FREEHOLD SOIL CONSERVATION DISTRICT
(Serving Middlesex and Monmouth Counties)

211 FREEHOLD ROAD
MANALAPAN, NEW JERSEY 07726
Tel: (732) 446-2300
Fax: (732) 446-9140

11/8/99

DEPARTMENT OF NAVY, NORTHERN
10 INDUSTRIAL HWY. MAIL STOP NO. 82
LESTER PA 19113-2090

Ref.#: 99-0444
Proj.: NAVAL WEAPONS STATION EARLE
Twp. : MIDDLETOWN
Block: N/A
Lots : N/A

*** CERTIFICATION LETTER ***

Pursuant to N.J.S.A. 4:24-39 et seq., the N.J. Soil Erosion and Sediment Control Act, the Freehold Soil Conservation District hereby grants certification of the soil erosion and sediment control plan for the above-captioned project, subject to the following:

1. That the applicant carries out all land disturbance activities in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey, promulgated by the State Soil Conservation Committee.

2. The owner/applicant must obtain a District-issued Report of Compliance prior to the issuance of any Certificates of Occupancy by the municipality.

3. Changes in the certified plan relating to, or that will affect land disturbance on the site, must be submitted to the District office for reevaluation and approval.

A copy of the certified plan must be kept on the job site at all times.

This certification is valid for 3 ½ years, or for 2 years in the event the project is for mining, landfill, or storage and is limited to the controls specified in this plan. It is not authorization to engage in proposed land use unless the municipality or other controlling agency has previously approved such use. Failure to comply with the above conditions may result in the issuance of a Stop Construction Order.

Sincerely,

Ines M. Grimm
District Manager

Distribution: WHITE/1-Applicant CANARY/2-District WHITE/2-Appl. Eng. CANARY/1-Municipal Eng. PINK-Construction Official GOLD-Plan. Board

REVIEWED BY STACY ABRAHAMSEN-BEDNY

NAVAL WEAPONS STATION EARLE

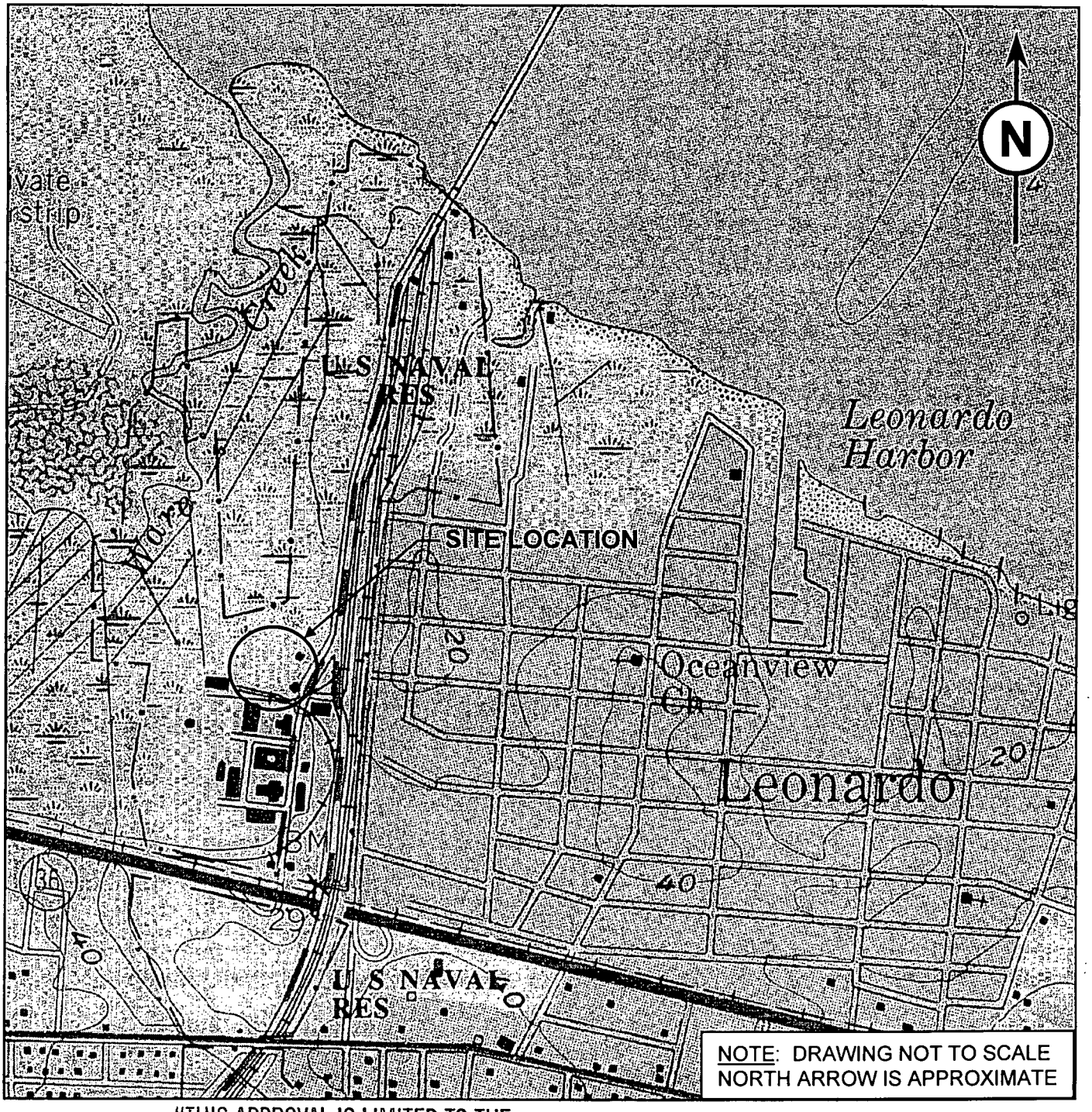
SITE 6

MONMOUTH SOIL CONSERVATION DISTRICT
Certified By _____ Supervisor

#99-444

KEY MAP

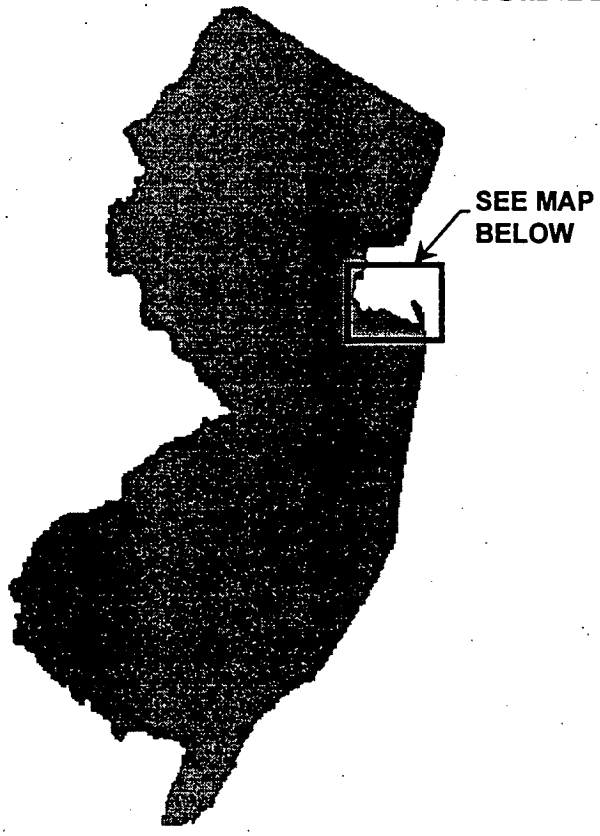
Appl.No. 99-444 Date 11/8/99
CERTIFICATION VALID FOR 3½ YRS.

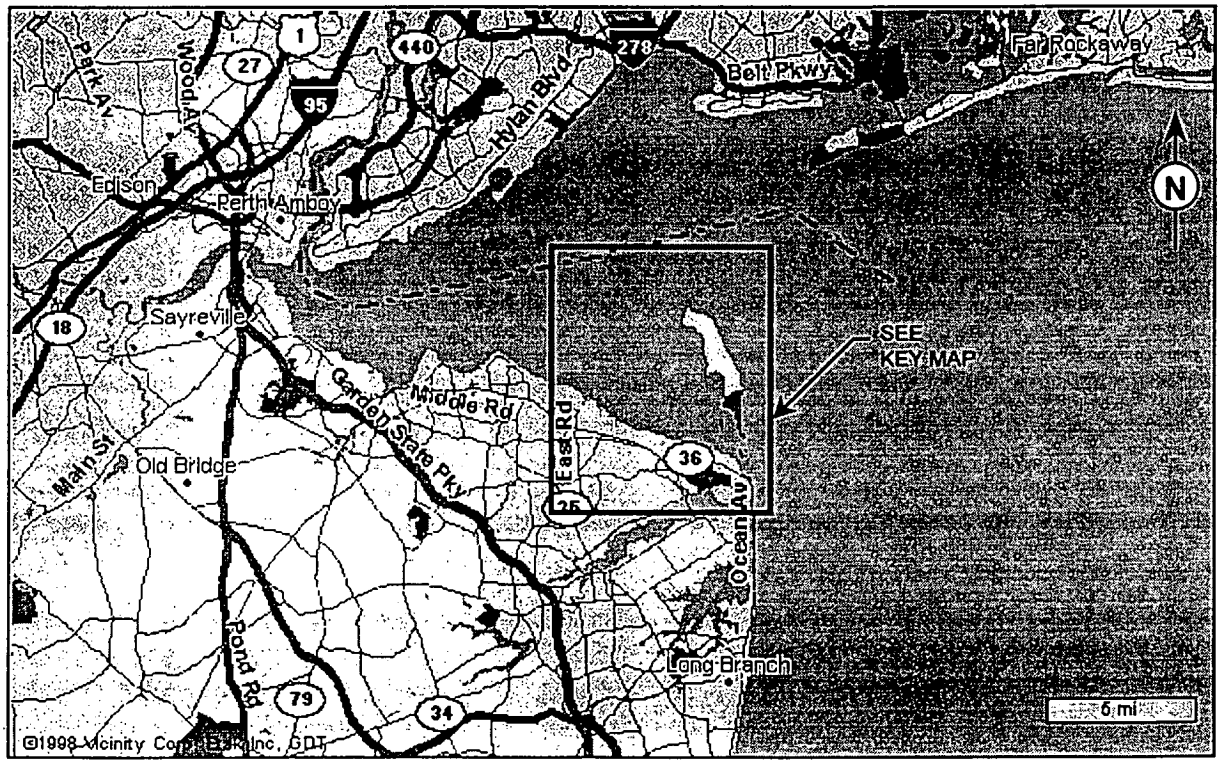


"THIS APPROVAL IS LIMITED TO THE REQUIREMENTS OF N.J.S.A. 4:24-39, ET SEQ. AND IS NOT TO BE CONSTRUED AS AUTHORIZATION FOR THE USE PROPOSED ON THIS PLAN FOR WHICH APPLICANT MUST OBTAIN LOCAL APPROVAL."

NAVAL WEAPONS STATION EARLE
SITE 6

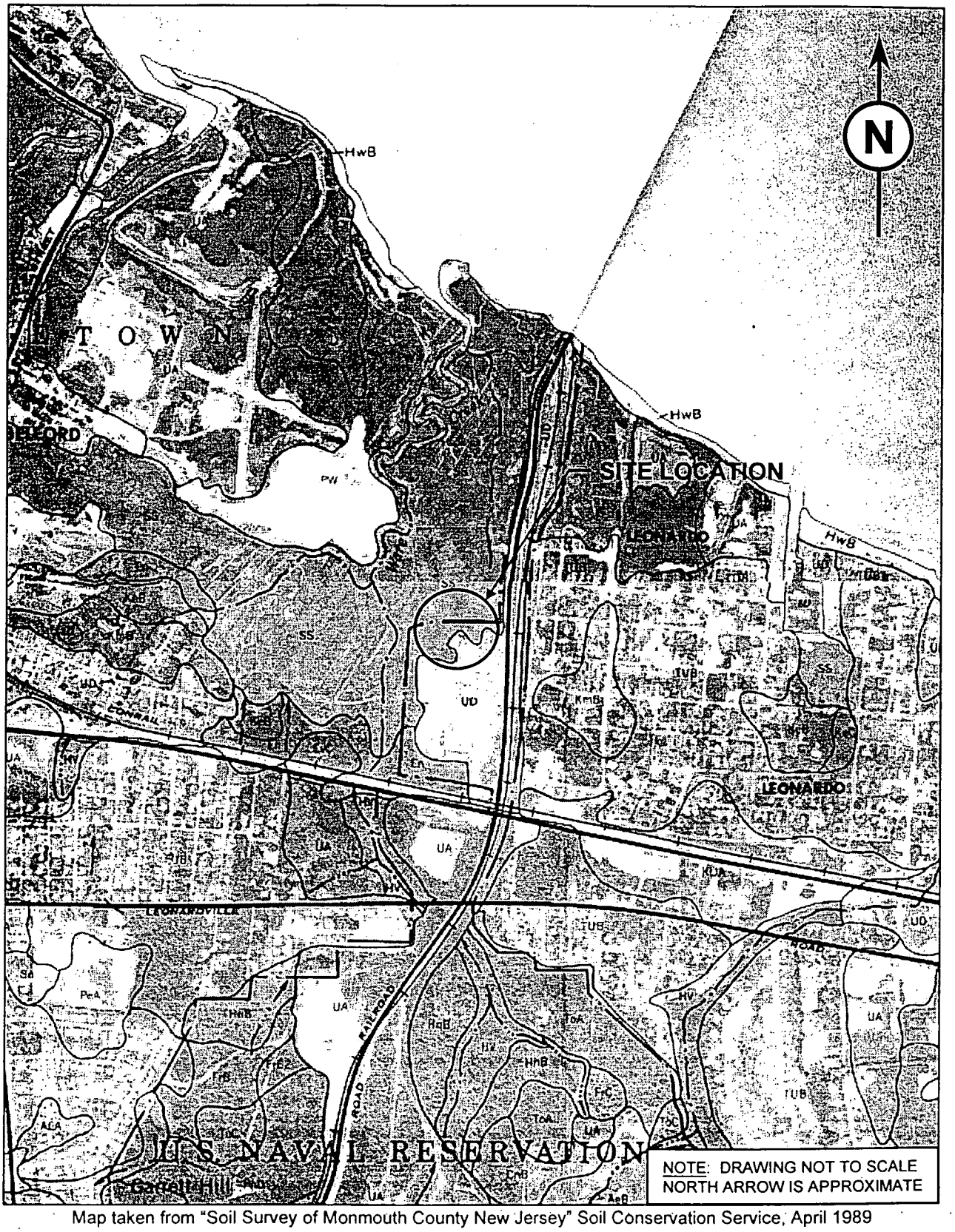
VICINITY MAP





SOIL SURVEY MAP

Weapons Station Earle, Site 6



Map taken from "Soil Survey of Monmouth County New Jersey" Soil Conservation Service, April 1989

SPECIFICATION COVER SHEET

NAVAL WEAPONS STATION EARLE
Leonardo, New Jersey

SPECIFICATIONS

DIVISION 2 - SITE WORK
Section 02110 - Clearing and Grubbing
Section 02200 - Earthwork
Section 02485 - Seeding and Erosion Protection

FOR

SITE 6
SLOPE STABILIZATION

Revision	Prepared by	Reviewed by	Approved by	Date	Pages Affected
0	J. Lyon		M. Junghans	Jul-99	ALL

SECTION 02110
SITE CLEARING AND GRUBBING

PART 1 - GENERAL

The work required under this Section includes furnishing all plant, labor, equipment, and materials for performing all operation required for clearing and grubbing the site.

1.1 Definitions

1.1.1 Clearing: Clearing shall consist of the felling, trimming, and cutting of trees into sections and the satisfactory disposal of the trees and other vegetation designated for removal, including down timber, snags, brush, and rubbish occurring within the areas to be cleared.

1.1.2 Grubbing: Grubbing shall consist of the removal and disposal of stumps, roots larger than 1-½ inches in diameter, and matted roots and decayed matter to a depth not less than 12 inches below original ground in the designated grubbing areas.

1.2 Dust Control

The Contractor shall comply with dust control requirements specified on drawing C-2, note 13.

PART 2 - REQUIRED WORK

2.1 Clearing:

2.1.1 Clearing shall consist of the removal of all trees (cut just above ground surface), brush, logs, limb wood, rubbish, and all other obstructions on the surface of the original ground within the limits of clearing shown on the Contract Drawings, except such trees and vegetation as may be directed by the Engineer or his designee to be left standing.

2.1.2 Trees directed to be left standing within the cleared areas shall be trimmed of dead branches 1-½ inches or more in diameter and shall be trimmed of all branches to the heights directed. Limbs and branches to be trimmed shall be neatly cut close to the bole of the tree or main branches. Cuts more than 1-½ inches in diameter shall be painted with a tree-wound paint approved by the Engineer.

2.1.3 Trees and vegetation to be left standing shall be protected from damage incident to clearing, and construction operations by the erection of barriers or by such other means as the circumstances require.

2.2 Grubbing:

The Contractor shall grub areas within the limit of disturbance shown on Contract Drawings.

2.3 Disposal

The Contractor shall dispose of all materials from clearing and grubbing off-site.

END OF SECTION

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SECTION 02200
EARTHWORK

PART 1 - GENERAL

The work required under this section includes furnishing all labor, equipment and materials for performing all operations for soil excavation and placement of soil materials required to perform the remediation.

1.1 Definitions

1.1.1 Soil Excavation: Soil excavation shall consist of grading required to prepare the slope to a 4:1 slope.

1.1.2 On Site Fill Material: Soil material resulting from re-grading of the slope.

1.1.3 Off-Site Clean Material: Off-site clean material consists of clean soil material imported from an off-site source.

1.2 Applicable Publications

The latest edition of the following publications will be followed for the work to be performed.

ASTM D2216	Method for Laboratory Determination of Water (Moisture) Content of Soil, Rock, and Soil-Aggregates Mixture
ASTM D698	Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5-1/2 lb. (2.49 kg) Rammer and 12-inches (304.8 mm) Drop
ASTM-D1556	Density of Soil in Place by the Sand-Cone Method
ASTM-D2922	Density of Soil and Soil-Aggregate in Place by Nuclear Methods
ASTM-D3017	Moisture Content of Soil and Soil-Aggregate in Place by Nuclear Method

PART 2 - REQUIRED WORK

2.1 The Contractor shall grade the site in accordance with the elevation contours presented on the Contract Drawings. Clearing and grubbing will be performed in accordance with Specification Section 02110. Topsoil shall be stripped and stockpiled separately. Soil cut from the site may be reused where fill is required as approved by the Engineer. The Contractor shall compact all materials placed to achieve the required density and moisture content.

2.2 During the grading operations, some excavation of the site and redistribution of the existing stockpiled material will be required to obtain the necessary grades shown on the Contract Drawings.

2.3 The Contractor shall perform the necessary surveys during the performance of the required work and submit the results to the Engineer for acceptance.

2.4 All equipment and material supplied by the Contractor shall be in good working condition and shall not be contaminated.

2.5 Soil material cut from the site shall be temporarily stockpiled on-site as directed by the Engineer.

2.6 The Contractor shall decontaminate all equipment prior to removal from the site in accordance with the Project Health and Safety Plan of this Contract.

2.7 The Contractor shall maintain all work areas free from excess dust to such reasonable degree as to avoid causing a hazard or nuisance to others. Dust control shall be performed as the work proceeds and wherever a dust nuisance or hazard occurs.

2.8 The Contractor shall furnish, install and maintain all erosion control measures as shown on the Contract Drawings during the course of placement operations.

2.9 Placement activities specified in this Section shall conform to safety requirements as specified in OSHA part 1926.

PART 3 - QUALITY ASSURANCE

3.1 Field Inspection and Testing of the Placement and Compaction of the Material.

3.1.1 The tests listed below shall be performed as specified. Field test reports shall be submitted daily for record as required.

(1) Laboratory Maximum Density: Laboratory maximum density tests shall be performed on all materials in accordance with ASTM D698. Prior to placing, at least two tests for each different material shall be performed on representative samples of the material to be placed. Additional tests shall be performed if the composition of the material being used is different than that previously tested.

(2) Moisture Content: At least two tests for each different material for moisture content shall be performed in accordance with ASTM D2216.

(3) In-Place Testing: In-place density and moisture content testing on the materials being placed shall be performed by nuclear materials in accordance with ASTM Standards D2922 and D3817 or the Sand Cone Method for density in accordance with ASTM Standard D1556. In-place density shall be determined at a depth of 12 inches below grade and the tests shall be performed for each 500 cubic yards placed but not less frequently than one test each day for each area being compacted. The nuclear density equipment shall be recalibrated whenever a different material is being placed and compacted.

3.1.2 The Contractor shall perform the necessary surveys required during the placement operations.

3.1.3 The Contractor shall give advance notice to the Engineer or his designee to witness and/or inspect all activities, particularly testing.

PART 4 - MATERIALS

4.1 Fill Materials

4.1.1 On-Site Fill Materials

On-site fill materials consist of soil material excavated during re-grading the site. The acceptability of on-site fill material for reuse as backfill shall be determined by the Engineer.

4.1.2 Off Site Fill Material

The Contractor shall furnish sufficient amounts of off-site fill material from an off-site location as needed. Off-site fill material fill shall contain no sod, brush, roots, or other perishable materials. Off-site fill shall be obtained from off-site area(s) accepted by the Engineer or his designee.

4.1.3 Off-Site Topsoil

The Contractor shall furnish sufficient amounts of off-site topsoil material required to provide a minimum of four inches of topsoil over disturbed areas to be vegetated. The Contractor may reuse stockpiled topsoil as approved by the Engineer.

PART 5 - EXECUTION

5.1 The Contractor shall rough grade the site as required to obtain the grades shown on the Contract Drawings.

5.2 A tolerance of minus 2 inches will be permitted for rough grading the site.

5.3 On-site fill, off-site fill material shall be placed in approximately horizontal layers not to exceed 12 inches and compacted to the rough graded lines.

5.4 Density of the common fill shall be a minimum of 90% of the maximum dry density achieved in Standard Proctor tests (ASTM D698-78) unless otherwise specified. The water content shall not vary more than plus or minus 3% of the optimum moisture content as determined in the lab and accepted by the Engineer. In-place density and moisture content testing on material shall be performed by nuclear methods in accordance with ASTM Standards ASTM D2922-80 and ASTM D3017-78 or the Sand Cone Method for density in accordance with ASTM Standard D1556-82. In-place density shall be determined at a depth of 12 inches below grade and tests shall be performed for each 500 cubic yards placed but not less frequently than one test each day for

area being compacted. The nuclear density equipment shall be recalibrated whenever a different soil is to be placed.

5.5 Off-site clean material, if required, shall be placed in approximately horizontal layers. The thickness of each layer before compaction shall not exceed 12 inches. Materials placed by dumping in piles or windrows shall be spread uniformly to not more than 12 inches thickness before being compacted.

END OF SECTION

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SECTION 02485
SEEDING AND EROSION PROTECTION

PART 1 - GENERAL

The work required under this Section includes furnishing all plant, labor, equipment, and materials to provide fertilizer, mulching, and seeding for the site area, as well as any other disturbed areas requiring vegetation.

1.1 Applicable Publications

Standards for Soil Erosion and Sediment Control in New Jersey, Latest edition.

PART 2 - MATERIALS

2.1 Fertilizers

2.1.1 Quality and Formulation

Fertilizer may be either fluid or dry formulations of commercial carriers of available plant nutrients. Fertilizer shall contain total nitrogen, available phosphoric acid, and soluble potash in the ratio of 10-20-10.

2.1.2 Basis of Acceptance

Manufacturer's label or certificate indicating compliance with specifications. The Engineer or his designee reserves the right to reject any material that has become caked or otherwise damaged.

2.2 Seeds

2.2.1 Quality

Each species, variety, and strain of grasses, legumes, and cereals shall be as specified unless otherwise approved.

2.2.1.1 Materials other than pure live seed shall comprise only nonviable seed, chaff, hulls, live seed of crop plants other than those specified, harmless inert matter and weed seeds except that weed seeds other than seed of noxious weeds will be permitted up to 1 percent of gross weight of each kind of seed. Legume seeds shall be accompanied by adequate amounts of proper inoculants unless accompanied by certification of preinoculation.

2.2.1.2 The percentage of purity as shown on the label shall be acceptable. The percentage of germination as shown on the label shall be not less than the minimum percentage specified.

2.2.2 Packaging

Each kind of seed shall be furnished and delivered, unless otherwise approved, in separate, sealed containers, or bags acceptably sewn tight or sealed.

2.2.3 Seed Mixture

Name	Variety	Dates	Wt. of Seed Per Acre (lbs)
Permanant Mix:		2/15 - 10/15	
Tall Fescue	Commercial		218
Ryegrass	Commercial		88
		Total	300 lbs/acre
Temporary Seed:			
Rygrass	Commercial	2/15 - 5/1 8/15 - 10/15	40
Pearl Millet	Commercial	5/1 - 10/15	20

2.3 Mulch

Either hay or straw may be used for mulch. Hay for mulching shall be mowings of acceptable herbaceous growth free from noxious weeds. Straw for mulching shall be stalks of oats, wheat, rye or other approved crops free from noxious weeds. Materials which are low grade and unfit for farm use such as "U.S. Sample Grade" will be acceptable. Weight shall be calculated on the basis of material having not more than 15% of moisture content. In addition, wood chips, if available, may be used as mulch.

PART 3 - APPLICATION AND CONSTRUCTION

3.1 Fertilizer Application

Fertilizer shall be evenly spread over surface of soil in areas as directed. Rates of application shall be as required to promote plant growth. Tests required to determine rate of fertilizer application shall be made by the Contractor and the rate accepted by the Engineer. Any method of application which will ensure an even distribution will be acceptable.

3.2 Seeding Application

3.2.1 Rates

Rates for seeding shall be as specified.

3.2.2 Season

Unless otherwise directed by the Engineer, work shall be performed during normal planting seasons of the year. The Contractor shall notify the Engineer at least 48 hours in advance of the time he intends to begin sowing seed and shall not proceed with such work until permission has been obtained. When delays in operations carry the work beyond dates which are specified, or when conditions of high winds, excessive moisture or ice are such that satisfactory results are not likely to be obtained for any stage of the work, the Engineer will stop work. Work shall be resumed with the Engineer's approval when desired results are likely to be obtained or when accepted corrective measures and procedures are adopted.

3.2.3 Ground Preparation and Seeding

3.2.3.1 Areas to be seeded shall be maintained at approved grades. Irregularities and low places which will hold water shall be eliminated. Fertilizers and seeds shall be evenly distributed on the surfaces to be seeded. All mechanical equipment for soil preparation or seeding shall be as approved and shall pass parallel to the contours unless otherwise approved.

3.2.3.2 When directed by the Engineer, measured plots shall be established to determine if specified quantities of seed, fertilizer, and mulch are being applied. The finished surface of any area that is seeded shall not be rougher, more uneven or have more or larger stones, clods, roots, or other foreign materials than the area it adjoins.

3.2.3.3 Areas to be seeded shall be scarified sufficiently to break up surface crust immediately before seeding except where ground is loose and friable as immediately following grading or as otherwise approved. All stones over six inches in greatest dimension which are loose and subject to rolling or sliding or other sizes as specified and all other objects detrimental to mowing shall be removed and disposed of as approved. Fertilizers and seed may be mixed together immediately before placing. Methods of distribution such as by air or water pressure will be acceptable except that the seed shall not be injured in the process of spreading.

3.3 Mulching

3.3.1 Surface of areas where mulch is to be applied shall be cleared of stones, stumps, wire, and other obstacles which might hinder subsequent seeding operations. Ground shall be harrowed or disked to produce a state of suitable tillage.

3.3.2 Mulch shall be spread uniformly in a continuous blanket of sufficient thickness to completely hide soil from view. Mulch may be spread before

or not later than three days after seeding unless otherwise approved. Anchorage to hold mulch in place may be applied by an approved method during mulching operation or subsequently.

3.3.3 Contractor shall install a vegetative mat, Miramat TM8, on all sloped areas, as manufactured by Mirafi or Engineer-approved equal. The mat shall be installed in accordance with manufacturer's recommendations.

3.4 Erosion and Sediment Control

3.4.1 Contractor shall conduct his operations in accordance with the approved erosion and sediment control plan included in the Contract Documents. Temporary erosion and sediment control measures shall be provided and maintained until the permanent work is completed. The area of bare soil exposed at any given time by construction shall be restricted to a minimum.

PART 4 - CARE DURING CONSTRUCTION

The Contractor shall care for seeded and mulched areas until final acceptance. Such care shall consist of repairing areas damaged following seeding or mulching operations due to wind, water, fire or other causes. Damaged areas shall be repaired to re-establish condition and grade of area prior to seeding and shall be re-fertilized, re-seeded, and re-mulched as specified herein. The Contractor shall keep seeded areas mowed until acceptance by cutting to a height of three inches when growth reaches six inches, or as directed.

PART 5 - QUALITY CONTROL

5.1 When, in the judgment of the Engineer, at any time prior to acceptance, any area which has been seeded fails to produce a satisfactory growth of grass after a suitable period of time has elapsed, the Contractor shall re-seed and re-fertilize such areas as specified. If deemed necessary by the Engineer, the Contractor shall also re-mulch such areas at the rate specified.

END OF SECTION

* * * * *

WETLANDS DETERMINATION DATA SHEETS

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Site 6 Applicant/Owner: NWS- Earle Investigator: Lynn Blake Rayot and Chris Tobler	Date: 5/10/99 County: Monmouth State: NJ
Do Normal Circumstances exist on the site? Yes (No) Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? (Yes) No (If needed, explain on reverse.)	Community ID: Forested / Scrub Shrub Transect ID: Plot ID: WS-1

VEGETATION

Plant Community Classification:
Percent Canopy Cover: Tree: 65 Shrub: 40 Herb: 50 Vine: —

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer negundo	T	FAC+	9.		
2. Viburnum recognitum	S	FACW-	10.		
3. Phragmites australis	H	FACW	11.		
4. Polygonum cuspidatum	H	FACW-	12.		
5. Osmunda cinnamomea	H	FACW	13.		
6.			14.		
7.			15.		
8			16.		

Percent of dominant Species that are OBL, FACW, or FAC (excluding FAC-): 80%

Remarks: Wetland vegetation present

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observations:

Depth of Surface Water (in.): N/A

Depth of Free Standing Water in Pit (in.): N/A

Depth to Saturated Soil (in.): 10"

Wetland Hydrology Indicators:
Primary Indicators:
- ___ Inundated
- X Saturated
- ___ Water Marks
- ___ Drift lines
- ___ Sediment Deposits
- ___ Drainage Patterns In Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Wetland hydrology present

Site Location Site 6

Sample Station WS-1

SOILS

Map Unit Name (Series and Phase): Udorthents - Urban Land complex

Drainage Class:

Taxonomy (SubGroup):

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottles: Contrast, Abundance, Size	Texture, Concretions, Structure, etc.
0-12		10YR 3/2	—	—	Silt Sand
12-16		10YR 5/3	10YR 6/8	Distinct, Common, Fine	Sand

Hydro Soil Indicators

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content, Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: Fill material - glass, bricks, and debris observed

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No
Wetlands Hydrology Present? (Yes) No
Hydric Soils Present? Inconclusive Yes No

Is this Sample Station Point Within a Wetland? (Yes) No

Remarks Wetland area

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Site 6 Applicant/Owner: NWS- Earle Investigator: Lynn Blake Rapot and Chris Tobin	Date: 5/10/99 County: Monmouth State: NJ
Do Normal Circumstances exist on the site? Yes No Is the site significantly disturbed (Atypical Situation)? Yes No Is the area a potential Problem Area? Yes No (If needed, explain on reverse.)	Community ID: Woodland Transect ID: Plot ID: WS-02

VEGETATION

Plant Community Classification:
Percent Canopy Cover: Tree: 90 Shrub: 15 Herb: 50 Vine: 10

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer negundo	T	FAC+	9.		
2. Prunus serotina	T	FACU	10.		
3. Morus rubra	S	FACU	11.		
4. Acer negundo	S	FAC+	12.		
5. Polygonum cuspidatum	H	FACU-	13.		
6. Galium aparine	H	UPL	14.		
7. Lonicera japonica	H	FAC	15.		
8 Parthenocissus quinquefolia	V	FACU	16.		

Percent of dominant Species that are OBL, FACW, or FAC (excluding FAC-): 37.5%

Remarks: Upland Vegetation present

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observations:
- Depth of Surface Water (in.): NA
- Depth of Free Standing Water in Pit (in.): NA
- Depth to Saturated Soil (in.): NA

Wetland Hydrology Indicators:
Primary Indicators:
- ___ Inundated
- ___ Saturated
- ___ Water Marks
- ___ Drift lines
- ___ Sediment Deposits
- ___ Drainage Patterns In Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Upland hydrology present

Site Location Site 6

Sample Station WS-02

SOILS

Map Unit Name (Series and Phase): Ud orthents - Urban land Complex

Drainage Class:

Taxonomy (SubGroup):

Field Observations Confirm Mapped Type? Yes No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottles: Contrast, Abundance, Size	Texture, Concretions, Structure, etc.
0-8		10YR 3/2	—		Silt Loam fill material

Hydro Soil Indicators

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content, Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: Soils inconclusive. Refusal @ auger 8".

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes (No)
Wetlands Hydrology Present? Yes (No)
Hydric Soils Present? Inconclusive Yes No

Is this Sample Station Point Within a Wetland? Yes (No)

Remarks Upland area

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Site 6 Applicant/Owner: NWS-Earle Investigator: Lynn Blake Rayot and Chris Tobin	Date: 5/10/99 County: Monmouth State: NJ
Do Normal Circumstances exist on the site? (Yes) No Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? (Yes) No (If needed, explain on reverse.)	Community ID: PFO1 Transect ID: Plot ID: WS-03 (Nkan WA-14)

VEGETATION

Plant Community Classification:
Percent Canopy Cover: Tree: 75 Shrub: 60 Herb: 10 Vine: —

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Liquidambar styraciflua	T	FAC	10.		
3. Viburnum recognitum	S	FACW-	11.		
4. Prunus serotina	S	FACU	12.		
5. Toxicodendron radicans	H	FAC	13.		
6. Parthenocissus quinquefolia	H	FACU	14.		
7.			15.		
8			16.		

Percent of dominant Species that are OBL, FACW, or FAC (excluding FAC-): 67%

Remarks: Wetland vegetation present

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
___ No Recorded Data Available

Field Observations:
Depth of Surface Water (in.): NA
Depth of Free Standing Water in Pit (in.): NA
Depth to Saturated Soil (in.): 10"

Wetland Hydrology Indicators:
Primary Indicators:
___ Inundated
X Saturated
___ Water Marks
___ Drift lines
___ Sediment Deposits
___ Drainage Patterns In Wetlands
Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12 inches
___ Water-Stained Leaves
___ Local Soil survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: Wetland ~~Soils~~ hydrology present

Site Location Site 6

Sample Station WS-03

SOILS

Map Unit Name (Series and Phase): Udorthents - Urban land

Drainage Class:

Taxonomy (SubGroup):

Field Observations Confirm Mapped Type? (Yes) No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottles: Contrast, Abundance, Size	Texture, Concretions, Structure, etc.
0-8"	~~A~~	10YR 2/1	—		silt loam w/ organics
		10YR 3/1			silt loam w/ sand & organics
		10YR 4/2	10YR 3/2	Distinct, common, medium	Sand

Hydro Soil Indicators

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
X Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content, Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: Wetland Soil present

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No
Wetlands Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

Is this Sample Station Point Within a Wetland? (Yes) No

Remarks Positive for 3 wetland parameters

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Site 6 Applicant/Owner: NWS-Earle Investigator: Lynn Blake Paquet and Chris Jokela	Date: 5/10/99 County: Monmouth State: NJ
Do Normal Circumstances exist on the site? Yes No Is the site significantly disturbed (Atypical Situation)? Yes No Is the area a potential Problem Area? Yes No (If needed, explain on reverse.)	Community ID: Successional Field Transect ID: Plot ID: WS-04 (Near WA-14)

VEGETATION

Plant Community Classification:
Percent Canopy Cover: Tree: — Shrub: — Herb: 100% Vine: —

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Polygonum cuspidatum	H	FACU-	9.		
2. Lonicera japonica	H	FAC	10.		
3. Geum aparine	H	UPL	11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8			16.		

Percent of dominant Species that are OBL, FACW, or FAC (excluding FAC-): 33%

Remarks: Upland Vegetation present

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observations:
- Depth of Surface Water (in.): NA
- Depth of Free Standing Water in Pit (in.): NA
- Depth to Saturated Soil (in.): NA

Wetland Hydrology Indicators:
Primary Indicators:
- ___ Inundated
- ___ Saturated
- ___ Water Marks
- ___ Drift lines
- ___ Sediment Deposits
- ___ Drainage Patterns In Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Upland hydrology present

Site Location Site 6

Sample Station WS-04

SOILS

Map Unit Name
(Series and Phase): Udorthents - Urban Land

Drainage Class:

Taxonomy (SubGroup):

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottles: Contrast, Abundance, Size	Texture, Concretions, Structure, etc.

Hydro Soil Indicators

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content, Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: Fill material - Soils inconclusive

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes (No)
Wetlands Hydrology Present? Yes (No)
Hydric Soils Present? Inconclusive Yes No

Is this Sample Station Point Within a Wetland? Yes (No)

Remarks Upland area

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Site 17 Applicant/Owner: NWS-Earle Investigator: L. Blake Bayot, Chris Tobien	Date: 5/10/99 County: Monmouth State: NJ
Do Normal Circumstances exist on the site? Yes No Is the site significantly disturbed (Atypical Situation)? Yes No Is the area a potential Problem Area? Yes No (If needed, explain on reverse.)	Community ID: PFO1 Transect ID: Plot ID: WS-1

VEGETATION

Plant Community Classification:
Percent Canopy Cover: Tree: 85 Shrub: 35 Herb: 50 Vine: -

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Liquidambar styraciflua	T	FAC	10.		
3. Quercus alba	S	FACU-	11.		
4. Viburnum recognitum	S	FACW+	12.		
5. Solidago sp.	H	-	13.		
6. Impatiens capensis	H	FACW	14.		
7. Toxicodendron radicans	H	FAC	15.		
8 Lonicera japonica	H	FAC	16.		

Percent of dominant Species that are OBL, FACW, or FAC (excluding FAC-): 75%

Remarks: Wetland vegetation present

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
___ No Recorded Data Available

Field Observations:
Depth of Surface Water (in.): N/A
Depth of Free Standing Water in Pit (in.): NA
Depth to Saturated Soil (in.): 12"

Wetland Hydrology Indicators:
Primary Indicators:
___ Inundated
_X_ Saturated
___ Water Marks
___ Drift lines
___ Sediment Deposits
___ Drainage Patterns In Wetlands
Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12 inches
___ Water-Stained Leaves
___ Local Soil survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: Ponded water present in some areas
Wetland hydrology present

Site Location Site 7

Sample Station WS-1

SOILS

Map Unit Name (Series and Phase): Udorthents-Urban Land

Drainage Class:

Taxonomy (SubGroup):

Field Observations
Confirm Mapped Type? (Yes) No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottles: Contrast, Abundance, Size	Texture, Concretions, Structure, etc.
0-1		10YR 3/2	—		Silt loam w/ organics
1-6		10YR 3/2	10YR 5/3 clay nodules		silt loam w/ organics
6-12		10YR 3/1	—		Silt loam
12-14		10YR 6/2	10YR 6/4	distinct, common, fine	Sand
14" Refusal of auger					

Hydro Soil Indicators

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
X Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content, Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: Wetland Soils present

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No
Wetlands Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

Is this Sample Station Point Within a Wetland? (Yes) No

Remarks Wetland Indicators

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Site 17 Applicant/Owner: NWS - Earle Investigator: Lyn Black Rapp, Chris Jordan	Date: 5/10/99 County: Monmouth State: NJ.
Do Normal Circumstances exist on the site? ~~Yes~~ ~~No~~ Is the site significantly disturbed (Atypical Situation)? ~~Yes~~ No Is the area a potential Problem Area? ~~Yes~~ No (If needed, explain on reverse.)	Community ID: Forested Transect ID: Plot ID: WS-2

VEGETATION

Plant Community Classification:
Percent Canopy Cover: Tree: 85 Shrub: 35 Herb: 25 Vine:

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9.		
2. Liquidambar styraciflua	T	FAC	10.		
3. Viburnum recognitum	S	FACW-	11.		
4. Prunus serotina	T/S	FACU	12.		
5. Lonicera japonica	H	FAC-	13.		
6. Parthenocissus quinquefolia	H	FACU	14.		
7.			15.		
8			16.		

Percent of dominant Species that are OBL, FACW, or FAC (excluding FAC-): 67%

Remarks: Wetland vegetation present.

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observations:
- Depth of Surface Water (in.): NA
- Depth of Free Standing Water in Pit (in.): N/A
- Depth to Saturated Soil (in.): NA

Wetland Hydrology Indicators:
Primary Indicators:
- ___ Inundated
- ___ Saturated
- ___ Water Marks
- ___ Drift lines
- ___ Sediment Deposits
- ___ Drainage Patterns In Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Wetland hydrology present

Site Location Site 17

Sample Station WS-2

SOILS

Map Unit Name (Series and Phase): Udorthents - Urban Land

Taxonomy (SubGroup):

Drainage Class:

Field Observations Confirm Mapped Type? (Yes) No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottles: Contrast, Abundance, Size	Texture, Concretions, Structure, etc.
0-4		10YR 6/6			Sand
4-8		10YR 3/3	~~5~~		Silt loam
8-16		10YR 3/3	10YR 6/6	Distinct, Common, Medium	Sandy silt loam

Hydro Soil Indicators

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content, Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: Upland Soils present

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No
Wetlands Hydrology Present? Yes (No)
Hydric Soils Present? Yes (No)

Is this Sample Station Point Within a Wetland? Yes (No)

Remarks Insufficient for a wetland determination

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Site 17 Applicant/Owner: NWS-Earle Investigator: Lynn Blake Raynot and Chris Jobson	Date: 5/10/99 County: Monmouth State: NJ
Do Normal Circumstances exist on the site? Yes (No) Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? (Yes) No (If needed, explain on reverse.)	Community ID: PFO1 Transect ID: Plot ID: WS-03

VEGETATION

Plant Community Classification:
Percent Canopy Cover: Tree: 90 Shrub: 35 Herb: 85 Vine: 15

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Acer rubrum	T	FAC	9. Potentilla simplex	H	FACU
2. Liquidambar styraciflua	T	FAC	10. Solidago sp.	H	—
3. Morus rubra	T	FACU	11. Toxicodendron radicans	V	FAC
4. Celtis occidentalis	S	FACU	12.		
5. Viburnum Recognitum	S	FACW-	13.		
6. Baccharis halimifolia	S	FACW	14.		
7. Toxicodendron radicans	H	FAC	15.		
8 Lonicera japonica	V	FAC	16.		

Percent of dominant Species that are OBL, FACW, or FAC (excluding FAC-): 63%

Remarks: Wetland vegetation present

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
___ No Recorded Data Available

Field Observations:
Depth of Surface Water (in.): NA
Depth of Free Standing Water in Pit (in.): NA
Depth to Saturated Soil (in.): 6"

Wetland Hydrology Indicators:
Primary Indicators:
___ Inundated
X Saturated
___ Water Marks
___ Drift lines
___ Sediment Deposits
___ Drainage Patterns In Wetlands
Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12 inches
___ Water-Stained Leaves
___ Local Soil survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: Wetland hydrology present

Site Location Site 17

Sample Station WS-03

SOILS

Map Unit Name (Series and Phase): Udorthents- Urban Land

Drainage Class:

Taxonomy (SubGroup):

Field Observations Confirm Mapped Type? (Yes) No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottles: Contrast, Abundance, Size	Texture, Concretions, Structure, etc.
0-4		10YR 2/2			Silt loam w/ organics
4-14		10YR 3/3	10YR 3/5	Distinct, common, medium	Silt loam w/ organics

Hydro Soil Indicators

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content, Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: Fill material - Refusal @ auger 14"

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No
Wetlands Hydrology Present? (Yes) No
Hydric Soils Present? Yes No (Inconclusive)

Is this Sample Station Point Within a Wetland? (Yes) No

Remarks Wetland area.

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Site 17 Applicant/Owner: NWS-Earle Investigator: Lynn Blake Rayfot and Chris Jobson	Date: 5/10/99 County: Monmouth State: NJ
Do Normal Circumstances exist on the site? Yes (No) Is the site significantly disturbed (Atypical Situation)? (Yes) No Is the area a potential Problem Area? (Yes) No (If needed, explain on reverse.)	Community ID: Emergent wetland Transect ID: Plot ID: WS-04

VEGETATION

Plant Community Classification:
Percent Canopy Cover: Tree: — Shrub: — Herb: 100 Vine: —

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phragmites australis	H	FACW	9.		
2. Toxicodendron radicans	H	FAC	10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8			16.		

Percent of dominant Species that are OBL, FACW, or FAC (excluding FAC-): 100%

Remarks: Wetland vegetation present

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observations:
- Depth of Surface Water (in.): NA
- Depth of Free Standing Water in Pit (in.): NA
- Depth to Saturated Soil (in.): 6"

Wetland Hydrology Indicators:
Primary Indicators:
- ___ Inundated
- _x_ Saturated
- ___ Water Marks
- ___ Drift lines
- ___ Sediment Deposits
- ___ Drainage Patterns In Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Wetland hydrology present

Site Location Site 17

Sample Station WS-04

SOILS

Map Unit Name (Series and Phase): Udorthents - Urban Land

Drainage Class:

Taxonomy (SubGroup):

Field Observations Confirm Mapped Type? (Yes) No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottles: Contrast, Abundance, Size	Texture, Concretions, Structure, etc.
0-4		10YR 2/2	—		Silt loam w/ organics
4-14		10YR 3/3	10YR 3/5	Distinct, common, Medium	Silt loam w/ organics

Hydro Soil Indicators

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content, Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: Fill material. Soils inconclusive
Refusal of auger at 14'

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No
Wetlands Hydrology Present? (Yes) No
Hydric Soils Present? Inconclusive Yes No

Is this Sample Station Point Within a Wetland? (Yes) No

Remarks Wetland Area

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Site 17 Applicant/Owner: NWS-Earle Investigator: Lynn Blake Rayfot and Chris Tobler	Date: 5/10/99 County: Monmouth State: NJ
Do Normal Circumstances exist on the site? Yes ~~No~~ Is the site significantly disturbed (Atypical Situation)? ~~Yes~~ No Is the area a potential Problem Area? Yes No (If needed, explain on reverse.)	Community ID: Emergent wetland Transect ID: Plot ID: WS-05

VEGETATION

Plant Community Classification:
Percent Canopy Cover: Tree: — Shrub: — Herb: 100 Vine: —

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phragmites australis	H	FACW	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8			16.		

Percent of dominant Species that are OBL, FACW, or FAC (excluding FAC-): 100%

Remarks: Wetland vegetation present

HYDROLOGY

___ Recorded Data (Describe in Remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
___ No Recorded Data Available

Field Observations:
Depth of Surface Water (in.): NA
Depth of Free Standing Water in Pit (in.): NA
Depth to Saturated Soil (in.): 6"

Wetland Hydrology Indicators:
Primary Indicators:
___ Inundated
✓ Saturated
___ Water Marks
___ Drift lines
___ Sediment Deposits
___ Drainage Patterns In Wetlands
Secondary Indicators (2 or more required):
___ Oxidized Root Channels in Upper 12 inches
___ Water-Stained Leaves
___ Local Soil survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: Wetland hydrology present

Site Location ~~W~~ Site 17

Sample Station WS-05

SOILS

Map Unit Name (Series and Phase): Udorthents - Urban Land

Drainage Class:

Taxonomy (SubGroup):

Field Observations Confirm Mapped Type? (Yes) No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottles: Contrast, Abundance, Size	Texture, Concretions, Structure, etc.
0-4		10YR 2/2			Silt loam w/ organics
4-16		10YR 3/3	10YR 3/5	Distinct, Common, medium	Sand w/ organics

Hydro Soil Indicators

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content, Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: Fill material

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No
Wetlands Hydrology Present? (Yes) No
Hydric Soils Present? Intermittent Yes No

Is this Sample Station Point Within a Wetland? (Yes) No

Remarks Wetland Area

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project Site: Site 17 Applicant/Owner: NWS-Earle Investigator: Lynn Blake Rayst and Chris Jolton	Date: 5/10/99 County: monmouth State: NJ
Do Normal Circumstances exist on the site? Yes No Is the site significantly disturbed (Atypical Situation)? Yes No Is the area a potential Problem Area? Yes No (If needed, explain on reverse.)	Community ID: herbaceous Transect ID: Plot ID: WS-06

VEGETATION

Plant Community Classification:
Percent Canopy Cover: Tree: — Shrub: — Herb: 100 Vine: —

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phragmites australis	H	FACW	9.		
2.			10.		
3.			11.		
4.			12.		
5.			13.		
6.			14.		
7.			15.		
8			16.		

Percent of dominant Species that are OBL, FACW, or FAC (excluding FAC-): 100%

Remarks: Wetland vegetation present

HYDROLOGY

___ Recorded Data (Describe in Remarks):
- ___ Stream, Lake, or Tide Gauge
- ___ Aerial Photographs
- ___ Other

___ No Recorded Data Available

Field Observations:
- Depth of Surface Water (in.): NA
- Depth of Free Standing Water in Pit (in.): NA
- Depth to Saturated Soil (in.): NA

Wetland Hydrology Indicators:
Primary Indicators:
- ___ Inundated
- ___ Saturated
- ___ Water Marks
- ___ Drift lines
- ___ Sediment Deposits
- ___ Drainage Patterns In Wetlands

Secondary Indicators (2 or more required):
- ___ Oxidized Root Channels in Upper 12 inches
- ___ Water-Stained Leaves
- ___ Local Soil survey Data
- ___ FAC-Neutral Test
- ___ Other (Explain in Remarks)

Remarks: Upland hydrology present

Site Location Site 17

Sample Station WS-06

SOILS

Map Unit Name (Series and Phase): Udorthents - Urban land

Drainage Class:

Taxonomy (SubGroup):

Field Observations Confirm Mapped Type? (Yes) No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottles: Contrast, Abundance, Size	Texture, Concretions, Structure, etc.
0-4		10YR 2/2			Silt loam w/ organics
4-16		10YR 3/3	10YR 3/5	Distinct, common, medium	Sand w/ organics

Hydro Soil Indicators

___ Histosol
___ Histic Epipedon
___ Sulfidic Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content, Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

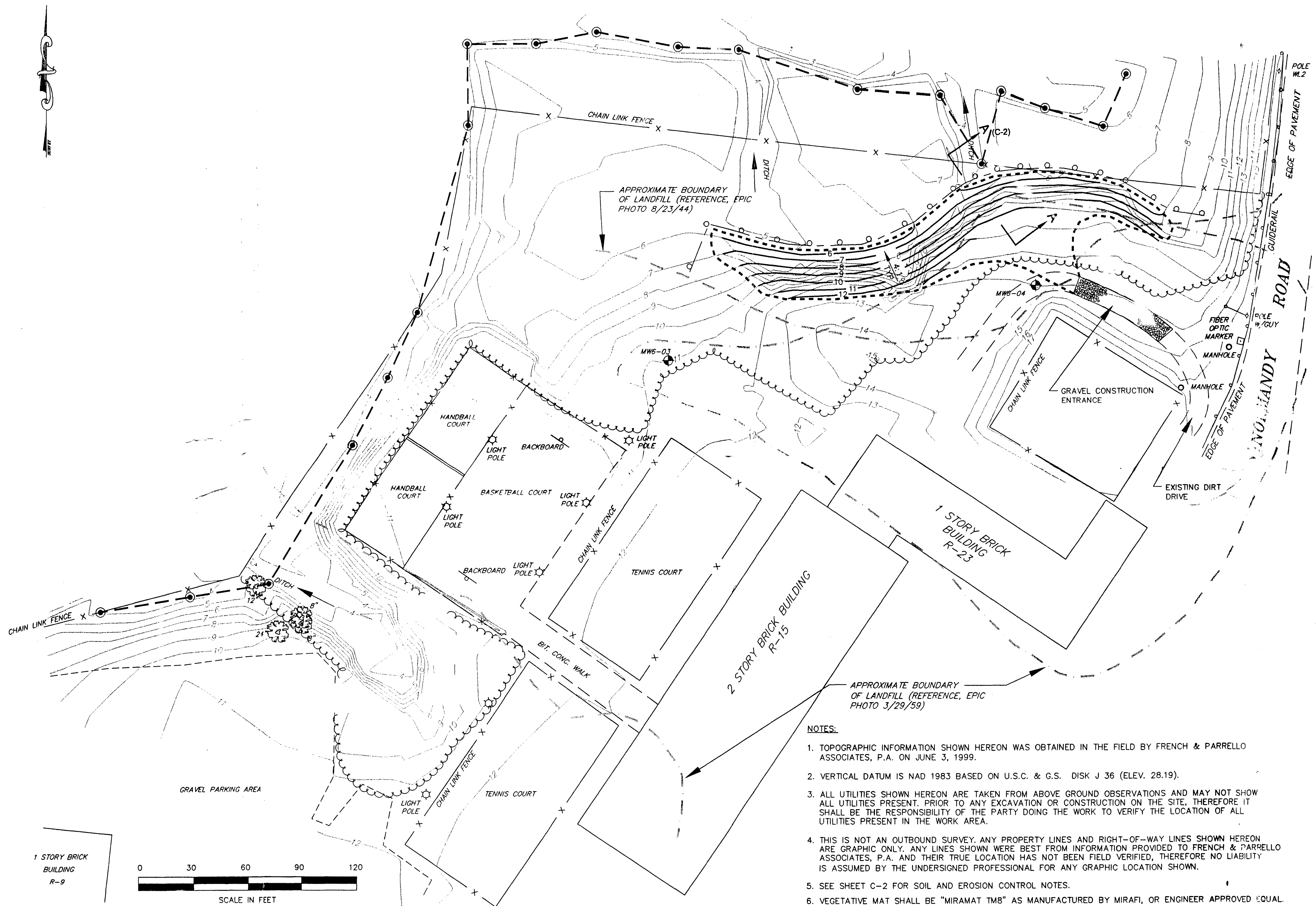
Remarks: Fill material

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No
Wetlands Hydrology Present? Yes (No)
Hydric Soils Present? Inconclusive Yes No

Is this Sample Station Point Within a Wetland? Yes (No)

Remarks Upland area.



NOTES:

1. TOPOGRAPHIC INFORMATION SHOWN HEREON WAS OBTAINED IN THE FIELD BY FRENCH & PARRELLO ASSOCIATES, P.A. ON JUNE 3, 1999.
2. VERTICAL DATUM IS NAD 1983 BASED ON U.S.C. & G.S. DISK J 36 (ELEV. 28.19).
3. ALL UTILITIES SHOWN HEREON ARE TAKEN FROM ABOVE GROUND OBSERVATIONS AND MAY NOT SHOW ALL UTILITIES PRESENT. PRIOR TO ANY EXCAVATION OR CONSTRUCTION ON THE SITE, THEREFORE IT SHALL BE THE RESPONSIBILITY OF THE PARTY DOING THE WORK TO VERIFY THE LOCATION OF ALL UTILITIES PRESENT IN THE WORK AREA.
4. THIS IS NOT AN OUTBOUND SURVEY. ANY PROPERTY LINES AND RIGHT-OF-WAY LINES SHOWN HEREON ARE GRAPHIC ONLY. ANY LINES SHOWN WERE BEST FROM INFORMATION PROVIDED TO FRENCH & PARRELLO ASSOCIATES, P.A. AND THEIR TRUE LOCATION HAS NOT BEEN FIELD VERIFIED, THEREFORE NO LIABILITY IS ASSUMED BY THE UNDERSIGNED PROFESSIONAL FOR ANY GRAPHIC LOCATION SHOWN.
5. SEE SHEET C-2 FOR SOIL AND EROSION CONTROL NOTES.
6. VEGETATIVE MAT SHALL BE "MIRAMAT TM8" AS MANUFACTURED BY MIRAFI, OR ENGINEER APPROVED EQUAL.
7. VEGETATIVE MAT SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
8. FOR KEY PLAN AND SOILS MAP, SEE KEY PLAN AND SOILS MAP IN THE ATTACHED SOIL EROSION AND SEDIMENT CONTROL DOCUMENTS.

LEGEND:

- EXISTING ELEVATION CONTOUR
- PROPOSED ELEVATION CONTOUR
- LIMIT OF WETLANDS
- LIMIT OF DISTURBANCE
- FENCE
- SILT FENCE
- LIMIT OF HISTORICAL LANDFILL ACTIVITIES

REV.	DESCRIPTION	PREP BY	DATE	APPRVD
0	SUBMITTED TO S.C.S.	J.L.	7/30/99	M.W.J.

FOSTER WHEELER ENVIRONMENTAL
DSGN: M.W.J. DR: JR CHK: M.H.
SUPV: R.R. CH ENG:
SUBMITTED BY: (FIRM MEMBER) (TITLE) (DATE)
NORTHDIV DM: PD: FPE: HD: DIR:
OFFICER IN CHARGE
APPROVED DATE

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NORTHERN DIVISION
LESTER PENNSYLVANIA

NWS-EARLE – SITE 6 LANDFILL
SLOPE STABILIZATION
SITE PLAN AND SOIL AND EROSION CONTROL PLAN

APPROVED DATE NORTHDIV FOR COMMANDER, NAVFAC

MICHAEL JUNGHANS
N.J. P.E. NO. 39877

CODE I.D. NO.	80091
SCALE :	AS NOTED
SPEC. NO.	04-
CONSTRN. CONTR. NO.	N62472-
NAVFAC DRAWING NO.	
SHEET 1	OF 2
SIZE: D	DIS. SH. NO. C-1

CAD FILE NAME: SITE6ER.DWG DATE: 08/02/99
PLOT SCALE: 1=1 TIME: 3:22 PM

DATE CREATED
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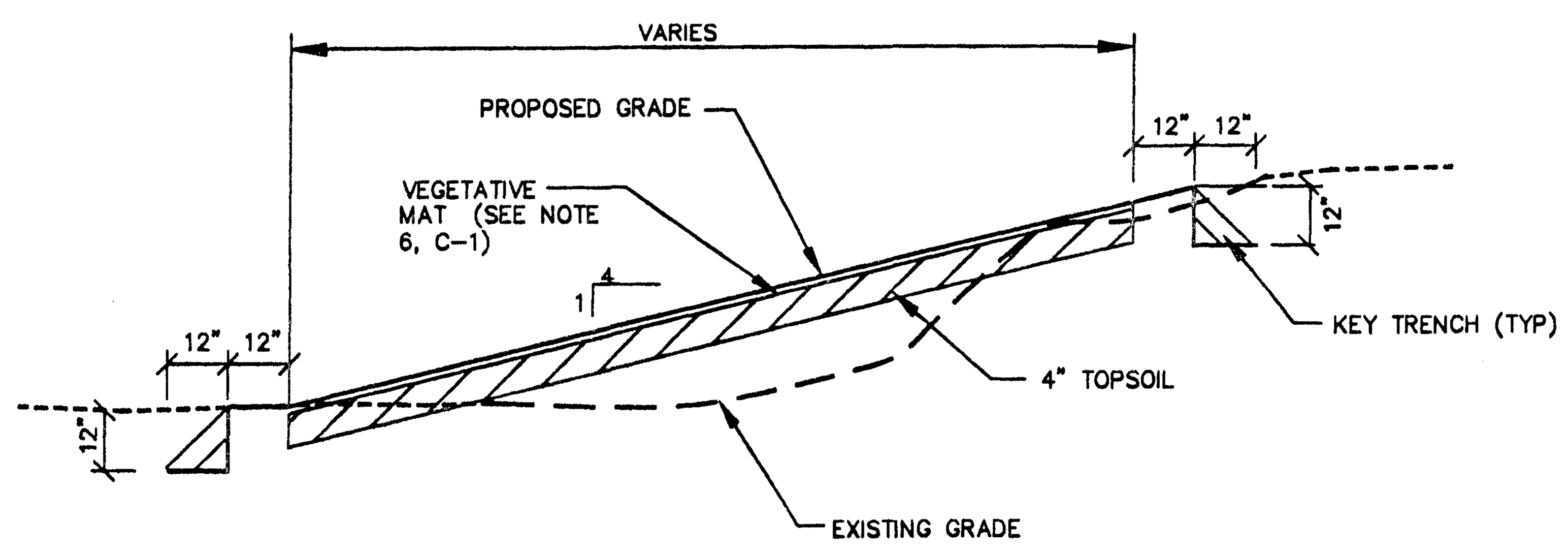
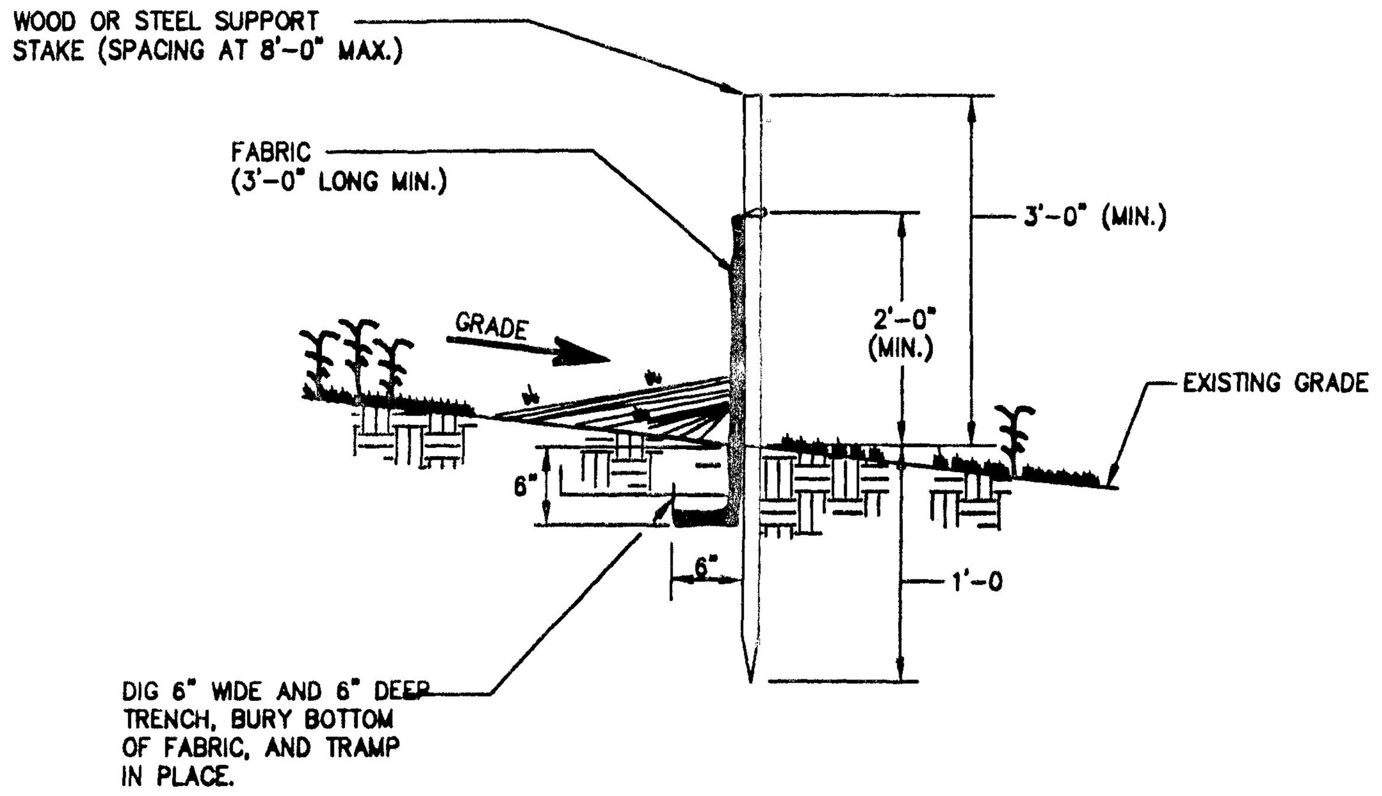
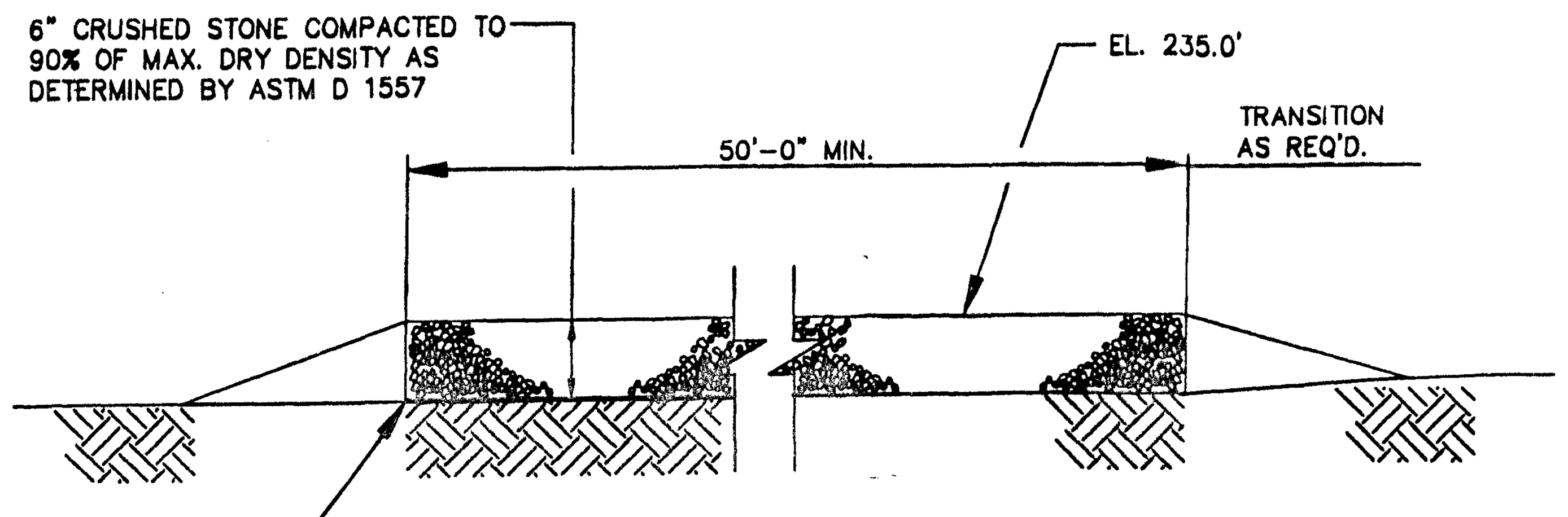


TYPICAL SECTION A-A
NOT TO SCALE



SILT FENCE DETAIL
NOT TO SCALE



GRAVEL CONSTRUCTION ENTRANCE SECTION
NOT TO SCALE

SOIL EROSION AND SEDIMENT CONTROL NOTES

1. ALL SOIL EROSION AND SEDIMENT CONTROL PRATICES ARE TO BE INSTALLED PRIOR TO ANY MAJOR SOIL DISTURBANCE, OR IN THEIR PROPER SEQUENCE, AND MAINTAINED UNTIL PERMANENT PROTECTION IS ESTABLISHED.
2. ANY DISTURBED AREAS THAT WILL BE LEFT EXPOSED MORE THAN THIRTY (30) DAYS, AND NOT SUBJECT TO CONSTRUCTION TRAFFIC, WILL IMMEDIATELY RECEIVE A TEMPORARY SEEDING. IF THE SEASON PREVENTS THE ESTABLISHMENT OF A TEMPORARY COVER, THE DISTURBED AREAS WILL BE MULCHED WITH STRAW , OR EQUIVALENT MATERIAL, AT A RATE OF TWO TONS PER ACRE, ACCORDING TO STATE STANDARDS.
3. PERMANENT VEGETATION TO BE SEEDED OR SODDED ON ALL EXPOSED AREAS WITHIN TEN (10) DAYS AFTER FINAL GRADING. MULCH OR SUITABLE EQUIVALENT TO BE USED AS NECESSARY FOR PROTECTION UNTIL SEEDING IS ESTABLISHED.
4. ALL WORK TO BE DONE IN ACCORDANCE WITH THE STANDARDS FOR SOIL EROSION AND SEDIMENT CONTROL OF NEW JERSEY.
5. IMMEDIATELY FOLLOWING INITIAL DISTURBANCE OR ROUGH GRADING, ALL CRITICAL AREAS SUBJECT TO EROSION (I.E. STEEP SLOPES AND ROADWAY EMBANKMENTS) WILL RECEIVE A TEMPORARY SEEDING IN COMBINATION WITH STRAW MULCH OR A SUITABLE EQUIVALENT, AT A RATE OF TWO (2) TONS PER ACRE, ACCORDING TO STATE STANDARDS.
6. THE STANDARD FOR STABILIZED CONSTRUCTION ENTRANCE REQUIRES THE INSTALLATION OF A PAD OF 1 1/2" TO 2" STONE, AT ALL CONSTRUCTION DRIVEWAYS, IMMEDATELY AFTER INITIAL SITE DISTURBANCE. SEE DRAWING C-1 FOR LAYOUT AND DRAWING C-2 FOR DETAILS.
7. IN ACCORDANCE WITH THE STANDARD FOR PERMANENT VEGETATIVE COVER FOR SOIL STABLIZATION, ANY SOIL HAVING A pH OF 4 OR LESS OR CONTAINING IRON SULFIDES SHALL BE COVERED WITH A MINIMUM OF TWELVE (12) INCHES OF SOIL HAVING A pH OF 5 OR MORE PRIOR TO SEEDBED PREPERATION.
8. THE FREEHOLD SOIL CONSERVATION DISTRICT SHALL BE NOTIFIED SEVENTY-TWO (72) HOURS IN ADVANCE OF ANY LAND DISTURBING ACTIVITY.
9. AT THE TIME THE SITE PREPARATION FOR PERMANENT VEGETATIVE STABILIZATION IS GOING TO BE ACCOMPLISHED, ANY SOIL THAT WILL NOT PROVIDE A SUITABLE ENVIRONMENT TO SUPPORT ADEQUATE VEGETATIVE GROUND COVER, SHALL BE REMOVED OR TREATED IN SUCH A WAY THAT WILL PERMANENTLY ADJUST THE SOIL CONDITIONS AND RENDER IT SUITABLE FOR VEGETATIVE GROUND COVER.
   IF THE REMOVAL OR TREATMENT OF THE SOIL WILL NOT PROVIDE SUITABLE CONDITIONS, NONVEGETATIVE MEANS OF PERMANENT GROUND STABILIZATION WILL HAVE TO BE EMPLOYED.
10. IN THAT N.J.S.A. 4:24-39 et.seq. REQUIRES THAT NO CERTIFICATES OF OCCUPANCY BE ISSUED BEFORE THE PROVISIONS OF THE CERTIFIED PLAN FOR EROSION CONTROL HAVE BEEN COMPLIED WITH FOR PERMANENT MEASURES, ALL SITE WORK FOR SITE PLANS AND ALL WORK AROUND INDIVIDUAL LOTS IN SUBDIVISIONS, WILL HAVE TO BE COMPLETED PRIOR TO THE DISTRICT ISSUING A REPORT OF COMPLIANCE FOR THE ISSUANCE OF A CERTIFICAATE OF OCCUPANCY BY THE MUNICIPALITY.
11. ANY CHANGES TO THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLANS WILL REQUIRE THE SUBMISSION OF REVISED SOIL EROSION AND SEDIMENT CONTROL PLANS TO THE DISTRICT FOR RECERTIFICATION. THE REVISED PLANS MUST MEET ALL CURRENT STATE SOIL EROSION AND SEDIMENT CONTROL STANDARDS.
12. UNFILTERED DEWATERING IS NOT PERMITTED. TAKE ALL NECESSARY PRECAUTIONS DURING ALL DEWATERING OPERATIONS TO MINIMIZE SEDIMENT TRANSFER.
13. SHOULD THE CONTROL OF DUST AT THE SITE BE NECESSARY, THE SITE WILL BE SPRINKLED UNTIL THE SURFACE IS WET, TEMPORARY VEGETATIVE COVER SHALL BE ESTABLISHED OR MULCH SHALL BE APPLIED IN ACCORDANCE WITH STATE STANDARDS FOR EROSION CONTROL.
14. ALL SOIL WASHED, DROPPED, SPILLED, OR TRACKED OUTSIDE THE LIMIT OF DISTURBANCE OR ONTO PUBLIC RIGHT-OF-WAYS WILL BE REMOVED IMMEDIATELY.
15. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR ANY EROSION OR SEDIMENTATION THAT MAY OCCUR BELOW STORMWATER OUTFALLS OR OFFSITE AS A RESULT OF CONSTRUCTION OF THE PROJECT
16. STOCKPILE AND STAGING LOCATIONS DETERMINED IN THE FIELD, SHALL BE PLACED WITHIN THE LIMIT OF DISTURBANCE ACCORDING TO THE CERTIFIED PLAN. STAGING AND STOCKPILES NOT LOCATED WITHIH THE LIMIT OF DISTURBANCE WILL REQUIRE CERTIFICATION OF A REVISED SOIL EROSION AND SEDIMENT CONTROL PLAN. THE DISTRICT RESERVES THE RIGHT TO DETERMINE WHEN CERTIFICATION OF A NEW AND SEPARATE SOIL EROSION AND SEDIMENT CONTROL PLAN WILL BE REQUIRED FOR THESE ACTIVITIES.
17. ALL SOIL STOCKPILES ARE TO BE TEMPORARILY STABILIZED IN ACCORDANCE WITH SOIL EROSION AND SEDIMENT CONTROL NOTE 2.
18. A COPY OF THE CERTIFIED SOIL EROSION AND SEDIMENT CONTROL PLAN WILL BE AVAILABLE AT THE SITE.
19. ALL TEMPORARY SOIL EROSION MEASURES MUST BE INSPECTED (AND REPAIRED IF NEEDED) AFTER ANY SIGNIFICANT RAIN EVENT

APPROXIMATE CONSTRUCTION SCHEDULE

	TASK	TIME TO COMPLETE
1.	INSTALLATION OF SOIL EROSION C[illegible]TROL MEASURES	2 DAYS
2.	CLEARING AND GRUBBING	3 DAYS
3.	ROUGH GRADING OF SIT[illegible]	2 DAYS
4.	INSTALLATION OF SOIL A[illegible] VE[illegible]TATIVE MAT	10 DAYS
5.	ESTABLISHMENT OF VEGE[illegible]TIO[illegible]	2 DAYS
6.	REMOVAL OF TEMPORARY [illegible]ON[illegible]L MEASURES	1 DAY

FOSTER WHEELER ENVIRONMENTAL

REV.	DESCRIPTION	PREP BY	DATE	APPRVD
0	SUBMITTED TO S.C.S.	J.L.	7/30/99	M.W.J.

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NORTHERN DIVISION
LESTER, PENNSYLVANIA

NWS-EARLE – SITE 6 LANDFILL
SLOPE STABILIZATION
SECTIONS AND DETAILS

SEAL AREA

MICHAEL JUNGHANS
N.J. P.E. NO. 39877

CODE I.D. NO. 80091
SCALE: AS NOTED
SPEC. NO. 04-
CONSTR. CONTR. NO. N62472-
NAVFAC DRAWING NO.
SHEET 2 OF 2
SIZE: D
DS. SH. NO. C-2

CAD FILE NAME: SITE6LF.DWG
PLOT SCALE: 1=1
DATE: 08/02/99
TIME: 3:35 PM

DATE CREATED
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CHANGED BY: