

Storm Chamber Performance Data			
Storm	Q _{in} CFS	Q _{out} CFS	HWL
2 YR	0.27	0.05	1561.61
10 YR	0.47	0.12	1561.70
100 YR	0.67	0.38	1561.91
Storage vs. Depth			
Elev		Storage (CF)	
1559.5		0	
1560.0		2250	
1563.0		7875	

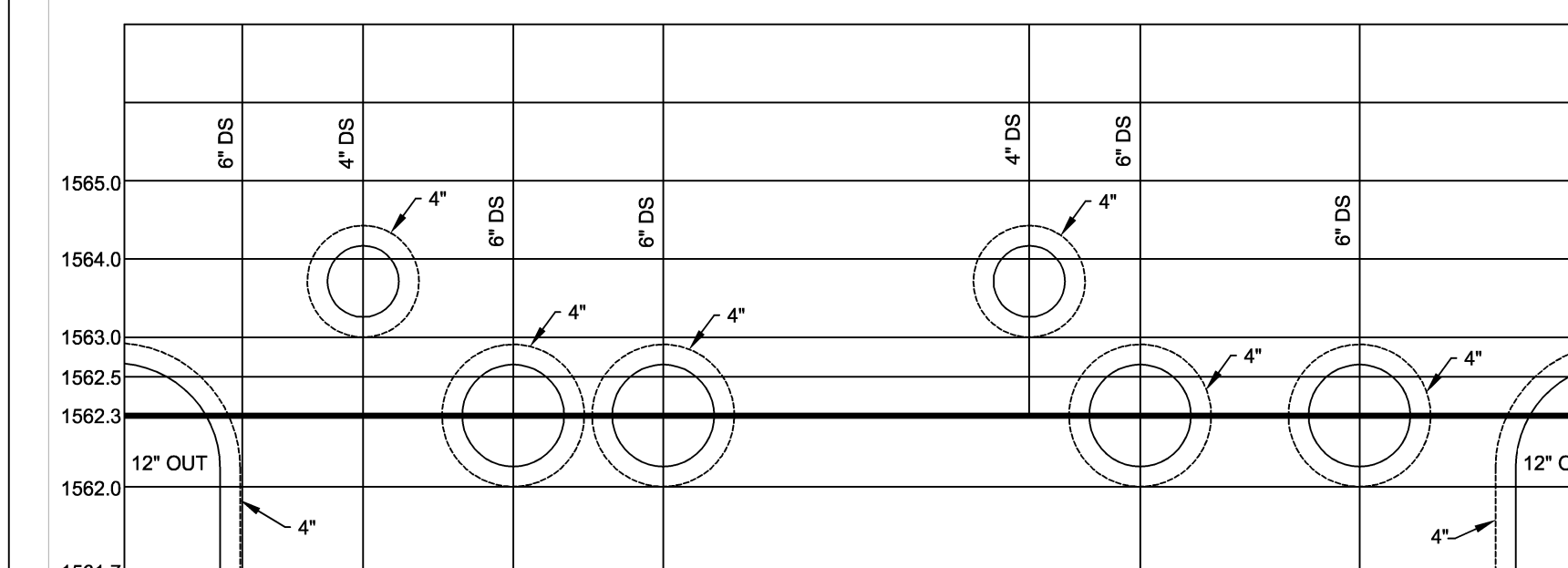
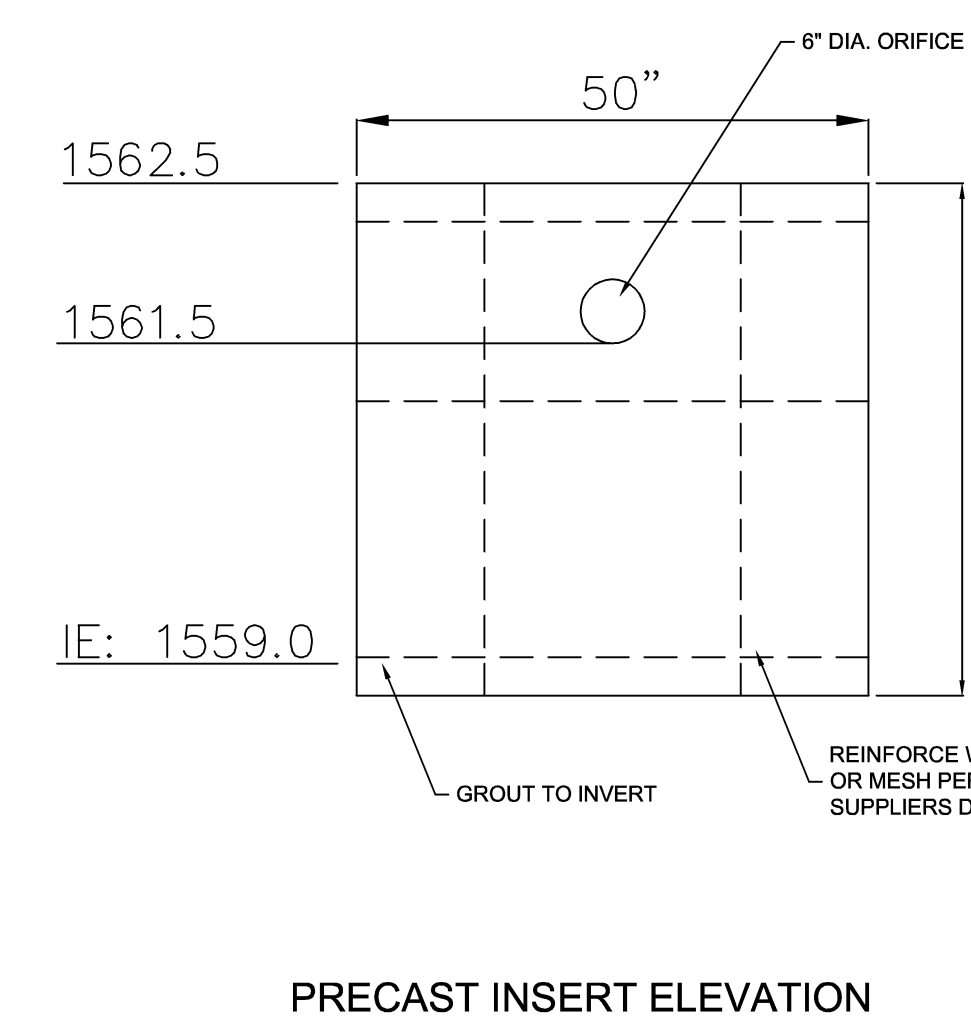
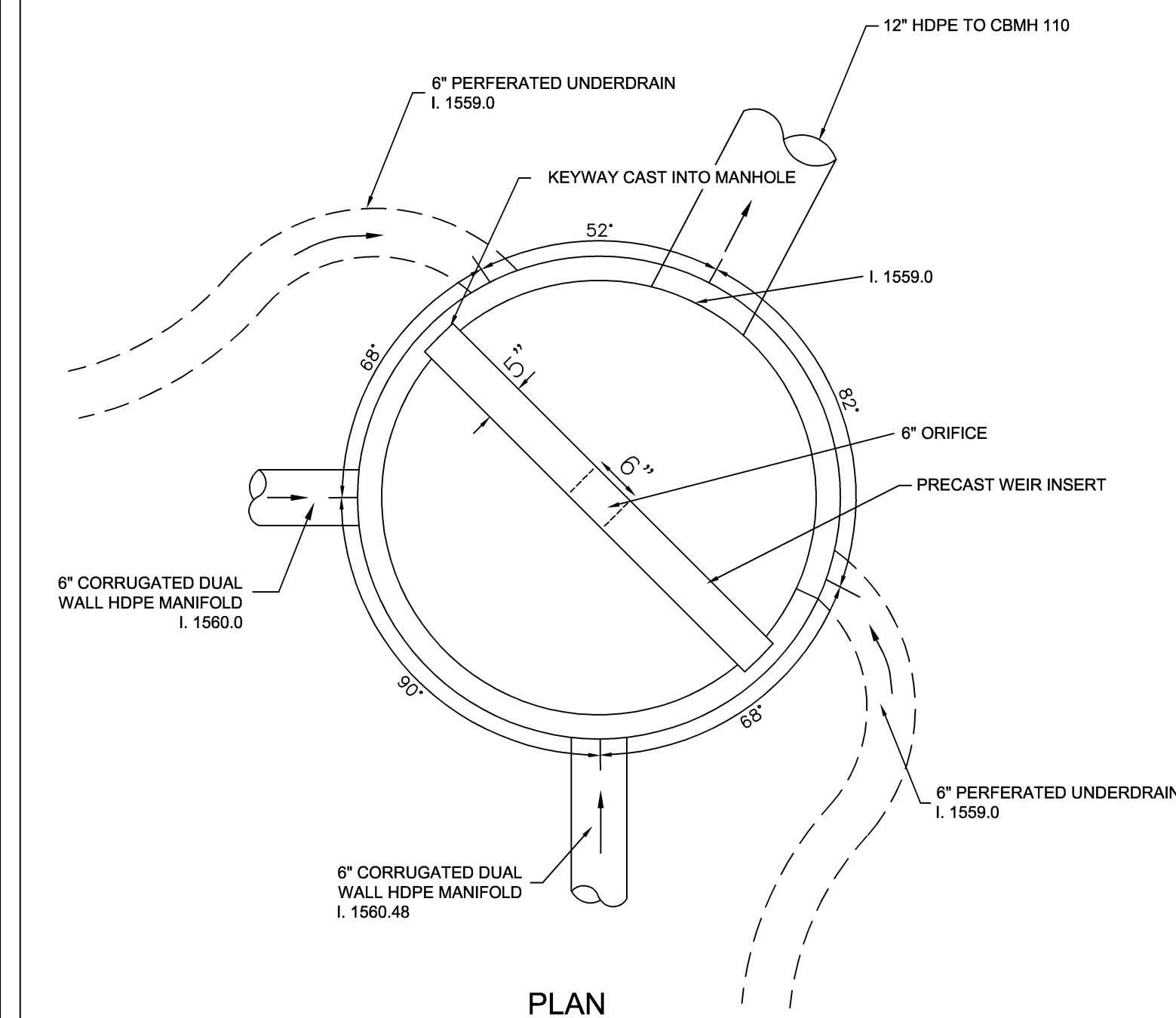
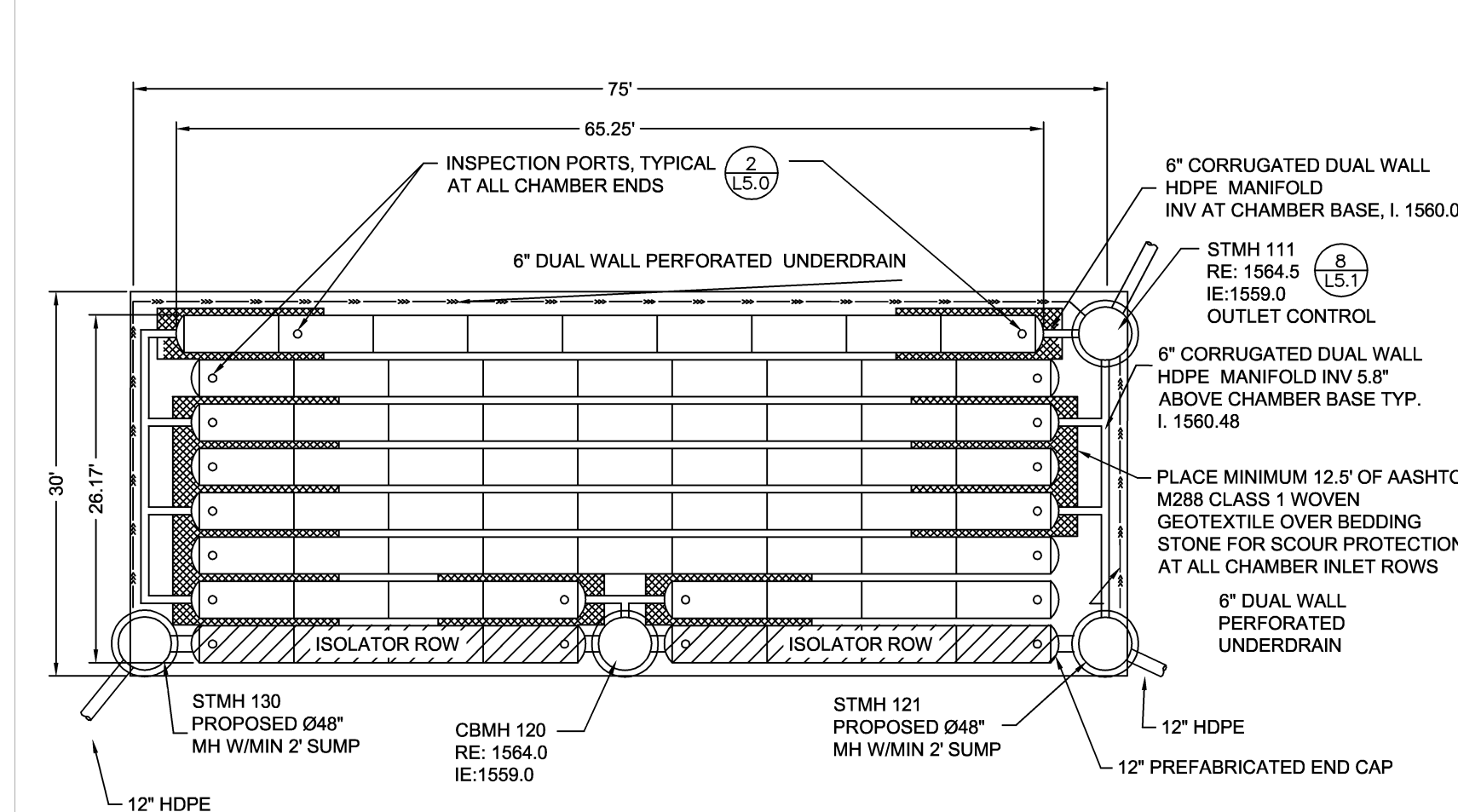
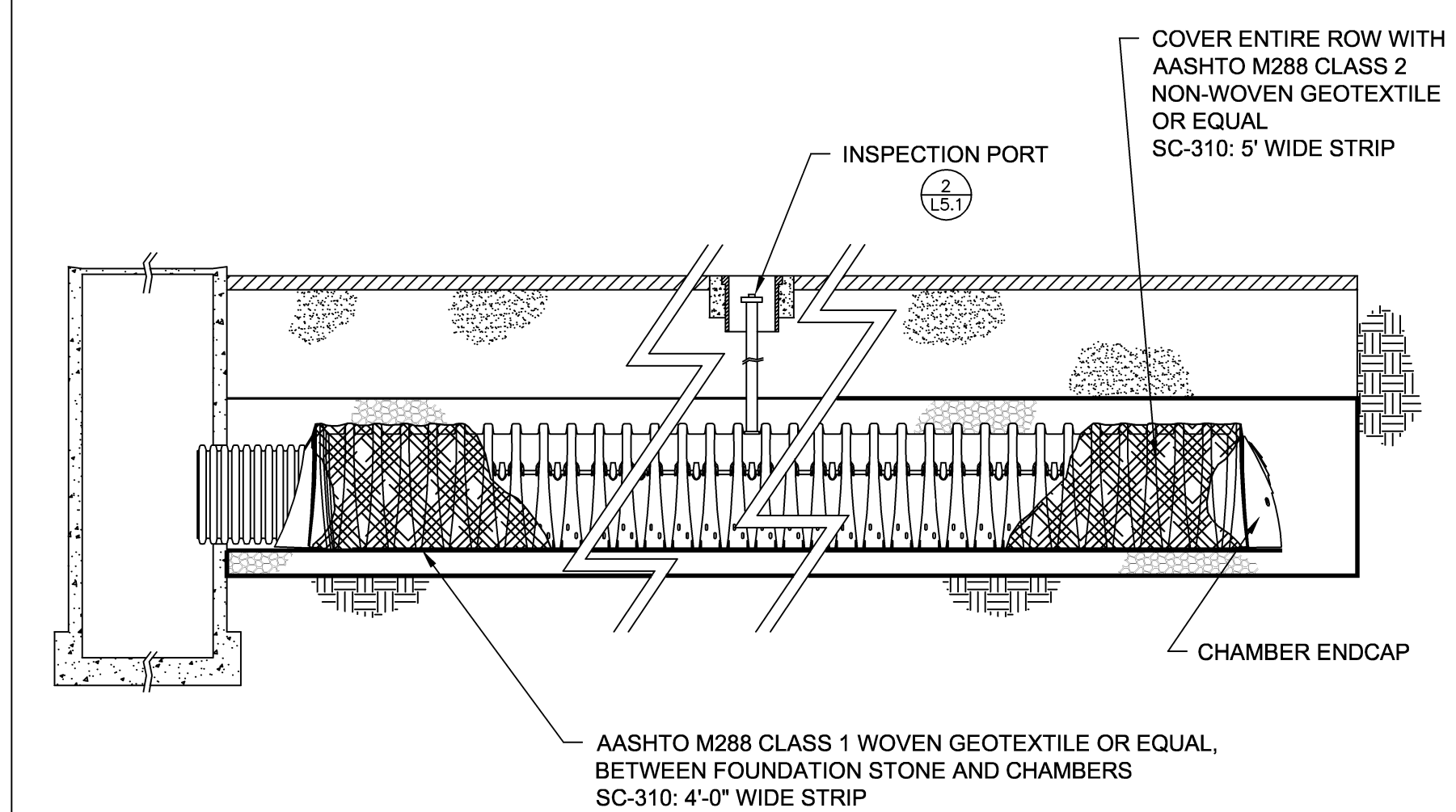
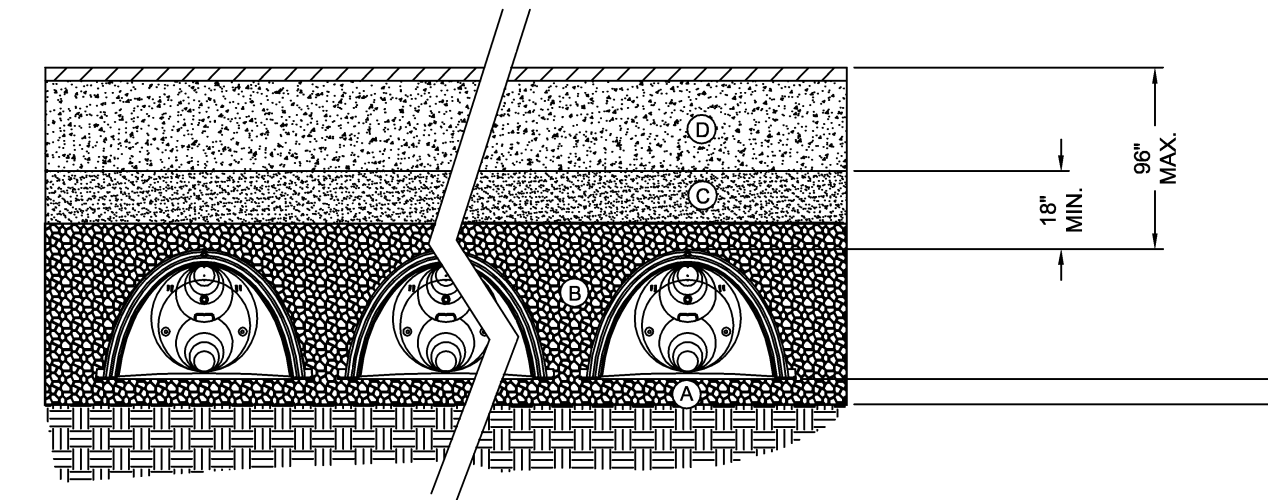
Elev	Storage (CF)
1559.5	0
1560.0	2250
1563.0	7875

STORM CHAMBER GENERAL NOTES

- | | | | |
|----|---|-----|---|
| 1. | CHAMBERS SHALL BE STORMTECH SC-310, TRITON M-12, CULTREC 150HD, OR APPROVED EQUIV. | 6. | INSTALLING CONTRACTORS TO USE AND UNDERSTAND MANUFACTURER'S LATEST INSTALLATION INSTRUCTIONS PRIOR TO BEGINNING SYSTEM INSTALLATION. |
| 2. | CHAMBERS SHALL CONFORM TO THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS". | 7. | CONTRACTOR TO FOLLOW MANUFACTURER'S MINIMUM COVER STANDARDS, REQUIREMENTS FOR SYSTEMS WITH PAVEMENT DESIGN (ASPHALT, CONCRETE PAVERS, ETC.); MINIMUM COVER IS 18" NOT INCLUDING PAVEMENT CURB. MAXIMUM COVER IS 98" INCLUDING PAVEMENT. FOR INSTALLATIONS THAT DO NOT INCLUDE PAVEMENT, WHERE RUTTING FROM VEHICLES MAY OCCUR, MINIMUM REQUIRED COVER IS 24", MAXIMUM COVER IS 96". |
| 3. | CHAMBER ROWS SHALL PROVIDE CONTINUOUS, UNOBSTRUCTED INTERNAL SPACE WITH NO INTERNAL SUPPORT PANELS. | 8. | THE CONTRACTOR MUST REPORT ANY DISCREPANCIES WITH CHAMBER FOUNDATION MATERIALS BEARING CAPACITIES TO THE DESIGN ENGINEER. |
| 4. | THE STRUCTURAL DESIGN OF THE CHAMBERS, THE STRUCTURAL BACKFILL AND THE INSTALLATION REQUIREMENTS SHALL ENSURE THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET FOR: 1) LONG-DURATION DEAD LOADS AND 2) SHORT-DURATION LIVE LOADS, BASED ON THE AASHTO DESIGN TRUCK WITH CONSIDERATION FOR IMPACT AND MULTIPLE VEHICLE PRESENCE. | 9. | AASHTO M288 CLASS 2 NON-WOVEN GEOTEXTILE (FILTER FABRIC) MUST BE USED AS INDICATED IN THE PROJECT PLANS. |
| 5. | ONLY CHAMBERS THAT ARE APPROVED BY THE ENGINEER WILL BE ALLOWED. THE CONTRACTOR SHALL SUBMIT (3 SETS) OF THE FOLLOWING TO THE ENGINEER FOR APPROVAL BEFORE DELIVERING CHAMBERS TO THE PROJECT SITE: | 10. | STONE PLACEMENT BETWEEN CHAMBERS ROWS AND AROUND PERIMETER MUST FOLLOW INSTRUCTIONS AS INDICATED IN THE MOST CURRENT VERSION OF THE MANUFACTURER'S INSTALLATION INSTRUCTIONS. |
| a. | A STRUCTURAL EVALUATION BY A REGISTERED STRUCTURAL ENGINEER THAT DEMONSTRATES THAT THE LOAD FACTORS SPECIFIED IN THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SECTION 12.12 ARE MET, THE 50-YEAR CREEP MODULUS DATA SPECIFIED IN ASTM F2418-05 MUST BE USED AS A PART OF THE AASHTO STRUCTURAL EVALUATION TO VERIFY LONG-TERM PERFORMANCE. | 11. | BACKFILLING OVER THE CHAMBERS MUST FOLLOW REQUIREMENTS AS INDICATED IN THE MOST CURRENT VERSION OF MANUFACTURER'S INSTALLATION INSTRUCTIONS. |
| | | 12. | THE CONTRACTOR MUST APPLY EROSION AND SEDIMENT CONTROL MEASURES TO PROTECT THE STORMWATER SYSTEM DURING ALL PHASES OF CONSTRUCTION PER LOCAL CODES AND DESIGN ENGINEER'S SPECIFICATIONS. |

ACCEPTABLE FILL MATERIALS: STORM CHAMBER SYSTEMS					
	MATERIAL LOCATION	DESCRIPTION	ASSTO M43 DESIGNATION	ASSTO M415 DESIGNATION	COMPACTION/DENSITY REQUIREMENT
(D)	FILL MATERIAL FROM 18" TO GRADE ABOVE CHAMBERS	ANY SLODROCK MATERIALS, NATIVE SOLS OR PER ENGINEERS PLANS. CHECK PLANS FOR PERMANENT SUBGRADE REQUIREMENTS.	N/A	N/A	PREPARE PER ENGINEERS PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
(C)	FILL MATERIAL FOR 6" TO 18" ELEVATION ABOVE CHAMBERS (24" FOR UNPAVED INSTALLATIONS)	GRANULAR, WELL-GRADED SLODROCKS MIXTURES, < 30% FINE.	3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	A-1 A-2 A-3	COMPACT IN 6" LIFTS TO A MINIMUM 95% STANDARD PROCTOR DENSITY. ROLLER GROSS WEIGHT VEHICLE NOT TO EXCEED 12,000 LBS. DYNAMIC FORCE NOT TO EXCEED 20,000 LBS.
(B)	EMBLEMENT STONE SURROUNDING AND TO A MIN. 6" ELEVATION ABOVE CHAMBERS	CLEAN ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN 1/2 - 2 INCH	3, 357, 4, 457, 5, 56, 57	N/A	NO COMPACTION REQUIRED.
(A)	FOUNDATION STONE BELOW CHAMBERS	CLEAN ANGULAR STONE WITH THE MAJORITY OF PARTICLES BETWEEN 1/2 - 2 INCH	3, 35, 4, 467, 5, 56, 57	N/A	PLATE COMPACT OR ROLL TO ACHIEVE A 95% STANDARD PROCTOR DENSITY.

PLEASE NOTE: THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, THE STONE MUST BE SPECIFIED AS CLEAN, CRUSHED, ANGULAR NO. 4 STONE. MANUFACTURER RECOMMENDS HARDNESS AND DURABILITY CRITERIA FOR USE OF RECYCLED CONCRETE IN A AND B LOCATION. CONTACT MANUFACTURER FOR DIRECTION ON "RECYCLED CONCRETE STRUCTURAL BACKFILL".



- NOTES
1. INSTALL 4" FOUNDATION DRAINS AT INV. 1563.0.
 2. INSTALL 6" DOWNSPOUT LEADERS AT INV. 1562.0.
 3. CONTRACTOR/PRECAST SUPPLIER TO VERIFY OPENING SIZE REQUIREMENTS WITH PIPE CONNECTIONS SUPPLIED.

[illegible]

Anderson Engineering of Minnesota, LLC

13605 1st AVENUE NORTH, SUITE 100, PLYMOUTH, MN 55441
TEL (763) 412-4000 FAX (763) 412-4090
www.ae-mn.com



Drawing Title		Project Title		Date
STORM UTILITY DETAILS		REPLACE ADMINISTRATION AND MAINTENANCE BUILDING AND SITE IMPROVEMENTS		7-1-2011
Approved: Director, Office of Construction Management		Building Number	Checked GRJ	Drawn AMT/PSH
Approved: Director, Project Management Service		Location EAGLE POINT NATIONAL CEMETERY 2763 RILEY ROAD EAGLE POINT, OR 97524		DRAWING NO. L-5.1 Dwg. 33 Of 181