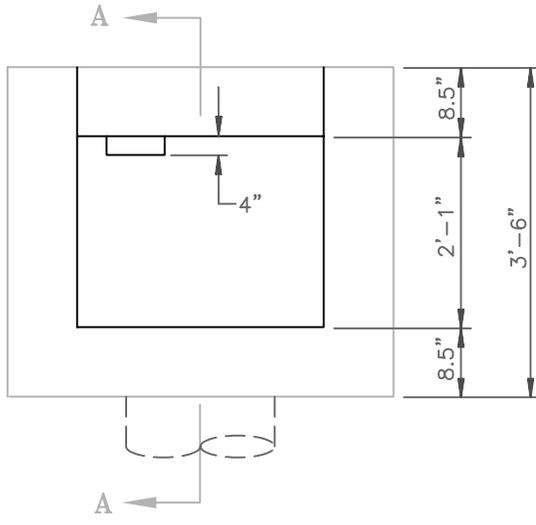
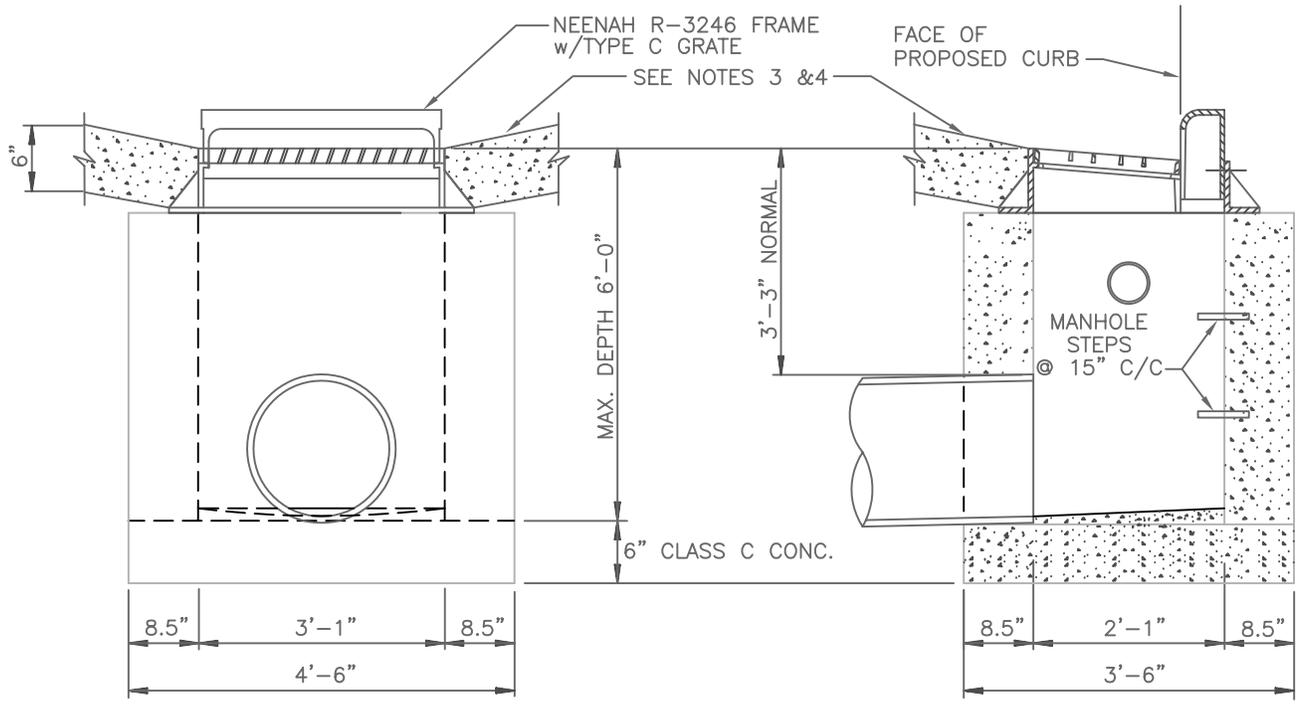


**NOTES:**

1. Steel Casing shall be ASTM A-53, Grade B, with smooth bore and exterior, minimum yield 35,000 psi. Size and thickness as indicated in plans.
2. Sanitary sewer size and type as indicated on the plans.
3. Clearance between the outside of the carrier pipe and the inside of the casing pipe shall be maintained using plastic centralizers.
4. Work to be performed in accordance with CW 1800.



**PLAN VIEW**  
(COVER REMOVED)



**ELEVATION**

**SECTION A-A**

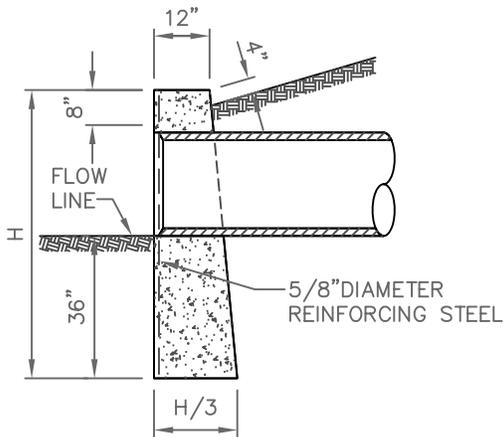
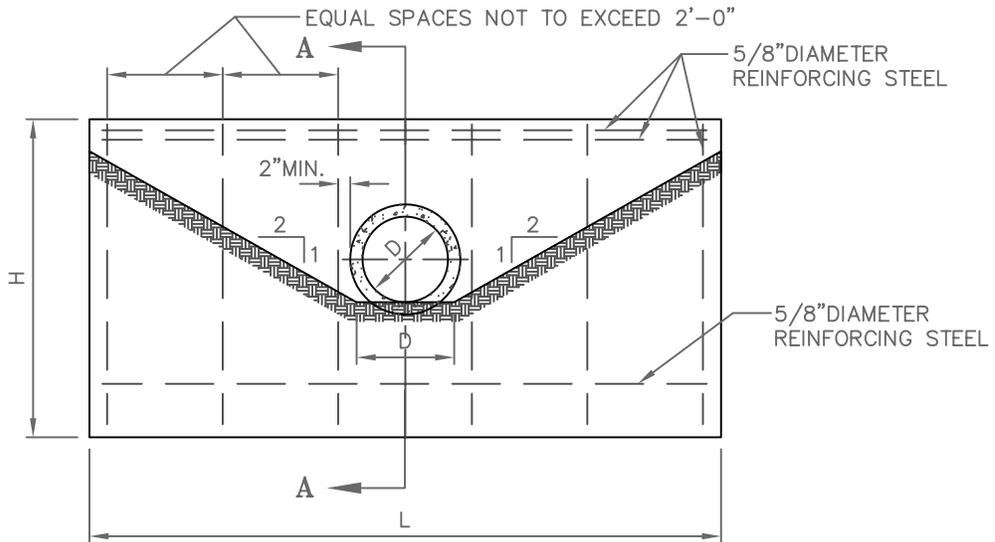
**NOTES:**

1. THE INLET BOTTOM SHALL BE SHAPED TO PROVIDE SLOPE OF 3" TO 4" TO OUTLET PIPE. THE CROSS SECTIONAL FORM OF BOTTOM AND LONGITUDINAL SLOPE IS TO BE ADAPTED TO LOCATION OF OUTLET PIPE AS DIRECTED.
2. OUTLET PIPE MAY BE LOCATED IN FRONT OR BACK AND SHALL BE DIRECTED TOWARDS THE CENTER OF THE INLET.
3. THE EXISTING GUTTER WITHIN THE AREA AROUND THE INLET WHERE CUT OUT, SHALL BE REPLACED WITH CLASS "C" CONCRETE OR ASPHALTIC CONCRETE PAVING AS ORDERED.
4. THE BACKFILLING WITHIN PROPOSED PAVED AREAS SHALL BE IN ACCORDANCE WITH ITEM 912.
5. WALLS MAY BE BRICK, PRECAST SOLID CONCRETE BLOCKS, CAST IN PLACE CONCRETE, CLASS "C", OR PRECAST CONCRETE.
6. PLACE 4" CURB DRAIN STUBS 30" BELOW TOP OF CURB OR AS DIRECTED.

CANAL WINCHESTER, OHIO

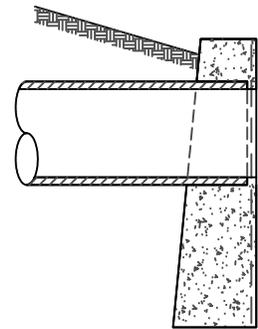
CURB AND  
GUTTER INLET

DATE:	SCALE:	DWG. NO.
NOV 2001	NO SCALE	ST-04-01



**SECTION A-A**

**INLET END**  
GROOVE OR BELL  
UPSTREAM



**OUTLET END**  
TONGUE OR SPIGOT  
DOWNSTREAM

**END TREATMENT AT HEADWALL**

**NOTES:**

HEADWALL WHERE REQUIRED WILL BE PROVIDED FOR NONSKEWED CULVERTS HAVING A DIAMETER OR RISE OF 36" OR LESS. REINFORCING STEEL BARS SHALL BE 5/8 INCH ROUND.

DIMENSIONS AND QUANTITIES ARE SHOWN FOR CIRCULAR SECTIONS ONLY. IT WILL BE NECESSARY TO DETERMINE DIMENSIONS FOR THE HEADWALL REQUIRED FOR REINFORCED ELLIPTICAL CONCRETE PIPE OR CORRUGATED METAL PIPE ARCHES IN ACCORDANCE WITH THE EQUATIONS LISTED ON THIS DRAWING.

CONCRETE SHALL BE CLASS "C".

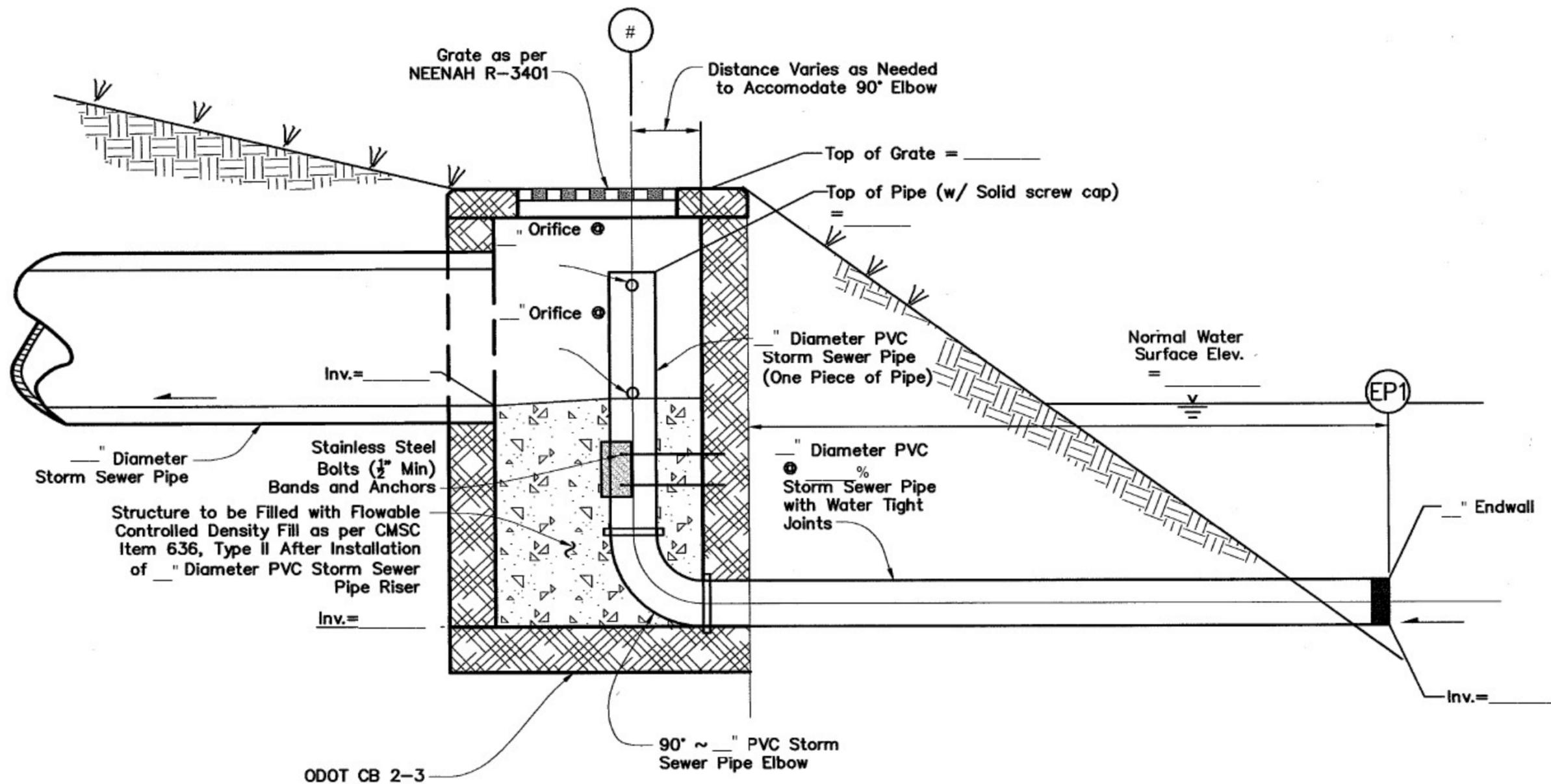
FOUNDATION, WHERE THE SOIL BORINGS INDICATE A BEARING CAPACITY OF LESS THAN 2600 POUNDS PER SQUARE FOOT IT WILL BE NECESSARY TO INCREASE THE WIDTH OF THE BASE.

IF SLOPES OTHER THAN 2:1 ARE USED, THE LENGTH "L", AND HEIGHT "H" WILL REQUIRE ADJUSTMENT.

DIMENSIONS		
D	H	L
12"	5'-0"	6'-6"
15"	5'-2"	7'-0"
18"	5'-5"	8'-4"
21"	5'-8"	9'-8"
24"	5'-11"	11'-0"
30"	6'-5"	13'-8"
36"	7'-0"	16'-4"

- L CIRCULAR SECTIONS =  $5D+4t$
- L ELLIPTICAL OR PIPE-ARCH =  $4R+t+5$
- M CIRCULAR SECTIONS =  $D+t+44"$
- M ELLIPTICAL OR PIPE-ARCH =  $R+t+44"$
- D = DIAMETER OF PIPE
- R = RISE OF PIPE
- S = SPAN OF PIPE
- t = THICKNESS OF BARREL
- L = LENGTH OF HEADWALL
- M = HEIGHT OF HEADWALL

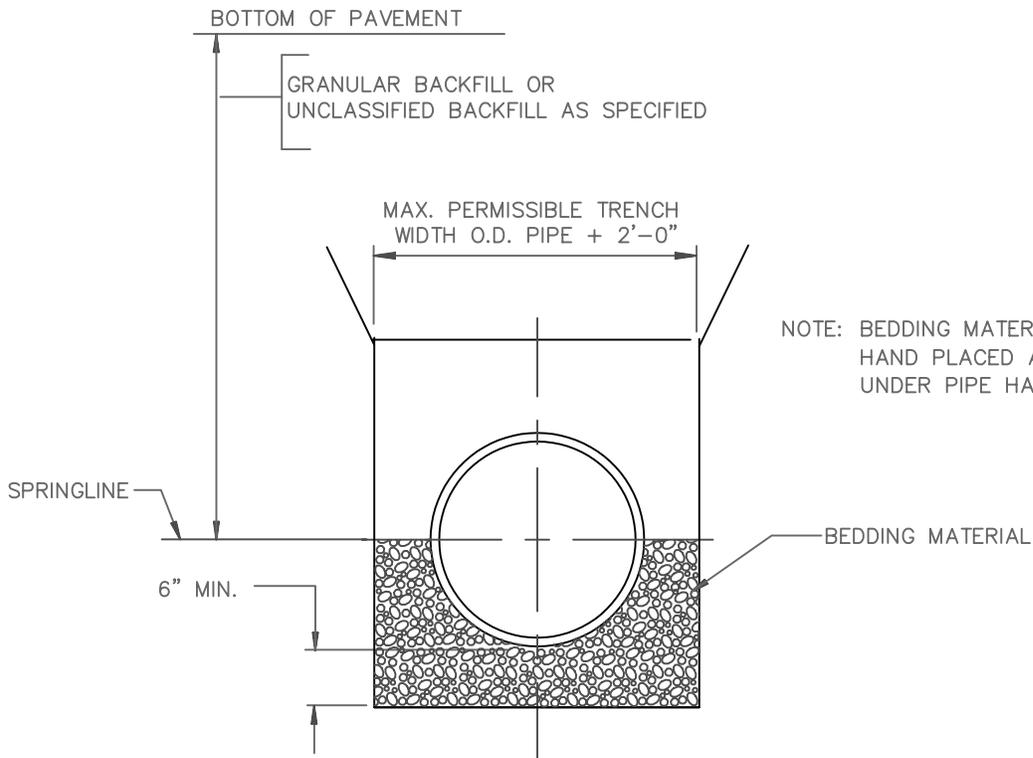
CANAL WINCHESTER, OHIO		
PIPE CULVERT HEADWALL 15" TO 36" DIA.		
DATE:	SCALE:	DWG. NO.
JUNE 1992	NO SCALE	ST-07-01



### POND OUTLET STRUCTURE DETAIL

No Scale

CANAL WINCHESTER, OHIO	
POND OUTLET STRUCTURE	
June, 2010	ST-09-01

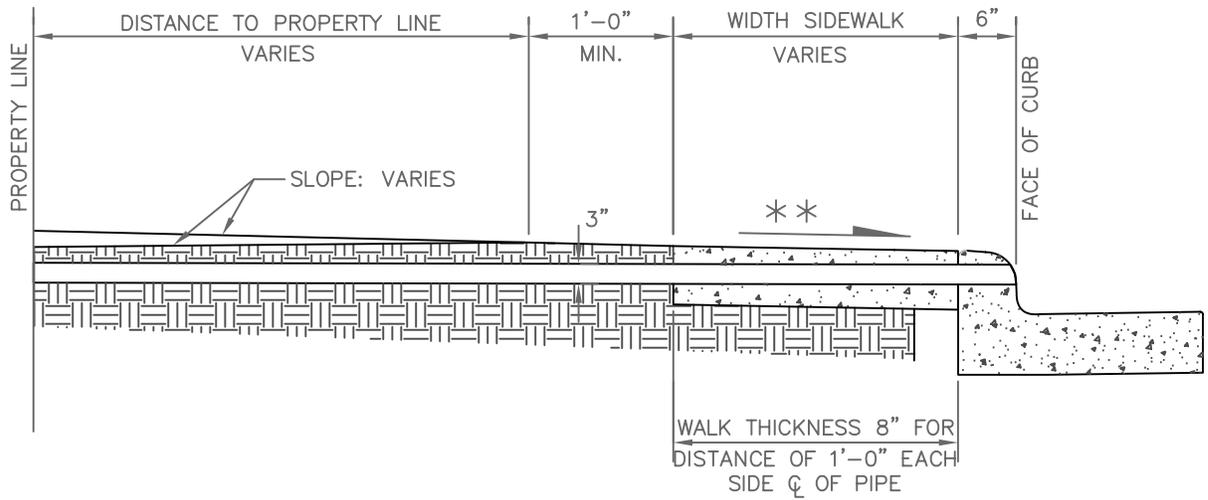
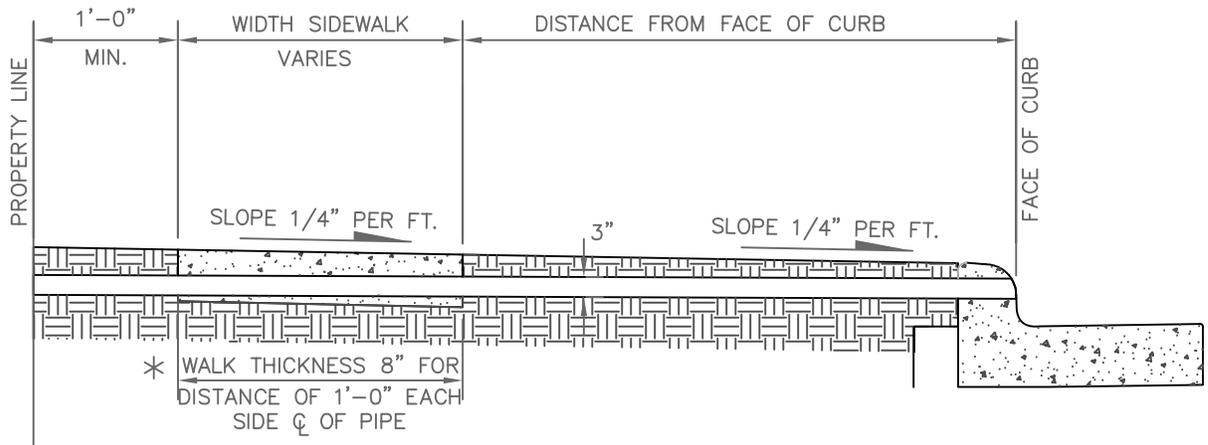


CANAL WINCHESTER, OHIO

STANDARD BEDDING  
FOR  
RIGID PIPE

DATE:	SCALE:	DWG. NO.
AUG 2001	NO SCALE	SAN-06-01

REVISED NOV 2001



\* APPLICABLE ONLY WHERE THICKNESS OF CONCRETE OVER PIPE IS LESS THAN 4".

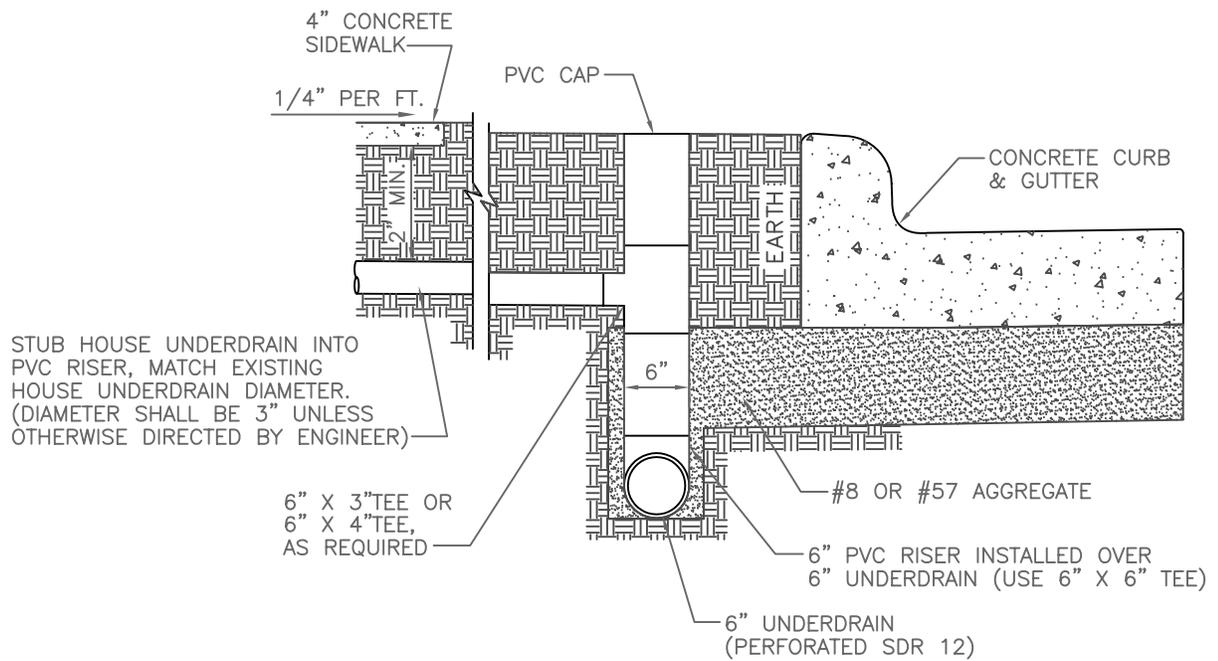
\*\* SLOPE 1/4" PER FT. ON SIDEWALK AREA.

CANAL WINCHESTER, OHIO

PIPE ROOF DRAIN

DATE:	SCALE:	DWG. NO.
NOV 2001	NO SCALE	RD-08-01

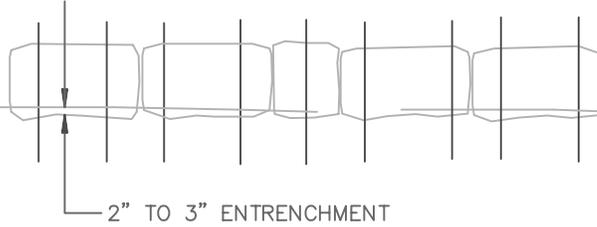
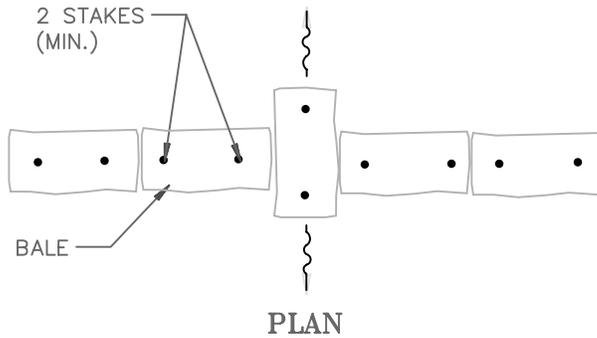
REVISED JAN 2002



NOTE: COST OF 6" PVC RISER, CAP, FITTINGS AND 3" PIPE OUTLET INSTALLATION TO BE INCLUDED IN THE UNIT PRICE FOR ITEM "SPECIAL, RESIDENTIAL UNDERDRAIN JUNCTION BOX.

CANAL WINCHESTER, OHIO		
RESIDENTIAL UNDERDRAIN JUNCTION BOX		
DATE:	SCALE:	DWG. NO.
DEC 2001	NO SCALE	RD-13-01

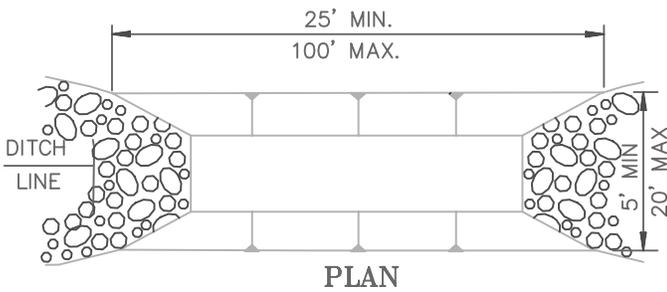
EMBANKMENT FOR SEDIMENT BASINS CONSTRUCTION SHALL BE AS PER 120 COMPACTED AS DIRECTED BY THE ENGINEER. MAINTENANCE: SEDIMENT PITS, DAMS AND BASINS SHALL BE ACCEPTABLY MAINTAINED. DEPOSITED SEDIMENT SHALL BE REMOVED WHEN THE INITIAL VOLUME HAS BEEN REDUCED ONE-HALF. THE SAND FILTER BLANKET ON SEDIMENT BASINS SHALL BE REPLACED WHEN DEPOSITED SEDIMENT IS REMOVED. THE COST OF MAINTENANCE SHALL BE COVERED BY THE VARIOUS ITEMS OF THIS CONTRACT. FILTER: PLASTIC FILTER FABRIC, AS APPROVED BY THE ENGINEER, MAY BE SUBSTITUTED FOR THE SAND FILTER BLANKET ON SEDIMENT DAMS. SUCH FABRICS MAY BE CLEANED IN LIEU OF REPLACEMENT, WHEN APPROVED BY THE ENGINEER. SIZW: A SERIES OR SMALLER BASINS OR DAMS MAY BE SUBSTITUTED FOR A LARGER BASIN OR DAM WHEN APPROVED BY THE ENGINEER. BASIS OF PAYMENT: SEDIMENT DAMS AND BASINS SHALL BE PAID FOR UNDER ITEM 116.



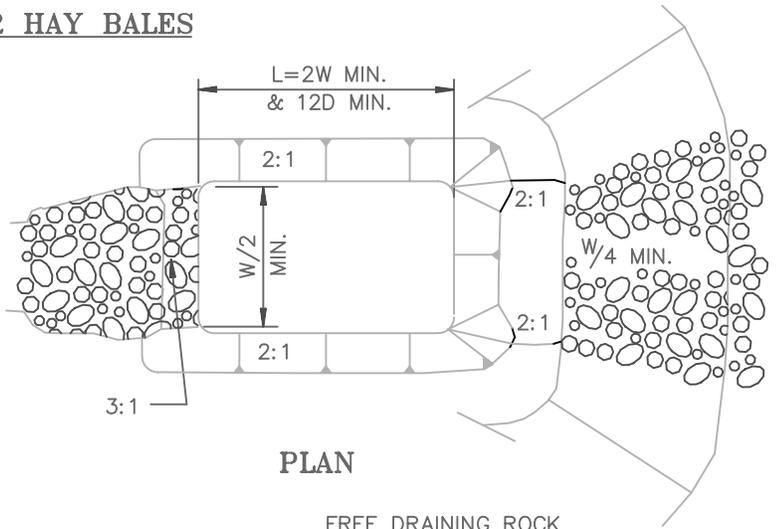
**ELEVATION**

**STRAW OR HAY BALES**

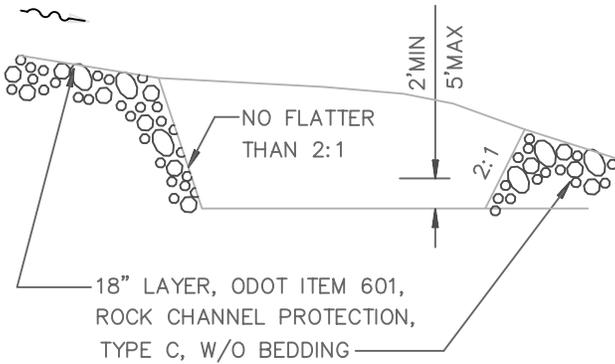
BALE PLACEMENT: BALES SHALL BE TIGHTLY PLACED, ADJACENTLY AND ENTRENCHED 2" TO 3" BEFORE STAKING; OR A SMALL AMOUNT OF LOOSE SOIL SHALL BE LIGHTLY COMPACTED ALONG THE UPSTREAM EDGE OF THE BALES. EACH BALE SHALL BE FIRMLY STAKED WITH A MINIMUM OF TWO STAKES AT LEAST 3' IN LENGTH. STAKES SHALL BE WOODEN 2"x2" REINFORCING BARS OR FENCE POSTS, AS APPROVED BY THE ENGINEER. LOOSE STRAW OR HAY SHALL BE SCATTERED FOR A DISTANCE OF 10' ON THE UPSTREAM SIDE OF EACH DITCH CHECK AND SHALL BE WEDGED BETWEEN AND UNDER STAKED BALES. SEDIMENT PITS: SHALL BE PROVIDED WHERE DIRECTED BY THE ENGINEER AND THEIR COST INCLUDED IN THE PRICE BID FOR ADJACENT 207 ITEMS. BASIS OF PAYMENT: STRAW OR HAY BALE INSTALLATION SHALL BE PAID FOR UNDER ITEM 116.



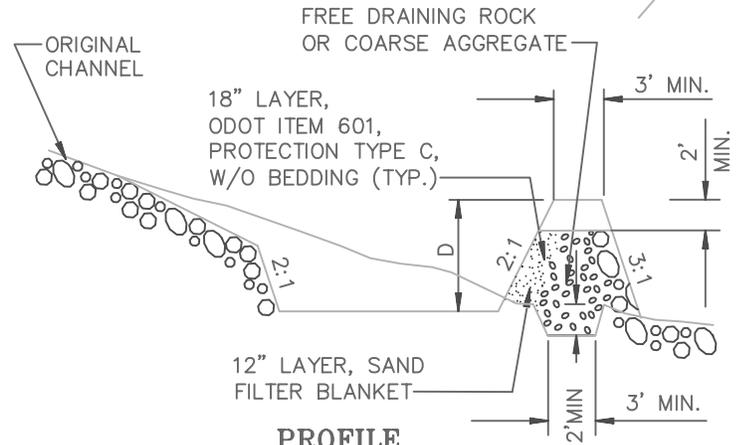
**PLAN**



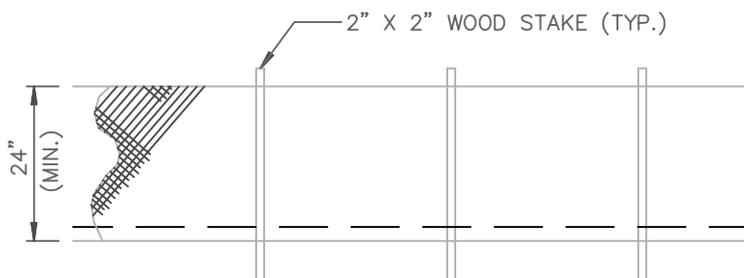
**PLAN**



**PROFILE SEDIMENT BASIN**



**PROFILE SEDIMENT DAM**



**PLASTIC FILTER BARRIER**

CANAL WINCHESTER, OHIO

SEDIMENTATION CONTROL

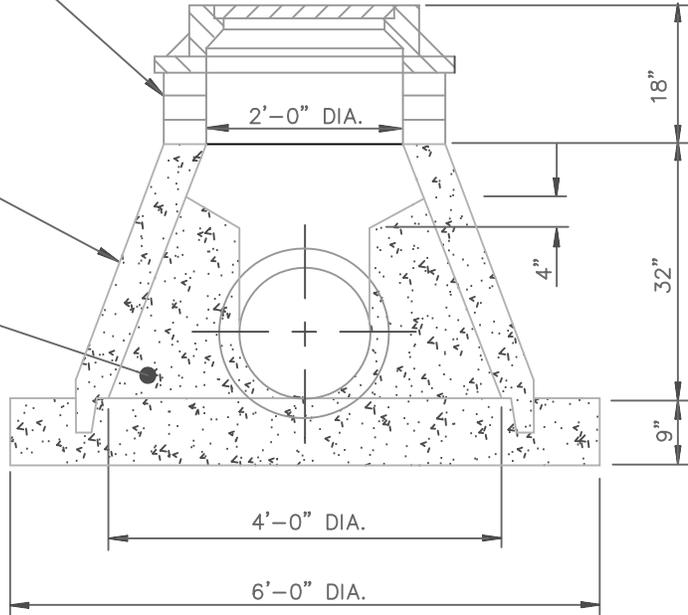
DATE:	SCALE:	DWG. NO.
AUG 2001	NO SCALE	ST-06-01

NOTE: USE NEENAH MANHOLE FRAME & COVER R-1916-C (TYPE "C" LID) OR R-1762 WITH 6 - 3/4" DIA. HOLES CORED THRU LID AS SHOWN ON THE DRAWINGS. LIDS SHALL BE EMBOSSED WITH THE CANAL WINCHESTER SEAL (STORM SEWER).

9" MAX PRECAST RINGS FOR ELEVATION ADJUSTMENT

CONCENTRIC CONE SECTION

CHANNEL FORMED OF CONCRETE



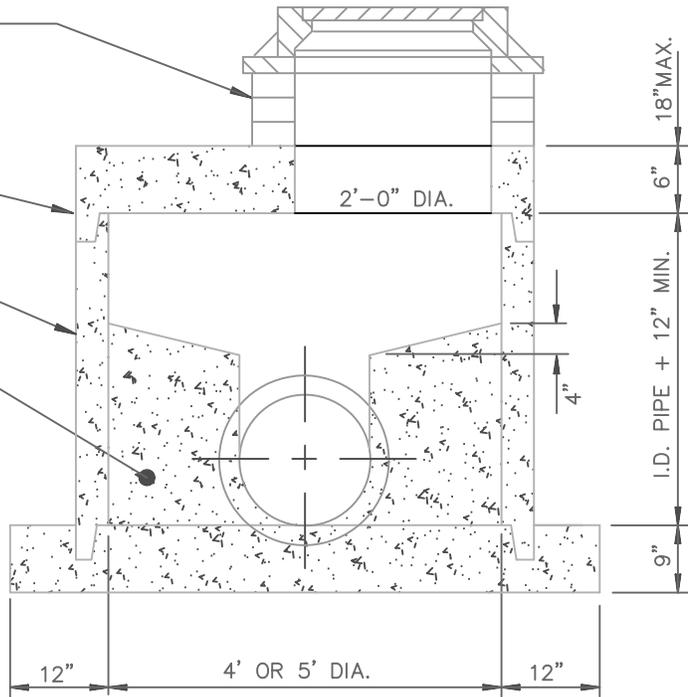
**SECTION**

9" MAX. - HIGH DENSITY POLYETHYLENE (H.D.P.E.) ADJUSTING RINGS BY LADTECH, INC.

PRECAST SLAB

PRECAST SECTION

CHANNEL FORMED OF CONCRETE



**SECTION**

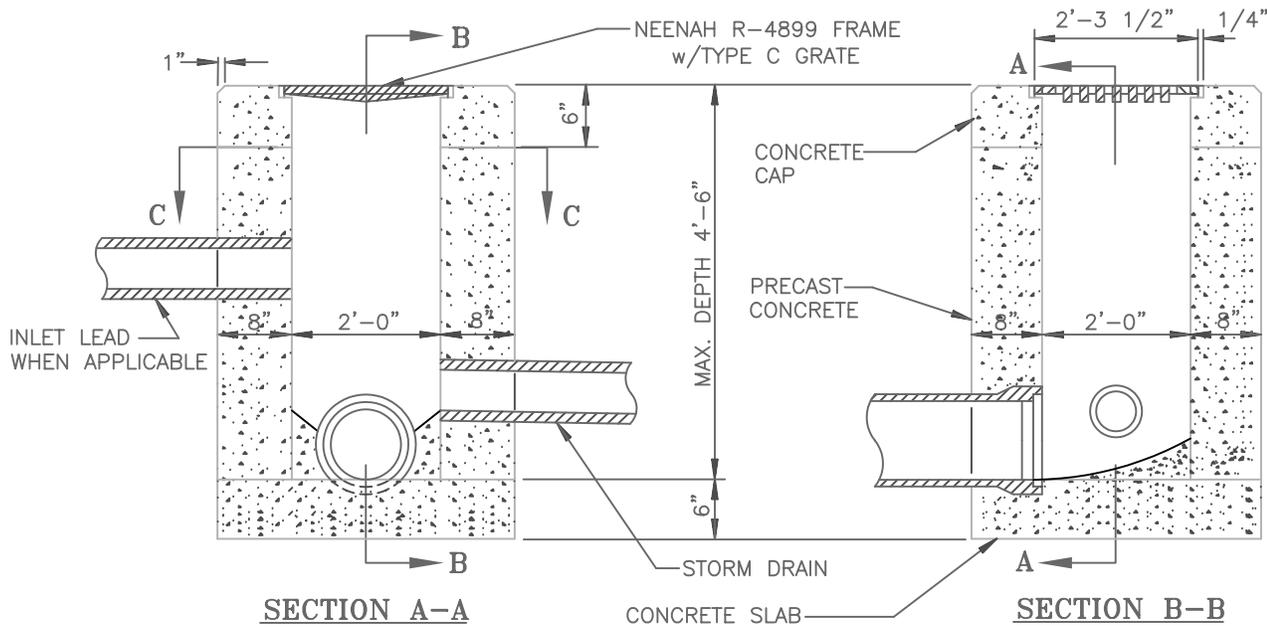
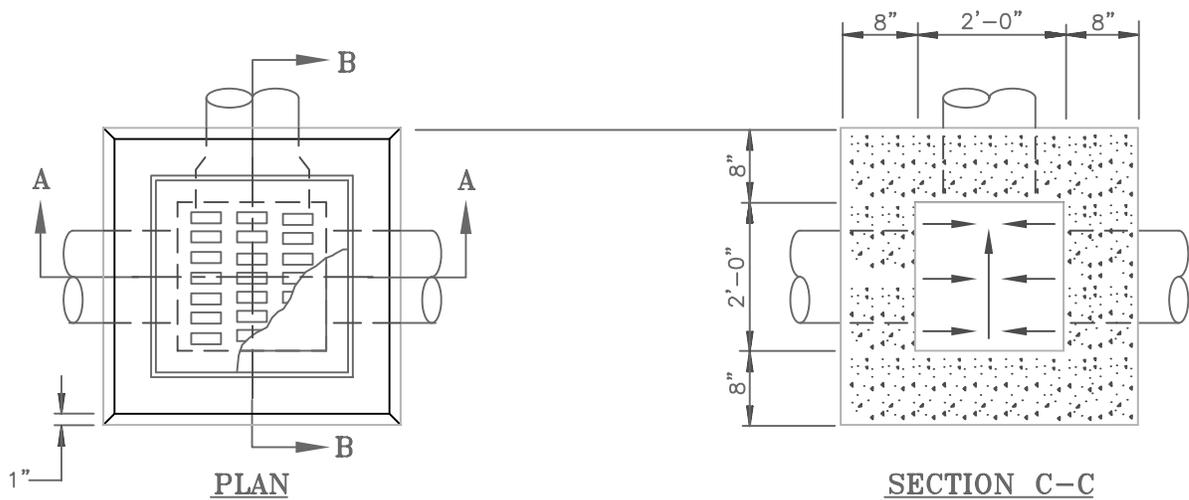
NOTE: MANHOLES UNLESS NOTED ON PLANS SHALL BE 4'-0" DIAMETER.

CANAL WINCHESTER, OHIO

4' & 5' PRECAST STORM MANHOLE  
TYPICAL SHALLOW  
CONSTRUCTION METHODS

DATE:	SCALE:	DWG. NO.
AUG 2001	NO SCALE	ST-02-01

REVISED JAN 2002



\* ALL GRATES SHALL BE BICYCLE SAFE.

NOTE: INLET STRUCTURE SHALL BE PRECAST CONCRETE.

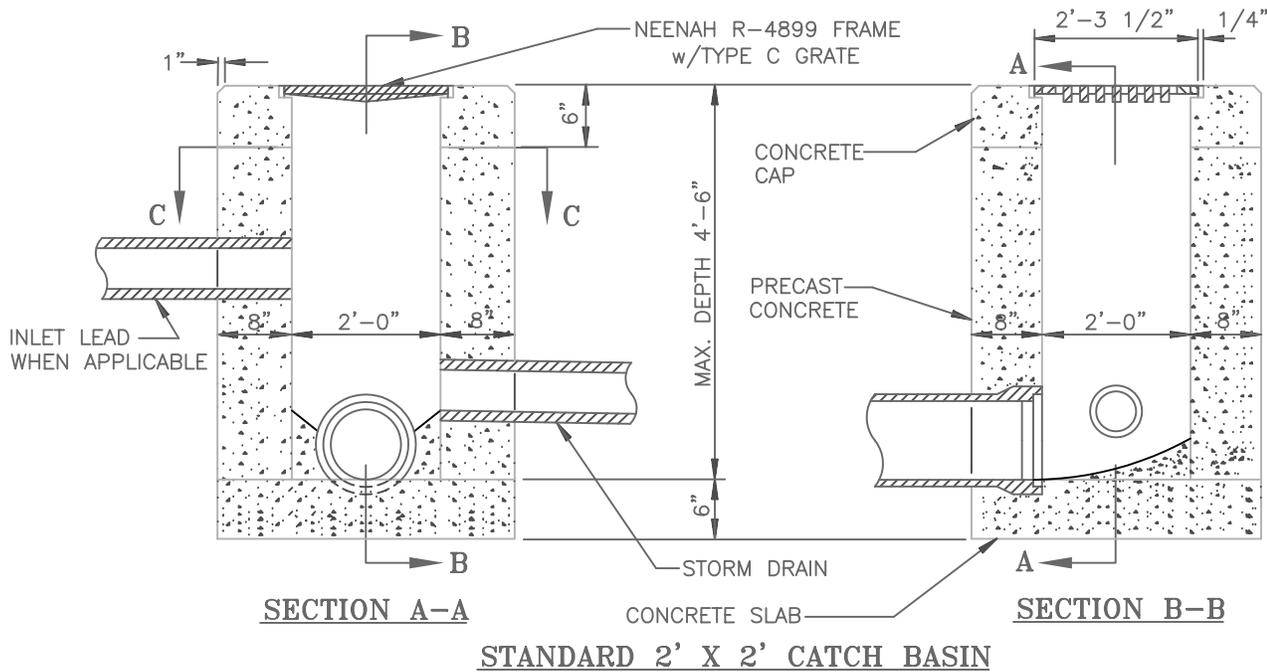
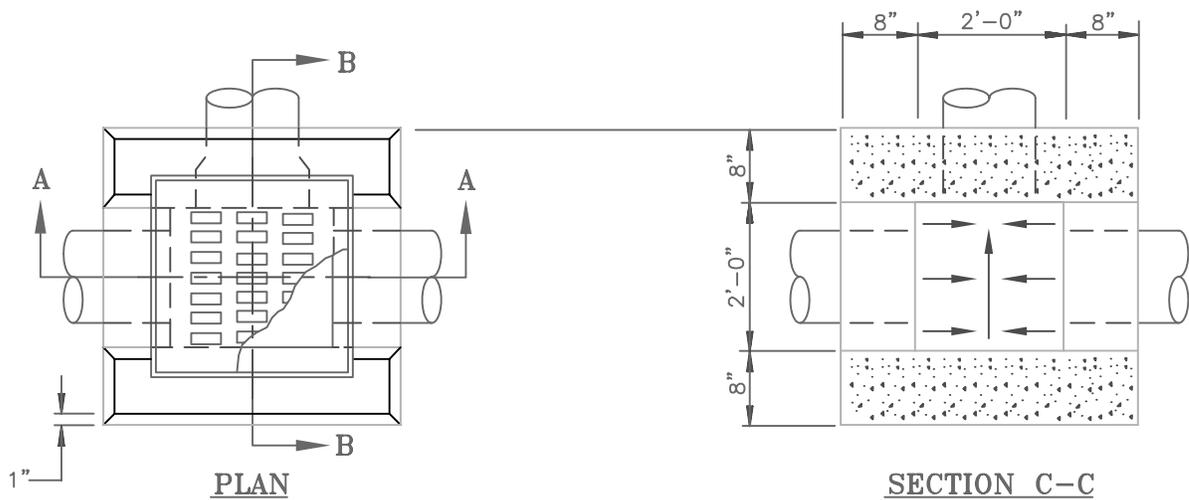
SIDE INLETS SHALL BE PROVIDED ON BOTH SIDES OF THE CATCH BASIN IN SAGS AND ON UPSTREAM SIDE ONLY WHERE THE DITCH HAS A CONTINUOUS DOWNGRADE PAST THE CATCH BASIN.

SIDE INLETS TO BE PLACED 4 TO 6 INCHES BELOW NORMAL ELEVATIONS OF DITCH RETURNING TO NORMAL 10' EACH SIDE OF BASIN.

CANAL WINCHESTER, OHIO

STANDARD  
2'X2'  
CATCH BASIN

DATE:	SCALE:	DWG. NO.
NOV 2001	NO SCALE	ST-03-01



**STANDARD 2' X 2' CATCH BASIN**

\* ALL GRATES SHALL BE BICYCLE SAFE.

NOTE: INLET STRUCTURE SHALL BE PRECAST CONCRETE.

SIDE INLETS SHALL BE PROVIDED ON BOTH SIDES OF THE CATCH BASIN IN SAGS AND ON UPSTREAM SIDE ONLY WHERE THE DITCH HAS A CONTINUOUS DOWNGRADE PAST THE CATCH BASIN.

SIDE INLETS TO BE PLACED 4 TO 6 INCHES BELOW NORMAL ELEVATIONS OF DITCH RETURNING TO NORMAL 10' EACH SIDE OF BASIN.

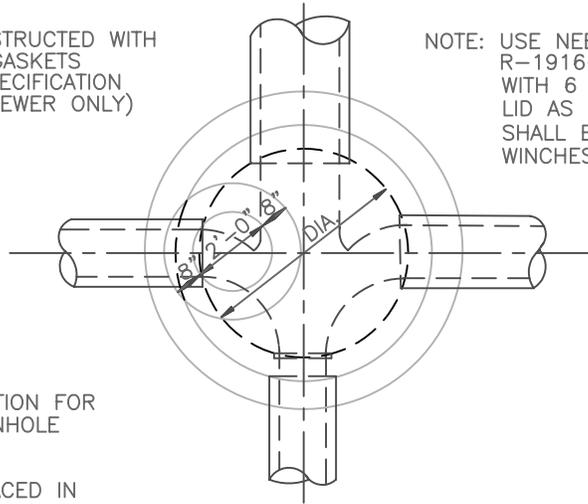
CANAL WINCHESTER, OHIO

STANDARD CATCH BASIN (24" SIDE INLETS)

DATE:	SCALE:	DWG. NO.
JUNE 1992	NO SCALE	ST-03A-01

NOTE: ALL MANHOLES TO BE CONSTRUCTED WITH JOINT MADE WITH RUBBER GASKETS CONFORMING TO A.S.T.M. SPECIFICATION DESIGNATION C-443 (SAN SEWER ONLY) SPECIFICATION DESIGNATION

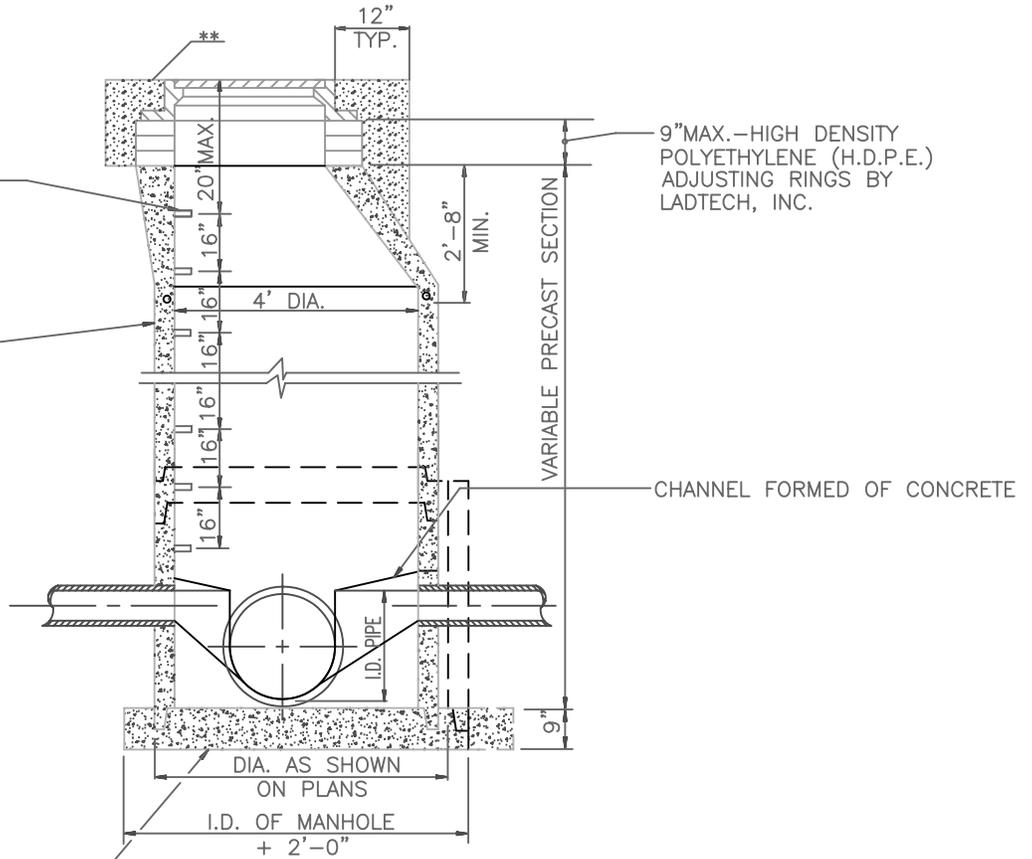
NOTE: USE NEENAH MANHOLE FRAME & COVER R-1916-C (TYPE "C" LID) OR R-1762 WITH 6 - 3/4" DIA. HOLES CORED THRU LID AS SHOWN ON THE DRAWINGS. LIDS SHALL BE EMBOSSED WITH THE CANAL WINCHESTER SEAL (STORM SEWER).



**PLAN**

NOTE: MAX. PERMISSIBLE EXCAVATION FOR MANHOLES IS O.D. OF MANHOLE PLUS 4'-0".

\*\* CONCRETE COLLAR TO BE PLACED IN PAVEMENT ONLY. PAYMENT TO BE INCLUDED WITH UNIT PRICE BID FOR MANHOLE L.F.D.



POLYPROPYLENE M.A. IND. PS-1, OR EQUAL

EITHER FLAT SLAB OR ECCENTRIC TRANSITION SECTION MAY BE USED TO REDUCE 5' OR 6' DIA. MANHOLES TO 4' DIA.

PRECAST CONCRETE BASE MAY BE USED IN PLACE OF POURED CONCRETE BASE

9" MAX. - HIGH DENSITY POLYETHYLENE (H.D.P.E.) ADJUSTING RINGS BY LADTECH, INC.

CHANNEL FORMED OF CONCRETE

**SECTION**

**PRECAST MANHOLE**

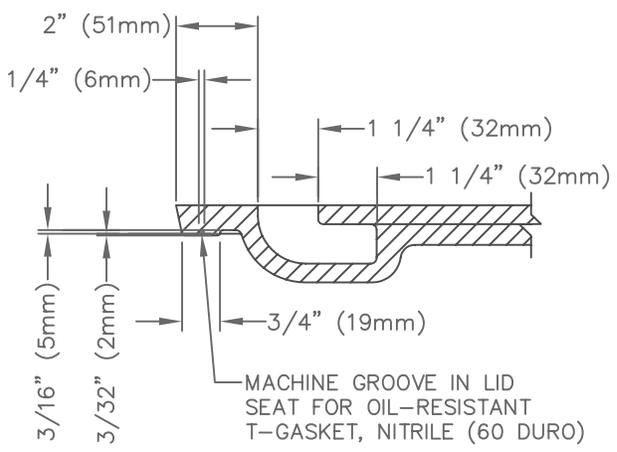
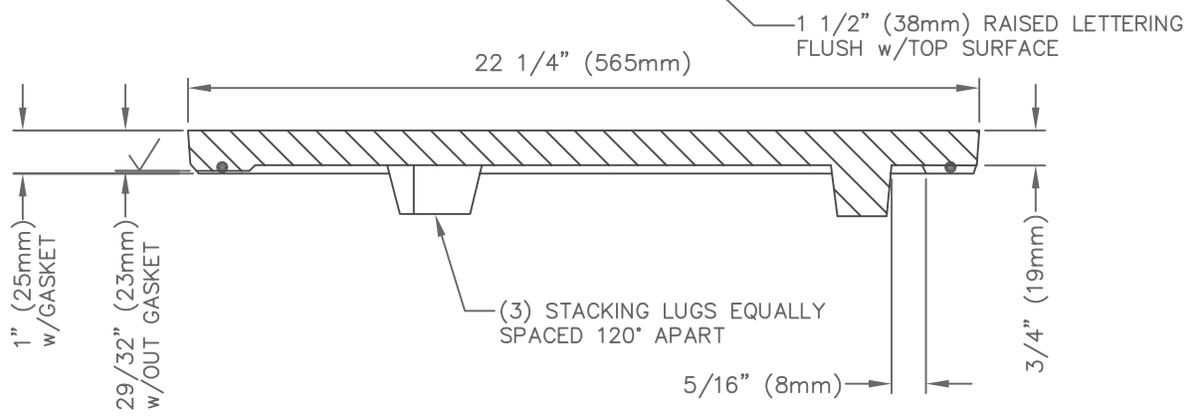
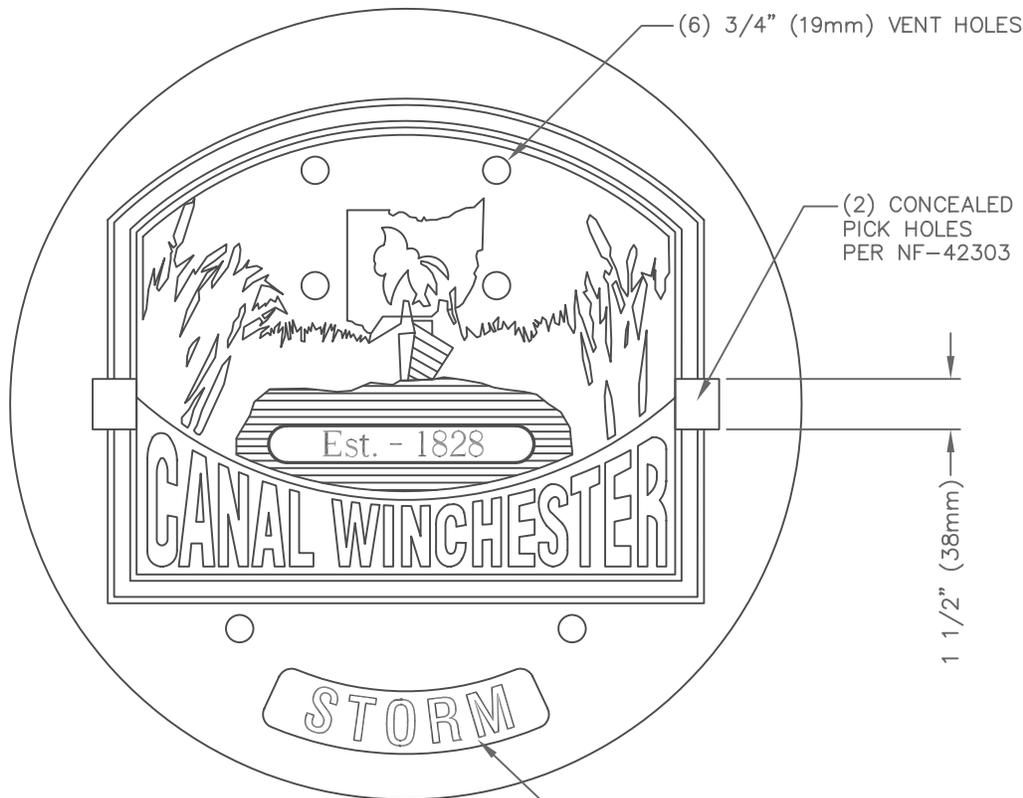
- 4" TO 24" PIPE = 4' DIA MANHOLE
- 27" TO 36" PIPE = 5' DIA. MANHOLE
- 42" TO 48" PIPE = 6' DIA. MANHOLE

CANAL WINCHESTER, OHIO

STANDARD STORM MANHOLE

DATE:	SCALE:	DWG. NO.
AUG 2001	NO SCALE	ST-01-01

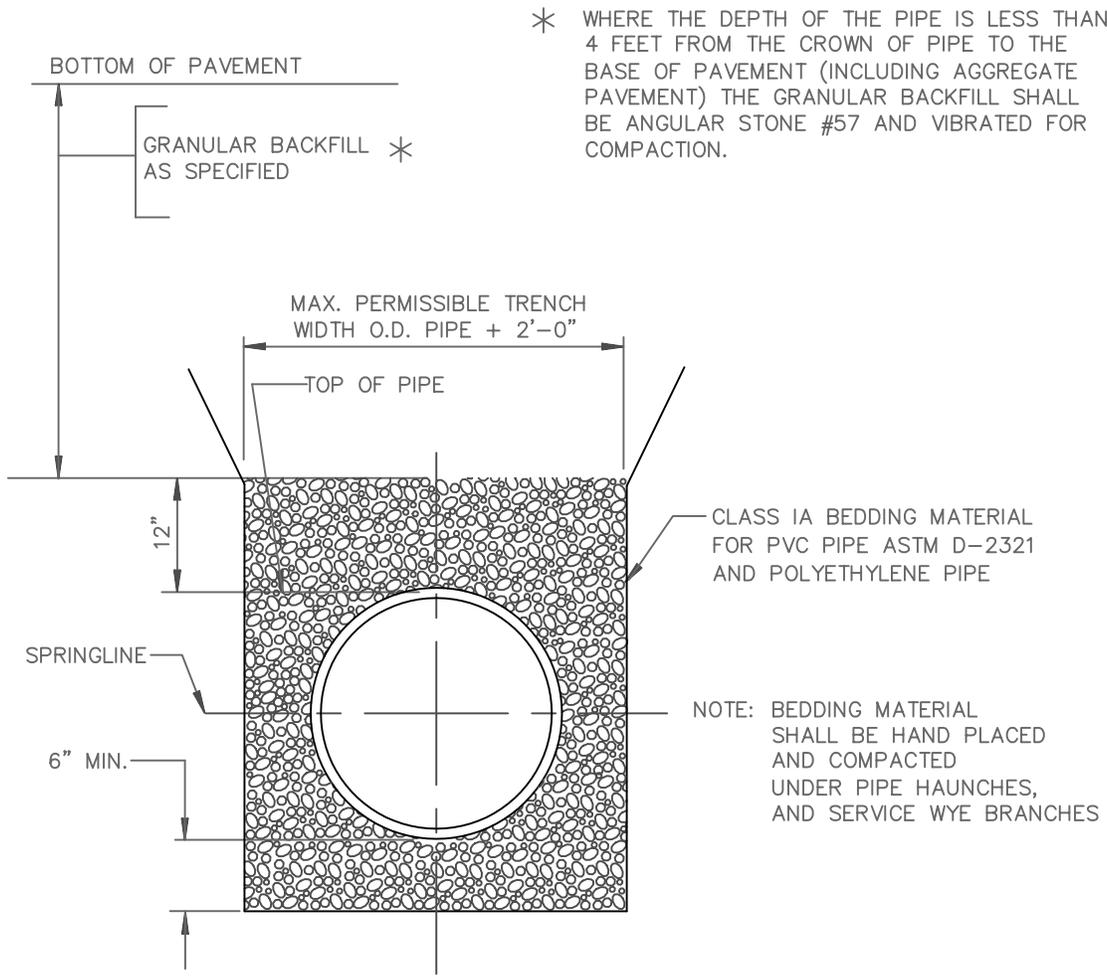
REVISED JAN 2002



T-GASKET PICK HOLE DETAIL

NEENAH FOUNDRY COMPANY PART NO. NF-1762-T08

CANAL WINCHESTER, OHIO		
STORM MANHOLE COVER		
DATE:	SCALE:	DWG. NO.
JULY 2002	NO SCALE	ST-05-02



\* WHERE THE DEPTH OF THE PIPE IS LESS THAN 4 FEET FROM THE CROWN OF PIPE TO THE BASE OF PAVEMENT (INCLUDING AGGREGATE PAVEMENT) THE GRANULAR BACKFILL SHALL BE ANGULAR STONE #57 AND VIBRATED FOR COMPACTION.

CANAL WINCHESTER, OHIO

BEDDING DETAIL FOR  
PVC AND POLYETHYLENE  
PIPE INSTALLATION

DATE:	SCALE:	DWG. NO.
JULY 2002	NO SCALE	ST-08-02

REVISED OCT 2002