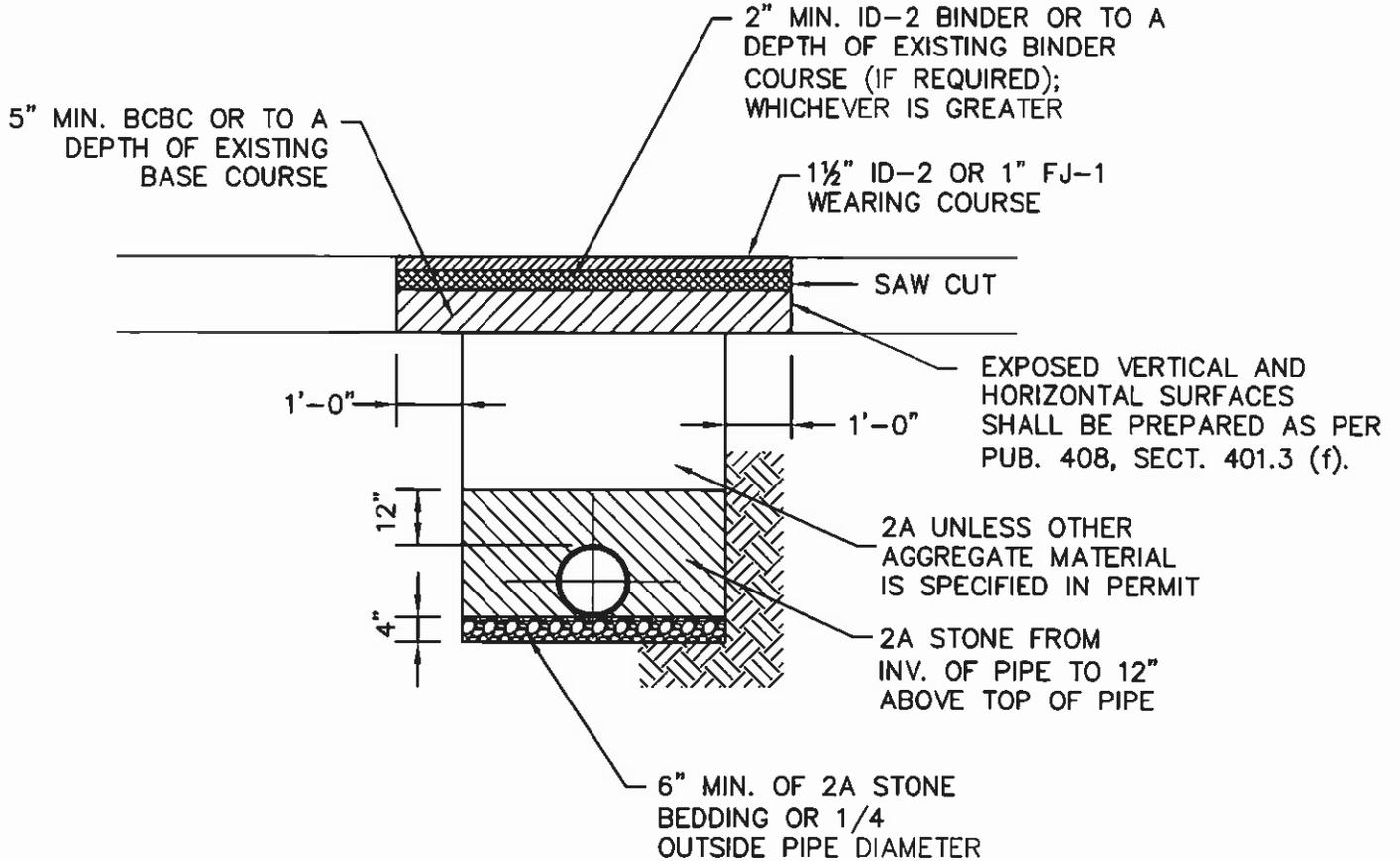
CONSULTING ENGINEERS

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DATE

DRAWING NUMBER

REV.



**NOTES:**

1. ALL RESTORATION SHALL BE IN ACCORDANCE WITH PA DOT PUBLICATION 408 AND PA CODE TITLE 67 CHAPTER 459.
2. SPECIAL CONDITIONS OF OCCUPANCY PERMIT MAY SUPERSEDE THIS DETAIL.

**PA-DOT ROADS - FLEXIBLE PAVEMENT RESTORATION**

NO SCALE