

CITY OF GOSHEN STANDARD SEWER DETAILS

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SECTION 400 SANITARY SEWER LATERAL DETAILS

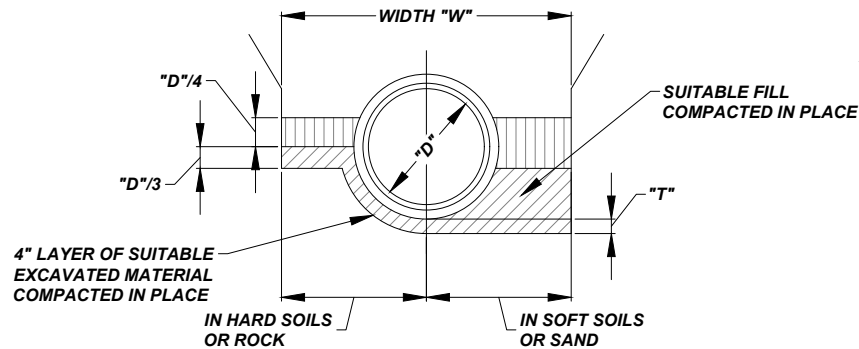
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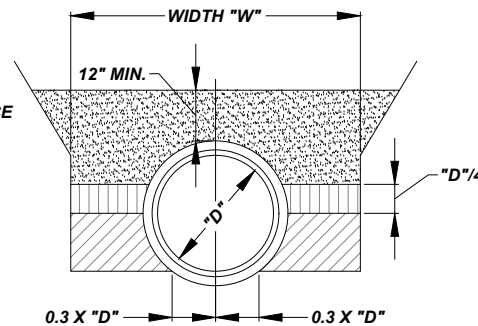
SW-501	SANITARY MANHOLE FORCE MAIN CONNECTION
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SW-504	FORCE MAIN FLUSHING MANHOLE TYPE IV

<i>SECTION 600 GRINDER PUMP DETAILS</i>	
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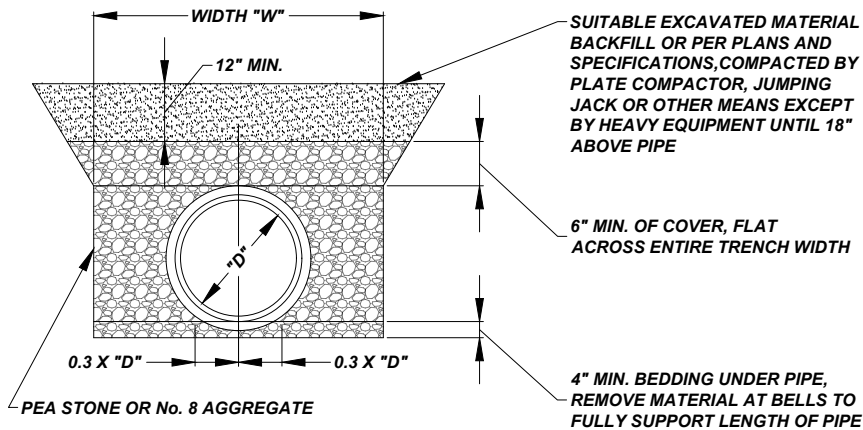
SW-601	STANDARD SIMPLEX GRINDER PUMP
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SW-604	SIMPLEX GRINDER PUMP H-PANEL
SW-605	CURB STOP SWING CHECK FORCED SEWER ASSEMBLY



SOFT OR HARD SOILS



SUITABLE SOILS



PVC PIPE

MIN. THICKNESS "T"	
TO 18"	6"
TO 36"	9"
OVER 36"	12"

MAX. TRENCH WIDTH AT TOP OF PIPE	
DIA. "D"	WIDTH "W"
6"	18"
8"	24"
10"	24"
12"	30"
15"	36"
18"	39"
21"	42"
24"	45"
27"	48"
30"	53"
36"	66"
42"	75"
48"	82"
72"	120"

NOTE:

1. PIPE SHALL BE FIRMLY BEDDED ON UN-DISTURBED SOIL AS SHOWN IN SUITABLE SOILS DETAIL. IN THE EVENT THE SOIL CANNOT BE SHAPED, THE TRENCH SHALL BE EXCAVATED TO A GREATER DEPTH AND BACKFILLED WITH SELECTED FILL AND COMPACTED AS SHOWN IN SOFT OR HARD SOILS DETAIL. IN ALL CASES BELL HOLES SHALL BE PROVIDED SO THE PIPE BELL SUPPORTS NO WEIGHT

SEWER TRENCH, PIPE LAYING AND BEDDING

NOT TO SCALE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering

204 East Jefferson, Suite 1 Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626
Web: goshenindiana.org

Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions

03/27/2025

CITY OF GOSHEN, INDIANA
STANDARD DETAIL

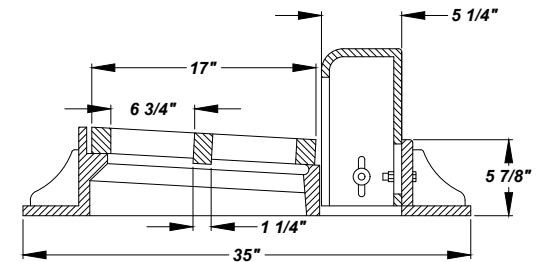
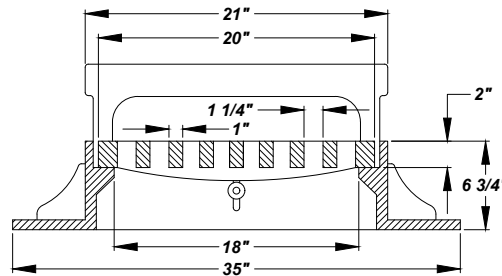
Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:

SW-101

NOTES:

1. NEENAH R-3070 W/ TYPE 'R' OR 'V' GRATE OR APPROVED EQUIVALENT
2. INCLUDE STREAM WARNING TEXT

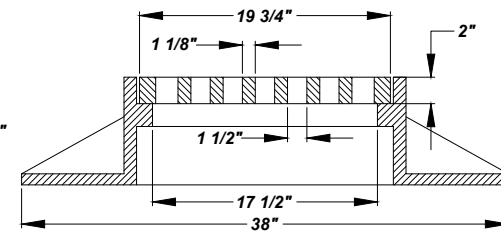
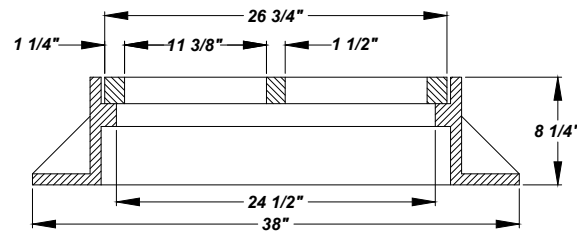


CURB & GUTTER CASTING

NOT TO SCALE

NOTES:

1. NEENAH R-3339 OR APPROVED EQUIVALENT
2. INCLUDE STREAM WARNING TEXT



GUTTER CASTING

NOT TO SCALE

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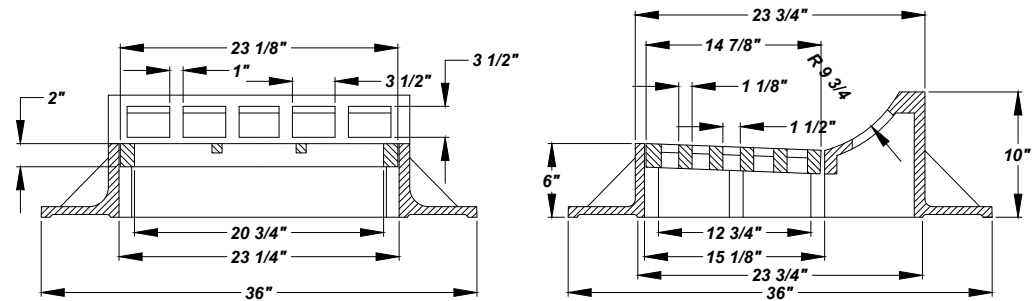
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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.
Drawing Number: SW-102

NOTES:

1. NEENAH R-3501-L-1A OR APPROVED EQUIVALENT
2. INCLUDE STREAM WARNING TEXT



ROLLED CURB CASTING

NOT TO SCALE

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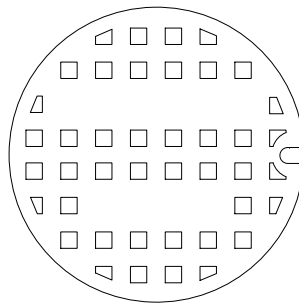
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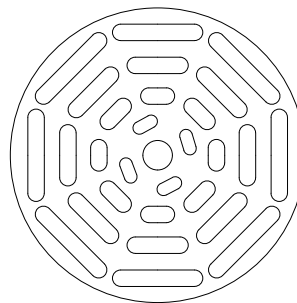
CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-103



TYPE 'B' LID



TYPE 'D' LID

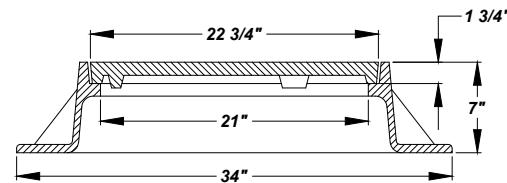
NOTES:

SOLID LID

1. NEENAH R-1772 W/ TYPE 'B' LID OR APPROVED EQUIVALENT
2. WORD 'STORM' OR 'SANITARY' ON LID

OPEN GRATE

1. NEENAH R-1772 W/ TYPE 'D' LID OR APPROVED EQUIVALENT
2. INCLUDE STREAM WARNING TEXT



ROUND FRAME AND CASTING

NOT TO SCALE

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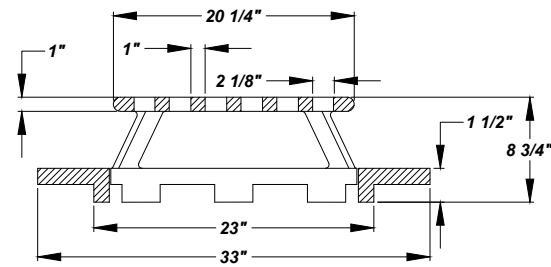
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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman	Approved By: D. Sailor, P.E.
Drawing Number: SW-104	

NOTES:

1. NEENAH R-4341-A OR APPROVED EQUIVALENT
2. INCLUDE STREAM WARNING TEXT



DITCH/DRYWELL ROUND GRATE CASTING

NOT TO SCALE

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Office of Engineering

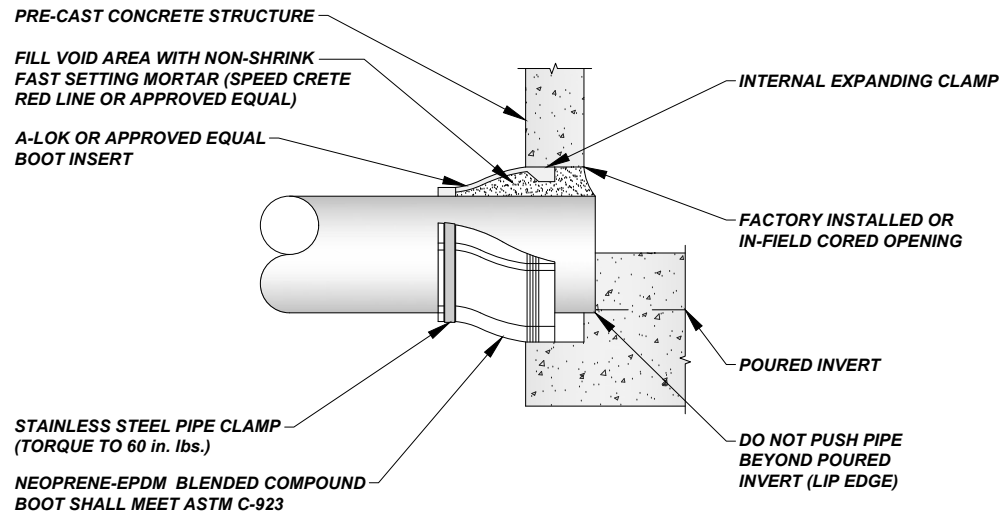
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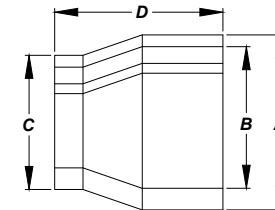
Drafted By:	Approved By:
J. Hoffman	D. Sailor, P.E.
Drawing Number:	
SW-105	



SANITARY MANHOLE PIPE CONNECTION

NOT TO SCALE

SUGGESTED PIPE O.D. RANGE (in.)	HOLE & BOOT DIAMETER DIMENSIONS			
	A	B	C	D
3 1/2" - 4 1/2"	7"	6 1/8"	4 1/4"	6"
5 3/8" - 7"	12"	10 7/8"	6 1/2"	8"
7" - 8 1/2"	12"	10 7/8"	8"	8"
8 3/16" - 9 3/4"	12"	10 7/8"	9 1/4"	8"
9 1/4" - 11"	16"	14 7/8"	10 1/2"	8"
10 1/4" - 11"	16"	14 7/8"	12"	8"
12" - 13 3/4"	16"	14 7/8"	13 1/4"	8"
14 1/2" - 16 1/4"	20"	18 7/8"	15 3/4"	8"
15 3/4" - 17 1/2"	20"	18 7/8"	17"	8"
19 1/2" - 21 1/4"	24"	22 7/8"	20 3/4"	8"



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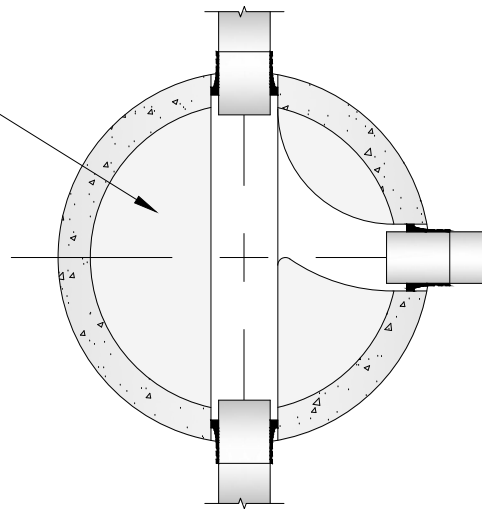
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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-106

PRECAST INVERT AND BENCH. IF POURED
IN THE FIELD, THE CITY OF GOSHEN
ENGINEERING DEPARTMENT MUST
PRE-APPROVE THE DESIGN BEFORE
INSTALLING. IF NOT PRE-APPROVED, THE
CONTRACTOR MAY BE REQUIRED TO
REMOVE THE BENCH AND RE-POUR WITH
NO ADDITIONAL COMPENSATION



PLAN VIEW

INVERT AND BENCH

NOT TO SCALE

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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By:	Approved By:
J. Hoffman	D. Sailor, P.E.
Drawing Number:	
SW-107	

NEENAH R-1772 W/ TYPE 'B' LID WORD 'SANITARY' ON LID OR APPROVED EQUAL. INSTALL TOP OF CASTING 1/4" BELOW FINISHED PAVEMENT. FLUSH WITH FINISHED GRADE IN YARD/LANDSCAPED AREAS

USE 1/4" ROLLED BUTYL MASTIC ROPE BETWEEN STRUCTURE AND RINGS, ONE ALONG INSIDE AND OUTSIDE EDGE. CASTING AND RINGS MUST BE ALIGNED VERTICALLY AND HAVE NO CRACKS

STAINLESS STEEL BOTTOM BAND TYPE 304 OR APPROVED EQUAL

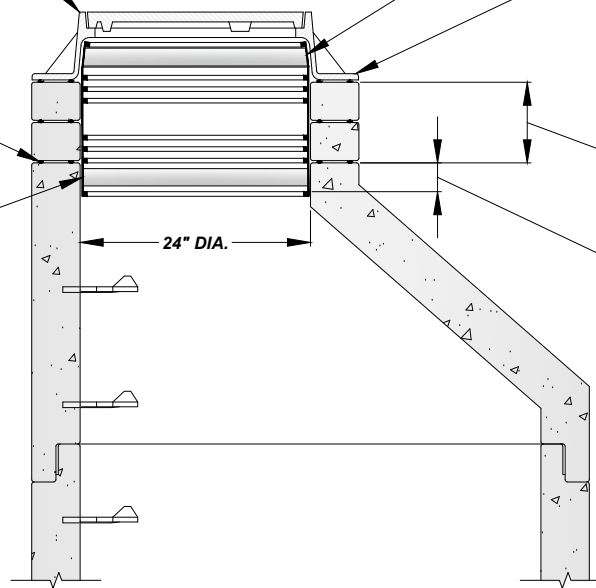
STAINLESS STEEL TOP BAND TYPE 304 OR APPROVED EQUAL

USE 1/4" ROLLED BUTYL MASTIC ROPE BETWEEN CASTING AND RING, ONE ALONG INSIDE AND OUTSIDE EDGES WHEN POSSIBLE. FOR FINE ADJUSTMENT, A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE REDLINE OR SIMILAR APPROVED MATERIAL CAN BE USED, MAXIMUM OF 2" THICKNESS. NO SHIMS, BRICK OR CONCRETE UNDER CASTING

MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY

3" MIN.

24" DIA.



TO SPAN CHIMNEY HEIGHTS OF:

0" TO 3"	NARROW (6") SEAL ONLY
3" TO 6"	STANDARD (9") SEAL ONLY
6.5" TO 12"	STANDARD SEAL WITH EXTENSION
12"	STANDARD SEAL WITH MULTIPLE EXTENSIONS

MANHOLE INTERNAL CHIMNEY SEAL

NOT TO SCALE

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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

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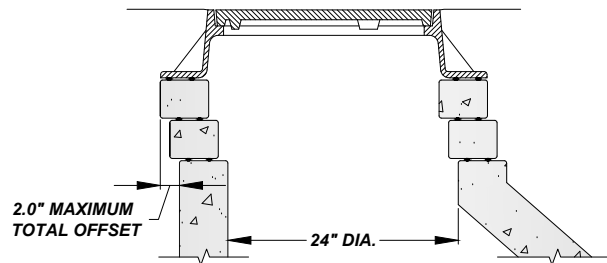
Drawing Number:
SW-108

NEENAH R-1772 W/ TYPE 'B' LID WORD 'STORM'
ON LID OR APPROVED EQUAL. INSTALL TOP
OF CASTING 1/4" BELOW FINISHED PAVEMENT

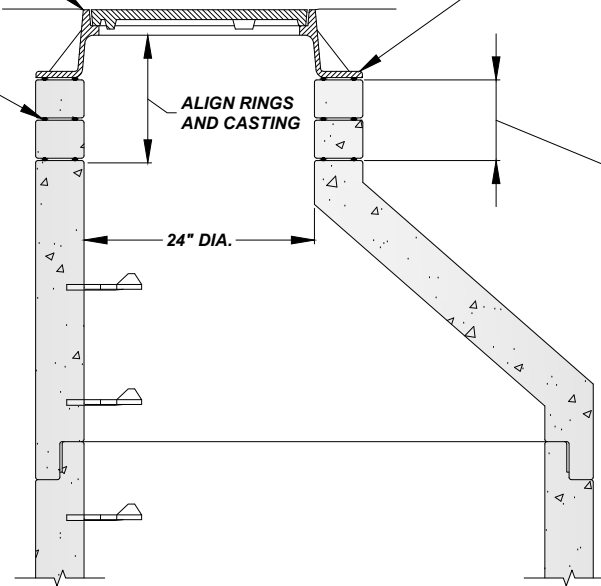
USE 1/4" ROLLED BUTYL MASTIC ROPE
BETWEEN STRUCTURE AND RINGS, ONE ALONG
INSIDE AND OUTSIDE EDGE. RINGS MUST BE
ALIGNED VERTICALLY AND HAVE NO CRACKS

USE 1/4" ROLLED BUTYL MASTIC ROPE BETWEEN
CASTING AND RING, ONE ALONG INSIDE AND OUTSIDE
EDGES WHEN POSSIBLE. FOR FINE ADJUSTMENT, A
NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE
REDLINE OR SIMILAR APPROVED MATERIAL CAN BE
USED, MAXIMUM OF 2" THICKNESS. NO SHIMS, BRICK
OR CONCRETE UNDER CASTING

MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER
RINGS. 2" AND THICKER PRE-CAST RINGS ONLY.
BRICK STRUCTURE - IF THE TOP OF THE
STRUCTURE NEEDS REPAIRED OR REBUILT
BEYOND THE 12" MAXIMUM, THE ENGINEERING
DEPARTMENT WILL DETERMINE THE ACCEPTABLE
REPAIR UP TO AND INCLUDING REPLACEMENT
WITH A PRE-CAST CONCRETE STRUCTURE



MAXIMUM RING OFFSET ALLOWED
(MUST BE PRE-APPROVED TO ALLOW ADJUSTMENT)



MANHOLE CHIMNEY RECONSTRUCTION

NOT TO SCALE

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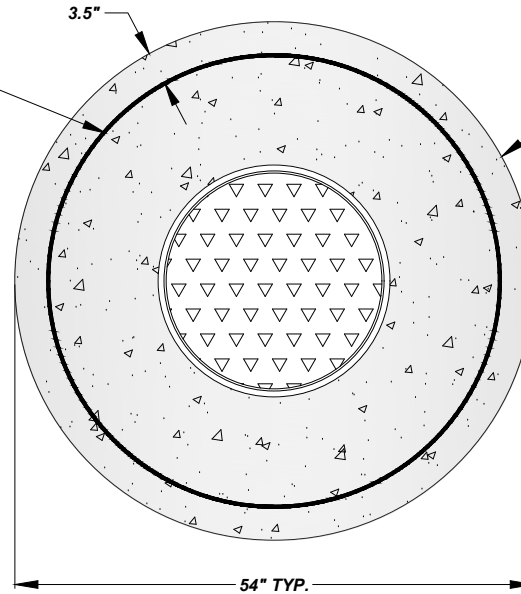
CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-109

No. 3 EPOXY COATED PRE-FORMED REBAR, THE CIRCULAR SHAPED REBARS SHALL HAVE A MIN. 6" OVERLAP

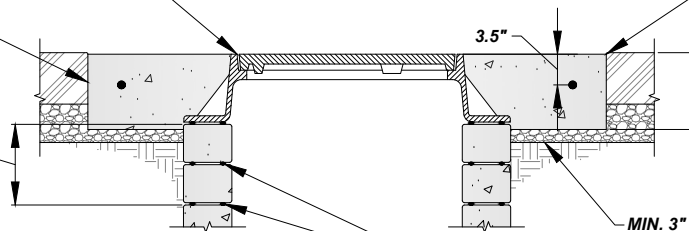
LIMIT OF PAVEMENT REMOVAL, USE MR. MANHOLE OR SIMILAR MECHANICAL MEETS TO CUT ASPHALT PAVEMENT



USE 1/4" ROLLED BUTYL MASTIC ROPE, APPLY TO INSIDE AND OUTSIDE EDGES OF ADJUSTING RINGS AND CASTINGS. FOR FINE ADJUSTMENT OF CASTING, A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE REDLINE OR SIMILAR APPROVED MATERIAL CAN BE USED IN PLACE OF MASTIC, MAXIMUM OF 2" THICKNESS. NO SHIMS, BRICK OR CONCRETE UNDER CASTING

REMOVE EXISTING ASPHALT PAVEMENT BY HAND OR MECHANICAL MEANS, CLEAN VERTICAL FACES REQUIRED BEFORE REPLACING CONCRETE

MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY



INSTALL CASTING AND CONCRETE 1/4" BELOW FINISH PAVEMENT

MATCH EXISTING PAVEMENT DEPTH OR 6" MIN. THICKNESS, CLASS 'A' CONCRETE, 4,000 PSI. INSTALL CASTING AND CONCRETE 1/4" BELOW FINISHED PAVEMENT. APPLY BLACK OR GRAY COLOR TO WET SURFACE OF CONCRETE

MIN. 3" OF No. 53 CRUSHED/RECYCLED CONCRETE, COMPACTED

USE 1/4" ROLLED BUTYL MASTIC ROPE BETWEEN STRUCTURE AND RINGS, ONE ALONG INSIDE AND OUTSIDE EDGE. CASTING AND RINGS MUST BE ALIGNED VERTICALLY AND HAVE NO CRACKS. NO MORTAR OR CONCRETE

RESETTING MANHOLE CASTING W/ CONCRETE RINGS

NOT TO SCALE

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STANDARD DETAIL

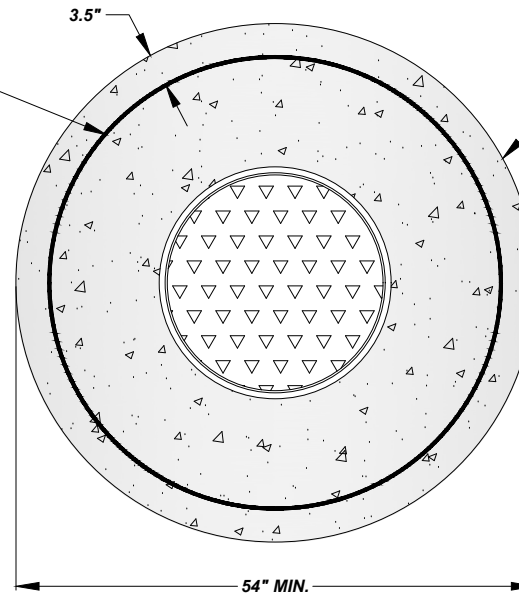
Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-110

No. 3 EPOXY COATED PRE-FORMED REBAR, THE CIRCULAR SHAPED REBARS SHALL HAVE A MIN. 6" OVERLAP

CHIMNEY LINER SPECIFICATIONS:

1. MADE FROM POLYVINYL CHLORIDE COMPOUNDS WHICH COMPLY WITH THE REQUIREMENTS FOR A MINIMUM CELL CLASSIFICATION OF 12364 AS DEFINED BY ASTM D-1784
2. MINIMUM PIPE STIFFNESS SHALL BE 46 PSI WHEN TESTED IN ACCORDANCE WITH ASTM D-2412
3. NO VISUAL CRACKING OR SPLITTING OF THE WATERWAY WALL SHALL BE EVIDENCED WHEN TESTED IN ACCORDANCE WITH ASTM D-2444 WITH A 20 LB. WEIGHT, TUP B, FLAT PLATE HOLDER B TO A LEVEL OF 220 FT. LBS.
4. THERE SHALL BE NO SIGN OF FLAKING OR DISINTEGRATION WHEN IMMERSSED IN ANHYDROUS ACETONE FOR 20 MINUTES AS DESCRIBED IN ASTM D-2152
5. THERE SHALL BE NO EVIDENCE OF CRACKING OR SPLITTING WHEN PIPE IS FLATTENED IN A CIRCUMFERENTIAL ORIENTATION BETWEEN TWO FLAT PLATES BY SIXTY PERCENT (60%) OF THE ORIGINAL DIAMETER
6. EACH LENGTH OF PIPE SHALL PASS A FACTORY 3.5 PSI AIR TEST AS DESCRIBED IN ASTM F-1803



LIMIT OF PAVEMENT REMOVAL, USE MR. MANHOLE OR SIMILAR MECHANICAL MEETS TO CUT ASPHALT PAVEMENT

PLAN VIEW

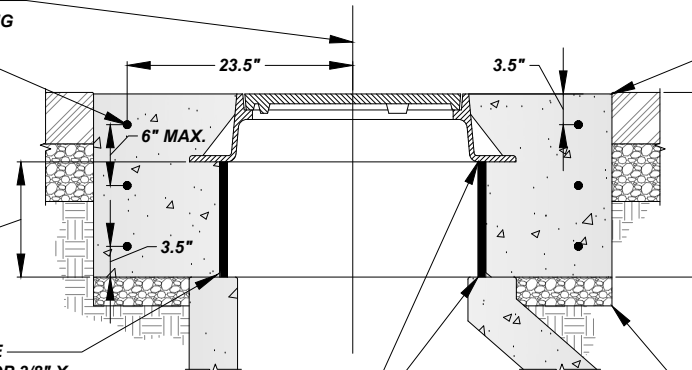
CENTER CHIMNEY LINER AND CASTING ON STRUCTURE OPENING

No. 3 EPOXY COATED REBAR

MAXIMUM 12" OF ADJUSTMENT, CHIMNEY LINER SHALL BE VYLON PIPE OR APPROVED EQUAL

WATERSTOP ALONG BOTTOM JOINT WITH STRUCTURE
WATER STOP SHALL BE CONSTRUCTED OF SWELLSTOP 3/8" X 3/4" CONTROLLED EXPANSION WATERSTOP OR EQUIVALENT

APPLY A LIBERAL AMOUNT OF WHITE MR. MANHOLE SEALANT, MM 306 OR APPROVED EQUAL TO THE BOTTOM AND TOP OF THE CHIMNEY LINER TO PROVIDE A WATER TIGHT SEAL



INSTALL CASTING AND CONCRETE 1/4" BELOW FINISH PAVEMENT

CLASS 'A' CONCRETE, 4,000 PSI. INSTALL CASTING AND CONCRETE 1/4" BELOW FINISHED PAVEMENT. APPLY BLACK OR GRAY COLOR TO WET SURFACE OF CONCRETE

MIN. 3" OF No. 53 CRUSHED/RECYCLED CONCRETE, COMPACTED

RESETTING MANHOLE CASTING W/ CHIMNEY LINER

NOT TO SCALE

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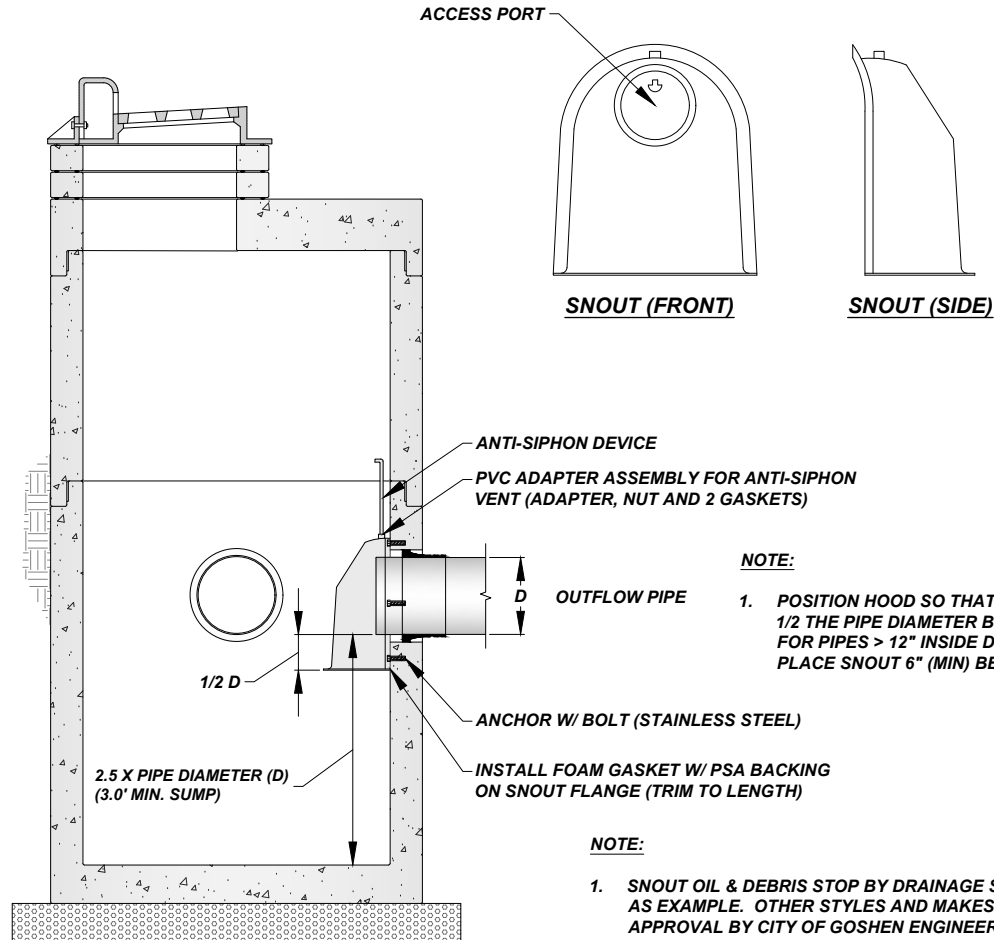
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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-111



SEWER HOOD/SNOUT

NOT TO SCALE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering

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Web: goshenindiana.org

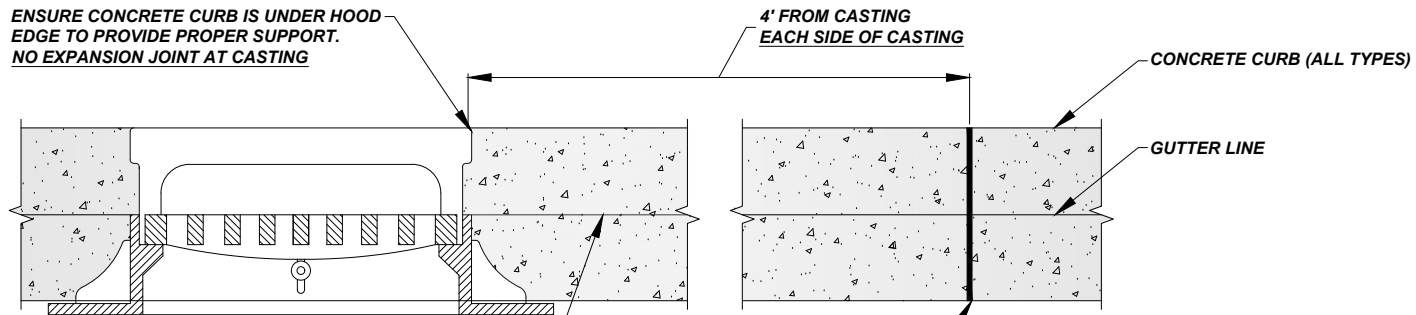
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SW-112



NO HIGH OR LOW AREAS ALLOWED BETWEEN THE CASTING AND EXPANSION JOINT ALONG GUTTER LINE. IF STANDING WATER IS PRESENT, THE CONTRACTOR MAY BE REQUIRED TO REPLACE THE CURB SECTION TO PROVIDE POSITIVE FLOW TO THE CASTING

PRE-FORMED 1/2" FIBER BOARD EXPANSION MATERIAL, FULL CURB DEPTH AND WIDTH. SINGLE PIECE, NO STACKING OF MATERIAL. NO CONCRETE SHALL BE PLACED OVER THE JOINT. REPLACEMENT OF THE JOINT WILL BE REQUIRED IF EXPANSION MATERIAL IS NOT FULL DEPTH, FULL WIDTH AND/OR IS COVERED BY CONCRETE

CURB CASTING EXPANSION JOINT

NOT TO SCALE

The City Of Goshen
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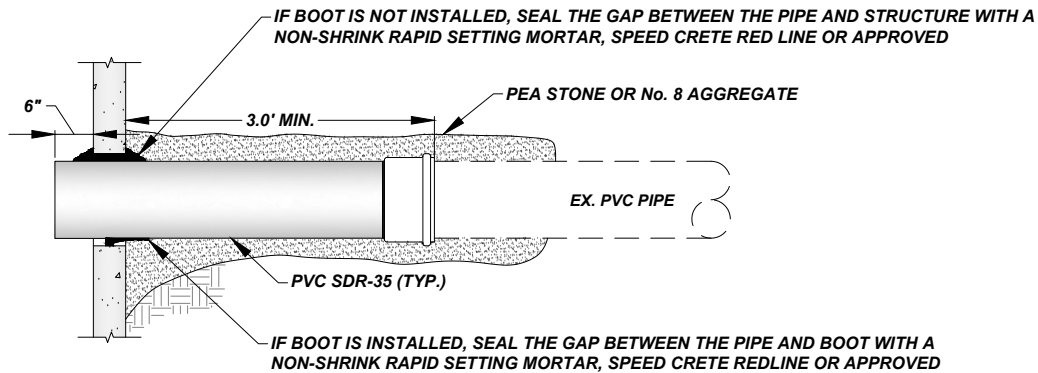
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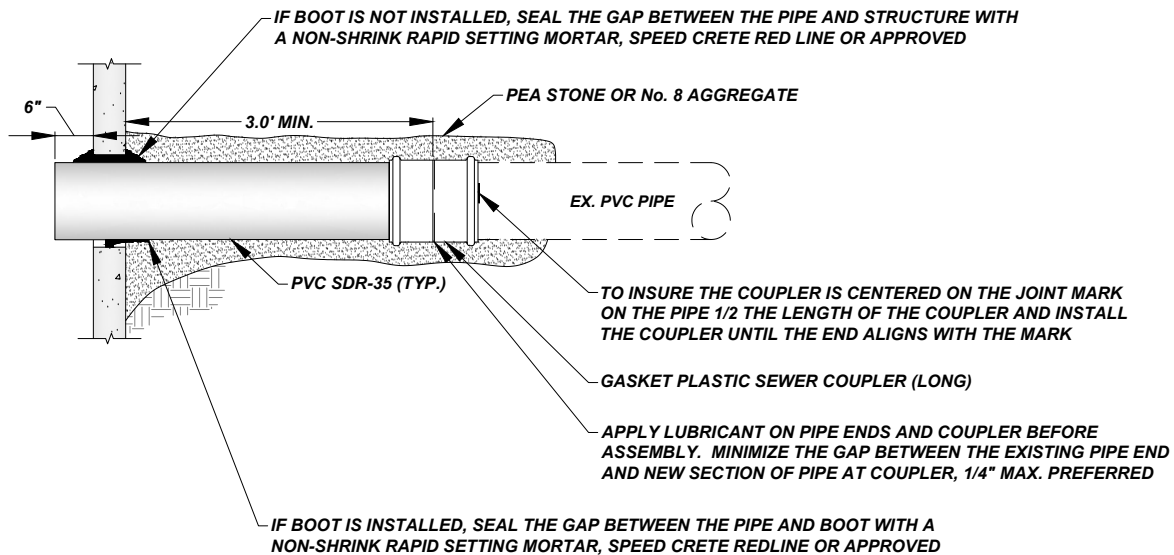
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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By:	Approved By:
J. Hoffman	D. Sailor, P.E.
Drawing Number:	
SW-113	



PVC BELL CONNECTION



PVC COUPLER CONNECTION

NEW OR REPLACEMENT STRUCTURE INSTALLATION ON EXISTING PVC PIPE

NOT TO SCALE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering

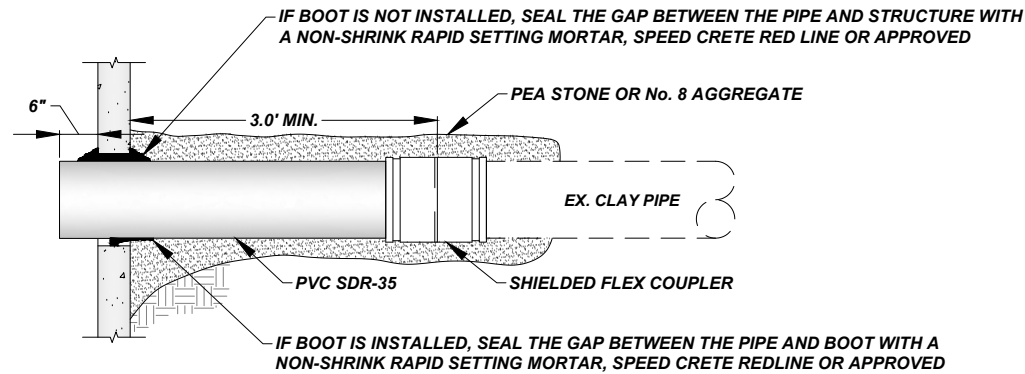
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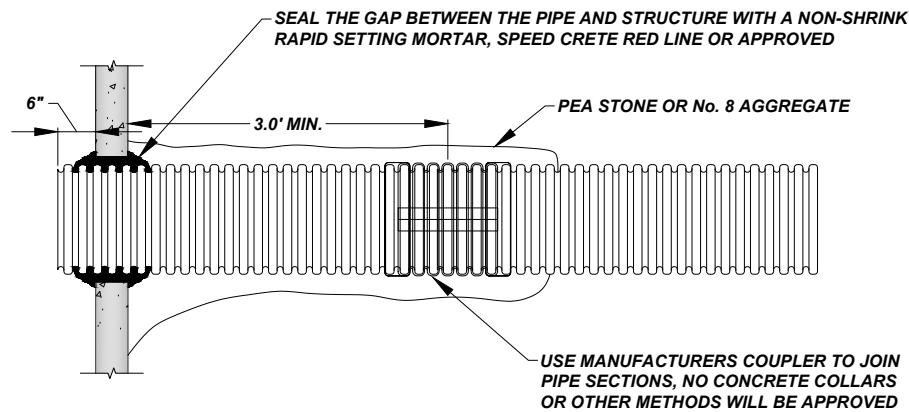
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CITY OF GOSHEN, INDIANA
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Drawing Number: **SW-114**



SHIELDED FLEX COUPLER CONNECTION



CORRUGATED COUPLER CONNECTION

NEW OR REPLACEMENT STRUCTURE INSTALLATION ON EXISTING CLAY OR CORRUGATED PIPE

NOT TO SCALE

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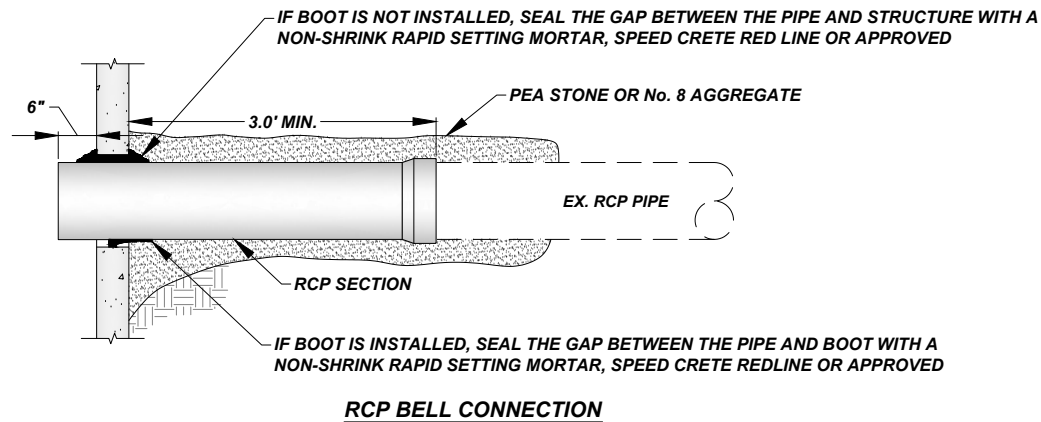
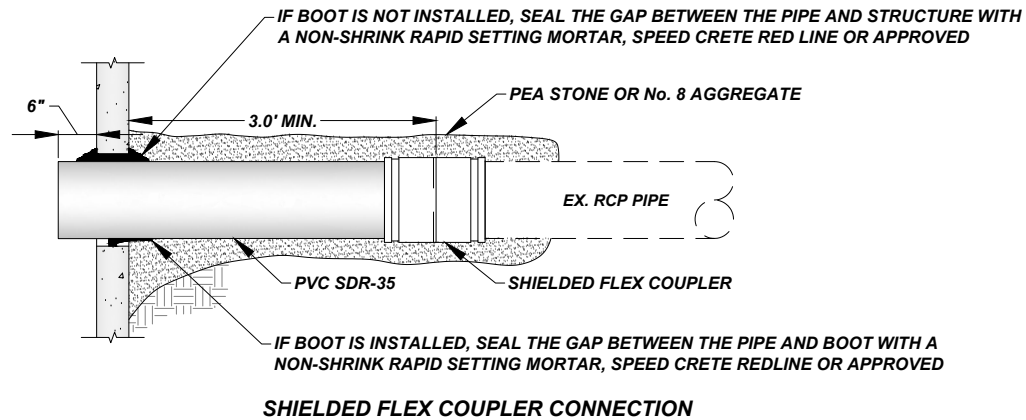
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**CITY OF GOSHEN, INDIANA
STANDARD DETAIL**

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-115



NEW OR REPLACEMENT STRUCTURE INSTALLATION ON EXISTING RCP PIPE

NOT TO SCALE

The City Of Goshen

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**CITY OF GOSHEN, INDIANA
STANDARD DETAIL**

Drafted By:	Approved By:
J. Hoffman	D. Sailor, P.E.
Drawing Number:	
SW-116	

NOTES:

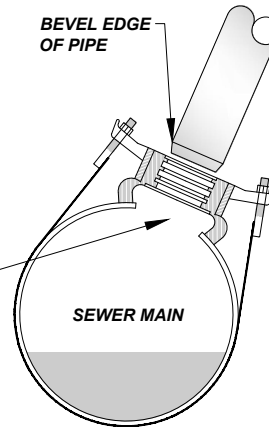
1. BOLTS, NUTS AND WASHERS, 1/2" UNC ROLL THREAD TEFLON COATED
2. 3 1/2" WIDE BAND FOR SPREADING OUT CLAMP FORCE ON PIPE
3. THE STAINLESS WELDS ARE FULLY PASSIVATED
4. EXCESS STRAP GOES BETWEEN PIPE AND BAND



**STAINLESS STEEL 304
ADJUSTABLE STRAP**

BEVEL EDGE
OF PIPE

OPENING SHALL NOT BE LARGER
THAN COMPRESSED GASKET
OPENING. FOLLOW THE
MANUFACTURER'S REQUIREMENTS



SEWER SADDLE CONFORMING TO PIPE

NOTES:

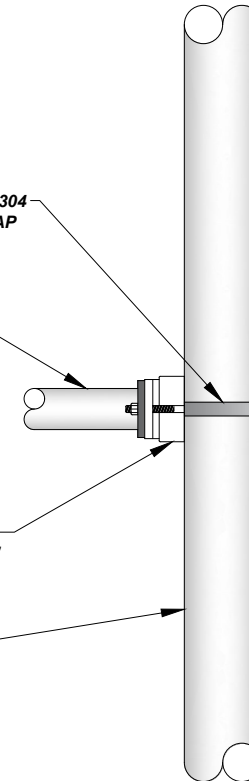
1. PIPE TO BE TAPPED USING A HOLE SAW OR APPROVED EQUAL, HOLES SHALL NOT BE LARGER THAN THE INSIDE HOLE OF THE GASKET
2. INSERTION TEES ARE NOT ALLOWED ON PIPE 18 INCH OR LESS IN DIAMETER UNLESS APPROVED BY THE CITY
3. LATERAL PIPE SHALL NOT PROTRUDE BEYOND INTERIOR WALL OF THE MAIN LINE
4. DETAIL SHOWS ROMAC BRAND. OTHER MANUFACTURERS MAY BE ACCEPTED BY CITY ENGINEERING DEPARTMENT UPON REVIEW OF MANUFACTURER'S SUBMITTAL

STAINLESS STEEL 304
ADJUSTABLE STRAP

SEWER LATERAL

SEWER SADDLE,
ROMAC STYLE 'CB'

SEWER MAIN



ROMAC 'CB' SEWER SADDLE

NOT TO SCALE

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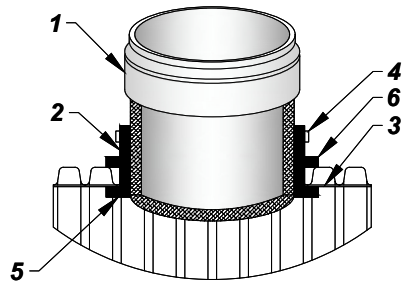
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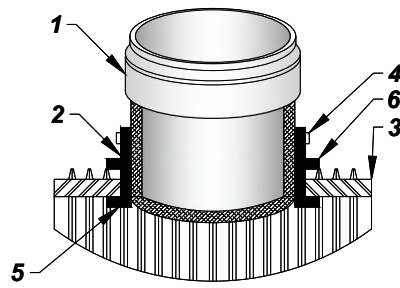
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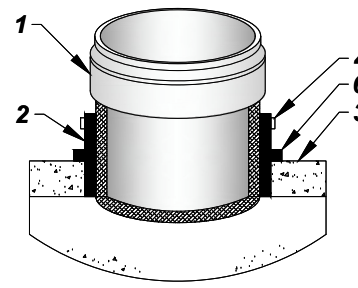
Drawing Number:
SW-117



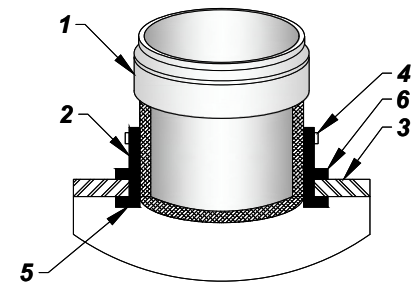
ADS PIPE
(WITH PERMISSION)



PROFILE WALL
(WITH PERMISSION)



CONCRETE OR CLAY



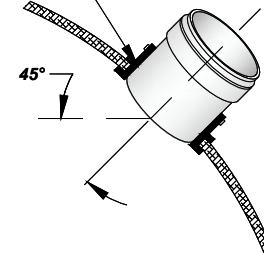
SOLID WALL

PART #	DESCRIPTION
1	PVC HUB ADAPTER WHICH IS DRIVEN INTO THE CENTER OF THE RUBBER SLEEVE AFTER THE RUBBER SLEEVE IS IN THE HOLE
2	COMPLETE RUBBER SLEEVE CONSISTING OF ASTM F 477 SPECIFICATIONS
3	MAINLINE PIPE WALL WHERE BRANCH LINE IS CONNECTED
4	STAINLESS STEEL BAND, PUT ON ABOVE RUBBER SEGMENT AS AN ADDED PRECAUTION
5	RUBBER SEGMENT WHICH IS MOLDED INTO THE RUBBER SLEEVE. THIS PREVENTS SNAP OUT ON THE INSIDE OF THE DRILLED HOLE (PLASTIC PIPE ONLY) AND HELPS HOLD THE FITTING IN PLACE, NOT CREATING THE SEAL
6	RUBBER SEGMENT WHICH IS MOLDED INTO THE RUBBER SLEEVE. THIS PREVENTS THE RUBBER SLEEVE FROM GOING THROUGH THE DRILLED HOLE WHEN PVC HUB IS BEING DRIVEN INTO THE RUBBER SLEEVE

NOTES:

1. WATERTIGHT SEAL IS ACCOMPLISHED WHEN PVC HUB IS DRIVEN INTO RUBBER SLEEVE CAUSING THE RUBBER SLEEVE TO COMPRESS BETWEEN PIPE WALL AND PVC HUB
2. BACKFILL AROUND TEE WITH PEA STONE OR No. 8 AGGREGATE STONE TO PREVENT DAMAGE
4. DETAIL SHOWS ROMAC BRAND. OTHER MANUFACTURERS MAY BE ACCEPTED BY CITY ENGINEERING DEPARTMENT UPON REVIEW OF MANUFACTURER'S SUBMITTAL

USE HOLE SAW, AT MANUFACTURERS SUGGESTED DIA.



INSERTA TEE (18" DIA. OR LARGER PIPE)

NOT TO SCALE

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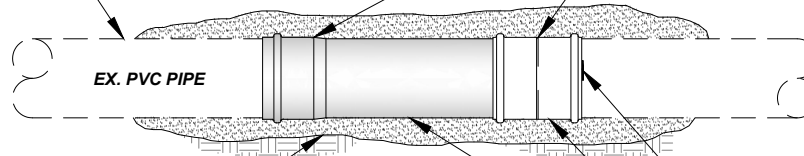
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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

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Drawing Number:
SW-118

IF A BELL IS NEAR THE DAMAGED SECTION, REMOVE THE EXISTING PIPE TO THE BELL AND REPLACE WITH A NEW SECTION OF PVC SDR-35 PIPE TO THE COUPLER. DO NOT LEAVE A SMALL SECTION OF EXISTING PIPE BETWEEN THE EXISTING BELL AND BELL OF NEW SECTION OF PVC SDR-35 PIPE



SAW CUT DAMAGED SECTION OF EXISTING PIPE, REMOVE AND BEVEL EACH PIPE END, APPLY LUBRICANT ON PIPE ENDS AND COUPLER BEFORE ASSEMBLY. MINIMIZE THE GAP BETWEEN THE EXISTING PIPE END AND NEW SECTION OF PVC SDR-35 PIPE AT COUPLER, 1/4" MAX. PREFERRED. SHIELDED FLEX COUPLERS MAY BE USED AT EACH END OF REPAIR FOR PIPE DIAMETERS OF 4" OR LESS

FULLY BED IN PEA STONE OR No. 8 AGGREGATE AROUND PIPE AND 6" ABOVE OR EXCAVATABLE FLOWABLE FILL

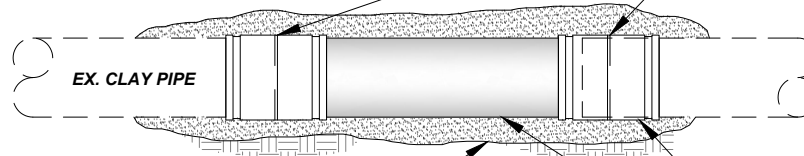
TO INSURE THE COUPLER IS CENTERED ON THE JOINT MARK ON THE PIPE 1/2 THE LENGTH OF THE COUPLER AND INSTALL THE COUPLER UNTIL THE END ALIGNS WITH THE MARK

GASKET PLASTIC SEWER COUPLER (LONG)

± 3' SECTION OF PVC SDR-35 PIPE WITH BELL END

PVC PIPE REPAIR

SAW CUT DAMAGED SECTION OF EXISTING PIPE AND REMOVE. MINIMIZE THE GAP BETWEEN THE EXISTING PIPE END AND NEW SECTION OF PVC SDR-35 PIPE AT THE SHIELDED FLEX COUPLER, 1/4" MAX. PREFERRED



FULLY BED IN PEA STONE OR No. 8 AGGREGATE AROUND PIPE AND 6" ABOVE OR EXCAVATABLE FLOWABLE FILL

SHIELDED FLEX COUPLER

± 3' SECTION OF PVC SDR-35 OR PVC SDR-40 PIPE WITH BELL END, MATCH EXISTING PIPE SIZE

CLAY PIPE REPAIR

PVC AND CLAY PIPE REPAIR

NOT TO SCALE

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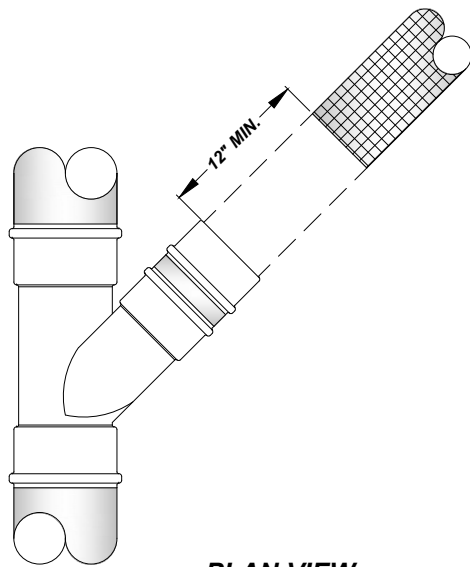
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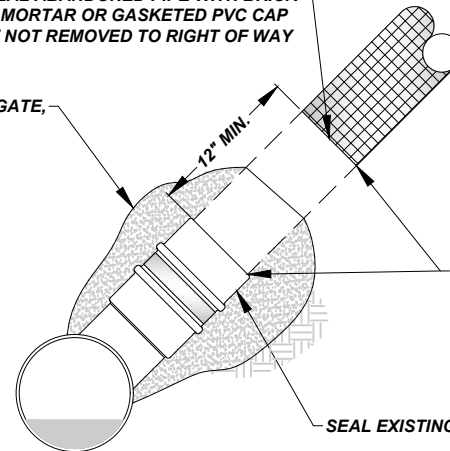
Drawing Number:
SW-119



PLAN VIEW

SEAL ABANDONED PIPE WITH BRICK
& MORTAR OR GASKETED PVC CAP
IF NOT REMOVED TO RIGHT OF WAY

PEA STONE OR No. 8 AGGREGATE,
FULLY ENCASED



PROFILE VIEW

NOTES:

1. BACKFILL TRENCH WITH B-BORROW
COMPACTED TO 95% MODIFIED PROCTOR
2. SEE ROADWAY PATCH DETAILS FOR
REQUIREMENTS TO REPAIR ROADWAY

RETIREMENT OF PVC SEWER LATERAL

NOT TO SCALE

The City Of Goshen
Department of Public Works & Safety
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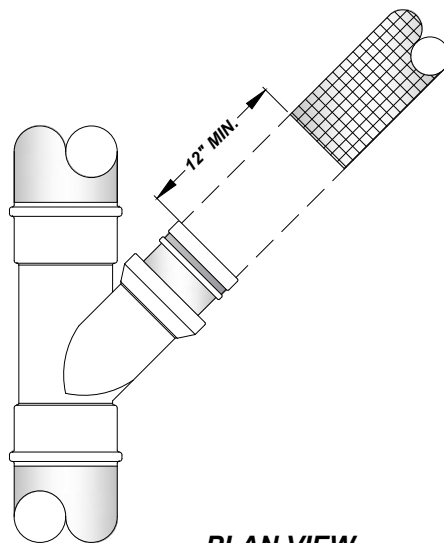
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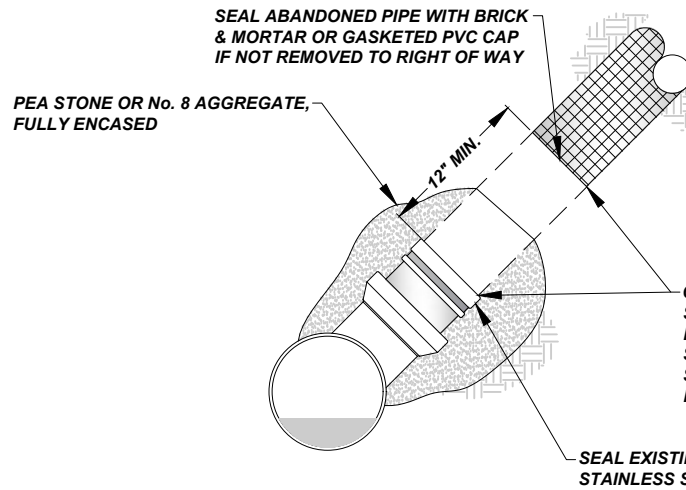
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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.
Drawing Number: **SW-120**



PLAN VIEW



PROFILE VIEW

NOTES:

1. BACKFILL TRENCH WITH B-BORROW
COMPACTED TO 95% MODIFIED PROCTOR
2. SEE ROADWAY PATCH DETAILS FOR
REQUIREMENTS TO REPAIR ROADWAY

RETIREMENT OF CLAY SEWER LATERAL

NOT TO SCALE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering

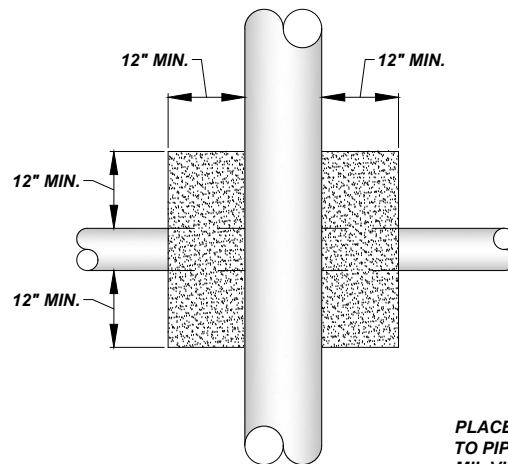
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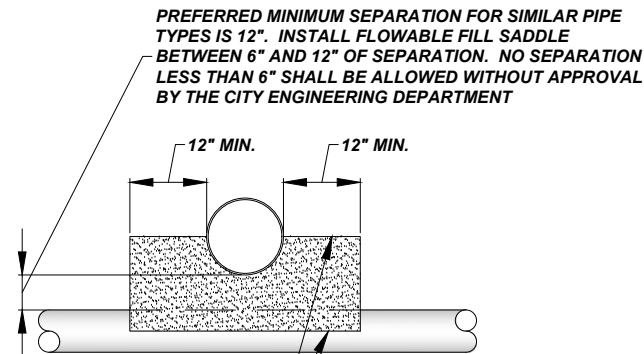
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Drawing Number: **SW-121**



PLAN VIEW



PROFILE VIEW

PLACE EXCAVATABLE FLOWABLE FILL SADDLE TO PIPE SPRING LINE. COVER BOTH PIPES IN 6 MIL VISQUEEN TO PROVIDE A SEPARATION BARRIER BETWEEN MATERIALS

FLOWABLE FILL PIPE SADDLE

NOT TO SCALE

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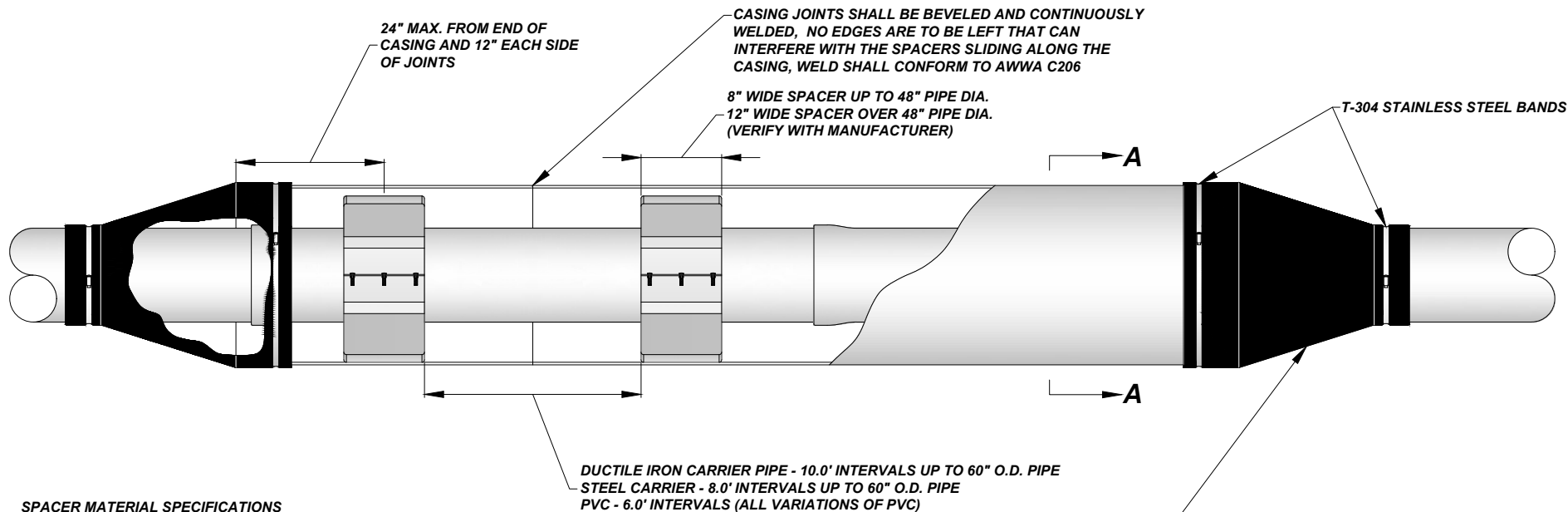
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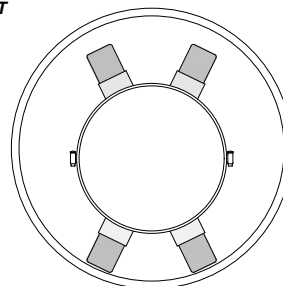
Drawing Number:
SW-122



SPACER MATERIAL SPECIFICATIONS

1. SHELL - MINIMUM 14 GAUGE T-304 STAINLESS STEEL. ALL SURFACES ARE FULLY CHEMICALLY PASSIVATED. FLANGES ARE RIBBED FOR STRENGTH
2. RISERS - MAXIMUM 10 GAUGE T-304 STAINLESS STEEL, REINFORCED 6" AND OVER IN HEIGHT
3. FASTENERS - 5/16 - 18 T-304 STAINLESS STEEL
4. LINER - PVC, 0.90 THICK, 85-90 DUROMETER (ASTM D1706 - 61T) MAX. CONSTANT OPERATING TEMPERATURE - 150 DEGREES (F) ELECTRICAL PROPERTIES - (ASTM - D149 - 61) 1380 V/min. RESISTANCE - SALT SPRAY (ASTM - B117) EXCELLENT - ACIDS GOOD
5. RUNNERS - ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE LOW COEFFICIENT OF FRICTION HIGH RESISTANCE TO ABRASION AND SLIDING WEAR TOUGHNESS UNDER IMPACT LOW DEFLECTION UNDER COMPRESSION DIELECTRIC INSULATION

CASCADE CASING SPACERS MODEL CCS AS MANUFACTURED BY
CASCADE WATERWORKS MFG. OR APPROVED EQUAL



SECTION A-A

STORM SEWER CASING

NOT TO SCALE

NOTES:

1. SUBMIT SHOP DRAWINGS TO THE CITY ENGINEERING DEPARTMENT FOR APPROVAL
2. ALL CHANGES TO MATERIALS OR MODIFICATIONS TO PLANS MUST BE PRE-APPROVED BY THE CITY ENGINEERING DEPARTMENT
3. RECORD DRAWING SHALL INCLUDE ELEVATION AT EACH END OF THE PIPE AND CASING, LOCATION OF EACH OF THE CASING, CASING LENGTH, SIZE, TYPE, A PROFILE DRAWING OF THE CASING CONTAINING THE ABOVE INFORMATION. INCLUDE ANY SPECIAL CONDITIONS OR NOTES

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CITY OF GOSHEN, INDIANA
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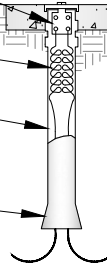
QUICK CONNECT TEST TERMINAL
LID W/ PERMANENT 'REAL'
MAGNET TO BE INSTALLED FOR
ELECTRONIC LOCATION

WIRE TERMINAL BLOCK SECURED TO LID

MIN. 15" OF EXCESS COIL,
TRACER WIRE

CAST IRON MONITORING STATION
BY FARWEST CORROSION
CONTROL OR APPROVED EQUAL

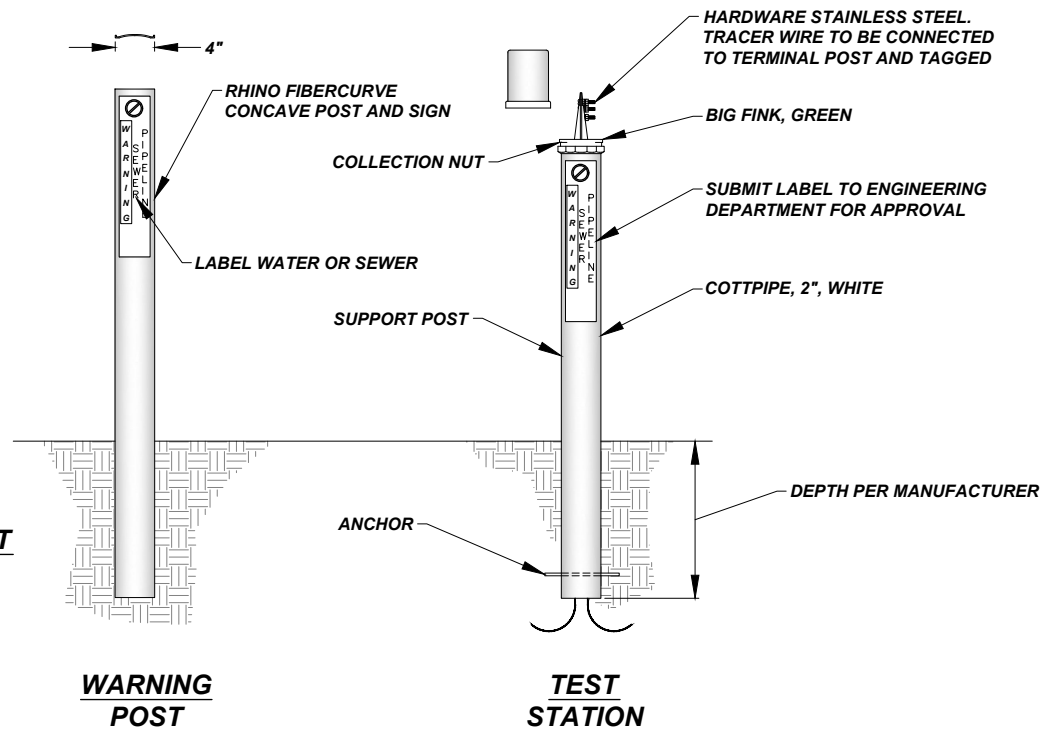
FLARED END REQUIRED



TRACER WIRE BELOW GRADE CONNECTION POINT

NOTES:

1. TRACER WIRE ACCESS POINTS SHALL BE A
MAXIMUM OF 500' APART
2. ACCESS POINTS SHALL BE LOCATED AT
VALVES, BOXES, ROAD CROSSINGS, MAJOR
PIPE TURNS OR DIRECTIONAL CHANGES



BURIED UTILITY WARNING POST & TEST STATION

NOT TO SCALE

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SW-124

CAP (GREEN)

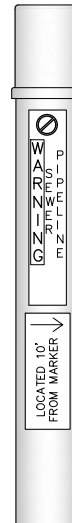
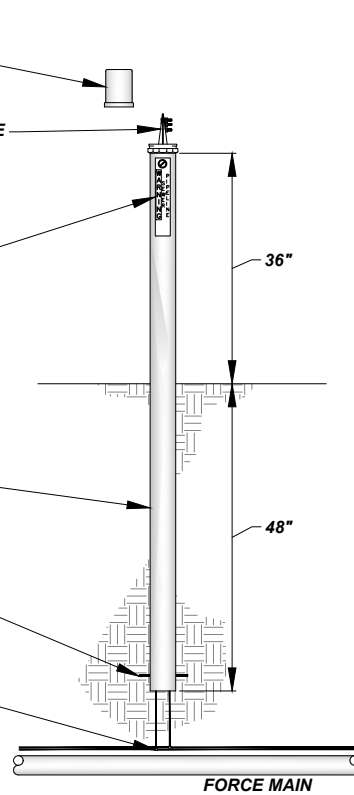
STAINLESS STEEL HARDWARE, MIN. FIVE
(5) TERMINALS, TAG TRACER WIRES

STANDARD WARNING LABEL
IF THE STATION CANNOT BE
PLACED DIRECTLY OVER THE
UTILITY, AN ADDITIONAL STICKER
WITH THE OFFSET DISTANCE AND
DIRECTION IS REQUIRED

4" PVC POST (GREEN)

1/2" SOLID PVC CROSS BAR

DRYCONN DIRECT BURY LUG
OR SIMILAR PRODUCT



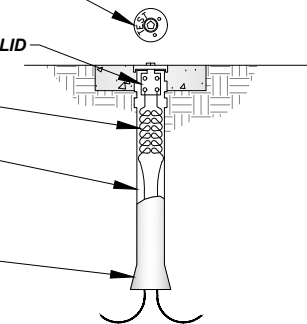
QUICK CONNECT TEST TERMINAL
LID W/ PERMANENT 'REAL'
MAGNET TO BE INSTALLED FOR
ELECTRONIC LOCATION

WIRE TERMINAL BLOCK SECURED TO LID

MIN. 15" OF EXCESS COIL,
TRACER WIRE

CAST IRON MONITORING STATION
BY FARWEST CORROSION CONTROL
OR APPROVED EQUAL

FLARED END REQUIRED



TRACER WIRE BELOW GRADE CONNECTION POINT

FORCE MAIN LOCATION STATION

NOT TO SCALE

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Drawing Number:
SW-125

NEENAH R-1772 W/ TYPE 'B' LID WORD 'SANITARY' ON LID OR APPROVED EQUAL. INSTALL TOP OF CASTING 1/4" BELOW FINISHED PAVEMENT. FLUSH WITH FINISHED GRADE IN YARD/LANDSCAPED AREAS

USE 1/4" ROLLED MASTIC ROPE BETWEEN CASTING AND RING, ONE ALONG INSIDE AND OUTSIDE EDGES WHEN POSSIBLE. FOR FINE ADJUSTMENT, A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE REDLINE OR SIMILAR APPROVED MATERIAL CAN BE USED, MAXIMUM OF 2" THICKNESS. NO SHIMS, BRICK OR CONCRETE UNDER CASTING

USE 1/4" ROLLED BUTYL MASTIC ROPE BETWEEN STRUCTURE AND RINGS, ONE ALONG INSIDE AND OUTSIDE EDGE. CASTING AND RINGS MUST BE ALIGNED VERTICALLY AND HAVE NO CRACKS

4" OR 6" DIA. SDR-35 PVC (INLET) BOOTED WITH A-LOCK GASKET OR APPROVED EQUAL

No. 8 AGGREGATE, MAYBE ELIMINATED BY ENGINEER IF CONDITIONS DO NOT WARRANT THE 6" OF BASE MATERIAL

MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY

ADJUSTMENT OVER 12" USE VERTICAL 24" DIA. RCP PIPE

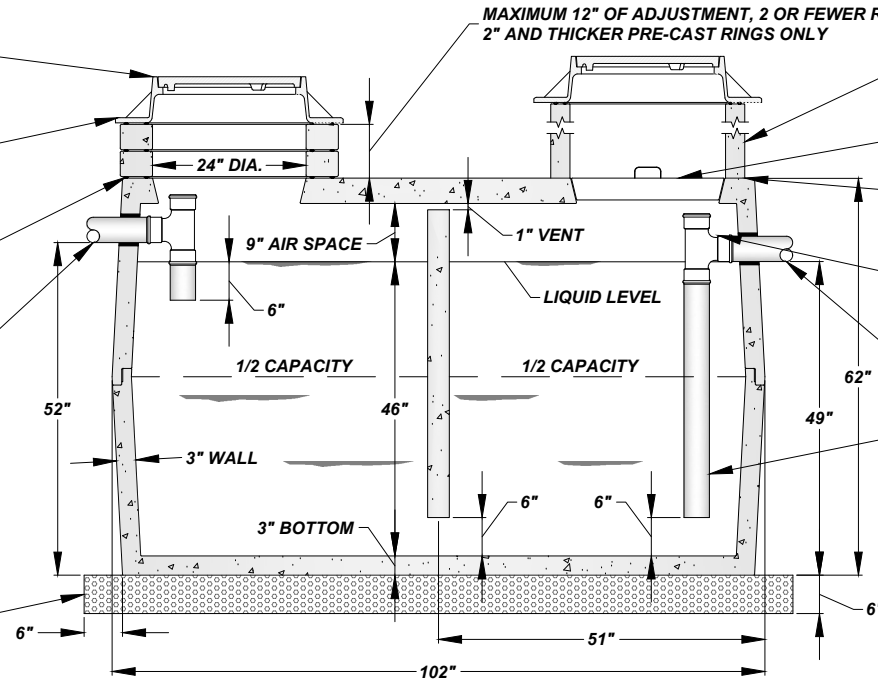
PRE-CAST CONCRETE LID

INSTALL BUTYL SEALANT AT JOINT (TYP.)

4" OR 6" PVC TEE

4" OR 6" DIA. SDR-35 PVC (OUTLET) BOOTED WITH A-LOCK GASKET OR APPROVED EQUAL

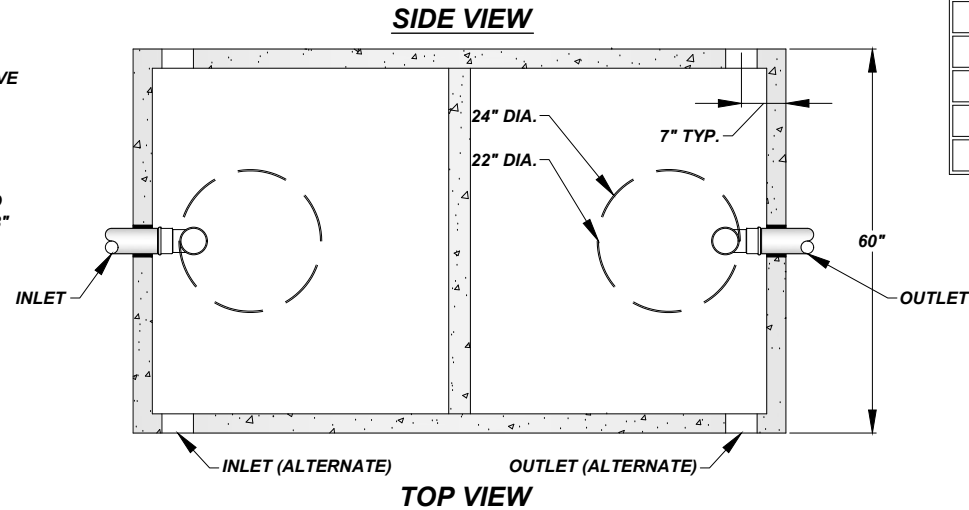
4" OR 6" DIA. SDR-35 PVC



GREASE INTERCEPTOR (1,000 GAL.)	
LENGTH:	102"
WIDTH:	60"
HEIGHT:	62"
TOP:	4,200 LBS
BOTTOM:	3,600 LBS

NOTES:

1. TANK IS CONCRETE, 2 PIECE WITH TONGUE AND GROOVE SEAM THAT IS SEALED WITH A BUTYL STRIP SEALANT
2. WALLS ARE 3" REINFORCED CONCRETE WITH 1.5" FIBRILLATED POLYPROPYLENE FIBER
3. TOP IS 4" REINFORCED CONCRETE WITH #3 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBER BOTTOM IS 3" REINFORCED CONCRETE WITH 1.5" FIBRILLATED POLYPROPYLENE FIBER
4. BAFFLES ARE MOLDED INTO THE TOP SECTION
5. TEST STRENGTH OF CONCRETE IS 4,500-5,000 PSI
6. USE 4" POLY SEALS FOR PIPE CONNECTIONS TO ELIMINATE THE USE OF GROUT



1,000 GAL. GREASE INTERCEPTOR - PRECAST CONCRETE

NOT TO SCALE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering

204 East Jefferson, Suite 1 Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626
Web: goshenindiana.org

Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions

03/27/2025

CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-126

NEENAH R-1772 W/ TYPE 'B' LID WORD 'SANITARY' ON LID OR APPROVED EQUAL. INSTALL TOP OF CASTING 1/4" BELOW FINISHED PAVEMENT. FLUSH WITH FINISHED GRADE IN YARD/LANDSCAPED AREAS

USE 1/4" ROLLED MASTIC ROPE BETWEEN CASTING AND RING, ONE ALONG INSIDE AND OUTSIDE EDGES WHEN POSSIBLE. FOR FINE ADJUSTMENT, A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE REDLINE OR SIMILAR APPROVED MATERIAL CAN BE USED, MAXIMUM OF 2" THICKNESS. NO SHIMS, BRICK OR CONCRETE UNDER CASTING

USE 1/4" ROLLED BUTYL MASTIC ROPE BETWEEN STRUCTURE AND RINGS, ONE ALONG INSIDE AND OUTSIDE EDGE. CASTING AND RINGS MUST BE ALIGNED VERTICALLY AND HAVE NO CRACKS

4" OR 6" DIA. SDR-35 PVC (INLET) BOOTED WITH A-LOCK GASKET OR APPROVED EQUAL

No. 8 AGGREGATE, MAYBE ELIMINATED BY ENGINEER IF CONDITIONS DO NOT WARRANT THE 6" OF BASE MATERIAL

MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY

ADJUSTMENT OVER 12" USE VERTICAL 24" DIA. RCP PIPE

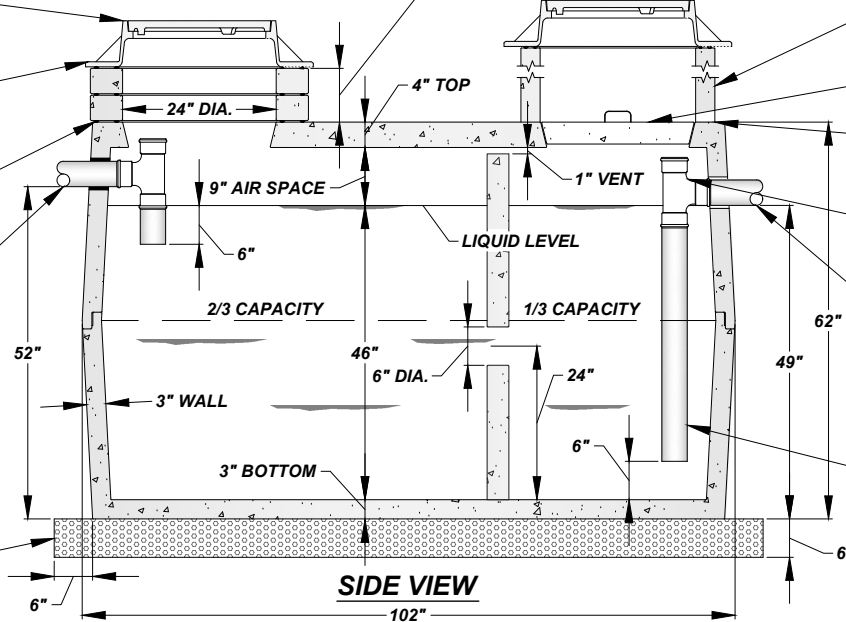
PRE-CAST CONCRETE LID

INSTALL BUTYL SEALANT AT JOINT (TYP.)

4" OR 6" PVC TEE

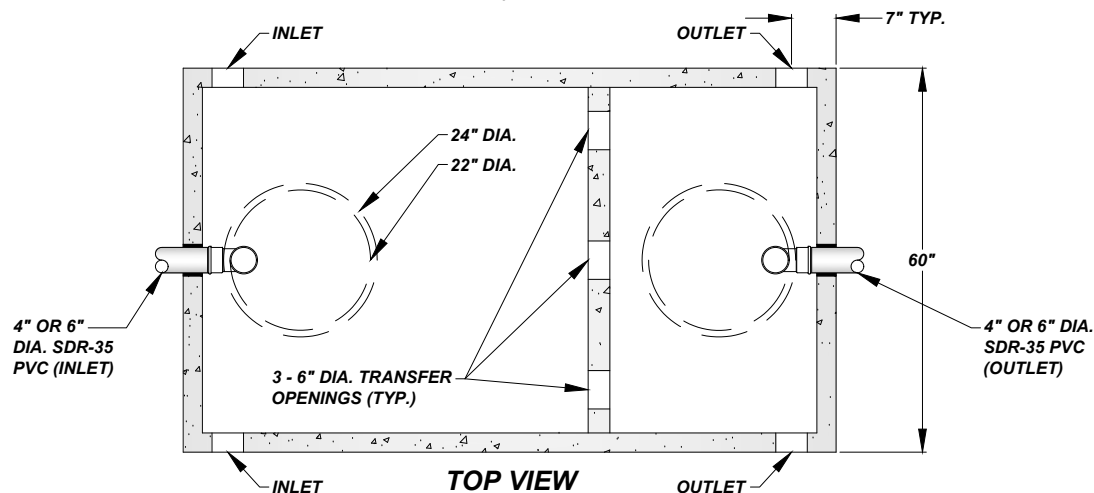
4" OR 6" DIA. SDR-35 PVC (OUTLET) BOOTED WITH A-LOCK GASKET OR APPROVED EQUAL

4" OR 6" DIA. SDR-35 PVC



NOTES:

1. TANK IS CONCRETE, 2 PIECE WITH TONGUE AND GROOVE SEAM THAT IS SEALED WITH A BUTYL STRIP SEALANT
2. WALLS ARE 3" REINFORCED CONCRETE WITH 1.5" FIBRILLATED POLYPROPYLENE FIBER
3. TOP IS 4" REINFORCED CONCRETE WITH #3 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBER BOTTOM IS 3" REINFORCED CONCRETE WITH 1.5" FIBRILLATED POLYPROPYLENE FIBER
4. TEST STRENGTH OF CONCRETE IS 4,500-5,000 PSI TANK IS EQUIPPED WITH 4" POLY SEALS FOR PIPE CONNECTIONS TO ELIMINATE THE USE OF GROUTING
5. 6" MIN. UP TO 4' - 0" MAX. FOR STANDARD LID. OVER 4' - 0" COVER OR WITHIN TIRE PATH THE STRUCTURE SHALL BE TRAFFIC RATED



1,000 GAL. OIL AND SAND SEPARATOR - PRECAST CONCRETE

NOT TO SCALE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering

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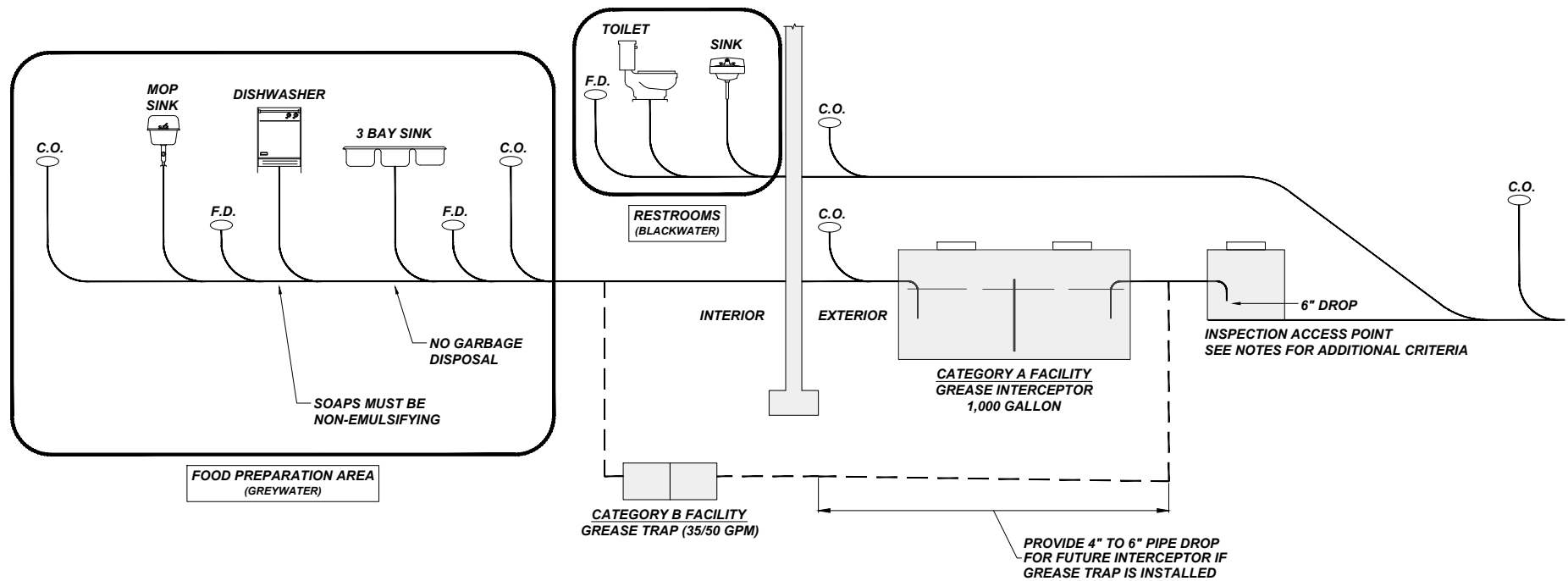
Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions

03/27/2025

CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-127



GREASE INTERCEPTOR DIAGRAM

NOT TO SCALE

NOTES:

1. INDUSTRIAL CUSTOMERS ARE REQUIRED TO INSTALL AN INSPECTION MANHOLE AT THE RIGHT OF WAY TO ALLOW FOR COMPOSITE SAMPLING
2. COMMERCIAL FOOD SERVICE CUSTOMERS MAY INSTALL A SIMPLE MANHOLE OR SAMPLE PORT TO ALLOW FOR GRAB SAMPLING

The City Of Goshen
Department of Public Works & Safety
Office of Engineering

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Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions

03/27/2025					

CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.
Drawing Number: SW-128

NEENAH R-1772 W/ TYPE 'B' LID OR APPROVED EQUAL. INSTALL TOP OF CASTING 1/4" BELOW FINISHED PAVEMENT. FLUSH WITH FINISHED GRADE IN YARD/LANDSCAPED AREAS

USE 1/4" ROLLED MASTIC ROPE BETWEEN CASTING AND RING, ONE ALONG INSIDE AND OUTSIDE EDGES WHEN POSSIBLE. FOR FINE ADJUSTMENT, A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE REDLINE OR SIMILAR APPROVED MATERIAL CAN BE USED, MAXIMUM OF 2" THICKNESS. NO SHIMS, BRICK OR CONCRETE UNDER CASTING

USE 1/4" ROLLED BUTYL MASTIC ROPE BETWEEN STRUCTURE AND RINGS, ONE ALONG INSIDE AND OUTSIDE EDGE. CASTING AND RINGS MUST BE ALIGNED VERTICALLY AND HAVE NO CRACKS (2.0" MAXIMUM HORIZONTAL OFFSET ALLOWED IF PRE-APPROVED)

MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY

PRE-CAST REINFORCED CONCRETE MANHOLE PER ASTM C-478

ALIGN RUNGS IN EACH STRUCTURE SECTION AND CONE OPENING

BACKFILL WITH B-BORROW OR APPROVED CLEAN SPOILS. COMPACT IN PROPER LIFTS BY MECHANICAL MEANS. IF UNABLE TO COMPACT BY MECHANICAL MEANS, PLACE No. 8 PEA GRAVEL BETWEEN EXCAVATION WALL AND STRUCTURE

COPOLYMER POLYPROPYLENE PLASTIC RUNGS WITH 1/2" GRADE 60 REINFORCING STEEL

PRECAST INVERT AND BENCH

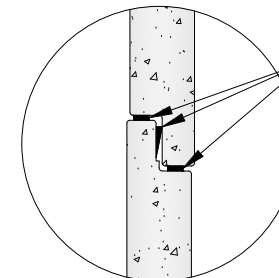
No. 8 AGGREGATE, MAYBE ELIMINATED BY ENGINEER IF CONDITIONS DO NOT WARRANT THE 6" OF BASE MATERIAL

BOOTS REQUIRED FOR ALL SANITARY PIPE CONNECTIONS. AN INVERT INSTALLED IN THE FIELD MUST BE CORED. SEAL THE GAP BETWEEN THE PIPE AND BOOT WITH A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE RED LINE OR APPROVED. EXTEND PIPE 6" BEYOND INSIDE WALL FACE IF ABOVE PRECAST INVERT AND BENCH

PIPE AND STRUCTURE SIZE	
'D'	'F'
<24"	4'-0"
24" to 36"	5'-0"
36" to 48"	6'-0"
48" to 54"	8'-0"
54" to 72"	8'-6"
72" to 84"	9'-0"

NOTE:

1. ALL STRUCTURES MUST BE INSPECTED BY A CITY REPRESENTATIVE PRIOR TO INSTALLATION. STRUCTURES WILL BE REJECTED IF REINFORCING STEEL IS EXPOSED, EXCESSIVE VOIDS ARE OBSERVED IN THE CONCRETE, DAMAGE TO CONCRETE EDGES BETWEEN SECTIONS AND ANY OTHER ITEM THAT MAY COMPROMISE THE STRUCTURE



SECTIONS MAY BE SEALED WITH THE MANUFACTURER'S SUPPLIED GASKET OR MASTIC PLACED ON THE UPPER AND LOWER EDGES OF STRUCTURE

IF PIPE INVERT IS ABOVE BENCH OR AN EXTERNAL DROP IS INSTALLED, FORM CHANNEL IN BENCH, 4" MIN DEPTH, TO MAIN INVERT TO PREVENT SOLIDS FROM COLLECTING BELOW THE PIPE. CURVE CHANNEL DOWNSTREAM ALONG MAIN INVERT TO PREVENT MATERIAL FROM COLLECTING AT THE INTERSECTION OF THE TWO FLOW LINES. IF POURED IN THE FIELD, THE CITY OF GOSHEN ENGINEERING DEPARTMENT MUST PRE-APPROVE THE DESIGN BEFORE INSTALLING. IF NOT PRE-APPROVED, THE CONTRACTOR MAY BE REQUIRED TO REMOVE THE BENCH AND RE-POUR WITH NO ADDITIONAL COMPENSATION.

SEWER MANHOLE (TYPE A) - CONE W/ MANHOLE CASTING

NOT TO SCALE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering

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Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions

03/27/2025

CITY OF GOSHEN, INDIANA
STANDARD DETAIL

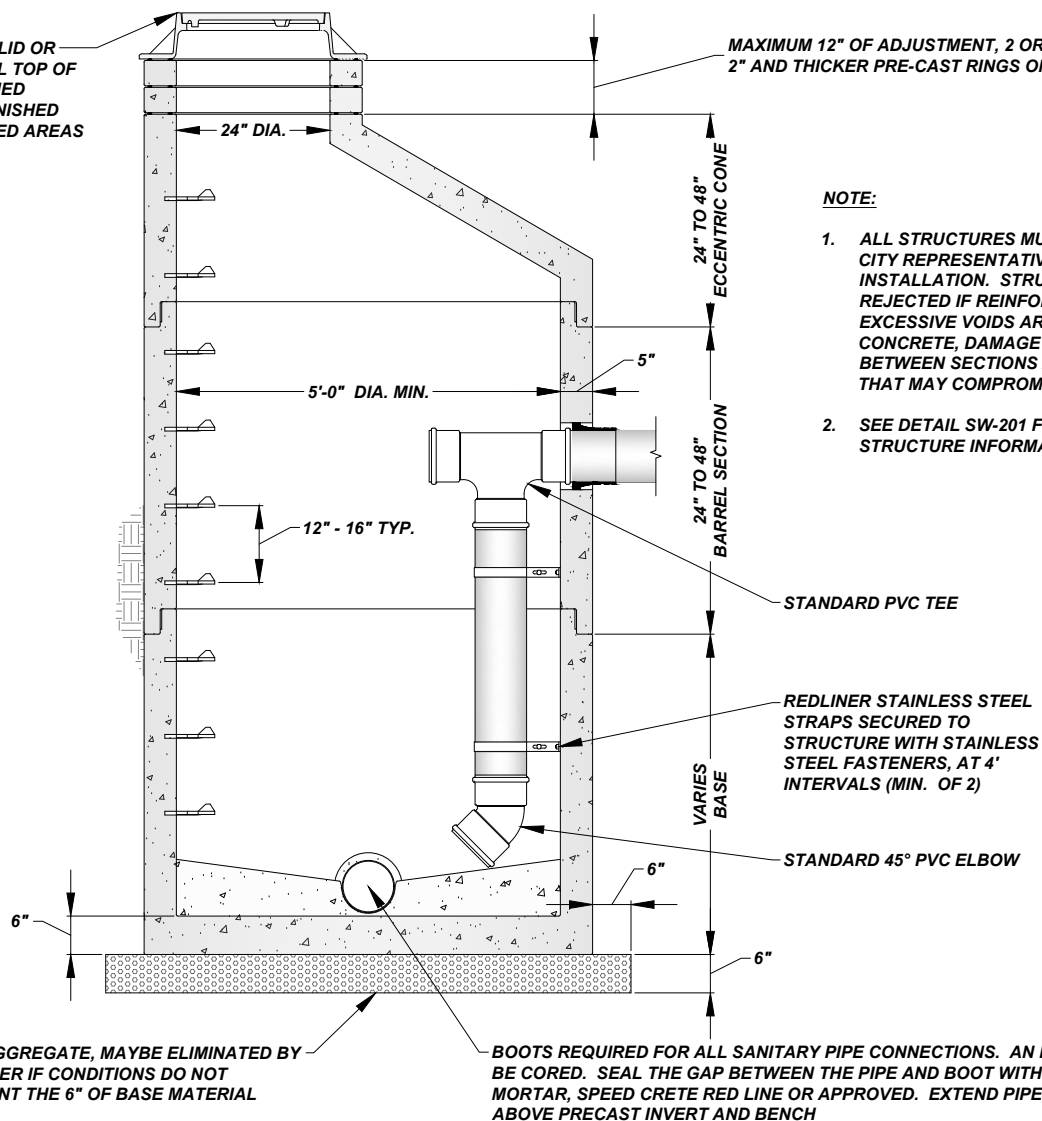
Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:

SW-201

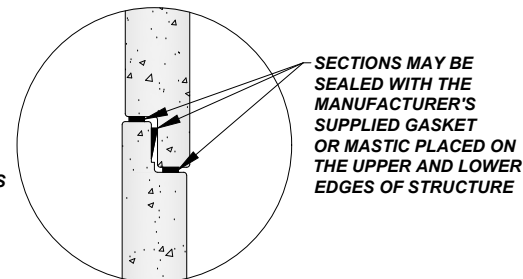
NEENAH R-1772 W/ TYPE 'B' LID OR APPROVED EQUAL. INSTALL TOP OF CASTING 1/4" BELOW FINISHED PAVEMENT. FLUSH WITH FINISHED GRADE IN YARD/LANDSCAPED AREAS

MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY



NOTE:

1. ALL STRUCTURES MUST BE INSPECTED BY A CITY REPRESENTATIVE PRIOR TO INSTALLATION. STRUCTURES WILL BE REJECTED IF REINFORCING STEEL IS EXPOSED, EXCESSIVE VOIDS ARE OBSERVED IN THE CONCRETE, DAMAGE TO CONCRETE EDGES BETWEEN SECTIONS AND ANY OTHER ITEM THAT MAY COMPROMISE THE STRUCTURE
2. SEE DETAIL SW-201 FOR ADDITIONAL STRUCTURE INFORMATION



SEWER INTERIOR DROP MANHOLE (TYPE C) - CONE W/ MANHOLE CASTING

NOT TO SCALE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering

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Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions

03/27/2025

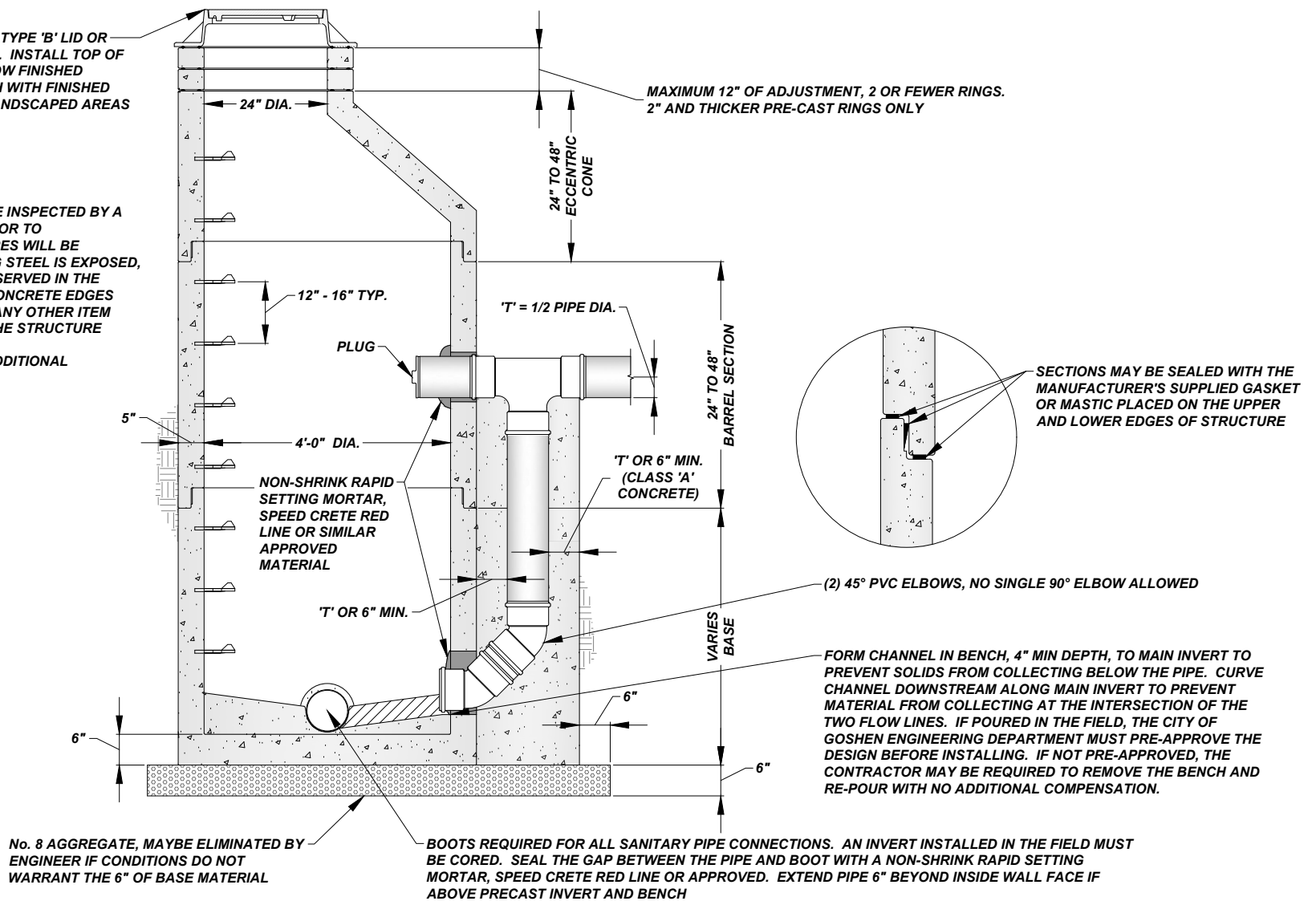
CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-203

NOTE:

1. **ALL STRUCTURES MUST BE INSPECTED BY A CITY REPRESENTATIVE PRIOR TO INSTALLATION. STRUCTURES WILL BE REJECTED IF REINFORCING STEEL IS EXPOSED, EXCESSIVE VOIDS ARE OBSERVED IN THE CONCRETE, DAMAGE TO CONCRETE EDGES BETWEEN SECTIONS AND ANY OTHER ITEM THAT MAY COMPROMISE THE STRUCTURE**
2. **SEE DETAIL SW-201 FOR ADDITIONAL STRUCTURE INFORMATION**



SEWER EXTERIOR DROP MANHOLE (TYPE D) - CONE W/ MANHOLE CASTING

NOT TO SCALE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering

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Web: goshenindiana.org

Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions

03/27/2025

CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman	Approved By: D. Sailor, P.E.
Drawing Number: SW-204	

NEENAH R-1772 W/ TYPE 'B' LID OR APPROVED EQUAL. INSTALL TOP OF CASTING 1/4" BELOW FINISHED PAVEMENT. FLUSH WITH FINISHED GRADE IN YARD/LANDSCAPED AREAS

INSPECTION MANHOLE SHALL BE A MINIMUM OF 36" DEEP ABOVE THE SAMPLE POINT TO ACCEPT SAMPLER WITH DIMENSIONS OF 17.7" DIA. X 27.6" TALL

PRE-CAST REINFORCED CONCRETE MANHOLE PER ASTM C-478

NO LADDER RUNGS IN INSPECTION MANHOLE

CENTERLINE OPENING TO BE ACCESSED FROM MANHOLE CASTING

22.5° PVC ELBOW ROTATED A COUPLE INCHES OFF HORIZONTAL TO RETRIEVE SAMPLE FOR TESTING (TO BE ACCESSIBLE FROM MANHOLE OPENING)

4" OR 6" DIA. SANITARY SEWER SERVICE

No. 8 AGGREGATE, MAYBE ELIMINATED BY ENGINEER IF CONDITIONS DO NOT WARRANT THE 6" OF BASE MATERIAL

USE 1/4" ROLLED MASTIC ROPE BETWEEN CASTING AND RING, ONE ALONG INSIDE AND OUTSIDE EDGES WHEN POSSIBLE. FOR FINE ADJUSTMENT, A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE REDLINE OR SIMILAR APPROVED MATERIAL CAN BE USED, MAXIMUM OF 2" THICKNESS. NO SHIMS, BRICK OR CONCRETE UNDER CASTING

MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY

RIGHT OF WAY

INSTALL INSPECTION MANHOLE ON DEVELOPMENT PROPERTY NOT WITHIN THE PUBLIC RIGHT OF WAY. POSITION TO ALLOW ACCESS BY CITY OF GOSHEN STAFF AT ALL TIMES

22.5° PVC ELBOW ROTATED SEVERAL INCHES OFF HORIZONTAL TO RETRIEVE SAMPLE FOR TESTING

4" OR 6" DIA. SANITARY SEWER SERVICE

22.5° PVC ELBOW ROTATION

NOTES:

1. ALL STRUCTURES MUST BE INSPECTED BY A CITY REPRESENTATIVE PRIOR TO INSTALLATION. STRUCTURES WILL BE REJECTED IF REINFORCING STEEL IS EXPOSED, EXCESSIVE VOIDS ARE OBSERVED IN THE CONCRETE, DAMAGE TO CONCRETE EDGES BETWEEN SECTIONS AND ANY OTHER ITEM THAT MAY COMPROMISE THE STRUCTURE
2. WASTEWATER PRETREATMENT REQUIRES A MINIMUM OF 1 1/2" OF LIQUID DEPTH FOR SAMPLING EQUIPMENT TO COLLECT SAMPLE
3. SEE DETAIL SW-201 FOR ADDITIONAL STRUCTURE INFORMATION

SANITARY INSPECTION MANHOLE (TYPE F)

NOT TO SCALE

Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions

03/27/2025					

CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.
Drawing Number: SW-206

The City Of Goshen
Department of Public Works & Safety
Office of Engineering

204 East Jefferson, Suite 1 Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626
Web: goshenindiana.org

NOTES:

1. 4" PLAIN END INLET/OUTLET
2. FIELD MODIFIABLE TO 6" PLAIN END INLET/OUTLET
3. UNIT WEIGHT - 9 LBS.
4. MAXIMUM OPERATING TEMPERATURE: 150° F CONTINUOUS
5. OFFSET CONNECTIONS
6. 2 ROLLS OF 33" X 2" BUTYL MASTIC TAPE PROVIDED FOR SEALING BUILD-YOUR-OWN RISER JOINTS

ENGINEERING SPECIFICATION GUIDE:

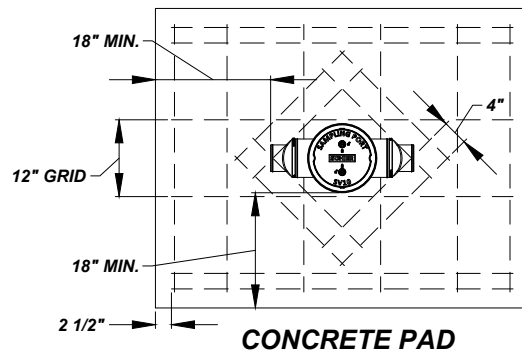
SCHIER SEWER VIEWER SAMPLING PORT MODEL# SV 10 SHALL BE LIFETIME GUARANTEED AND MADE IN USA OF SEAMLESS, ROTATIONALLY-MOLDED POLYETHYLENE. SAMPLING PORT SHALL BE FURNISHED FOR ABOVE OR BELOW GRADE INSTALLATION. COVER SHALL PROVIDE WATER/GAS-TIGHT SEAL AND HAVE MINIMUM 16,000 LBS. LOAD CAPACITY

ACCESSORIES:

FIELD CUT RISER FOR EXTENDING COVER TO GRADE

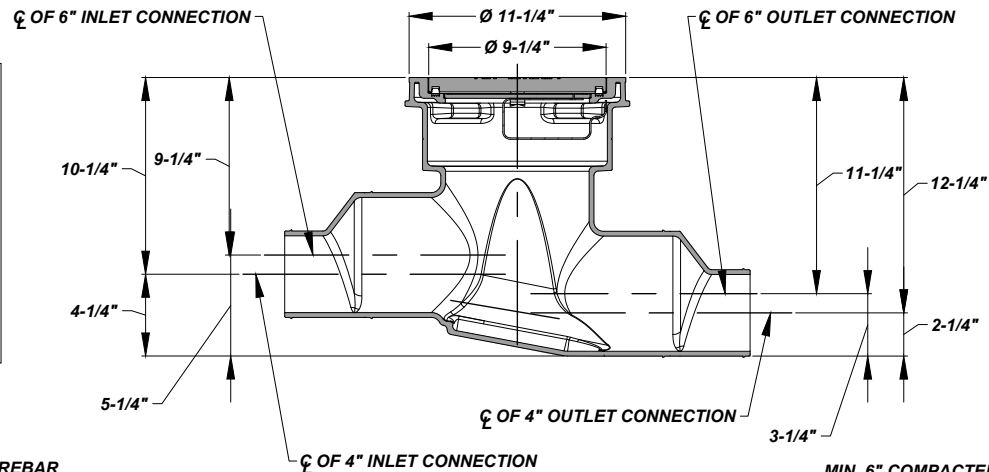
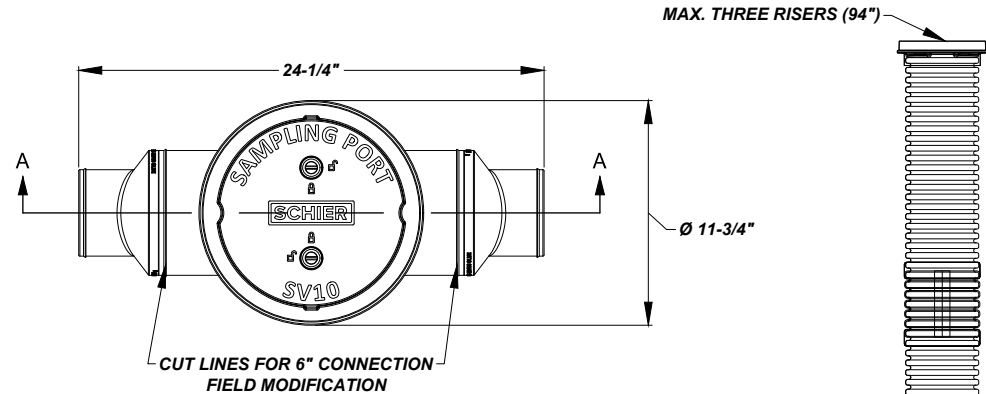
PRODUCT AND INSTALLATION DETAIL SOURCE:

WWW.SCHIERPRODUCTS.COM



NOTES:

1. VEHICULAR TRAFFIC AREA - MIN. 8" W/ REBAR
PEDESTRIAN OR GREENSPACE - MIN. 4" W/ REBAR
2. NO. 4 REBAR, GRADE 60 STEEL PER ASTM A615, CONNECTED WITH TIE WIRE
3. CONCRETE, 4,000 PSI COMPRESSIVE STRENGTH AT 28 DAYS



MIN. 6" COMPACTED WASHED 3/4" AGGREGATE OR CLEAN SAND

FLEXIBLE PVC COUPLER (SHIELDED)

SCHIER SV 10 SEWER VIEWER SAMPLING PORT (TYPE G)

NOT TO SCALE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering

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Phone: 574-534-2201 Fax: 574-533-8626
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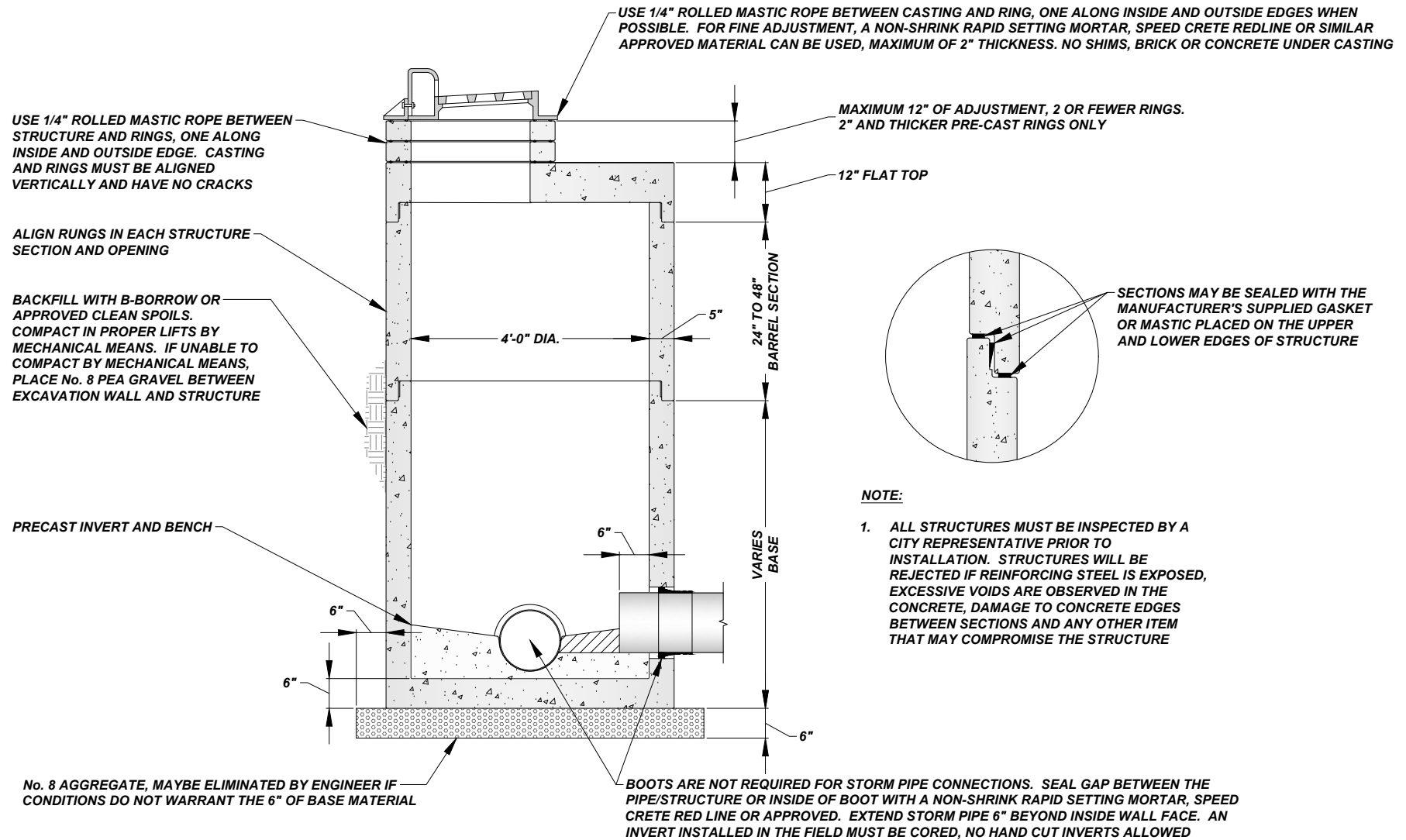
Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions

03/27/2025

CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-207



SEWER MANHOLE (TYPE H) - FLAT TOP W/ CURB CASTING

NOT TO SCALE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering

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03/27/2025

CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-208

NEENAH R-1772 W/ TYPE 'B' LID OR APPROVED EQUAL. INSTALL TOP OF CASTING 1/4" BELOW FINISHED PAVEMENT

USE 1/4" ROLLED MASTIC ROPE BETWEEN STRUCTURE AND RINGS, ONE ALONG INSIDE AND OUTSIDE EDGE. CASTING AND RINGS MUST BE ALIGNED VERTICALLY AND HAVE NO CRACKS

ALIGN RUNGS IN EACH STRUCTURE SECTION AND OPENING

BACKFILL WITH B-BORROW OR APPROVED CLEAN SPOILS. COMPACT IN PROPER LIFTS BY MECHANICAL MEANS. IF UNABLE TO COMPACT BY MECHANICAL MEANS, PLACE No. 8 PEA GRAVEL BETWEEN EXCAVATION WALL AND STRUCTURE

COPOLYMER POLYPROPYLENE PLASTIC RUNGS WITH 1/2" GRADE 60 REINFORCING STEEL

PRECAST INVERT AND BENCH

USE 1/4" ROLLED MASTIC ROPE BETWEEN CASTING AND RING, ONE ALONG INSIDE AND OUTSIDE EDGES WHEN POSSIBLE. FOR FINE ADJUSTMENT, A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE REDLINE OR SIMILAR APPROVED MATERIAL CAN BE USED, MAXIMUM OF 2" THICKNESS. NO SHIMS, BRICK OR CONCRETE UNDER CASTING

MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY

12" FLAT TOP

24" DIA.

12" - 16" TYP.

4'-0" DIA.

5"

24" TO 48" BARREL SECTION

VARIES BASE

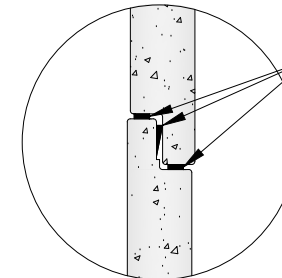
6"
6"
6"

6"

6"

No. 8 AGGREGATE, MAYBE ELIMINATED BY ENGINEER IF CONDITIONS DO NOT WARRANT THE 6" OF BASE MATERIAL

BOOTS ARE NOT REQUIRED FOR STORM PIPE CONNECTIONS. SEAL GAP BETWEEN THE PIPE/STRUCTURE OR INSIDE OF BOOT WITH A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE RED LINE OR APPROVED. EXTEND STORM PIPE 6" BEYOND INSIDE WALL FACE. AN INVERT INSTALLED IN THE FIELD MUST BE CORED, NO HAND CUT INVERTS ALLOWED



SECTIONS MAY BE SEALED WITH THE MANUFACTURER'S SUPPLIED GASKET OR MASTIC PLACED ON THE UPPER AND LOWER EDGES OF STRUCTURE

NOTE:

1. ALL STRUCTURES MUST BE INSPECTED BY A CITY REPRESENTATIVE PRIOR TO INSTALLATION. STRUCTURES WILL BE REJECTED IF REINFORCING STEEL IS EXPOSED, EXCESSIVE VOIDS ARE OBSERVED IN THE CONCRETE, DAMAGE TO CONCRETE EDGES BETWEEN SECTIONS AND ANY OTHER ITEM THAT MAY COMPROMISE THE STRUCTURE

SEWER MANHOLE (TYPE I) - FLAT TOP W/ MANHOLE CASTING

NOT TO SCALE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering

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03/27/2025

CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-209

NEENAH R-1772 W/ TYPE 'B' LID
OR APPROVED EQUAL. INSTALL
TOP OF CASTING 1/4" BELOW
FINISHED PAVEMENT

USE 1/4" ROLLED MASTIC ROPE BETWEEN CASTING AND RING, ONE ALONG INSIDE AND OUTSIDE EDGES WHEN
POSSIBLE. FOR FINE ADJUSTMENT, A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE REDLINE OR SIMILAR
APPROVED MATERIAL CAN BE USED, MAXIMUM OF 2" THICKNESS. NO SHIMS, BRICK OR CONCRETE UNDER CASTING

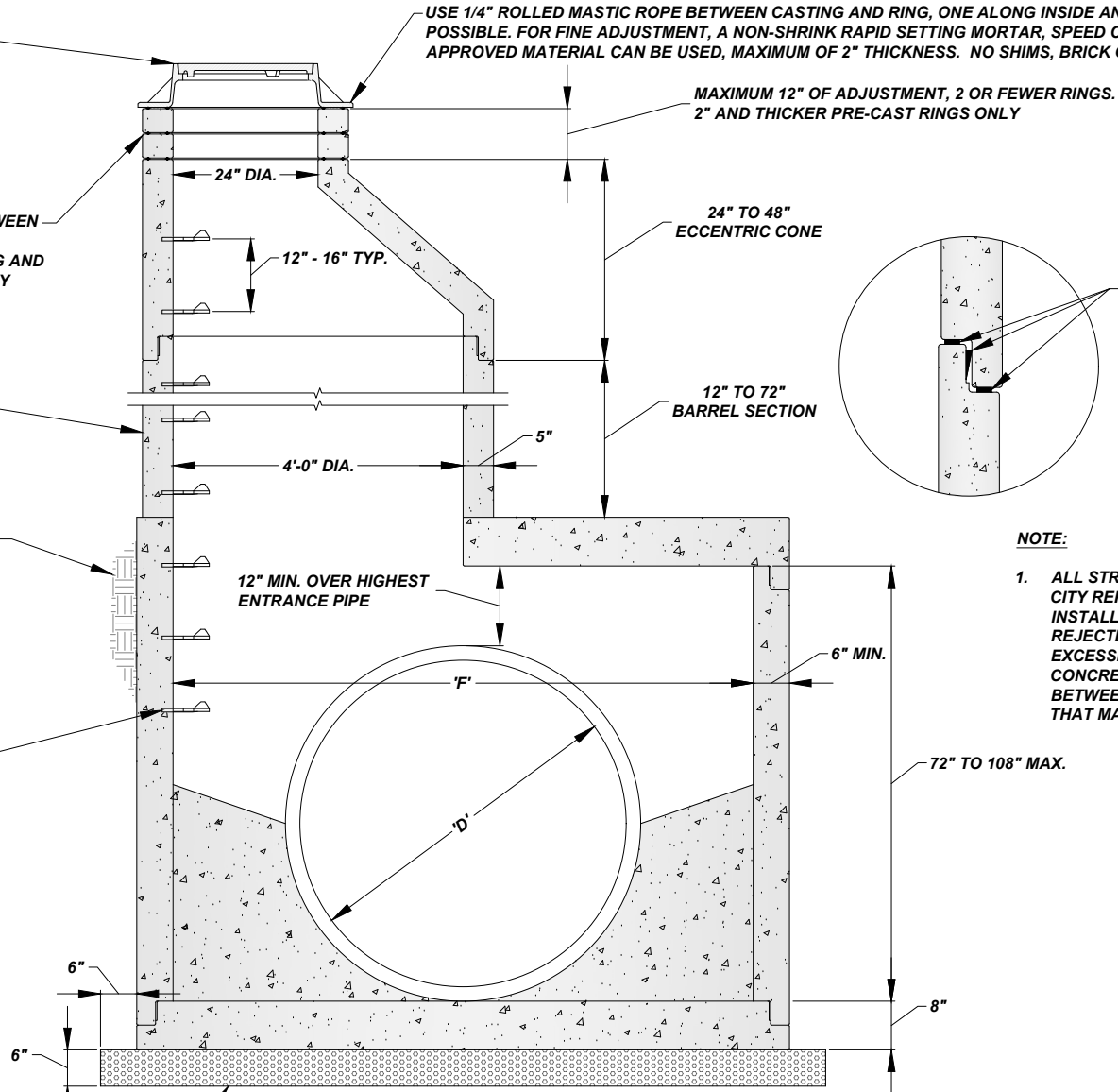
MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS.
2" AND THICKER PRE-CAST RINGS ONLY

USE 1/4" ROLLED MASTIC ROPE BETWEEN
STRUCTURE AND RINGS, ONE ALONG
INSIDE AND OUTSIDE EDGE. CASTING AND
RINGS MUST BE ALIGNED VERTICALLY
AND HAVE NO CRACKS
(2.0" MAXIMUM HORIZONTAL OFFSET
ALLOWED IF PRE-APPROVED)

ALIGN RUNGS IN EACH STRUCTURE
SECTION AND OPENING

BACKFILL WITH B-BORROW OR
APPROVED CLEAN SPOILS.
COMPACT IN PROPER LIFTS BY
MECHANICAL MEANS. IF UNABLE TO
COMPACT BY MECHANICAL MEANS,
PLACE No. 8 PEA GRAVEL BETWEEN
EXCAVATION WALL AND STRUCTURE

COPOLYMER POLYPROPYLENE
PLASTIC RUNGS WITH 1/2"
GRADE 60 REINFORCING STEEL



SECTIONS MAY BE SEALED WITH THE
MANUFACTURER'S SUPPLIED GASKET
OR MASTIC PLACED ON THE UPPER
AND LOWER EDGES OF STRUCTURE

NOTE:

1. ALL STRUCTURES MUST BE INSPECTED BY A
CITY REPRESENTATIVE PRIOR TO
INSTALLATION. STRUCTURES WILL BE
REJECTED IF REINFORCING STEEL IS EXPOSED,
EXCESSIVE VOIDS ARE OBSERVED IN THE
CONCRETE, DAMAGE TO CONCRETE EDGES
BETWEEN SECTIONS AND ANY OTHER ITEM
THAT MAY COMPROMISE THE STRUCTURE

PIPE AND STRUCTURE SIZE	
'D'	'F'
24" to 36"	5'-0"
36" to 48"	6'-0"
48" to 54"	8'-0"
54" to 72"	8'-6"
72" to 84"	9'-0"

No. 8 AGGREGATE, MAYBE ELIMINATED BY ENGINEER IF
CONDITIONS DO NOT WARRANT THE 6" OF BASE MATERIAL

STEPPED SEWER MANHOLE (TYPE J) - CONE W/ MANHOLE CASTING

NOT TO SCALE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering

204 East Jefferson, Suite 1 Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626
Web: goshenindiana.org

Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions

03/27/2025

**CITY OF GOSHEN, INDIANA
STANDARD DETAIL**

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:

SW-210

Drafted By: J. Hoffman	Approved By: D. Sailor, P.E.
Drawing Number: SW-211	

NEENAH R-1772 W/ TYPE 'D' LID
OR APPROVED EQUAL. INSTALL
TOP OF CASTING 1/4" BELOW
FINISHED PAVEMENT

USE 1/4" ROLLED MASTIC ROPE BETWEEN CASTING AND RING, ONE ALONG INSIDE AND OUTSIDE EDGES WHEN
POSSIBLE. FOR FINE ADJUSTMENT, A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE REDLINE OR SIMILAR
APPROVED MATERIAL CAN BE USED, MAXIMUM OF 2" THICKNESS. NO SHIMS, BRICK OR CONCRETE UNDER CASTING

MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS.
2" AND THICKER PRE-CAST RINGS ONLY

USE 1/4" ROLLED MASTIC ROPE BETWEEN
STRUCTURE AND RINGS, ONE ALONG
INSIDE AND OUTSIDE EDGE. CASTING
AND RINGS MUST BE ALIGNED
VERTICALLY AND HAVE NO CRACKS
(2.0" MAXIMUM HORIZONTAL OFFSET
ALLOWED IF PRE-APPROVED)

ALIGN RUNGS IN EACH STRUCTURE
SECTION AND OPENING

BACKFILL WITH B-BORROW OR
APPROVED CLEAN SPOILS.
COMPACT IN PROPER LIFTS BY
MECHANICAL MEANS. IF UNABLE TO
COMPACT BY MECHANICAL MEANS,
PLACE No. 8 PEA GRAVEL BETWEEN
EXCAVATION WALL AND STRUCTURE

COPOLYMER POLYPROPYLENE
PLASTIC RUNGS WITH 1/2"
GRADE 60 REINFORCING STEEL

No. 8 AGGREGATE, MAYBE ELIMINATED BY ENGINEER IF
CONDITIONS DO NOT WARRANT THE 6" OF BASE MATERIAL

BOOTS ARE NOT REQUIRED FOR STORM PIPE CONNECTIONS. SEAL GAP BETWEEN THE
PIPE/STRUCTURE OR INSIDE OF BOOT WITH A NON-SHRINK RAPID SETTING MORTAR, SPEED
CRETE RED LINE OR APPROVED. EXTEND STORM PIPE 6" BEYOND INSIDE WALL FACE. AN
INVERT INSTALLED IN THE FIELD MUST BE CORED, NO HAND CUT INVERTS ALLOWED

SECTIONS MAY BE SEALED WITH THE
MANUFACTURER'S SUPPLIED GASKET
OR MASTIC PLACED ON THE UPPER
AND LOWER EDGES OF STRUCTURE

NOTE:

1. ALL STRUCTURES MUST BE INSPECTED BY A
CITY REPRESENTATIVE PRIOR TO
INSTALLATION. STRUCTURES WILL BE
REJECTED IF REINFORCING STEEL IS EXPOSED,
EXCESSIVE VOIDS ARE OBSERVED IN THE
CONCRETE, DAMAGE TO CONCRETE EDGES
BETWEEN SECTIONS AND ANY OTHER ITEM
THAT MAY COMPROMISE THE STRUCTURE

SEWER CATCH BASIN (TYPE L) - FLAT TOP W/ FLAT CASTING

NOT TO SCALE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering

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03/27/2025

CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-212

NEENAH R-1772 W/ TYPE 'B' LID OR APPROVED EQUAL. INSTALL TOP OF CASTING 1/4" BELOW FINISHED PAVEMENT

USE 1/4" ROLLED MASTIC ROPE BETWEEN CASTING AND RING, ONE ALONG INSIDE AND OUTSIDE EDGES WHEN POSSIBLE. FOR FINE ADJUSTMENT, A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE REDLINE OR SIMILAR APPROVED MATERIAL CAN BE USED, MAXIMUM OF 2" THICKNESS. NO SHIMS, BRICK OR CONCRETE UNDER CASTING

USE 1/4" ROLLED MASTIC ROPE BETWEEN STRUCTURE AND RINGS, ONE ALONG INSIDE AND OUTSIDE EDGE. CASTING AND RINGS MUST BE ALIGNED VERTICALLY AND HAVE NO CRACKS (2.0" MAXIMUM HORIZONTAL OFFSET ALLOWED IF PRE-APPROVED)

MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY

ALIGN RUNGS IN EACH STRUCTURE SECTION AND OPENING

BACKFILL WITH B-BORROW OR APPROVED CLEAN SPOILS. COMPACT IN PROPER LIFTS BY MECHANICAL MEANS. IF UNABLE TO COMPACT BY MECHANICAL MEANS, PLACE No. 8 PEA GRAVEL BETWEEN EXCAVATION WALL AND STRUCTURE

COPOLYMER POLYPROPYLENE PLASTIC RUNGS WITH 1/2" GRADE 60 REINFORCING STEEL

No. 8 AGGREGATE, MAYBE ELIMINATED BY ENGINEER IF CONDITIONS DO NOT WARRANT THE 6" OF BASE MATERIAL

BOOTS ARE NOT REQUIRED FOR STORM PIPE CONNECTIONS. SEAL GAP BETWEEN THE PIPE/STRUCTURE OR INSIDE OF BOOT WITH A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE RED LINE OR APPROVED. EXTEND STORM PIPE 6" BEYOND INSIDE WALL FACE. AN INVERT INSTALLED IN THE FIELD MUST BE CORED, NO HAND CUT INVERTS ALLOWED

SECTIONS MAY BE SEALED WITH THE MANUFACTURER'S SUPPLIED GASKET OR MASTIC PLACED ON THE UPPER AND LOWER EDGES OF STRUCTURE

NOTE:

1. ALL STRUCTURES MUST BE INSPECTED BY A CITY REPRESENTATIVE PRIOR TO INSTALLATION. STRUCTURES WILL BE REJECTED IF REINFORCING STEEL IS EXPOSED, EXCESSIVE VOIDS ARE OBSERVED IN THE CONCRETE, DAMAGE TO CONCRETE EDGES BETWEEN SECTIONS AND ANY OTHER ITEM THAT MAY COMPROMISE THE STRUCTURE

SEWER CATCH BASIN (TYPE M) - FLAT TOP W/ MANHOLE CASTING

NOT TO SCALE

The City Of Goshen
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03/27/2025

CITY OF GOSHEN, INDIANA
STANDARD DETAIL

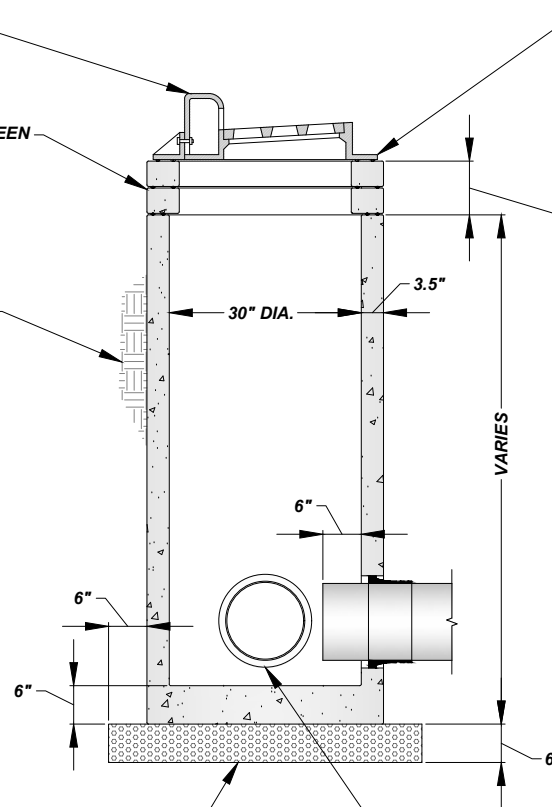
Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-213

NEENAH R-3070 W/ TYPE 'R' LID
OR APPROVED EQUAL. INSTALL
TOP OF CASTING 1/4" BELOW
FINISHED PAVEMENT

USE 1/4" ROLLED MASTIC ROPE BETWEEN
STRUCTURE AND RINGS, ONE ALONG
INSIDE AND OUTSIDE EDGE. CASTING
AND RINGS MUST BE ALIGNED
VERTICALLY AND HAVE NO CRACKS
(2.0" MAXIMUM HORIZONTAL OFFSET
ALLOWED IF PRE-APPROVED)

BACKFILL WITH B-BORROW OR
APPROVED CLEAN SPOILS.
COMPACT IN PROPER LIFTS BY
MECHANICAL MEANS. IF UNABLE TO
COMPACT BY MECHANICAL MEANS,
PLACE No. 8 PEA GRAVEL BETWEEN
EXCAVATION WALL AND STRUCTURE



USE 1/4" ROLLED MASTIC ROPE BETWEEN CASTING
AND RING, ONE ALONG INSIDE AND OUTSIDE EDGES
WHEN POSSIBLE. FOR FINE ADJUSTMENT, A
NON-SHRINK RAPID SETTING MORTAR, SPEED
CRETE REDLINE OR SIMILAR APPROVED MATERIAL
CAN BE USED, MAXIMUM OF 2" THICKNESS. NO
SHIMS, BRICK OR CONCRETE UNDER CASTING

MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS.
2" AND THICKER PRE-CAST RINGS ONLY

NOTES:

1. ALL STRUCTURES MUST BE INSPECTED BY A CITY REPRESENTATIVE PRIOR TO INSTALLATION. STRUCTURES WILL BE REJECTED IF REINFORCING STEEL IS EXPOSED, EXCESSIVE VOIDS ARE OBSERVED IN THE CONCRETE, DAMAGE TO CONCRETE EDGES BETWEEN SECTIONS AND ANY OTHER ITEM THAT MAY COMPROMISE THE STRUCTURE
2. 30" DIA. STRUCTURE SUITABLE UP TO A SINGLE 15" DIA. PIPE
3. 30" DIA. STRUCTURE SUITABLE UP TO TWO 12" DIA. PIPES AT 90° TO EACH OTHER
4. PIPES LARGER THAN 15" DIA. REQUIRE A SEWER MANHOLE STRUCTURE

No. 8 AGGREGATE, MAYBE ELIMINATED BY ENGINEER IF
CONDITIONS DO NOT WARRANT THE 6" OF BASE MATERIAL

BOOTS ARE NOT REQUIRED FOR STORM PIPE CONNECTIONS. SEAL GAP BETWEEN THE PIPE/STRUCTURE OR INSIDE OF BOOT WITH A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE RED LINE OR APPROVED. EXTEND STORM PIPE 6" BEYOND INSIDE WALL FACE. AN INVERT INSTALLED IN THE FIELD MUST BE CORED, NO HAND CUT INVERTS ALLOWED

SEWER INLET (TYPE N) - CURB CASTING

NOT TO SCALE

The City Of Goshen
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Office of Engineering

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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

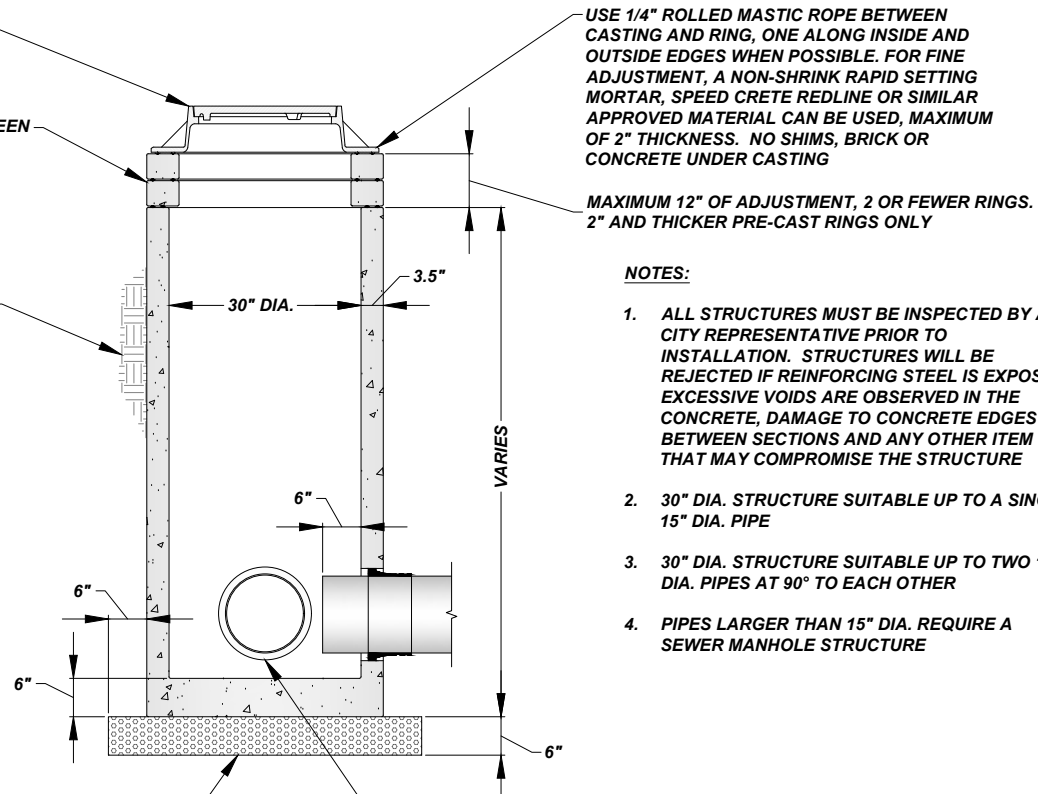
Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-214

NEENAH R-1772 W/ TYPE 'D' LID
OR APPROVED EQUAL. INSTALL
TOP OF CASTING 1/4" BELOW
FINISHED PAVEMENT

USE 1/4" ROLLED MASTIC ROPE BETWEEN
STRUCTURE AND RINGS, ONE ALONG
INSIDE AND OUTSIDE EDGE. CASTING
AND RINGS MUST BE ALIGNED
VERTICALLY AND HAVE NO CRACKS
(2.0" MAXIMUM HORIZONTAL OFFSET
ALLOWED IF PRE-APPROVED)

BACKFILL WITH B-BORROW OR
APPROVED CLEAN SPOILS.
COMPACT IN PROPER LIFTS BY
MECHANICAL MEANS. IF UNABLE TO
COMPACT BY MECHANICAL MEANS,
PLACE No. 8 PEA GRAVEL BETWEEN
EXCAVATION WALL AND STRUCTURE



USE 1/4" ROLLED MASTIC ROPE BETWEEN
CASTING AND RING, ONE ALONG INSIDE AND
OUTSIDE EDGES WHEN POSSIBLE. FOR FINE
ADJUSTMENT, A NON-SHRINK RAPID SETTING
MORTAR, SPEED CRETE REDLINE OR SIMILAR
APPROVED MATERIAL CAN BE USED, MAXIMUM
OF 2" THICKNESS. NO SHIMS, BRICK OR
CONCRETE UNDER CASTING

MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS.
2" AND THICKER PRE-CAST RINGS ONLY

NOTES:

1. ALL STRUCTURES MUST BE INSPECTED BY A CITY REPRESENTATIVE PRIOR TO INSTALLATION. STRUCTURES WILL BE REJECTED IF REINFORCING STEEL IS EXPOSED, EXCESSIVE VOIDS ARE OBSERVED IN THE CONCRETE, DAMAGE TO CONCRETE EDGES BETWEEN SECTIONS AND ANY OTHER ITEM THAT MAY COMPROMISE THE STRUCTURE
2. 30" DIA. STRUCTURE SUITABLE UP TO A SINGLE 15" DIA. PIPE
3. 30" DIA. STRUCTURE SUITABLE UP TO TWO 12" DIA. PIPES AT 90° TO EACH OTHER
4. PIPES LARGER THAN 15" DIA. REQUIRE A SEWER MANHOLE STRUCTURE

No. 8 AGGREGATE, MAYBE ELIMINATED BY ENGINEER IF
CONDITIONS DO NOT WARRANT THE 6" OF BASE MATERIAL

BOOTS ARE NOT REQUIRED FOR STORM PIPE CONNECTIONS. SEAL GAP BETWEEN THE PIPE/STRUCTURE OR INSIDE OF BOOT WITH A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE RED LINE OR APPROVED. EXTEND STORM PIPE 6" BEYOND INSIDE WALL FACE. AN INVERT INSTALLED IN THE FIELD MUST BE CORED, NO HAND CUT INVERTS ALLOWED

SEWER INLET (TYPE O) - FLAT CASTING

NOT TO SCALE

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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-215

NEENAH R-3070 W/ TYPE 'R' LID OR APPROVED EQUAL. INSTALL TOP OF CASTING 1/4" BELOW FINISHED PAVEMENT

USE 1/4" ROLLED MASTIC ROPE BETWEEN STRUCTURE AND RINGS, ONE ALONG INSIDE AND OUTSIDE EDGE. CASTING AND RINGS MUST BE ALIGNED VERTICALLY AND HAVE NO CRACKS (2.0" MAXIMUM HORIZONTAL OFFSET ALLOWED IF PRE-APPROVED)

4'-0" DIA. IF PIPE IS 12" OR SMALLER
5'-0" DIA. IF LARGER THAN 12"

BACKFILL WITH B-BORROW OR APPROVED CLEAN SPOILS. COMPACT IN PROPER LIFTS BY MECHANICAL MEANS. IF UNABLE TO COMPACT BY MECHANICAL MEANS, PLACE No. 8 PEA GRAVEL BETWEEN EXCAVATION WALL AND STRUCTURE

2.5X PIPE DIAMETER
(36" MIN. SUMP)

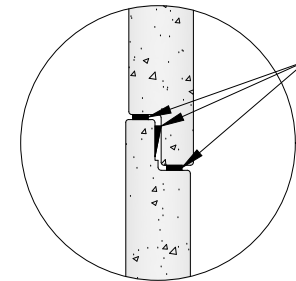
USE 1/4" ROLLED MASTIC ROPE BETWEEN CASTING AND RING, ONE ALONG INSIDE AND OUTSIDE EDGES WHEN POSSIBLE. FOR FINE ADJUSTMENT, A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE REDLINE OR SIMILAR APPROVED MATERIAL CAN BE USED, MAXIMUM OF 2" THICKNESS. NO SHIMS, BRICK OR CONCRETE UNDER CASTING

MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS.
2" AND THICKER PRE-CAST RINGS ONLY

BOOT ON STORM PIPE CONNECTED TO COMBINED SEWER SYSTEM

STANDARD 90° PVC ELBOW, 12" OR SMALLER STORM PIPE. USE NEENAH R-3705 W/ CLEANOUT COVER, OR APPROVED EQUAL, FOR PIPES OVER 12" DIA.

REDLINER STAINLESS STEEL STRAPS SECURED TO STRUCTURE WITH STAINLESS STEEL FASTENERS, AT 4' INTERVALS (MIN. OF 1)



SECTIONS MAY BE SEALED WITH THE MANUFACTURER'S SUPPLIED GASKET OR MASTIC PLACED ON THE UPPER AND LOWER EDGES OF STRUCTURE

NOTE:

1. ALL STRUCTURES MUST BE INSPECTED BY A CITY REPRESENTATIVE PRIOR TO INSTALLATION. STRUCTURES WILL BE REJECTED IF REINFORCING STEEL IS EXPOSED, EXCESSIVE VOIDS ARE OBSERVED IN THE CONCRETE, DAMAGE TO CONCRETE EDGES BETWEEN SECTIONS AND ANY OTHER ITEM THAT MAY COMPROMISE THE STRUCTURE

No. 8 AGGREGATE, MAYBE ELIMINATED BY ENGINEER IF CONDITIONS DO NOT WARRANT THE 6" OF BASE MATERIAL

SEWER CATCH BASIN (TYPE P) - COMBINED SEWER 90° ELBOW

NOT TO SCALE

The City Of Goshen
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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.
Drawing Number: **SW-216**

NEENAH R-1772 W/ TYPE 'B' LID OR APPROVED EQUAL. INSTALL TOP OF CASTING 1/4" BELOW FINISHED PAVEMENT. FLUSH WITH FINISHED GRADE IN YARD/LANDSCAPED AREAS

USE 1/4" ROLLED BUTYL MASTIC ROPE BETWEEN STRUCTURE AND RINGS, ONE ALONG INSIDE AND OUTSIDE EDGE. CASTING AND RINGS MUST BE ALIGNED VERTICALLY AND HAVE NO CRACKS (2.0" MAXIMUM HORIZONTAL OFFSET ALLOWED IF PRE-APPROVED)

PRE-CAST REINFORCED CONCRETE MANHOLE PER ASTM C-478

12" MIN.

24" DIA.

USE 1/4" ROLLED MASTIC ROPE BETWEEN CASTING AND RING, ONE ALONG INSIDE AND OUTSIDE EDGES WHEN POSSIBLE. FOR FINE ADJUSTMENT, A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE REDLINE OR SIMILAR APPROVED MATERIAL CAN BE USED, MAXIMUM OF 2" THICKNESS. NO SHIMS, BRICK OR CONCRETE UNDER CASTING

MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY

24" TO 48" ECCENTRIC CONE

SEE CASING DETAIL

OFF SET CASING TO ALLOW FOR ACCESS AND CLEANING OF STRUCTURE

PLAN VIEW

USE C-900 PRESSURE CLASS 350 OR APPROVED MATERIAL FOR CASING

BACKFILL WITH B-BORROW OR APPROVED CLEAN SPOILS. COMPACT PER CURRENT CITY STANDARDS. IF UNABLE TO COMPACT BY MECHANICAL MEANS, PLACE No. 8 PEA GRAVEL BETWEEN EXCAVATION WALL AND STRUCTURE

PRECAST INVERT AND BENCH

PLACE SOLID CONCRETE BRICK UNDER EACH END FOR SUPPORT AND FILL VOID AROUND PIPE WITH PEA STONE

CORE AND BOOT STRUCTURE

VARIES

5"

VARIES BASE

6"

6"

No. 8 AGGREGATE, MAYBE ELIMINATED BY ENGINEER IF CONDITIONS DO NOT WARRANT THE 6" OF BASE MATERIAL

NOTE:

1. ALL STRUCTURES MUST BE INSPECTED BY A CITY REPRESENTATIVE PRIOR TO INSTALLATION. STRUCTURES WILL BE REJECTED IF REINFORCING STEEL IS EXPOSED, EXCESSIVE VOIDS ARE OBSERVED IN THE CONCRETE, DAMAGE TO CONCRETE EDGES BETWEEN SECTIONS AND ANY OTHER ITEM THAT MAY COMPROMISE THE STRUCTURE

UTILITY CONFLICT STRUCTURE (TYPE Q)

NOT TO SCALE

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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-217

WRAP NON-WOVEN GEOTEXTILE FABRIC AROUND TOP LID, $\pm 24"$

USE 1/4" ROLLED MASTIC ROPE BETWEEN CASTING AND RING, ONE ALONG INSIDE AND OUTSIDE EDGES WHEN POSSIBLE. FOR FINE ADJUSTMENT, A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE REDLINE OR SIMILAR APPROVED MATERIAL CAN BE USED, MAXIMUM OF 2" THICKNESS. NO SHIMS, BRICK OR CONCRETE UNDER CASTING

PRECAST CONCRETE PERFORATED DRYWELL SECTIONS STRUCTURE PER ASTM C-478 WRAPPED IN NON-WOVEN GEOTEXTILE FABRIC

No. 8 WASHED STONE WITH 35% VOIDS

INSTALL NON-WOVEN GEOTEXTILE FABRIC PROPLEX 4545 OR APPROVED EQUAL ON TOP AND BOTH SIDES OF STONE, PROVIDE AN OVERLAP OF 18" AT ALL FABRIC JOINTS

$\pm 18"$ TYPICAL AROUND DRYWELL

MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY. VERTICALLY ALIGN CASTING AND RINGS

SEAL AROUND STORM PIPE WITH A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE RED LINE OR SIMILAR APPROVED MATERIAL SEAL NON-WOVEN GEOTEXTILE FABRIC AT PIPE

6" No. 8 AGGREGATE

NOTE:

1. ALL STRUCTURES MUST BE INSPECTED BY A CITY REPRESENTATIVE PRIOR TO INSTALLATION. STRUCTURES WILL BE REJECTED IF REINFORCING STEEL IS EXPOSED, VOIDS IN THE CONCRETE, DAMAGE TO CONCRETE EDGES BETWEEN SECTIONS AND ANY OTHER ITEMS THAT MAY COMPROMISE THE STRUCTURE

DRYWELL INSTALLATION

NOT TO SCALE

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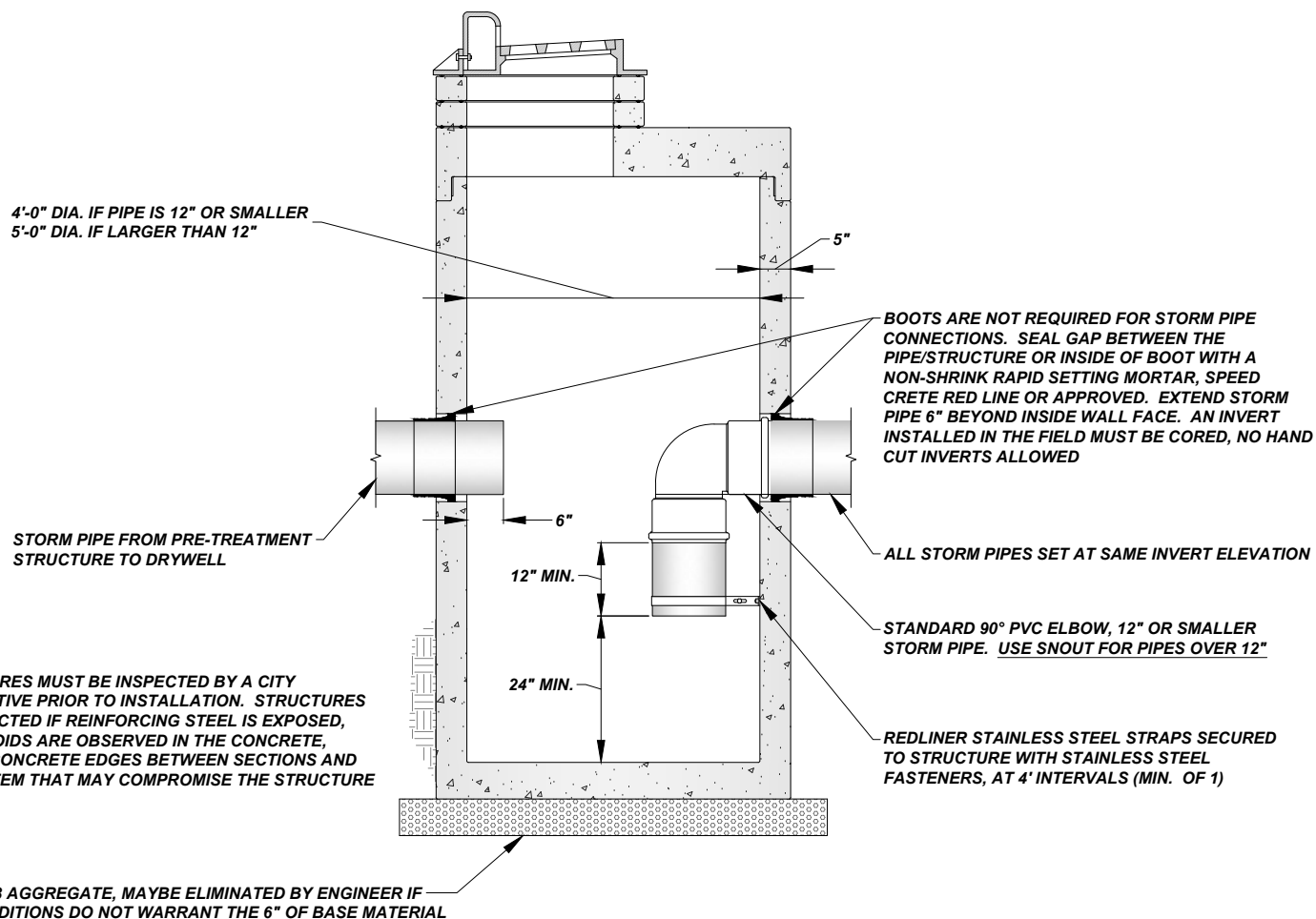
Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions

03/27/2025

CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-301



PRE-TREATMENT STRUCTURE (STANDARD CB W/ 90° ELBOW)

NOT TO SCALE

The City Of Goshen
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Office of Engineering

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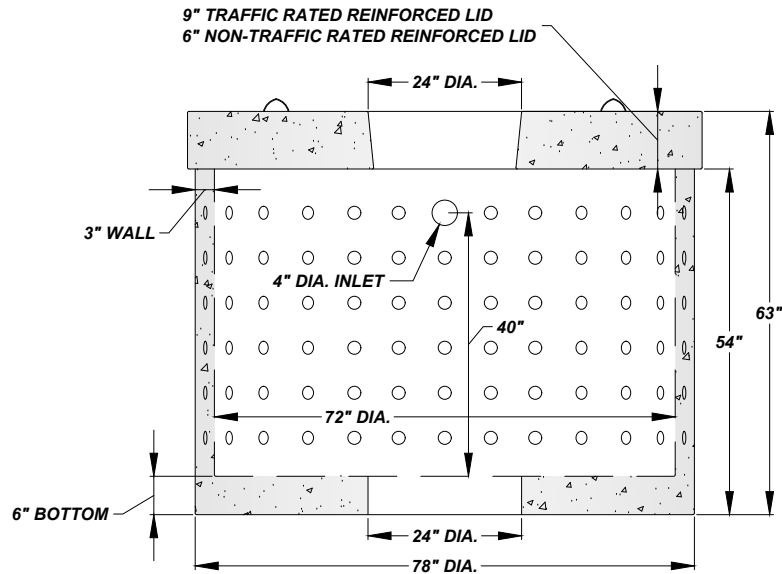
Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions

03/27/2025

CITY OF GOSHEN, INDIANA
STANDARD DETAIL

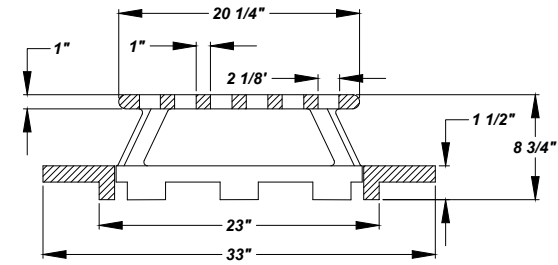
Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-302

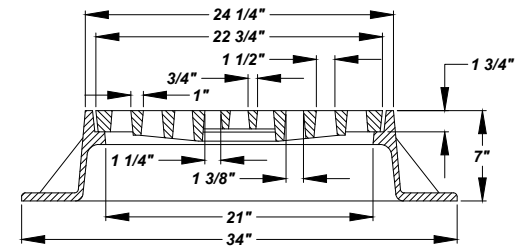


NOTES:

1. DRYWELL IS CONCRETE AND REINFORCED WITH #2 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBER
2. WALLS ARE 3" THICK CONCRETE
3. LID: 9" REINFORCED WITH #4 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBER
6" REINFORCED WITH #4 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBER
4. BASE IS MONOLITHICALLY POURED INTO BOTTOM OF THE DRYWELL
5. 4,500 PSI TO 5,000 PSI CONCRETE
6. WEIGHTS: LID(9") = 3,500 LBS, RING = 3,400 LBS
7. INSTALL 6" CONCRETE ADJUSTING RING UNDER CASTING TO ALLOW FOR TOPSOIL AND GRASS SEED OUTSIDE HARD SURFACE AREAS. INSTALL PER STORM/SANITARY MANHOLE DETAIL WITHIN HARD SURFACE AREAS. USE 1/4" ROLLED MASTIC ROPE BETWEEN CASTING AND ADJUSTING RING OR A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE RED LINE OR SIMILAR APPROVED MATERIAL WITH A MAXIMUM OF 1" THICKNESS. NO SHIMS, BRICK, OR BLOCKING SHALL BE PLACED



DITCH/DRYWELL CASTING DETAIL
NEENAH R-4341-A



STORM FLAT ROUND GRATE CASTING DETAIL
NEENAH R-1772 W/ TYPE 'D'

NOTE:

1. ALL STRUCTURES MUST BE INSPECTED BY A CITY REPRESENTATIVE PRIOR TO INSTALLATION. STRUCTURES WILL BE REJECTED IF REINFORCING STEEL IS EXPOSED, EXCESSIVE VOIDS ARE OBSERVED IN THE CONCRETE, DAMAGE TO CONCRETE EDGES BETWEEN SECTIONS AND ANY OTHER ITEM THAT MAY COMPROMISE THE STRUCTURE

900 GAL. DRYWELL WITH BASE

NOT TO SCALE

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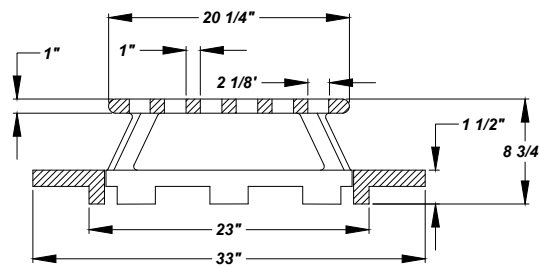
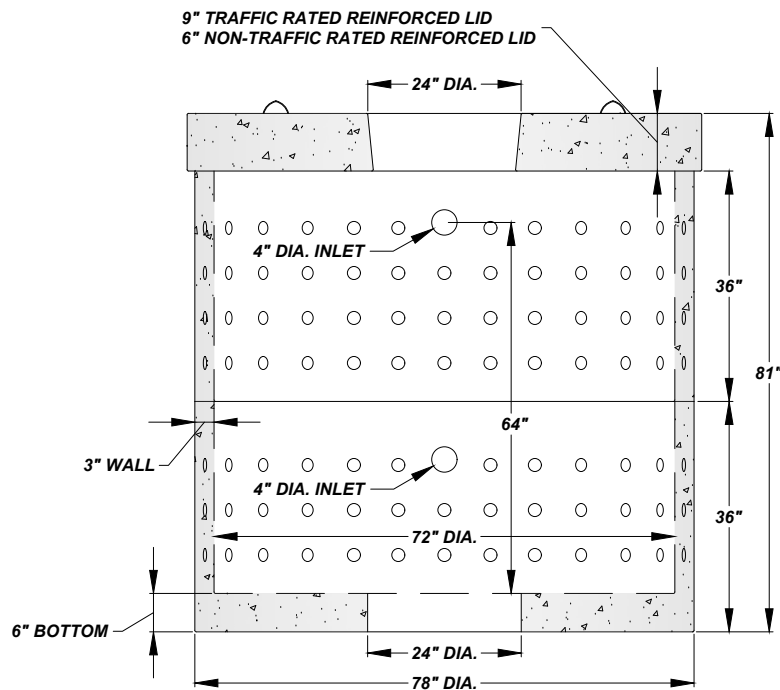
Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions

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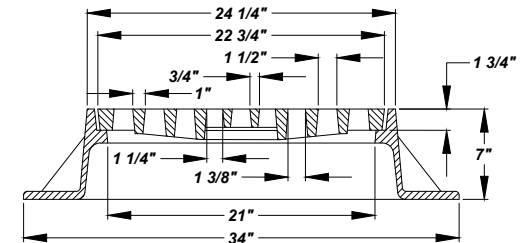
CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-303



DITCH/DRYWELL CASTING DETAIL
NEENAH R-4341-A



STORM FLAT ROUND GRATE CASTING DETAIL
NEENAH R-1772 W/ TYPE 'D'

NOTES:

1. DRYWELL IS CONCRETE AND REINFORCED WITH #2 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBER
2. WALLS ARE 3" THICK CONCRETE
3. LID: 9" REINFORCED WITH #4 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBER
6" REINFORCED WITH #4 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBER
4. BASE IS MONOLITHICALLY POURED INTO BOTTOM OF THE DRYWELL
5. 4,500 PSI TO 5,000 PSI CONCRETE
6. WEIGHTS: LID(9") = 3,500 LBS, RING = 1,900 LBS, RING W/ BASE = 3,400 LBS
7. INSTALL 6" CONCRETE ADJUSTING RING UNDER CASTING TO ALLOW FOR TOPSOIL AND GRASS SEED OUTSIDE HARD SURFACE AREAS. INSTALL PER STORM/SANITARY MANHOLE DETAIL WITHIN HARD SURFACE AREAS. USE 1/4" ROLLED MASTIC ROPE BETWEEN CASTING AND ADJUSTING RING OR A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE RED LINE OR SIMILAR APPROVED MATERIAL WITH A MAXIMUM OF 1" THICKNESS. NO SHIMS, BRICK, OR BLOCKING SHALL BE PLACED

NOTE:

1. ALL STRUCTURES MUST BE INSPECTED BY A CITY REPRESENTATIVE PRIOR TO INSTALLATION. STRUCTURES WILL BE REJECTED IF REINFORCING STEEL IS EXPOSED, EXCESSIVE VOIDS ARE OBSERVED IN THE CONCRETE, DAMAGE TO CONCRETE EDGES BETWEEN SECTIONS AND ANY OTHER ITEM THAT MAY COMPROMISE THE STRUCTURE

1,200 GAL. DRYWELL WITH BASE

NOT TO SCALE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering

204 East Jefferson, Suite 1 Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626
Web: goshenindiana.org

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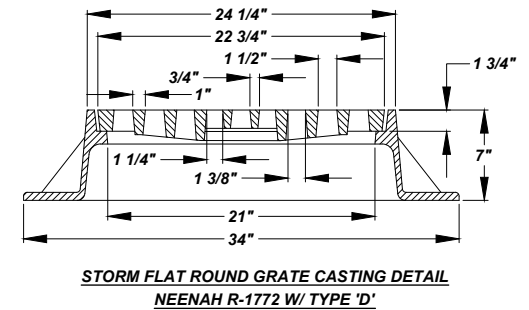
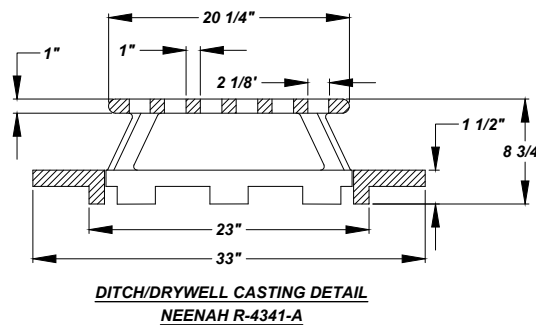
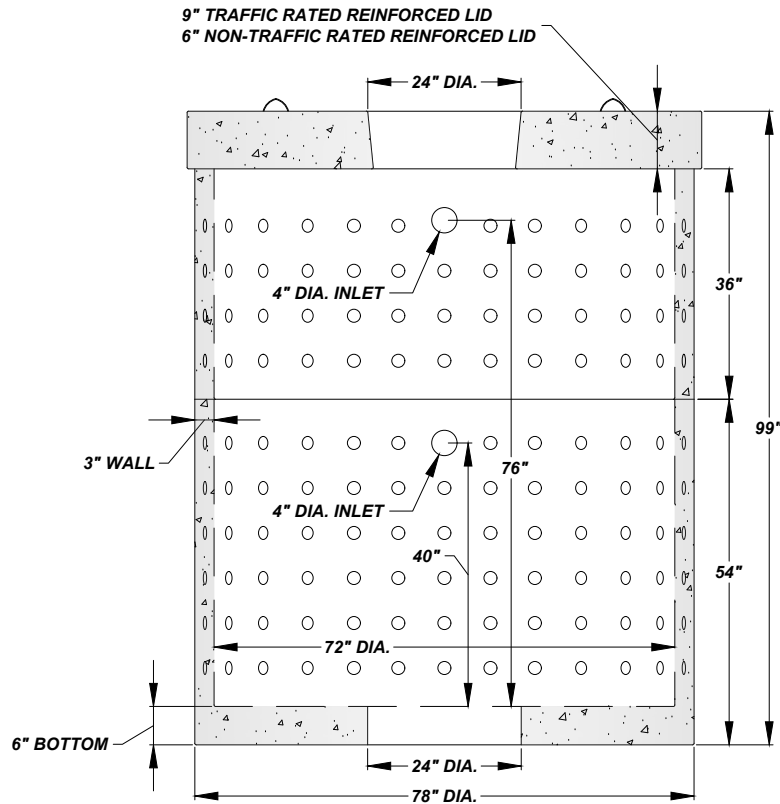
03/27/2025

CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:

SW-304



NOTES:

1. DRYWELL IS CONCRETE AND REINFORCED WITH #2 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBER
2. WALLS ARE 3" THICK CONCRETE
3. LID: 9" REINFORCED WITH #4 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBER
6" REINFORCED WITH #4 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBER
4. BASE IS MONOLITHICALLY POURED INTO BOTTOM OF THE DRYWELL
5. 4,500 PSI TO 5,000 PSI CONCRETE
6. WEIGHTS: LID(9") = 3,500 LBS, RING = 1,900 LBS, RING W/ BASE = 3,400 LBS
7. INSTALL 6" CONCRETE ADJUSTING RING UNDER CASTING TO ALLOW FOR TOPSOIL AND GRASS SEED OUTSIDE HARD SURFACE AREAS. INSTALL PER STORM/SANITARY MANHOLE DETAIL WITHIN HARD SURFACE AREAS. USE 1/4" ROLLED MASTIC ROPE BETWEEN CASTING AND ADJUSTING RING OR A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE RED LINE OR SIMILAR APPROVED MATERIAL WITH A MAXIMUM OF 1" THICKNESS. NO SHIMS, BRICK, OR BLOCKING SHALL BE PLACED

NOTE:

1. ALL STRUCTURES MUST BE INSPECTED BY A CITY REPRESENTATIVE PRIOR TO INSTALLATION. STRUCTURES WILL BE REJECTED IF REINFORCING STEEL IS EXPOSED, EXCESSIVE VOIDS ARE OBSERVED IN THE CONCRETE, DAMAGE TO CONCRETE EDGES BETWEEN SECTIONS AND ANY OTHER ITEM THAT MAY COMPROMISE THE STRUCTURE

1,500 GAL. DRYWELL WITH BASE

NOT TO SCALE

The City Of Goshen
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Office of Engineering

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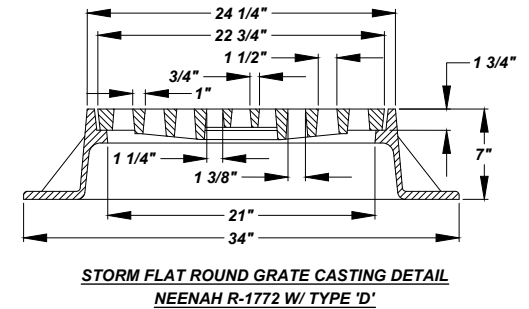
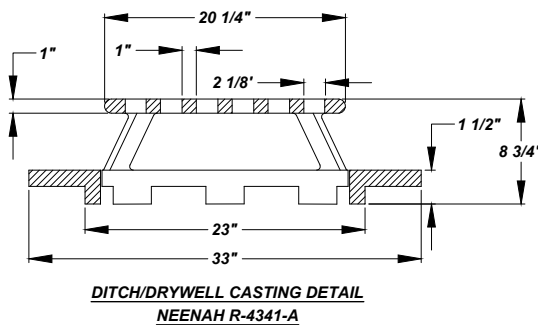
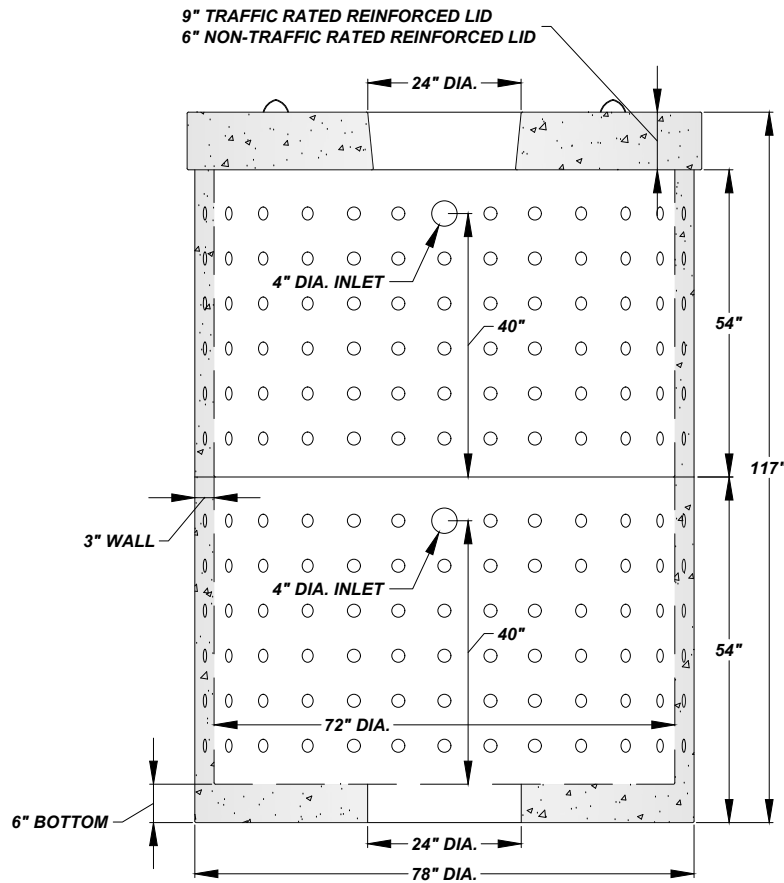
03/27/2025

CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:

SW-305



NOTES:

1. DRYWELL IS CONCRETE AND REINFORCED WITH #2 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBER
2. WALLS ARE 3" THICK CONCRETE
3. LID: 9" REINFORCED WITH #4 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBER
6" REINFORCED WITH #4 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBER
4. BASE IS MONOLITHICALLY POURED INTO BOTTOM OF THE DRYWELL
5. 4,500 PSI TO 5,000 PSI CONCRETE
6. WEIGHTS: LID(9") = 3,500 LBS, RING = 2,900 LBS, RING W/ BASE = 3,400 LBS
7. INSTALL 6" CONCRETE ADJUSTING RING UNDER CASTING TO ALLOW FOR TOPSOIL AND GRASS SEED OUTSIDE HARD SURFACE AREAS. INSTALL PER STORM/SANITARY MANHOLE DETAIL WITHIN HARD SURFACE AREAS. USE 1/4" ROLLED MASTIC ROPE BETWEEN CASTING AND ADJUSTING RING OR A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE RED LINE OR SIMILAR APPROVED MATERIAL WITH A MAXIMUM OF 1" THICKNESS. NO SHIMS, BRICK, OR BLOCKING SHALL BE PLACED

NOTE:

1. ALL STRUCTURES MUST BE INSPECTED BY A CITY REPRESENTATIVE PRIOR TO INSTALLATION. STRUCTURES WILL BE REJECTED IF REINFORCING STEEL IS EXPOSED, EXCESSIVE VOIDS ARE OBSERVED IN THE CONCRETE, DAMAGE TO CONCRETE EDGES BETWEEN SECTIONS AND ANY OTHER ITEM THAT MAY COMPROMISE THE STRUCTURE

1,800 GAL. DRYWELL WITH BASE

NOT TO SCALE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering

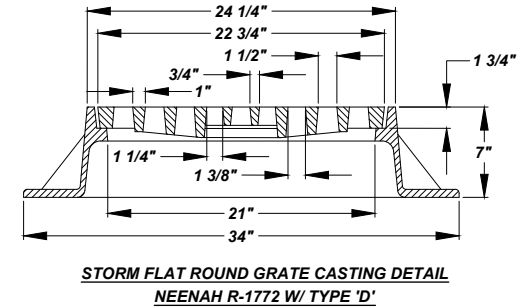
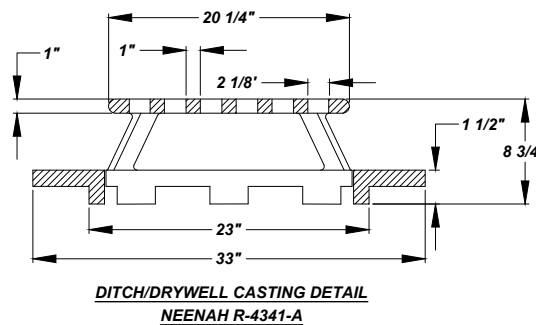
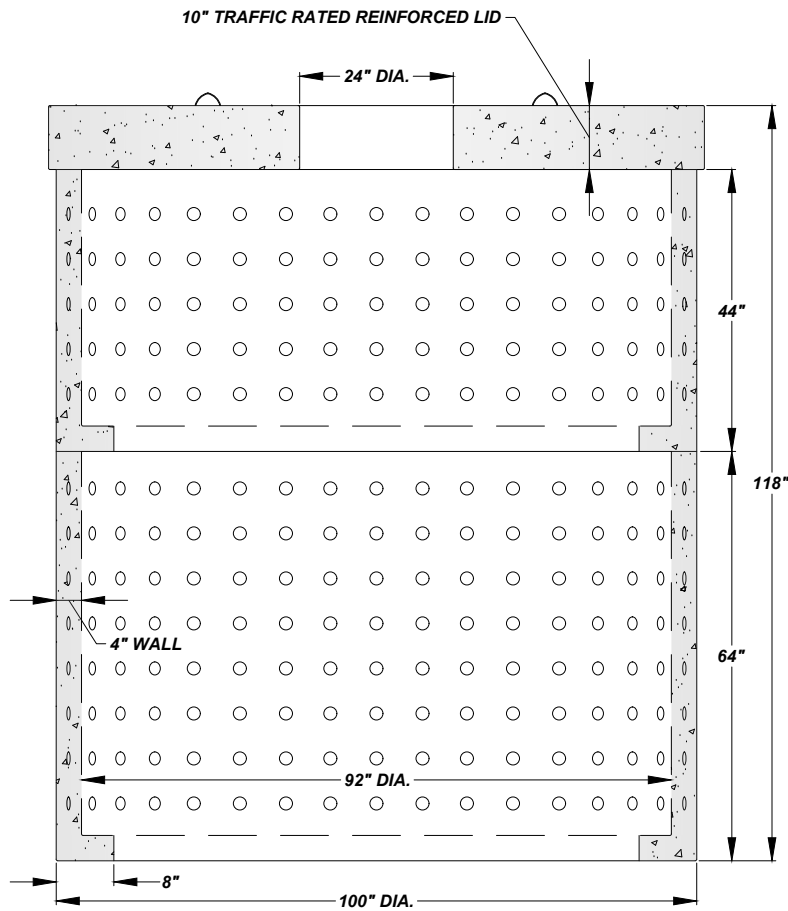
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Phone: 574-534-2201 Fax: 574-533-8626
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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.
Drawing Number: **SW-306**



NOTES:

1. DRYWELL IS CONCRETE AND REINFORCED WITH #2 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBER
2. WALLS ARE 4" THICK CONCRETE
3. LID: 10" REINFORCED WITH #4 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBER
4. BASE IS MONOLITHICALLY POURED INTO BOTTOM OF THE DRYWELL
5. 4,500 PSI TO 5,000 PSI CONCRETE
6. WEIGHTS: LID(10") = 6,300 LBS, RING(64") = 6,500 LBS, RING(44") = 4,500 LBS
7. INSTALL 6" CONCRETE ADJUSTING RING UNDER CASTING TO ALLOW FOR TOPSOIL AND GRASS SEED OUTSIDE HARD SURFACE AREAS. INSTALL PER STORM/SANITARY MANHOLE DETAIL WITHIN HARD SURFACE AREAS. USE 1/4" ROLLED MASTIC ROPE BETWEEN CASTING AND ADJUSTING RING OR A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE RED LINE OR SIMILAR APPROVED MATERIAL WITH A MAXIMUM OF 1" THICKNESS. NO SHIMS, BRICK, OR BLOCKING SHALL BE PLACED

NOTE:

1. ALL STRUCTURES MUST BE INSPECTED BY A CITY REPRESENTATIVE PRIOR TO INSTALLATION. STRUCTURES WILL BE REJECTED IF REINFORCING STEEL IS EXPOSED, EXCESSIVE VOIDS ARE OBSERVED IN THE CONCRETE, DAMAGE TO CONCRETE EDGES BETWEEN SECTIONS AND ANY OTHER ITEM THAT MAY COMPROMISE THE STRUCTURE

3,050 GAL. DRYWELL WITH BASE

NOT TO SCALE

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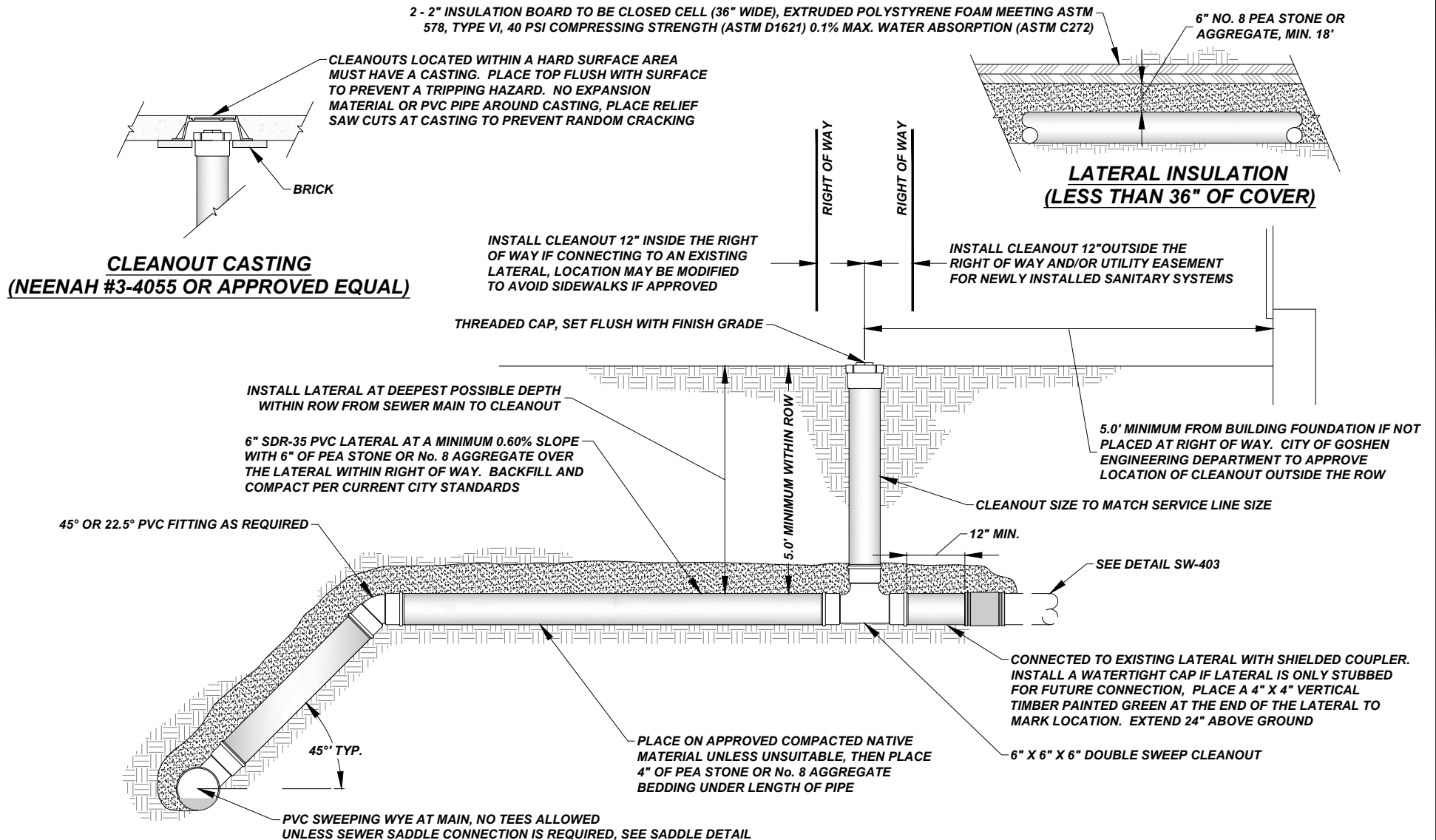
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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-307



SEWER LATERAL W/ CLEANOUT

NOT TO SCALE

The City Of Goshen
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Office of Engineering

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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

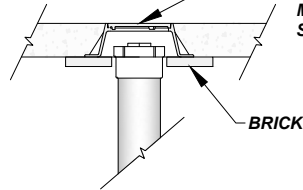
Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-401

2 - 2" INSULATION BOARD TO BE CLOSED CELL (36" WIDE), EXTRUDED POLYSTYRENE FOAM MEETING ASTM 578, TYPE VI, 40 PSI COMPRESSING STRENGTH (ASTM D1621) 0.1% MAX. WATER ABSORPTION (ASTM C272)

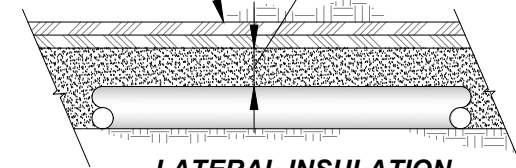
6" PEA STONE OR No. 8 AGGREGATE, MIN. 18"

CLEANOUTS LOCATED WITHIN A HARD SURFACE AREA MUST HAVE A CASTING. PLACE TOP FLUSH WITH SURFACE TO PREVENT A TRIPPING HAZARD. NO EXPANSION MATERIAL OR PVC PIPE AROUND CASTING, PLACE RELIEF SAW CUTS AT CASTING TO PREVENT RANDOM CRACKING



BRICK

CLEANOUT CASTING (NEENAH #3-4055 OR APPROVED EQUAL)



LATERAL INSULATION (LESS THAN 36" OF COVER)

INSTALL CLEANOUT 12" INSIDE THE RIGHT OF WAY IF CONNECTING TO AN EXISTING LATERAL, LOCATION MAY BE MODIFIED TO AVOID SIDEWALKS IF APPROVED

INSTALL CLEANOUT 12" OUTSIDE THE RIGHT OF WAY AND/OR UTILITY EASEMENT FOR NEWLY INSTALLED SANITARY SYSTEMS

THREADED CAP, SET FLUSH WITH FINISH GRADE

INSTALL LATERAL AT DEEPEST POSSIBLE DEPTH WITHIN ROW FROM SEWER MAIN TO CLEANOUT

6" SDR-35 PVC LATERAL AT A MINIMUM 0.60% SLOPE WITH 6" OF PEA STONE OR No. 8 AGGREGATE OVER THE LATERAL WITHIN RIGHT OF WAY. BACKFILL AND COMPACT PER CURRENT CITY STANDARDS

5.0' MINIMUM FROM BUILDING FOUNDATION IF NOT PLACED AT RIGHT OF WAY. CITY OF GOSHEN ENGINEERING DEPARTMENT TO APPROVE LOCATION OF CLEANOUT OUTSIDE THE ROW

45° OR 22.5° PVC FITTING AS REQUIRED

CLEANOUT SIZE TO MATCH SERVICE LINE SIZE

MAX. 12" OF EXISTING CLAY LATERAL

5.0' MINIMUM WITHIN ROW

12" MIN.

SEE DETAIL SW-403

CONNECTED TO EXISTING LATERAL WITH SHIELDED COUPLER. INSTALL A WATERTIGHT CAP IF LATERAL IS ONLY STUBBED FOR FUTURE CONNECTION, PLACE A 4" X 4" VERTICAL TIMBER PAINTED GREEN AT THE END OF THE LATERAL TO MARK LOCATION. EXTEND 24" ABOVE GROUND

6" X 6" X 6" DOUBLE SWEEP CLEANOUT

SHIELDED FLEX COUPLER

FULLY SUPPORT LATERAL AND FLEX COUPLER WITH PEA STONE OR No. 8 AGGREGATE

EXISTING CLAY MAIN AND WYE

PLACE ON APPROVED COMPACTED NATIVE MATERIAL UNLESS UNSUITABLE, THEN PLACE 4" OF PEA STONE OR No. 8 AGGREGATE BEDDING UNDER LENGTH OF PIPE

SEWER LATERAL REPLACEMENT AT EXISTING TAP

NOT TO SCALE

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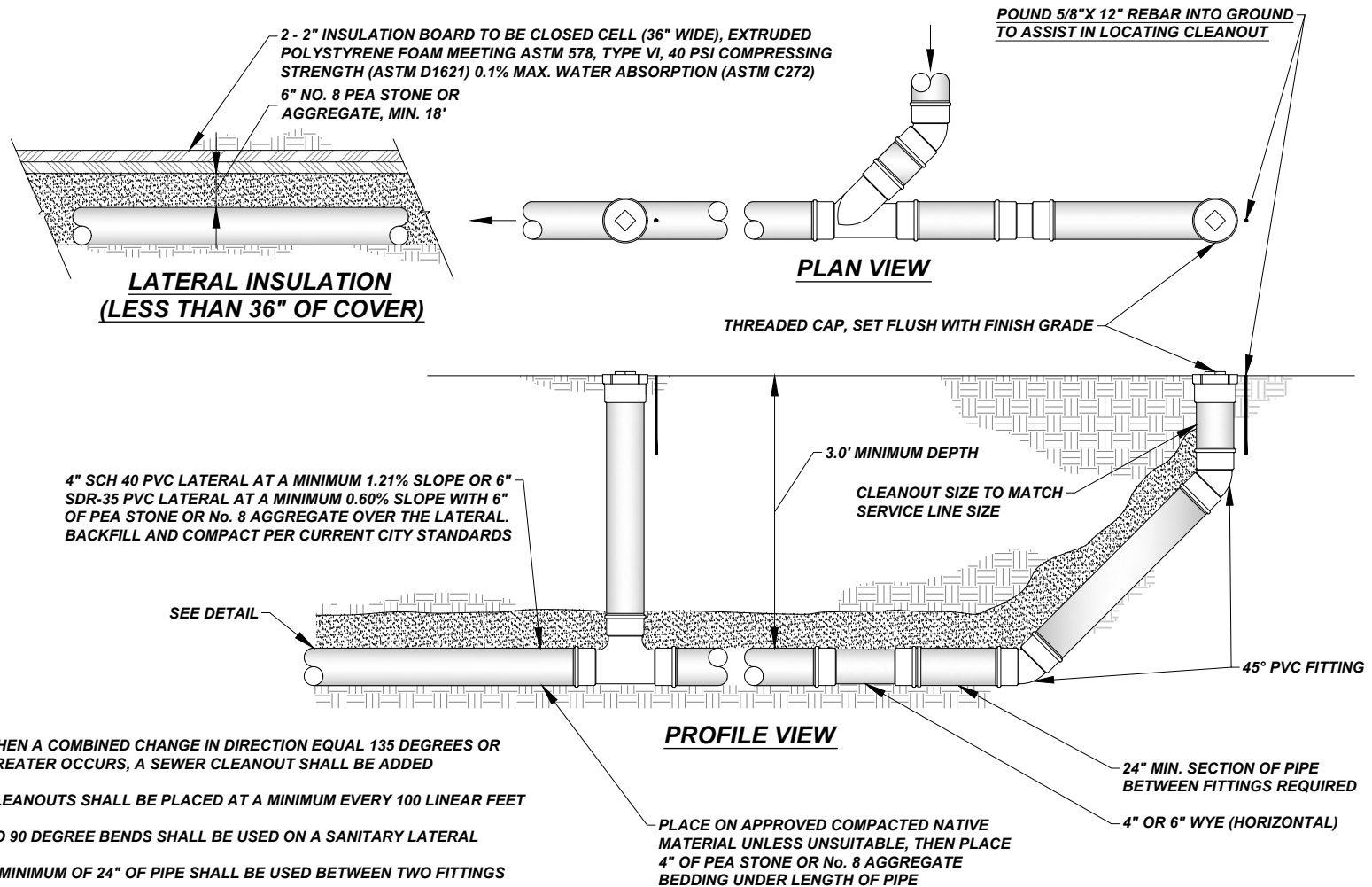
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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-402



SEWER LATERAL OUTSIDE RIGHT-OF-WAY

NOT TO SCALE

The City Of Goshen
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Office of Engineering

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**CITY OF GOSHEN, INDIANA
STANDARD DETAIL**

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-403

IN THE EVENT THERE IS AN EXISTING HORIZONTAL UTILITY CONFLICT, MAINTAIN 10.0' MINIMUM HORIZONTAL SEPARATION UNTIL IDENTIFIED POINT OF RECONNECTION

PVC SEWER LATERAL, SEE DETAIL

EXISTING WATER SERVICE

EXISTING SEWER LATERAL (REMOVE WITHIN ROW)

6" X 6" X 6" DOUBLE SWEEP CLEANOUT WITH THREADED CAP, TOP SET AT FINISH GRADE. INSTALL EVERY 100' ALONG LATERAL

RIGHT OF WAY

CONNECTED TO EXISTING LATERAL WITH SHIELDED FLEXIBLE COUPLER

45° OR 22.5° PVC FITTING AS REQUIRED

PLAN VIEW

MATCH TO EXISTING PIPE DEPTH

INSTALL LATERAL AT DEEPEST POSSIBLE DEPTH WITHIN ROW. MATCH EXISTING LATERAL AT ROW

DO NOT TRANSITION DEPTH TO MATCH EXISTING SEWER LATERAL DEPTH UNTIL PIPE IS EXTENDED OUTSIDE THE PAVEMENT LIMITS

NOTES:

1. THE LAYOUT SHOWN IS FOR SITUATIONS WHERE SEPARATION FROM WATER SERVICE IS REQUIRED OR IF THE EXISTING LATERAL CANNOT BE CONNECTED TO THE SEWER MAIN WITHOUT HORIZONTAL ADJUSTMENT
2. MAINTAIN THE SEWER LATERAL AT THE DEEPEST DEPTH POSSIBLE TO AVOID ISSUES WITH OTHER UTILITIES. ADJUST TO EXISTING LATERAL AS NEAR TO ROW AS POSSIBLE
3. IF CONNECTING LATERAL TO AN EXISTING SEWER MAIN, A SADDLE MUST BE USED. PRE-APPROVAL FROM THE CITY ENGINEERING DEPARTMENT REQUIRED FOR OTHER CONNECTION METHODS

PROFILE VIEW

REPLACEMENT SEWER LATERAL CONNECTION

NOT TO SCALE

The City Of Goshen
Department of Public Works & Safety
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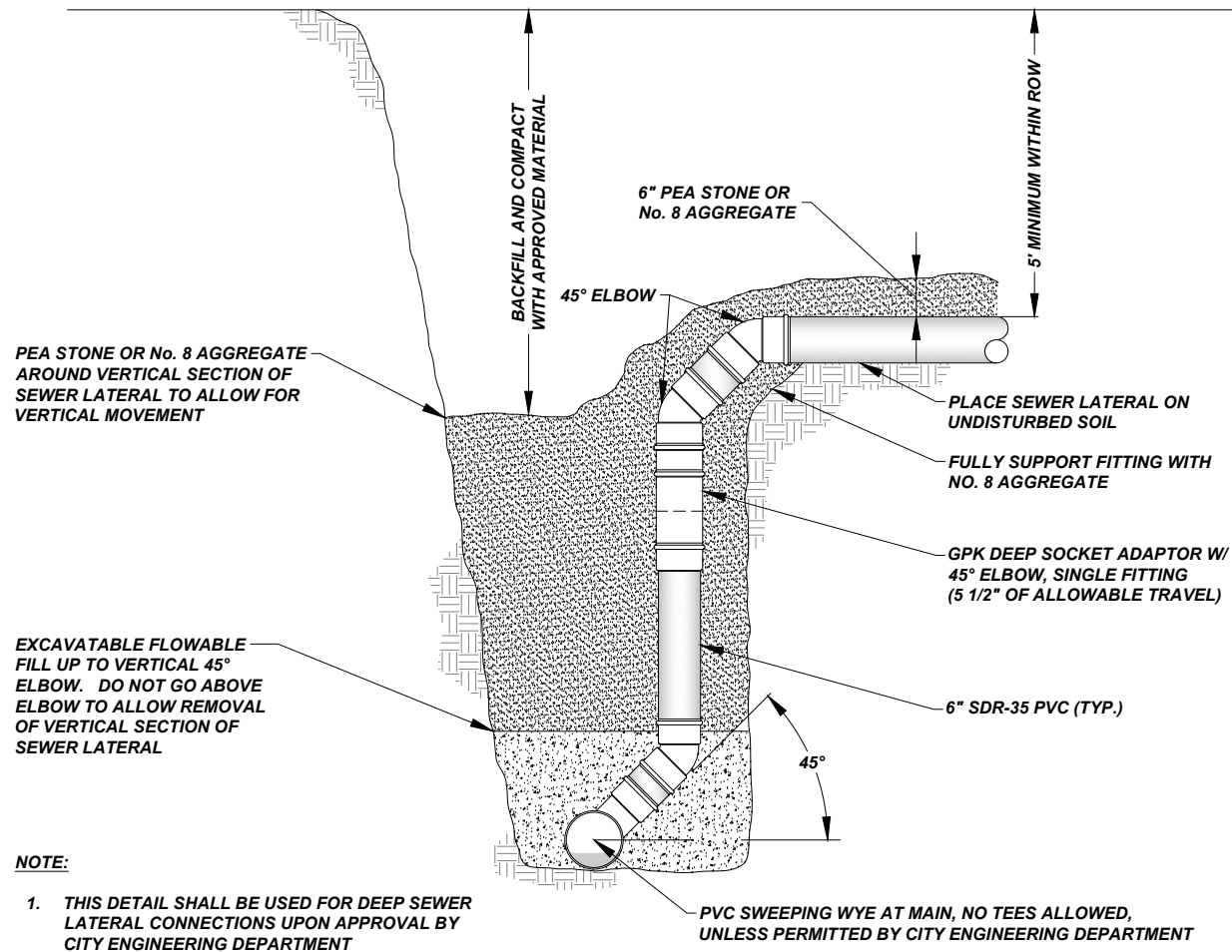
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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-404



VERTICAL SEWER LATERAL

NOT TO SCALE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering

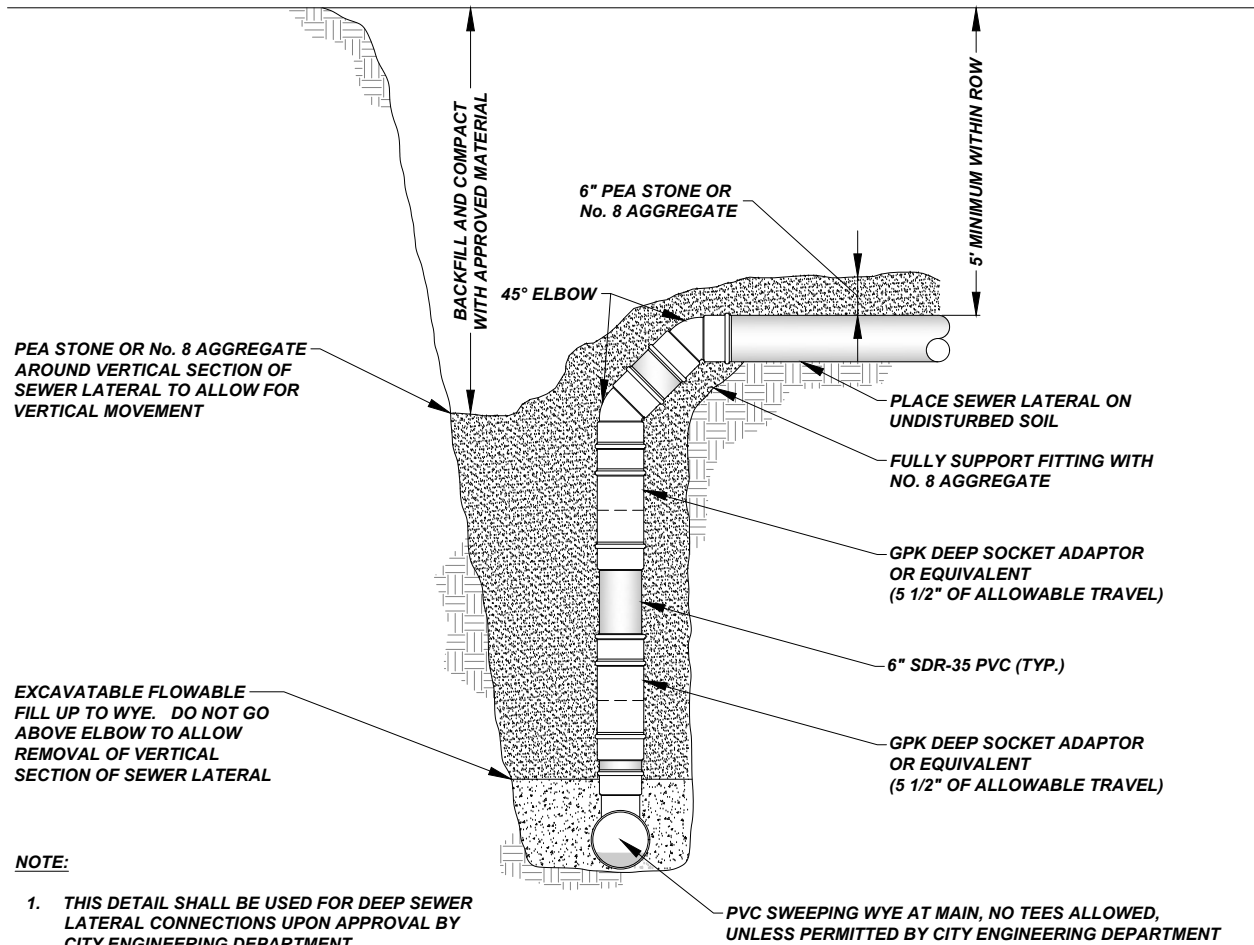
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Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.
Drawing Number: SW-405



VERTICAL SEWER LATERAL

NOT TO SCALE

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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.
Drawing Number: **SW-406**

NEENAH R-1772 W/ TYPE 'B' OR APPROVED EQUAL. INSTALL TOP OF CASTING 1/4" BELOW FINISHED PAVEMENT. FLUSH WITH FINISHED GRADE IN YARD/LANDSCAPED AREAS

USE 1/4" ROLLED BUTYL MASTIC ROPE BETWEEN CASTING AND RING, ONE ALONG INSIDE AND OUTSIDE EDGES WHEN POSSIBLE. FOR FINE ADJUSTMENT, A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE REDLINE OR SIMILAR APPROVED MATERIAL CAN BE USED, MAXIMUM OF 2" THICKNESS. NO SHIMS, BRICK OR CONCRETE UNDER CASTING

USE 1/4" ROLLED BUTYL MASTIC ROPE BETWEEN STRUCTURE AND RINGS, ONE ALONG INSIDE AND OUTSIDE EDGE. CASTING AND RINGS MUST BE ALIGNED VERTICALLY AND HAVE NO CRACKS

MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY

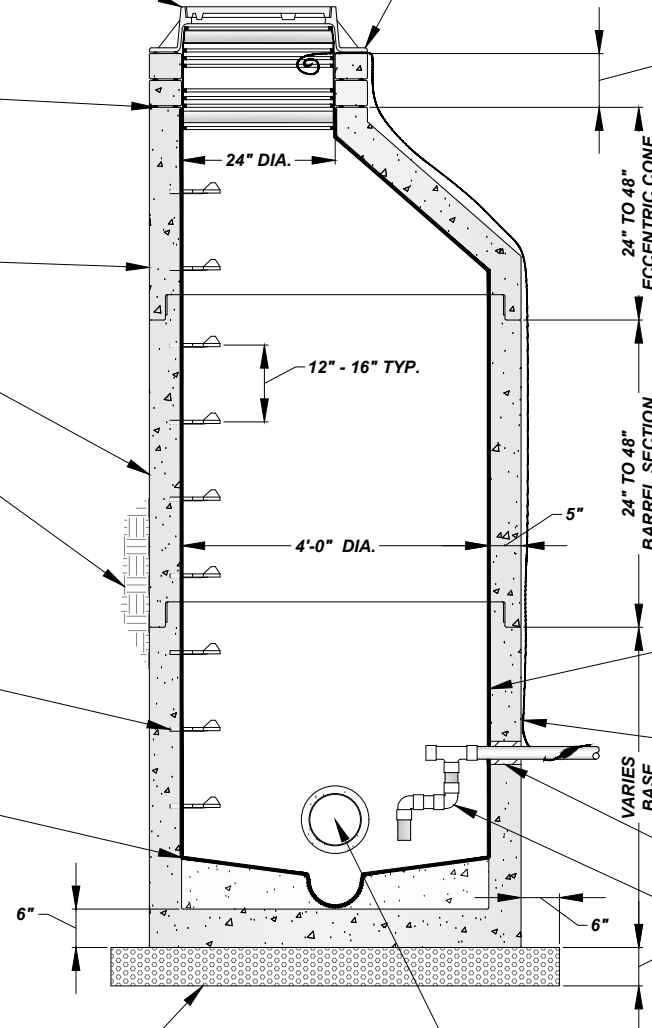
PRE-CAST REINFORCED CONCRETE MANHOLE PER ASTM C-478

ALIGN RUNGS IN EACH STRUCTURE SECTION AND CONE OPENING

BACKFILL WITH B-BORROW OR APPROVED CLEAN SPOILS. COMPACT IN PROPER LIFTS BY MECHANICAL MEANS. IF UNABLE TO COMPACT BY MECHANICAL MEANS, PLACE No. 8 PEA GRAVEL BETWEEN EXCAVATION WALL AND STRUCTURE

COPOLYMER POLYPROPYLENE PLASTIC RUNGS WITH 1/2" GRADE 60 REINFORCING STEEL

PRECAST INVERT AND BENCH



NOTES:

1. ALL STRUCTURES MUST BE INSPECTED BY A CITY REPRESENTATIVE PRIOR TO INSTALLATION. STRUCTURES WILL BE REJECTED IF REINFORCING STEEL IS EXPOSED, EXCESSIVE VOIDS ARE OBSERVED IN THE CONCRETE, DAMAGE TO CONCRETE EDGES BETWEEN SECTIONS AND ANY OTHER ITEM THAT MAY COMPROMISE THE STRUCTURE

EPOXY COAT INTERIOR OF EXISTING SANITARY MANHOLE, SUBMIT MANUFACTURER'S DATA FOR APPROVAL BY THE CITY OF GOSHEN ENGINEERING DEPARTMENT PRIOR TO APPLYING

(2) TRACER WIRES (GREEN) TO BE COPPERHEAD SOLOSHOT 1245 OR APPROVED EQUAL. RUN ALONG OUTSIDE OF STRUCTURE. BRING INTO STRUCTURE UNDER CASTING, LEAVE A 2' LONG COIL

CORE EXISTING MANHOLE AND INSTALL FORCE MAIN WITH LINK SEAL OR APPROVED EQUAL

2" - SCH-80 TEE AND TREADED CAP
2" - 90° SCH-80 BEND
2" - 90° SCH-80 BEND, ROTATE TO ALIGN WITH GRAVITY CHANNEL
2" - SCH-80 PIPE STUB

No. 8 AGGREGATE, MAYBE ELIMINATED BY ENGINEER IF CONDITIONS DO NOT WARRANT THE 6" OF BASE MATERIAL

BOOTS REQUIRED FOR ALL PIPE CONNECTIONS. AN INVERT INSTALLED IN THE FIELD MUST BE CORED AND BOOT INSTALLED. SEAL THE GAP BETWEEN THE PIPE AND BOOT WITH A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE REDLINE OR APPROVED. EXTEND PIPE 6" BEYOND INSIDE WALL FACE IF ABOVE PRECAST INVERT AND BENCH

SANITARY MANHOLE FORCE MAIN CONNECTION

NOT TO SCALE

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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:

SW-501

USE 1/4" ROLLED BUTYL MASTIC ROPE BETWEEN STRUCTURE AND RINGS, ONE ALONG INSIDE AND OUTSIDE EDGE. CASTING AND RINGS MUST BE ALIGNED VERTICALLY AND HAVE NO CRACKS

(2) TRACER WIRES (GREEN) TO BE COPPERHEAD SOLOSHOT 1245 OR APPROVED EQUAL. ATTACH TO THE INTERIOR OF STRUCTURE WITH STAINLESS STEEL BRACKETS. LEAVE A 4' COIL ATTACHED TO INSIDE OF COVER

COPOLYMER POLYPROPYLENE PLASTIC RUNGS WITH 1/2" GRADE 60 REINFORCING STEEL. ALIGN RUNGS IN EACH STRUCTURE SECTION AND OPENING

BACKFILL WITH B-BORROW OR APPROVED CLEAN SPOILS. COMPACT PER CURRENT CITY STANDARDS. IF UNABLE TO COMPACT BY MECHANICAL MEANS, PLACE No. 8 PEA GRAVEL BETWEEN EXCAVATION WALL AND STRUCTURE

GATE VALVE (3" MINIMUM)

BOOTS REQUIRED FOR ALL PIPE CONNECTIONS

NEENAH R-1772 W/ TYPE 'B' LID WORD 'SANITARY' ON LID OR APPROVED EQUAL. INSTALL TOP OF CASTING 1/4" BELOW FINISHED PAVEMENT. FLUSH WITH FINISHED GRADE IN YARD/LANDSCAPED AREAS

USE 1/4" ROLLED MASTIC ROPE BETWEEN CASTING AND RING, ONE ALONG INSIDE AND OUTSIDE EDGES WHEN POSSIBLE. FOR FINE ADJUSTMENT, A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE REDLINE OR SIMILAR APPROVED MATERIAL CAN BE USED, MAXIMUM OF 2" THICKNESS. NO SHIMS, BRICK OR CONCRETE UNDER CASTING

MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY

12" FLAT LID

24" DIA.

12" - 16" TYP.

5'-0" DIA. UNLESS OTHERWISE NOTED

5"

24" TO 48" BARREL SECTION

GATE VALVE (3" MINIMUM) WITH STANDARD FLUSHING CONNECTION

ADJUSTABLE STEEL THRUST BLOCK

VARIES BASE

DUCTILE IRON PIPE

5.0'

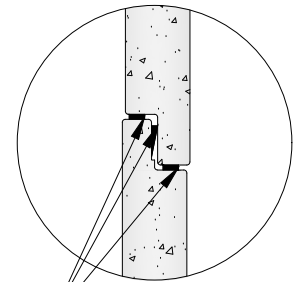
6"

6"

No. 8 AGGREGATE, MAYBE ELIMINATED BY ENGINEER IF CONDITIONS DO NOT WARRANT THE 6" OF BASE MATERIAL

18" DIA. SUMP RECESSED 3"

ADJUSTABLE STEEL SUPPORTS



SECTIONS MAY BE SEALED WITH THE MANUFACTURER'S SUPPLIED GASKET OR MASTIC PLACED ON THE UPPER AND LOWER EDGES OF STRUCTURE

NOTES:

1. ALL STRUCTURES MUST BE INSPECTED BY A CITY REPRESENTATIVE PRIOR TO INSTALLATION. STRUCTURES WILL BE REJECTED IF REINFORCING STEEL IS EXPOSED, EXCESSIVE VOIDS ARE OBSERVED IN THE CONCRETE, DAMAGE TO CONCRETE EDGES BETWEEN SECTIONS AND ANY OTHER ITEM THAT MAY COMPROMISE THE STRUCTURE

FORCE MAIN FLUSHING MANHOLE TYPE II

NOT TO SCALE

The City Of Goshen

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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-502

USE 1/4" ROLLED BUTYL MASTIC ROPE BETWEEN STRUCTURE AND RINGS, ONE ALONG INSIDE AND OUTSIDE EDGE. CASTING AND RINGS MUST BE ALIGNED VERTICALLY AND HAVE NO CRACKS

(2) TRACER WIRES (GREEN) TO BE COPPERHEAD SOLOSHOT 1245 OR APPROVED EQUAL. ATTACH TO THE INTERIOR OF STRUCTURE WITH STAINLESS STEEL BRACKETS. LEAVE A 4' COIL ATTACHED TO INSIDE OF COVER

COPOLYMER POLYPROPYLENE PLASTIC RUNGS WITH 1/2" GRADE 60 REINFORCING STEEL. ALIGN RUNGS IN EACH STRUCTURE SECTION AND OPENING

BACKFILL WITH B-BORROW OR APPROVED CLEAN SPOILS. COMPACT PER CURRENT CITY STANDARDS. IF UNABLE TO COMPACT BY MECHANICAL MEANS, PLACE No. 8 PEA GRAVEL BETWEEN EXCAVATION WALL AND STRUCTURE

COMBINATION VALVE SHALL BE A.R.I. FLOW CONTROL D-025 FOR SEWAGE, OR APPROVED EQUAL

2" SHUT OFF VALVE

BOOTS REQUIRED FOR ALL PIPE CONNECTIONS

No. 8 AGGREGATE, MAYBE ELIMINATED BY ENGINEER IF CONDITIONS DO NOT WARRANT THE 6" OF BASE MATERIAL

INSTALL 1/4" X 1 1/2" STAINLESS STEEL STRAP SECURED TO STRUCTURE WALL W/ FOUR 1/2" X 2" EXP. ANCHORS TO SUPPORT COMBINATION VALVE. 1/4" U-BOLT & LOCK WASHERS, LENGTH AND WIDTH AS REQUIRED

NEENAH R-1772 W/ TYPE 'B' OR APPROVED EQUAL. INSTALL TOP OF CASTING 1/4" BELOW FINISHED PAVEMENT. FLUSH WITH FINISHED GRADE IN YARD/LANDSCAPED AREAS

USE 1/4" ROLLED MASTIC ROPE BETWEEN CASTING AND RING, ONE ALONG INSIDE AND OUTSIDE EDGES WHEN POSSIBLE. FOR FINE ADJUSTMENT, A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE REDLINE OR SIMILAR APPROVED MATERIAL CAN BE USED, MAXIMUM OF 2" THICKNESS. NO SHIMS, BRICK OR CONCRETE UNDER CASTING

MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY

12" FLAT LID

EPOXY COATED GREEN W/ REFLECTIVE TAPE, 2" GALVANIZED PIPE. INSTALL 1/4" MESH SCREEN SECURED W/ CLAMP. SEAL AT STRUCTURE TO MAKE WATER TIGHT

GATE VALVE (3" MINIMUM) WITH STANDARD FLUSHING CONNECTION

GATE VALVE (3" MINIMUM)

SECTIONS MAY BE SEALED WITH THE MANUFACTURER'S SUPPLIED GASKET OR MASTIC PLACED ON THE UPPER AND LOWER EDGES OF STRUCTURE

NOTES:

- ALL STRUCTURES MUST BE INSPECTED BY A CITY REPRESENTATIVE PRIOR TO INSTALLATION. STRUCTURES WILL BE REJECTED IF REINFORCING STEEL IS EXPOSED, EXCESSIVE VOIDS ARE OBSERVED IN THE CONCRETE, DAMAGE TO CONCRETE EDGES BETWEEN SECTIONS AND ANY OTHER ITEM THAT MAY COMPROMISE THE STRUCTURE

FORCE MAIN AIR RELEASE/FLUSHING MANHOLE TYPE III

NOT TO SCALE

The City Of Goshen
Department of Public Works & Safety
Office of Engineering

204 East Jefferson, Suite 1 Street, Goshen, Indiana 46528
Phone: 574-534-2201 Fax: 574-533-8626
Web: goshenindiana.org

Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions

03/27/2025

CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:
SW-503

USE 1/4" ROLLED BUTYL MASTIC ROPE BETWEEN STRUCTURE AND RINGS, ONE ALONG INSIDE AND OUTSIDE EDGE. CASTING AND RINGS MUST BE ALIGNED VERTICALLY AND HAVE NO CRACKS

(2) TRACER WIRES (GREEN) TO BE COPPERHEAD SOLOSHOT 1245 OR APPROVED EQUAL. ATTACH TO THE INTERIOR OF STRUCTURE WITH STAINLESS STEEL BRACKETS. LEAVE A 4' COIL ATTACHED TO INSIDE OF COVER

COPOLYMER POLYPROPYLENE PLASTIC RUNGS WITH 1/2" GRADE 60 REINFORCING STEEL. ALIGN RUNGS IN EACH STRUCTURE SECTION AND OPENING

BACKFILL WITH B-BORROW OR APPROVED CLEAN SPOILS. COMPACT PER CURRENT CITY STANDARDS. IF UNABLE TO COMPACT BY MECHANICAL MEANS, PLACE No. 8 PEA GRAVEL BETWEEN EXCAVATION WALL AND STRUCTURE

GATE VALVE (3" MINIMUM)

BOOTS REQUIRED FOR ALL PIPE CONNECTIONS

No. 8 AGGREGATE, MAYBE ELIMINATED BY ENGINEER IF CONDITIONS DO NOT WARRANT THE 6" OF BASE MATERIAL

NEENAH R-1772 W/ TYPE 'B' OR APPROVED EQUAL. INSTALL TOP OF CASTING 1/4" BELOW FINISHED PAVEMENT. FLUSH WITH FINISHED GRADE IN YARD/LANDSCAPED AREAS

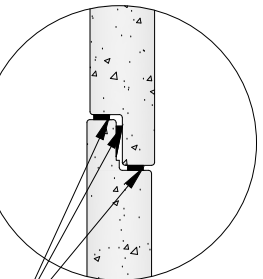
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MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY

12" FLAT LID

GATE VALVE (3" MINIMUM) WITH STANDARD FLUSHING CONNECTION

GATE VALVE (3" MINIMUM)



SECTIONS MAY BE SEALED WITH THE MANUFACTURER'S SUPPLIED GASKET OR MASTIC PLACED ON THE UPPER AND LOWER EDGES OF STRUCTURE

NOTES:

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FORCE MAIN FLUSHING MANHOLE TYPE IV

NOT TO SCALE

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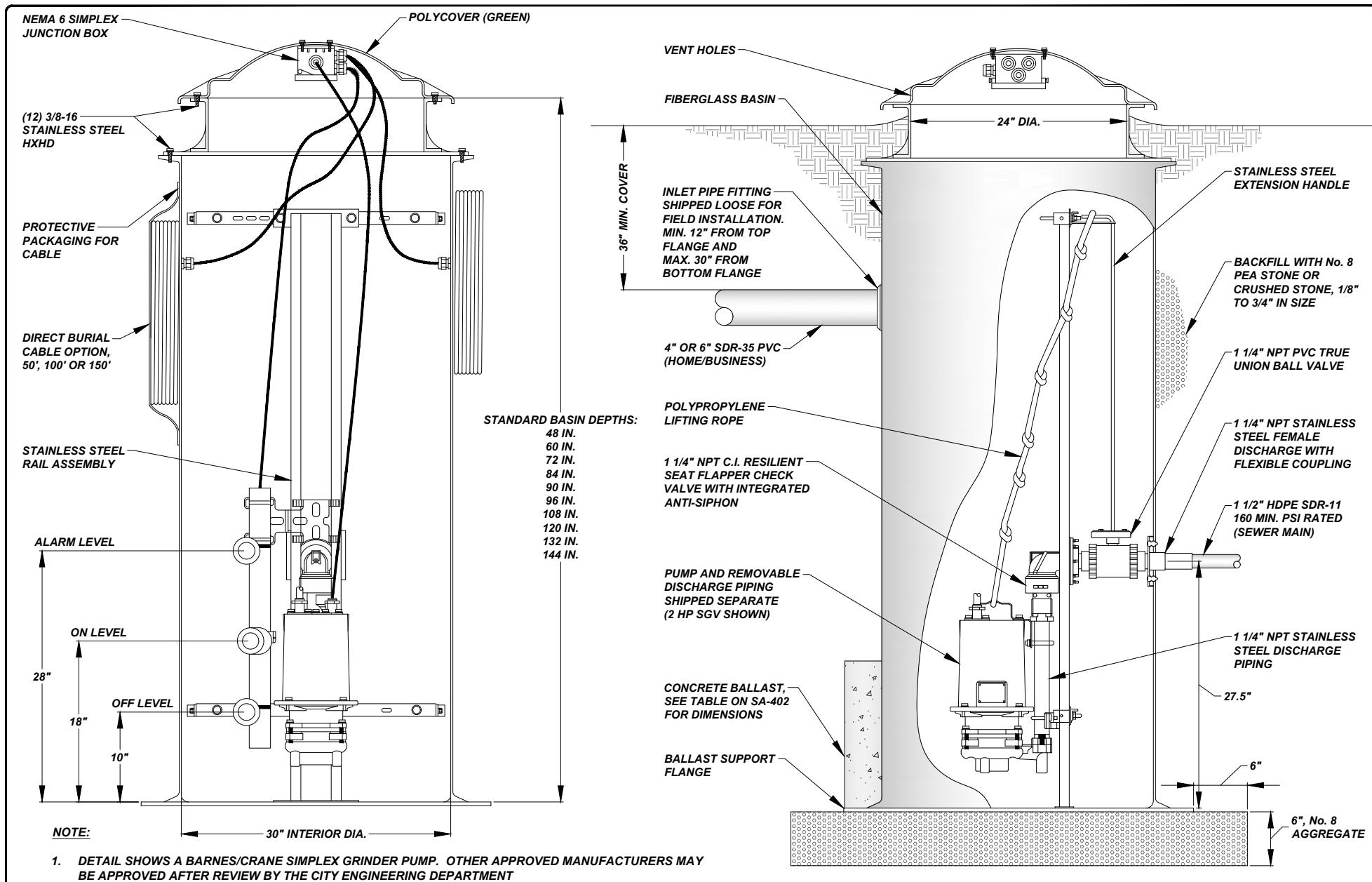
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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.

Drawing Number:

SW-504



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STANDARD SIMPLEX GRINDER PUMP

NOT TO SCALE

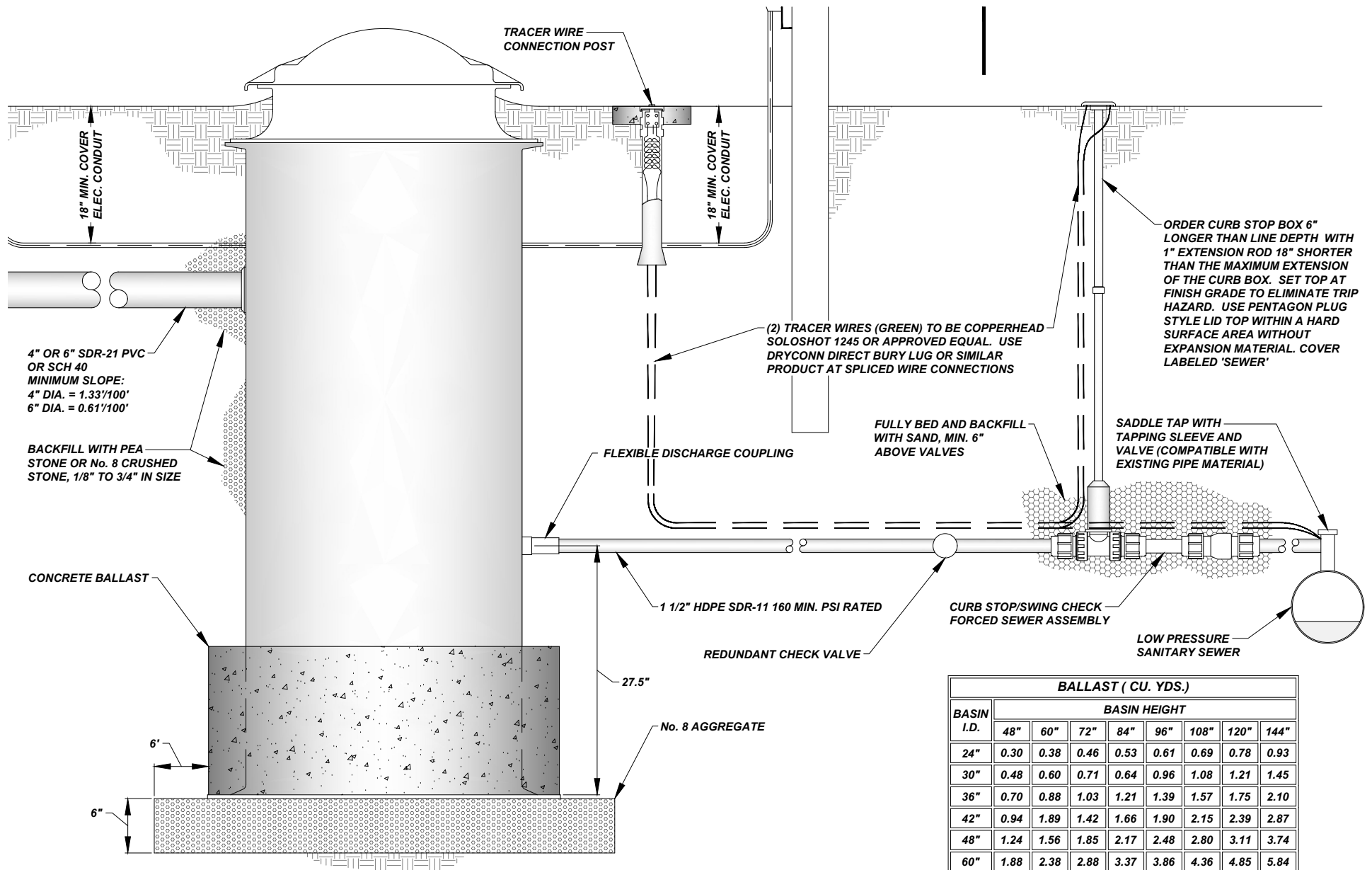
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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
 Approved By: D. Sailor, P.E.

Drawing Number:
SW-601



BALLAST (CU. YDS.)								
BASIN I.D.	BASIN HEIGHT							
	48"	60"	72"	84"	96"	108"	120"	144"
24"	0.30	0.38	0.46	0.53	0.61	0.69	0.78	0.93
30"	0.48	0.60	0.71	0.84	0.96	1.08	1.21	1.45
36"	0.70	0.88	1.03	1.21	1.39	1.57	1.75	2.10
42"	0.94	1.19	1.42	1.66	1.90	2.15	2.39	2.87
48"	1.24	1.56	1.85	2.17	2.48	2.80	3.11	3.74
60"	1.88	2.38	2.88	3.37	3.86	4.36	4.85	5.84

The City Of Goshen
 Department of Public Works & Safety
 Office of Engineering

SIMPLEX GRINDER PUMP CONNECTION LAYOUT

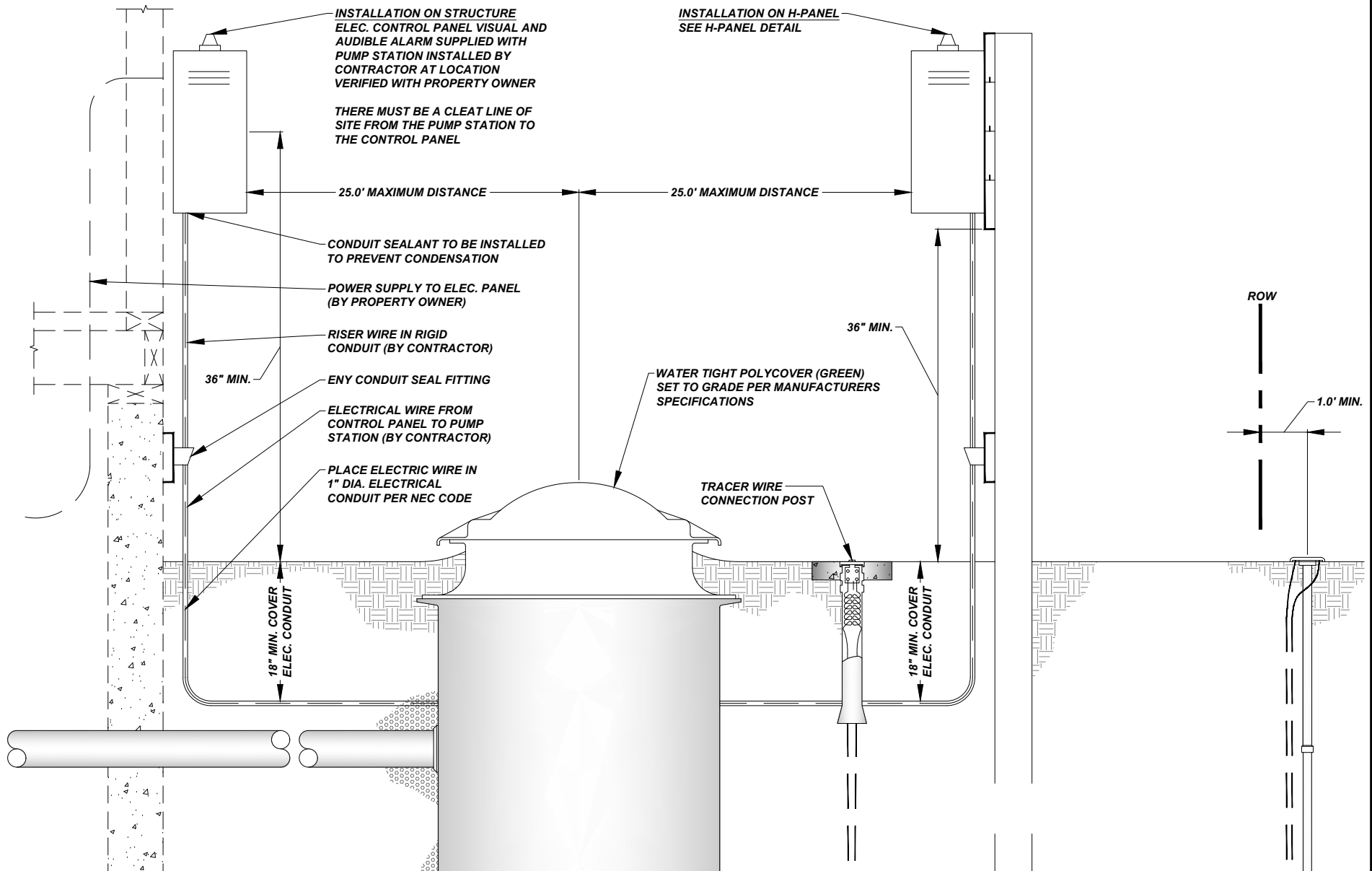
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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
 Approved By: D. Sailor, P.E.
 Drawing Number: **SW-602**



SIMPLEX GRINDER PUMP ELECTRICAL LAYOUT

NOT TO SCALE

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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman
Approved By: D. Sailor, P.E.
Drawing Number: **SW-603**

INSTALLATION ON H-PANEL:
 ELEC. CONTROL PANEL VISUAL AND
 AUDIBLE ALARM SUPPLIED WITH
 PUMP STATIONS, INSTALLED BY
 CONTRACTOR AT LOCATION
 VERIFIED WITH PROPERTY OWNER

THERE MUST BE A CLEAR LINE OF
 SIGHT FROM THE PUMP STATION TO
 THE CONTROL PANEL

CONDUIT SEALANT TO BE
 INSTALLED TO PREVENT
 CONDENSATION

RISER WIRE IN RIGID CONDUIT
 (BY CONTRACTOR)

ENY CONDUIT SEAL

ELECTRICAL WIRE FROM
 CONTROL PANEL TO PUMP
 STATION (BY CONTRACTOR)

18" MIN. COVER
 ELEC. CONDUIT

PLACE ELECTRIC WIRE IN
 1" DIA. ELECTRICAL
 CONDUIT PER NEC CODE

2" X 6" TREATED TONGUE
 & GROOVE BOARDS LAG
 FASTENED TO POST

4" X 4" TREATED POST

ENY CONDUIT SEAL FITTING
 FASTENED TO SINGLE 2" X 6"
 TREATED BOARD

MOUND BACKFILL AROUND
 POST TO PREVENT STANDING
 WATER AT GROUND/POST

TREAT POST WITH ADDITIONAL
 ROT PROTECTION

COMPACT BACKFILL AROUND
 POST INSURING THE POST IS
 STRAIGHT AND PLUM

PLACE No. 8 AGGREGATE AT
 BOTTOM AND AROUND BOTTOM
 OF POST FOR DRAINAGE

36" MIN.

36" MIN.

The City Of Goshen
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SIMPLEX GRINDER PUMP H-PANEL

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CITY OF GOSHEN, INDIANA
STANDARD DETAIL

Drafted By: J. Hoffman Approved By: D. Sailor, P.E.

Drawing Number:
SW-604

CURB STOP BOX TO BE ORDERED 6" LONGER THAN
SERVICE LINE BURY DEPTH WITH 1" ROD
SMALL ARCH PATTERN BOX FOR 1" CURB STOP
LARGE ARCH PATTERN BOX FOR 1.5" AND 2" CURB STOP

CURB STOP AND BOX WITH 1" ROD 18"
SHORTER THAN THE MAXIMUM EXTENSION OF
THE CURB BOX. SET TOP AT FINISH GRADE TO
ELIMINATE TRIP HAZARD. USE PENTAGON
PLUG STYLE LID TOP WITHIN A HARD SURFACE
AREA WITHOUT EXPANSION MATERIAL

NOTES:

1. THERMOPLASTIC CURB STOP VALVES SHALL BE MANUFACTURED FROM POLYPROPYLENE COMPOUND AND ISO 9002 CERTIFIED. ALL VALVES SHALL BE RATED FOR 200 PSI. EACH VALVE SHALL HAVE AN OPERATING HANDLE PROFILED FOR MANUAL OR SERVICE KEY OPERATION. THE HANDLE SHALL HAVE A BUILT-IN SAFETY FEATURE THAT DISENGAGES AND RATCHETS IN EITHER DIRECTION WHEN OPERATING TORQUE EXCEEDS 20 FT. LB
2. SWING CHECK VALVES SHALL BE MANUFACTURED FROM ULTRA HIGH IMPACT PVC MATERIAL. ALL VALVES SHALL BE RATED FOR 150 PSI WORKING PRESSURE
3. THERMOPLASTIC PRESSURE FITTINGS FOR COLD-WATER APPLICATIONS SHALL BE MANUFACTURED FROM POLYPROPYLENE COMPOUND AND SHALL BE RATED FOR 200 PSI. FITTINGS SHALL HAVE OUTSIDE O-RING SEALED COMPRESSION ENDS DESIGNED FOR THE SPECIFIED SERVICE TUBING. FITTINGS SHOULD BE ISO 9002 AND NSF CERTIFIED. INSTALL FITTINGS PER MANUFACTURER'S RECOMMENDATIONS
4. THE CURB STOP AND SWING CHECK VALVE SHALL BE JOINED WITH A SECTION OF 6" THROUGH 12" POLYETHYLENE PIPE OF THE SAME SIZE AS THE LATERAL SPECIFIED TUBING. THE ASSEMBLY SHALL BE SHIPPED AS A COMPLETE UNIT WITH ENDS TO ACCOMMODATE THE SPECIFIED SERVICE TUBING

5.0' MIN. COVER
6.0' MAX. COVER

FULLY BED AND BACKFILL WITH
SAND, MIN. 6" ABOVE VALVES

TO SEWER MAIN

INSTALL COTTER PIN

SDR-9 CTS POLYPROPYLENE PIPE

SWING CHECK VALVE

(2) TRACER WIRES (GREEN) TO
BE COPPERHEAD SOLOSHOT
1245 OR APPROVED EQUAL.
USE DRYCONN DIRECT BURY
LUG OR SIMILAR PRODUCT AT
SPliced WIRE CONNECTIONS

FROM GRINDER PUMP

6"-12"

CURB STOP/SWING CHECK FORCED SEWER ASSEMBLY

NOT TO SCALE

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