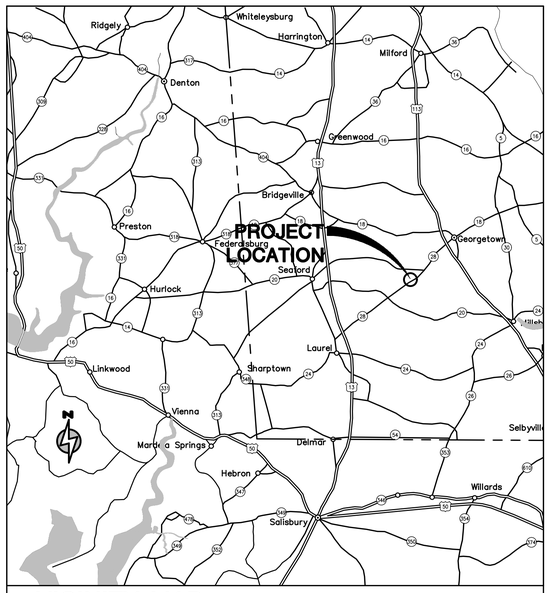
SUSSEX TECH HIGH SCHOOL
UNDERGROUND PIPE DRAINAGE FOOTBALL FIELD

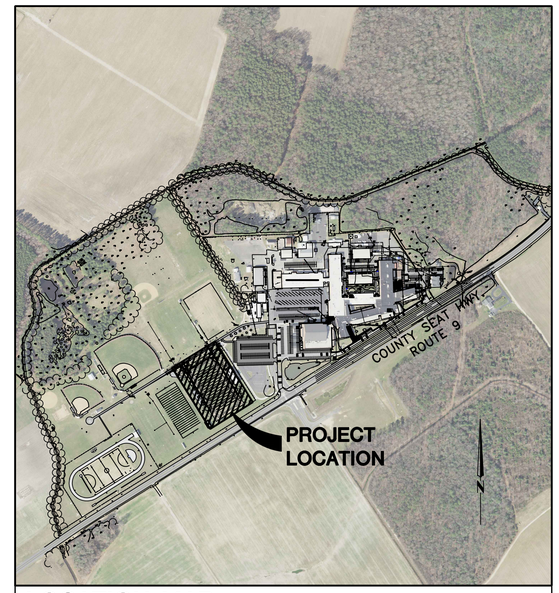
SUSSEX COUNTY, DELAWARE
CONTRACT NO. 1147A004.A01
CONTRACT NO. SUS201373 CONST FIELD
DECEMBER 2019

GENERAL NOTES

1. ALL WORK SHALL CONFORM TO THE PROJECT SPECIFICATIONS AND THESE PLANS, UNLESS OTHERWISE NOTED.
2. THE CONTRACTOR SHALL LOCATE AND DETERMINE THE SIZE OF ALL UTILITIES, BY TEST PITTING, HAND EXCAVATION OR OTHER APPROVED METHODS, AT ALL POINTS OF CONNECTION OR WHERE PROPOSED PIPING CROSSES EXISTING PIPING OR UTILITIES, PRIOR TO ORDERING MATERIALS OR BEGINNING CONSTRUCTION. NOTIFY ENGINEER IMMEDIATELY OF ANY DISCREPANCIES. THE CONTRACTOR SHALL, WITHIN THE PRICES BID AND WITHOUT ADDITIONAL COST TO THE OWNER, PAY ALL CHARGES TO LOCATE, INSPECT, PROTECT, RELOCATE, REPLACE OR REPAIR OVERHEAD OR UNDERGROUND UTILITIES ENCOUNTERED IN THE FIELD, WHETHER OR NOT THEY ARE SHOWN ON THE DRAWINGS. ALL UTILITY REPAIRS SHALL BE WITNESSED BY THE ENGINEER AND APPROVED BY THE UTILITY OWNER.
3. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL MATERIALS AND LABOR REQUIRED TO ACCESS WORK AREAS. ACCESS COSTS SHALL BE INCLUDED IN THE PRICE BID.
4. CONTRACTOR SHALL PROVIDE ALL CONSTRUCTION STAKEOUT NECESSARY FOR THE INSTALLATION OF ALL WORK AND APPURTENANCES AND DETERMINATION OF RIGHT-OF-WAY, EASEMENT LOCATIONS, AND PROPERTY LINES. RIGHT-OF-WAY AND EASEMENT DETERMINATIONS SHALL BE MADE BY A SURVEYOR REGISTERED IN DELAWARE.
5. ALL EXISTING GRASSED AREAS TO REMAIN WHICH ARE DISTURBED AS A RESULT OF CONSTRUCTION SHALL BE RESTORED TO ORIGINAL GRADE AND TOPSOILED, SEEDED AND MULCHED, AS APPROVED BY THE ENGINEER.
6. UNLESS OTHERWISE NOTED, ANY EXCAVATED MATERIAL NOT APPROVED FOR USE AS BACKFILL OR LEFT AFTER WORK IS COMPLETE, SHALL BE DISPOSED OF OFFSITE BY THE CONTRACTOR AND INCLUDED IN BID PRICE.
7. FITTINGS SHOWN ON PLANS ILLUSTRATE ANTICIPATED SIZE AND ANGLE OF DEFLECTION. THIS INFORMATION IS SHOWN FOR GENERAL INFORMATION AND IS NOT GUARANTEED. ACTUAL SIZE AND ANGLE MAY VARY DUE TO FIELD CONDITIONS. THE CONTRACTOR SHALL NOT BE ENTITLED TO ADDITIONAL COMPENSATION FOR CHANGES RESULTING FROM SUCH CONDITIONS.
8. CONTRACTOR SHALL LOCATE EXISTING IRRIGATION IRRIGATION SYSTEM PRIOR TO BEGINNING CONSTRUCTION. ANY DAMAGE TO THE IRRIGATION SYSTEM SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST.
9. MAINTAIN MINIMUM 10 FOOT HORIZONTAL SEPARATION BETWEEN WATER PIPING AND SEWER PIPING. MAINTAIN MINIMUM VERTICAL CLEARANCE OF 18 INCHES BETWEEN SEWER AND WATER PIPE OR CULVERT PIPES, HEADWALLS, OTHER UTILITIES, AND STRUCTURES. CLEARANCE SHALL BE MEASURED FROM EDGE TO EDGE OF EACH PIPE OR STRUCTURE. WHERE THESE CLEARANCES CANNOT BE MAINTAINED ENCASE THE LOWER UTILITY IN CONCRETE. ENCASEMENT CONCRETE, IF MINIMUMS CANNOT BE MET, SHALL EXTEND A MINIMUM OF 10' EACH SIDE OF THE CROSSING.
10. ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL CONFORM TO THESE PLANS, NOTES AND SPECIFICATIONS, THE REQUIREMENTS OF DNREC AND STATE OF DELAWARE.
11. CONTRACTOR SHALL LIMIT DISTURBANCE FOR PIPE LINE INSTALLATION AS FOLLOWS:
    a. LIMIT TRENCH EXCAVATION TO THAT WHICH CAN BE BACKFILLED THE SAME DAY.
    b. PLACE EXCAVATED MATERIAL ON UPHILL SIDE OF TRENCH.
    c. STABILIZE TRENCH THE SAME DAY WITH GRASS SEED, STRAW MULCH, OR TEMPORARY ASPHALT.
12. THE CONTRACTOR SHALL MAINTAIN ADEQUATE DRAINAGE WITHIN WORK AREAS AND SHALL MANAGE ALL RUNOFF AND GROUND WATER IN ACCORDANCE WITH THE REQUIREMENTS OF DNREC OR OTHER APPROVAL AGENCIES. PROVIDE PUMPS AS NEEDED TO REMOVE WATER FROM LOW AREAS WITHIN THE SCOPE OF WORK.
13. LOCATION OF UTILITIES, RIGHT-OF-WAYS AND PROPERTY LINES SHOWN ON THE PLANS HAVE BEEN PROVIDED FROM THE BEST AVAILABLE INFORMATION, AND ARE NOT GUARANTEED TO BE CORRECT OR COMPLETE. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH TO HIS SATISFACTION PRIOR TO CONSTRUCTION. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY IN CASE OF CONFLICT, ESPECIALLY IF RELOCATION OF UTILITY IS REQUIRED. ANY DAMAGE TO UTILITIES DURING CONSTRUCTION SHALL BE REPAIRED TO THE UTILITY OWNER'S SATISFACTION BY THE CONTRACTOR AT HIS OWN EXPENSE. TEST PIT AS REQUIRED WELL AHEAD OF THE WORK. CONTRACTOR SHALL CONTACT THE SUSSEX TECH SCHOOL DISTRICT AND "MISS UTILITY OF DELMARVA" (1-800-282-8555) AT LEAST 72 HOURS PRIOR TO BEGINNING WORK FOR DETERMINING PLACEMENT OF BURIED UTILITIES PRIOR TO BEGINNING EXCAVATION.
14. WHENEVER EXCAVATION DISRUPTS GUY WIRES OR ENDANGERS ANY EXISTING POLE, THE POLE SHALL BE SUPPORTED IN ACCORDANCE WITH UTILITY OWNER AT CONTRACTORS COST
15. DRAWINGS DO NOT INCLUDE THE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. CONTRACTOR IS RESPONSIBLE FOR SAFETY. ALL CONSTRUCTION MUST BE PERFORMED IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AS AMENDED AND ALL RULES AND REGULATIONS THERE TO APPURTENANT.
16. TOPOGRAPHY PROVIDED BY DAVIS, BOWEN, & FRIEDEL INC. ON NOVEMBER 2019, VERTICAL DATUM NAVD-88.
17. CONTRACTOR SHALL CONFIRM ALL GRADES PRIOR TO CONSTRUCTION.
18. CONTRACTOR SHALL EXERCISE EXTREME CARE AND CAUTION TO PROTECT ALL TREES, SHRUBS, AND PRIVATE PROPERTY FROM DAMAGE DURING CONSTRUCTION OPERATIONS UNLESS OTHERWISE NOTED.
19. CONTRACTOR SHALL COORDINATE ALL REQUIREMENTS RELATING TO OBSTRUCTIONS WITHIN RIGHT-OF-WAY WITH OWNERS PRIOR TO COMMENCING WORK. REMOVE AND IMMEDIATELY REPLACE, RELOCATE, RESET, OR RECONSTRUCT ALL OBSTRUCTIONS IN THE WORK AREA, INCLUDING, BUT NOT LIMITED TO: MAILBOXES, DRIVEWAYS, SIGNS, LANDSCAPING, CULVERTS, FENCES, PROPERTY MARKERS, OR OTHER NATURAL OR MAN-MADE OBSTRUCTIONS. COST SHALL BE INCLUDED IN THE UNIT PRICE BID.
20. CONTRACTOR IS RESPONSIBLE FOR PROVIDING SHEETING, SHORING, BRACING AND DEWATERING THROUGHOUT CONSTRUCTION. CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING STRUCTURES FROM EXCAVATION, BACKFILL, OR ANY ACTIVITIES.
21. ALL AREAS OF WORK ARE IN FLOOD ZONE X, A. AS SHOWN ON FLOOD INSURANCE RATE MAP 10005C0300L, REVISED JUNE 20, 2018. THE ONLY WORK PROPOSED IN THESE AREAS ARE UNDERGROUND PIPING.
22. CONTACTS PRIOR TO CONSTRUCTION:
    - MISS UTILITIES — PHONE # 1-800-282-8555
    - SUSSEX TECH SCHOOL DISTRICT — PHONE # 302-856-0961
    - DNREC DIVISION OF WATERSHED STEWARDSHIP — PHONE # 302-739-9921
    - DAVIS, BOWEN & FRIEDEL, INC — PHONE # 302-424-1441
23. TAX PARCEL NO.: 2-31-19.00-7.00
24. LAT. 38.6420, LONG. -75.4464
25. LIMIT OF DISTURBANCE: 8,062 SQ. FT.



VICINITY MAP SCALE: 1"=6 MILES



LOCATION MAP 1" = 500'

LEGEND

EXISTING:

- PAVEMENT SURFACE
- 51.12 12.12 SPOT ELEVATION
- ELEC — ELECTRIC LINE, PEDESTAL
- T — TELEPHONE LINE, PEDESTAL
- SD — CATCH BASIN, MANHOLE, STORM DRAIN,
- GAS — FUEL/ GAS MAIN, VALVE
- W — WATERMAIN, FIRE HYDRANT ASSEMBLY, VALVE
- SIGN, UTILITY POLE, LIGHT POLE
- FENCE
- BUILDING
- PAVEMENT, CURB AND GUTTER
- TREES, VEGETATION, TREE LINE

PROPOSED:

- IP2 — INLET PROTECTION TYPE 2
- CATCH BASIN, STORM DRAIN PIPE
- LOD — LIMIT OF DISTURBANCE
- SCE — STABALIZED CONSTRUCTION ENTRANCE

INDEX OF DRAWINGS:

0 ... TITLE SHEET
1 ... SITE PLAN
2 ... E & S CONTROL DETAILS / GENERAL DETAILS
3 ... EROSION & SEDIMENT CONTROL DETAILS

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS ENGINEERS SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441
EASTON, MARYLAND (410) 770-4744

REVISIONS:
01/28/2020
DNREC
COMMENTS

ENGINEER'S STATEMENT

I, W. ZACHARY CROUCH, P.E., HEREBY STATE THAT I AM A REGISTERED ENGINEER IN THE STATE OF DELAWARE, THAT THE INFORMATION SHOWN HEREON HAS BEEN PREPARED UNDER MY SUPERVISION AND TO MY BEST KNOWLEDGE AND BELIEF REPRESENTS GOOD ENGINEERING PRACTICES AS REQUIRED BY THE APPLICABLE LAWS OF THE STATE OF DELAWARE.

_____ _____
W. ZACHARY CROUCH, P.E. DATE
DAVIS, BOWEN & FRIEDEL, INC.
1 PARK AVENUE
MILFORD, DELAWARE, 19963

OWNER'S CERTIFICATION

"I, THE UNDERSIGNED, CERTIFY THAT ALL LAND CLEARING, CONSTRUCTION AND DEVELOPMENT SHALL BE DONE PURSUANT TO THE APPROVED PLAN AND THAT RESPONSIBLE PERSONNEL (I.E., BLUE CARD HOLDER) INVOLVED IN THE LAND DISTURBANCE WILL HAVE A CERTIFICATION OF TRAINING PRIOR TO INITIATION OF THE PROJECT, AT A DNREC SPONSORED OR APPROVED TRAINING COURSE FOR THE CONTROL OF EROSION AND SEDIMENT DURING CONSTRUCTION. IN ADDITION, I GRANT THE DNREC SEDIMENT AND STORMWATER PROGRAM AND/OR THE RELEVANT DELEGATED AGENCY THE RIGHT TO CONDUCT ON-SITE REVIEWS, AND I UNDERSTAND MY RESPONSIBILITIES UNDER THE NPDES CONSTRUCTION GENERAL PERMIT, AS REFERENCED ON THIS COVERSHEET."

_____DATE_____

SUSSEX TECH SCHOOL DISTRICT
17099 COUNTY SEAT HIGHWAY
GEORGETOWN, DE. 19947
PHONE: (302)-856-0961

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PIPE CONSTRUCTION NOTES:

- (A) REMOVE EXISTING 13"x17" CMP PIPE AND FURNISH AND INSTALL TWO (2) NEW 12" ADS N-12 P.E. PIPES.
- (B) REMOVE EXISTING 13"X17" CMP PIPE AND FURNISH AND INSTALL NEW 15" ADS N-12 P.E. PIPE.
- (C) REMOVE EXISTING 15"X21" CMP PIPE AND FURNISH AND INSTALL NEW 18" ADS N-12 P.E. PIPE.
- (D) FURNISH AND INSTALL TWO (2) NEW 15" ADS N-12 P.E. PIPES.
- (E) FURNISH AND INSTALL TWO (2) NEW 18" ADS N-12 P.E. PIPES.
- (F) REMOVE EXISTING 24" CMP AND PORTION OF TWO(2) 18"x24" CMP PIPES AND FURNISH AND INSTALL TWO (2) 24" ADS N-12 P.E. PIPES.
- (G) CUT AND PLUG EXISTING CMP PIPES AND PRESSURE GROUT FULL USING NON-SHRINK GROUT.

STRUCTURE CONSTRUCTION NOTES:

1. REMOVE EXISTING MANHOLE COMPLETE.
2. INSTALL TWO (2) 24" ADS PIPES INTO EXISTING MANHOLE.
3. INSTALL NEW PRECAST MANHOLE AND CONNECT EXISTING 18"x24" CMP PIPES.
4. SEAL EXISTING 15"x21" CMP PIPES FROM INSIDE MANHOLE PRIOR TO GROUTING

PROPOSED MANHOLE SCHEDULE (MH)

LABEL	DESCRIPTION	T.G. ELEV. (FT.)	INVERT IN (FT.)	INVERT IN (FT.)	INVERT OUT (FT.)
	BOX				
MH-1	72"X72"	46.50	42.22	42.30	42.20
MH-2	48"X48"	46.00	42.40	42.40	42.39
MH-3	48"X48"	47.00		42.66	42.66

PROPOSED CATCH BASIN SCHEDULE (CB)

LABEL	DESCRIPTION			T.G. ELEV. (FT.)	INVERT IN (FT.)	INVERT IN (FT.)	INVERT OUT (FT.)
	BOX	TOP UNIT	GRATE				
CB-1	48"X30"	A	TYPE 1	45.15	42.54	42.71	42.54
CB-2	48"X30"	A	TYPE 1	45.15	42.70	42.95	42.70
CB-3	48"X30"	A	TYPE 1	45.20	–	43.10	42.88
CB-4	48"X48"	A	TYPE 1	44.90	42.78	43.20	42.78
CB-5	48"X48"	A	TYPE 1	44.90	42.96	43.59	42.96
CB-6	48"X48"	A	TYPE 1	44.95	–	43.49	43.15

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SITE PLAN

SUSSEX TECH HIGH SCHOOL
UNDERGROUND PIPE DRAINAGE FOORBALL FIELD
SUSSEX COUNTY, DELAWARE

REVISIONS:
01/28/2020
DNREC
COMMENTS

Date:	DECEMBER 2019
Scale:	1"=30'
Dwn.By:	RJL
Proj.No.:	1147A004.A01
Dwg.No.:	1

P:\ABHA\Sussex Tech\Design\2019 -Site Plan.dwg Feb 28 , 2020 - 9:35am lecr

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Standard Detail & Specifications
Dust Control

Temporary Methods:

1. Mulches - See **DE-ESC-3.4.5**, Standard Detail and Specifications for Mulching.
2. Vegetative cover - See **DE-ESC-3.4.3**, Std. Detail and Specifications for Vegetative Stabilization.
3. Adhesives - Use on mineral soils only (not effective on muck soils). Keep traffic off these areas. The following table may be used for general guidance.

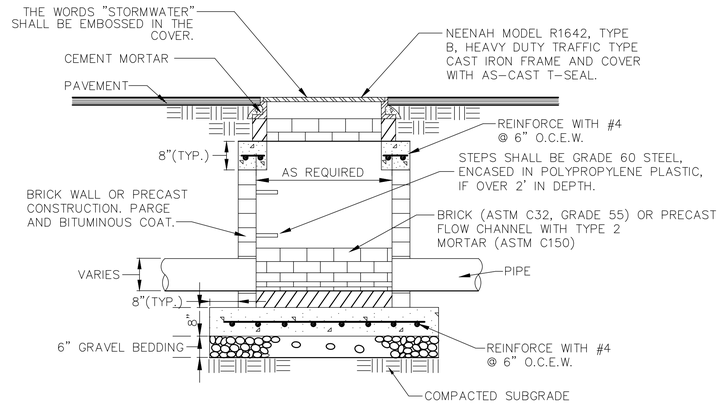
Type of Emulsion	Water Dilution	Type of Nozzle	Apply Gal/Ac.
Latex emulsion	12.5:1	Fine spray	235
Resin-in-water emulsion	4:1	Fine spray	300
Acrylic emulsion (non-traffic)	7:1	Coarse spray	450
Acrylic emulsion (traffic)	3.5:1	Coarse spray	350

4. Tillage - For emergency temporary treatment, scarify the soil surface to prevent or reduce the amount of blowing dust until a more appropriate solution can be implemented. Begin the tillage operation on the windward side of the site using a chisel-type plow for best results.
5. Sprinkling - Sprinkle site with water until the surface is moist . Repeat as needed.
6. Calcium Chloride - Apply as flakes or granular material with a spreader at a rate that will keep the soil surface moist. Re-apply as necessary.
7. Barriers - Place barriers such as solid board fences, snow fences, hay bales, etc. at right angles to the prevailing air currents at intervals of approx. 10X their height.

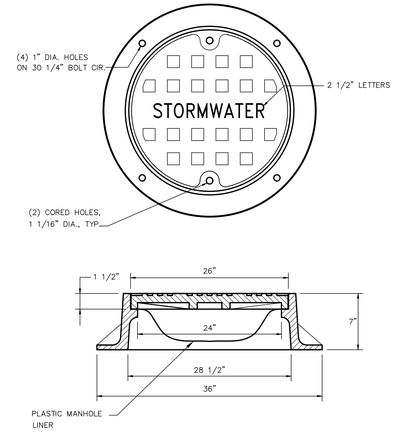
Permanent Methods:

1. Vegetative cover - See **DE-ESC-3.4.3**, Std. Detail and Specifications for Vegetative Stabilization.
2. Stone - Apply layer of crushed stone or coarse gravel to protect soil surface.

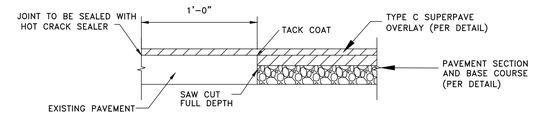
Source:	Symbol:	Detail No.
Adapted from VA ESC Handbook		**DE-ESC-3.4.8** Sheet 1 of 1 Effective FEB 2019



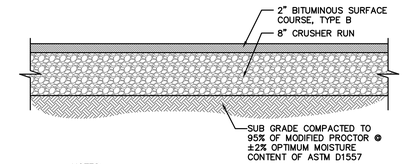
SHALLOW MANHOLE DETAIL



MANHOLE COVER DETAIL



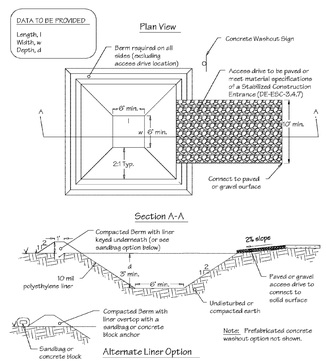
TYPICAL PAVEMENT TIE-IN DETAIL
NOT TO SCALE



NOTES:
1. ALL THICKNESS ARE MINIMUM, COMPACTED, IN PLACE
2. SLOPE PAVING FOR POSITIVE DRAINAGE
3. MILL EXISTING ASPHALT 12" WIDE BY 2" DEEP FOR ALL FULL LENGTH OF ACCESS TIE-IN

PAVEMENT DETAIL

Standard Detail & Specifications
Concrete Washout



Source:	Symbol:	Detail No.
Adapted from Colorado Urban Storm Drainage Criteria Manual, Vol 3	CW	**DE-ESC-3.6.2** Sheet 1 of 2 Effective FEB 2019

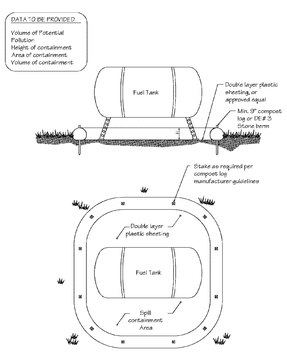
Standard Detail & Specifications
Concrete Washout

Construction Notes:

1. Locate washout area a minimum of 50 feet from open channels, stormdrain inlets, wetlands or waterbodies.
2. Locate washout area so that it is accessible to concrete equipment (service with a minimum 10 foot wide gravel accessway), but so it is not in a highly active construction area causing accidental damage.
3. Minimum dimensions for prefabricated units are 4 feet by 4 feet by 1 foot deep with a minimum 4mil polyethylene plastic liner. Minimum dimensions for constructed concrete washout areas are 6 feet by 6 feet by 3 feet deep, with a minimum 10mil polyethylene liner, 2:1 side slopes, and a 1 foot high by 1 foot wide compacted fill berm.
4. The liner must be free of tears or holes and placed over smooth surfaces to prevent puncturing. For excavated washouts, anchor the liner underneath the berm or overlap with sandbags or concrete blocks to hold in place.
5. Provide a sign designating the washout area, and for large construction sites, provide signs throughout directing traffic to its location.
6. Allow washed out concrete mixture to harden through evaporation of the wastewater. Once the facility has reached 75 percent of its capacity, remove the hardened concrete by reusing the broken aggregate onsite, recycling, or disposing of offsite. The hardened material can be buried on site with minimum of 1 foot of clean, compacted fill.
7. Apply a new liner before reusing the station for additional washouts after maintenance has occurred.

Source:	Symbol:	Detail No.
Adapted from Colorado Urban Storm Drainage Criteria Manual, Vol 3	CW	**DE-ESC-3.6.2** Sheet 2 of 2 Effective FEB 2019

Standard Detail & Specifications
Construction Site Waste Mgt & Spill Control



Source:	Symbol:	Detail No.
Delaware ESC Handbook		**DE-ESC-3.6.1** Sheet 1 of 5 Effective FEB 2019

Standard Detail & Specifications
Construction Site Waste Mgt & Spill Control

Pollution Prevention – Spill Prevention

1. Fueling should only take place in signed designated areas, away from downstream drainage facilities and watercourses.
2. Fueling must be with nozzles equipped with automatic shut-off to control drips. Do not top off.
3. Protect the areas where equipment or vehicles are being repaired, maintained, fueled or parked from storm water run-on and runoff.
4. Use barriers such as berms to prevent storm water run-on and runoff, and to contain spills.
5. Place a "Fueling Area" sign next to each fueling area.
6. Store hazardous materials such as fuel, solvents, oil and chemicals in secondary containment.
7. Inspect vehicles and equipment for leaks on each day of use. Repair fluid and oil leaks immediately.
8. Absorbent spill clean-up materials and spill kits must be available in fueling areas and on fuel trucks.
9. If fueling is to take place at night, make sure the fueling area is sufficiently illuminated.
10. Properly dispose of used oil, fluids, lubricants and spill clean-up materials.

CLEAN UP SPILLS

1. If this safe to do so, immediately contain and clean up any chemical and/or hazardous material spills.
2. Properly dispose of used oil, fluids, lubricants and spill clean-up materials.
3. Do not bury spills or wash them down with water.

LEAKS AND DRIPS

1. Use drip pans or absorbent pads at all times. Place under and around leaky equipment.
2. Do not allow oil, grease, fuel or chemicals to drip onto the ground.
3. Have spill kits and clean up material on-site.
4. Repair leaky equipment promptly or remove problem vehicles and equipment from the site. Clean up contaminated soil immediately.
5. Store contaminated waste in sealed containers constructed of suitable material. Label these containers properly.
6. Clean up all spills and leaks. Promptly dispose of waste and spent clean up materials.

Source:	Symbol:	Detail No.
Delaware ESC Handbook		**DE-ESC-3.6.1** Sheet 2 of 5 Effective FEB 2019

Standard Detail & Specifications
Construction Site Waste Mgt & Spill Control

Notes:

The Construction Site Pollution Prevention Plan should include the following elements:

1. **Material Inventory**

   Document the storage and use of the following materials:

   a. Concrete
   b. Detergents
   c. Paints (enamel and latex)
   d. Cleaning solvents
   e. Pesticides
   f. Wood scraps
   g. Fertilizers
   h. Petroleum based products

2. **Good housekeeping practices**

   a. Store only enough product required to do the job.
   b. All materials shall be stored in a neat, orderly manner in their original labeled containers and covered.
   c. Substances shall not be mixed.
   d. When possible, all of a product shall be used up prior to disposal of the container.
   e. Manufacturers' instructions for disposal shall be strictly adhered to.
   f. The site foreman shall designate someone to inspect all BMPs daily.

3. **Waste management practices**

   a. All waste materials shall be collected and stored in securely lidded dumpsters in a location that does not drain to a waterbody.
   b. Waste materials shall be salvaged and/or recycled whenever possible.
   c. The dumpsters shall be emptied a minimum of twice per week, or more if necessary. The licensed trash hauler is responsible for cleaning out dumpsters.

Source:	Symbol:	Detail No.
Adapted from USEPA Pub. 840-B-92-002		**DE-ESC-3.6.1** Sheet 3 of 5 Effective FEB 2019

Standard Detail & Specifications
Construction Site Waste Mgt & Spill Control

Notes (cont.)

d. Trash shall be disposed of in accordance with all applicable Delaware laws.
e. Trash cans shall be placed at all lunch spots and littering is strictly prohibited. Recycle bins shall be placed near the construction trailer.
f. If fertilizer bags can not be stored in a weather-proof location, they shall be kept on a pallet and covered with plastic sheeting which is overlapped and anchored.

4. **Equipment maintenance practices**

   a. If possible, equipment should be taken to off-site commercial facilities for washing and maintenance.
   b. If performed on-site, vehicles shall be washed with high-pressure water spray without detergents in an area contained by an impervious berm.
   c. Drip pans shall be used for all equipment maintenance.
   d. Equipment shall be inspected for leaks on a daily basis.
   e. Washout from concrete trucks shall be disposed of in a temporary pit for hardening and proper disposal.
   f. Fuel nozzles shall be equipped with automatic shut-off valves.
   g. All used products such as oil, antifreeze, solvents and tires shall be disposed of in accordance with manufacturers' recommendations and local, state and federal laws and regulations.

5. **Spill prevention practices**

   a. Potential spill areas shall be identified and contained in covered areas with no connection to the storm drain system.
   b. Warning signs shall be posted in hazardous material storage areas.
   c. Preventive maintenance shall be performed on all tanks, valves, pumps, pipes and other equipment as necessary.
   d. Low or non-toxic substances shall be prioritized for use.

Source:	Symbol:	Detail No.
Adapted from USEPA Pub. 840-B-92-002		**DE-ESC-3.6.1** Sheet 4 of 5 Effective FEB 2019

Standard Detail & Specifications
Construction Site Waste Mgt & Spill Control

Notes (cont.)

e. Contact information for reporting spills through the DNREC 24-Hour Toll Free Number shall be prominently posted.

6. **Education**

   a. Best management practices for construction site pollution control shall be a part of regular progress meetings.
   b. Information regarding waste management, equipment maintenance and spill prevention shall be prominently posted in the construction trailer.

CONTACT INFORMATION

DNREC 24-Hour Toll Free Number	**800-662-8802**
DNREC Solid & Hazardous Waste Management Section	**302-739-9403**

Source:	Symbol:	Detail No.
Adapted from USEPA Pub. 840-B-92-002		**DE-ESC-3.6.1** Sheet 5 of 5 Effective FEB 2019

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EASTON, MARYLAND (410) 770-4744

E & S CONTROL DETAILS - GENERAL DETAILS

SUSSEX TECH HIGH SCHOOL
UNDERGROUND PIPE DRAINAGE FOOTBALL FIELD
SUSSEX COUNTY, DELAWARE

REVISIONS:
01/28/2020 DNREC COMMENTS

Date:	DECEMBER 2019
Scale:	AS SHOWN
Dwn.By:	RJL
Proj.No.:	1147A004.A01
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Standard Detail & Specifications
Vegetative Stabilization

TEMPORARY SEEDING BY RATES, DEPTHS AND DATES

Mix #	Species[4]	Seeding Rate		Optimum Seeding Dates [1] O = Optimum Planting Period. A = Acceptable Planting Period								Planting Depth[2]
				Coastal Plain				Piedmont		All		
	Certified Seed	lb/ac [1]	lb/1000 sq.ft.	3/1-4/30	7/1-8/14	8/15-10/31	11/1-4/30	7/1-3/31	8/1-10/31	10/31-3/1		
1	Barley	125	4	O	A	O	O	A	O			1-2 inches 2-3" sandy soils.
2	Oats	125	4	O	A	A	O	A	A			1-2 inches 2-3" sandy soils.
3	Rye	125	4	O	A	O	O	A	O	A		1-2 inches 2-3" sandy soils.
4	Perennial Ryegrass	125	4	O	A	O	O	A	O			0.5 inches 1-2" sandy soils.
5	Annual Ryegrass	125	4	O	A	O	O	A	O			0.5 inches 1-2" sandy soils.
6	Winter Wheat	125	4	O	A	O	O	A	O	A		1-2 inches 2-3" sandy soils.
7	Foxtail Millet	30 PLS	0.7		O			O				0.5 inches 1-2" sandy soils.
8	Pearl Millet	30 PLS	0.5		O			O				0.5 inches 1-2" sandy soils.

1. Winter seeding requires 3 tons per acre of straw mulch for proper stabilization.
2. May be planted throughout summer if soil moisture is adequate or seeded area can be irrigated.
3. Applicable on slopes 3:1 or less.
4. Fifty pounds per acre of Annual Lespedeza may be added to 1/2 the seeding rate of any of the above species.
5. Use varieties currently recommended for Delaware. Contact a County Extension Office for information.
6. Warm season grasses such as Millet or Weeping Lovegrass may be used between 5/1 and 9/1 if desired. Seed at 3-5 lbs. per acre. Good on low fertility and acid areas. Seed after frost through summer at a depth of 0.5".

NOTE: Alternative seed mixes may be used with prior approval from the Department or Delegated Agency.

Source:	Symbol:	Detail No.
Delaware ESC Handbook		**DE-ESC-3.4.3** Sheet 1 of 4 Effective FEB 2019

Standard Detail & Specifications
Vegetative Stabilization

PERMANENT SEEDING AND SEEDING DATES

Mix No.	Seeding Mixtures / Certified Seed[4]	Seeding Rate[1] lb/ac	lb/1000 sq.ft.	Optimum Seeding Dates [7] O = Optimum Planting Period. A = Acceptable Planting Period. Coastal Plain 3/1-4/30	7/1-8/14	8/15-10/31	11/1-4/30	Piedmont 7/1-8/31	9/1-10/31	All[6] 10/31-3/1	Remarks
	Wet Drained Soils										
1	Tall Fescue	150	3.5	A	O	A	A	O	A	A	Add 10# lbs. Winter Rye.
	Weeping Lovegrass	10	0.25								Good erosion control mix. Tolerant of low fertility soils. Lovegrass very difficult to mow. Germinates only in hot weather.
2	Owensgrass	30	0.69	A	O	A	A	O	A	A	Add 10# lbs. Winter Rye.
	Sheep Fescue	30	0.69								Tolerant of low fertility soils.
	Common Lespedeza[5]	10	0.36								Good wildlife cover and food
	Inoculated										
3	Tall Fescue (Turf-type) or	50	1.15	O	A	O	O	A	O	A	Add 10# lbs. Winter Rye.
	Strong Creeping Red Fescue or	50	1.15								Good erosion control mix.
	Perennial Ryegrass	50	1.15								Tall Fescue for drought conditions. Creeping Red Fescue for wet conditions. Reduce N to optimize woody vegetation.
	plus Hybrid[3]	15	0.34								
4	Strong Creeping Red Fescue	150	3.5	O	A	O	O	A	O	A	Add 10# lbs. Winter Rye.
	Kentucky Bluegrass	70	1.61								Cultivar extremely rhizomatous. Colonies Bluegrass more drought tolerant.
	Perennial Ryegrass or	70	1.61								
	Redtop	5	0.11								Use Redtop for increased drought tolerance.
	plus White Clover[5]	3	0.07								
5	Creeping Red[4] or	50	0.23	O					O		Native warm season mixture. Tolerant of low fertility soils. Drought tolerant. Poor shade tolerance. Nitrogen deficiency kills species.
	Coastal Panicgrass	10	0.23								
	Big Bluestem	5	0.11								
	Little Bluestem	5	0.11								
	Switchgrass	5	0.11								
6	Tall Fescue (Turf-type) (Blend of 3 cultivars)	150	3.5	O	A	O	O	A	O		These cultivars of Kentucky Bluegrass. Traffic tolerant.
	Tall Fescue	150	3.5	O	A	O	O	A	O		
	Kv. Bluegrass (Blend)	20	0.46								
	Perennial Ryegrass	20	0.46								
8	Big Bluestem[4]	10	0.23	O	A		O	A			All species are native. Indian Grass and Bluestem have fluffy seeds. Plant with a specialized native seed drill.
	Indian Grass[4]	10	0.23								
	Little Bluestem[4]	5	0.11								
	Switch Grass[4] Fescue	5	0.11								
	plus one of:										
	Partridge Pea	5	0.11								Creeping Red Fescue will provide erosion protection while the warm season grasses get established.
	Bush Clover	3	0.07								
	Wild Indigo	3	0.07								
	Showy Tick Trefoil	3	0.06								

NOTE: Alternative seed mixes may be used with prior approval from the Department or Delegated Agency.

Source:	Symbol:	Detail No.
Delaware ESC Handbook		**DE-ESC-3.4.3** Sheet 2 of 4 Effective FEB 2019

Standard Detail & Specifications
Vegetative Stabilization

PERMANENT SEEDING AND SEEDING DATES (cont.)

Mix No.	Seeding Mixtures / Certified Seed[4]	Seeding Rate[1] lb/ac	lb/1000 sq.ft.	Optimum Seeding Dates [7] O = Optimum Planting Period. A = Acceptable Planting Period. Coastal Plain 3/1-4/30	7/1-8/14	8/15-10/31	11/1-4/30	Piedmont 7/1-8/31	9/1-10/31	All[6] 10/31-3/1	Remarks
	Poorly-Drained Soils										
9	Redtop	5	0.11	A	O	A	A	O	A	A	Quick stabilization of disturbed sites and waterways.
	Creeping Bentgrass	20	0.46								
	Sheep Fescue	30	0.69								
	Rough Bluegrass	40									
10	Weeping Lovegrass[4]	10	0.23	A		O	A		O		Good erosion control, wildlife cover and wetland revegetation.
	Residential Lawns										
11	Tall Fescue	150	3.5	O	A	O	O	A	O		High seed, high maintenance, light traffic, irrigation necessary. Well drained soils, full sun.
	Perennial Ryegrass	25	0.57								
	Kentucky Bluegrass (Blend)	30	0.69								
12	Tall Fescue	150	3.5	O	A	O	O	A	O		Moderate value, low maintenance, traffic tolerant.
	Kentucky Ryegrass	25	0.57								
	Sheep Fescue	25	0.57								
13	Creeping Red Fescue	50	1.15	O	A	O	O	A	O		Shade tolerant, moderate traffic tolerance, moderate maintenance.
	Chewings Fescue	50	1.15								
	Rough Bluegrass	20	0.4								
	Kentucky Bluegrass	20	0.4								
14	Creeping Red Fescue	50	1.15	O	A	O	O	A	O		Shade tolerant, moderate tolerance.
	Rough Bluegrass or	90	2.1								
	Chewings Fescue										
15	K-31 Tall Fescue	150	3.5	O	A	O	O	A	O		Monoculture, but performs well alone in lawns. Discourages rabbits.

1. When hydroseeding is the chosen method of application, the total rate of seed should be increased by 25%.
2. Winter seeding requires 3 tons per acre of straw mulch. Planting dates listed above are average for Delaware. These dates may require adjustment to reflect local conditions.
3. All seed shall meet the minimum purity and minimum germination percentages recommended by the Delaware Department of Agriculture. The maximum % of weed seeds shall be in accordance with Section 1, Chapter 24, Title 3 of the Delaware Code.
4. Seed shall be inoculated at rate specified by manufacturer to insure biological survival of seed. Inoculation is adequate or seeded area can be irrigated.
5. All leguminous seed must be inoculated.
6. Warm season grass mix and Weed Canary Grass cannot be mowed more than 4 times per year.
7. Warm season grasses require a soil temperature of at least 50 degrees in order to germinate, and will remain dormant until then.

NOTE: Alternative seed mixes may be used with prior approval from the Department or Delegated Agency.

Source:	Symbol:	Detail No.
Delaware ESC Handbook		**DE-ESC-3.4.3** Sheet 3 of 4 Effective FEB 2019

Standard Detail & Specifications
Vegetative Stabilization

Construction Notes:

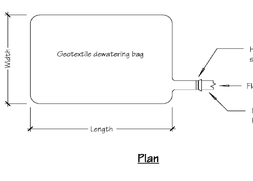
1. Site Preparation
   a. Prior to seeding, install needed erosion and sediment control practices such as diversions, grade stabilization structures, berms, dikes, grassed waterways, and sediment basins.
   b. Final grading and shoping is not necessary for temporary seedings.
2. Seedbed Preparation

   It is important to prepare a good seedbed to insure the success of establishing vegetation. The seedbed should be well prepared, loose, uniform, and free of large clods, rocks, and other objectionable material. The soil surface should not be compacted or crusted.
3. Soil Amendments
   a. Lime - Apply liming materials based on the recommendations of a **soil test** in accordance with the approved nutrient management plan. If a nutrient management plan is not required, apply dolomitic limestone at the rate of 1 to 2 tons per acre. Apply limestone uniformly and incorporate into the top 4 to 6 inches of soil.
   b. Fertilizer - Apply fertilizer based on the recommendations of a **soil test** in accordance with the approved nutrient management plan. If a nutrient management plan is not required, apply a formulation of 10-10-10 at the rate of 600 pounds per acre. Apply fertilizer uniformly and incorporate into the top 4 to 6 inches of soils.
4. Seeding
   a. For **temporary stabilization**, select a mixture from **Sheet 1** . For a **permanent stabilization**, select a mixture from **Sheet 2** or **Sheet 3** depending on the conditions. Alternative seed mixes may be used with prior approval from the Department or Delegated Agency
   b. Apply seed uniformly with a broadcast seeder, drill, cultipacker seeder or hydroseeder. All seed will be applied at the recommended rate and planting depth.
   c. Seed that has been broadcast should be covered by raking or dragging and then lightly tamped into place using a roller or cultipacker. If hydroseeding is used and the seed and fertilizer is mixed, they will be mixed on site and the seeding shall be done immediately and without interruption.
5. Mulching

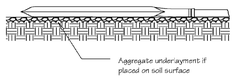
   All mulching shall be done in accordance with detail **DE-ESC-3.4.5**.

Source:	Symbol:	Detail No.
Delaware ESC Handbook		**DE-ESC-3.4.3** Sheet 4 of 4 Effective FEB 2019

Standard Detail & Specifications
Geotextile Dewatering Bag



Plan



Profile

NOTE: Pre-manufactured products installed in accordance with manufacturer's recommendations may be used as an equivalent substitute with Departmental approval.

Source:	Symbol:	Detail No.
Adapted from ACF Products, Inc.	GB	**DE-ESC-3.2.1.2** Sheet 1 of 2 Effective FEB 2019

Standard Detail & Specifications
Geotextile Dewatering Bag

Construction Notes:

1. The dewatering bag should be placed so the incoming water flows into and through the bag, and then flow off the site without creating more erosion. The neck should be tied off tightly to stop the water from flowing out of the bag without going through the walls. The dewatering bag should be placed on a gravel bed to allow water to flow in all directions.
2. The dewatering bag is considered full and should be disposed when it is impractical for the bag to filter the sediment out at a reasonable flow rate. At this point, it should be replaced with a new bag.
3. Disposal may be accomplished as directed by the construction reviewer. If the site allows, the bag may be buried on site and seeded, visible fabric removed and seeded or removed from site to a proper disposal area.

Materials:

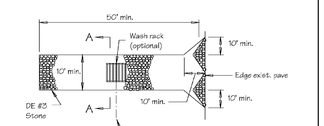
1. The geotextile fabric shall be a Type GD-IV.
2. The dewatering bag shall be sewn with a double needle machine using high strength thread. All structural seams will be sewn with high strength, double stitched "J" type. Seam strength test will have the following minimum average roll values:

Type	TEST METHOD	TEST RESULT
Heavy duty	ASTM D-4884	100 lb / in

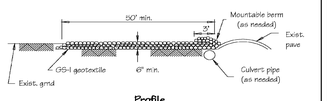
3. The dewatering bag shall have an opening large enough to accommodate a four (4) inch discharge hose with attached strap to tie off the hose to prevent the pumped water from escaping from the bag without being filtered.

Source:	Symbol:	Detail No.
Adapted from ACF Products, Inc.	GB	**DE-ESC-3.2.1.2** Sheet 2 of 2 Effective FEB 2019

Standard Detail & Specifications
Stabilized Construct. Entrance



Plan



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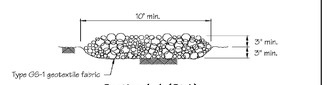
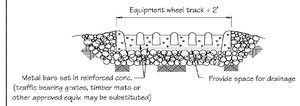


Section A-A (Std.)

Source:	Symbol:	Detail No.
Adapted from VA ESC Handbook	SCE	**DE-ESC-3.4.7** Sheet 1 of 2 Effective FEB 2019

Standard Detail & Specifications
Stabilized Construct. Entrance



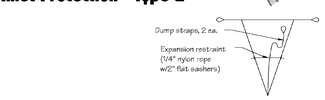
Section A-A (Opt.)

Construction Notes:

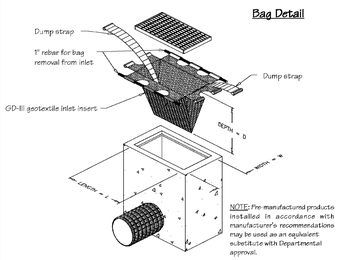
1. Stone size - Use DE #3 stone.
2. Length - As required, but not less than 50 feet (except on a single residence lot where a 30 foot minimum length would apply).
3. Thickness - Not less than size (6) inches.
4. Width - Ten (10) feet minimum, but not less than the full width at points where ingress or egress occurs.
5. Geotextile - Type GS-1, placed over the entire area prior to placing of stone.
6. Surface Water - All surface water flowing or diverted toward construction entrances shall be piped across the entrance. If piping is impractical, a mountable berm with 5:1 slopes will be permitted.
7. Maintenance - The entrance shall be maintained in a condition which will prevent tracking or flowing of sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand and repair and/or cleanout of any measures used to trap sediment. All sediment spilled, dropped, washed or tracked onto public rights-of-way must be removed immediately.
8. Washing - Vehicle wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment trapping device.
9. Inspection - Periodic inspection and needed maintenance shall be provided after each rain.

Source:	Symbol:	Detail No.
Adapted from VA ESC Handbook	SCE	**DE-ESC-3.4.7** Sheet 2 of 2 Effective FEB 2019

Standard Detail & Specifications
Inlet Protection - Type 2



Bag Detail



NOTE: Pre-manufactured products installed in accordance with manufacturer's recommendations may be used as an equivalent substitute with Departmental approval.

Perspective

Source:	Symbol:	Detail No.
Adapted from ACF Products, Inc.	IP-2	**DE-ESC-3.1.5.2** Sheet 1 of 2 Effective FEB 2019

Standard Detail & Specifications
Inlet Protection - Type 2

Notes:

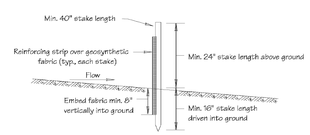
1. This practice shall only be used in situations in which Inlet Protection - Type 1 cannot be used due to site constraints. These include, but are not limited to partially completed parking areas, streets, roads, etc.
2. It may be necessary to transition from Type 1 to Type 2 Inlet Protection as construction proceeds.
3. For areas where there is a concern for oil run-off or spills, insert shall meet one of the above specifications with an oil-absorbant pillow or shall be made completely from an oil-absorbant material with a woven pillow.

Materials:

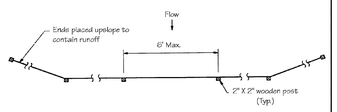
The geotextile inlet insert shall meet or exceed the specifications of Type GD-III geotextile in accordance with Appendix A-3 of the Delaware Erosion & Sediment Control Handbook.

Source:	Symbol:	Detail No.
Adapted from ACF Products, Inc.	IP-2	**DE-ESC-3.1.5.2** Sheet 2 of 2 Effective FEB 2019

Standard Detail & Specifications
Silt Fence



Section



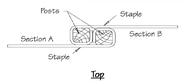
Plan

DATA
Max. controlled slope

Source:	Symbol:	Detail No.
Adapted form MD Stds. & Specs. for ESC	SF	**DE-ESC-3.1.2.1** Sheet 1 of 2 Effective FEB 2019

Standard Detail & Specifications
Silt Fence

Construction Detail



Top

Construction Notes:

1. Geosynthetic fabric to be fastened securely to fence posts with wire ties or staples.
2. When two sections of filter cloth adjoin each other they shall be overlapped by six inches and folded.
3. Maintenance shall be performed as needed and material removed when "bulges" develop in the silt fence.

Materials:

1. Stakes: Steel (either T or U) or 2" x 2" hardwood
2. Geosynthetic Fabric: Type GD-I
3. Reinforcing strip: Wooden lath or plastic strip

Source:	Symbol:	Detail No.
Adapted from MD Stds. & Specs. for ESC	SF	**DE-ESC-3.1.2.1** Sheet 2 of 2 Effective FEB 2019

EROSION AND SEDIMENT CONTROL NOTES

1. The DNREC Sediment and Stormwater Program must be notified in writing five (5) days prior to commencing with construction. Failure to do so constitutes a violation of the approved Sediment and Stormwater Management Plan.
2. Review and or approval of the Sediment and Stormwater Management Plan shall not relieve the contractor from his or her responsibilities for compliance with the requirements of the Delaware Sediment and Stormwater Regulations, nor shall it relieve the contractor from errors or omissions in the approved plan.
3. If the approved plan needs to be modified, additional sediment and stormwater control measures may be required as deemed necessary by DNREC or the Delegated Agency.
4. Following soil disturbance or redisturbance, permanent or temporary stabilization shall be completed for all perimeter sediment controls, soil stockpiles, and all other disturbed or graded areas on the project site within 14 calendar days unless more restrictive Federal requirements apply.
5. All erosion and sediment control practices shall comply with the Delaware Erosion and Sediment Control Handbook, latest edition.
6. At any time a dewatering operation is used, it shall be previously approved by the Agency Construction Site Reviewer for a non-erosive point of discharge, and a dewatering permit shall be approved by the DNREC Well Permitting Branch.
7. Approved plans remain valid for 5 years from the date of approval.
8. Post construction verification documents are to be submitted to the DNREC Sediment and Stormwater Program within 60-days of stormwater management facility completion.
9. Approval of a Sediment and Stormwater Management Plan does not grant or imply a right to discharge stormwater runoff. The owner/developer is responsible for acquiring any and all agreements, easements, etc., necessary to comply with State drainage and other applicable laws.
10. The owner shall be familiar with and comply with all aspects of the NPDES Construction General Permit.
11. The contractor shall at all times protect against sediment or debris laden runoff or wind from leaving the site. Perimeter controls shall be checked daily and adjusted and/or repaired to fully contain and control sediment from leaving the site. Accumulated sediment shall be removed when it has reached half of the effective capacity of the control. In addition, the contractor may need to adjust or alter measures in times of adverse weather conditions, or as directed by the Agency Construction Site Reviewer.
12. Before any earthwork or excavation takes place, the contractor shall call Miss Utility at 811 or 1-800-282-8555 at least 48 hours prior to construction, to have all existing utilities marked onsite.
13. Best available technology (BAT) shall be employed to manage turbid discharges in accordance with requirements of 7 Del.C. Ch. 60, Regulations Governing the Control of Water Pollution, Section 9.1.02, known as Special Conditions for Stormwater Discharges Associated with Construction Activities, and DNREC policies, procedures, and guidance.
14. Documentation of soil testing and materials used for temporary or permanent stabilization including but not limited to soil test results, seed tags, soil amendment tags, etc. shall be provided to the Department or Delegated Agency to verify that the permanent or temporary stabilization has been completed in accordance with the approved plan.
15. The Department or Delegated Agency may require additional soil testing and reapplication of permanent or temporary stabilization in accordance with specifications provided in the Delaware Erosion and Sediment Control Handbook, or alternative measures that provide functional equivalency.
16. It shall be the sole responsibility of the contractor to maintain and repair all erosion, sediment control and stormwater management practices during utility installation and site construction.
17. It shall be the sole responsibility of the owner to maintain and repair all erosion, sediment control and stormwater management practices after completion and approval of all stormwater management practices.
18. Unless otherwise specified, temporary vegative stabilization shall use seed mix no. 5 and permanent vegative stabilization shall use seed mix no. 7 per details.
19. Temporary vegetative cover, mulching and/or sprinkling with water shall be the methods used as necessary to control dust.
20. Stabilization matting shall be North American Green SC150BN or DNREC type SSM-III.
21. All Riprap shall be underlain with Mirafi 600X Geotextile or DNREC type GS-1.
22. Excess soil to be relocated off-site and stabilized in accordance with the Delaware Erosion and Sediment Control Handbook.

GENERAL OPERATION AND MAINTENANCE NOTES

1. THE DNREC SEDIMENT AND STORMWATER PROGRAM AND/OR THE RELEVANT DELEGATED AGENCY RESERVES THE RIGHT TO ENTER PRIVATE PROPERTY FOR PURPOSES OF PERIODIC SITE REVIEWS.
2. THE DNREC SEDIMENT AND STORMWATER PROGRAM SHALL BE NOTIFIED WITHIN 30 BUSINESS DAYS IF THE PROPERTY OWNERSHIP IS TRANSFERRED TO A NEW PERSON OR ENTITY.
3. THE DNREC SEDIMENT AND STORMWATER PROGRAM AND/OR THE RELEVANT DELEGATED AGENCY MAY SEEK ENFORCEMENT ACTION AGAINST ANY OWNER DEEMED NEGLIGENT IN FULFILLING THE OPERATION AND MAINTENANCE REQUIREMENTS OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.
4. THE DNREC SEDIMENT AND STORMWATER PROGRAM SHALL BE CONTACTED IF A CONCERN ARISES REGARDING A STORMWATER MANAGEMENT FACILITY, BEFORE ANY NON-ROUTINE MAINTENANCE, OR IF MODIFICATIONS TO THE FACILITY ARE DESIRED.
5. ANY DESIGN MODIFICATIONS MADE TO THE STORMWATER SYSTEM SHALL REQUIRE THE CREATION OF A NEW POST CONSTRUCTION STORMWATER MANAGEMENT PLAN AND/OR OPERATIONS AND MAINTENANCE PLAN, WITH APPROVAL OF THE PLAN(S) BY THE DNREC SEDIMENT AND STORMWATER PROGRAM.
6. FOR ALL STORMWATER EASEMENT AREAS (I.E., ACCESS, MAINTENANCE, OR OFFSITE) AND THE MINIMUM 10-FOOT WIDE ACCESSWAYS TO ALL STORMWATER FACILITIES AND THEIR STRUCTURAL COMPONENTS, REGULAR MOWING SHALL BE PERFORMED TO KEEP THE GRASS 6" OR LESS; NO TREES OR SHRUBS SHALL BE PLANTED, AND ANY FOUND GROWING SHALL BE REMOVED; AND NO PERMANENT STRUCTURES, SUCH AS FENCES OR SHEDS, SHALL BE LOCATED WITHIN THE EASEMENT OR ACCESSWAY.
7. TREES SHALL NOT BE PLANTED, AND SHALL BE REMOVED IF FOUND GROWING, ON AND WITHIN 15 FEET OF ALL POND EMBANKMENTS, ON POND SLOPES OR SAFETY BENCHES, AND WITHIN 10 FEET OF STRUCTURAL COMPONENTS, SUCH AS PIPE INLETS.
8. WHEN THE FACILITY IS EXCAVATED TO REMOVE ACCUMULATED SEDIMENT, THE DISPOSAL AREA SHALL BE PERMANENTLY STABILIZED SO THAT IT DOES NOT RECREATE AN EROSION PROBLEM. ANY MATERIAL TAKEN OFF-SITE SHALL STILL BE UTILIZED OR DISPOSED OF IN AN APPROVED DNREC MANNER.
9. BEFORE ANY EARTHWORK OR EXCAVATION TAKES PLACE, THE CONTRACTOR SHALL CALL MISS UTILITY AT 811 OR 1.800.282.8555 AT LEAST 3 WORKING DAYS PRIOR TO CONSTRUCTION, TO HAVE ALL EXISTING UTILITIES MARKED ONSITE.
10. THE OWNER SHALL BE RESPONSIBLE FOR OPERATION & MAINTENANCE OF POST CONSTRUCTION STORMWATER FACILITIES.

SEQUENCE OF CONSTRUCTION

1. NOTIFY DNREC SEDIMENT AND STORMWATER PROGRAM AND SUSSEX TECH IN WRITING AT LEAST FIVE (5) DAYS PRIOR TO THE START OF CONSTRUCTION TO SCHEDULE A PRE-CONSTRUCTION MEETING. FAILURE TO DO SO CONSTITUTES A VIOLATION OF THE APPROVED SEDIMENT AND STORMWATER PROGRAM PLAN.

2. PRIOR TO AN CLEARING, INSTALLATION OF SEDIMENT CONTROL MEASURES OR GRADING, A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED AND CONDUCTED WITH THE AGENCY CONSTRUCTION SITE REVIEWER. THE LANDOWNER, CONTRACTOR AND CERTIFIED CONSTRUCTION REVIEWER ARE REQUIRED TO BE IN ATTENDANCE AT THE PRE-CONSTRUCTION MEETING.

3. INSTALL PERIMETER SILT FENCE AND PLACE INLET PROTECTION, AS NECESSARY.

4. ALL PERIMETER CONTROLS ARE TO BE REVIEWED BY THE AGENCY CONSTRUCTION SITE REVIEWER AND APPROVED PRIOR TO PROCEEDING WITH FURTHER SITE DISTURBANCE OR CONSTRUTION.

5. MINIMIZE CLEARING AND GRADING OPERATIONS TO AREAS NECESSARY FOR IMMEDIATE CONSTRUCTION ACTIVITY.

6. STRIP TOPSOIL AND/OR PAVEMENT AND PERFORM STORMWATER DEMOLITION AND REPAIR/RESTORATION WORK. BACKFILL TRENCHES USING EXISTING ONSITE MATERIAL OR APPROVED OFF SITE MATERAIL.

7. THE CONTRACTOR SHALL AT ALL TIMES PROTECT AGAINST SEDIMENT OR DEBRIS LADEN RUNOFF OR WIND FROM LEAVING THE SITE. PERIMETER CONTROLS SHOULD BE CHECKED DAILY AND ADJUSTED AND/OR REPAIRED TO FULLY CONTAIN AND CONTROL SEDIMENTATION ON THE SITE. ACCUMULATED SEDIMENT SHOULD BE REMOVED WHEN IT HAS REACHED HALF OF THE EFFECTIVE CAPACITY OF THE CONTROL. IN ADDITION, THE CONTRACOR MAY NEED TO ADJUST OR REPAIR MEASURES IN TIMES OF ADVERSE WEATHER CONDITIONS, OR AS DIRECTED BY THE AGENCY CONSTRUCTION SITE REVIEWER.

8. UPON COMPLETION OF STORMDRAINAGE WORK RESTORE ALL DISTURBED AREAS NOT TO BE COVERED BY PAVEMENT BY INSTALLING A MINIMUM OF 6 INCHES OF TOPSOIL FROM AN APPROVED OFFSITE SOURCE, FINE GRADE TO MATCH EXISTING GRADES AND SEED AND MULCH. IN DISTURBED PAVED AREAS SAW CUT PAVEMENT TO REMAIN IN STRAIGHT LINES, COMPACT SUBGRADE, INSTALL AND COMPACT PAVEMENT SUBBASE AND ASPHALT SURFACE PAVING.

9. UPON COMPLETION OF THE PROJECT AND PRIOR TO REMOVING SEDIMENT CONTROL DEVICES CONTACT THE AGENCY CONSTRUCTION SITE REVIEWER TO SCHEDULE A POST CONSTRUTION INSPECTION. EROSION AND SEDIMENT CONTROL DEVICES TO BE REMOVED ONLY AFTER WORK IN THE AREA HAS BEEN COMPLETED AND STABLIZED, WITH WRITTEN APPROVAL FROM THE AGENCY CONSTRUCTION SITE REVIEWER.

10. REMOVE ALL SEDIMENT CONTROL DEVICES AFTER ABOVE APPROVAL IS OBTAINED.

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EROSION & SEDIMENT CONTROL DETAILS

SUSSEX TECH HIGH SCHOOL
UNDERGROUND PIPE DRAINAGE FOOTBALL FIELD
SUSSEX COUNTY, DELAWARE

REVISIONS:
01/28/2020 DNREC COMMENTS

Date:	DECEMBER 2019
Scale:	AS SHOWN
Dwn.By:	RJL
Proj.No.:	1147A004.A01
Dwg.No.:	3

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