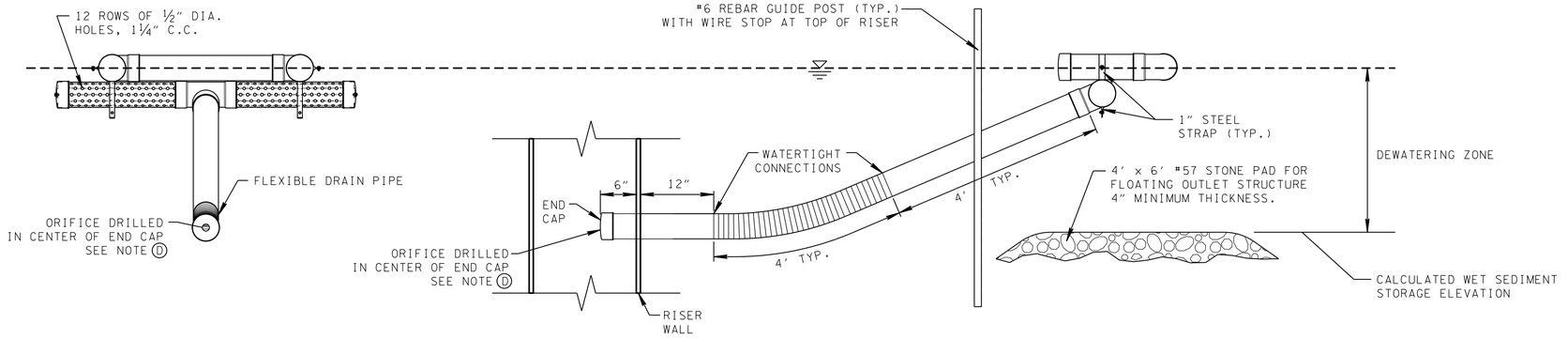
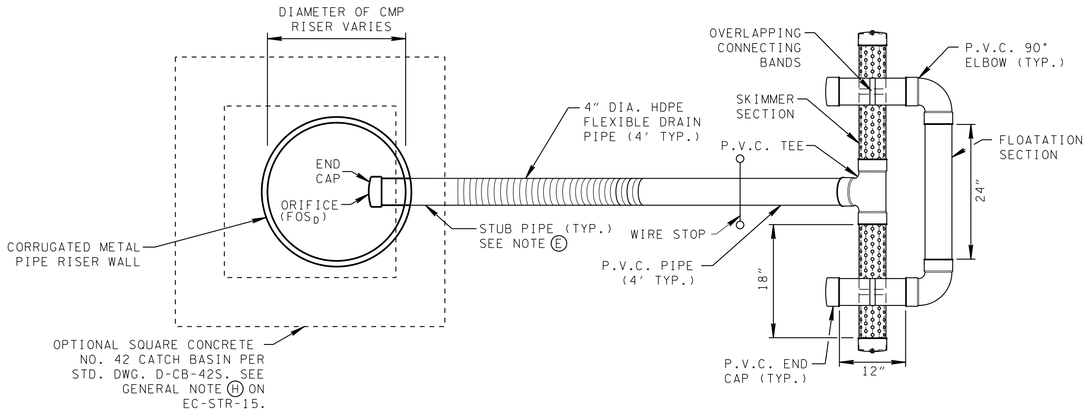


FRONT VIEW **SIDE VIEW**



PLAN VIEW

FLOATING OUTLET STRUCTURE

ORIFICE SIZE, FOS_D (IN.)	DISCHARGE, Q (FT^3/SEC)	EQUATIONS FOR MINIMUM AND MAXIMUM ORIFICE SIZE
1"	0.019	$Q_{MAX} = \frac{\text{DEWATERING ZONE VOLUME } (FT^3)}{259200}$
1.5"	0.041	
2"	0.074	
2.5"	0.116	
3"	0.167	$Q_{MIN} = \frac{\text{DEWATERING ZONE VOLUME } (FT^3)}{604800}$
3.5"	0.227	
4"	0.297	

PROCEDURE FOR ORIFICE SELECTION

(1) KNOWING THE SIZE AND SHAPE OF THE DEWATERING ZONE, CALCULATE THE VOLUME OF WATER (CUBIC FEET) FROM THE BOTTOM OF THE DEWATERING ZONE TO THE TOP OF THE DEWATERING ZONE.

(2) SOLVE FOR Q_{MAX} AND Q_{MIN} BASED ON THE VOLUME OF THE DEWATERING ZONE.

(3) SELECT AN ORIFICE SIZE (FOS_D) THAT HAS A CORRESPONDING DISCHARGE BETWEEN Q_{MAX} AND Q_{MIN}.

FLOATING OUTLET STRUCTURE GENERAL NOTES

(A) ALL P.V.C. PIPES ARE TO BE 4" I.D. SCHEDULE 40.

(B) ALL JOINTS OF THE FLOATATION SECTION SHALL BE SOLVENT WELDED TO ENSURE AN AIRTIGHT ASSEMBLY. CONTRACTOR TO CONDUCT A TEST TO CHECK FOR LEAKS PRIOR TO INSTALLATION. JOINTS OF THE SKIMMER SECTION NEED NOT BE WATER-TIGHT.

(C) 4" HDPE FLEXIBLE DRAIN PIPE IS TO BE ATTACHED TO THE BASIN OUTLET STRUCTURE WITH WATER-TIGHT CONNECTIONS.

(D) ORIFICE IS TO BE SIZED ACCORDINGLY TO STORAGE VOLUME AND TO SLOWLY RELEASE RUNOFF. THE BASIN DEWATERING TIME SHOULD BE NO LESS THAN 3 DAYS.

(E) FOR CORRUGATED METAL RISER, STUB PIPE SHALL BE SCHEDULE 40 STEEL PIPE TACK WELDED TO CREATE A WATERTIGHT SEAL. FOR CONCRETE RISER, STUB PIPE SHALL BE SCHEDULE 40 P.V.C. PIPE GROUTED TO CREATE A WATERTIGHT SEAL.

(F) MATERIALS:

SOLID PIPE - 4" SCHEDULE 40 P.V.C.
PERFORATED PIPE - 4" SCHEDULE 40 P.V.C.
90° TEE (1 EA.) - 4" SCHEDULE 40 P.V.C.
90° ELBOW (2 EA.) 4" SCHEDULE 40 P.V.C.
CAP (4 EA.) - 4" SCHEDULE 40 P.V.C., SOLID
FLEXIBLE PIPE - 4" CORRUGATED HDPE (NON-PERFORATED)
MINERAL AGGREGRATE - SIZE #57

(G) FLOATING OUTLET STRUCTURE SHALL BE PAID FOR UNDER THE FOLLOWING ITEM NUMBERS:

209-20.21 SEDIMENT BASIN OUTLET STRUCTURE (DESCRIPTION) L.S.

PAYMENT SHALL INCLUDE ALL MATERIALS AND LABOR NECESSARY FOR THE CONSTRUCTION, MAINTENANCE, AND REMOVAL OF THE FLOATING OUTLET STRUCTURE, INCLUDING REPLACMENT OF THE STONE PAD AS NECESSARY.

(H) SEE THE QPL FOR APPROVED ALTERNATE FLOATING OUTLET STRUCTURES. THE ORIFICE SIZING PROCEDURE ON THIS SHEET IS NOT VALID FOR ALTERNATE FLOATING OUTLET STRUCTURES. ALTERNATE FLOATING OUTLET STRUCTURES SHALL BE DESIGNED TO ACHIEVE A SIMILAR DEWATERING TIME.

(I) SEE STANDARD DRAWINGS EC-STR-15, EC-STR-16 AND EC-STR-17 FOR ADDITIONAL DETAILS AND GENERAL NOTES NOT SHOWN ON THIS DRAWING.

NOT TO SCALE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

SEDIMENT BASIN FLOATING OUTLET STRUCTURE

8-01-12 EC-STR-18