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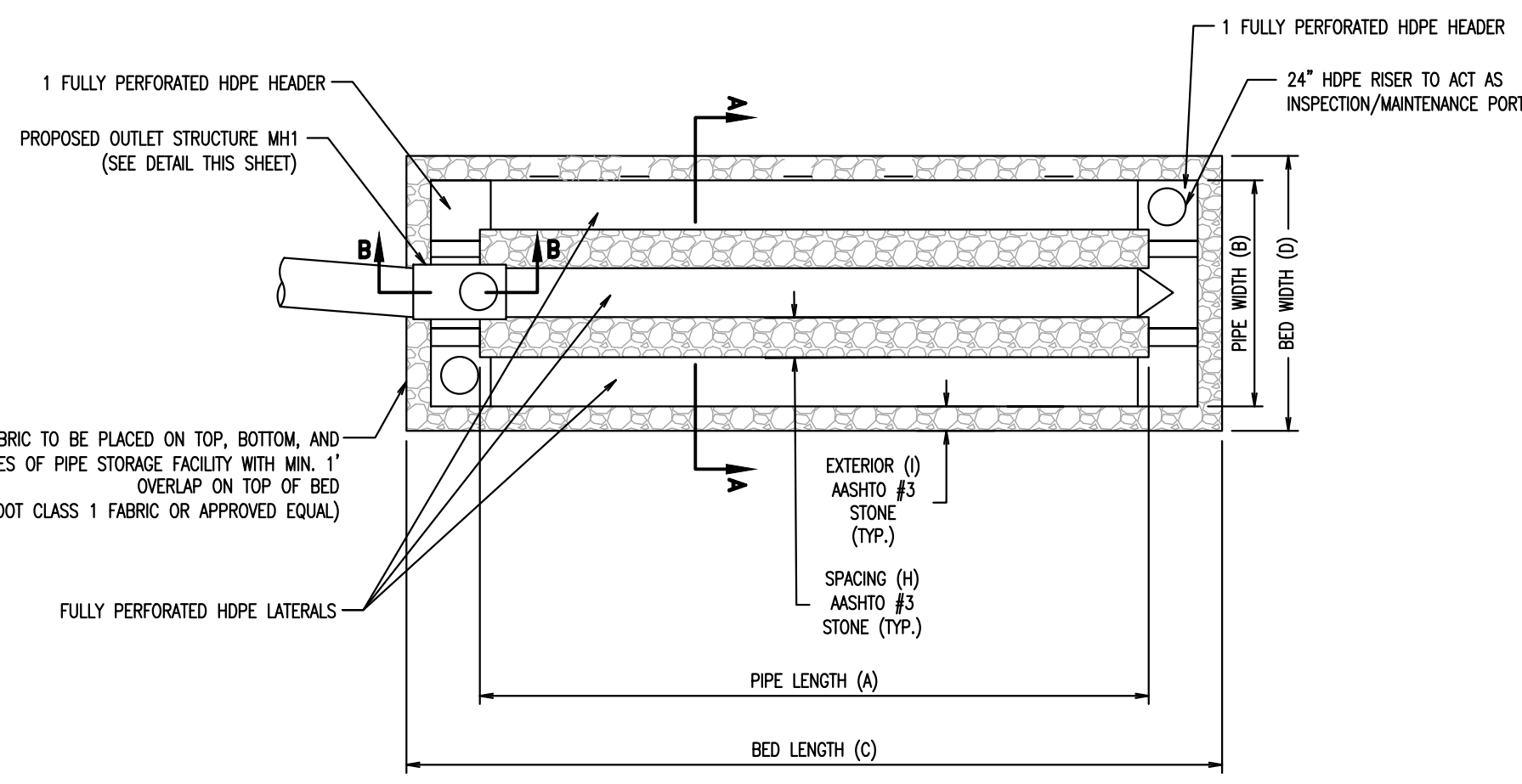
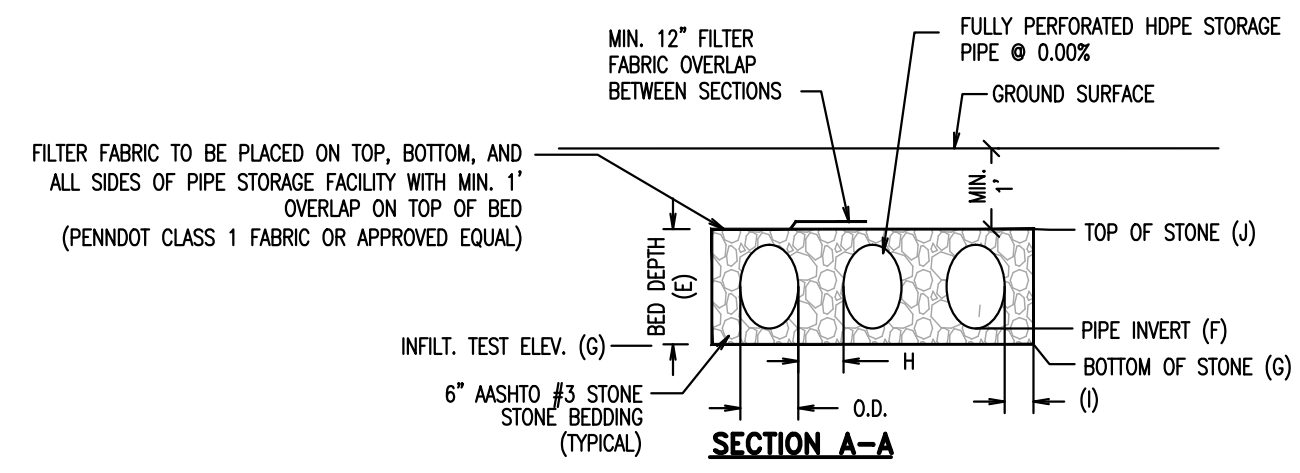
1250 Wrights Lane  
West Chester, PA 19380  
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**BMP 6.4.3: SUBSURFACE INFILTRATION BED**

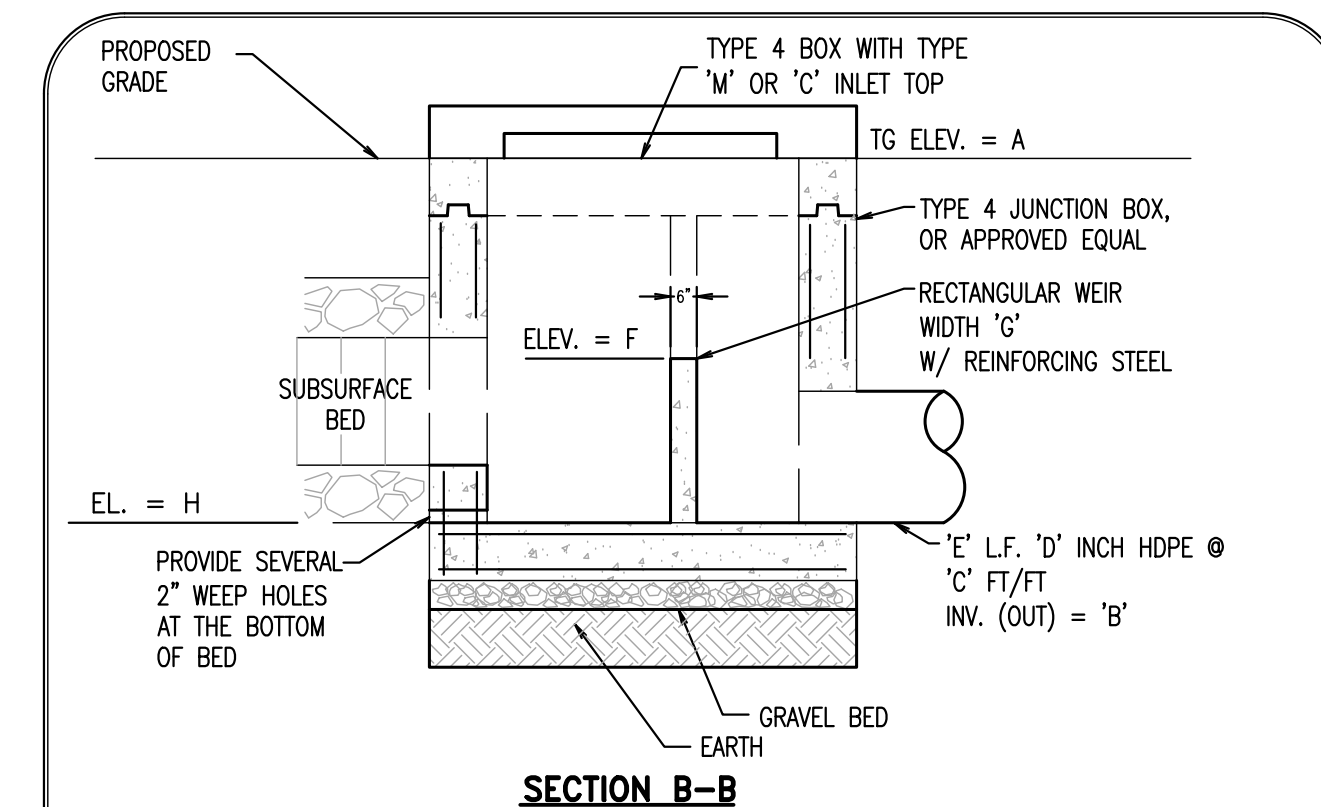
THE INSTALLATION OF THIS BMP IS A CRITICAL STAGE WHERE THE DESIGN ENGINEER MUST BE CONTACTED AT LEAST 48 HOURS IN ADVANCE TO PROVIDE CONSTRUCTION OVERSIGHT.

BED	PIPE MATERIAL	PIPE SIZE (ID)	PIPE SIZE (OD)	NUMBER OF PIPES	PIPE LENGTH	PIPE WIDTH	PIPE DEPTH	PIPE INVERT	PIPE SPACING	EXTERIOR STONE	TOP OF STONE	BASIN SLOPE
1	HDPE	3	3.5	8	102	31	110	32	4	300.50	300.00	0.0000

NOTES: ALL DIMENSIONS ARE IN FEET.



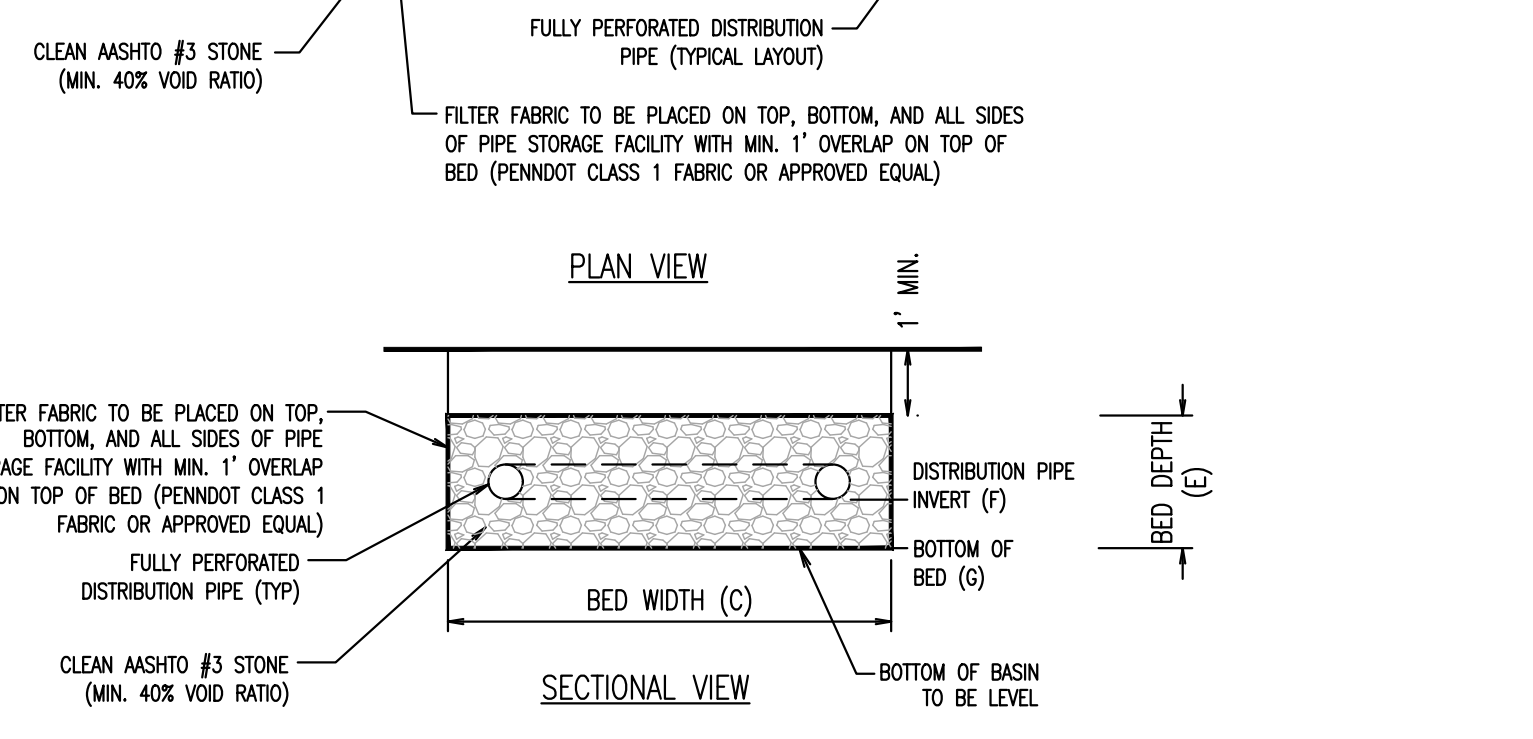
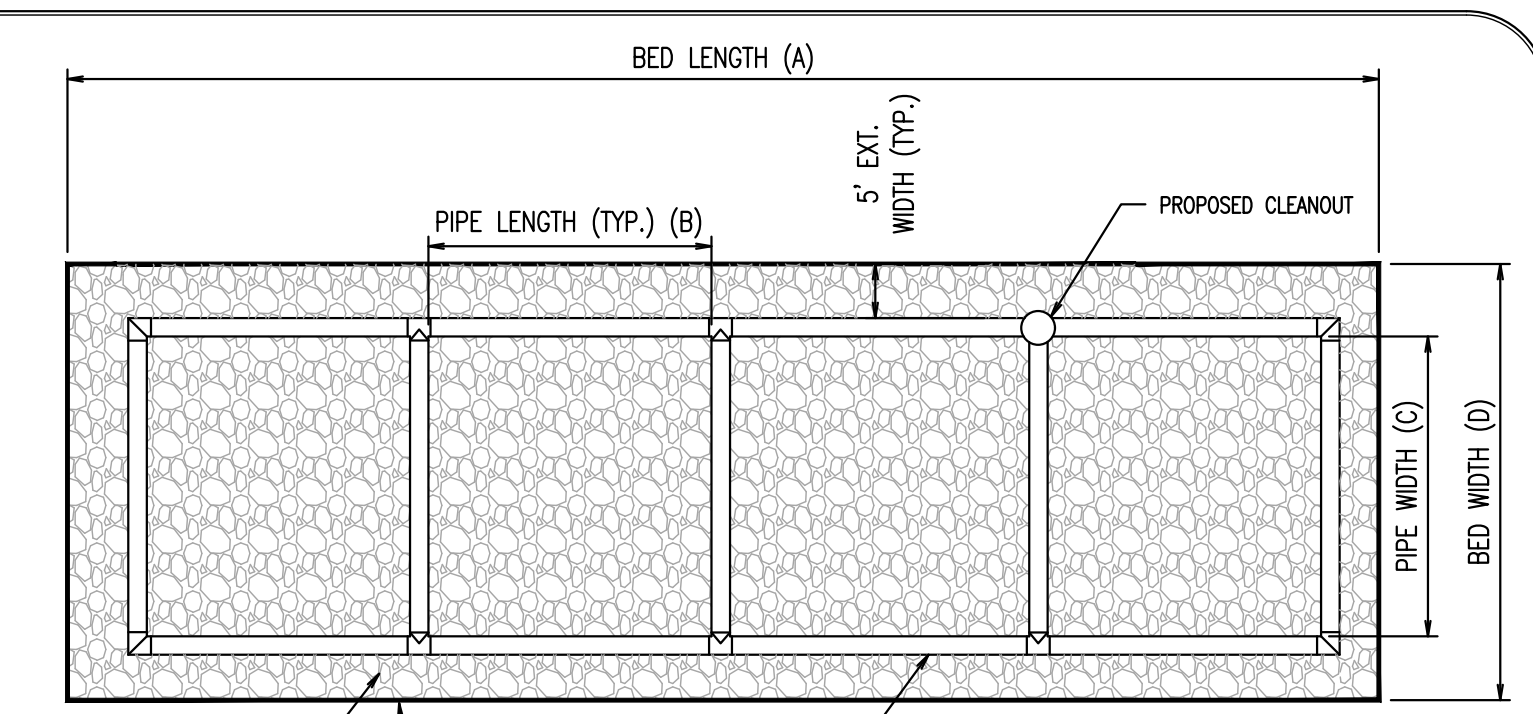
**UNDERGROUND PIPE STORAGE INFILTRATION BED #1**  
NOT TO SCALE



**OUTLET STRUCTURES**

TG	PIPE INVERT OUT	PIPE SLOPE (FT/FT)	PIPE SIZE	PIPE LENGTH	KNEE WALL ELE.	WEIR WIDTH	STONE BOTTOM	NOTES	
A	B	C	D	E	F	G	H		
BED 1	301.00	300.00	0.0100	15"	50"	303.20	3.85'	300.00'	TYPE M TOP
BED 2	294.50	306.00	0.0100	15"	50"	309.25	3.85'	306.00'	TYPE M TOP
BED 3	295.50	306.00	0.0100	15"	50"	309.20	3.85'	306.00'	TYPE M TOP

**OUTLET STRUCTURE DETAIL**  
NO SCALE



BED	DIS. PIPE DIAMETER	PIPE LENGTH	PIPE WIDTH	PIPE DEPTH	PIPE INVERT	BOTTOM OF BED
BED 2	0.5	157	147	19	9	307.75
BED 3	0.5	92	82	30	20	307.75

- NOTES: ALL DIMENSIONS ARE IN FEET.  
05-2 & 05-3: SEE OUTLET STRUCTURE DETAIL, THIS SHEET.
- PIPE BEDDING MATERIAL SHALL BE PER MANUFACTURER'S SPECIFICATION.
  - HAUNCH MATERIAL SHALL BE PER MANUFACTURER'S SPECIFICATION.
  - ADHERE TO ALL INFILTRATION BED CONSTRUCTION SPECIFICATIONS ON THE STORMWATER FACILITY OPERATIONS AND MAINTENANCE PLAN.
  - GEOTEXTILE FABRIC SHALL CONFORM TO PENNDOT 408 SPECIFICATIONS - SECTION 212 CENTERLES OR LATEST ADDENDA.
  - ALL STONE TO BE USED FOR INFILTRATION DEVICES SHALL BE CLEAN WASHED ASHTO #3 PER THE PA BMP MANUAL AND SHALL BE INSPECTED BY THE DESIGN ENGINEER PRIOR TO BED INSTALLATION.

**UNDERGROUND STONE INFILTRATION BED 2 & 3 DETAIL**  
NO SCALE

**SPECIFICATIONS**

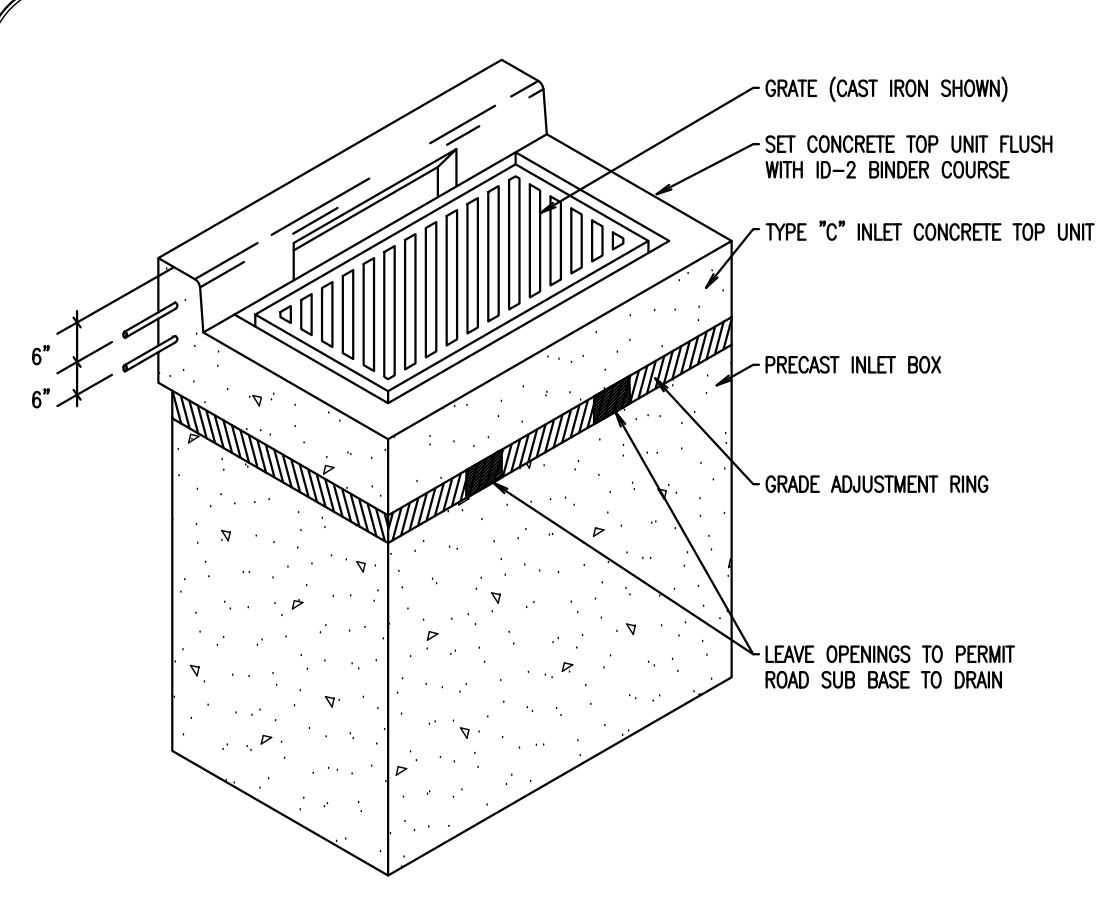
- STONE:**
- SHALL BE 2-INCH TO 1-INCH UNIFORM GRADED COARSE AGGREGATE, WITH A WASH LOSS OF NO MORE THAN 0.5%, ASHTO SIZE NUMBER 3 PER ASHTO SPECIFICATIONS, PART 1, 19TH ED., 1998, OR LATER AND SHALL HAVE Voids 40% AS MEASURED BY ASTM-C136.
- NON-WOVEN GEOTEXTILE:**
- SHALL CONSIST OF NEEDLED NON-WOVEN POLYPROPYLENE FIBERS AND MEET THE FOLLOWING PROPERTIES:
    - GRADE TENSILE STRENGTH (ASTM-D4632) 120 LBS
    - MAXIMUM BURST STRENGTH (ASTM-C5378) 225 PSI
    - FLOW RATE (ASTM-D4911) 95 GAL/MIN/FT<sup>2</sup>
    - RESISTANCE AFTER 500 HOURS (ASTM-D4955) 70%
    - HEAT-SET OR HEAT-CALCINED FABRICS ARE NOT PERMITTED
    - ACCEPTABLE TYPES INCLUDE MW91 140N, AM000 4547, AND GEOTEX 451.
- DESIGN:**
- MAY BE AMENDED WITH COMPOST (IF APPLICABLE).
- PIPE:**
- SHALL BE CONTINUOUSLY PERFORATED, SMOOTH INTERIOR, WITH A MINIMUM INSIDE DIAMETER OF 6-INCHES.
  - HIGH-DENSITY POLYETHYLENE (HDPE) PIPE SHALL MEET ASHTO M252, TYPE S OR ASHTO M234, TYPE S.
- STORM DRAIN INLETS AND STRUCTURES:**
- CONCRETE CONSTRUCTION: CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH SECTION 1001, PENNDOT SPECIFICATIONS, 1990 OR LATEST EDITION.
  - PRECAST CONCRETE INLETS AND MANHOLES: PRECAST CONCRETE INLETS MAY BE SUBSTITUTED FOR CAST-IN-PLACE STRUCTURES AND SHALL BE CONSTRUCTED AS SPECIFIED FOR CAST-IN-PLACE. PRECAST STRUCTURES MAY BE USED IN ONLY THOSE AREAS WHERE THERE IS NO CONFLICT WITH EXISTING UNDERGROUND STRUCTURES THAT MAY NECESSITATE REVISION OF INVERTS. TYPE W STANDARD PENNDOT INLET BOXES WILL BE MODIFIED TO PROVIDE MINIMUM 12 INCH SUMP STORAGE AND BOTTOM LEAKING BASINS, OPEN TO GRADE, Sumps IN SUB-GRADE, WHEN SITUATED IN THE RECHARGE BED.
  - ALL PVC CATCH BASINS/CLEANOUTS/INLINE DRAINS SHALL HAVE 14-10 OR 14-20 RATED GRATES, DEPENDING ON THEIR PLACEMENT (14-20 IF VEHICULAR LOADING).
  - STEEL REINFORCING BARS OVER THE TOP OF THE OUTLET STRUCTURE SHALL CONFORM TO ASTM A615, GRADES 60 AND 40. PERMANENT TYPING REINFORCEMENT MATING SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS, IF APPLICABLE.
- ALTERNATIVE STORAGE MEDIA (IF APPLICABLE):**
- FOLLOW MANUFACTURER'S SPECIFICATIONS.

**CONSTRUCTION SEQUENCE**

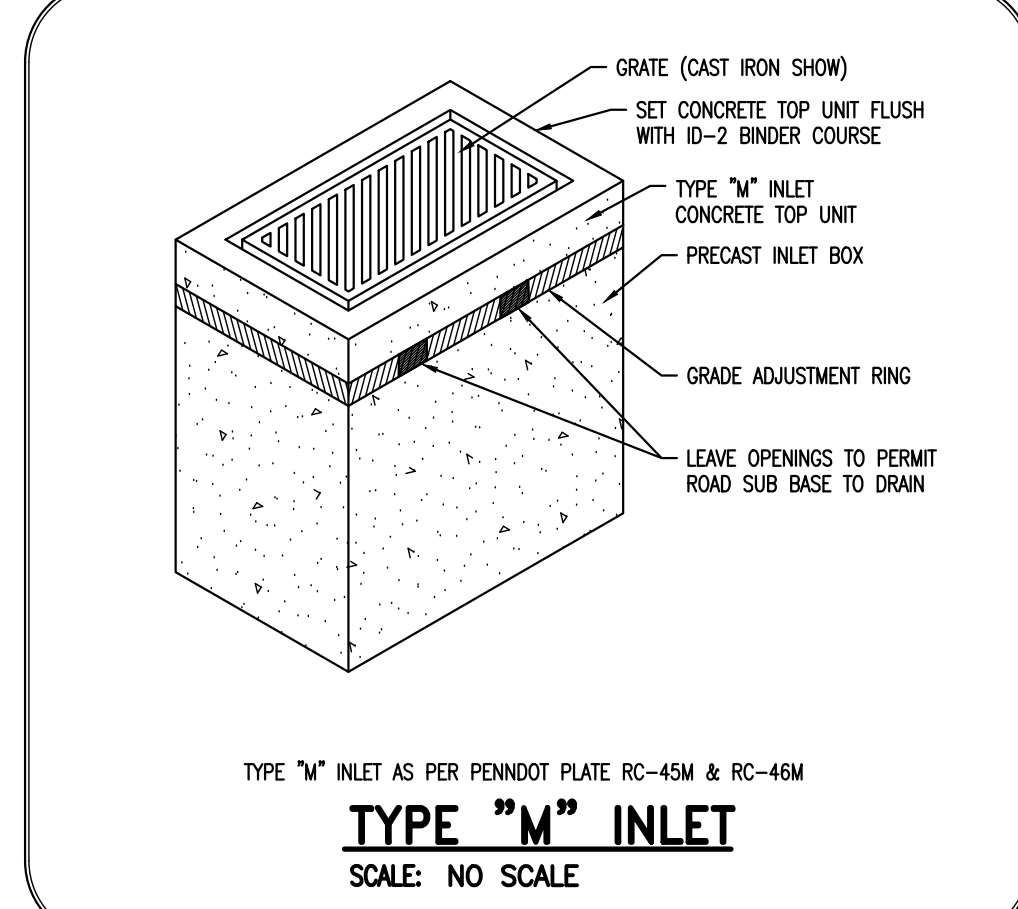
- SEEPAGE BED FILTER FABRIC AREA FROM COMPACTION PRIOR TO INSTALLATION.
- IF DURING THE INSTALLATION OF THE PROPOSED INFILTRATION FACILITY, UNFAVORABLE CONDITIONS ARE ENCOUNTERED, THE OWNER AND ENGINEER SHALL BE NOTIFIED AND THE PROPOSED FACILITY SHALL BE RELOCATED TO A MORE SUITABLE LOCATION ON THE PROPERTY.
- IF GROUNDWATER OR BEDROCK IS ENCOUNTERED DURING THE INSTALLATION OF THE INFILTRATION SYSTEMS STOP WORK AND CONTACT THE TOWNSHIP AND DESIGN ENGINEER FOR AN ALTERNATE SEEPAGE BED LOCATION OR NEW DESIGN.
- IF POSSIBLE, INSTALL INFILTRATION BED DURING LATER PHASES OF SITE CONSTRUCTION TO PREVENT SEDIMENTATION AND/OR DAMAGE FROM CONSTRUCTION ACTIVITY.
- INSTALL AND MAINTAIN PROPER EROSION AND SEDIMENT CONTROL MEASURES DURING CONSTRUCTION.
- IF NECESSARY, EXCAVATE INFILTRATION BED BOTTOM TO AN UNCOMPACTED SUBGRADE FREE FROM ROCKS AND DEBRIS. DO NOT COMPACT SUBGRADE. PRIOR TO PLACEMENT OF AGGREGATE, THE SOIL SURFACE AT THE BOTTOM OF THE BED SHALL BE SCANNED TO FURTHER PROMOTE INFILTRATION.
- SEED AND STABILIZE TOPSOIL.

**OPERATION AND MAINTENANCE - INFILTRATION BED:**

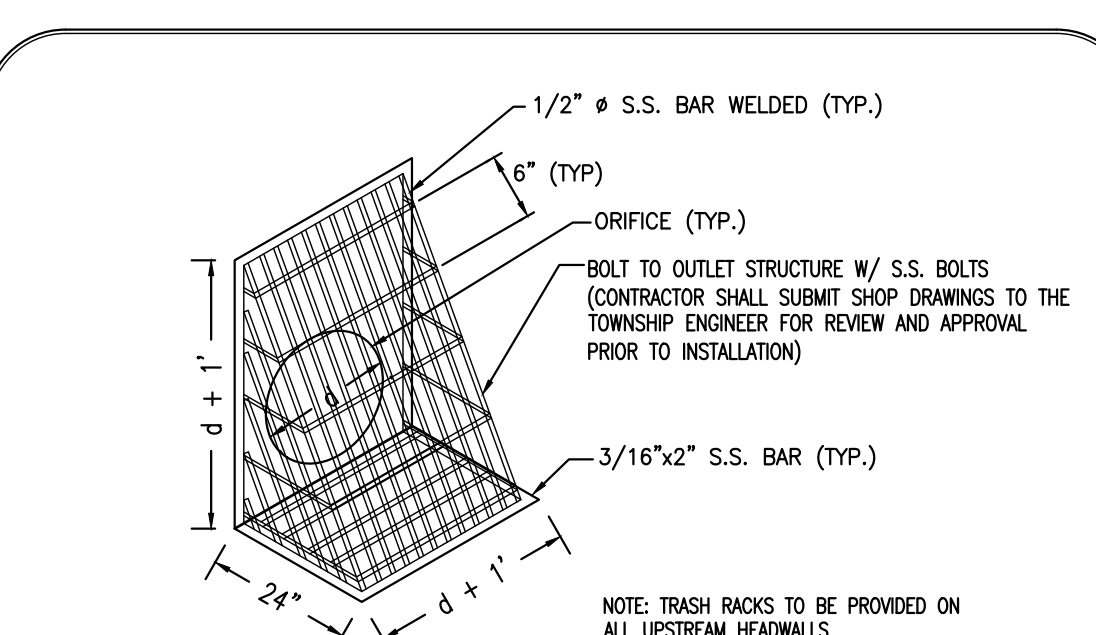
- SEEPAGE BED FILTER FABRIC AND STONE SHOULD BE KEPT CLEAN OF SOIL/SEDIMENT DURING THE INSTALLATION PROCESS. IF INSPECTION INDICATES THAT SOIL/SEDIMENT HAS ENTERED ANY OF THE INFILTRATION SEEPAGE BEDS, APPROPRIATE MEASURES (I.E. CLEANING THE SOIL/SEDIMENT FROM THE FABRIC, STONE, BED ETC. AND OR REPLACEMENT OF THE FABRIC AND STONE) SHOULD BE ADDRESSED.
- INFLOW AND OUTFLOW POINTS INTO THE INFILTRATION SYSTEMS SHOULD BE KEPT CLEAR OF LEAVES AND OTHER DEBRIS. ANY LEAVES OR DEBRIS WILL NEGATIVELY IMPACT THE PERFORMANCE OF THESE SYSTEMS. ALL DOWNSPOUTS AND OVERFLOW PIPES SHOULD BE KEPT IN GOOD WORKING ORDER.
- IF GROUNDWATER OR BEDROCK IS ENCOUNTERED DURING THE INSTALLATION OF THE ON-LOT SEEPAGE BEDS STOP WORK AND CONTACT THE TOWNSHIP AND DESIGN ENGINEER FOR AN ALTERNATE SEEPAGE BED LOCATION OR NEW DESIGN.
- COMPACTION IS TO BE MINIMIZED IN AREAS DESIGNATED FOR INFILTRATION.
- CATCH BASINS AND INLETS UPWARD OF INFILTRATION BED (IC12, IC13, IC14, IC15, M16, IC18, IC19, IC21, IC22, IC24, IC25, IC26, & IC27) SHOULD BE INSPECTED AND CLEANED AT LEAST TWICE PER YEAR AND AFTER MAJOR RUNOFF EVENTS.
- INSPECT THE BED AFTER RUNOFF EVENTS AND MAKE SURE THAT RUNOFF DRAINS DOWN WITHIN 72 HOURS. MOSQUITOES SHOULD NOT BE A PROBLEM IF THE WATER DRAINS IN 72 HOURS. MOSQUITOES REQUIRE A CONSIDERABLY LONG BREEDING PERIOD WITH RELATIVELY STATIC WATER LEVELS.
- ALSO INSPECT FOR ACCUMULATION OF SEDIMENT, DAMAGE TO OUTLET CONTROL STRUCTURE MH1, EROSION CONTROL MEASURES, AND SIGNS OF WATER CONTAMINATION/SPILLS.
- REMOVE ACCUMULATED SEDIMENT FROM BED AS REQUIRED. RESTORE ORIGINAL CROSS SECTION AND INFILTRATION RATE. PROPERLY DISPOSE OF SEDIMENT.
- THE PERMITTEE OR CO-PERMITTEE SHALL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPs UNLESS A DIFFERENT PERSON IS IDENTIFIED IN THE NOTICE OF TERMINATION AND HAS AGREED TO LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPs.
- PROPOSED PVC DATE VALVES SHALL ONLY BE OPENED FOR DEWATERING AND MAINTENANCE AND SHALL BE CLOSED IMMEDIATELY AFTER.



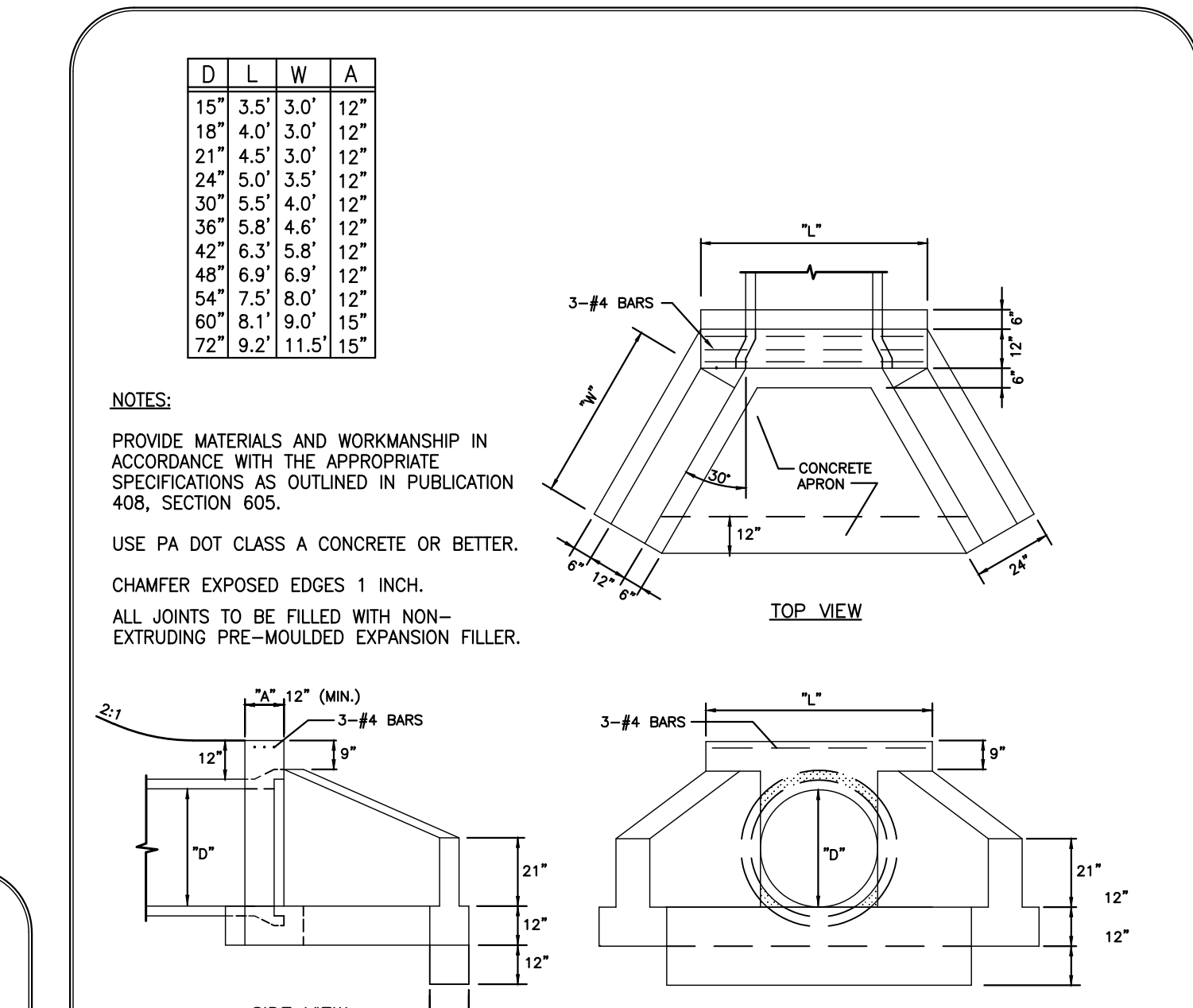
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SCALE: NO SCALE



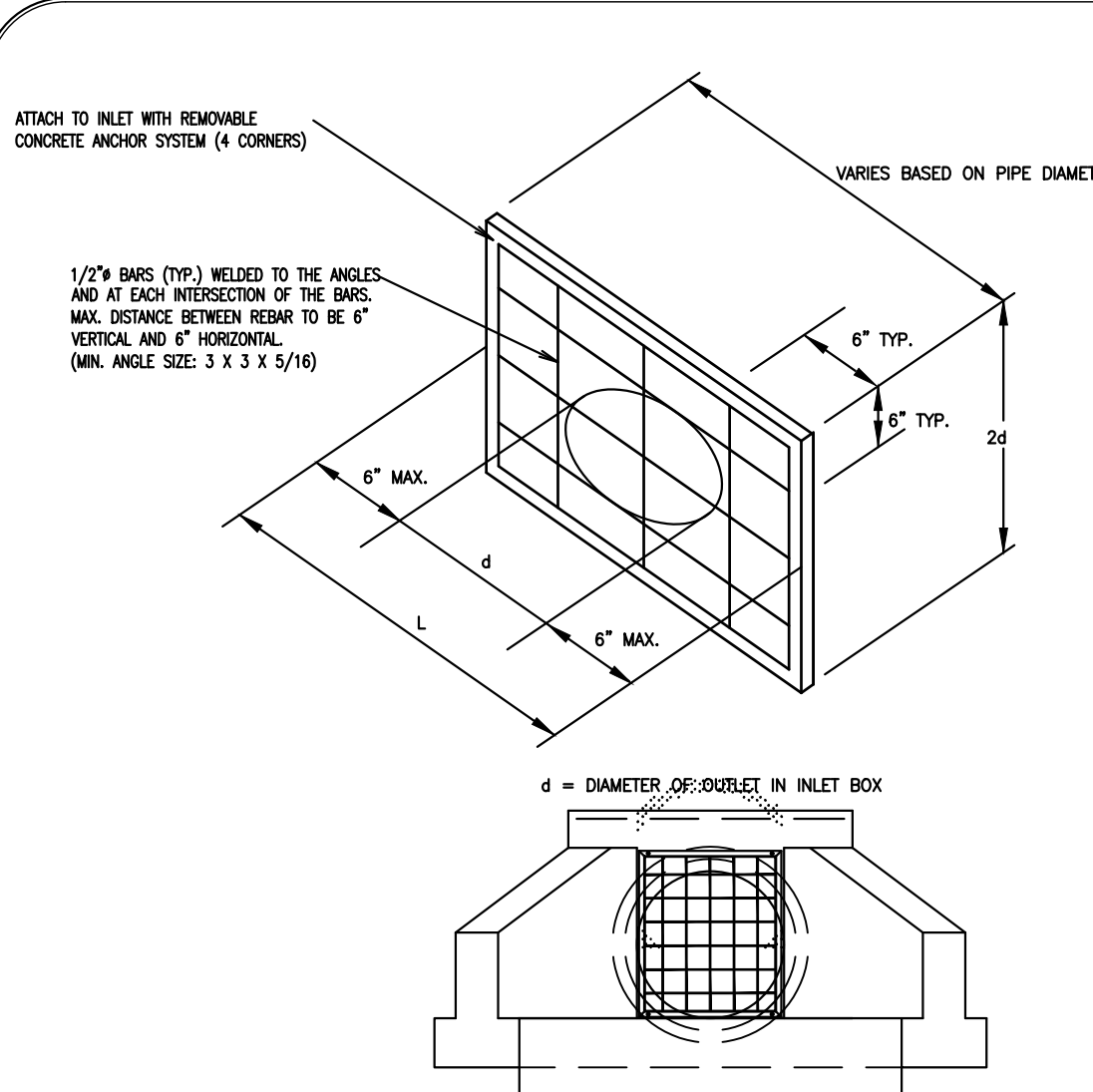
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SCALE: NO SCALE



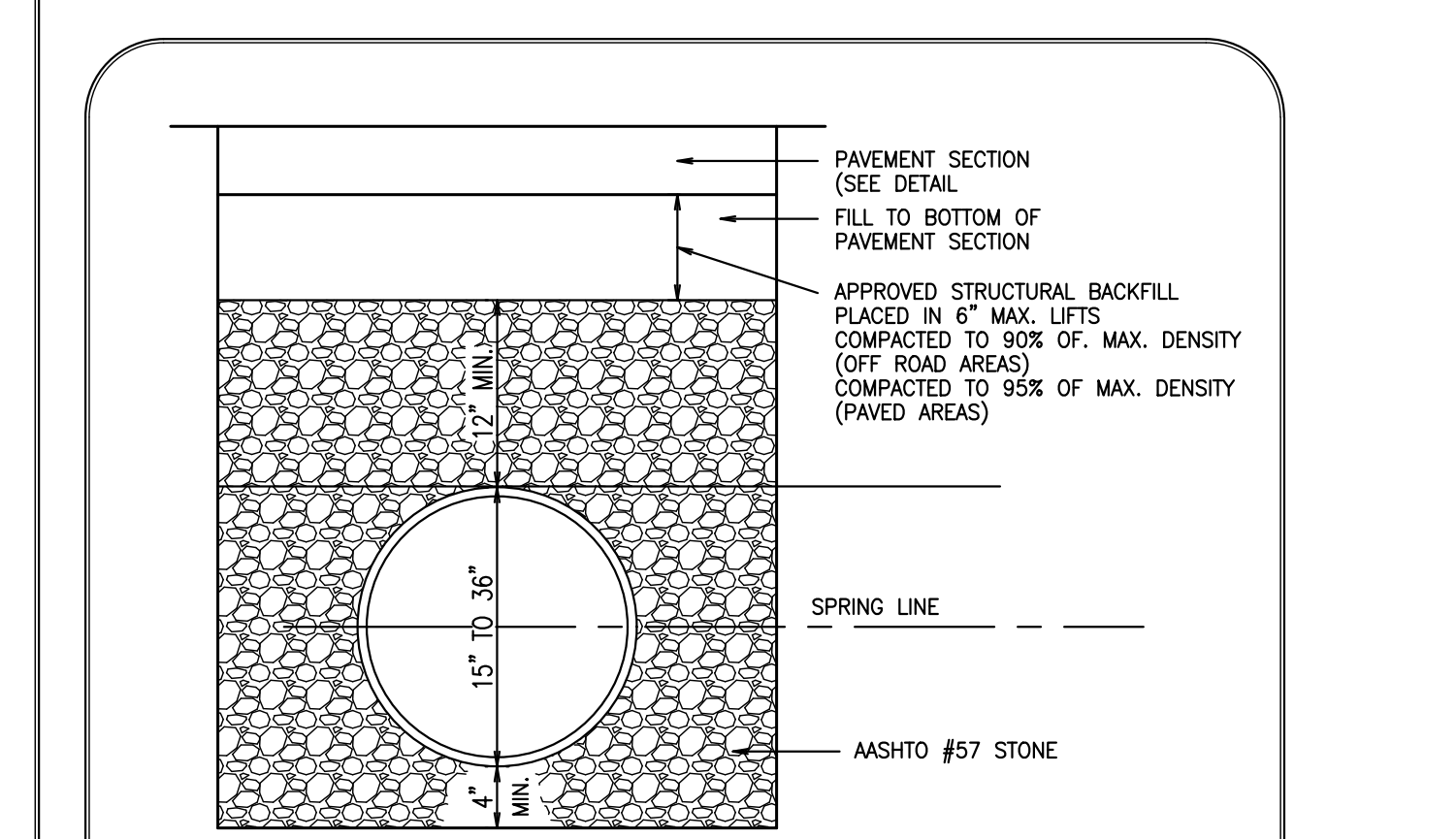
**TRASH RACK - BASIN OUTLET STRUCTURES**  
NOT TO SCALE



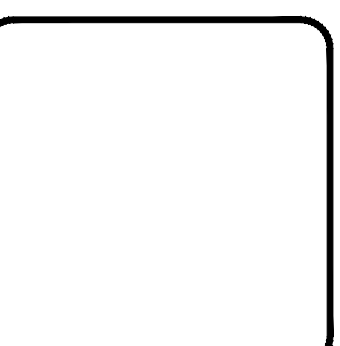
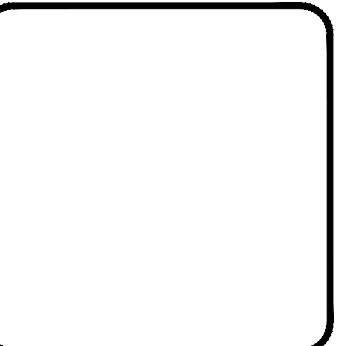
**TYPE D-W ENDWALL**  
NO SCALE



**CHILD PROOF TRASH RACK**  
NOT TO SCALE



**HDPE STORM PIPE TRENCH DETAIL**  
NO SCALE



NO.	REV.	DATE	DESCRIPTION
1	07/15/19		REVISED PER TOWNSHIP CONSULTANT REVIEW LETTERS.
2			
3			
4			
5			
6			
7			
8			

PRELIMINARY  
**PCSM DETAILS**  
CLIENT: MITCHELL HOMES  
PROJECT: SMITH PROPERTY  
LOCATION: 548 ROSEDALE ROAD  
KENNETT TOWNSHIP, CHESTER COUNTY, PA

DATE: 04/30/19  
SCALE: 1"=50'  
DRAWN BY: JTE  
CHECKED BY: JWB  
PROJECT NO.: 3388  
C/O FILE OR PCSM PLAN: JWB  
PLOTTED: 7/15/19  
DRAWING NO.: C06.6  
SHEET 21 OF 31