

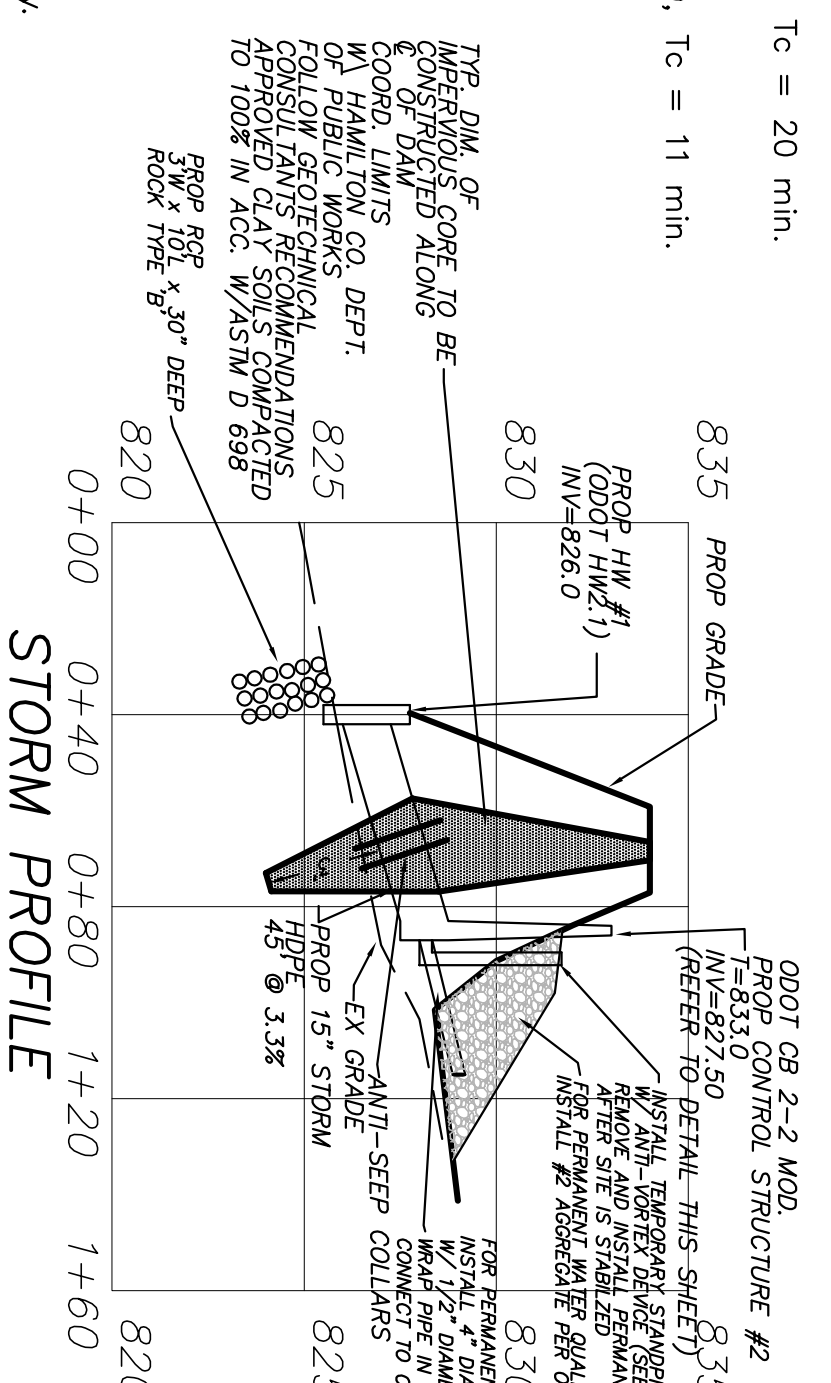
**STORM WATER TABLE**

EXISTING CONDITIONS: AREA = 1.9 AC. C = 0.35.  $T_c = 20$  min.  
 Q10pre = 2.63 CFS  
 PROPOSED CONDITIONS: AREA = 2.4 AC. C = 0.9.  $T_c = 11$  min.  
 Q10post = 5.92 CFS

STORM WATER DETENTION VOLUME REQUIRED  
 100 year event (33)  
 100 year event (17.771 CF

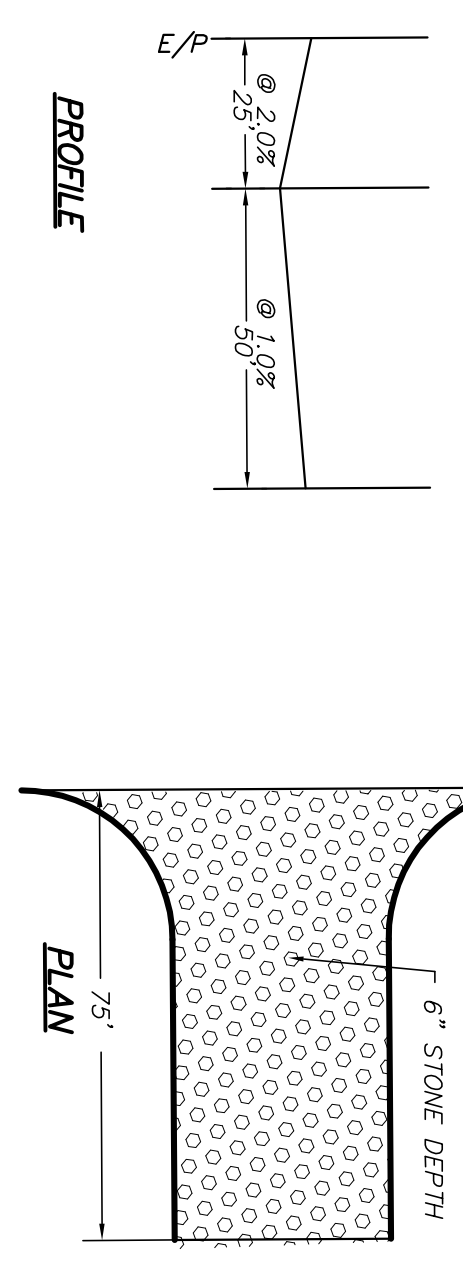
STORM WATER QUALITY (WQV) REQUIRED  
 WQV = 0.75in X C X DA/12in/ft  
 C =  $858(.8)^3 - .78(.8)^2 + .774(.8) + .04$   
 C = 0.6  
 WQV = 0.75in X 0.6 X 3.4/12in/ft  
 WQV = 5,650 Sq-Ft

The new Basin will provide capacity for both the storm water detention and the water quality.  
 Total Volume of Basin =  $17,771 \text{ CF} + 5,650 \text{ CF} = 23,421 \text{ CF}$   
 ORFACE SIZING :  $Q1 = .61 \text{ (AVG)} 6.4 \text{ (2.4)}$  A10 = 0.35 FT. SQ. USE 8" DIA.  
 OVER FLOW SIZING : Q100 =  $3.5 \text{ (MW)}^2$  H = 1', W = 1.69' USE 2'



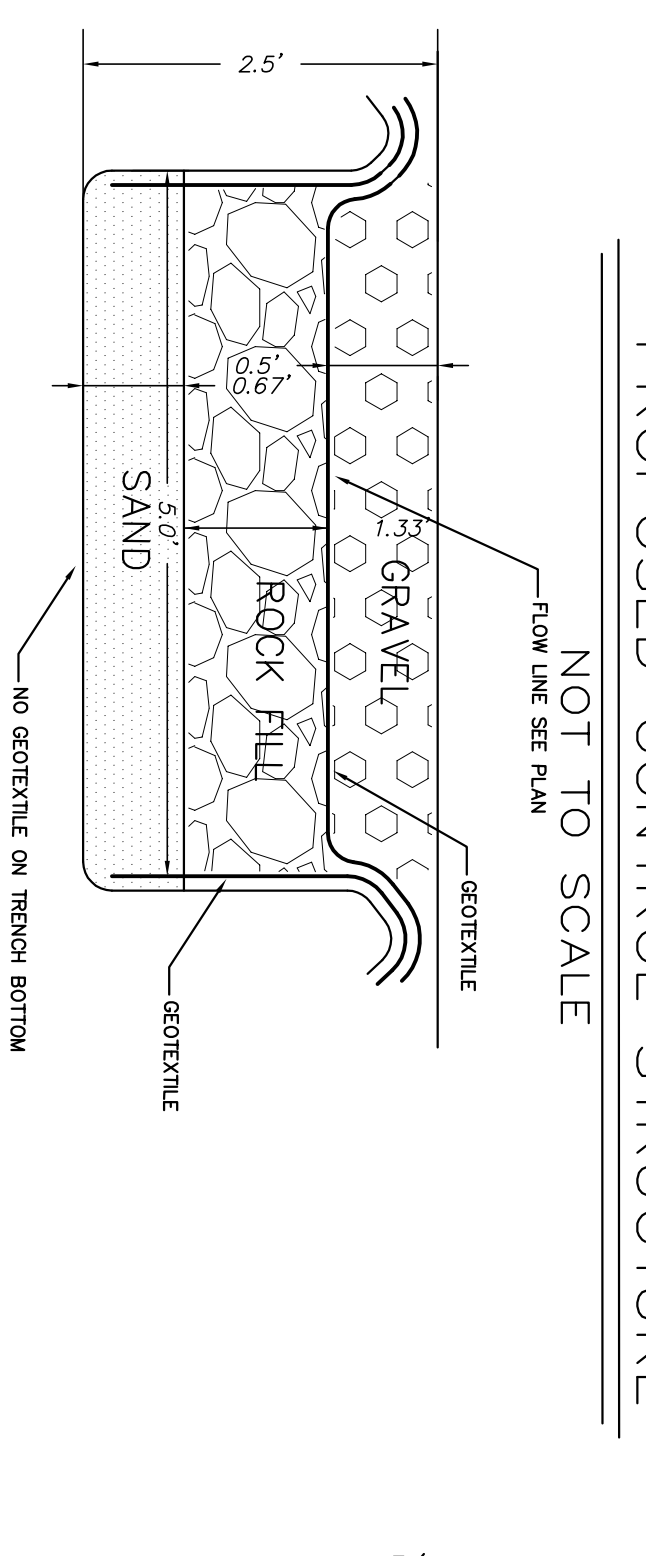
HOR. 1" = 40'  
 VERT. 1" = 5'

NOTES:  
 1. USE SCHEDULE 40 POLYVINYL CHLORIDE CONDUIT.  
 2. RISER PIPE: USE SCHEDULE 40 POLYVINYL CHLORIDE CONDUIT.  
 3. INSTALL TEMPORARY STANDPIPE (SEE THIS SHEET FOR DETAIL).  
 4. FOR PERMANENT WATER QUALITY USE 1/2" DIA. AFTER HOLE @ 4" SPACINGS.  
 5. WIRE MESH IN FILTER FABRIC ENCLOSED IN CHICKEN WIRE.  
 6. WIRE MESH IN FILTER FABRIC ENCLOSED IN CHICKEN WIRE.



1. STONE SHALL CONFORM TO ASTM D48  
 SIZE #1 (1 1/2" TO 3 1/2" DIA.)  
 2. PERIODIC 2" STONE TOP DRESSING & WASHING  
 AS REQUESTED BY COUNTY.  
 3. SEE C1.2 FOR  
 LOCATION OF TEMPORARY CONSTRUCTION ENTRANCE.  
 4. A GEOTEXTILE MUST BE PLACED OVER THE ENTIRE AREA OF THE  
 STABILIZED CONSTRUCTION ENTRANCE PRIOR TO PLACEMENT OF STONE.

TEMPORARY CONSTRUCTION ENTRANCE DETAIL  
 NOT TO SCALE

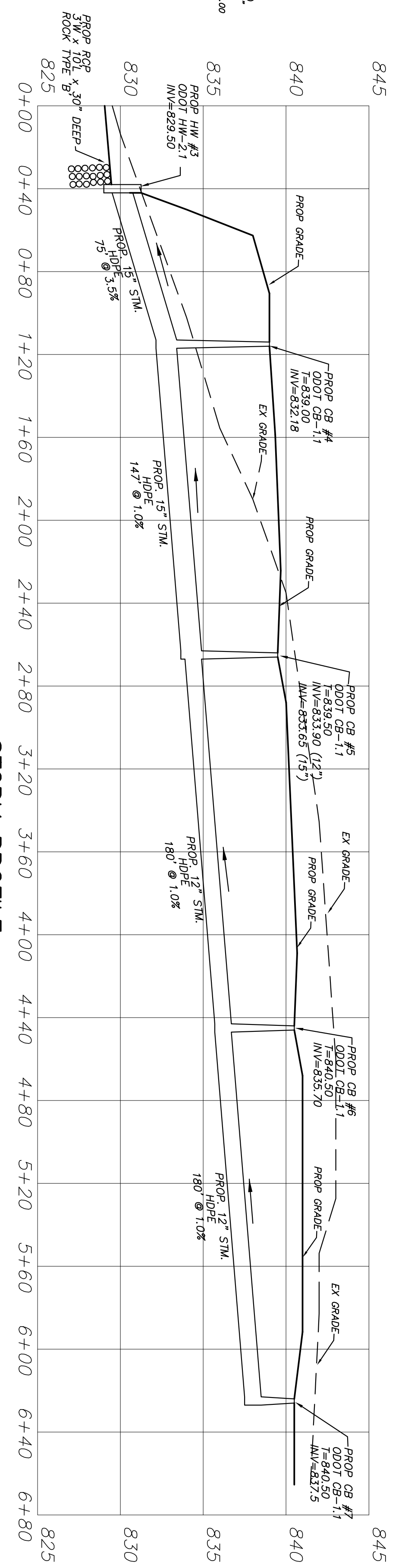


NOT TO SCALE

1. SEGMENT SHALL BE PREPARED FROM ENTERING THE INFILTRATION SOIL TO THE NEXT COMMON CORNER OF THE INFILTRATION TRENCH. CONSTRUCTION SHALL NOT BE ALLOWED TO GO TO THE NEXT COMMON CORNER UNTIL CONSTRUCTION OF THE PREVIOUS SEGMENT HAS BEEN COMPLETED AND THE TRENCH IS FULLY STABILIZED WITH A MASONRY FLAG UNTIL ALL CONTRIBUTING DRAINAGE AREAS ARE STABILIZED.
2. THE INFILTRATION TRENCH DESIGN SHALL INCLUDE A SYSTEM FOR REMOVING SEGMENT FROM STORMWATER SEGMENT DURING CONSTRUCTION.
3. TRENCH EXCAVATION AND BACKFILLING OF SAND AND ROCK SHALL BE DONE WHEN THE SOIL MOISTURE IS LOW AND THE SAND LAYER SHALL BE PLACED THE SAME DAY EXCAVATION IS COMPLETED.
4. BOTTOM SAND FILTER- THE BOTTOM OF THE TRENCH SHALL BE COVERED WITH AN 8-INCH LAYER OF NET SAND TO PREVENT COMPACTION AND MAINTAIN SOIL PERMEABILITY.
5. GEOTEXTILE- THE SOGS AND TOP OF THE TRENCH SHALL BE LINED WITH GEOTEXTILE. THE BOTTOM OF THE TRENCH SHALL NOT BE COVERED WITH GEOTEXTILE.
6. ROCK- ROCK FILL SHALL BE CLEAN, POORLY-GRADED, UNWEIGH SIZE CRUSHED WASHED ROCK. WELL-GRADED ROCK HAS LESS VOID SPACE AVAILABLE FOR RUNOFF STORAGE AND SHALL NOT BE ACCEPTED.
7. GRAVEL TOP LAYER- THE TOP LAYER OF THE GEOTEXTILE SHALL BE COVERED BY 6 INCHES OF GRAVEL.

**UNDERGROUND UTILITIES**  
 2 WORKING DAYS  
**BEFORE YOU DIG**  
 PHONE: 1-800-362-2764  
**OHIO UTILITIES PROTECTION SERVICE**  
**NON-MEMBERS MUST BE CALLED DIRECTLY**

The utility information shown on this plot, prepared by Thomas Graham Associates, Inc., was obtained from existing records. It is the responsibility of the utility company to verify the existence and location, and to contact the appropriate utility company for field locations.

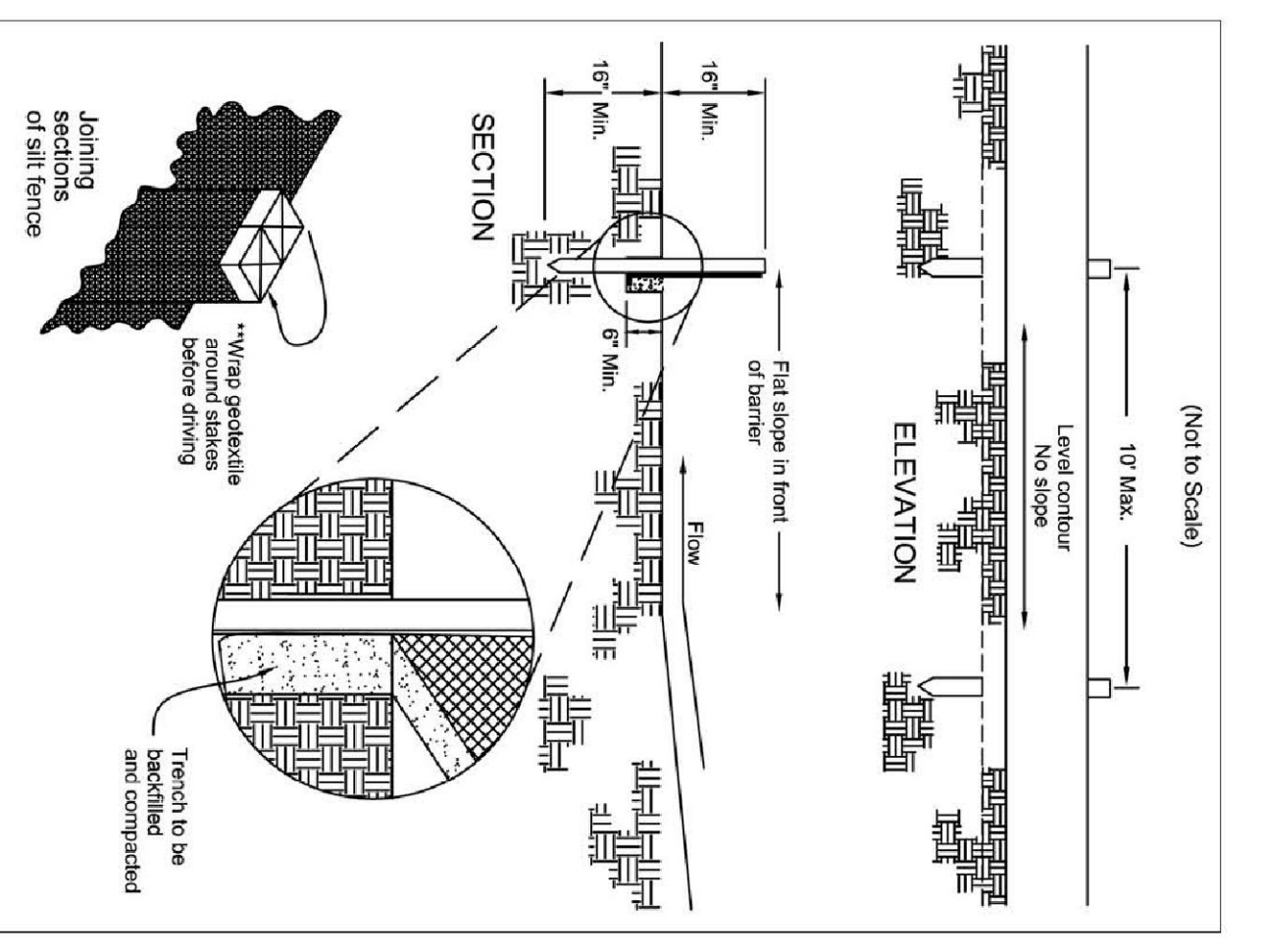


HOR. 1" = 40'  
 VERT. 1" = 5'

Specifications for  
**Silt Fence**

1. Silt fence shall be constructed before any bare soil is exposed.
2. All silt fences shall be placed as close to the contour as possible so that water will not concentrate at low points in the fence and so that small swales or depressions that may carry small concentrated flows to the silt fence are dissipated during its length.
3. Ends of the silt fence shall be brought up slightly so that water pooled by the silt fence will be prevented from flowing around the ends.
4. Silt fence shall be placed on the flattest area available.
5. Where possible, vegetation shall be preserved for 5 feet (or as much as possible) upstage from the silt fence, if vegetation is removed, it shall be reestablished within 7 days from the installation of the silt fence.
6. The height of the silt fence shall be a minimum of 16 inches above the original ground surface.
7. The silt fence shall be placed in an excavated or sliced trench cut a minimum of 6 inches deep. The trench shall be backfilled with a material that will restore all adequately uniform trench depth.
8. The silt fence shall be placed with the stakes on the downstage side of the geotextile. A minimum of 8 inches of geotextile must be below the ground surface. Excess material shall lay on the bottom of the 6-inch deep trench. The trench shall be backfilled and compacted on both sides of the fabric.
9. Seams between sections of silt fence shall be spliced together only at a support post with a minimum 6-in. overlap prior to churning into the ground. (See detail).
10. Maintenance—Silt fences shall allow runoff to pass only as diffuse flow through the geotextile. If runoff overtops the silt fence, flows under the fabric or around the fence ends, or in any other way allows a concentrated flow discharge, only if the following shall be performed:
  1. The silt fence shall be removed, or
  2. accumulated sediment shall be removed, or
  3. other practices shall be installed.
11. Sediment deposits shall be routinely removed when the deposit reaches approximately one-half of the height of the silt fence.
12. Silt fences shall be inspected after each rainfall and at least daily after a prolonged rainfall. The location of existing silt fence shall be rechecked daily to ensure its proper location and effectiveness. If damaged, the silt fence shall be replaced immediately.

Specifications for  
**Silt Fence**

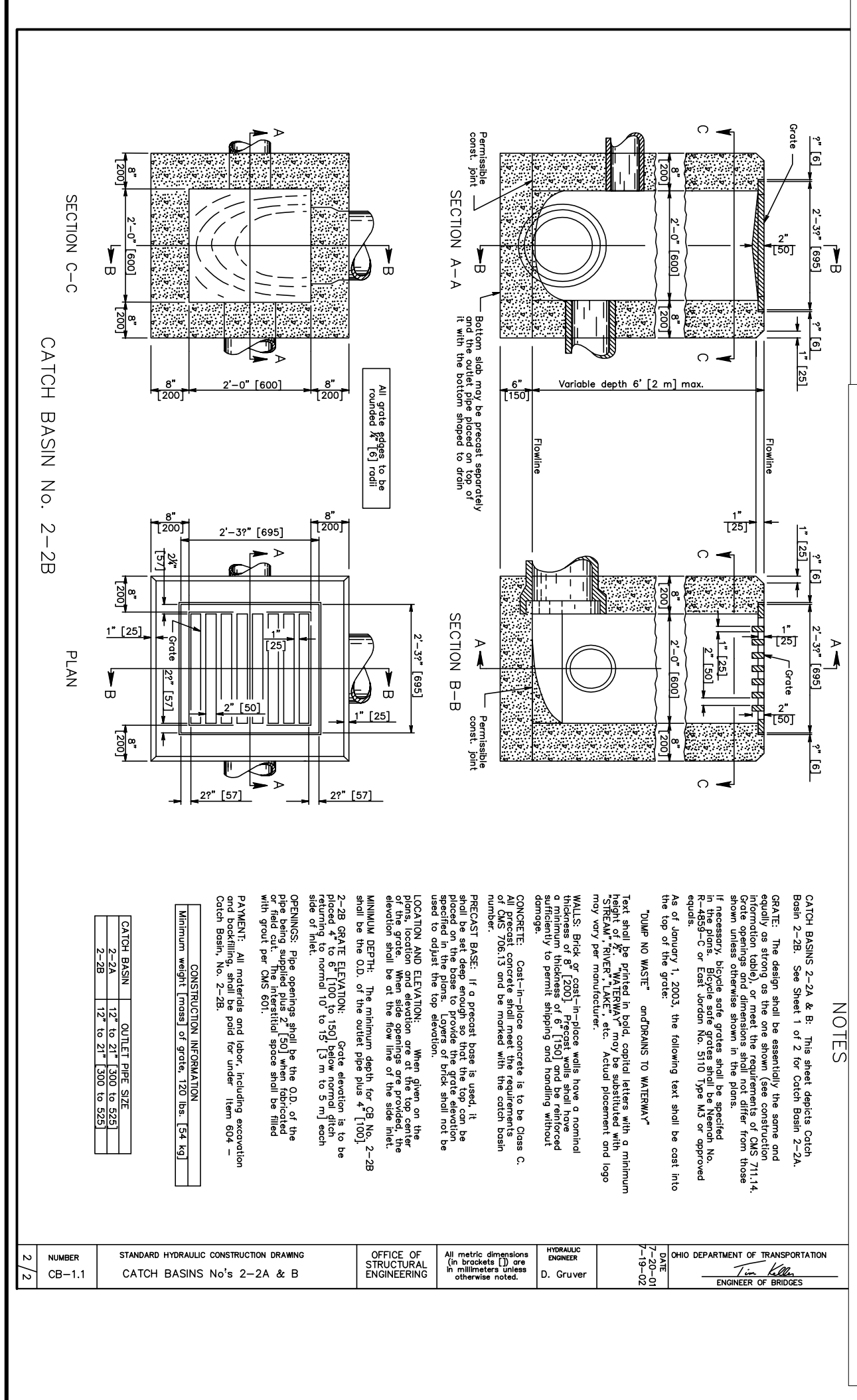


CHAPTER 6 Submittal Controls 33

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| Table 6.3.2 Minimum values for silt fence fabric (per 200) |                              |
|--|------------------------------|
| FABRIC PROPERTIES  | TEST METHOD                  |
| Minimum Tensile Strength                                   | 122 lb. (55% N) ASTM D-4832  |
| Minimum Elongation at 60 lb.                               | 50%                          |
| Minimum Puncture Strength                                  | 29 lb. (20% N) ASTM D-4833   |
| Minimum Tear Strength                                      | 40 lb. (10% N) ASTM D-4751   |
| Minimum Opening Size                                       | 0.84 mm ASTM D-4491          |
| Minimum Permeability                                       | 131 (0.2 sec.-1) ASTM D-4835 |
| UV Exposure Strength Retention                             | 70%                          |

NOTES:  
 1. Catch basins shall be constructed before any bare soil is exposed.  
 2. Catch basins shall be placed as close to the contour as possible.  
 3. Catch basins shall be constructed to a minimum depth of 24 inches.  
 4. Catch basins shall be constructed to a minimum width of 36 inches.  
 5. Catch basins shall be constructed to a minimum length of 36 inches.  
 6. Catch basins shall be constructed to a minimum height of 36 inches.  
 7. Catch basins shall be constructed to a minimum area of 36 sq. ft.  
 8. Catch basins shall be constructed to a minimum volume of 36 cu. ft.  
 9. Catch basins shall be constructed to a minimum capacity of 36 gal.  
 10. Catch basins shall be constructed to a minimum flow rate of 36 gpm.  
 11. Catch basins shall be constructed to a minimum velocity of 36 ft/min.  
 12. Catch basins shall be constructed to a minimum pressure of 36 psi.  
 13. Catch basins shall be constructed to a minimum temperature of 36 deg F.  
 14. Catch basins shall be constructed to a minimum humidity of 36%.



STANDARDS HYDRAULIC CONSTRUCTION DRAWING  
 CATCH BASINS No. 2-2A & B  
 NAME: CB-1-1  
 DATE: 11/13/2012  
 DRAWN BY: JAKAUFENBERGER  
 CHECKED BY: JAKAUFENBERGER  
 DATE: 11/13/2012

**THOMAS GRAHAM ASSOCIATES, INC.**  
 • Engineers  
 • Surveyors  
 803 Campton Road  
 Cincinnati, Ohio 45231  
 513-521-4760  
 Fax # 521-2439

Date: NOV. 13, 2012  
 Scale: AS SHOWN  
 Job No.: 7806  
 Revisions:  
 No. \_\_\_\_\_ Date \_\_\_\_\_

**NOTES, DETAILS AND PROFILES**  
 ADDRESS: 8915 BLUE ASH ROAD  
 SECTION 14, TOWN 4, ENTIRE RANGE 1  
 SYCAMORE TOWNSHIP  
 HAMILTON COUNTY, OHIO

Drawn By: JAKAUFENBERGER  
**SP-1.1**  
 Job No.: 7806-12  
 ACAD FILENAME: 7806\_BASE.DWG