

## CITY OF GOSHEN STANDARD SEWER DETAILS

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SW-306	1,800 GAL. DRYWELL WITH BASE
SW-307	3,050 GAL. DRYWELL WITH BASE

**SECTION 400 SANITARY SEWER LATERAL DETAILS**

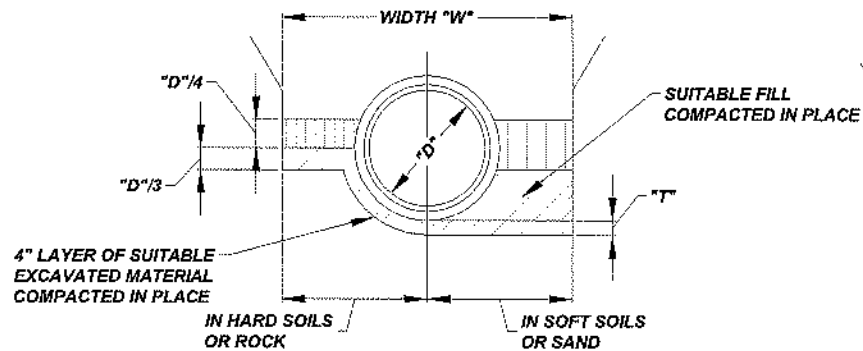
SW-401	SEWER LATERAL W/ CLEANOUT
SW-402	SEWER LATERAL REPLACEMENT AT EXISTING TAP
SW-403	SEWER LATERAL OUTSIDE RIGHT-OF-WAY
SW-404	REPLACEMENT SEWER LATERAL CONNECTION
SW-405	VERTICAL SEWER LATERAL - 45 DEGREE
SW-406	VERTICAL SEWER LATERAL

**SECTION 500 PRESSURE SEWER STRUCTURE DETAILS**

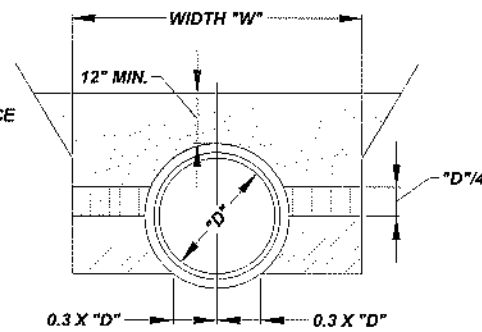
SW-501	SANITARY MANHOLE FORCE MAIN CONNECTION
SW-502	FORCE MAIN FLUSHING MANHOLE TYPE II
SW-503	FORCE MAIN AIR RELEASE/FLUSHING MANHOLE TYPE III
SW-504	FORCE MAIN FLUSHING MANHOLE TYPE IV

**SECTION 600 GRINDER PUMP DETAILS**

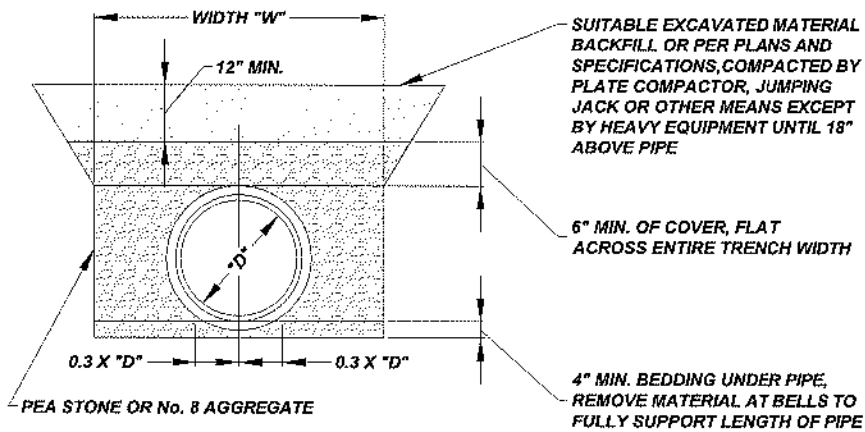
SW-601	STANDARD SIMPLEX GRINDER PUMP
SW-602	SIMPLEX GRINDER PUMP CONNECTION LAYOUT
SW-603	SIMPLEX GRINDER PUMP ELECTRICAL LAYOUT
SW-604	SIMPLEX GRINDER PUMP H-PANEL
SW-605	CURB STOP SWING CHECK FORCED SEWER ASSEMBLY



**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

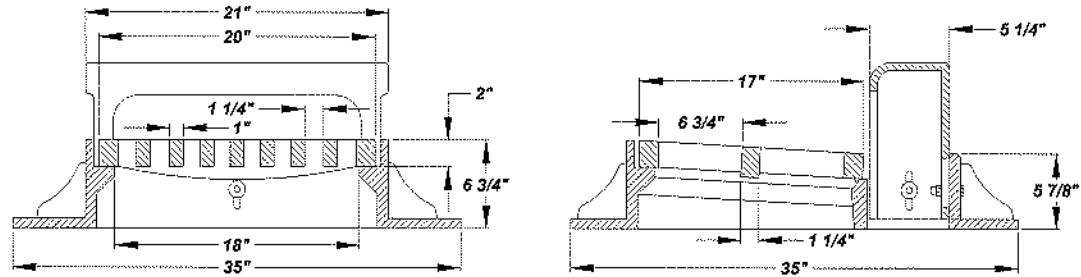
Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions

**CITY OF GOSHEN, INDIANA  
STANDARD DETAIL**

Drafted By: J. Hoffman  
Approved By: D. Saitor, 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

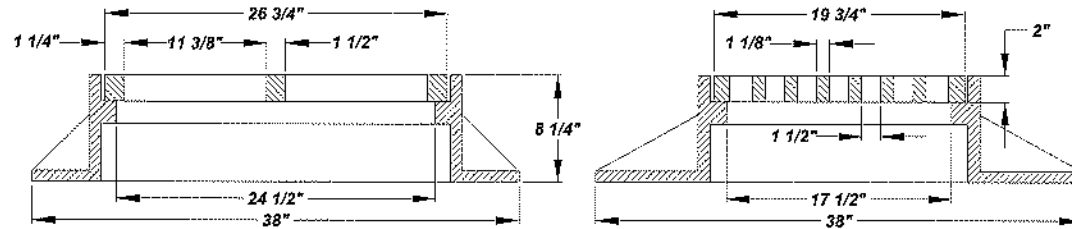


**CURB & GUTTER CASTING**

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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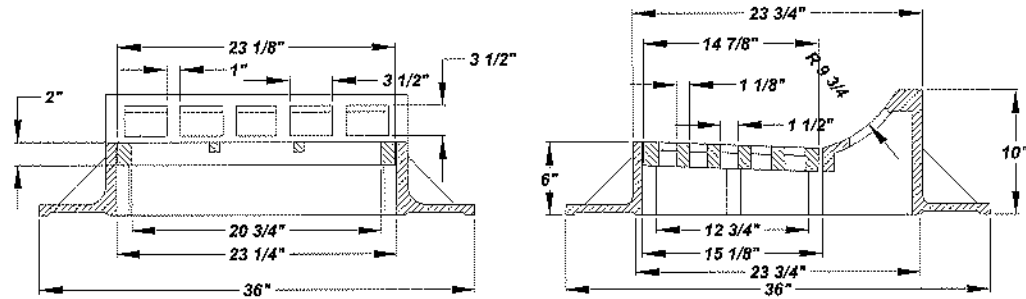
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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman	Approved By: D. Sallor, P.E.
Drawing Number: <b>SW-102</b>	

**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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 Department of Public Works & Safety  
 Office of Engineering

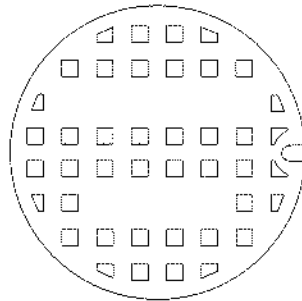
204 East Jefferson, Suite 1 Street, Goshen, Indiana 46528  
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Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions

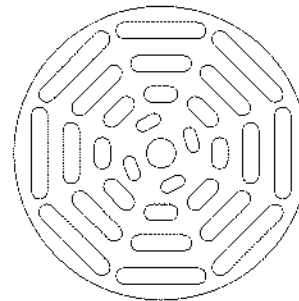
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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman	Approved By: D. Sailor, P.E.
Drawing Number: <b>SW-103</b>	



**TYPE 'B' LID**



**TYPE 'D' LID**

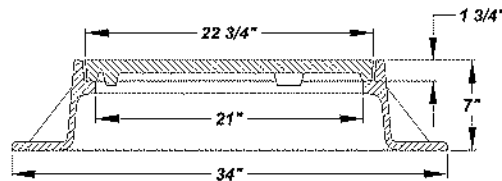
**NOTES:**

**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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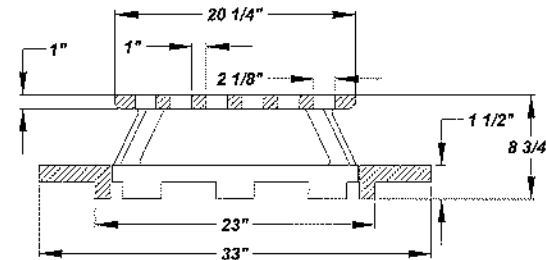
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**CITY OF GOSHEN, INDIANA  
STANDARD DETAIL**

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

**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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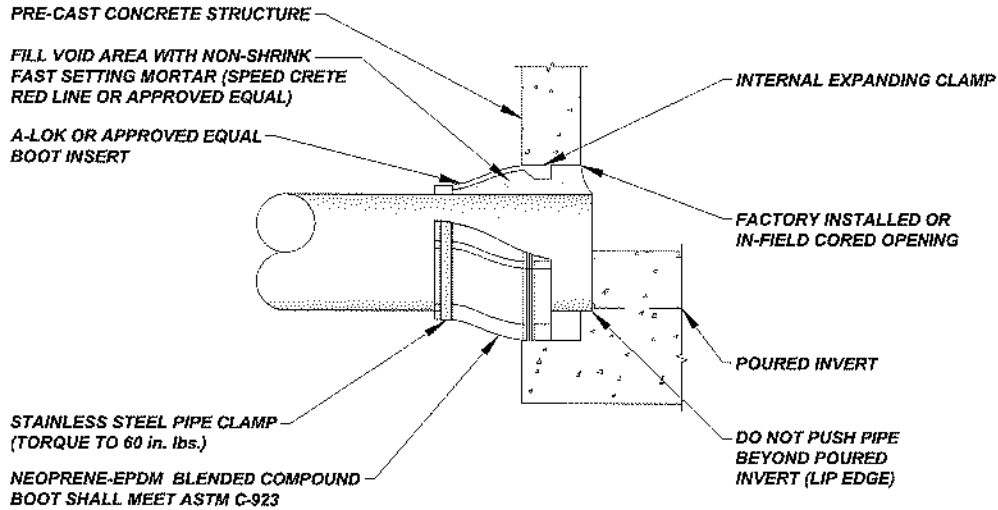
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Date	By	Revisions

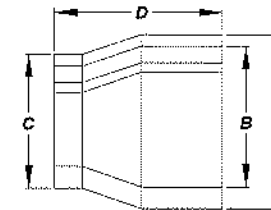
**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

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





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"



## SANITARY MANHOLE PIPE CONNECTION

NOT TO SCALE

*The City Of Goshen*

Department of Public Works & Safety  
Office of Engineering

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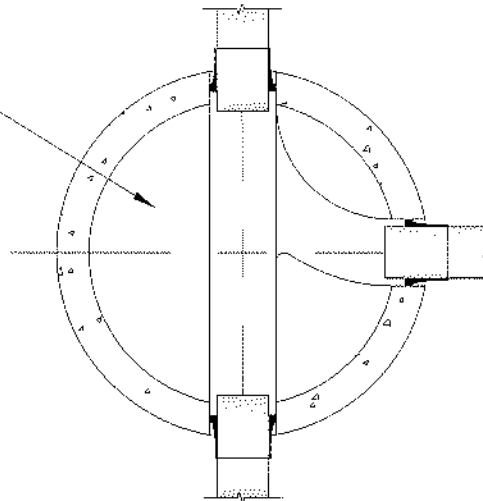
**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman  
Approved By: D. Sallor, 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

**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

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**CITY OF GOSHEN, INDIANA  
 STANDARD DETAIL**

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

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

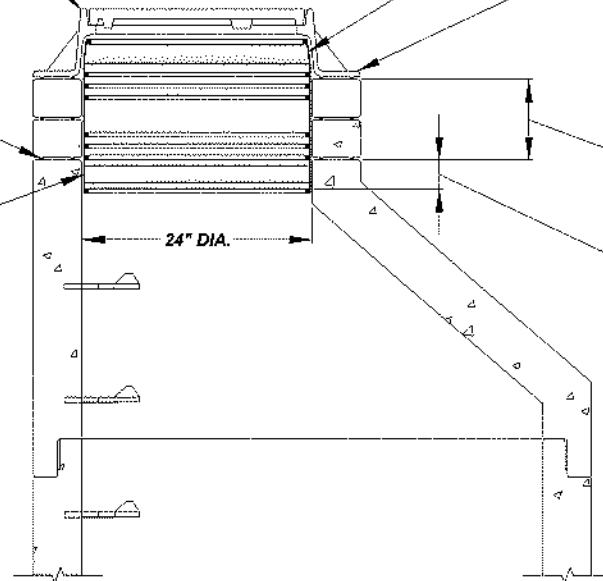
STAINLESS STEEL BOTTOM BAND TYPE 304 OR APPROVED EQUAL

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.



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

**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

02/06/2025					
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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

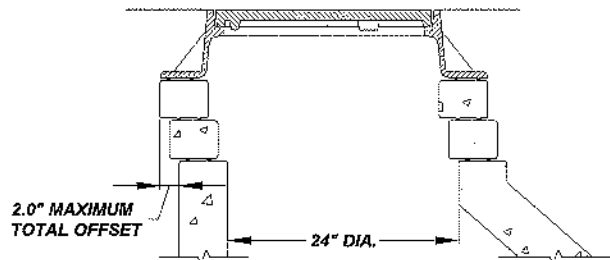
Drafted By: J. Hoffman  
 Approved By: D. Sailor, P.E.  
 Drawing Number: SW-108

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

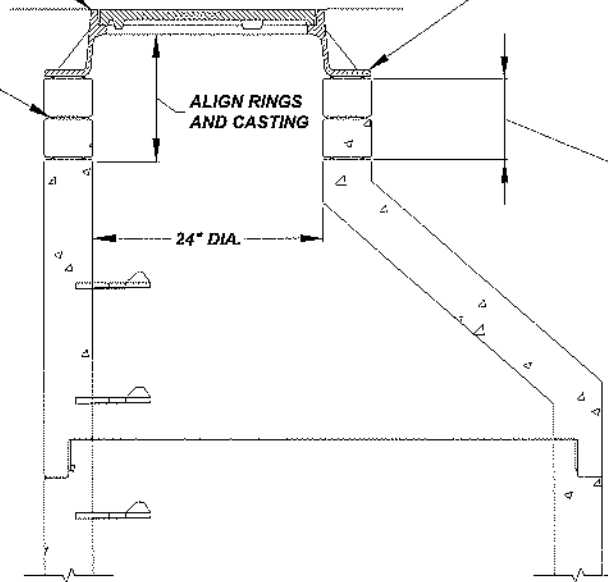
USE 1/4" ROLLED BUTYL MASTIC ROPE BETWEEN STRUCTURE AND RINGS, ONE ALONG INSIDE AND OUTSIDE EDGE. RINGS MUST BE ALIGNED VERTICALLY AND HAVE NO CRACKS

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

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

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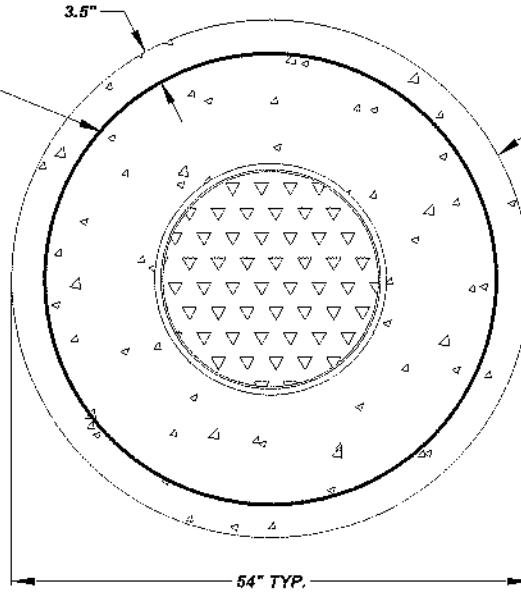
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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

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

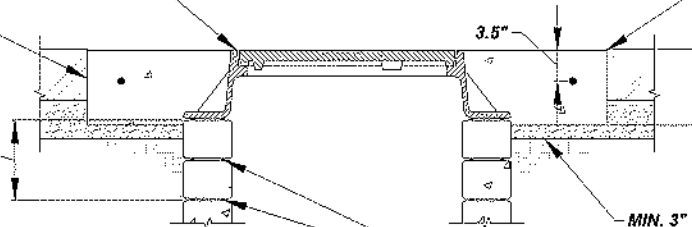


USE 1/4" ROLLED BUTYL MASTIC ROPE, APPLY TO INSIDE AND OUTSIDE EDGES OF ADJUSTING RINGS AND CASTINGS. FOR FINE ADJUSTMENT OF CASTING, A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE REDLINE OR SIMILAR APPROVED MATERIAL CAN BE USED IN PLACE OF MASTIC, MAXIMUM OF 2" THICKNESS. NO SHIMS, BRICK OR CONCRETE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

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

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CITY OF GOSHEN, INDIANA  
STANDARD DETAIL

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

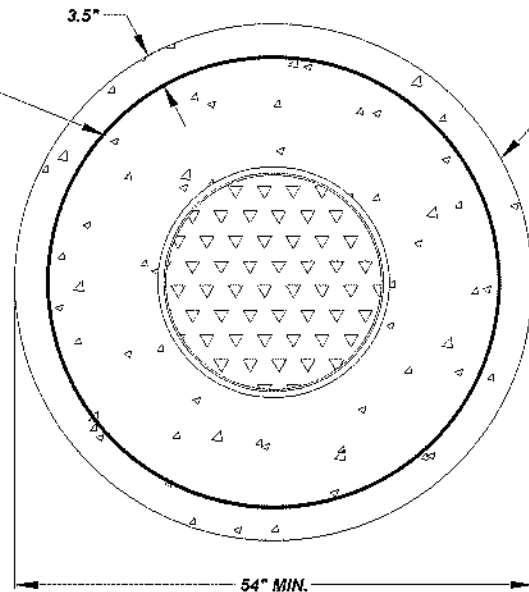
Drawing Number:  
SW-110

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

**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



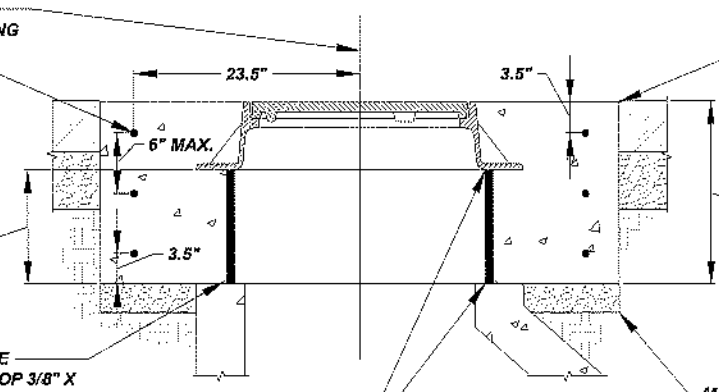
**PLAN VIEW**

CENTER CHIMNEY LINER AND CASTING ON STRUCTURE OPENING

No. 3 EPOXY COATED REBAR

INSTALL CASTING AND CONCRETE 1/4" BELOW FINISH PAVEMENT

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



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

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

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

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

**RESETTING MANHOLE CASTING W/ CHIMNEY LINER**

NOT TO SCALE

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

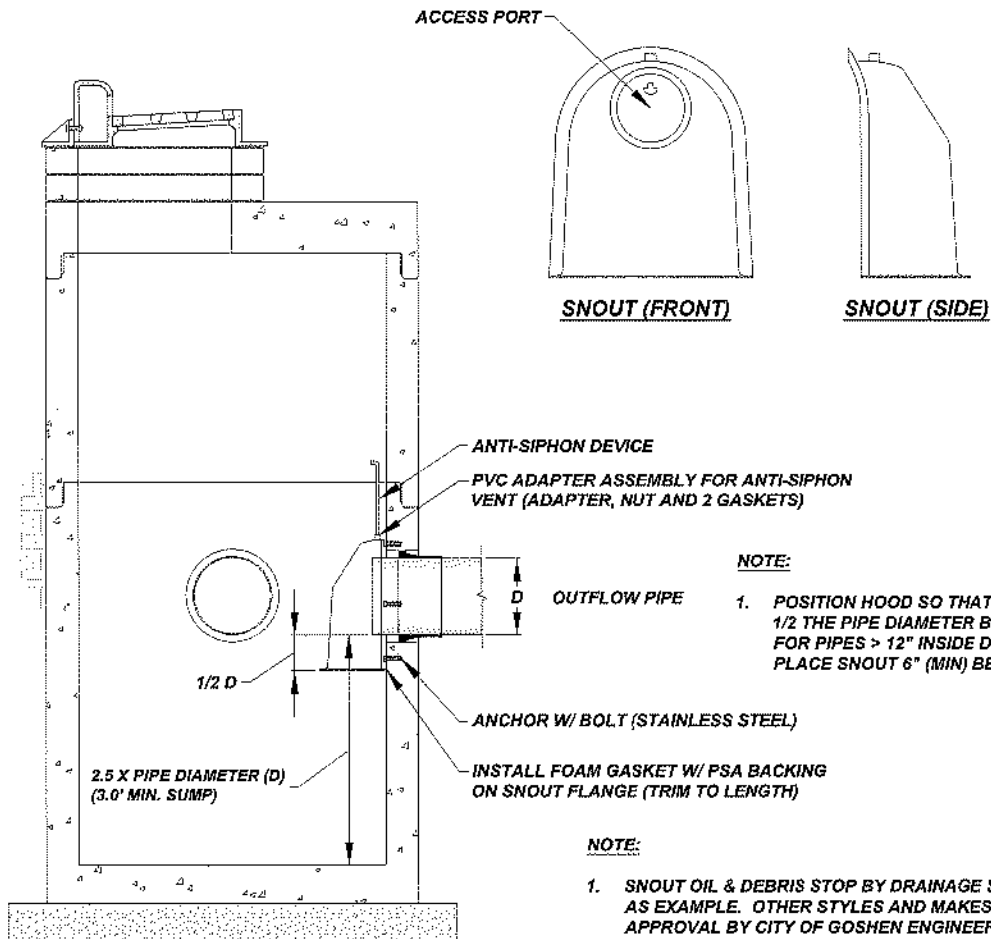
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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman  
 Approved By: D. Sailor, P.E.  
 Drawing Number:  
**SW-111**



## SEWER HOOD/SNOUT

NOT TO SCALE

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

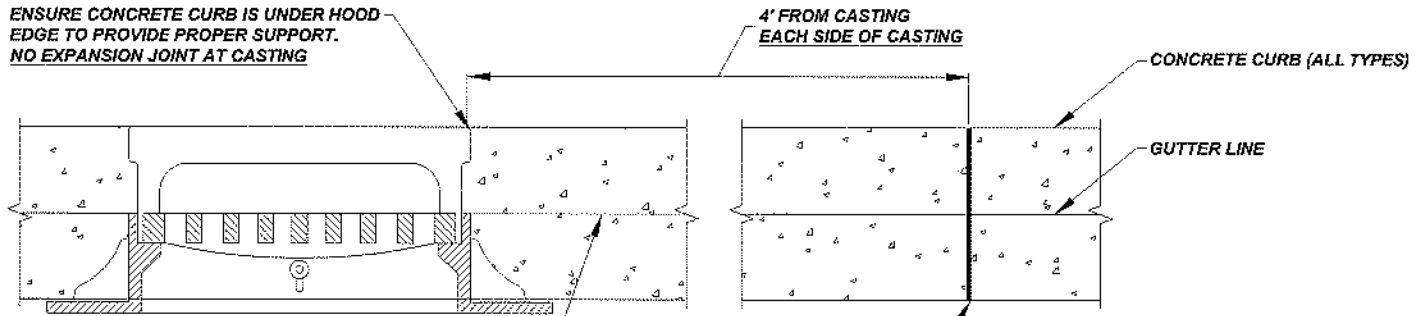
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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman	Approved By: D. Sailor, P.E.
Drawing Number: <b>SW-112</b>	



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

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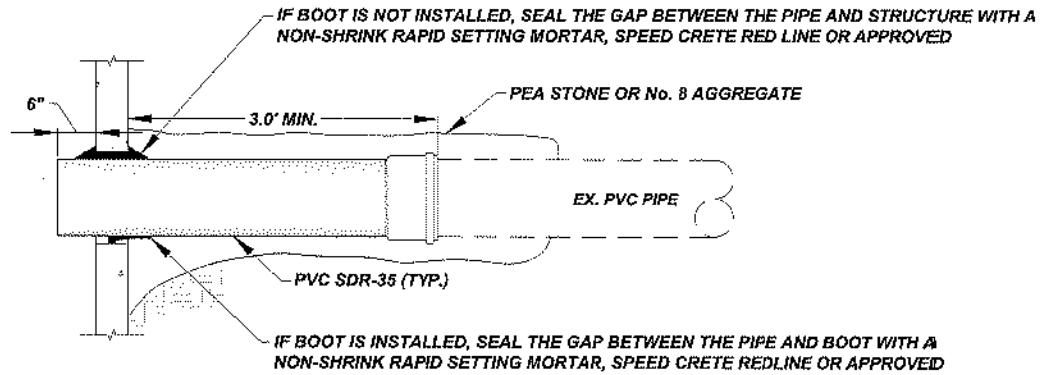
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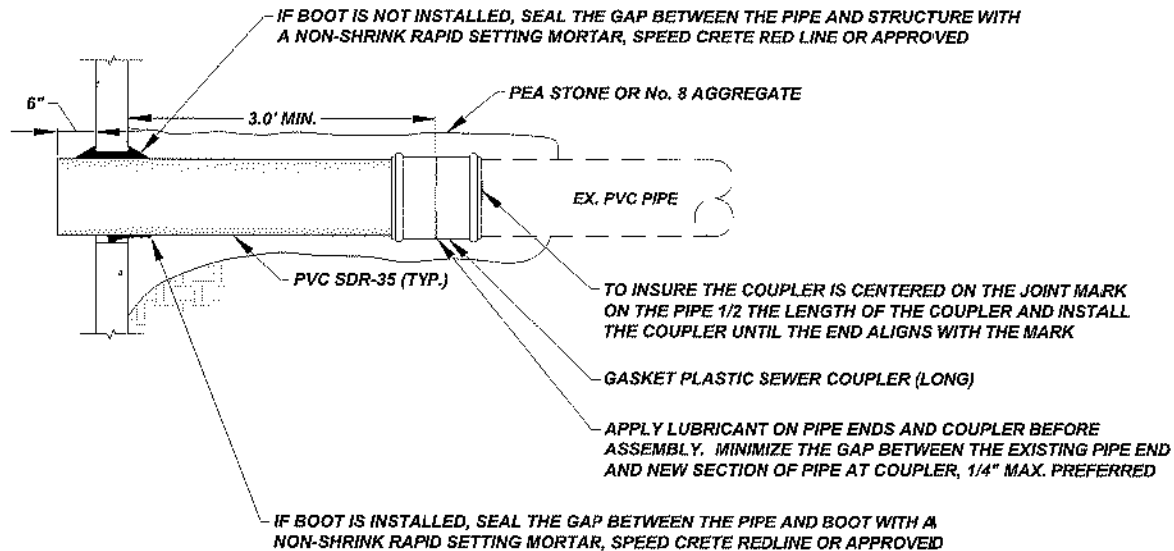
**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman	Approved By: D. SaUor, P.E.
Drawing Number: <b>SW-113</b>	





**PVC BELL CONNECTION**



**PVC COUPLER CONNECTION**

**NEW OR REPLACEMENT STRUCTURE INSTALLATION ON EXISTING PVC PIPE**

NOT TO SCALE

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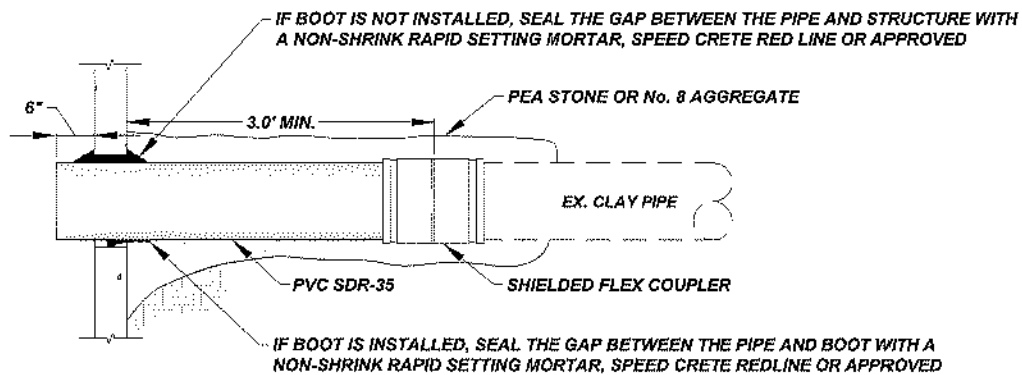
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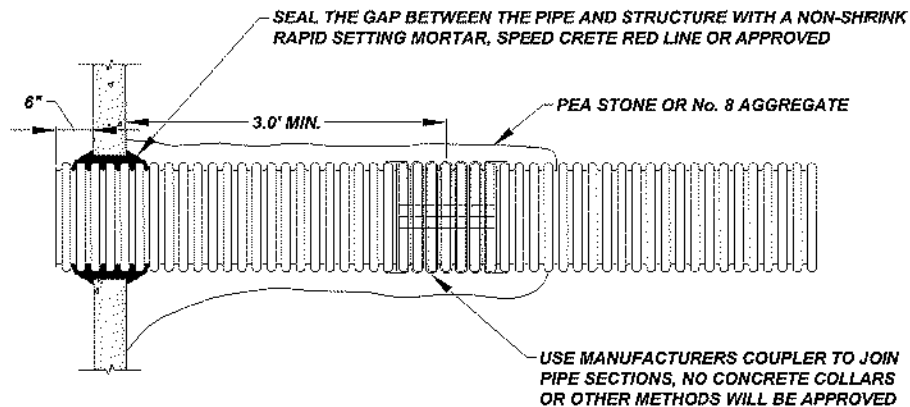
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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman  
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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

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

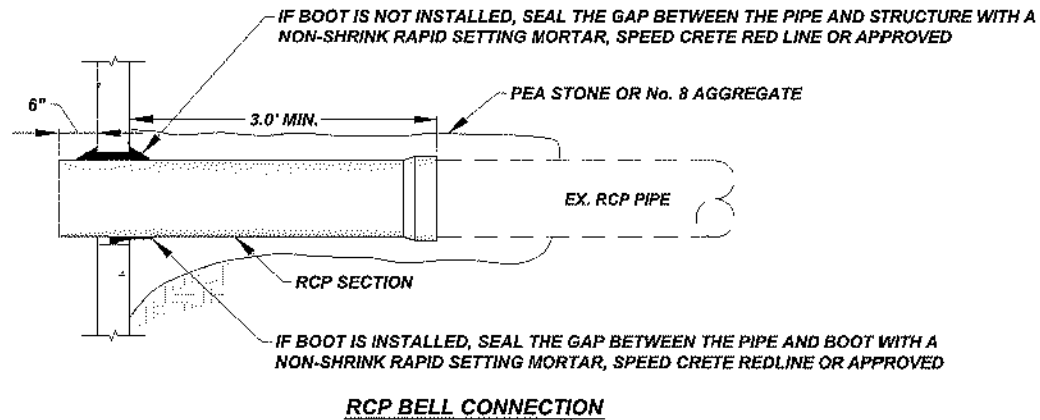
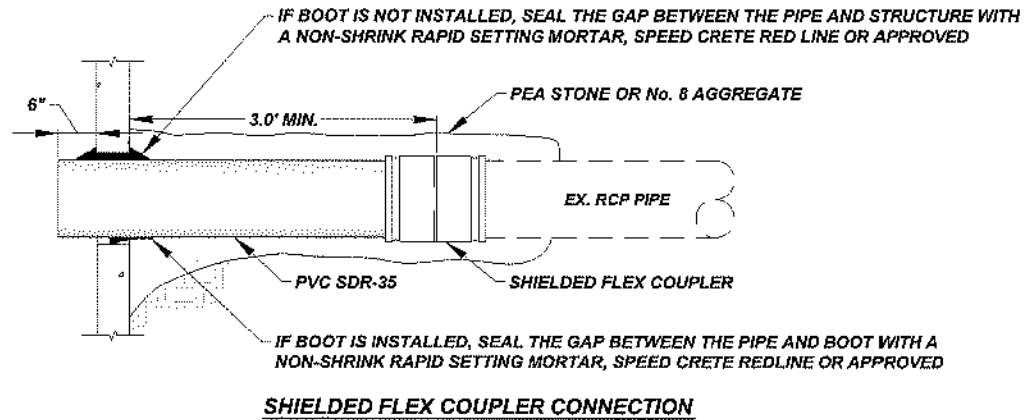
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**CITY OF GOSHEN, INDIANA  
STANDARD DETAIL**

Drafted By: J. Hoffman	Approved By: D. Sailor, P.E.
Drawing Number: <b>SW-115</b>	



**NEW OR REPLACEMENT STRUCTURE INSTALLATION ON EXISTING RCP PIPE**

NOT TO SCALE

*The City Of Goshen*

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Office of Engineering

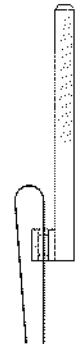
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**CITY OF GOSHEN, INDIANA  
STANDARD DETAIL**

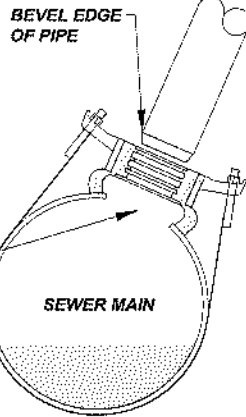
Drafted By: J. Hoffman	Approved By: D. Sailor, P.E.
Drawing Number: <b>SW-116</b>	



**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**



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

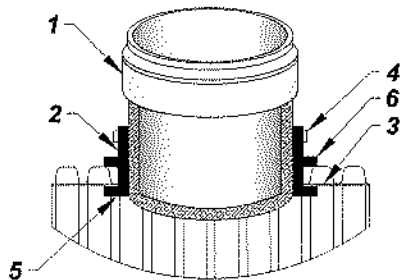
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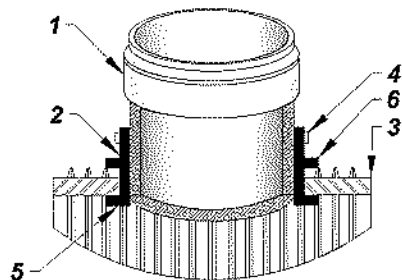
Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions				

**CITY OF GOSHEN, INDIANA  
STANDARD DETAIL**

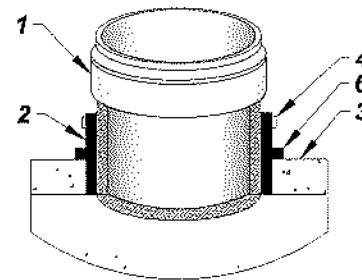
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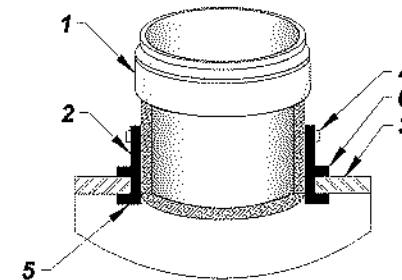
**ADS PIPE**  
(WITH PERMISSION)



**PROFILE WALL**  
(WITH PERMISSION)



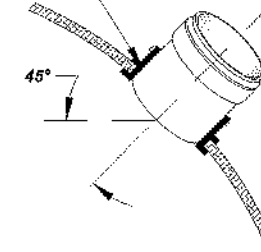
**CONCRETE OR CLAY**



**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

USE HOLE SAW, AT MANUFACTURERS SUGGESTED DIA.



**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

**INSERTA TEE (18" DIA. OR LARGER PIPE)**

NOT TO SCALE

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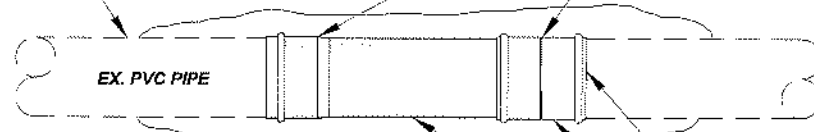
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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Created By: J. Hoffman  
Approved By: D. Sailor, P.E.  
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 DIAMTERS OF 4" OR LESS



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

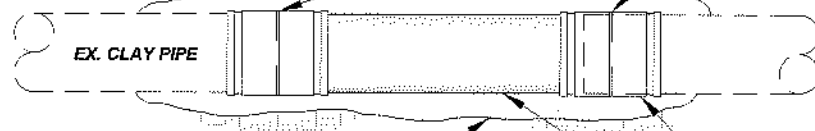
TO INSURE THE COUPLER IS CENTERED ON THE JOINT MARK ON THE PIPE 1/2 THE LENGTH OF THE COUPLER AND INSTALL THE COUPLER UNTIL THE END ALIGNS WITH THE MARK

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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 Department of Public Works & Safety  
 Office of Engineering

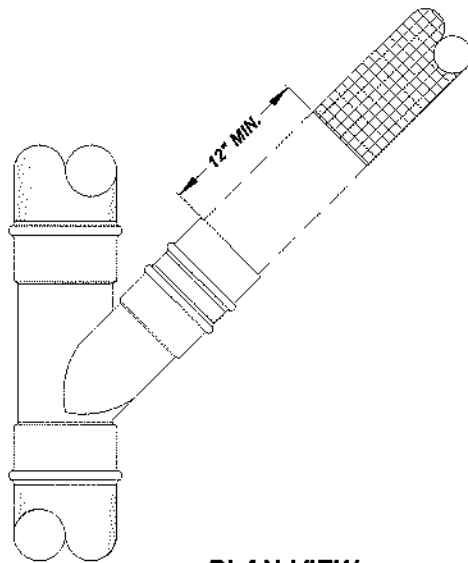
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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

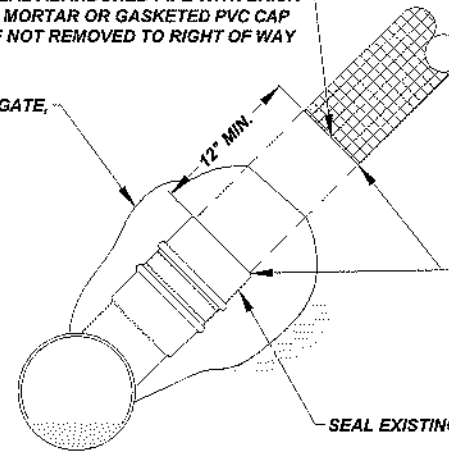
Created By: J. Hoffman  
 Approved By: D. Sailor, P.E.  
 Drawing Number:  
**SW-119**



**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**

CITY PREFERS FULL REMOVAL OF EXISTING SEWER LATERAL. IF AGREED TO BY CITY ENGINEERING DEPARTMENT, REMOVE 12" MIN. SECTION OF EXISTING SEWER LATERAL AND SEAL EXISTING LATERAL WITH GROUT TO THE RIGHT OF WAY

SEAL EXISTING WYE WITH GASKETED PVC CAP

**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

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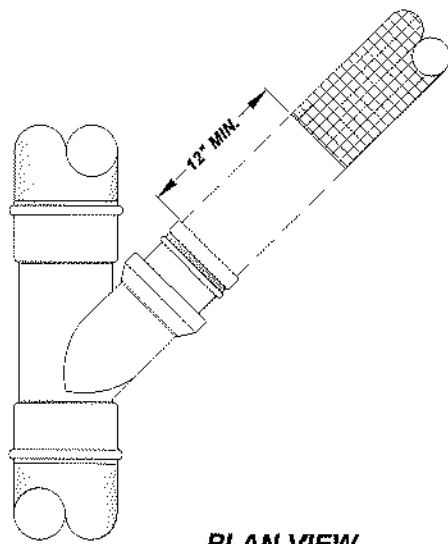
Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions

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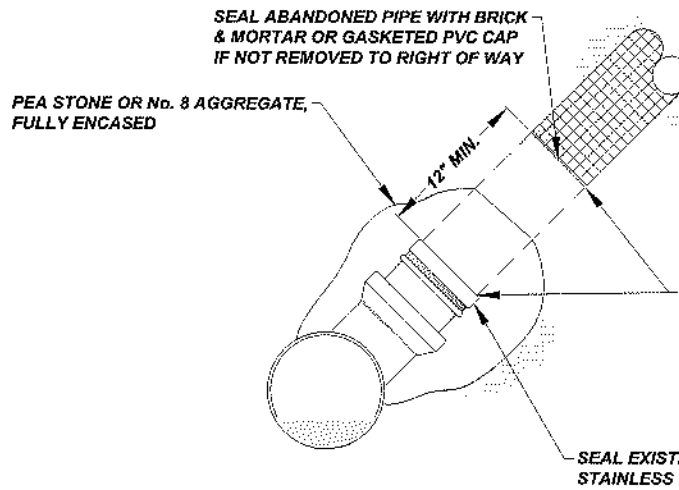
**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman  
 Approved By: D. Sallor, 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

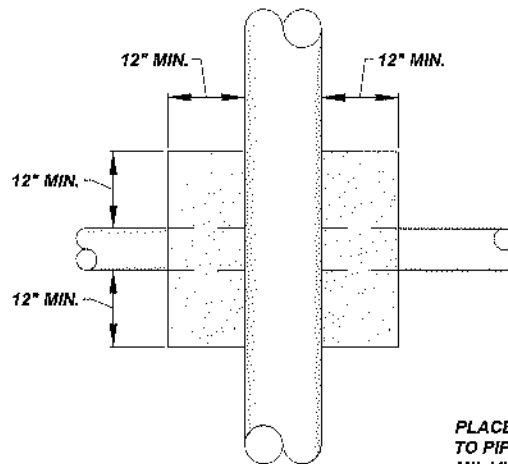
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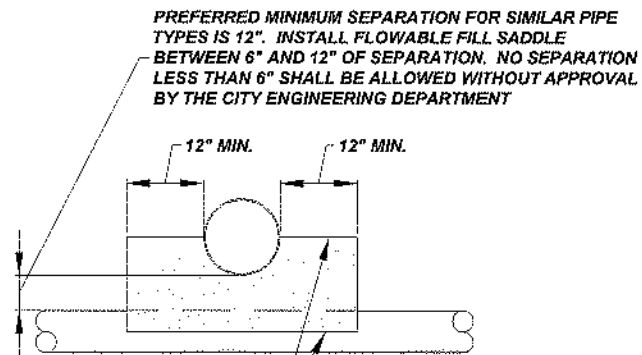

**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman  
 Approved By: D. Sailor, P.E.  
 Drawing Number:  
**SW-121**





**PLAN VIEW**



PREFERRED MINIMUM SEPARATION FOR SIMILAR PIPE TYPES IS 12". INSTALL FLOWABLE FILL SADDLE BETWEEN 6" AND 12" OF SEPARATION. NO SEPARATION LESS THAN 6" SHALL BE ALLOWED WITHOUT APPROVAL BY THE CITY ENGINEERING DEPARTMENT

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

**PROFILE VIEW**

**FLOWABLE FILL PIPE SADDLE**

NOT TO SCALE

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 Department of Public Works & Safety  
 Office of Engineering

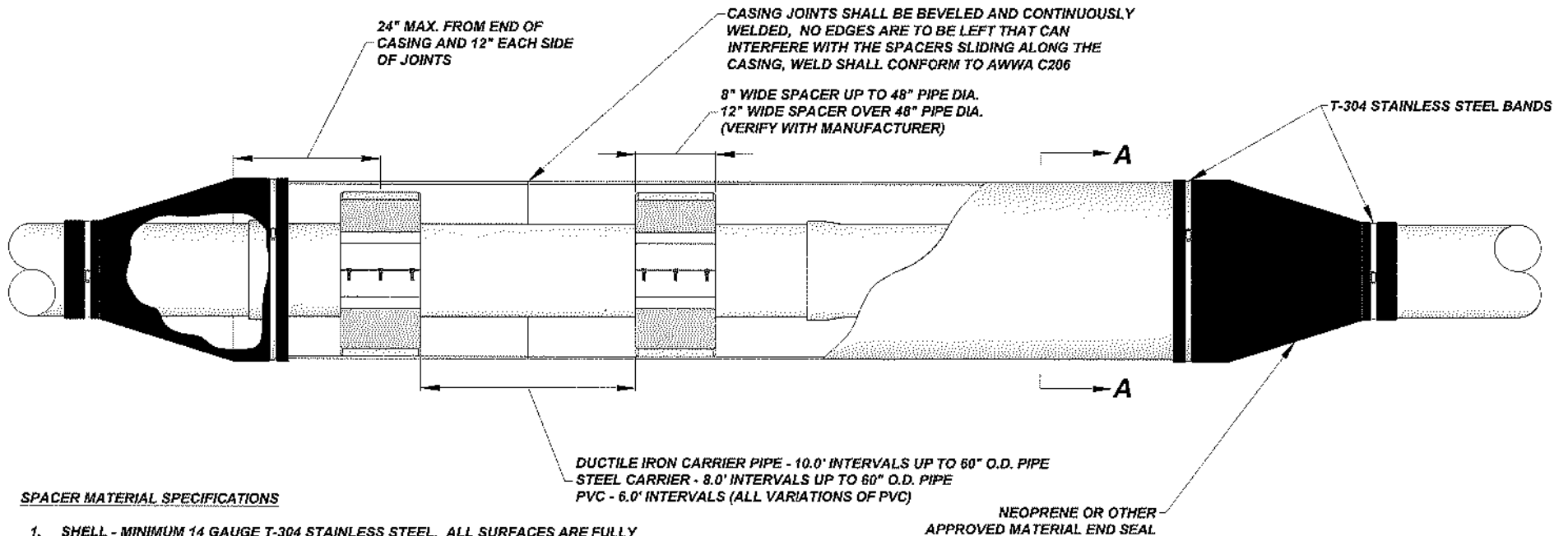
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**STANDARD DETAIL**

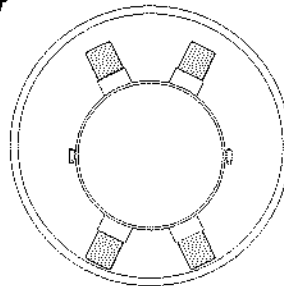
Drafted By: J. Hoffman	Approved By: D. Sailor, P.E.
Drawing Number: <b>SW-122</b>	



**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**  
**STANDARD DETAIL**

Drafted By: J. Hoffman	Approved By: D. Sallor, P.E.
Drawing Number: <b>SW-123</b>	

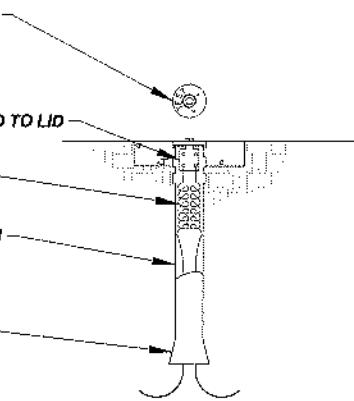
QUICK CONNECT TEST TERMINAL LID W/ PERMANENT 'REAL' MAGNET TO BE INSTALLED FOR ELECTRONIC LOCATION

WIRE TERMINAL BLOCK SECURED TO LID

MIN. 15" OF EXCESS COIL, TRACER WIRE

CAST IRON MONITORING STATION BY FARWEST CORROSION CONTROL OR APPROVED EQUAL

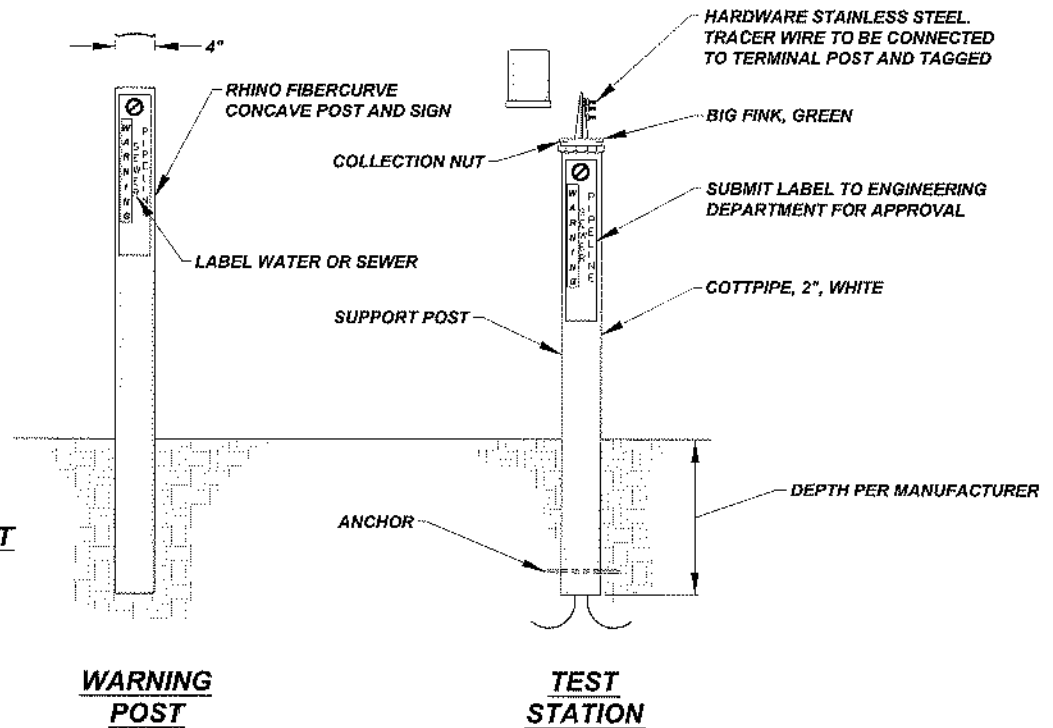
FLARED END REQUIRED



**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

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

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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman  
 Approved By: D. Sallor, P.E.  
 Drawing Number:  
**SW-124**

CAP (GREEN)

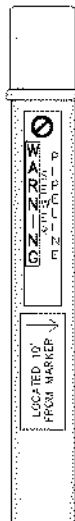
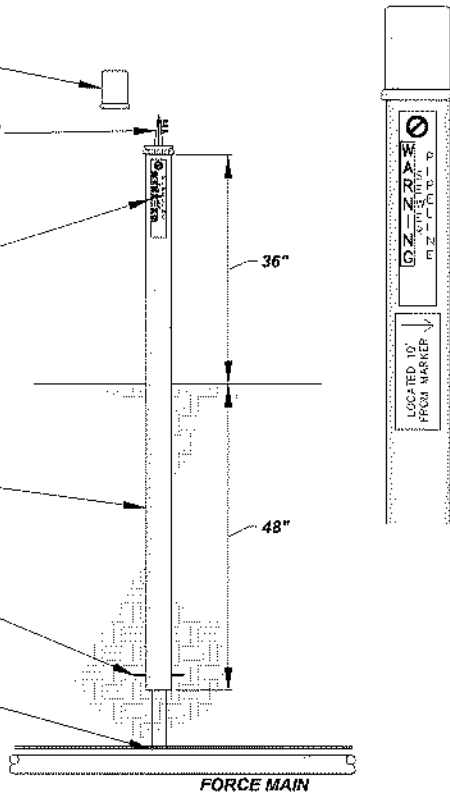
STAINLESS STEEL HARDWARE, MIN. FIVE (5) TERMINALS, TAG TRACER WIRES

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



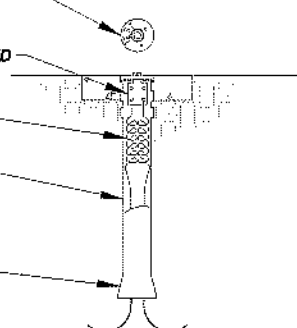
QUICK CONNECT TEST TERMINAL LID W/ PERMANENT 'REAL' MAGNET TO BE INSTALLED FOR ELECTRONIC LOCATION

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

*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: 574-533-8628  
Web: goshenindiana.org

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. Saffor, P.E.
Drawing Number: <b>SW-125</b>	

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

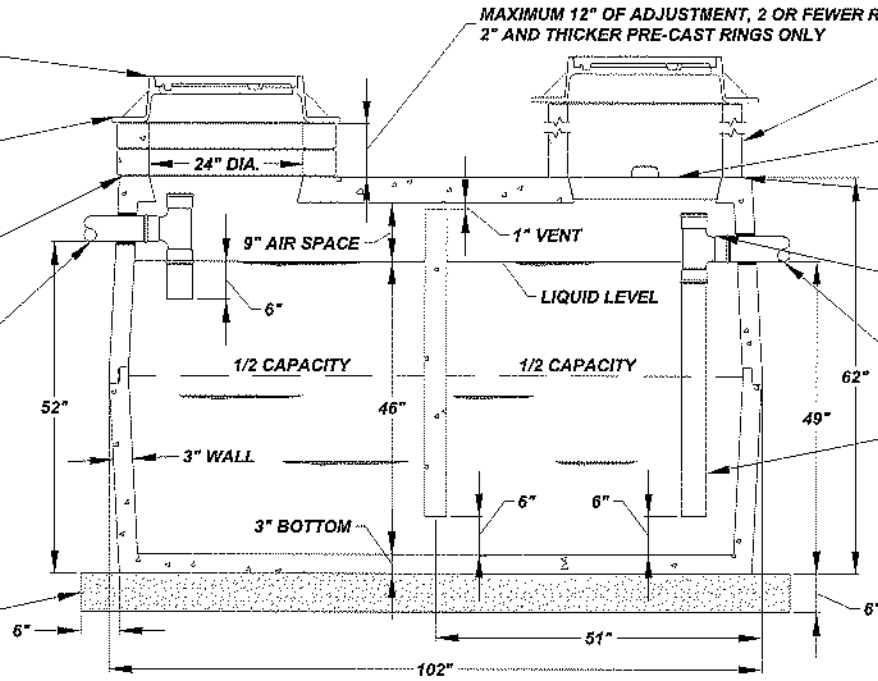
PRE-CAST CONCRETE LID

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

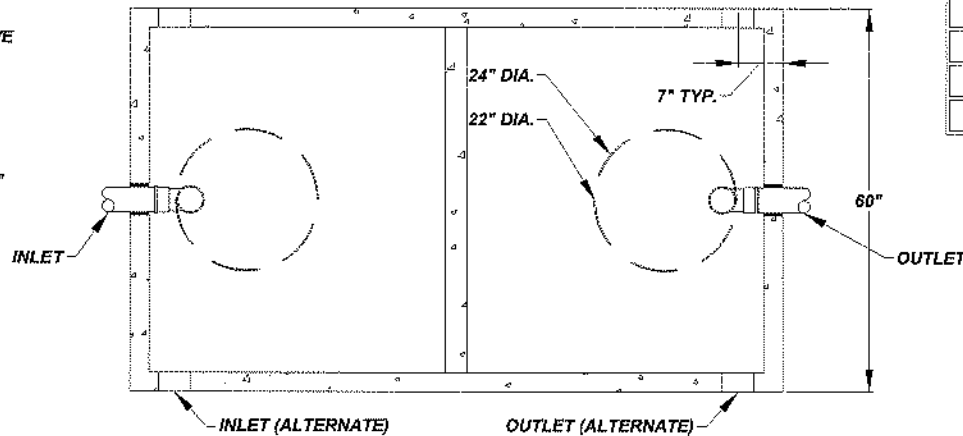


**SIDE VIEW**

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



**TOP VIEW**

**1,000 GAL. GREASE INTERCEPTOR - PRECAST CONCRETE**

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

**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman  
Approved By: D. Sailor, P.E.  
Drawing Number: SW-126

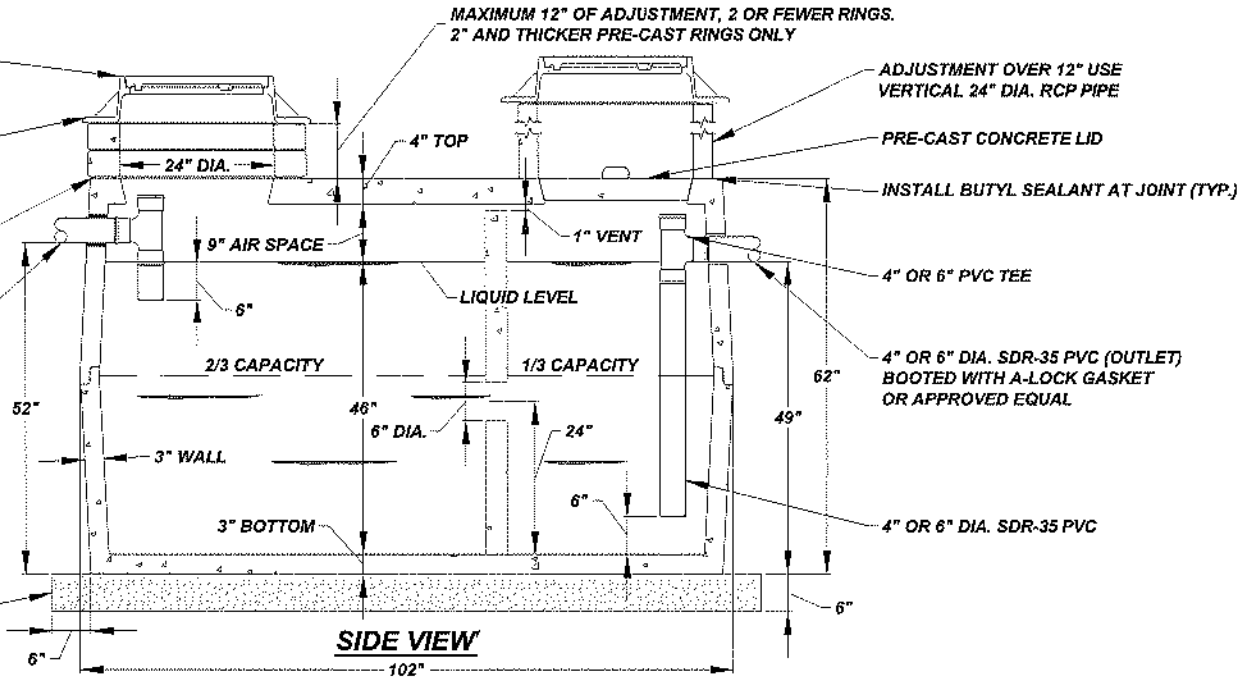
NEENAH R-1772 W/ TYPE 'B' LID WORD 'SANITARY' ON LID OR APPROVED EQUAL. INSTALL TOP OF CASTING 1/4" BELOW FINISHED PAVEMENT. FLUSH WITH FINISHED GRADE IN YARD/LANDSCAPED AREAS

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

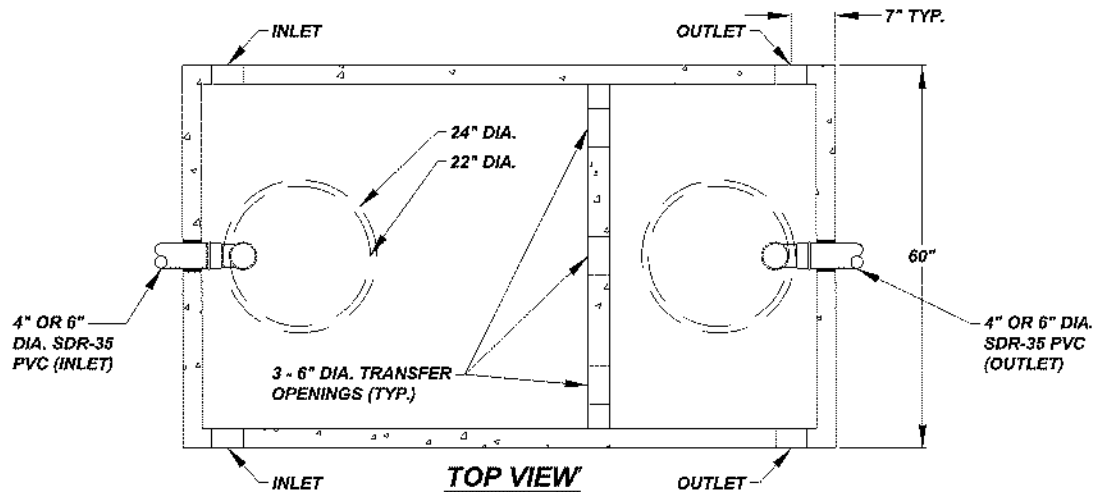
4" OR 6" DIA. SDR-35 PVC (INLET) BOOTED WITH A-LOCK GASKET OR APPROVED EQUAL

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



**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

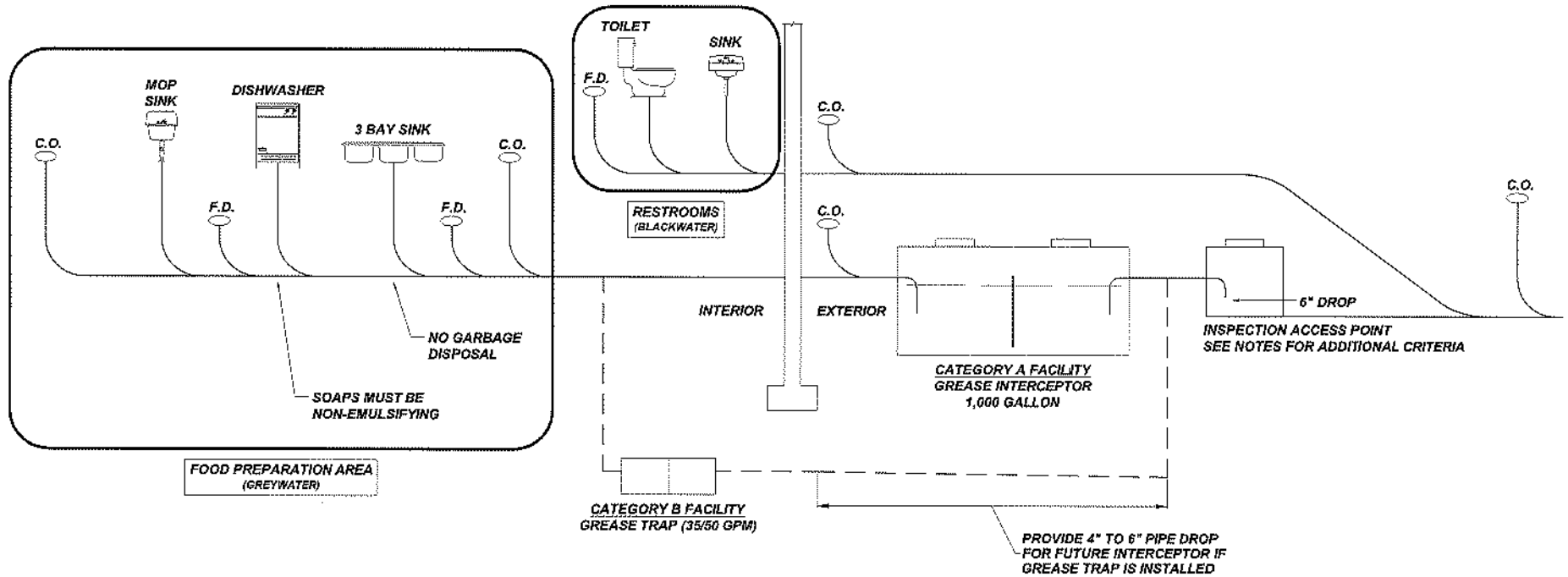
The City Of Goshen  
Department of Public Works & Safety  
Office of Engineering

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

**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman  
Approved By: D. Sailor, P.E.  
Drawing Number: SW-127



**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

## **GREASE INTERCEPTOR DIAGRAM**

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				

**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

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

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

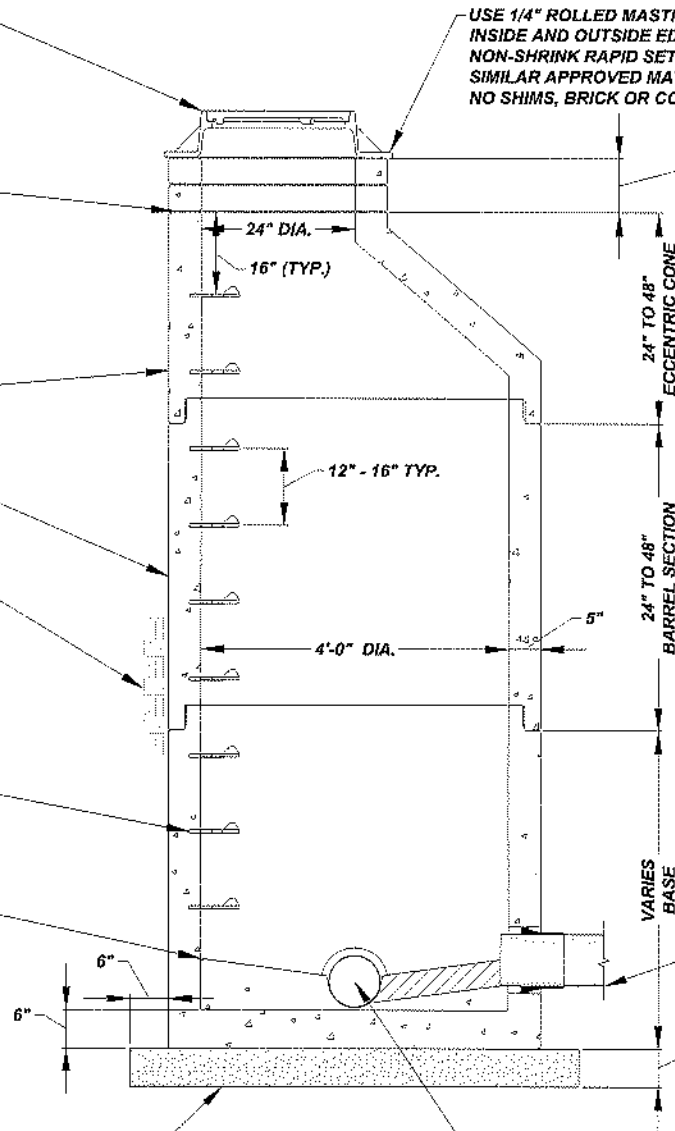
ALIGN RUNGS IN EACH STRUCTURE SECTION AND CONE OPENING

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

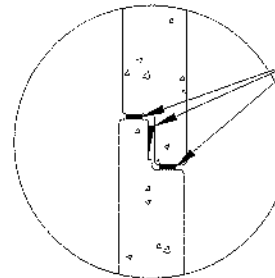
No. 8 AGGREGATE, MAYBE ELIMINATED BY ENGINEER IF CONDITIONS DO NOT WARRANT THE 6" OF BASE MATERIAL



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.

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

## SEWER MANHOLE - 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: 574-533-8628  
Web: goshenindiana.org

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

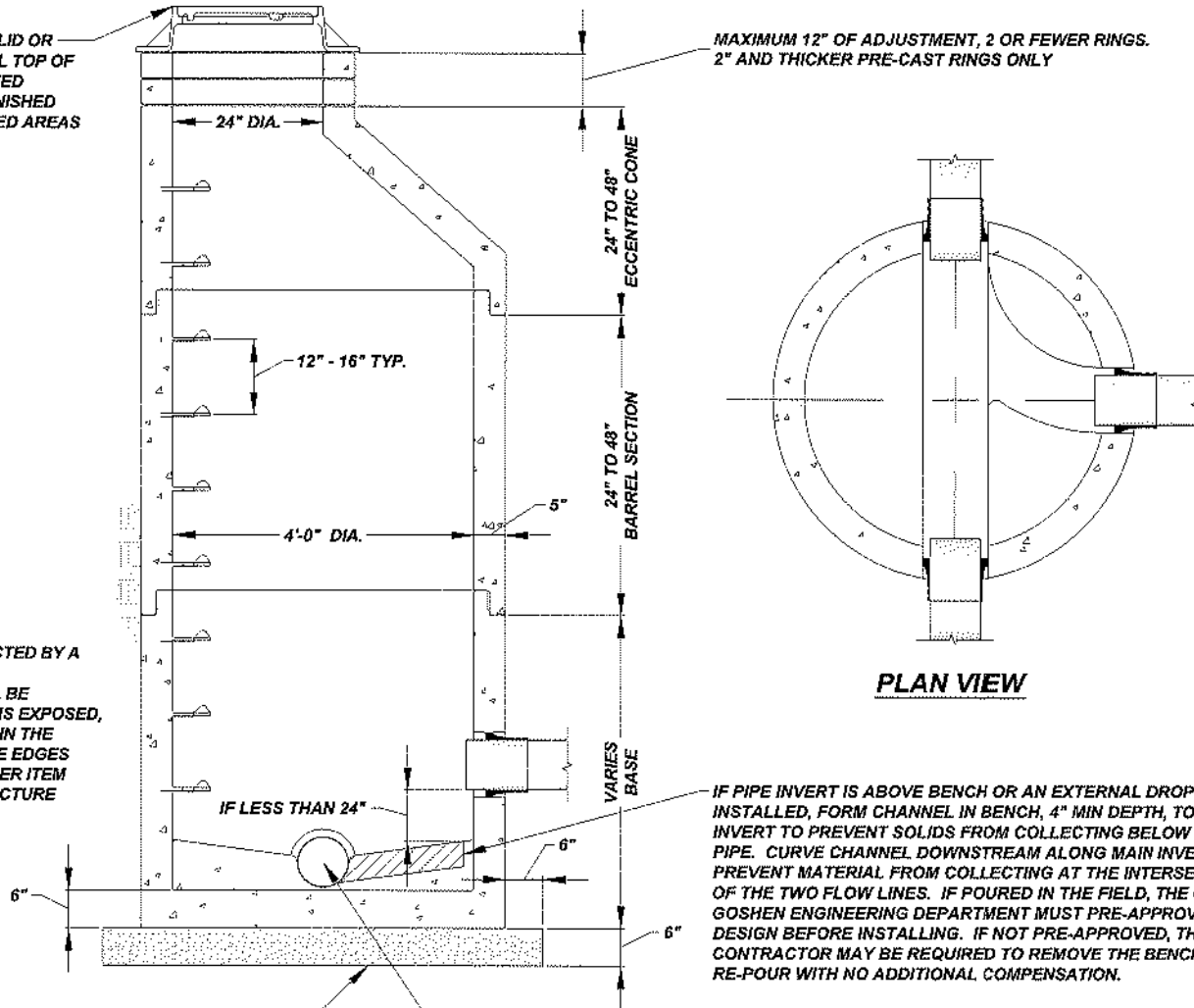
CITY OF GOSHEN, INDIANA  
STANDARD DETAIL

Drafted By: J. Hoffman  
Approved By: D. Saffor, 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

**PLAN VIEW**

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

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 - ABOVE BENCH**

NOT TO SCALE

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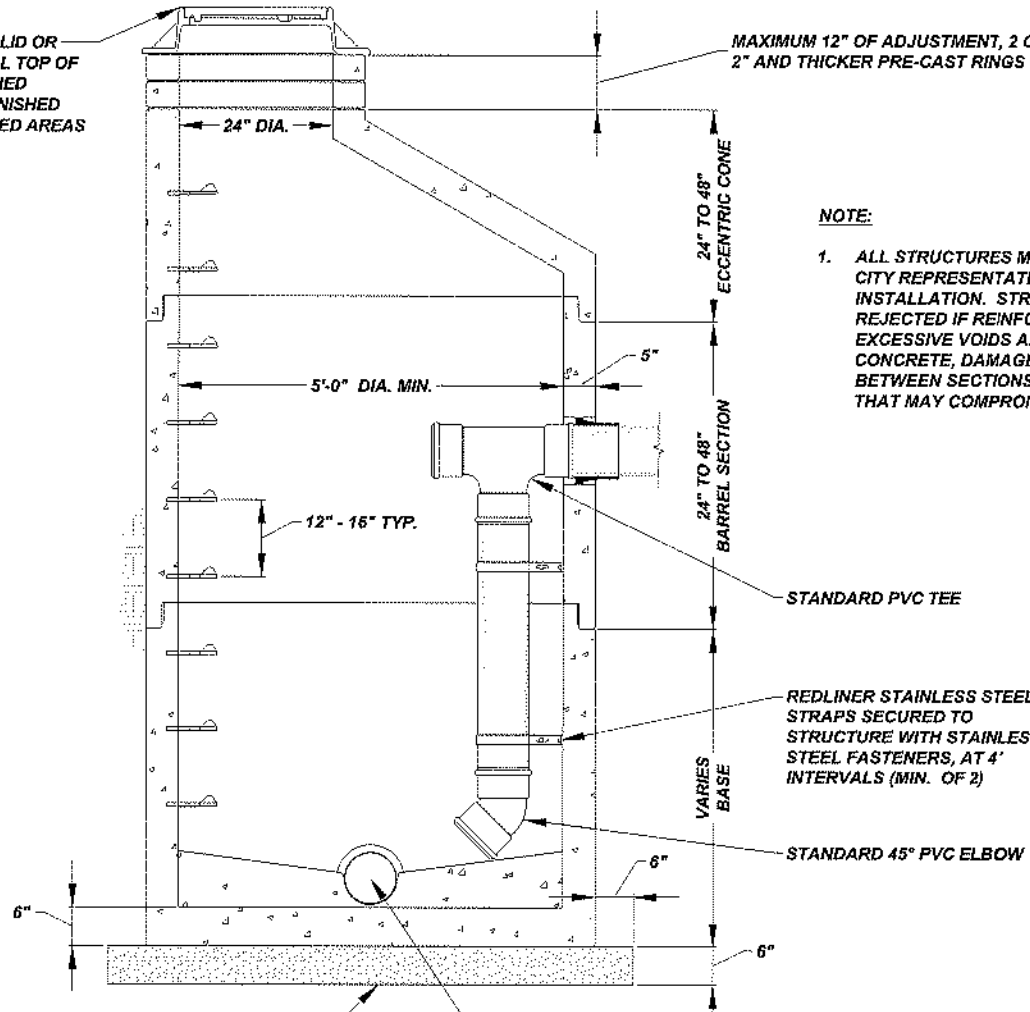
Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions				

**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

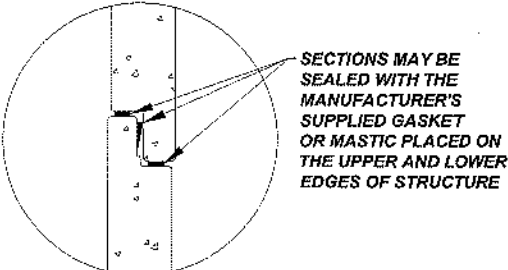
Drafted By: J. Hoffman  
 Approved By: D. Saffor, P.E.  
 Drawing Number: **SW-202**

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



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

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

## SEWER INTERIOR DROP MANHOLE - 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  
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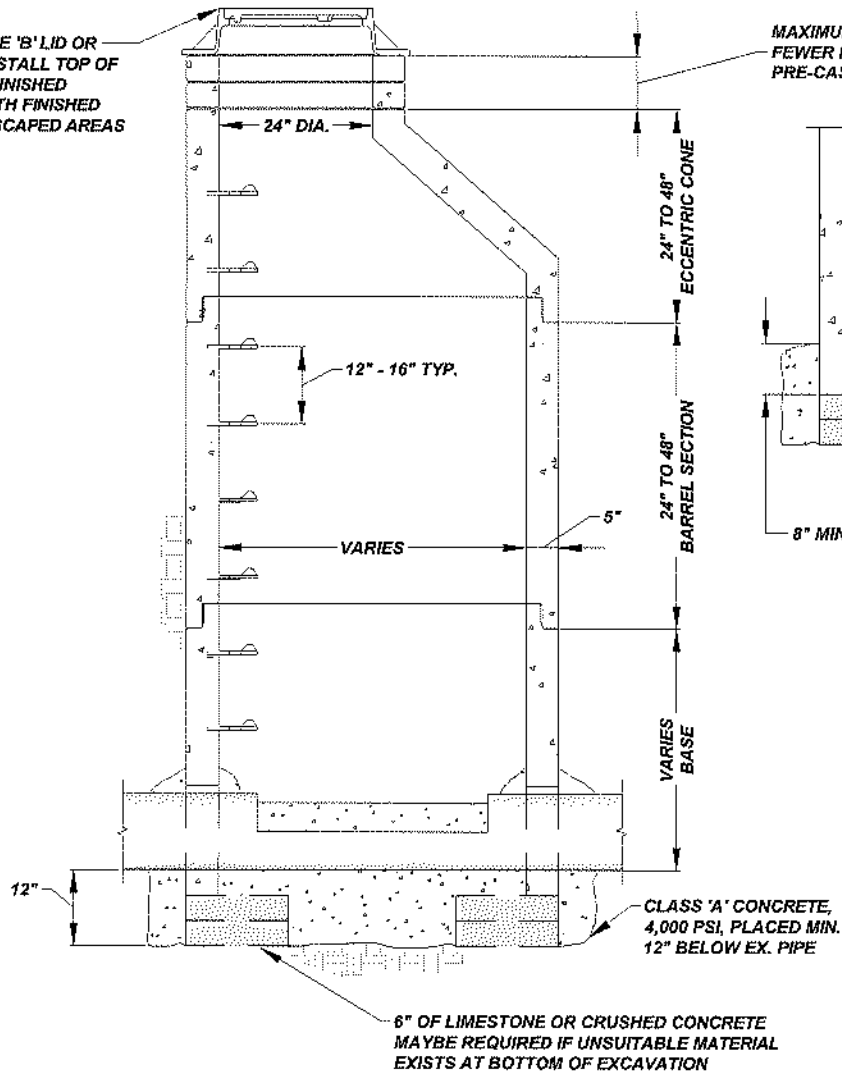
Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions				

**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman  
 Approved By: D. Sallor, P.E.  
 Drawing Number: **SW-203**



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



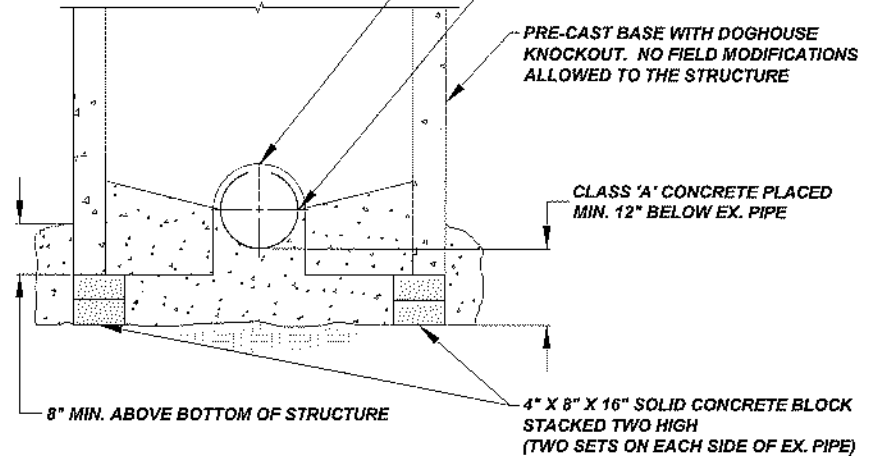
MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY

SEAL THE GAP BETWEEN THE PIPE AND STRUCTURE WITH A NON-SHRINK RAPID SETTING MORTAR, SPEED CRETE REDLINE OR APPROVED

SAW CUT EXISTING PIPE AS SHOWN, FORM BENCHES AT 4 TO 1 SLOPE

PRE-CAST BASE WITH DOGHOUSE KNOCKOUT. NO FIELD MODIFICATIONS ALLOWED TO THE STRUCTURE

CLASS 'A' CONCRETE PLACED MIN. 12" BELOW EX. PIPE



**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. ALL NEW PIPING ABOVE THE MAIN SHALL BE SEALED WITH A GASKET EMBEDDED IN THE PRE-CAST STRUCTURE, OR A NEOPRENE BOOT, OR BY ANOTHER METHOD APPROVED BY THE CITY ENGINEER, SANITARY ONLY
3. THE CENTERLINE OF THE MANHOLE SHALL BE LOCATED OVER THE CENTERLINE OF THE MAIN SEWER, WHENEVER POSSIBLE
4. 6" - 27" SEWER MAIN SIZE USE A 48" DIAMETER STRUCTURE
5. 30" - 42" SEWER MAIN SIZE USE A 60" DIAMETER STRUCTURE
6. THE EXISTING SEWER MAIN SHALL BE SUPPORTED FROM ABOVE WITH SLINGS DURING ALL PHASES OF CONSTRUCTION. SLINGS ARE TO BE REMOVED ONLY AFTER CONCRETE BACKFILL WITHIN THE STRUCTURE HAS CURED

## SEWER DOGHOUSE MANHOLE - CONE W/ MANHOLE CASTING

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  
 Web: goshenindiana.org

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-205**

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

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

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

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

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

**SANITARY INSPECTION MANHOLE**

NOT TO SCALE

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

**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: 574-533-8628  
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

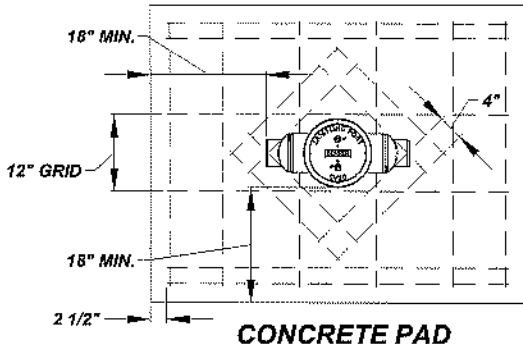
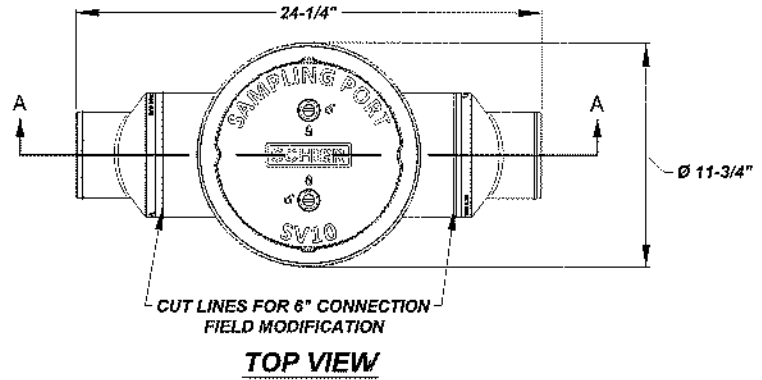
**ACCESSORIES:**

FIELD CUT RISER FOR EXTENDING COVER TO GRADE

**PRODUCT AND INSTALLATION DETAIL SOURCE:**

WWW.SCHIERPRODUCTS.COM

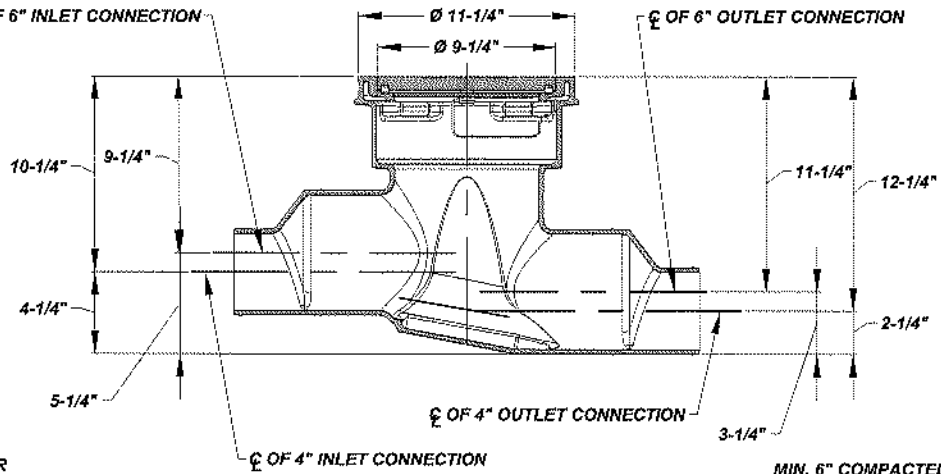
MAX. THREE RISERS (94")



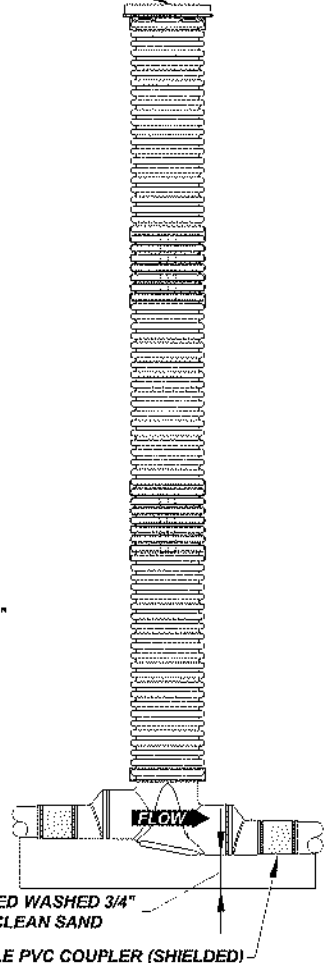
**CONCRETE PAD**

**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



**SECTION VIEW A-A**



**SCHIER SV 10 SEWER VIEWER SAMPLING PORT**

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-207**

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

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

PRECAST INVERT AND BENCH

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

12" FLAT TOP

24" TO 48" BARREL SECTION

4'-0" DIA.

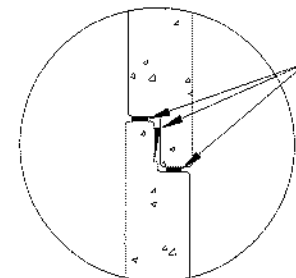
5"

VARIES BASE

6"

6"

6"



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

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 MANHOLE - FLAT TOP W/ CURB 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: 574-533-6626  
 Web: goshenindiana.org

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


**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 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

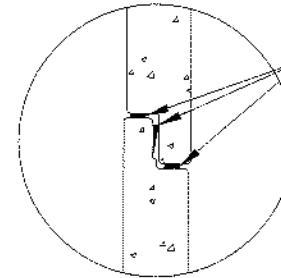
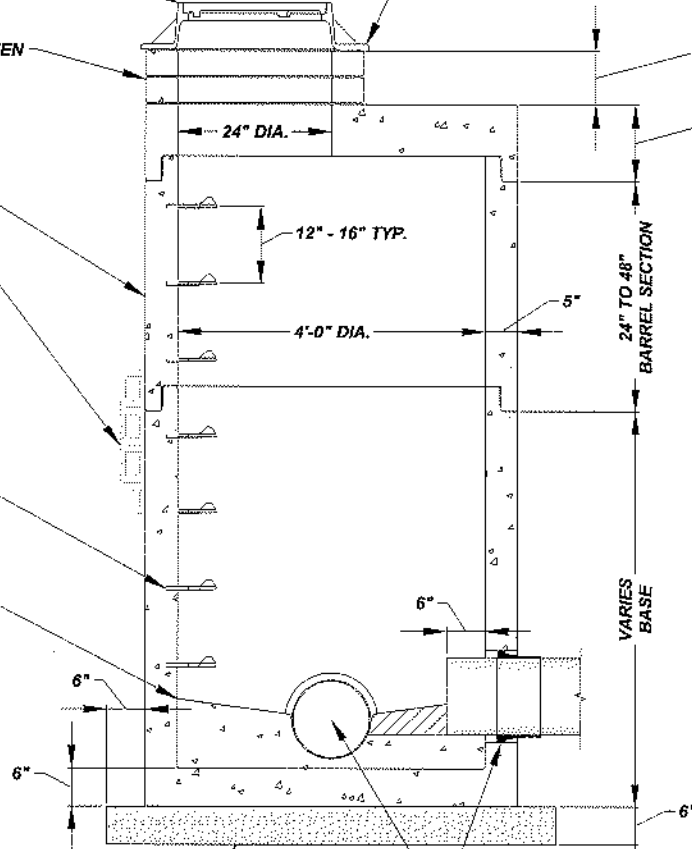
MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY

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

PRECAST INVERT AND BENCH



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

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. ANI INVERT INSTALLED IN THE FIELD MUST BE CORED, NO HAND CUT INVERTS ALLOWED

## SEWER MANHOLE - FLAT TOP 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  
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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman  
 Approved By: D. Sailor, P.E.  
 Drawing Number:  
**SW-209**





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)

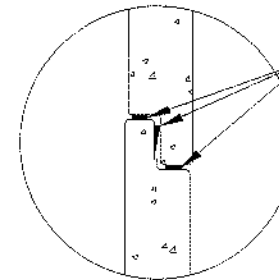
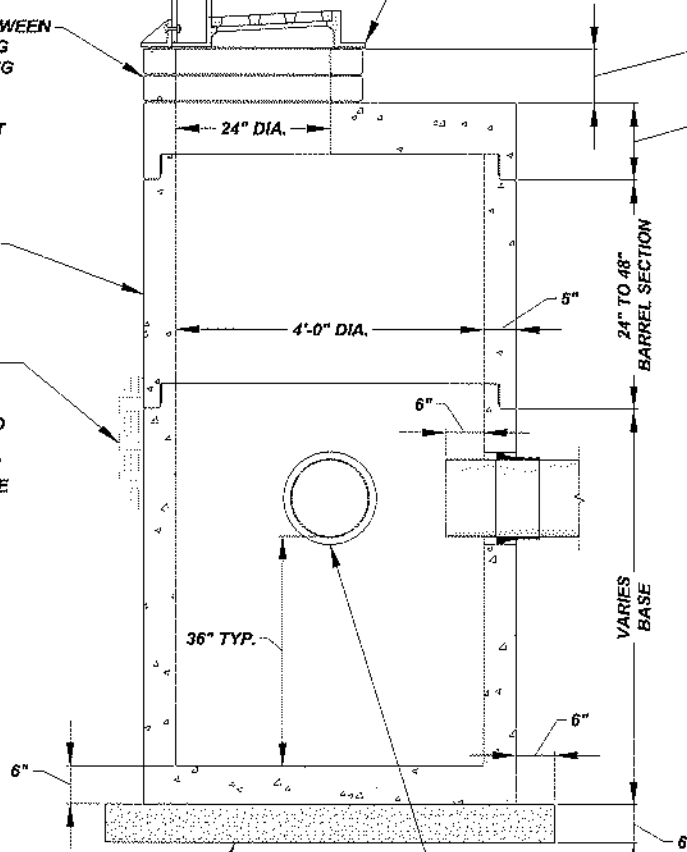
ALIGN RUNGS IN EACH STRUCTURE SECTION AND OPENING

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

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



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

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 CATCH BASIN - FLAT TOP W/ CURB 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

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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman	Approved By: D. Sallor, P.E.
Drawing Number: <b>SW-211</b>	

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

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

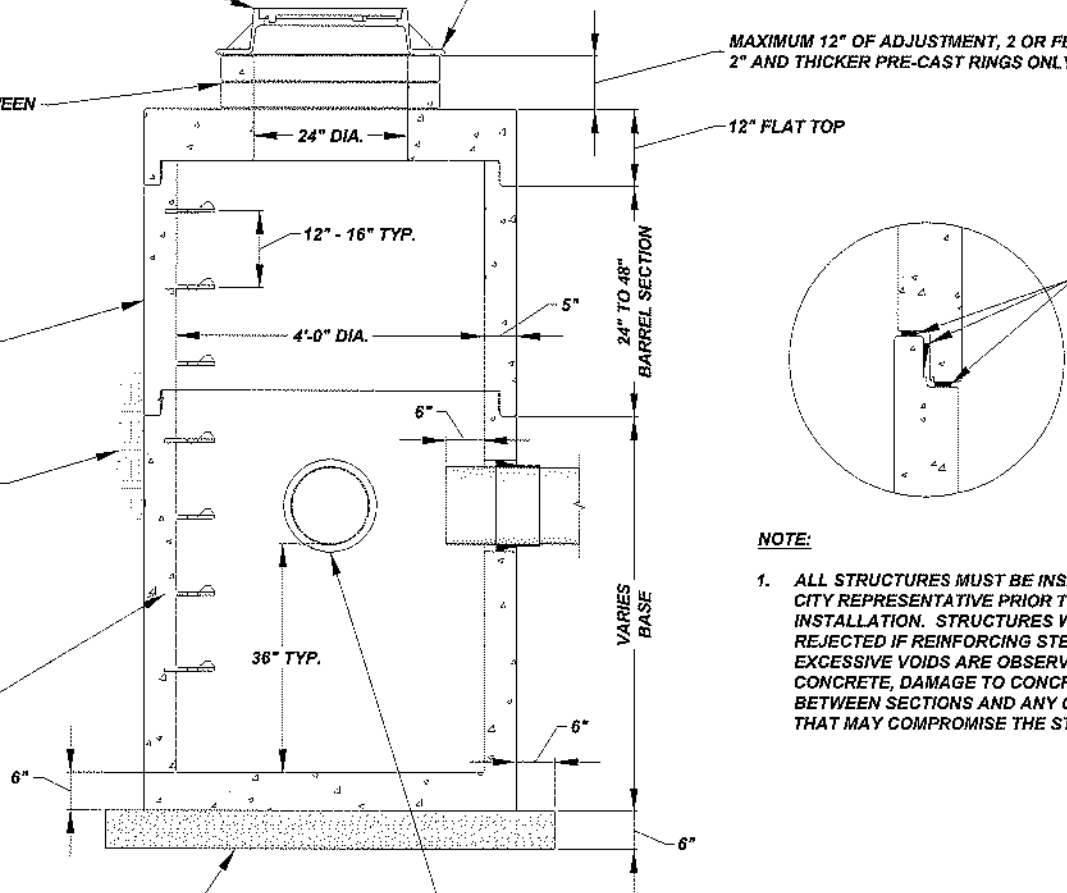
ALIGN RUNGS IN EACH STRUCTURE SECTION AND OPENING

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 - FLAT TOP W/ FLAT 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

**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman  
Approved By: D. Sallor, 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

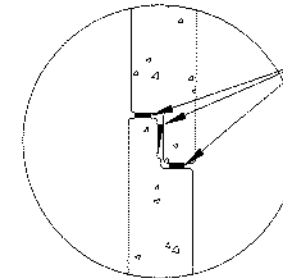
ALIGN RUNGS IN EACH STRUCTURE SECTION AND OPENING

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 - FLAT TOP W/ MANHOLE CASTING

NOT TO SCALE

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

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 Phone: 574-534-2201 Fax: 574-533-8628  
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Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions

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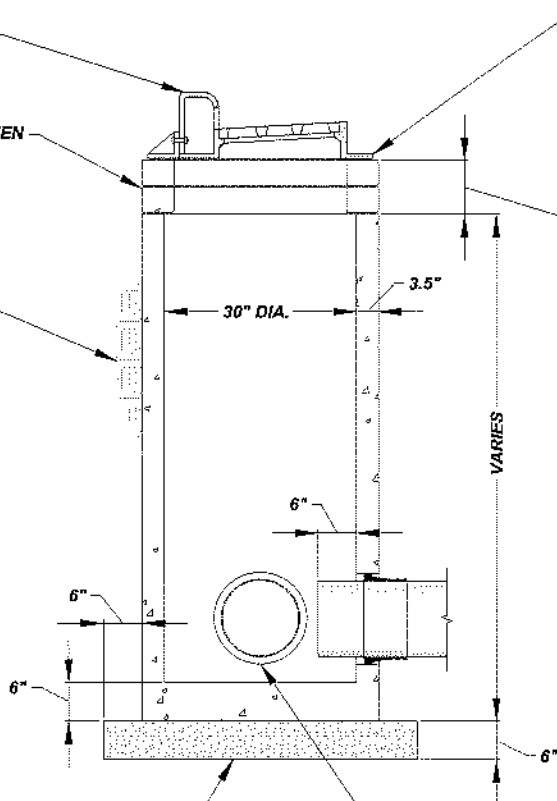
**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

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

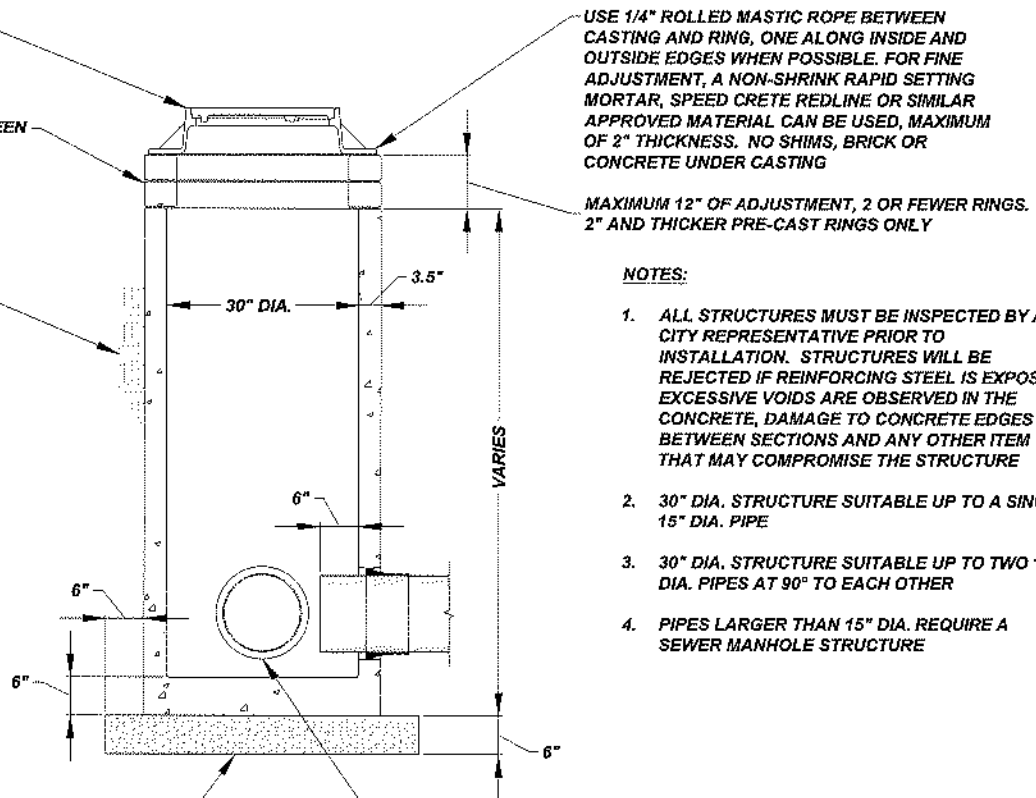
**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Created 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 - FLAT 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

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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 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

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

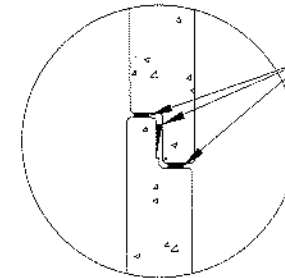
BACKFILL WITH B-BORROW OR APPROVED CLEAN SPOILS. COMPACT IN PROPER LIFTS BY MECHANICAL MEANS. IF UNABLE TO COMPACT BY MECHANICAL MEANS, PLACE No. 8 PEA GRAVEL BETWEEN EXCAVATION WALL AND STRUCTURE

BOOT ON STORM PIPE CONNECTED TO COMBINED SEWER SYSTEM

2.5X PIPE DIAMETER  
(36" MIN. SUMP)

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 - COMBINED SEWER 90° ELBOW

NOT TO SCALE

The City Of Goshen  
Department of Public Works & Safety  
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-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 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)

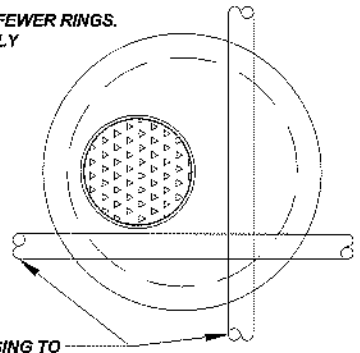
MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY

PRE-CAST REINFORCED CONCRETE MANHOLE PER ASTM C-478

24" DIA.

24" TO 48" ECCENTRIC CONE

SEE CASING DETAIL



OFF SET CASING TO ALLOW FOR ACCESS AND CLEANING OF STRUCTURE

**PLAN VIEW**

12" MIN.

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

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

CORE AND BOOT STRUCTURE

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

VARIES

5"

PRECAST INVERT AND BENCH

VARIES BASE

**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

6"

6"

6"

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

**UTILITY CONFLICT STRUCTURE**

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

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**CITY OF GOSHEN, INDIANA  
STANDARD DETAIL**

Drafted By: J. Hoffman	Approved By: D. Sallor, P.E.
Drawing Number: <b>SW-217</b>	



WRAP NON-WOVEN GEOTEXTILE FABRIC AROUND TOP LID, ±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

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

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

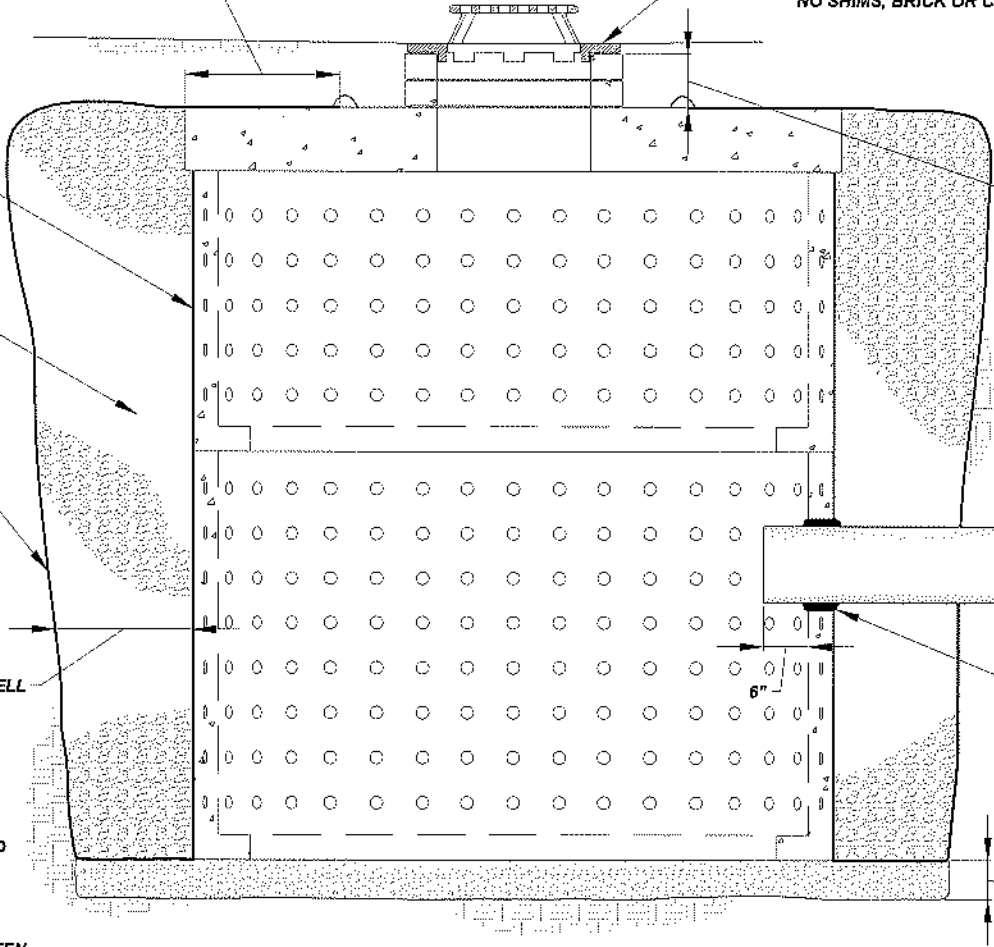
±18" TYPICAL AROUND DRYWELL

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

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

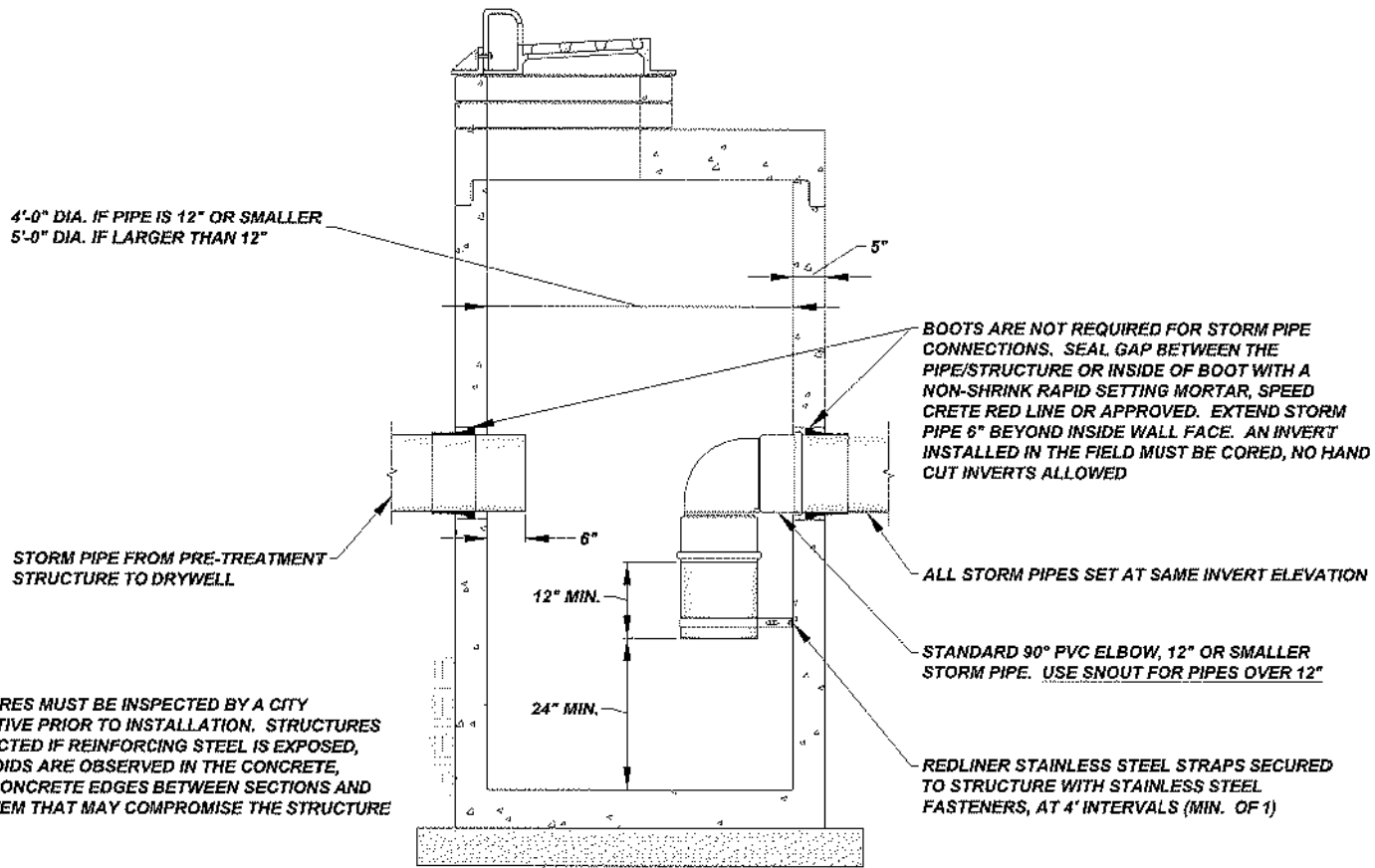
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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman	Approved By: D. Sallor, P.E.
Drawing Number: <b>SW-301</b>	



**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

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

NOT TO SCALE

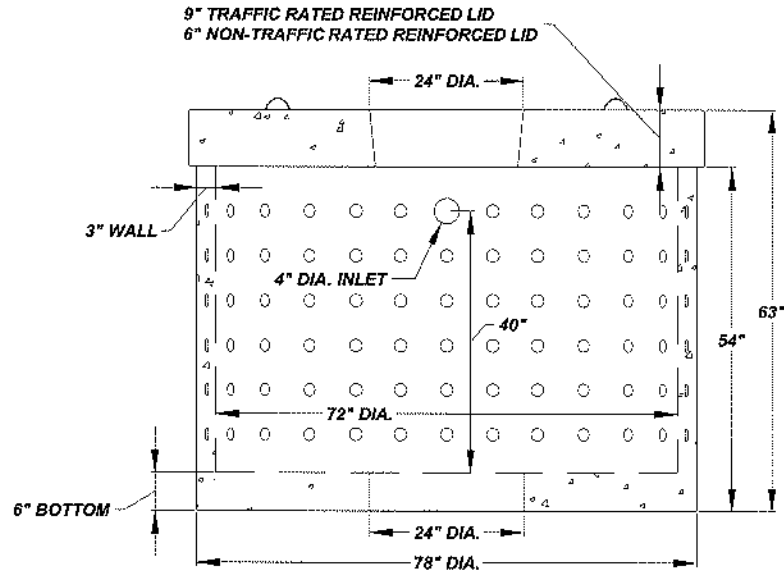
*The City Of Goshen*  
Department of Public Works & Safety  
Office of Engineering

204 East Jefferson, Suite 1 Street, Goshen, Indiana 46526  
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Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions				

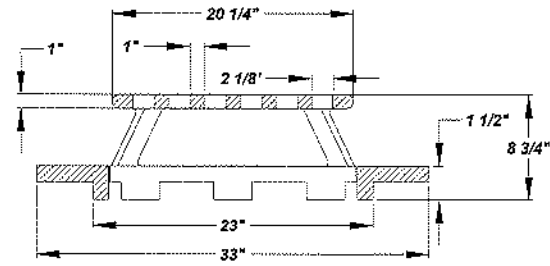
**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman	Approved By: D. Sallor, P.E.
Drawing Number: <b>SW-302</b>	

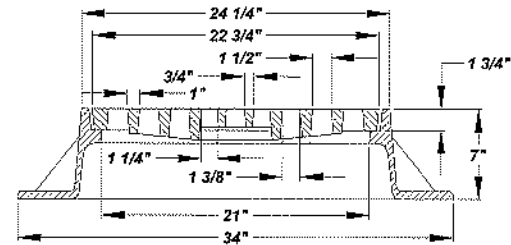


**NOTES:**

1. DRYWELL IS CONCRETE AND REINFORCED WITH #2 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBRE
2. WALLS ARE 3" THICK CONCRETE
3. LID: 9" REINFORCED WITH #4 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBRE  
6" REINFORCED WITH #4 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBRE
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

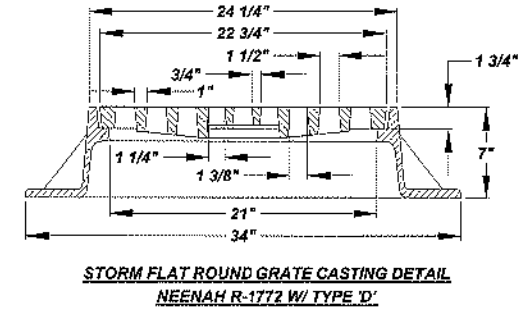
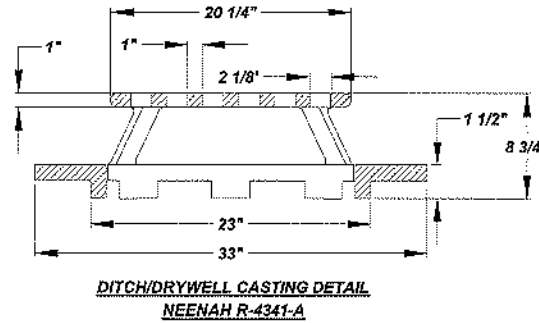
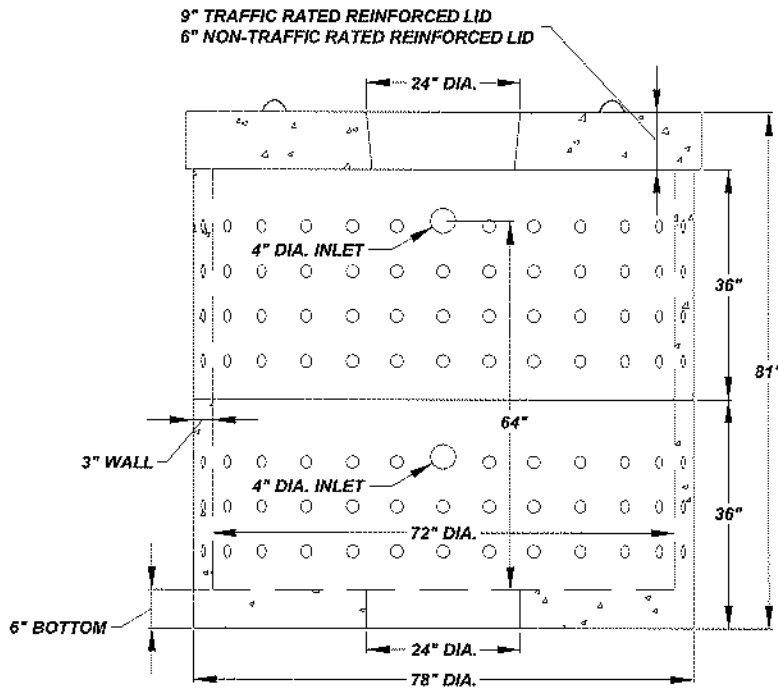
*The City Of Goshen*  
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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman	Approved By: D. Sailor, P.E.
Drawing Number: <b>SW-303</b>	



**NOTES:**

1. DRYWELL IS CONCRETE AND REINFORCED WITH #2 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBRE
2. WALLS ARE 3" THICK CONCRETE
3. LID: 9" REINFORCED WITH #4 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBRE  
6" REINFORCED WITH #4 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBRE
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

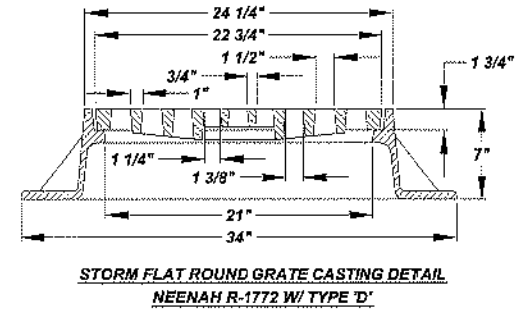
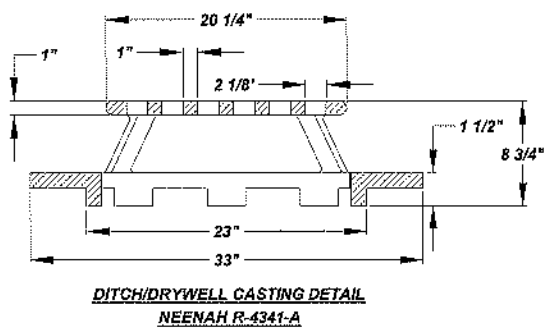
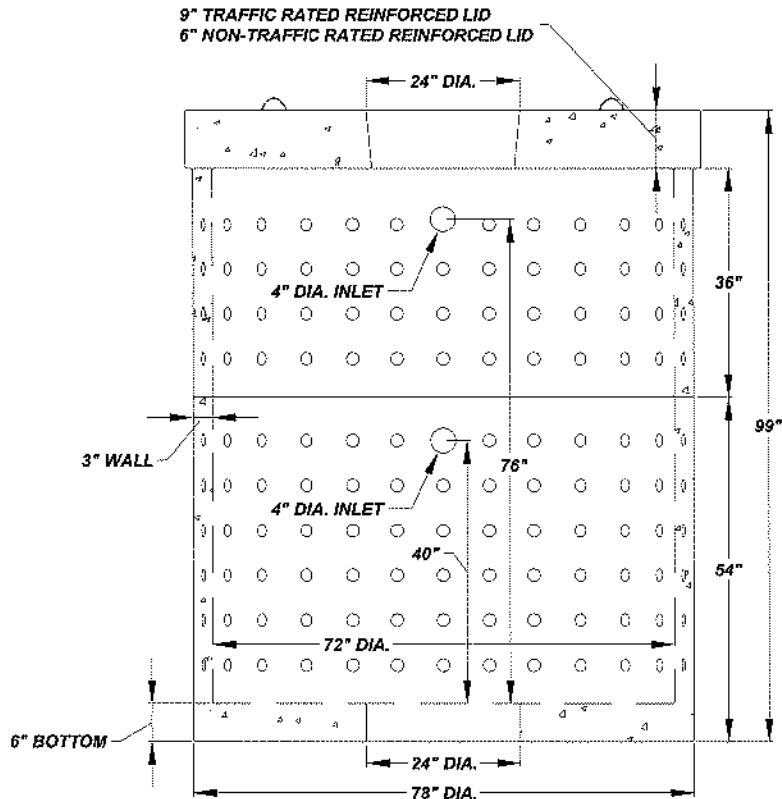
204 East Jefferson, Suite 1 Street, Goshen, Indiana 46528  
Phone: 574-534-2201 Fax: 574-533-8626  
Web: goshenindiana.org

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-304



**NOTE:**  
1. INCLUDE STREAM WARNING

**NOTES:**

1. DRYWELL IS CONCRETE AND REINFORCED WITH #2 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBRE
2. WALLS ARE 3" THICK CONCRETE
3. LID: 9" REINFORCED WITH #4 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBRE  
6" REINFORCED WITH #4 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBRE
4. BASE IS MONOLITHICALLY POURED INTO BOTTOM OF THE DRYWELL
5. 4,800 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

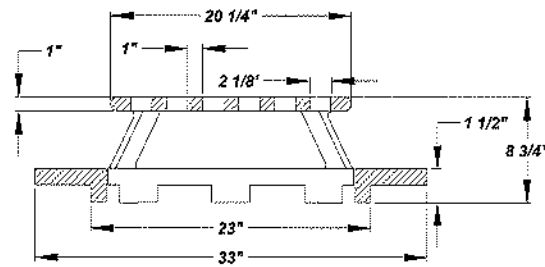
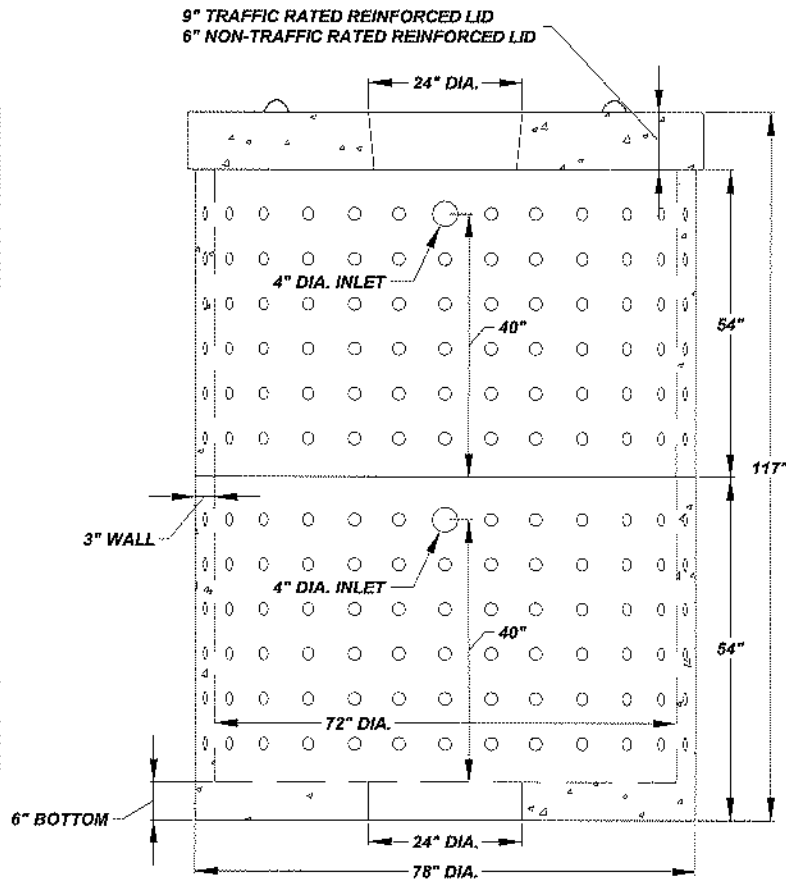
*The City Of Goshen*  
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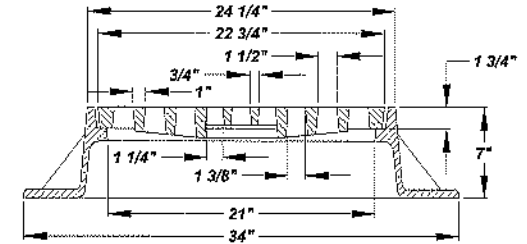
Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions				

**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman	Approved By: D. Sallor, P.E.
Drawing Number: <b>SW-305</b>	



**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 FIBRE
2. WALLS ARE 3" THICK CONCRETE
3. LID: 9" REINFORCED WITH #4 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBRE  
6" REINFORCED WITH #4 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBRE
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

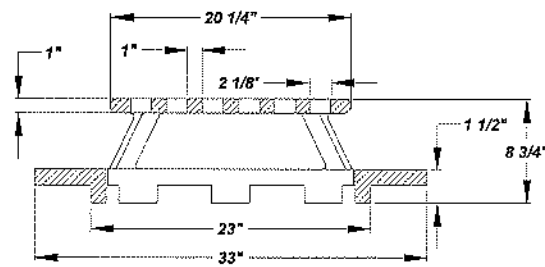
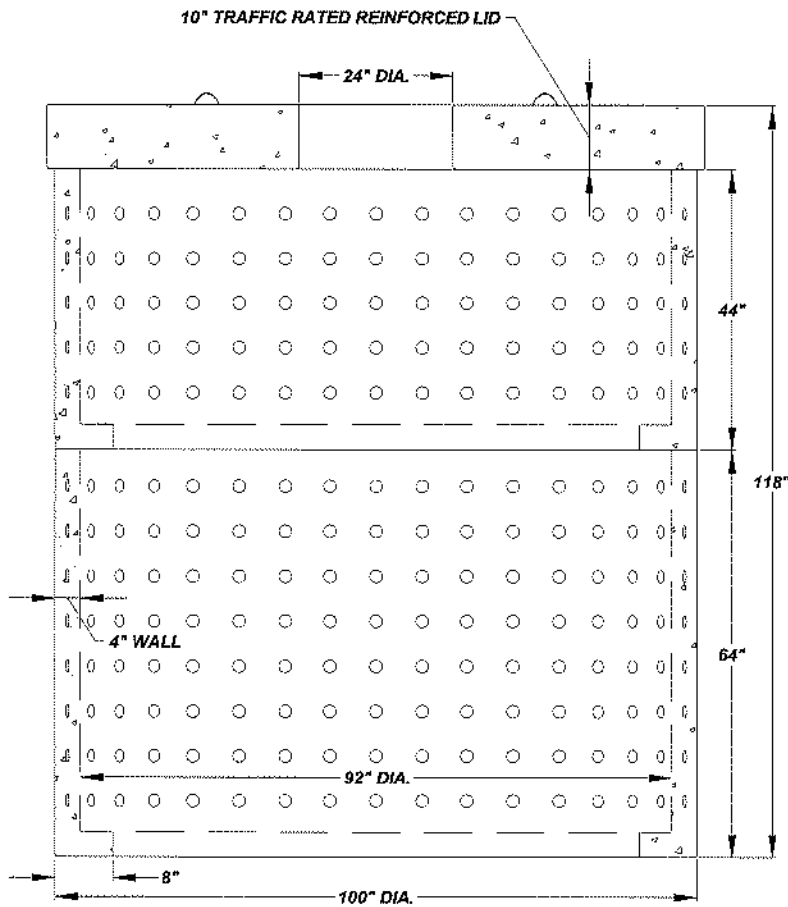
**The City Of Goshen**  
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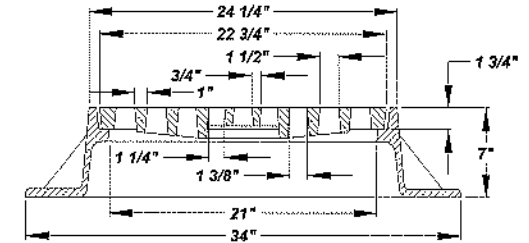
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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

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



**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 FIBRE
2. WALLS ARE 4" THICK CONCRETE
3. LID: 10" REINFORCED WITH #4 REBAR AND 1.5" FIBRILLATED POLYPROPYLENE FIBRE
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

*The City Of Goshen*

Department of Public Works & Safety  
Office of Engineering

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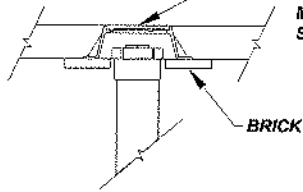
**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman	Approved By: D. Sailor, P.E.
Drawing Number: <b>SW-307</b>	

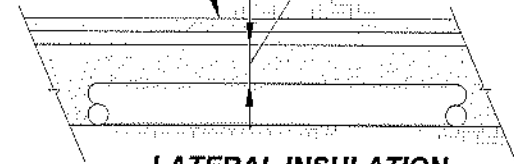
2 - 2" INSULATION BOARD TO BE CLOSED CELL (36" WIDE), EXTRUDED POLYSTYRENE FOAM MEETING ASTM 578, TYPE VI, 40 PSI COMPRESSING STRENGTH (ASTM D1621) 0.1% MAX. WATER ABSORPTION (ASTM C272)

6" NO. 8 PEA STONE OR 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



**LATERAL INSULATION  
(LESS THAN 36" OF COVER)**

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

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

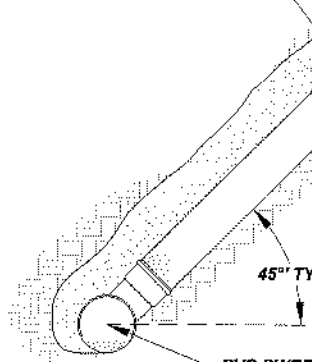
45° OR 22.5° PVC FITTING AS REQUIRED

CLEANOUT SIZE TO MATCH SERVICE LINE SIZE

5.0' MINIMUM WITHIN ROW

12" MIN.

SEE DETAIL SW-403



45° TYP.

PVC SWEEPING WYE AT MAIN, NO TEES ALLOWED UNLESS SEWER SADDLE CONNECTION IS REQUIRED, SEE SADDLE DETAIL

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

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

**SEWER LATERAL W/ CLEANOUT**

NOT TO SCALE

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

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**CITY OF GOSHEN, INDIANA  
STANDARD DETAIL**

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

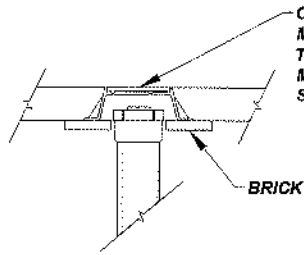
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**SW-401**



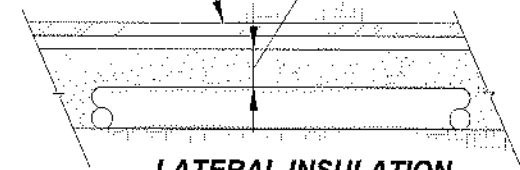
2 - 2" INSULATION BOARD TO BE CLOSED CELL (36" WIDE), EXTRUDED POLYSTYRENE FOAM MEETING ASTM 578, TYPE VI, 40 PSI COMPRESSING STRENGTH (ASTM D1621) 0.1% MAX. WATER ABSORPTION (ASTM C272)

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



**LATERAL INSULATION  
(LESS THAN 36" OF COVER)**

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

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 8" 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

SHIELDED FLEX COUPLER

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

6" X 6" X 6" DOUBLE SWEEP CLEANOUT

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

EXISTING CLAY MAIN AND WYE

**SEWER LATERAL REPLACEMENT AT EXISTING TAP**

NOT TO SCALE

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

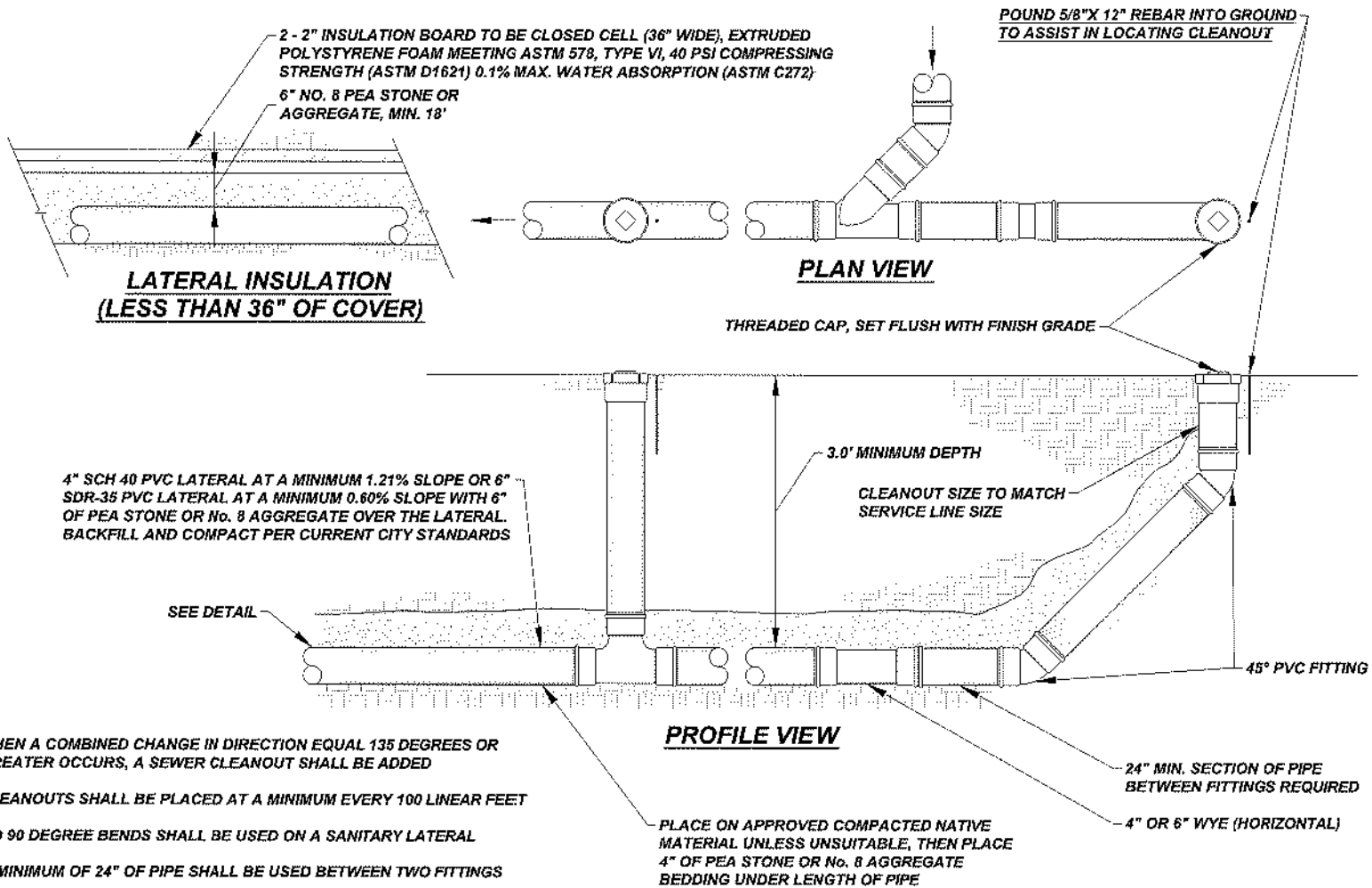
204 East Jefferson, Suite 1 Street, Goshen, Indiana 46528  
Phone: 574-534-2201 Fax: 574-533-8626  
Web: goshenindiana.org

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

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**CITY OF GOSHEN, INDIANA  
STANDARD DETAIL**

Granted By: J. Hoffman  
Approved By: D. Sallor, P.E.  
Drawing Number: **SW-402**



**NOTES:**

1. WHEN A COMBINED CHANGE IN DIRECTION EQUAL 135 DEGREES OR GREATER OCCURS, A SEWER CLEANOUT SHALL BE ADDED
2. CLEANOUTS SHALL BE PLACED AT A MINIMUM EVERY 100 LINEAR FEET
3. NO 90 DEGREE BENDS SHALL BE USED ON A SANITARY LATERAL
4. A MINIMUM OF 24" OF PIPE SHALL BE USED BETWEEN TWO FITTINGS

**SEWER LATERAL OUTSIDE RIGHT-OF-WAY**

NOT TO SCALE

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

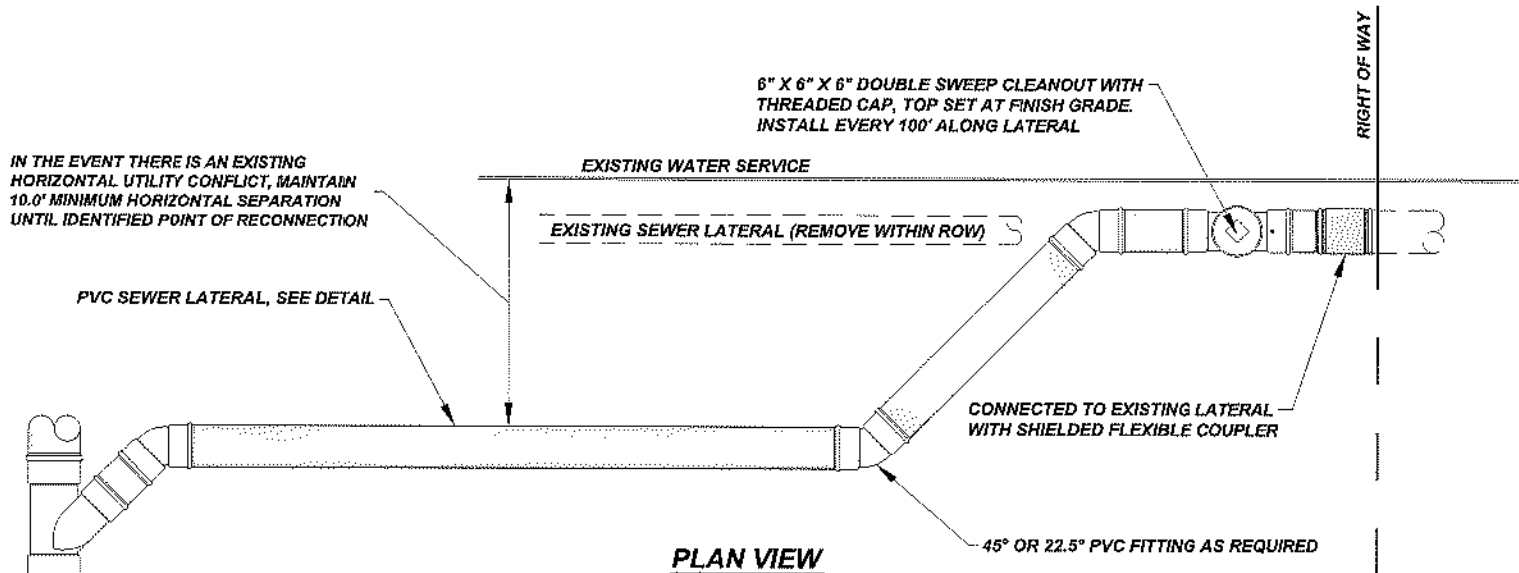
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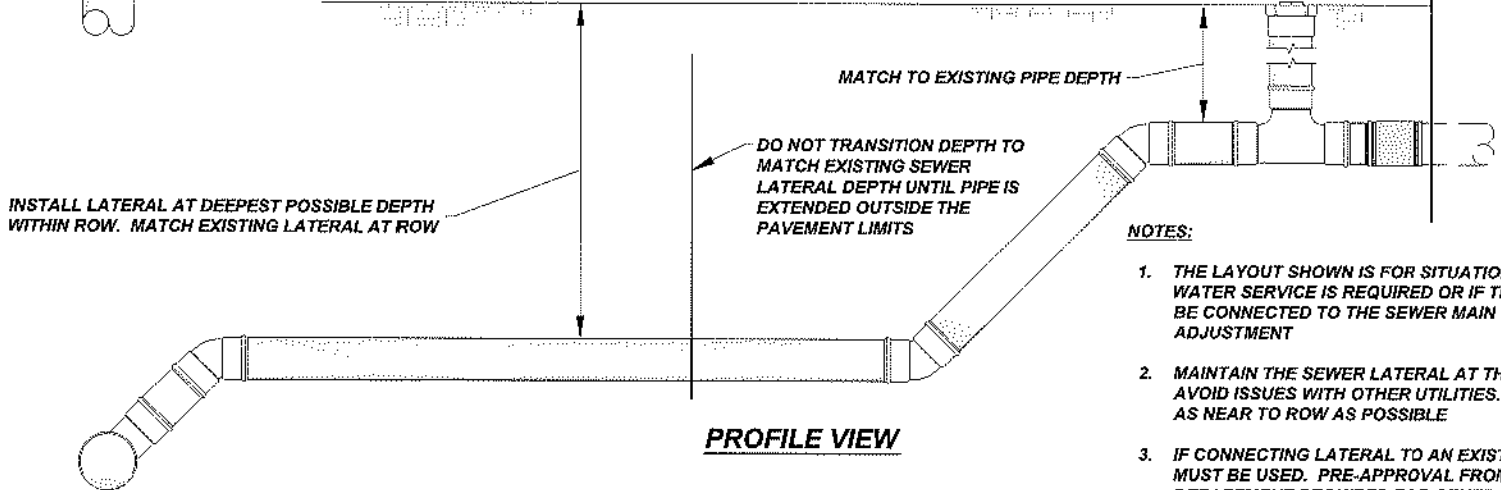
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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Created By: J. Hoffman	Approved By: D. Sailor, P.E.
Drawing Number: <b>SW-403</b>	



**PLAN VIEW**



**PROFILE VIEW**

- 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

**REPLACEMENT SEWER LATERAL CONNECTION**

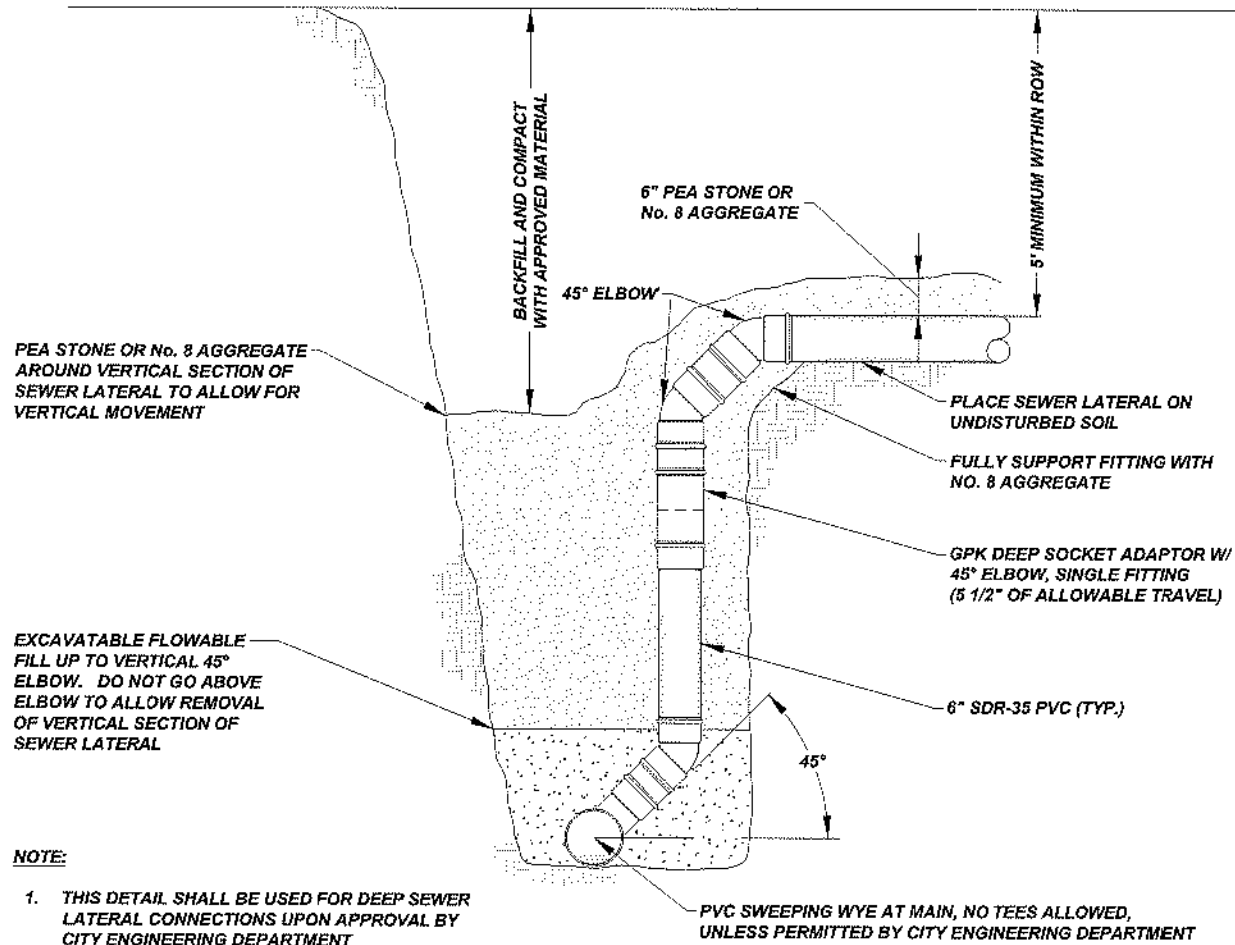
NOT TO SCALE

*The City Of Goshen*  
 Department of Public Works & Safety  
 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: <b>SW-404</b>	



## VERTICAL SEWER LATERAL

NOT TO SCALE

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

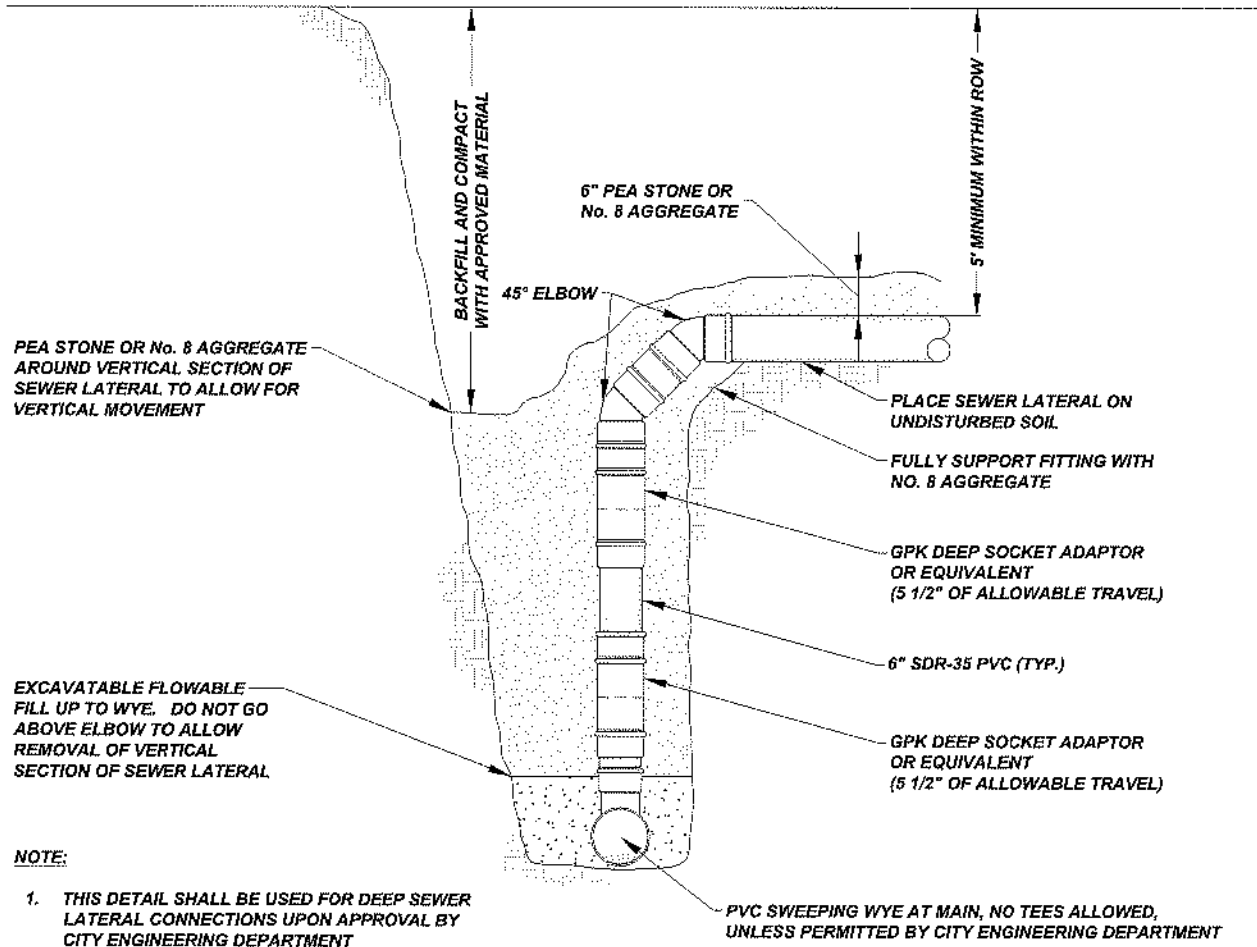
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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

<small>Drafted By:</small> J. Hoffman	<small>Approved By:</small> D. Sailor, P.E.
<small>Drawing Number:</small> <b>SW-405</b>	



PEA STONE OR No. 8 AGGREGATE AROUND VERTICAL SECTION OF SEWER LATERAL TO ALLOW FOR VERTICAL MOVEMENT

EXCAVATABLE FLOWABLE FILL UP TO WYE. DO NOT GO ABOVE ELBOW TO ALLOW REMOVAL OF VERTICAL SECTION OF SEWER LATERAL

**NOTE:**

1. THIS DETAIL SHALL BE USED FOR DEEP SEWER LATERAL CONNECTIONS UPON APPROVAL BY CITY ENGINEERING DEPARTMENT

**VERTICAL SEWER LATERAL**

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				

**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman	Approved By: D. Sallor, P.E.
Drawing Number: <b>SW-406</b>	

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

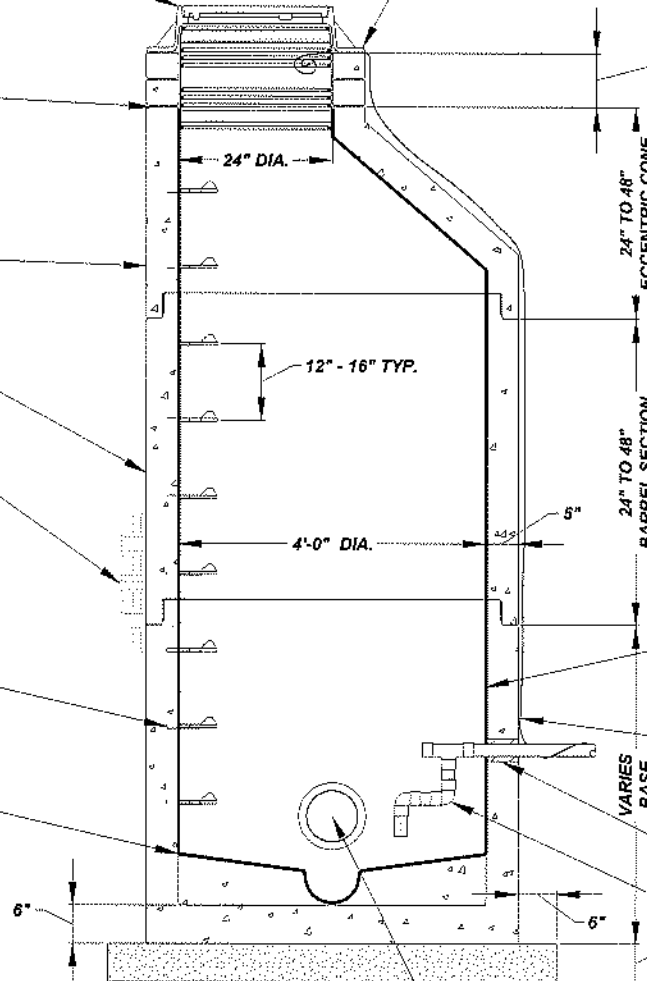
PRE-CAST REINFORCED CONCRETE MANHOLE PER ASTM C-478

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

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				

CITY OF GOSHEN, INDIANA  
STANDARD DETAIL

Drafted By: J. Hoffman  
Approved By: D. Sallor, 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

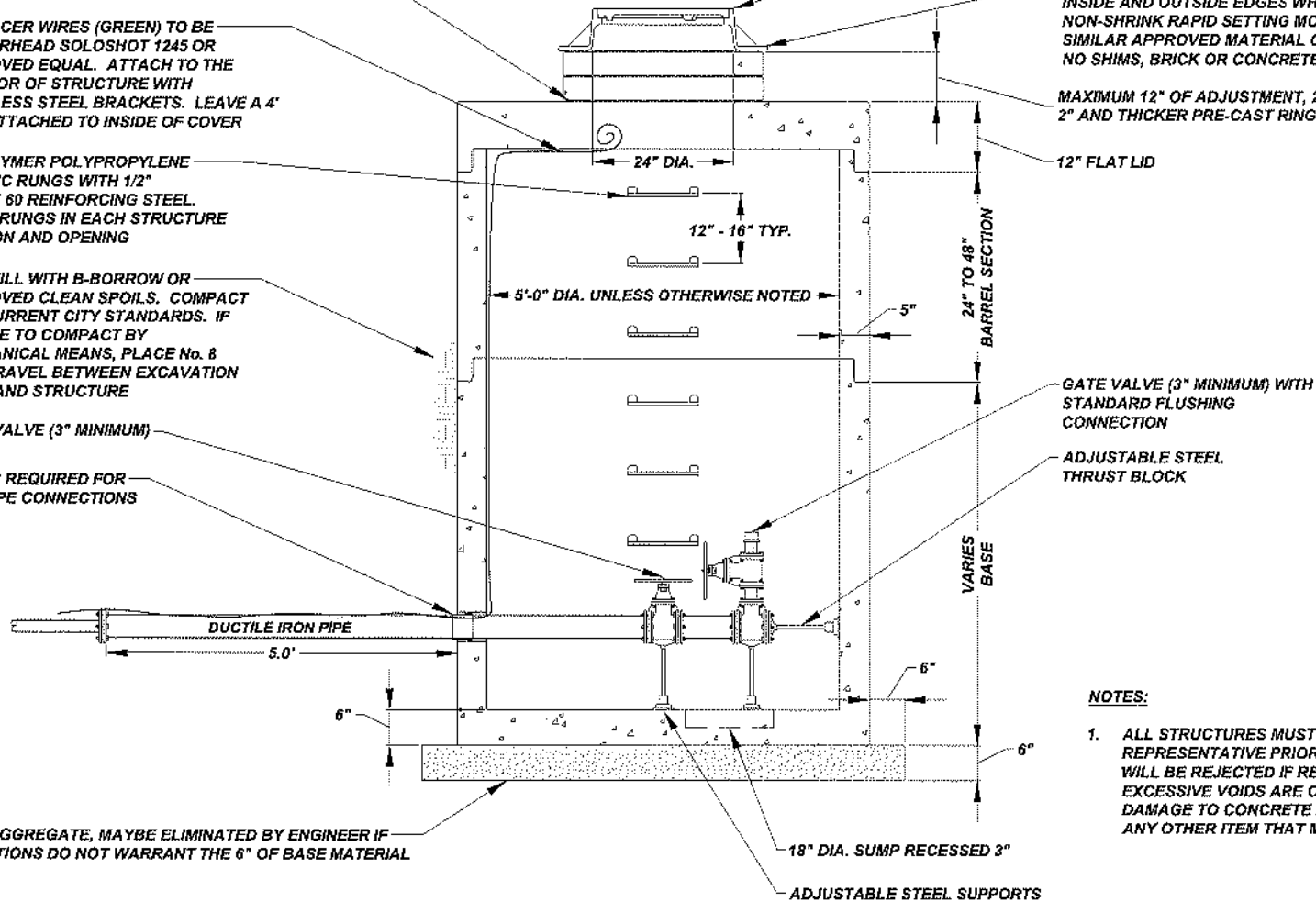
GATE VALVE (3" MINIMUM)

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

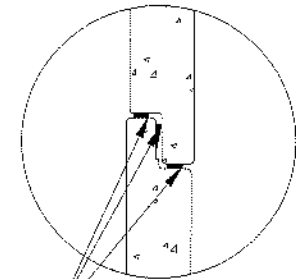
MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY



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

GATE VALVE (3" MINIMUM) WITH STANDARD FLUSHING CONNECTION

ADJUSTABLE STEEL THRUST BLOCK



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*

Department of Public Works & Safety  
Office of Engineering

204 East Jefferson, Suite 1 Street, Goshen, Indiana 46528  
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Web: goshenindiana.org

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

**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Crafted By: J. Hoffman	Approved By: D. Seifor, P.E.
Drawing Number: <b>SW-502</b>	

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

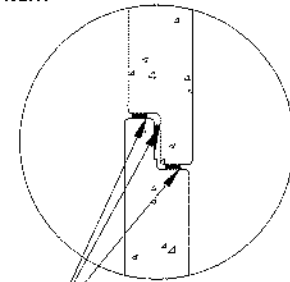
MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY

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:**

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 AIR RELEASE/FLUSHING MANHOLE TYPE III

NOT TO SCALE

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

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CITY OF GOSHEN, INDIANA  
STANDARD DETAIL

Drafted By: J. Hoffman  
Approved By: D. Saitor, 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

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

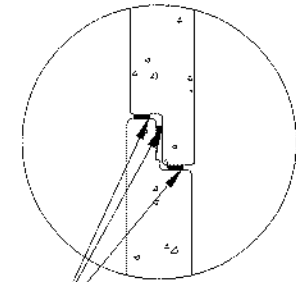
MAXIMUM 12" OF ADJUSTMENT, 2 OR FEWER RINGS. 2" AND THICKER PRE-CAST RINGS ONLY

12" FLAT LID

24" DIA.  
12" - 16" TYP.  
5'-0" DIA. UNLESS OTHERWISE NOTED  
5"  
24" TO 48" BARREL SECTION  
VARIES BASE

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:**

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

18" DIA. SUMP RECESSED 3"

ADJUSTABLE STEEL SUPPORTS

## FORCE MAIN FLUSHING MANHOLE TYPE IV

NOT TO SCALE

*The City Of Goshen*

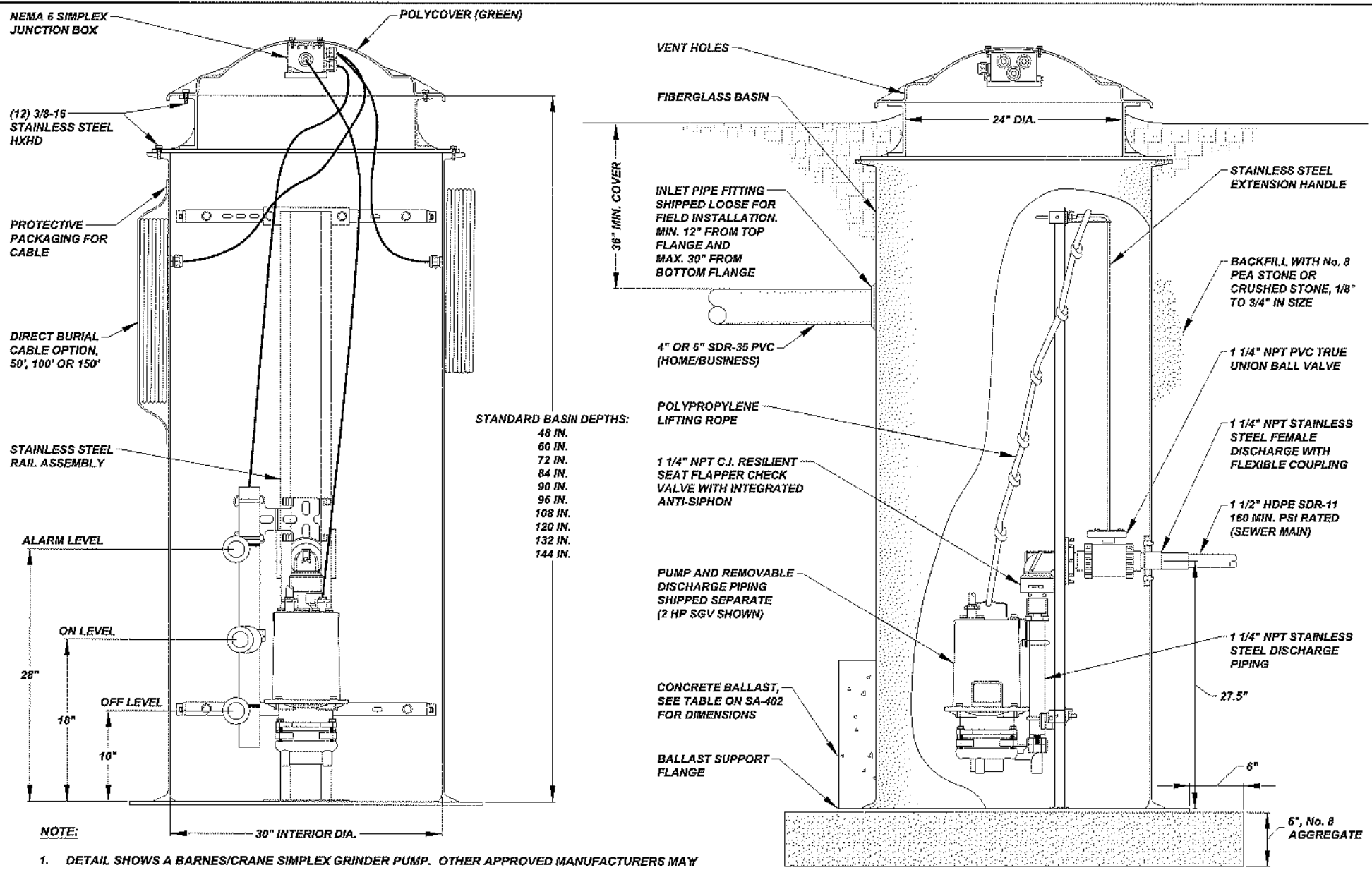
Department of Public Works & Safety  
Office of Engineering

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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman	Approved By: D. Sailor, P.E.
Drawing Number: <b>SW-504</b>	



# STANDARD SIMPLEX GRINDER PUMP

NOT TO SCALE

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

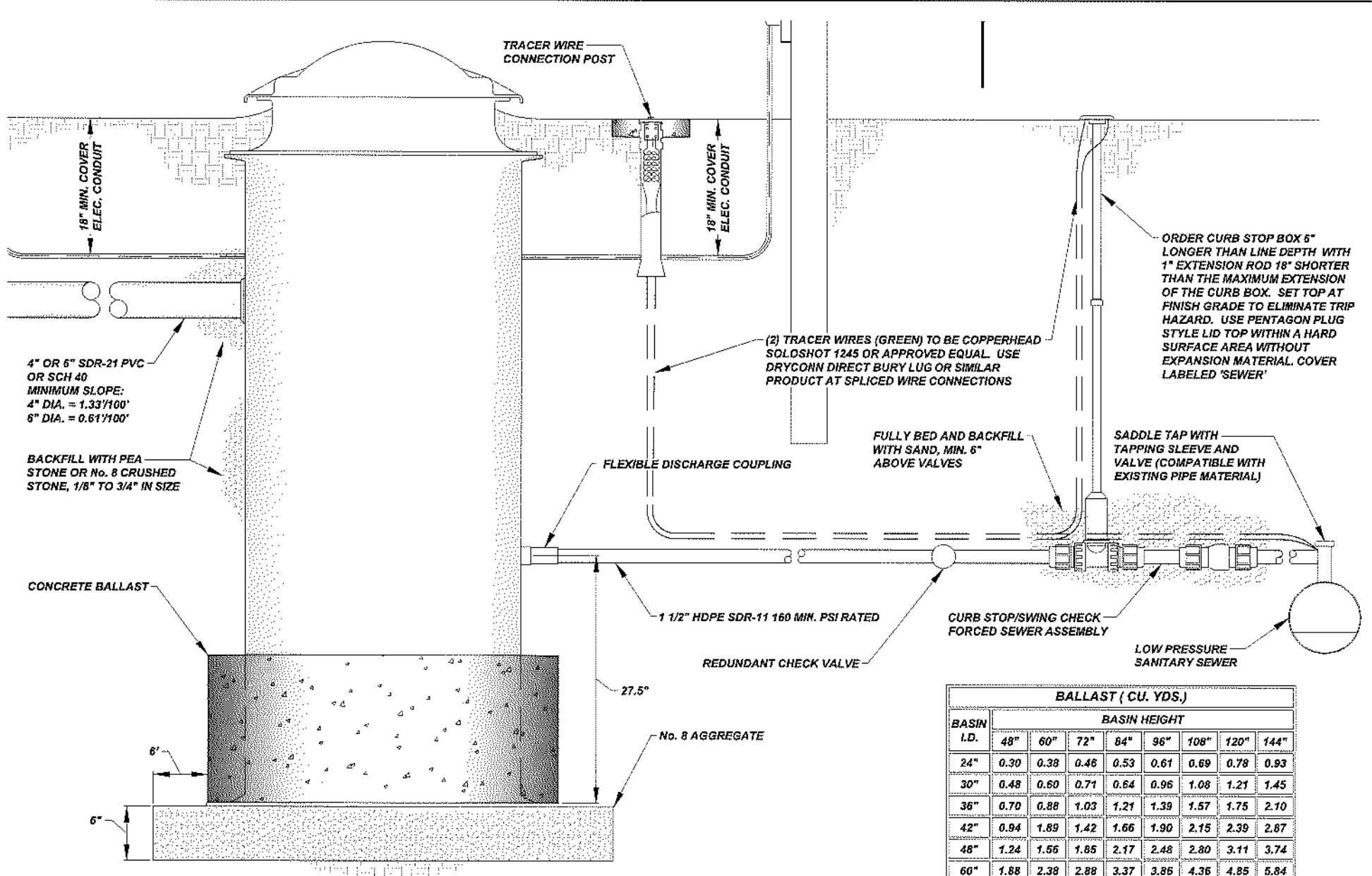
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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman  
Approved By: D. Sailer, P.E.  
Drawing Number: SW-601

*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: goshenindians.org



ORDER CURB STOP BOX 6" LONGER THAN LINE DEPTH WITH 1" EXTENSION 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. COVER LABELED 'SEWER'

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

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

SADDLE TAP WITH TAPPING SLEEVE AND VALVE (COMPATIBLE WITH EXISTING PIPE MATERIAL)

4" OR 6" SDR-21 PVC OR SCH 40  
MINIMUM SLOPE:  
4" DIA. = 1.33'/100'  
6" DIA. = 0.61'/100'

BACKFILL WITH PEA STONE OR No. 8 CRUSHED STONE, 1/8" TO 3/4" IN SIZE

CONCRETE BALLAST

1 1/2" HDPE SDR-11 160 MIN. PSI RATED

CURB STOP/SWING CHECK FORCED SEWER ASSEMBLY

LOW PRESSURE SANITARY SEWER

REDUNDANT CHECK VALVE

27.5"

No. 8 AGGREGATE

BASIN I.D.	BALLAST ( CU. YDS.)							
	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	1.89	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

# SIMPLEX GRINDER PUMP CONNECTION LAYOUT

NOT TO SCALE

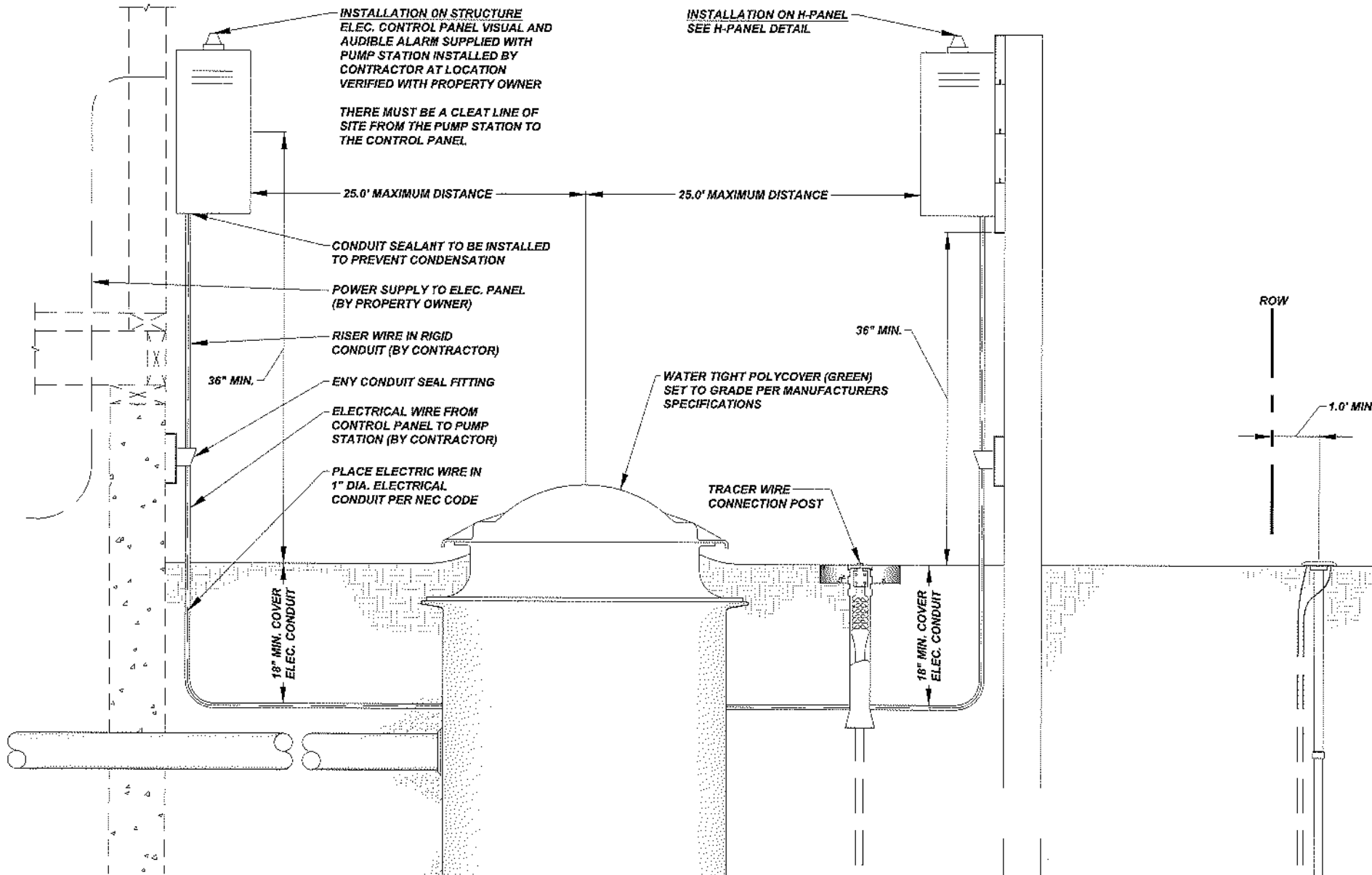
Date Approved By The City Of Goshen Board Of Public Works & Safety and Approved Revisions

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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

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

*The City Of Goshen*  
Department of Public Works & Safety  
Office of Engineering  
204 East Jefferson, Suite 1 Street, Goshen, Indiana 46526  
Phone: 574-534-2201 Fax: 574-533-8626  
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INSTALLATION ON STRUCTURE  
 ELEC. CONTROL PANEL VISUAL AND  
 AUDIBLE ALARM SUPPLIED WITH  
 PUMP STATION INSTALLED BY  
 CONTRACTOR AT LOCATION  
 VERIFIED WITH PROPERTY OWNER

INSTALLATION ON H-PANEL  
 SEE H-PANEL DETAIL

THERE MUST BE A CLEAT LINE OF  
 SITE FROM THE PUMP STATION TO  
 THE CONTROL PANEL

25.0' MAXIMUM DISTANCE

25.0' MAXIMUM DISTANCE

CONDUIT SEALANT TO BE INSTALLED  
 TO PREVENT CONDENSATION

POWER SUPPLY TO ELEC. PANEL  
 (BY PROPERTY OWNER)

RISER WIRE IN RIGID  
 CONDUIT (BY CONTRACTOR)

36" MIN.

ENY CONDUIT SEAL FITTING

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

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

18" MIN. COVER  
 ELEC. CONDUIT

WATER TIGHT POLYCOVER (GREEN)  
 SET TO GRADE PER MANUFACTURERS  
 SPECIFICATIONS

36" MIN.

TRACER WIRE  
 CONNECTION POST

18" MIN. COVER  
 ELEC. CONDUIT

ROW

1.0' MIN.

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## SIMPLEX GRINDER PUMP ELECTRICAL LAYOUT

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Drawing Number: <b>SW-603</b>	

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.

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## SIMPLEX GRINDER PUMP H-PANEL

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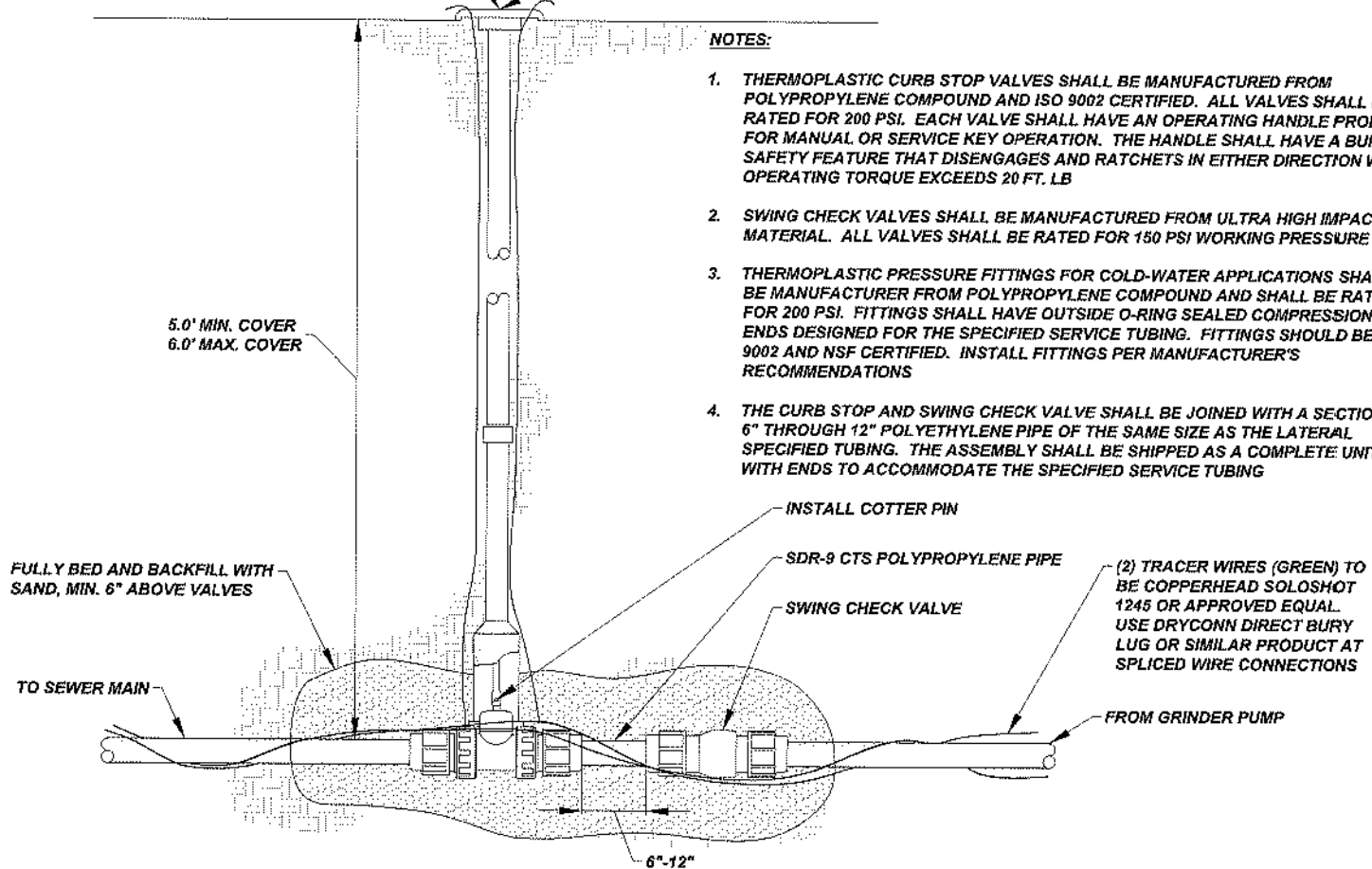
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CITY OF GOSHEN, INDIANA  
 STANDARD DETAIL

Created By: J. Hoffman	Approved By: D. Sailor, P.E.
Drawing Number: <b>SW-604</b>	

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

**CURB STOP/SWING CHECK FORCED SEWER ASSEMBLY**

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**CITY OF GOSHEN, INDIANA**  
**STANDARD DETAIL**

Drafted By: J. Hoffman	Approved By: D. Salior, P.E.
Drawing Number: <b>SW-605</b>	