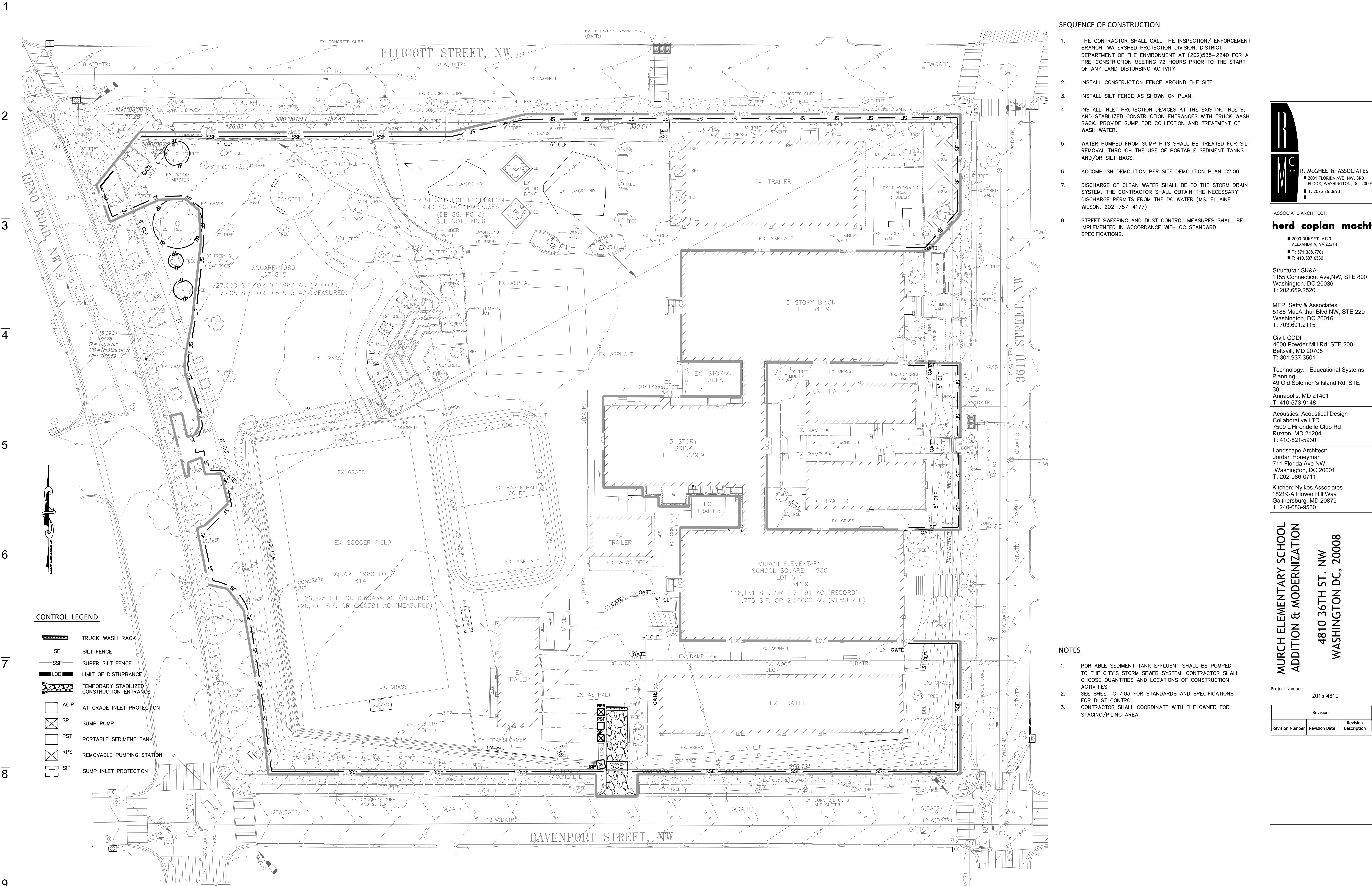




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ECP



**SEQUENCE OF CONSTRUCTION**

1. THE CONTRACTOR SHALL CALL THE INSPECTION/ ENFORCEMENT BRANCH, WATERSHED PROTECTION DIVISION, DISTRICT DEPARTMENT OF THE ENVIRONMENT AT (202)535-2240 FOR A PRE-CONSTRUCTION MEETING 72 HOURS PRIOR TO THE START OF ANY LAND DISTURBING ACTIVITY.
2. INSTALL CONSTRUCTION FENCE AROUND THE SITE
3. INSTALL SILT FENCE AS SHOWN ON PLAN.
4. INSTALL INLET PROTECTION DEVICES AT THE EXISTING INLETS, AND STABILIZED CONSTRUCTION ENTRANCES WITH TRUCK WASH RACK. PROVIDE SUMP FOR COLLECTION AND TREATMENT OF WASH WATER.
5. WATER PUMPED FROM SUMP PITS SHALL BE TREATED FOR SILT REMOVAL THROUGH THE USE OF PORTABLE SEDIMENT TANKS AND/OR SILT BAGS.
6. ACCOMPLISH DEMOLITION PER SITE DEMOLITION PLAN C2.00
7. DISCHARGE OF CLEAN WATER SHALL BE TO THE STORM DRAIN SYSTEM. THE CONTRACTOR SHALL OBTAIN THE NECESSARY DISCHARGE PERMITS FROM THE DC WATER (MS. ELLAINE WILSON, 202-787-4177)
8. STREET SWEEPING AND DUST CONTROL MEASURES SHALL BE IMPLEMENTED IN ACCORDANCE WITH OC STANDARD SPECIFICATIONS.



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 ADDITION & MODERNIZATION**  
 4810 36TH ST. NW  
 WASHINGTON DC, 20008

Project Number: 2015-4810

Revisions		
Revision Number	Revision Date	Revision Description

Issue Date: 09/30/2016

Sheet Title: EROSION AND SEDIMENT CONTROL PLAN (INITIAL)

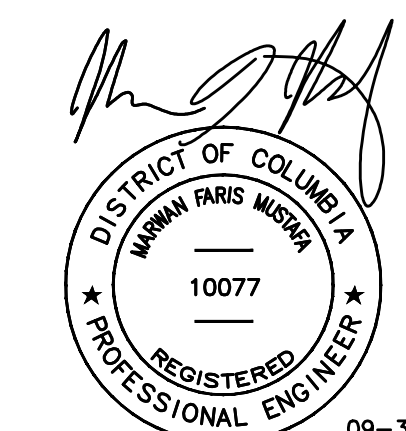
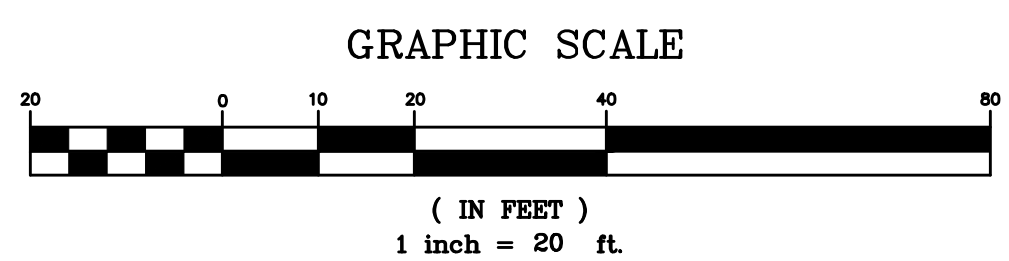
Sheet Number: CIV701

- CONTROL LEGEND**
- TRUCK WASH RACK
  - SILT FENCE
  - SUPER SILT FENCE
  - LIMIT OF DISTURBANCE
  - TEMPORARY STABILIZED CONSTRUCTION ENTRANCE
  - AT GRADE INLET PROTECTION
  - SUMP PUMP
  - PORTABLE SEDIMENT TANK
  - REMOVABLE PUMPING STATION
  - SUMP INLET PROTECTION

**NOTES**

1. PORTABLE SEDIMENT TANK EFFLUENT SHALL BE PUMPED TO THE CITY'S STORM SEWER SYSTEM. CONTRACTOR SHALL CHOOSE QUANTITIES AND LOCATIONS OF CONSTRUCTION ACTIVITIES
2. SEE SHEET C.7.03 FOR STANDARDS AND SPECIFICATIONS FOR DUST CONTROL.
3. CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR STAGING/PILING AREA.

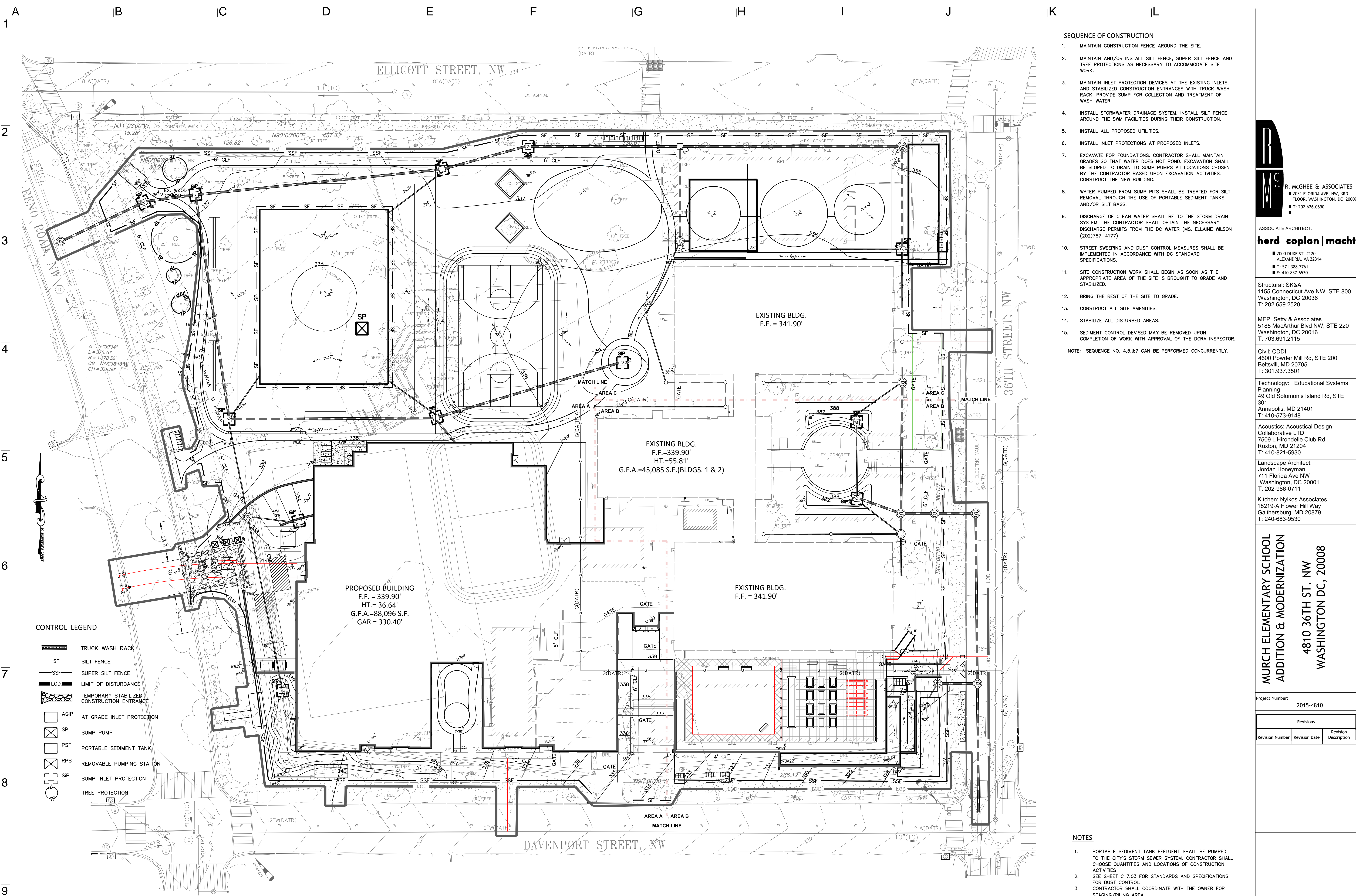
**EROSION AND SEDIMENT CONTROL PLAN (INITIAL)**



09-30-2016

MISS UTILITY  
 FOR LOCATION OF UTILITIES CALL 1-800-257-7777  
 48 HOURS IN ADVANCE OF ANY WORK IN THE VICINITY

**CIV701**



- SEQUENCE OF CONSTRUCTION**
1. MAINTAIN CONSTRUCTION FENCE AROUND THE SITE.
  2. MAINTAIN AND/OR INSTALL SILT FENCE, SUPER SILT FENCE AND TREE PROTECTIONS AS NECESSARY TO ACCOMMODATE SITE WORK.
  3. MAINTAIN INLET PROTECTION DEVICES AT THE EXISTING INLETS, AND STABILIZED CONSTRUCTION ENTRANCES WITH TRUCK WASH RACK. PROVIDE SUMP FOR COLLECTION AND TREATMENT OF WASH WATER.
  4. INSTALL STORMWATER DRAINAGE SYSTEM. INSTALL SILT FENCE AROUND THE SWM FACILITIES DURING THEIR CONSTRUCTION.
  5. INSTALL ALL PROPOSED UTILITIES.
  6. INSTALL INLET PROTECTIONS AT PROPOSED INLETS.
  7. EXCAVATE FOR FOUNDATIONS. CONTRACTOR SHALL MAINTAIN GRADES SO THAT WATER DOES NOT POND. EXCAVATION SHALL BE SLOPED TO DRAIN TO SUMP PUMPS AT LOCATIONS CHOSEN BY THE CONTRACTOR BASED UPON EXCAVATION ACTIVITIES. CONSTRUCT THE NEW BUILDING.
  8. WATER PUMPED FROM SUMP PITS SHALL BE TREATED FOR SILT REMOVAL THROUGH THE USE OF PORTABLE SEDIMENT TANKS AND/OR SILT BAGS.
  9. DISCHARGE OF CLEAN WATER SHALL BE TO THE STORM DRAIN SYSTEM. THE CONTRACTOR SHALL OBTAIN THE NECESSARY DISCHARGE PERMITS FROM THE DC WATER (MS. ELLAINE WILSON (202)787-4177)
  10. STREET SWEEPING AND DUST CONTROL MEASURES SHALL BE IMPLEMENTED IN ACCORDANCE WITH DC STANDARD SPECIFICATIONS.
  11. SITE CONSTRUCTION WORK SHALL BEGIN AS SOON AS THE APPROPRIATE AREA OF THE SITE IS BROUGHT TO GRADE AND STABILIZED.
  12. BRING THE REST OF THE SITE TO GRADE.
  13. CONSTRUCT ALL SITE AMENITIES.
  14. STABILIZE ALL DISTURBED AREAS.
  15. SEDIMENT CONTROL DEVICES MAY BE REMOVED UPON COMPLETION OF WORK WITH APPROVAL OF THE DCRA INSPECTOR.
- NOTE: SEQUENCE NO. 4,5,&7 CAN BE PERFORMED CONCURRENTLY.



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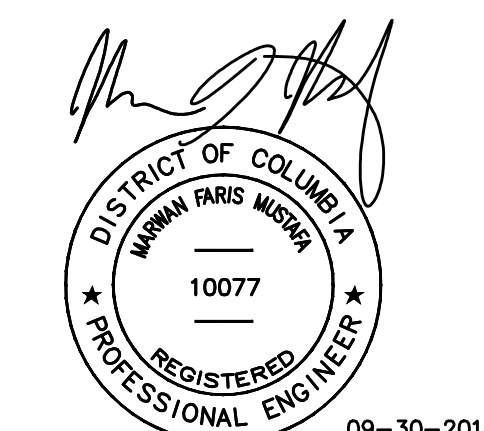
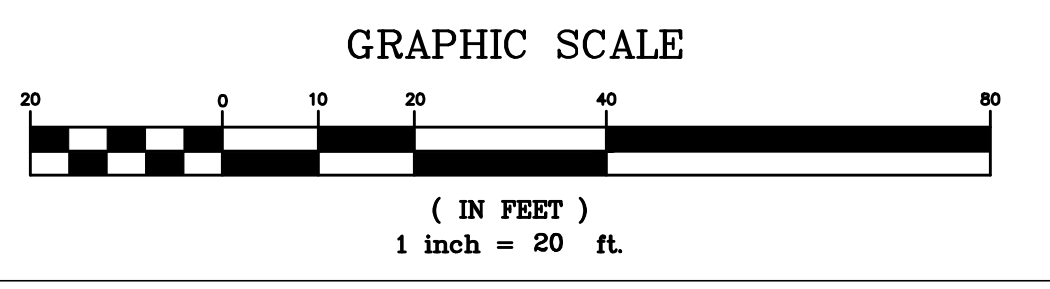
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 CONTROL PLAN (FINAL)

Sheet Number:

**CIV702**

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  - TREE PROTECTION

**EROSION AND SEDIMENT  
 CONTROL PLAN (FINAL)**



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09-30-2016

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**37.0 STANDARDS AND SPECIFICATIONS FOR LAND GRADING**

**Definition**

Reshaping of the existing land surface in accordance with a plan as determined by engineering survey and layout.

**Purpose**

The purpose of a land grading specification is to provide for erosion control and vegetative establishment on those areas where the existing land surface is to be reshaped by grading according to plan.

**Design Criteria**

The grading plan shall be based upon the incorporation of building designs and street layouts that fit and utilize existing topography and desirable natural surroundings to avoid extreme grade modifications. Information submitted must provide sufficient topographic surveys and soil investigations to determine limitations that must be imposed on the grading operation related to slope stability, effect on adjacent properties and drainage patterns, measures for drainage and water removal and vegetative treatment, etc.

The plan must show existing and proposed contours of the area(s) to be graded. The plan shall also include practices for erosion control, slope stabilization, safe disposal of runoff water and drainage, such as waterways, lined ditches, reverse slope benches (include grade and cross section), grade stabilization structures, retaining walls, and surface and subsurface drains. The plan shall also include phasing of these practices. The following shall be incorporated into the plan:

- Provisions shall be made to safely conduct surface runoff to storm drains, protected outlets or to stable water courses to insure that surface runoff will not damage slopes or other graded areas.
- Cut and fill slopes shall be stabilized with grasses shall not be steeper than 2:1. (Where the slope is to be mowed the slope should be no steeper than 3:1; 4:1 is preferred because of safety factors related to mowing steep slopes.) Slopes exceeding 2:1 shall require special design and stabilization considerations that shall be adequately shown on the plans.
- Reverse benches shall be provided whenever the vertical interval (height) of any 2:1 slope exceeds 20 feet; for 3:1 slope it shall be increased to 30 feet and for 4:1 to 40 feet. Benches shall be located to divide the slope face as equally as possible and shall convey the water to a stable outlet. Soils, seeps, rock outcrops, etc., shall also be taken into consideration when designing benches.
  - Benches shall be a minimum of six-feet wide to provide for ease of maintenance.
  - Benches shall be designed with a reverse slope of 6:1 or flatter to the toe of the upper slope and with a minimum of one foot in depth. Bench gradient to the outlet shall be between 2 percent and 3 percent, unless accompanied by appropriate design and computations.
  - The flow length within a bench shall not exceed 800' unless accompanied by appropriate design and computations. For flow channel stabilization, see temporary swale.
- Surface water shall be diverted from the face of all cut and/or fill slopes by the use of earth dikes, ditches and swales or conveyed downslope by the use of a designed structure, except where:
  - The face of the slope is or shall be stabilized and the face of all graded slopes shall be protected from surface runoff until they are stabilized.
  - The face of the slope shall not be subject to any concentrate flows of surface water such as from natural drainageways, graded swales, downspouts, etc.
  - The face of the slope will be protected by special erosion control materials, to include, but not limited to: approved vegetative stabilization practices (see section G), rip-rap or other approved stabilization methods.
- Cut slopes occurring in ripable rock shall be serrated as shown in detail 70, S errated Slopes on the following diagram. These serrations shall be made with conventional equipment as the excavation is made. Each step or serration shall be constructed on the contour and will have steps cut at nominal two-foot intervals with nominal three-foot horizontal shelves. These steps will vary depending on the slope ratio or the cut slope. The nominal slope line is 1:5:1. These steps will weather and act to hold moisture, lime, fertilizer and seed thus producing a much quicker and longer lived vegetative cover and better slope stabilization. Overland flow shall be diverted from the top of all serrated cut slopes and carried to a suitable outlet.
- Subsurface drainage shall be provided where necessary to intercept seepage that would otherwise adversely affect slope stability or create excessively wet site conditions.
- Slopes shall not be created so close to property lines as to endanger adjoining properties without adequately protecting such properties against sedimentation, erosion, slippage, settlement, subsidence or other related damages.
- Fill material shall be free of snow, ice, frozen materials, trash, brick, clay lumps, hazardous material, broken concrete, tree roots, sod, ashes, cinders, glass, plaster, organic matter, brush, logs, stumps, building debris and any other foreign material. It should be free of stones over two (2) inches in diameter where compacted by hand or mechanical tampers or over eight (8) inches in diameter where compacted by rollers or other equipment. Frozen material shall not be placed in the fill nor shall the fill material be placed on a frozen foundation.

9. Stockpiles, borrow areas and spoil shall be shown on the plans and shall be subject to the provisions of this Standard and Specifications.

10. All disturbed areas shall be stabilized structurally or vegetatively in compliance with 42.0 Standards and Specifications for Vegetative Stabilization.

**Fill – Classes**

- The grading plans and specifications shall specify and delineate the use and extent of fills in accordance with the following classifications:
  - Class 1 fill – Load-bearing fills proposed for support of buildings, walls, and other structures, the function thereof which would be especially impaired by settlement.
  - Class 2 fill – Load-bearing fills proposed for support of roadways, pavements, rigid utility lines, house connections, and structures which would not be especially impaired by moderate settlement.
  - Class 3 fill – Common fills proposed for lawns, landscape plantings, or for other nonload-bearing usage.

**Fill – Materials**

- All class 1 and 2 fills shall consist of readily compactible soils meeting the following minimum requirements:
  - Fill material shall be free of snow, ice, frozen materials, trash, clay lumps, hazardous materials, tree roots, sod, ashes, cinders, glass, plaster, organic matter, brush, logs, stumps, building debris, organic or other deleterious materials subject to decay, and high shrink-swell soils.
  - Irreducible materials other than rock (such as concrete or brick) shall only be allowed only upon approval of the Watershed Protection Division.
  - No rock or approved irreducible material with a maximum dimension greater than eighteen (18) inches shall be buried or placed in any portion of the fill, with the top two and one-half (2-1/2) feet below finished grade, foundations, utility service connections having nothing larger than eight (8) inches, unless permitted by the Building Official after receipt of a report by a geotechnical engineer certifying that he has investigated the property and the fill materials, and that a fill including oversized materials may be constructed to meet the intent of the Watershed Protection Division.
- All class 3 fills shall meet the following minimum requirements:
  - Irreducible materials other than rock (such as concrete or brick) shall only be allowed upon approval of the Watershed Protection Division.
  - Class 3 fills may include the more difficult to compact soils, at other than optimum moisture content; rock and similar approved materials without limit to size provided no detectable voids are formed, into which overlying soils may later be washed; and top soil, intermittently layered with nonorganic soil. In other than rock gardens, at least twelve (12) inches of soil must cover all rock, or approved irreducible materials with a maximum dimension greater than eight (8) inches.
- The material must be free of contamination levels of any pollutant which is, or may be considered to represent, a possible health hazard to the public or may be detrimental to surface or ground water quality, or which may cause damage to property or the drainage system.

**All fill material shall be free of hazardous materials and shall be in compliance with the applicable articles (article numbers 204, 206, 207, 204, 208, 804.02, 804.03, 804.04, 805.02) of the District of Columbia DPW Standard Specification for Highways and Structures 1996.**

**Fills – Compaction**

- Each layer of class 1 and class 2 fills shall be compacted at optimum moisture content (plus or minus two (2) percentage points), and to a minimum of ninety-five (95) to ninety (90) percent, respectively, of maximum density as determined in the laboratory by the Standard Proctor Test (AASHTO T-99, ASTM D-698). Each layer of class 3 fills shall be compacted sufficiently to support customarily used tracked spreading equipment and upon completion to be stable and after planting to prevent erosion. Other methods of compaction that the Director deems appropriate and results in an equal or better quality of compaction for Class 1 and 2 fills may be accepted.
  - Lower degrees of compaction may be permitted by the Watershed Protection Division after receipt of a report by a geotechnical engineer certifying that the geotechnical engineer has investigated the subsoids of the site, has tested representative fill materials and that, in the opinion of the geotechnical engineer, such lower degree of compaction will be adequate for the intended use of the fill.
  - In-place (field) density shall be determined in accordance with the ASTM test Method D-1556-82E, D-2922-91 or AASHTO T-191-86, T- 238-86.
  - All fills shall be placed in approximately horizontal layers, each layer having a loose thickness of not more than eight (8) inches for class 1, twelve (12) inches for class 2, and two (2) feet for class 3 fills. If approved by the Watershed Protection Division, thicker lifts may be permitted only upon submittal of adequate density test documentation of limited test fills.

**Subgrade – Compaction**

- The top eight (8) inches of soil in cut, or the required class 2 fill sections to be used as subgrade for support of patios, building floor slabs, driveways, parking pads and lots, sidewalks, and other structures which would not be especially impaired by moderate settlement shall be compacted, or recompacted, to at least ninety (90%) of maximum density as determined by the Standard Proctor Test.

**Slopes**

- Slopes of site grading drainage, and other improvements and facilities shall be determined by the preparer of the plan to suit the specific site and in accordance with accepted engineering practice.
  - No fill or cut shall be made which created an exposed surface steeper in slope than two (2) horizontal to one (1) vertical unless specifically waived by the Watershed Protection Division after receipt of a report by a geotechnical engineer certifying that the engineer has investigated the property, and that, in the engineer's opinion, such steeper slope will be structurally stable and that the ground cover to be used is of a low maintenance type and will effectively control erosion.
- The Watershed Protection Division may require that slopes be constructed with exposed surface flatter than those shown in Detail 69, or may require such other measures as the Watershed Protection Division deems necessary for stability and safety.
- Sides of temporary excavations made for foundations, buildings, and utility installations shall be protected, shored, or sloped as required by applicable District of Columbia regulations.

**38.0 STANDARD AND SPECIFICATIONS**

**FOR TOPSOIL Definition**

Placement of topsoil over a prepared subsoil prior to establishment of permanent vegetation.

**Purpose**

To provide a suitable soil medium for vegetative growth. Soils of concern have low moisture content, low nutrient levels, low pH, materials toxic to plants, and/or unacceptable soil gradation.

**Conditions Where Practice Applies**

- This practice is limited to areas having 2:1 or flatter slopes where:
  - The texture of the exposed subsoil/parent material is not adequate to produce vegetative growth.
  - The soil material is so shallow that the rooting zone is not deep enough to support plants or furnish continuing supplies of moisture and plant nutrients.
  - The original soil to be vegetated contains material toxic to plant growth.
  - The soil is so acidic that treatment with limestone is not feasible.

- For the purpose of these Standards and Specifications, areas having slopes steeper than 2:1 require special consideration and design for adequate stabilization. Areas having slopes steeper than 2:1 shall have the appropriate stabilization shown on the plans.

**Construction and Material Specifications**

- Topsil salvaged from the existing site shall be provided that it meets the standards as set forth in these specifications. Typically, the depth of topsoil to be salvaged for a given soil type can be found in the representative soil profile section in the Soil Survey published in the NRCS District of Columbia Soil Survey Manual.
- Topsil Specifications – Soil to be used as topsoil must meet the following:
  - Topsil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand. Other soils may be used if recommended by an agronomist or soil scientist and approved by the Watershed Protection Division. Regardless, topsoil shall not be a mixture of contrasting textured subsoils and shall contain less than 5% by volume of cinders, stones, slag, coarse fragments, gravel, sticks, roots, trash, or other materials larger than 1 1/2 " in diameter.
  - Topsil must be free of plants or plant parts such as bermuda grass, quackgrass, Johnsongrass, nutsedge, poison ivy, thistle, other poisonous plants or others as specified.
  - Where the subsoil is either highly acidic or composed of heavy clays, ground limestone shall be spread at the rate of 4–8 tons/acre (200–400 pounds per 1,000 square feet) prior to the placement of topsoil. Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.

**CONSTRUCTION/GENERAL NOTES**

- NOTIFY MISS UTILITY 1-800-257-7777, 48 HOURS PRIOR EXCAVATION.
- NOTIFY D.C. DEPT. OF PUBLIC WORKS – PUBLIC SPACE MAINTENANCE ADMINISTRATION, 48 HOURS PRIOR TO START OF CONSTRUCTION. CONTACT MR. RALPH JORDAN, CHIEF UTILITY INSPECTOR (202) 767-7632.
- CONTACT D.C. DEPT. OF PUBLIC WORKS– PUBLIC SPACE MAINTENANCE ADMINISTRATION, 48 HOURS PRIOR TO START OF CONSTRUCTION 202-777-8522.
- ALL PROPOSED UTILITY WORK SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE LATEST STANDARDS AND SPECIFICATIONS OF THE D.C. DEPT. OF PUBLIC WORKS – WATER AND SEWER UTILITY ADMINISTRATION.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL EXISTING SITE CONDITIONS. ANY DISCREPANCIES IN THE PLANS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING PRIOR TO THE START OF ANY WORK.
- ALL EXISTING FACILITIES, INCLUDING, BUT NOT LIMITED TO WALKS, ROADS, SHRUBS, ETC. INSIDE OR OUTSIDE OF CONSTRUCTION LIMITS, WHICH ARE TO REMAIN, BUT ARE DISTURBED UNDER THIS CONTRACT SHALL BE RESTABILIZED AND/OR RECONSTRUCTED TO THEIR ORIGINAL CONDITION AT NO COST TO THE OWNER.
- ALL WALKS, CURB, CURB AND GUTTER AND DRIVEWAYS DISTURBED OR DAMED DURING CONSTRUCTION SHALL BE REPLACED IN COMPLETE SECTIONS TO THE NEAREST JOINT.
- THE ARCHITECT/ENGINEER SHALL BE NOTIFIED FOR INSPECTION AND APPROVAL PRIOR CUTTING OF ANY SIDEWALKS, CURB, CURB AND GUTTER OR DRIVEWAY.
- AREAS WHERE EXISTING PAVING IS REMOVED SHALL BE SCARIFIED AND TOPSOIL ADDED TO BRING AREA TO PROPOSED GRADE. THE DISTURBED AREAS SHALL BE SEEDDED AND MULCHED OR SODDED.
- SHOULD THE CONTRACTOR, DURING HIS WORK, ENCOUNTER ANY UTILITIES OR STRUCTURES NOT IDENTIFIED WITHIN THE CONTRACT DRAWINGS, HE SHALL STOP WORK IMMEDIATELY AND NOTIFY THE ENGINEER.
- NO TRENCHING SHALL REMAIN OPEN FOR MORE THAN 24 HOURS WITHOUT PRIOR APPROVAL OF THE ARCHITECT/ENGINEER. TRENCHES LEFT OPEN SHALL HAVE BARRICADED INSTALLED AROUND PERIMETER.
- LOCATION OF UTILITIES ON THE PLANS ARE BASED ON FIELD SURVEY DATA AND/ OR RECORD DRAWINGS OF ORIGINAL LOCATIONS. THE INFORMATION SHOWN IS NOT COMPLETE AND THE LOCATION OF THE UTILITIES SHOWN ARE APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE UTILITIES. THE EXISTENCE OF ALL UTILITIES WELL IN ADVANCE OF CONDUCTING CONSTRUCTION OPERATIONS WHICH COULD DAMAGE THESE FACILITIES.
- IT SHALL BE THE RESPONSIBILITY OF THE CONSTRUCTOR TO VERIFY THE ELEVATIONS OF ALL EXISTING UTILITIES WELL IN ADVANCE OF CONDUCTING CONSTRUCTION OPERATIONS TO ENSURE PROPER CONNECTIONS WITH PROPOSED UTILITIES.
- IN AREAS WHERE PROPOSED CONSTRUCTION MAY CONFLICT WITH EXISTING UTILITIES, THE CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO AVOID DAMAGE OF EXISTING UTILITIES. IF AN UNDERGROUND UTILITY IS DAMAGED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY AND OWNER OF SAID UTILITY.
- ANY DAMAGE SUSTAINED TO UTILITIES ABOVE AND BELOW GROUND SHALL BE REPAIRED BY OR UNDER THE DIRECTION OF THE UTILITY OWNER AT CONTRACTOR EXPENSE. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BACKFILL OR EXCAVATE AFFECTING SAID UTILITY WITHOUT FIRST RECEIVING PERMISSION FROM THE UTILITY OWNER.
- DDOT WILL OCCUPY AND OPERATE THE SITE DURING CONSTRUCTION. CONTRACTOR SHALL COORDINATE W/DDOT TO ENSURE THEIR ACCESS TO SITE & STORED EQUIPMENT & SUPPLIES.

**AS-BUILT CERTIFICATION**

I HEREBY CERTIFY THAT THE STORMWATER DISCHARGE FACILITY HAS BEEN SUBSTANTIALLY IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATION, AND THAT ANY SUBSTANTIAL DEVIATIONS (NOTED BELOW) WILL NOT PREVENT THE SYSTEM FROM FUNCTIONING IN COMPLIANCE WITH THE REQUIREMENTS OF SECTION 526 THROUGH 535 OF DCMR-21, CHAPTER 5 WHEN PROPERLY MAINTAINED AND OPERATED. THESE DETERMINATIONS HAVE BEEN BASED UPON ON-SITE OBSERVATION OF CONSTRUCTION, SCHEDULED AND CONDUCTED BY ME OR A PROJECT REPRESENTATIVE UNDER MY DIRECT SUPERVISION. I HAVE ENCLOSED ONE SET OF AS-BUILT ENGINEERING DRAWINGS.

SIGNATURE OF ENGINEER: MARWAN F. MUSTAFA, PE  
 COMPANY NAME: CDDI, LLC  
 COMPANY ADDRESS: 701 12TH STREET, NW SUITE 2 WASHINGTON, DC 20017  
 DATE:  
 PHONE #: (301) 937-3501



**ASSOCIATE ARCHITECT: herd | coplan | machi**

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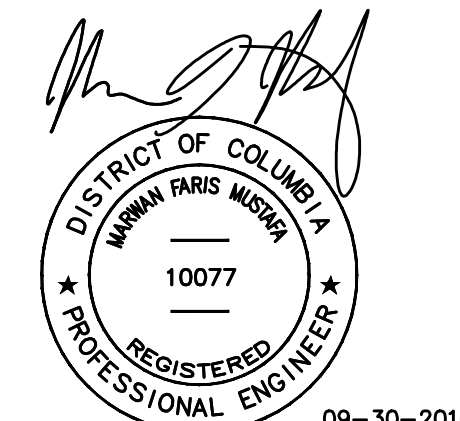
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Issue Date: 09/30/2016

Sheet Title: EROSION AND SEDIMENT CONTROL NOTES AND DETAILS-1

Sheet Number: CIV703



09-30-2016

**EROSION AND SEDIMENT CONTROL NOTES AND DETAILS-1**

**38.0 STANDARD AND SPECIFICATIONS**  
FOR  
TOPSOIL (Continue)

IV. For sites having disturbed areas over 5 acres:

- i. ~~On soil meeting Topsoil specifications, obtain test results dictating fertilizer and lime amendments required to bring the soil into compliance with the following:~~
  - a. ~~pH for topsoil shall be between 6.0 and 7.5. If the tested soil demonstrates a pH of less than 6.0, sufficient lime shall be prescribed to raise the pH to 6.5 or higher.~~
  - b. ~~Organic content of topsoil shall be not less than 1.5 percent by weight.~~
  - c. ~~Topsoil having soluble salt content greater than 500 parts per million shall not be used.~~
  - d. ~~Soil seed or seed shall be placed on soil which has been treated with soil sterilants or chemicals used for weed control until sufficient time has elapsed (14 days min.) to permit dissipation of phytotoxic materials.~~

~~Note: Topsoil substitutes or amendments, as recommended by a qualified agronomist or soil scientist and approved by the Watershed Protection Agency, may be used in lieu of natural topsoil.~~

~~ii. Place topsoil (if required) and apply soil amendments as specified in 42.0 Vegetative Stabilization - Section I - Vegetative Stabilization Method and Materials.~~

V. Topsoil Application

- i. When topsoiling, maintain needed erosion and sediment control practices such as diversions, Grade Stabilization Structures, Earth Dikes, Slope Silt Fence and Sediment Traps and Basins.
- ii. Grades on the areas to be topsoiled, which have been previously established, shall be maintained, albeit 4" - 8" higher in elevation.
- iii. Topsoil shall be uniformly distributed in a 4" - 8" layer and lightly compacted to a minimum thickness of 4". Spreading shall be performed in such a manner that sodding or seeding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets.
- iii. Topsoil shall not be placed while the topsoil or subsoil is in a frozen or muddy condition, when the subsoil is excessively wet or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.

VI. Alternative for Permanent Seeding - Instead of applying the full amounts of lime and commercial fertilizer, composted sludge and amendments may be applied as specified below:

- i. Composted Sludge Material for use as a soil conditioner for sites having disturbed areas over 5 acres shall be tested to prescribe amendments and for sites having disturbed areas under 5 acres shall conform to the following requirements:
  - a. Composted sludge shall be supplied by, or originate from, a person or persons that are permitted (at the time of acquisition of the compost) by either the state of Maryland or the state of Virginia.
  - b. Composted sludge shall contain at least 1 percent nitrogen, 1.5 percent phosphorus, and 0.2 percent potassium and have a Ph of 7.0 to 8.0. If compost does not meet these requirements, the appropriate constituents must be added to meet the requirements prior to use.
  - c. Composted sludge shall be applied at a rate of 1 ton/1,000 square feet.
- ii. Composted sludge shall be amended with a potassium fertilizer applied at the rate of 4 lb/1,000 square feet, and 1/3 the normal lime application rate.

References: Guideline Specifications, Soil Preparation and Sodding, MD- V A, Pub. #1, Cooperative Extension Service, University of Maryland and Virginia Polytechnic Institutes. Revised 1973

**42.0 STANDARDS AND SPECIFICATIONS**  
FOR  
VEGETATIVE STABILIZATION  
Definition

Using vegetation as cover for barren soil to protect it from forces that cause erosion.

Purpose  
Vegetative Stabilization specifications are used to promote the establishment of vegetation on exposed soil. When soil is stabilized with vegetation, the soil is less likely to erode and more likely to allow infiltration of rainfall, thereby reducing sediment loads and runoff to downstream areas, and improving wildlife habitat and visual resources.

Conditions Where Practice Applies

This practice shall be used on denuded areas as specified on the plans and may be used on highly erodible or critically eroding areas. This specification is divided into Temporary Seeding, to quickly establish vegetative cover for short duration (up to one year), and Permanent Seeding, for long term vegetative cover. Examples of applicable areas for Temporary Seeding are temporary soil stockpiles, cleared areas being left idle between construction phases, earth dikes, etc., and for Permanent Seeding are lawns, dams, cut and fill slopes and other areas at final grade, former stockpile and staging areas, etc.

Effects on Water Quality and Quantity

Planting vegetation in disturbed areas will have an effect on the water budget, especially on volumes and rates of runoff, infiltration, evaporation, transpiration, percolation, and groundwater recharge. Vegetation, over time, will increase organic matter content and improve the water holding capacity of the soil and subsequent plant growth.

Vegetation will help reduce the movement of sediment, nutrients, and other chemicals carried by runoff to receiving waters. Plants will also help protect groundwater supplies by assimilating those substances present within the root zone.

Sediment control devices shall remain in place during grading, seedbed preparation, seeding, mulching and vegetative establishment to prevent large quantities of sediment and associated chemicals and nutrients from washing into surface waters. Contractor shall maintain & repair.

**Section I - Vegetative Stabilization Methods and Materials**

A. Site Preparation

- i. Install erosion and sediment control structures (either temporary or permanent) such as diversions, grade stabilization structures, berms, waterways, or sediment control basins.
- ii. Perform all grading operations at right angles to the slope. Final grading and shaping is not usually necessary for temporary seeding.
- iii. Schedule required soil tests to determine soil amendment composition and application rates for sites having disturbed area over 5 acres.

B. Soil Amendments (Fertilizer and Lime Specifications)

- i. Soil tests must be performed to determine the exact ratios and application rates for both lime and fertilizer on sites having disturbed areas over 5 acres. Soil analysis may be performed by the University of the District of Columbia or a certified commercial laboratory. Soil samples taken for engineering purposes may also be used for chemical analyses.
- ii. Fertilizers shall be uniform in composition, free flowing and suitable for accurate application by approved equipment. Manure may be substituted for fertilizer with prior approval from the appropriate approval authority. Fertilizers shall all be delivered to the site fully labeled according to the applicable state fertilizer laws and shall bear the name, trade name or trademark and warrantee of the producer.
- iii. Lime materials shall be ground limestone (hydrated or burnt lime may be substituted) which contains at least 50% total oxides (calcium oxide plus magnesium oxide). Limestone shall be ground to such fineness that at least 50% will pass through a #100 mesh sieve and 98 - 100% will pass through a #20 mesh sieve.
- iv. Incorporate lime and fertilizer into the top 3 - 5" of soil by disking or other suitable means.

C. Seedbed Preparation

- i. **Temporary Seeding**
  - a. Seedbed preparation shall consist of loosening soil to a depth of 3" to 5" by means of suitable agricultural or construction equipment, such as disc harrows or chisel plows or rippers mounted on construction equipment. After the soil is loosened, it should not be rolled or dragged smooth but left in the roughened condition. Sloped areas (greater than 3:1) should be tracked leaving the surface in an irregular condition with ridges running parallel to the contour of the slope.
  - b. Apply fertilizer and lime as prescribed on the plans.
  - c. Incorporate lime and fertilizer into the top 3 - 5" of soil by disking or other suitable means.
- ii. **Permanent Seeding**
  - a. Minimum soil conditions required for permanent vegetative establishment:
    - 1. Soil pH shall be between 6.0 and 7.0.
    - 2. Soluble salts shall be less than 500 parts per million (ppm).
    - 3. The soil shall contain less than 40% clay but enough fine grained material (> 30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. An exception is if lovegrass or serotia lespedeza is to be planted, then a sandy soil (< 30% silt plus clay) would be acceptable
    - 4. Soil shall contain 1.5% minimum organic matter by weight.
    - 5. Soil must contain sufficient pore space to permit adequate root penetration.
    - 6. If these conditions cannot be met by soils on site, adding topsoil is required in accordance with Section 38 Standard and Specification for Topsoil.
  - b. Areas previously graded in conformance with the drawings shall be maintained in a true and even grade, then scarified or otherwise loosened to a depth of 3 - 5" to permit bonding of the topsoil to the surface area and to create horizontal erosion check slots to prevent topsoil from sliding down a slope.
  - c. Apply soil amendments as per soil test or as included on the plans.
- d. Mix soil amendments into the top 3 - 5" of topsoil by disking or other suitable means. Lawn areas should be raked to smooth the surface, remove large objects like stones and branches, and ready the area for seed application. Where site conditions will not permit normal seedbed preparation, loosen surface soil by dragging with a heavy chain or other equipment to roughen the surface. Steep slopes (steeper than 3:1) should be tracked by a dozer leaving the soil in an irregular condition with ridges running parallel to the contour of the slope. The top 1 - 3" of soil should be loose and friable. Seedbed loosening may not be necessary on newly disturbed areas.

D. Seed Specifications

- i. All seed must meet the requirements of the District of Columbia DPW Standard and Specifications for Highways and Structures and specification 42.0 Vegetative Stabilization. All seed shall be subject to re-testing by a recognized seed laboratory. All seed used shall have been tested within the 6 months immediately preceding the date of sowing such material on this job.

Note: Seed tags shall be made available to the inspector to verify type and rate of seed used.

- ii. **Inoculant** - The inoculant for treating legume seed in the seed mixtures shall be a pure culture of nitrogen-fixing bacteria prepared specifically for the species. Inoculants shall not be used later than the date indicated on the container. Add fresh inoculant as directed on package. Use four times the recommended rate when hydroseeding. Note: It is very important to keep inoculant as cool as possible until used. Temperatures above 75-80° F. can weaken bacteria and make the inoculant less effective.

E. Methods of Seeding: Apply seed uniformly with hydroseeder (slurry includes seed and fertilizer), broadcast or drop seeder, or a cultipacker seeder.

- i. Hydroseeding:
  - a. If fertilizer shall be applied at the time of seeding, the application rates amounts will not exceed the following: nitrogen; maximum of 100 lbs. per acre total of soluble nitrogen; P205 (phosphorus); 200 lbs/oc; K2O (potassium); 200 lbs/oc.
  - b. Lime - use only ground agricultural limestone. (Up to 3 tons per acre may be applied by hydroseeding). Normally, not more than 2 tons are applied by hydroseeding at any time. Do not use burnt or hydrated lime when hydroseeding.
  - c. Seed and fertilizer shall be mixed on site and seeding shall be done immediately and without interruption.
- ii. Dry Seeding: This includes use of conventional drop or broadcast spreaders.
  - a. Seed spread dry shall be incorporated into the subsoil at the rates prescribed on the Temporary or Permanent Seeding Summaries or Tables 42 or 43(See ES&C Manual). The seeded area shall then be rolled with a weighted roller to provide good seed to soil contact.
- iii. soil.
  - b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

Mechanized seeders that apply and cover seed with Drill or Cultipacker Seeding:

- a. Cultipacking seeders are required to bury the seed in such a fashion as to provide at least 1/4 inch of soil covering. Seedbed must be firm after planting.
- b. Where practical, seed should be applied in two directions perpendicular to each other. Apply half the seeding rate in each direction.

F. Mulch Specifications (preference)

- i. Straw shall consist of thoroughly threshed wheat, rye or oat straw, reasonably bright in color, and shall not be musty, moldy, coked, decayed, or excessively dusty and shall be free of noxious weed seeds as specified by the NRCS Seed Law.
  - Note: Only sterile straw mulch should be used in areas where one species of grass is desired.
- ii. **Wood Cellulose Fiber Mulch (WCFM)**
  - a. WCFM shall consist of specially prepared wood cellulose processed into a uniform fibrous physical state.
  - b. WCFM shall be dyed green or contain a green dye in the package that will provide an appropriate color to facilitate visual inspection of the uniformly spread slurry.
  - c. WCFM, including dye, shall contain no germination or growth inhibiting factors.
  - d. WCFM materials shall be manufactured and processed in such a manner that the wood cellulose fiber mulch will remain in uniform suspension in water under agitation and will blend with seed, fertilizer and other additives to form a homogeneous slurry. The mulch material shall form a blotter-like ground cover, on application, having moisture absorption and percolation properties and shall cover and hold grass seed in contact with the soil without inhibiting the growth of the grass seedlings.
  - e. WCFM material shall contain no elements or compounds at concentration levels that will be phyto-toxic.
  - f. WCFM must conform to the following physical requirements: fiber length to approximately 10 mm., diameter approximately 1 mm., pH range of 4.0 to 8.5, ash content of 1.6% maximum and water holding capacity of 90% minimum.
- G. **Mulching Seeded Areas** - Mulch shall be applied to all seeded areas immediately after seeding.

- i. If grading is completed outside of the seeding season, mulch alone shall be applied as prescribed in this section and maintained until the seeding season returns and seeding can be performed in accordance with these specifications.
- ii. When straw mulch shall be used, it shall be spread over all seeded areas at the rate of 2 tons/acre. Mulch shall be applied to a uniform loose depth of between 1" and 2". Mulch applied shall achieve a uniform distribution and depth so that the soil surface is not exposed. If a mulch anchoring tool is to be used, the rate should be increased to 2.5 tons/acre.
- iii. Wood cellulose fiber used as a mulch shall be applied at a net dry weight of 1,500 lbs. per acre. The wood cellulose fiber shall be mixed with water, and the mixture shall contain a maximum of 50 lbs. of wood cellulose fiber per 100 gallons of water.

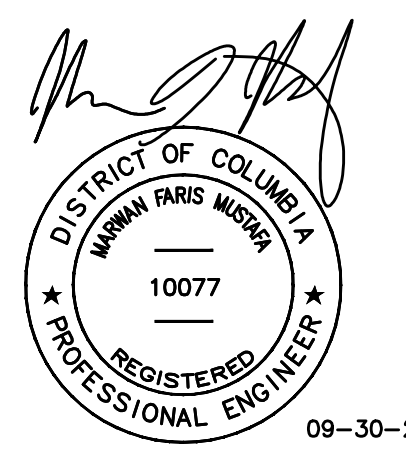
H. Securing Straw Mulch (Mulch Anchoring): Mulch anchoring shall be performed immediately following mulch application to minimize loss by wind or water. This may be done by one of the following methods (listed by preference), depending upon size of area and erosion hazard:

- i. A mulch anchoring tool is a tractor drawn implement designed to punch and anchor mulch into the soil surface a minimum of two (2) inches. This practice is most effective on large areas, but is limited to flatter slopes where equipment can operate safely. If used on sloping land, this practice should be used on the contour if possible.
- ii. Wood cellulose fiber may be used for anchoring straw. The fiber binder shall be applied at a net dry weight of 750 pounds/acre. The wood cellulose fiber shall be mixed with water and the mixture shall contain a maximum of 50 pounds of wood cellulose fiber per 100 gallons of water.
- iii. Application of liquid binders should be heavier at the edges where wind catches mulch, such as in valleys and on crests of banks. The remainder of area should appear uniform after binder application. Synthetic binders - such as Acrylic DLR (Agra-Tack), DCA-70, Petroset, Terra Tax II, Terra Tack AR or other approved equal may be used at rates recommended by the manufacturer to anchor mulch.
- iv. Lightweight plastic netting may be stapled over the mulch according to manufacturer's recommendations. Netting is usually available in rolls 4' to 15' feet wide and 300 to 3,000 feet long.

I. Incremental Stabilization - Cut Slopes

- i. All cut slopes shall be dressed, prepared, seeded and mulched as the work progresses. Slopes shall be excavated and stabilized in equal increments not to exceed 15'.
  - a. Excavate and stabilize all temporary swales, side ditches, or berms that will be used to convey runoff from the excavation.
  - b. Perform phase 1 excavation, dress, and stabilize.
  - c. Perform phase 2 excavation, dress, and stabilize. Overseed phase 1 areas as necessary.
  - d. Perform final phase excavation, dress, and stabilize. Overseed previously seeded areas as necessary.
- ii. Construction sequence (Refer to Figure 4 below):

Note: Once excavation has begun the operation shall be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.



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Project Number: 2015-4810

Revisions		
Revision Number	Revision Date	Revision Description


Issue Date: 09/30/2016

Sheet Title: **EROSION AND SEDIMENT CONTROL NOTES AND DETAILS-2**

Sheet Number: **CIV704**

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- J. Incremental Stabilization of Embankments – Fill Slopes
- Embankments shall be constructed in lifts as prescribed on the plans.
  - Slopes shall be stabilized immediately when the vertical height of the multiple lifts reaches 15', or when the grading operation ceases as prescribed in the plans.
  - At the end of each day, temporary berms and pipe slope drains should be constructed along the top edge of the embankment to intercept surface runoff and convey it down the slope in a non-erosive manner to a sediment trapping device.
  - Construction sequence: Refer to Figure 5 (below).
- Excavate and stabilize all temporary swales, side ditches, or berms that will be used to divert runoff around the fill. Construct Slope Silt Fence on low side of fill as shown in Figure 5, unless other methods shown on the plans address this area.
  - Place phase 1 embankment, dress and stabilize.
  - Place phase 2 embankment, dress and stabilize.
  - Place final phase embankment, dress and stabilize. Overseed previously seeded areas as necessary.

Note: Once the placement of fill has begun the operation shall be continuous from grubbing through the completion of grading and placement of topsoil (if required) and permanent seed and mulch. Any interruptions in the operation or completing the operation out of the seeding season will necessitate the application of temporary stabilization.

Section III: Permanent Seeding

Seeding grass and legumes to establish ground cover for a minimum period of one year on disturbed areas generally receiving low maintenance.

- A. Seed Mixtures – Permanent Seeding
- Select one or more of the species or mixtures listed in Table 42(See DDOE ES&C Manual) for the appropriate Plant Hardiness Zone (from Figure 6) and enter them in the Permanent Seeding Summary below, along with application rates and seeding dates. Seeding depths can be estimated using Table 43(See DDOE ES&C Manual). If this Summary is not put on the construction plans and completed, then Table 42 must be put on the plans. Additional planting specifications for exceptional sites such as shorelines, streambanks, or dunes or for special purposes such as wildlife or aesthetic treatment may be found in USDA-SCS Technical Field Office Guide, Section 342- Critical Area Planting. For special lawn maintenance areas, see Sections IV Sod and V Turfgrass.

~~ii. For sites having disturbed area over 5 acres, the rates shown on this table shall be deleted and the rates recommended by the soil testing agency shall be written in.~~

- For areas receiving low maintenance, apply ureaform fertilizer (46-0-0) at 3 1/2 lbs/1000 sq. ft. (150 lbs/ac), in addition to the above soil amendments shown in the table below, to be performed at the time of seeding.
- ☐ Permanent Seeding Summary

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	Fertilizer Rate			Lime Rate
					N	P205	K20	
1	Tall Fescue(83%)	110 lb/ac	3/1-10/15	1"-2"				2 tons/ac (100 lb/1000 sf)
2	Weeping Love Grass (2%)plus	3 lb/ac	3/1-10/15	1"-2"	90 lb/ac (2 lb/1000 sf)	175 lb/ac (4 lb/1000 sf)	175 lb/ac (4 lb/1000 sf)	
3	Serecia Lespedeza(15%)	20 lb/ac	3/1-10/15	1"-2"				

Section IV – Sod: To provide quick cover on disturbed areas (2:1 grade or flatter).

- A. General specifications
- Class of turfgrass sod shall be Maryland or Virginia State Certified or Approved. Sod labels shall be made available to the job foreman and inspector.
  - Sod shall be machine cut at a uniform soil thickness of 3/4", plus or minus 1/4", at the time of cutting. Measurement for thickness shall exclude top growth and thatch. Individual pieces of sod shall be cut to the suppliers width and length. Maximum allowable deviation from standard widths and lengths shall be 5 percent. Broken pads and torn or uneven ends will not be acceptable.
  - Standard size sections of sod shall be strong enough to support their own weight and retain their size and shape when suspended vertically with a firm grasp on the upper 10 percent of the section.
  - Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) may adversely affect its survival.
  - Sod shall be harvested, delivered, and installed within a period of 36 hours. Sod not transplanted within this period shall be approved by an agronomist or soil scientist prior to its installation.
- B. Sod Installation
- During periods of excessively high temperature or in areas having dry subsoil, the subsoil shall be lightly irrigated immediately prior to laying the sod.
  - The first row of sod shall be laid in a straight line with subsequent rows placed parallel to and tightly wedged against each other. Lateral joints shall be staggered to promote more uniform growth and strength. Ensure that sod is not stretched or overlapped and that all joints are butted tight in order to prevent voids, which would cause air drying of the roots.
  - Wherever possible, sod shall be laid with the long edges parallel to the contour and with staggering joints. Sod shall be rolled and tamped, pegged or otherwise secured to prevent slippage on slopes and to ensure solid contact between sod roots and the underlying soil surface.
  - Sod shall be watered immediately following rolling or tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. The operations of laying, tamping and irrigating for any piece of sod shall be completed within eight hours.
- C. Sod Maintenance
- In the absence of adequate rainfall, watering shall be performed daily or as often as necessary during the first week and in sufficient quantities to maintain moist soil to a depth of 4". Watering should be done during the heat of the day to prevent wilting.

- After the first week, sod watering is required as necessary to maintain adequate moisture content.
- The first mowing of sod should not be attempted until the sod is firmly rooted. No more than 1/3 of the grass leaf shall be removed by the initial cutting or subsequent cuttings. Grass height shall be maintained between 2" and 3" unless otherwise specified.

Section V – Turfgrass Establishment

Areas where turfgrass may be desired include lawns, parks, playgrounds, and commercial sites which will receive a medium to high level of maintenance. Areas to receive seed shall be tilled by diking or other approved methods to a depth of 2 to 4 inches, leveled and raked to prepare a proper seedbed. Stones and debris over 1 1/2 inches in diameter shall be removed. The resulting seedbed shall be in such condition that future mowing of grasses will pose no difficulty.

Note: Choose certified material. Certified material is the best guarantee of cultivar purity.

- A. Turfgrass Mixtures
- Kentucky Bluegrass – Full sun mixture – For use in areas that receive intensive management. Recommended Certified Kentucky Bluegrass Cultivars Seeding Rate: 1.5 to 2.0 pounds/1000 square feet. A minimum of three bluegrass cultivars should be chosen ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.
  - Kentucky Bluegrass/Perennial Ryegrass – Full sun mixture – For use in full sun areas where rapid establishment is necessary and when turf will receive medium to intensive management. Certified Perennial Ryegrass Cultivars/Certified Kentucky Bluegrass Seeding rate: 2 pounds mixture/1000 square feet. A minimum of 3 Kentucky Bluegrass Cultivars must be chosen, with each cultivar ranging from 10% to 35% of the mixture by weight.
  - Tall Fescue/Kentucky Bluegrass – Full sun mixture – For use in drought prone areas and/or for areas receiving low to medium management in full sun to medium shade. Recommended mixture includes: certified Tall Fescue Cultivars 95- 100%, certified Kentucky Bluegrass Cultivars 0- 5%. Seeding rate: 5 to 8 lb/1000 sf. One or more cultivars may be blended.
  - Kentucky Bluegrass/Fine Fescue – Shade Mixture – For use in areas with shade in Bluegrass lawns. For establishment in high quality, intensively managed turf area. Mixture includes: certified Kentucky Bluegrass Cultivars 30-40% and certified Fine Fescue 60-70%. Seeding rate: 1 1/2- 3 lbs/1000 square feet. A minimum of 3 Kentucky bluegrass cultivars must be chosen, with each cultivar ranging from a minimum of 10% to a maximum of 35% of the mixture by weight.

Note: Turfgrass varieties should be selected from those listed in the most current University of Maryland Publication, Agronomy Mimeo #77, "Turfgrass Cultivar Recommendations for Maryland".

- B. Ideal times of seeding
- March 1 – April 30, August 15 – October 31

C. Irrigation

If soil moisture is deficient, supply new seedlings with adequate water for plant growth (1/2" – 1" every 3 to 4 days depending on soil texture) until they are firmly established. This is especially true when seedlings are made late in the planting season, in abnormally dry or hot seasons, or on adverse sites.

D. Repairs and Maintenance

- Once the vegetation is established, the site shall have 95% groundcover to be considered adequately stabilized.
- If the stand provides less than 40% ground coverage, reestablish following original lime, fertilizer, seedbed preparation and seeding recommendations.
- If the stand provides between 40% and 94% ground coverage, overseeding and fertilizing using half of the rates originally applied may be necessary.
- Maintenance fertilizer rates for permanent seedings are shown in Table 41(See DDOE ES&C Manual).

Table 38 Recommended Varieties of Grasses and Legumes for Disturbed Areas Receiving Low Maintenance

Grasses	Varieties
Tall Fescue	Adventure, Apache, Arid, Bonanza, Falcon, Clearfire, Finelawn I, Hounddog, Jaguar, Kentucky 31?, Mustang, Olympic, Rebel II, Tribute
Perennial Ryegrass	All-Star, Blazer, Manhattan, Palmer, Pennant, Peninfine, Premier, Prelude, Regal, Repell
Kentucky Bluegrass	"Common", Kenblue, Victa, Ram I, Monopoly
Creeping Red Fescue	Pennlawn, Flyer
Hard Fescue	Aurora, Bijart, Reiland, Scaldis, Spartan, Waldina
Chewings Fescue	Longfellow, Victory, Jamestown
Canada Bluegrass	Reubens
Redtop	Streaker
Poa Trivialis	Laser, Sabre
Reed Canarygrass	Iroseed, Palaton, Rise
Weeping Lovegrass	Morpa, "Common"
Legumes	Variety
Crowwetch	Penggift, Chemung
Serecia Lespedeza	Interstate, Interstate 76, Appalow
Flatpea	Lathco
Birdfoot Trefoil	Empirc, Norcen, Viking

1/ Refer to latest Agronomy Memo #77, University of Maryland – Cooperative Extension Service, for the Turfgrass Cultivars recommended for Maryland. This publication is updated annually.  
2/ Kentucky 31 Tall Fescue shall not be used to stabilize wetlands or wetland buffer areas.

Section II – Temporary Seeding

Vegetation – annual grass or grain used to provide cover on disturbed areas for up to 12 months. For longer duration of vegetative cover, Permanent Seeding is required.

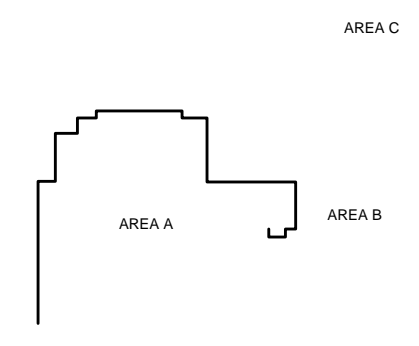
- A. Seed Mixtures – Temporary Seeding
- Select one or more of the species or mixtures listed in Table 43(See DDOE ES&C Manual) for the appropriate Plant Hardiness Zone (from Figure 5) and enter them in the Temporary Seeding summary below, along with application rates, seeding dates and seeding depths. If this Summary is not put on the plans and completed, then Table 43(See DDOE ES&C Manual) must be put on the plans.
  - For sites h

Figure 5 Incremental Stabilization – Fill I be deleted and the oil tests are not required for Temporary Seeding.

TEMPORARY SEEDING SUMMARY

No.	Species	Application Rate (lb/ac)	Seeding Dates	Seeding Depths	Fertilizer Rate (10-10-10)	Lime Rate
1	BARLEY	150 LB./AC.	3/1 – 10/15	1"	600 lb/ac (15 lb/1000 sf)	2 tons/ac (100 lb/1000 sf)
2	RYE PLUS FOXTAIL-MILLET	150 LB./AC.	3/1 – 10/15	1"		

- Wherever possible, sod shall be laid with the long edges parallel to the contour and with staggering joints. Sod shall be rolled and tamped, pegged or otherwise secured to prevent slippage on slopes and to ensure solid contact between sod roots and the underlying soil surface.
- Sod shall be watered immediately following rolling or tamping until the underside of the new sod pad and soil surface below the sod are thoroughly wet. The operations of laying, tamping and irrigating for any piece of sod shall be completed within eight hours.



EROSION AND SEDIMENT CONTROL NOTES AND DETAILS-3



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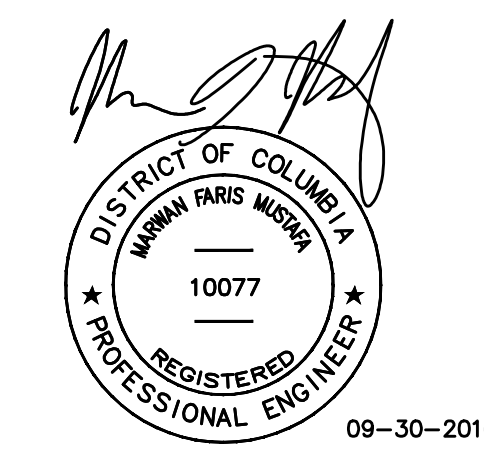
Project Number: 2015-4810

Revisions		
Revision Number	Revision Date	Revision Description

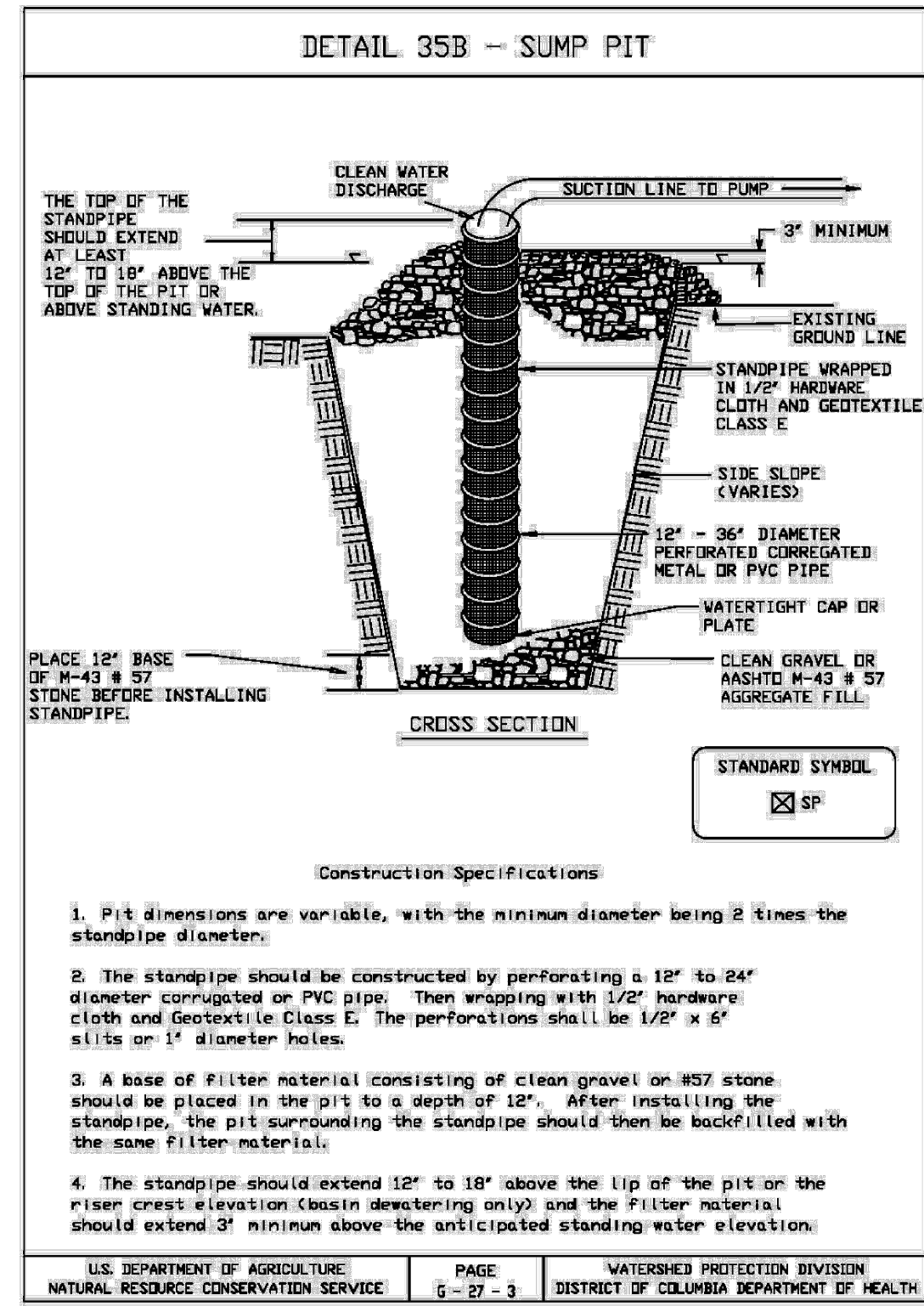
Issue Date: 09/30/2016

Sheet Title: EROSION AND SEDIMENT CONTROL NOTES AND DETAILS-3

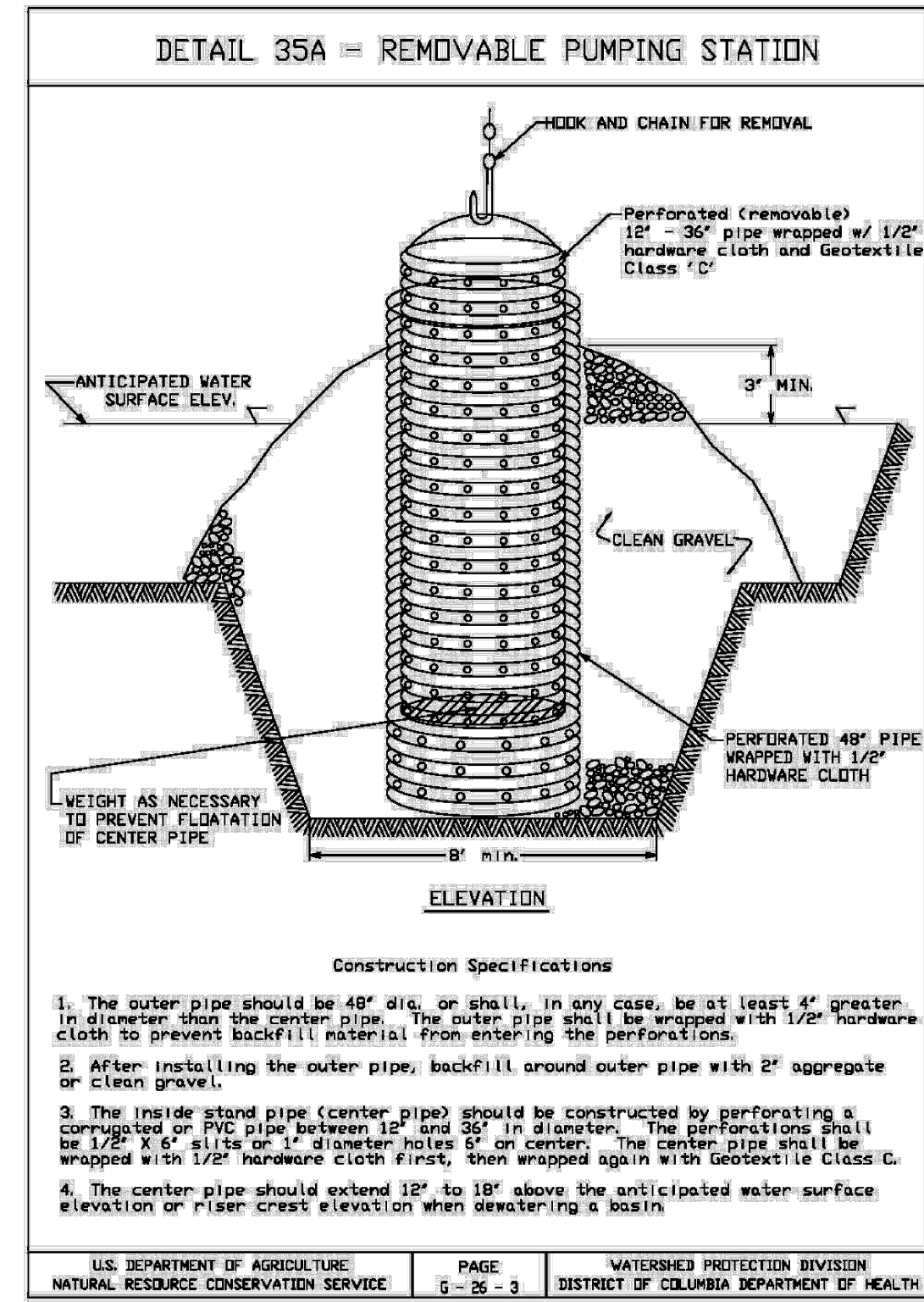
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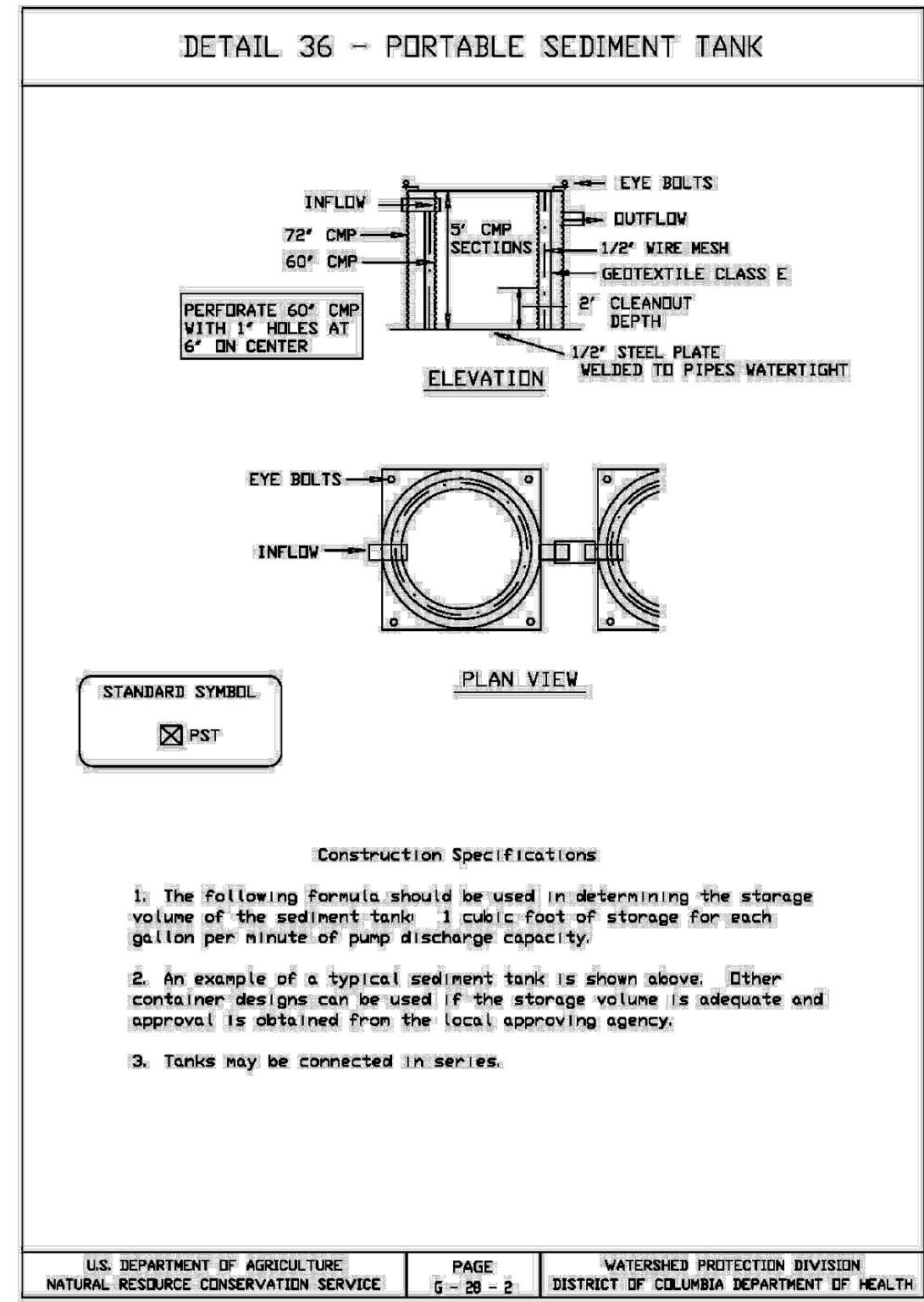
09-30-2016



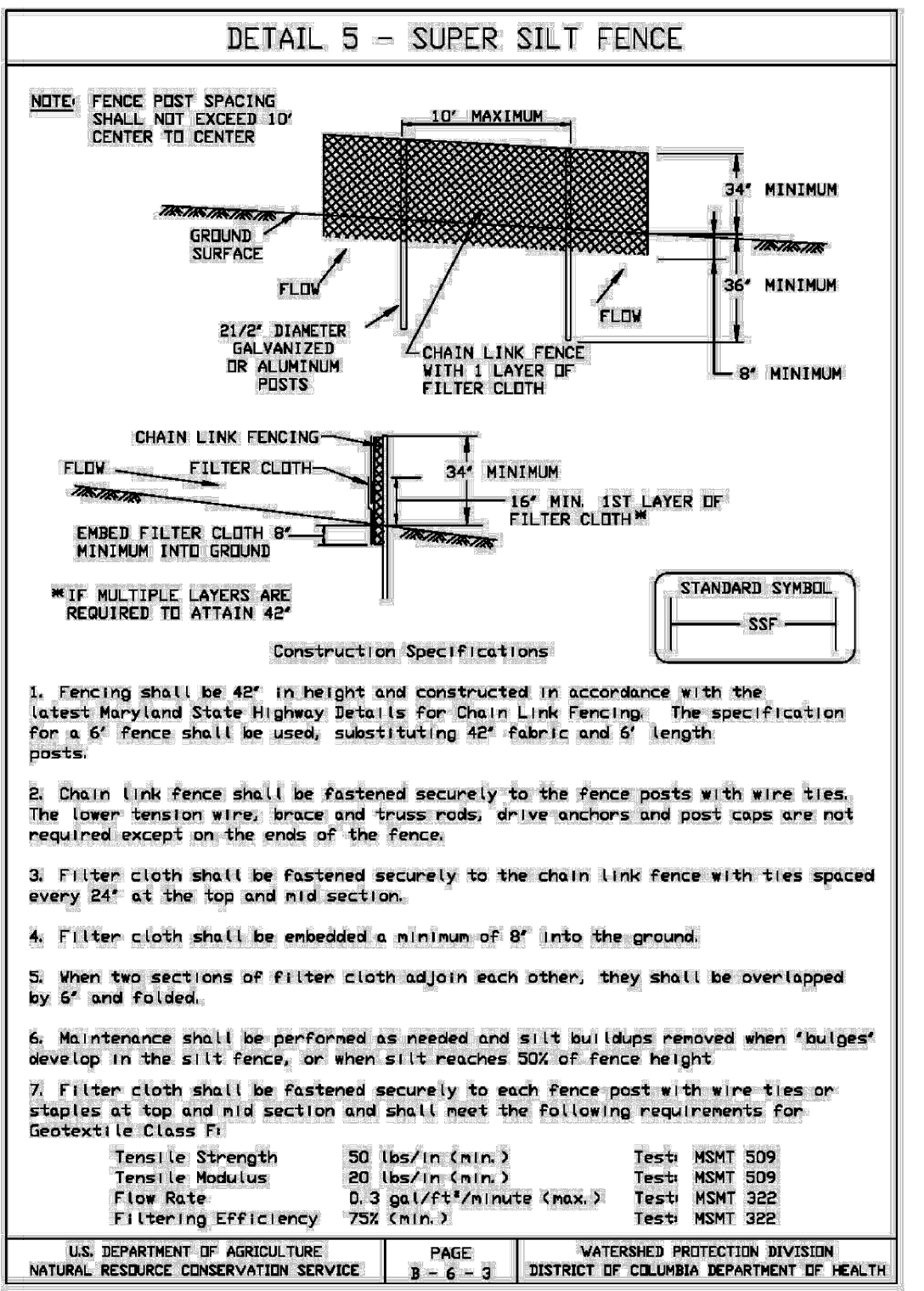
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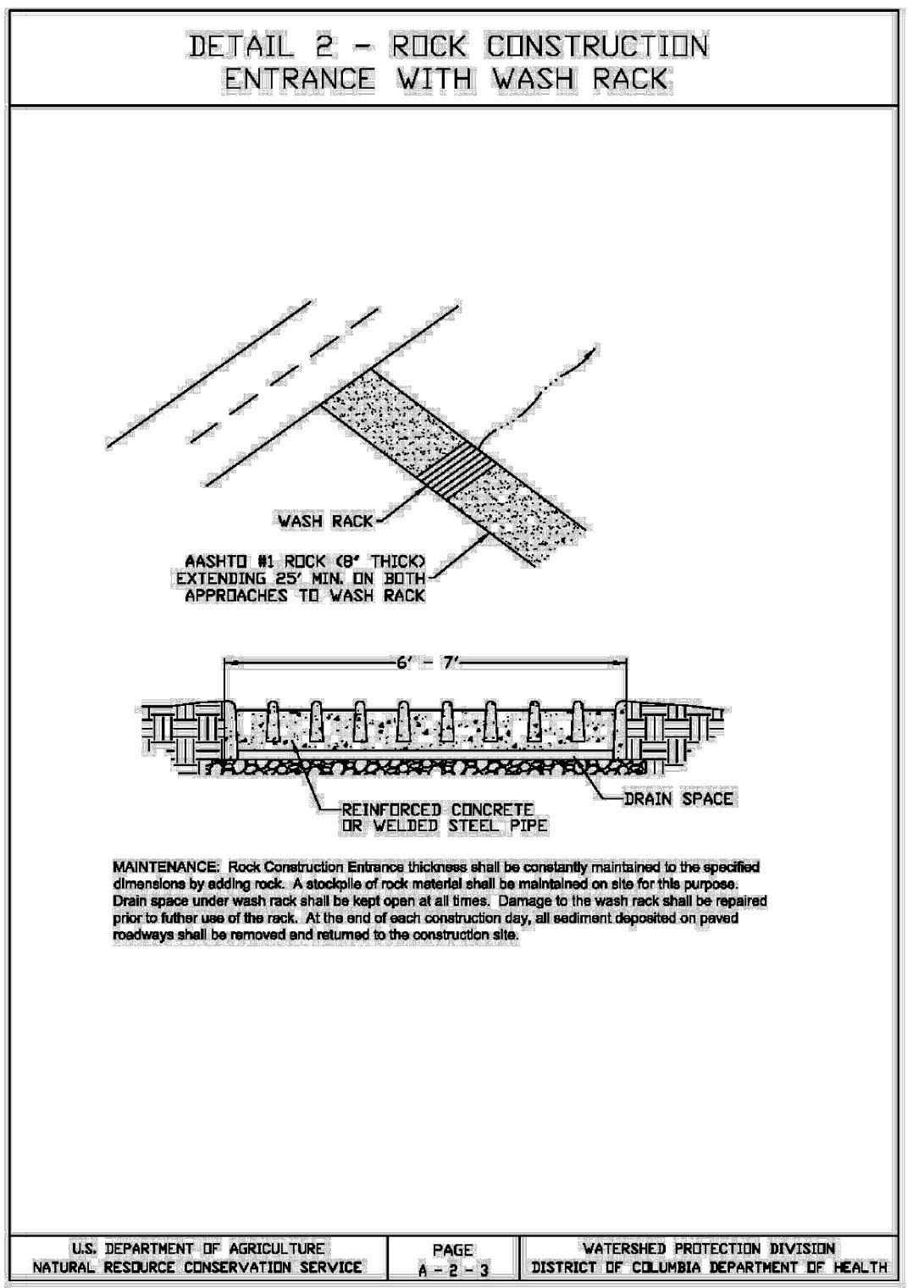
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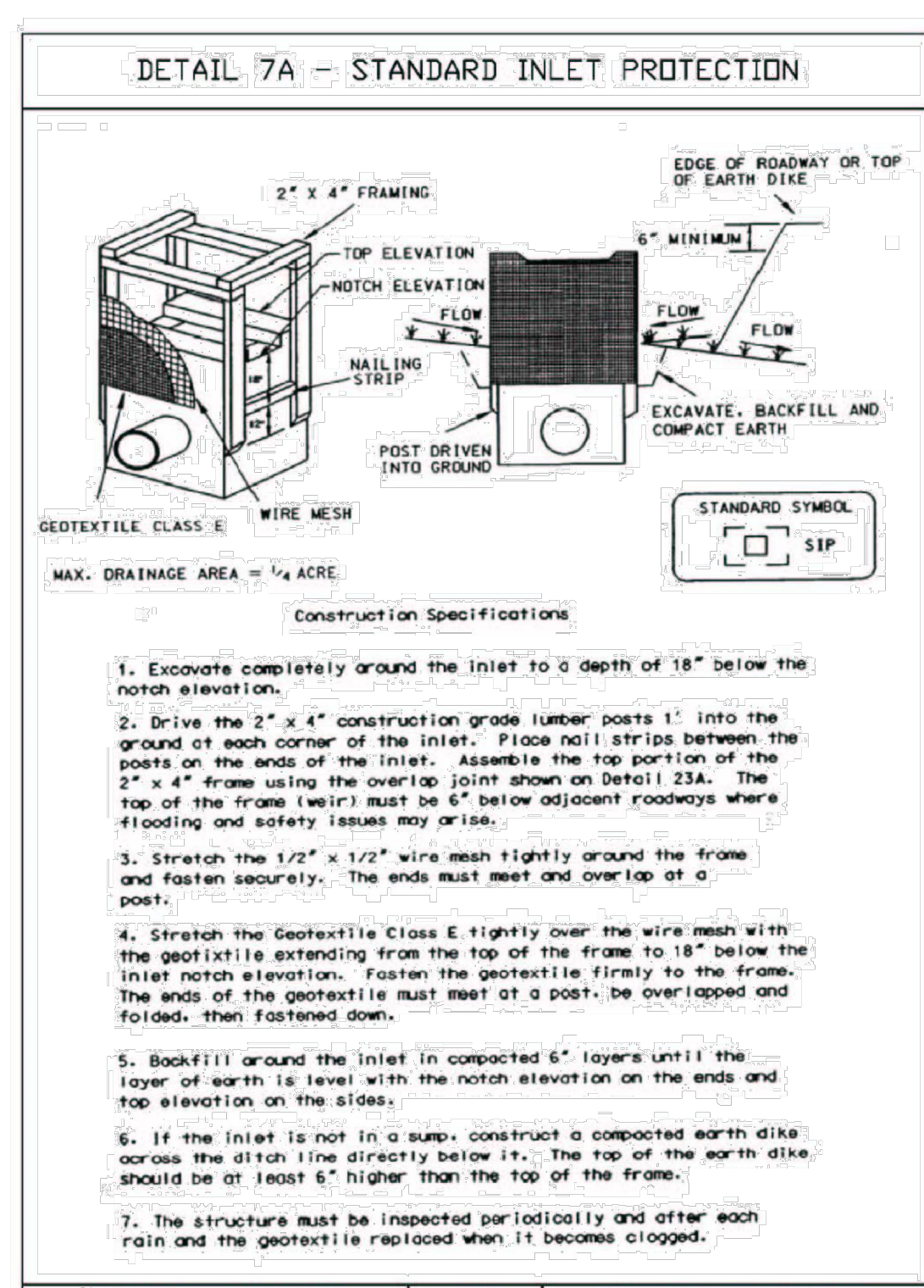
G-26-4 March 2003



B-6-3 March 2003



A-2-3 March 2003



B-7-5 March 2003

EROSION AND SEDIMENT CONTROL NOTES AND DETAILS-4

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Project Number: 2015-4810

Revision Number	Revision Date	Revision Description

Revision Number	Revision Date	Revision Description

Issue Date: 09/30/2016

Sheet Title: EROSION AND SEDIMENT CONTROL NOTES AND DETAILS-4

Sheet Number: **CIV706**

