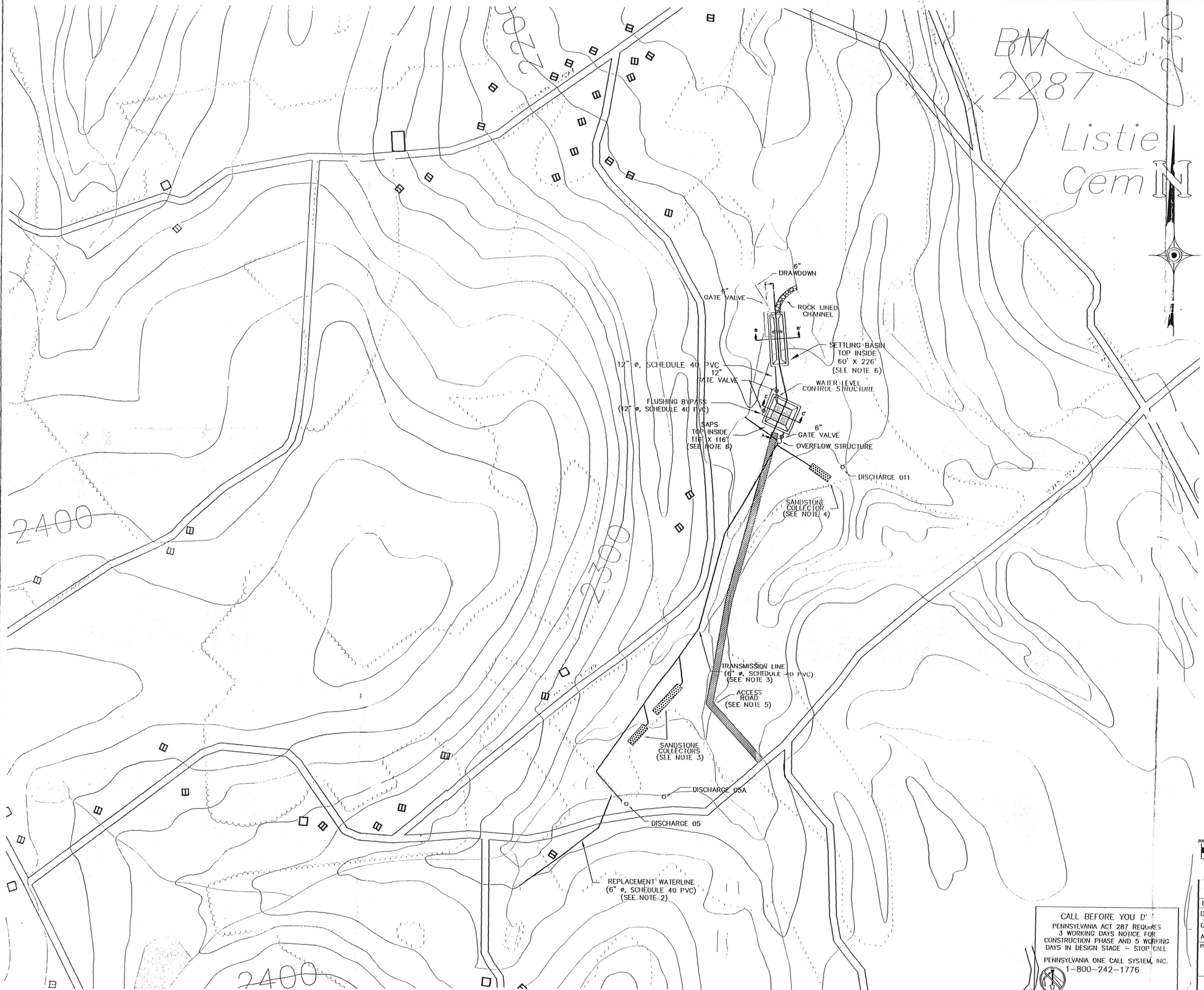

PERFORMANCE SPECIFICATIONS:

1. PORTIONS OF THIS PROJECT AREA REQUIRE DELINEATION AND IDENTIFICATION OF PROXIMATE WETLANDS. THE WETLANDS DELINEATION FOR THIS PROJECT HAS NOT BEEN INITIATED AND AWAITS IMPENDING FUNDING. THE U.S. DEPARTMENT OF INTERIOR'S "NATIONAL WETLANDS INVENTORY" (APRIL 4, 1977 AERIAL MAPPING) SHOWS NO WETLANDS IN THE AREA. HOWEVER, IT IS THE DIRECT RESPONSIBILITY OF THE CONTRACTOR TO ENSURE PROPER DELINEATION AND OF ALL WETLANDS WITHIN THE PROJECT AREA.

   THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S (FEMA) FLOOD INSURANCE RATE MAP (FIRM) FOR SOMERSET TOWNSHIP (COMMUNITY PANEL NUMBER 422055 0020 B; EFFECTIVE DATE MAY 17, 1990) SHOWS THAT THE SUBJECT AREA LIES IN ZONE X , AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.

2. THE REPLACEMENT WATER LINE SHALL HAVE A MINIMUM SLOPE OF 1% AND SHALL BE ALIGNED SUBJECT TO THE APPROVAL OF THE LANDOWNERS. CONTRACTOR SHALL OBTAIN A ROAD CROSSING PERMIT FROM SOMERSET TOWNSHIP SUPERVISORS AND SHALL CONSTRUCT THE CROSSING SUBJECT TO THEIR APPROVAL.

3. THE 6 INCH TRANSMISSION LINE SHALL BE CONSTRUCTED USING SCHEDULE 40 PVC PIPE. THE BEDDING MATERIAL SHALL BE LIMITED TO 2 INCH MINUS MATERIAL AND APPLIED TO A DEPTH OF 2 INCHES BELOW THE PIPE AND A COVER OF 1 FOOT ABOVE THE PIPE.

4. THE SANDSTONE COLLECTORS SHALL BE STAKED OUT IN THE FIELD BY THE CONTRACTOR SUCH THAT THE FLOWS FROM THE DISCHARGES ARE OPTIMALLY COLLECTED. FINAL LOCATION REQUIRES AGREEMENT BY THE ENGINEER. COLLECTORS SHALL BE CONSTRUCTED USING 3 FOOT BY 3 FOOT GABION BASKETS LINED WITH GEOTEXTILE AND FILLED WITH AASHTO NO.1 SANDSTONE. A CENTER DRAIN CONSISTING OF A PERFORATED 6-INCH SCHEDULE 40 PVC PIPE, SHALL BE INSTALLED TO CARRY THE FLOW TO A SOLID 6-INCH SCHEDULE 40 PIPELINE. AN ANTI-SEEP COLLAR SHALL BE INSTALLED ON THE SOLID LINE TO PREVENT MIGRATION OF THE AMD ALONG THE OUTSIDE OF THE PIPELINE. THE PERFORATIONS IN THE 6-INCH PIPE SHALL CONSIST OF 2 ROWS OF ½-INCH HOLES DRILLED ON 6-INCH CENTERS WITH A CENTRAL ANGLE OF 120° BETWEEN ROWS. NO CALCAREOUS MATERIAL MAY BE USED IN THE CONSTRUCTION OF THE COLLECTORS. SANDSTONE MATERIAL SHALL BE FROM A SOURCE SUBJECT TO THE APPROVAL OF THE ENGINEER.

5. SERVICE ROAD

   -MATERIALS: THE SERVICE ROAD SHALL BE CONSTRUCTED USING A MINIMUM 6 INCH COMPACTED LAYER OF AGGREGATE COMPRISED OF AASHTO #1 OR EQUIVALENT AND CAPPED WITH A MINIMUM 2 INCH (COMPACTED) FINISH LAYER OF 2RC OR EQUIVALENT TO A MINIMUM WIDTH OF 12 FEET. ROCK SUBBASE SHALL BE USED TO STABILIZE THE SUBGRADE MATERIAL FOR ROCK SUBBASE SHALL BE FROM A SOURCE SUBJECT TO THE APPROVAL OF THE ENGINEER.

   -PLACEMENT: TOPSOIL SHALL BE STRIPPED FROM ALL ROADWAY AREAS PRIOR TO ROADWAY CONSTRUCTION AND BE LOCATED ON SITE, SUBJECT TO APPROVAL OF THE LANDOWNER. PRIOR TO PLACING ROADWAY AGGREGATE, THE ROADWAY SUBGRADE SHALL BE PROOF-ROLLED WITH A LOADED 10-TON TANDEM AXLE TRUCK UNTIL THE SUBGRADE OFFERS A RELATIVELY UNYIELDING SURFACE (LESS THAN ½ INCH DEFLECTION).

   -CROSS DRAINS: CROSS DRAINS SHALL BE 12 INCH CORRUGATED PLASTIC PIPE (CPP), 20 FEET LONG, CONFORMING TO PENNDOT SPECIFICATIONS DETAILED IN PUBLICATION 408, SECTION 601.3.d, OR EQUIVALENT. CROSS DRAINS SHALL BE INSTALLED ON A UNIFORM SLOPE (1% MINIMUM SLOPE). EXCAVATIONS FOR CROSS DRAINS SHALL BE BACKFILLED WITH EXCAVATED MATERIAL IN 12 INCH (MAXIMUM) LIFTS AND COMPACTED WITH VIBRATORY EQUIPMENT.

6. SAPS SYSTEM

   THIS CONCEPTUAL DESIGN OF THE SUCCESSIVE ALKALINE PRODUCING SYSTEM ASSUMES THAT THE SPECIFIED LIMESTONE QUALITY WILL PRODUCE SUFFICIENT ALKALINITY IN 18 HOURS TO ALLOW THE METALS TO PRECIPITATE AND RELEASE WATER WITH LESS THAN ONE PART PER MILLION OF ALUMINUM AND IRON. THE CONTRACTOR SHALL CONDUCT CUBITAINER TESTS OF THE DISCHARGES WITH THE LIMESTONE FROM THE PROPOSED SUPPLY SOURCE TO DETERMINE THE ACTUAL RETENTION TIME NEEDED. (SEE NOTE #9 FOR ADDITIONAL PRE-CONSTRUCTION DESIGN REQUIREMENTS). THE LIMESTONE SHALL CONTAIN AT LEAST 80% CALCIUM CARBONATE AND NO MORE THAN 4% MAGNESIUM CARBONATE, AS AVAILABLE AT NEW ENTERPRISES ASHCOM PLANT. THE ENGINEER SHALL APPROVE CUBITAINER TEST PROCEDURE PRIOR TO CONDUCTING SAME.

   THE DESIGN CAPACITY OF THE SYSTEM WAS DETERMINED FROM AN AVERAGE MEASURED TOTAL INFLOW OF 50 GALLONS PER MINUTE. DOUBLING THIS AMOUNT ALLOWS FOR POSSIBLE INCREASES IN THE ACTUAL AMOUNT OF AMD TO BE HANDLED BY THE SYSTEM AND IS CONSIDERED AN APPROPRIATE DESIGN SAFETY FACTOR FOR THIS SITE.

   THE CONTRACTOR SHALL DIG TEST PITS IN ALL AREAS OF PROPOSED EXCAVATION TO ENSURE APPROPRIATE SOIL CHARACTERISTICS TO PREVENT LEAKAGE IN ANY OF THE STRUCTURES. CLAY LINERS AND/OR GEOTEXTILE MAY BE NEEDED TO GUARANTEE THE INTEGRITY OF THE SYSTEM.

   A FLOW MEASURING DEVICE (I.E. WEIR) AND LIMIT DEVICE SHALL BE INSTALLED IN THE IN-FLOW OF THE SAPS ENABLING THE SYSTEM TO RUN AT ITS DESIGN CAPACITY. THE LIMIT DEVICE CONSISTS OF A GATE VALVE AND STANDARD 4 FOOT MANHOLE WITH AN OVERFLOW WHICH OFFERS PROTECTION AGAINST OVERLOADING THE SYSTEM DURING A STORM EVENT.

   MUSHROOM COMPOST SHALL BE INSTALLED IN A 6-INCH LAYER DIRECTLY ABOVE THE LIMESTONE IN THE SAPS AND ON ALL INTERIOR BENCHES OF BOTH IMPOUNDMENTS.

   THE UNDERDRAIN SYSTEM OF THE SAPS SHALL CONSIST OF PERFORATED 6-INCH PVC PIPE LAID AT 10-12 FOOT INTERVALS ACROSS THE BED WITH 12-INCH SOLID PVC PIPE SERVING AS MANIFOLDS AT BOTH ENDS. PERFORATIONS IN THE 6-INCH PIPE SHALL CONSIST OF 2 ROWS OF ½-INCH HOLES DRILLED ON 6-INCH CENTERS WITH A CENTRAL ANGLE OF 120° BETWEEN ROWS.

   FLUSHING OF THE SYSTEM SHALL BE ACCOMPLISHED BY OPENING ONE OF THE GATE VALVES BELOW ITS RESPECTIVE MANIFOLD TO ITS FULL CAPACITY. FLUSHING SHOULD ALTERNATE FROM ONE SIDE TO THE OTHER OF THE SAPS IMPOUNDMENT FOR EACH FLUSHING CYCLE.

7. SETTLING BASIN

   THE SETTLING BASIN SHALL BE CONSTRUCTED IN A LONG AND NARROW CONFIGURATION AS SHOWN IN THE PLAN. A DIVERSION BERM SHALL BE CONSTRUCTED INSIDE THE BASIN AT A DISTANCE FROM THE INLET EQUAL TO TWO-THIRDS THE TOTAL INSIDE LENGTH OF THE BASIN AND TO A HEIGHT THAT IS ONE FOOT LOWER IN ELEVATION THAN THE OPERATING LEVEL OF WATER IN THE BASIN.

   A TRAPEZOIDAL SPILLWAY, LINED WITH GROUTED RIP RAP, SHALL BE INSTALLED TO CARRY THE TREATED WATER AWAY FROM THE SYSTEM. A FLUME SHALL BE INSTALLED IN THE CREST OF THE SPILLWAY SO THAT THE FLOW FROM THE SYSTEM MAY BE ACCURATELY MEASURED.

   DRAW DOWNS, CONSISTING OF 6 INCH SCHEDULE 40 PVC PIPE, SHALL BE INSTALLED ON BOTH SIDES OF THE DIVERSION BERM AND LOCATED 2 – 3 FEET BELOW THE OPERATING LEVEL OF WATER IN THE BASIN SO THAT THE RESERVE CAPACITY OF THE BASIN WILL HANDLE THE SUDDEN INFLUX OF WATER FROM FLUSHING ACTIVITIES OF THE SAPS SYSTEM.

8. ALL DISTURBED AREAS SHALL BE REGRADED AND REVEGETATED WITH PERENNIAL GRASSES AND LEGUMES. LIME, FERTILIZER, AND MULCH SHALL BE APPLIED TO ENSURE GROWTH OF THE VEGETATION AND STABILIZATION OF THESE AREAS.

9. THE MAPPING FOR THIS PLAN WAS TAKEN FROM USGS MAPPING OF THE AREA ALONG WITH MINIMAL FIELD SURVEYING TO ESTABLISH DIFFERENCES IN ELEVATION THROUGHOUT THE SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING FIELD SURVEYS AND ALL RELATED ENGINEERING / PRE-CONSTRUCTION DESIGN WORK REQUIRED IN THE IMPLEMENTATION OF THIS PLAN. THE ENGINEERING / PRE CONSTRUCTION DESIGN SHALL INCLUDE, BUT NOT BE LIMITED TO, A DETAILED TOPOGRAPHIC SURVEY OF THE PROJECT AREA, SUBMISSION OF EROSION / SEDIMENTATION PLANS, AND GRADING PLANS. THE CONTRACTOR SHALL OBTAIN STREAM CROSSING PERMITS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL SUBMIT AS BUILT DRAWINGS AT THE PROJECTS COMPLETION.

10. THE CONTRACTOR SHALL PROVIDE ALL LABOR AND MATERIALS REQUIRED FOR THE COMPLETION OF THIS PROJECT.

GRAPHIC SCALE

200 0 100 200 400 800

(IN FEET)
1 inch = 200 ft.

CALL BEFORE YOU D'
PENNSYLVANIA ACT 287 REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 5 WORKING DAYS IN DESIGN STAGE – STOP CALL
PENNSYLVANIA ONE CALL SYSTEM, INC.
1-800-242-1776

REV.	DATE	DESCRIPTION
DRN.	WJS 01/31/01	PROJECT: CONCEPTUAL DESIGN DISCHARGE 05, 05A & 011 TREATMENT SYSTEM SOMERSET TOWNSHIP, PENNSYLVANIA
CHK.	JW 2/23/01	
APP.	DTC 2/23/01	
PROJECT NO.: CG088		SHEET TITLE: PLAN VIEW
WELLS CREEK WATERSHED ASSOCIATION		SHEET NO.: 1 OF 2 DRAWING NO.: CG088-01

Crouse & Co.
332 South Lynn Avenue, Suite 1, Somerset, PA 15501 (814) 445-7324

CROUSE

COPY

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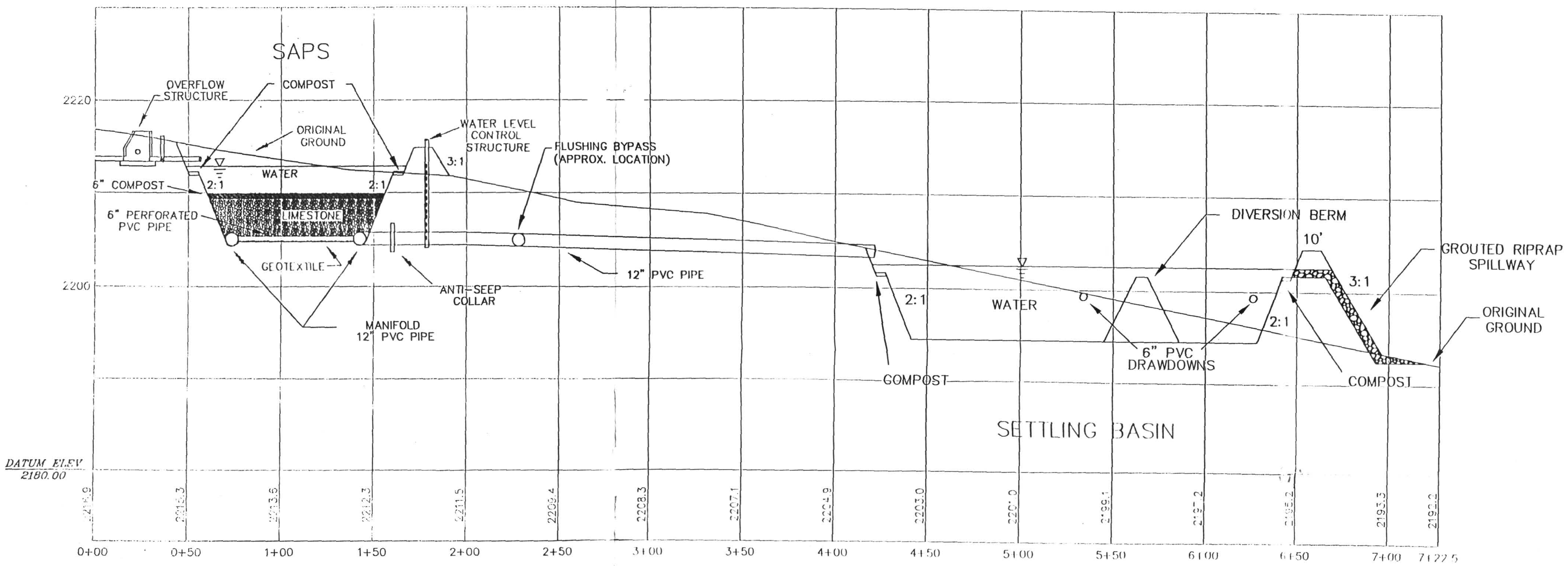
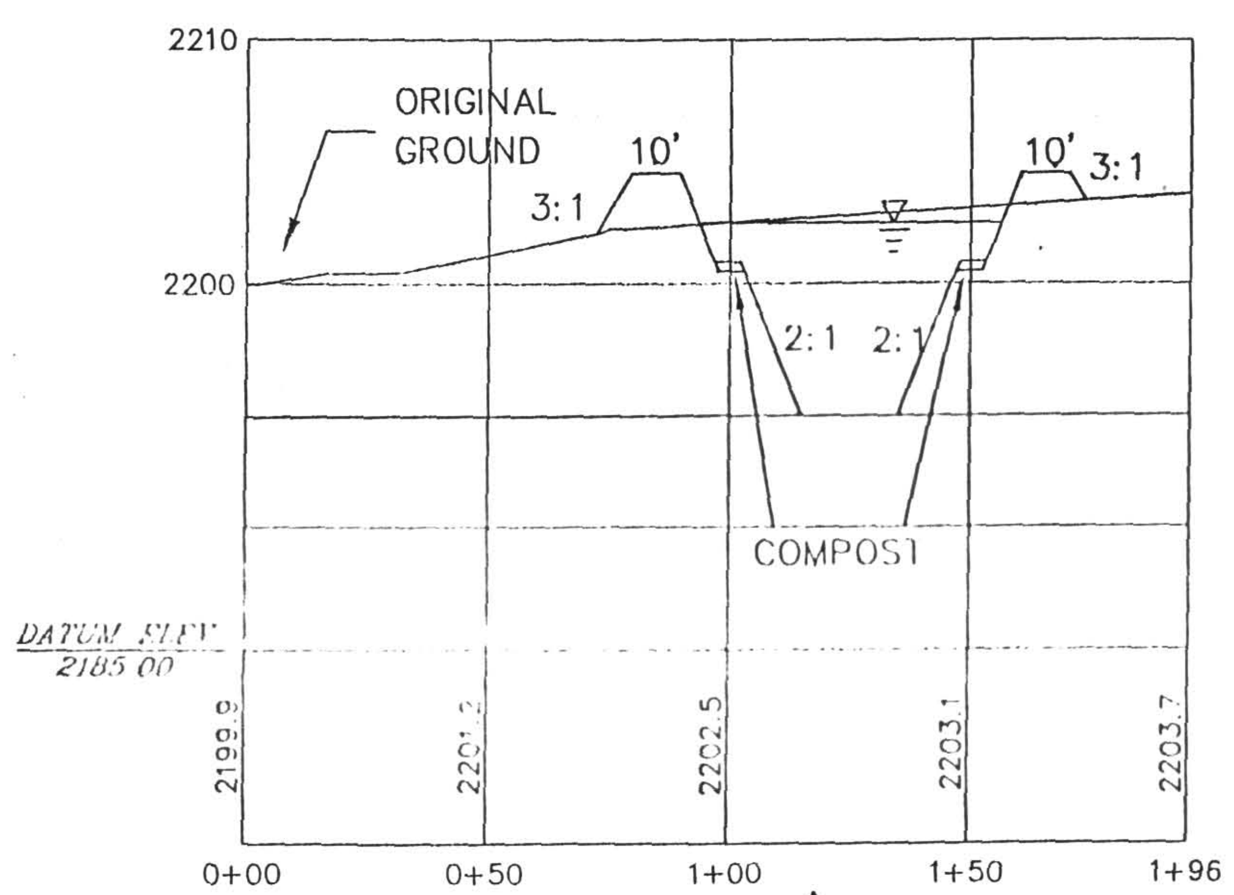
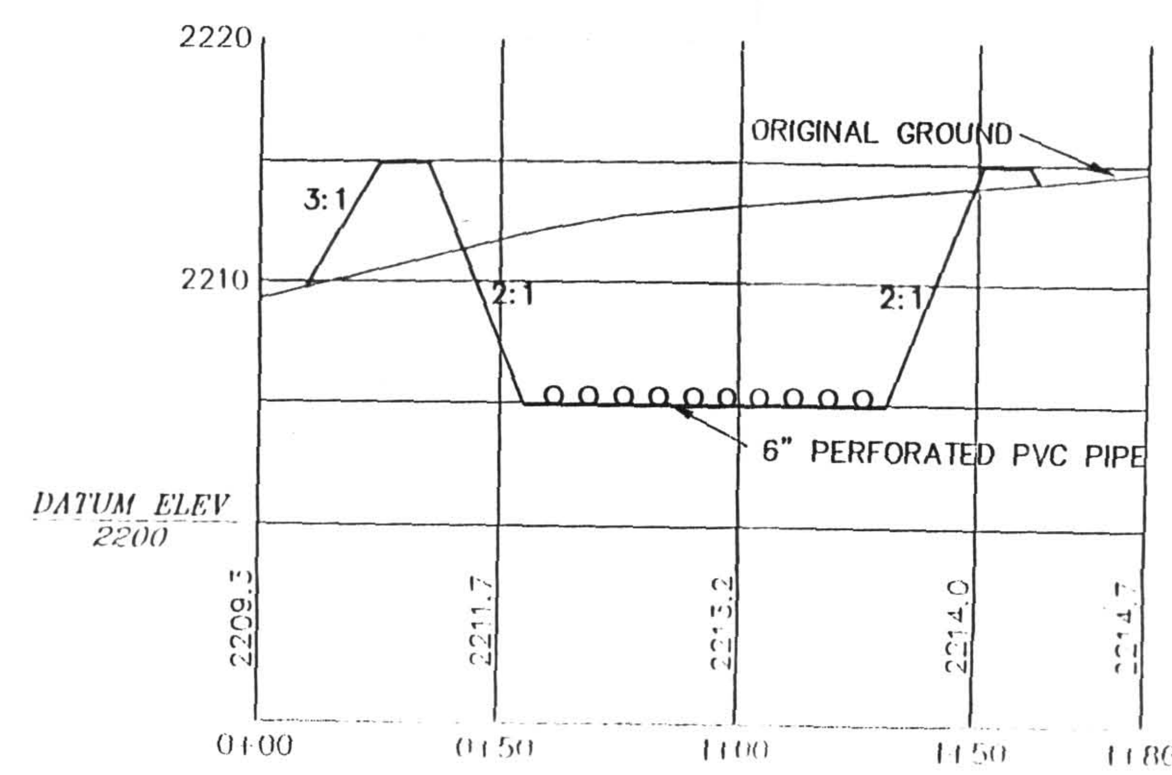


A–A'

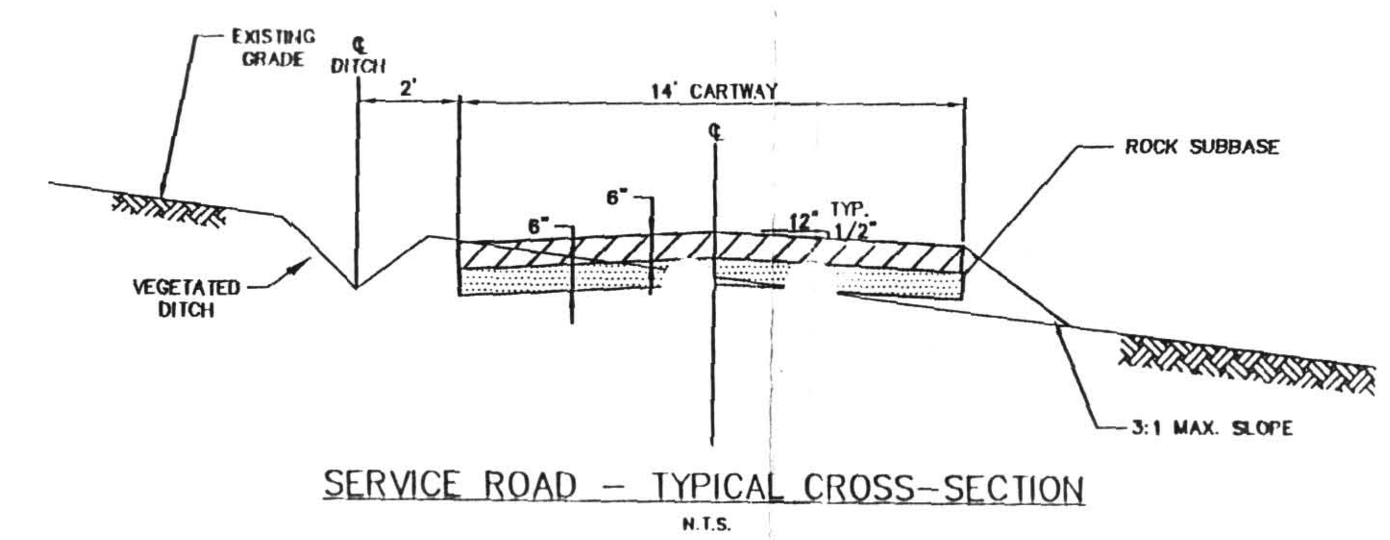


B–B'

SCALE:
HOR: 1" = 40'
VER: 1" = 8'

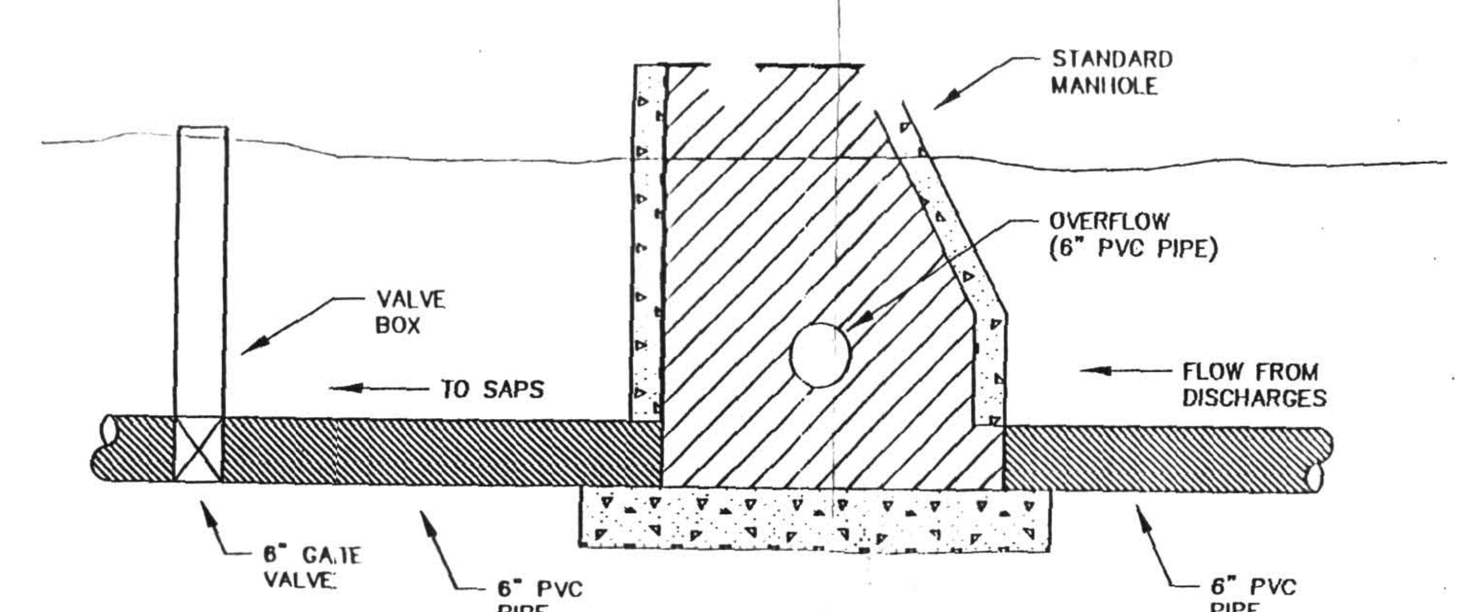


C–C'



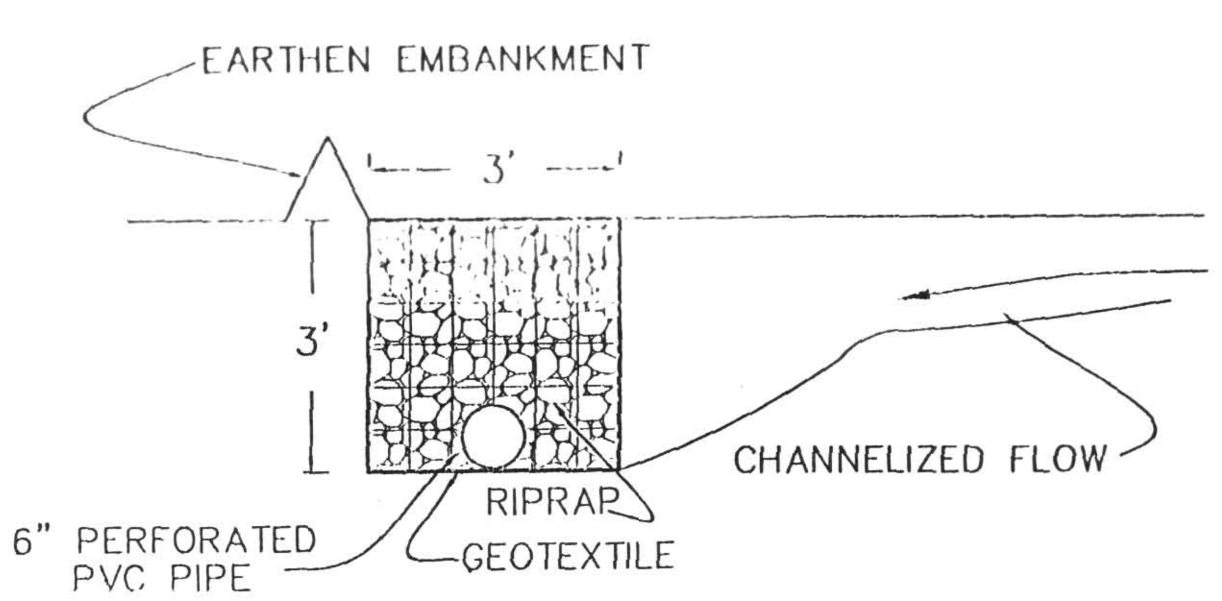
SERVICE ROAD – TYPICAL CROSS-SECTION

N.T.S.



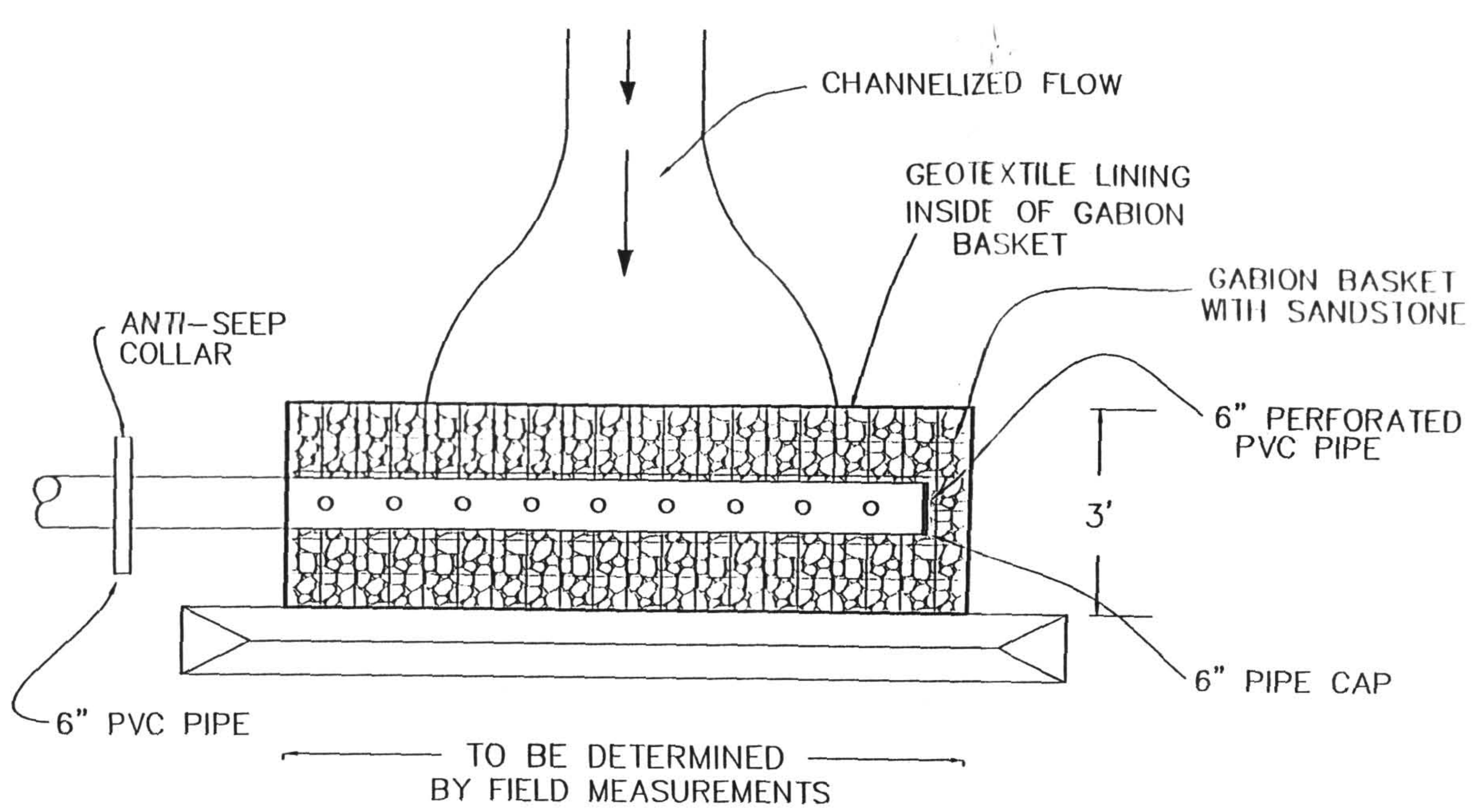
OVERFLOW STRUCTURE

N.T.S.



SANDSTONE COLLECTOR ELEVATION VIEW

N.T.S.



SANDSTONE COLLECTOR PLAN VIEW

N.T.S.

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APP. TJB	2/23/01	
PROJECT NO.: CG098		SHEET TITLE: DETAILS
WELLS CREEK WATERSHED ASSOCIATION		SHEET NO.: 2 OF 2 DRAWING NO.: CG098-02

Crouse & Co.
332 South Lynn Avenue, Suite 1, Somerset, PA 15501

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