Connecticut Department of
Energy & Environmental Protection
Bureau of Materials Management & Compliance Assurance
Water Permitting & Enforcement Division

General Permit Registration Form for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, effective 10/1/13 (non-electronic form)

Prior to completing this form, you **must** read the instructions for the subject general permit available at **DEEP-WPED-INST-015**.
This form must be filled out electronically before being printed.
You must submit the registration fee along with this form.

The status of your registration can be checked on the DEEP website. Please note that DEEP will no longer mail certificates of registration.

CPPU USE ONLY
App #:_____
Doc #:_____
Check #:_____
Program: Stormwater

Part I: Registration Type

Select the appropriate boxes identifying the registration type and registration deadline.

Registration Type			Registration Timeline	
☐	**Re-registration** **Existing Permit No. GSN _____**		**On or before February 1, 2014*** *Note: Failure to renew a permit by this date will require submission of new registration. Re-registrants must only complete Parts I, II, III, IV - Question 1, VII and submit Attachment A.	
☒	**New Registration** (Refer to Section 2 of the permit for definitions of Locally Exempt and Locally Approvable Projects)	☐ **Locally Approvable Projects** **Size of soil disturbance:**	**New registration - Sixty (60) days prior to the initiation of the construction activity for:** Sites with a total soil disturbance area of 5 or more acres	
		☒ **Locally Exempt Projects** **Size of soil disturbance:3.74**	☒	**New registration - Sixty (60) days prior to the initiation of the construction activity for:** Sites with a total disturbance area of one (1) to twenty (20) acres except those with discharges to impaired waters or tidal wetlands
			☐	**New registration - Ninety (90) days prior to the initiation of the construction activity for:** (i) Sites with a total soil disturbance area greater than twenty (20) acres, or (ii) Sites discharging to a tidal wetland (that is not fresh-tidal and is located within 500 feet), or (iii) Sites discharging to an impaired water listed in the "Impaired Waters Table for Construction Stormwater Discharges"
☐	**Modification** **Existing Permit No. GSN _____** (new or modified discharges)		☐	Modification for sites proposing new discharges that are Locally Approvable or that are Locally Exempt disturbing < 20 acres: Sixty (60) days prior to the initiation of the discharge.
			☐	Modification for sites proposing new discharges that are Locally Exempt disturbing > 20 acres or to impaired or non-fresh tidal waters: Ninety (90) days prior to the initiation of discharge.

Part II: Fee Information

1. New Registrations
   a. Locally approvable projects (registration only):
      ☐ $625 [#1855]
   b. Locally exempt projects (registration and Plan):
      ☒ $3,000 total soil disturbance area ≥ one (1) and < twenty (20) acres. [#1856]
      ☐ $4,000 total soil disturbance ≥ twenty (20) acres and < fifty (50) acres. [#1857]
      ☐ $5,000 total soil disturbance ≥ fifty (50) acres. [#1858]
2. Re-Registrations
   ☐ $625 (sites previously registered prior to September 1, 2012) [#1853]
   ☐ $0 (sites previously registered between September 1, 2012 and the issuance date of this permit) [#1854]
3. Modification
   ☐ $0 [#1873]

The fees for municipalities shall be half of those indicated in subsections 1.a., 1.b., and 2 above pursuant to section 22a-6(b) of the Connecticut General Statutes. State and Federal agencies shall pay the full fees specified in this subsection. The registration will not be processed without the fee. The fee shall be non-refundable and shall be paid by certified check or money order payable to the Department of Energy and Environmental Protection.

Part III: Registrant Information

- If a registrant is a corporation, limited liability company, limited partnership, limited liability partnership, or a statutory trust, it must be registered with the Secretary of the State. If applicable, the registrant's name shall be stated **exactly** as it is registered with the Secretary of the State. This information can be accessed at **CONCORD**.
- If a registrant is an individual, provide the legal name (include suffix) in the following format: First Name; Middle Initial; Last Name; Suffix (Jr, Sr., II, III, etc.).

1. Registrant /Client Name: Connecticut Department of Transportation

   State Agency ⬇

   Other ⬇

   Secretary of the State business ID #:

   Mailing Address: District III, 140 Pond Lily Avenue

   City/Town: New Haven State: CT Zip Code: 06515

   Business Phone: 203-389-3169 ext.:

   Example:(xxx) xxx-xxxx

   Contact Person: Mark D. Rolfe Title:

   E-Mail: **Mark.Rolfe@ct.gov**

   Additional Phone Number (if applicable): ext.

2. List billing contact, if different than the registrant:

   Name:

   Mailing Address:

   City/Town: State: Zip Code:

   Business Phone: ext.:

   Contact Person: Title:

Part III: Registrant Information (continued)

3. List primary contact for departmental correspondence and inquiries, if different than the registrant:

   Name: Mark D. Rolfe

   Mailing Address: 140 Pond Lily Avenue, District 3 Administration Office

   City/Town: New Haven | State: CT | Zip Code: 06515

   Business Phone: 203 389-3169 | ext.:

   Site Phone: | Emergency Phone:

   Contact Person: | Title:

   Association (e.g. developer, general or site contractor, etc.):

4. List owner of the property on which the activity will take place, if different from registrant:

   Name:

   Mailing Address:

   City/Town: | State: | Zip Code:

   Business Phone: | ext.:

   Contact Person:

5. List developer, if different from registrant or primary contact:

   Name:

   Mailing Address:

   City/Town: | State: | Zip Code:

   Business Phone: | ext.:

   Contact Person: | Title:

6. List general contractor, if different from registrant or primary contact:

   Name:

   Mailing Address:

   City/Town: | State: | Zip Code:

   Business Phone: | ext.:

   Site Phone: | Off Hours Phone:

   Contact Person: | Title:

7. List any engineer(s) or other consultant(s) employed or retained to assist in preparing the registration and/or Stormwater Pollution Control Plan. ☐ Please select if additional sheets are necessary, and label and attach them to this sheet.

   Name: Connecticut Department of Transportation

   Mailing Address: 2800 Berlin Turnpike, P.O. Box 317546

   City/Town: Newington | State: CT | Zip Code: 06131-7546

   Business Phone: 860 594-3305 | ext.:

   Contact Person: Robert C. Messina | Title: Trans. Supervis. Engineer

   Service Provided:

8. List Reviewing Qualified Professional (for locally approvable projects only):

   Name:

   Mailing Address:

   City/Town: | State: | Zip Code:

   Business Phone: | ext.:

Part IV: Site Information

1. Site Name: Project No. 50-217
   Street Address or Description of Location: Fairfield Salt Shed
   City/Town: Fairfield State: CT Zip Code: 06825
   Brief Description of construction activity: Removal of existing and construction of a new salt shed
   Project Start Date: 4 / 2014 *(month/ yr)* Anticipated Completion Date: 10 / 2014 *(month/ yr)*
   Normal working hours: to

2. MINING: Is the activity on the site in question part of mining operations (i.e. sand and gravel)? ☐ Yes ☒ No

   If yes, mining is not authorized by this general permit. You must submit the Registration Form for the General Permit for the Discharge of Stormwater Associated with Industrial Activity.

3. COMBINED OR SANITARY SEWER: Does all of the stormwater from the proposed activity discharge to a combined or sanitary sewer (i.e. a sewage treatment plant)? ☐ Yes ☒ No

   If yes, this activity is not regulated by this permit. Contact the Water Permitting & Enforcement Division at 860-424-3018.

4. INDIAN LANDS: Is or will the facility be located on federally recognized Indian lands ☐ Yes ☒ No

5. COASTAL BOUNDARY: Is the activity which is the subject of this registration located within the coastal boundary as delineated on DEEP approved coastal boundary maps ☐ Yes ☒ No

   The coastal boundaries fall within the following towns: Branford, Bridgeport, Chester, Clinton, Darien, Deep River, East Haven, East Lyme, Essex, Fairfield, Greenwich, Groton (City and Town), Old Lyme, Guilford, Hamden, Ledyard, Lyme, Madison, Milford, Montville, New London, New Haven, North Haven, Norwalk, Norwich, Old Saybrook, Orange, Preston, Shelton, Stamford, Stonington (Borough and Town), Stratford, Waterford, West Haven, Westbrook and Westport.

   If “yes”, and this registration is for a new authorization or a modification of an existing authorization where the physical footprint of the subject activity is modified, you must provide documentation the DEEP Office of Long Island Sound Programs or the local governing authority has issued a coastal site plan approval or determined the project is exempt from coastal site plan review. Provide this documentation with your registration as Attachment B. See guidance in Appendix D of the general permit. Information on the coastal boundary is available at the local town hall or at www.cteco.uconn.edu/map_catalog.asp. Additional DEEP Maps and Publications are available by contacting DEEP staff at 860-424-3555.

Part IV: Site Information (continued)

6. ENDANGERED OR THREATENED SPECIES:

In order to be eligible to register for this General Permit, each registrant must perform a self-assessment, obtain a limited one-year determination, or obtain a safe-harbor determination regarding threatened and endangered species. This may include the need to develop and implement a mitigation plan. While each alternative has different limitations, the alternatives are not mutually exclusive; a registrant may register for this General Permit using more than one alternative. See Appendix A of the General Permit. Each registrant must complete this section AND Attachment C to this Registration form and a registrant who does not or cannot do so is not eligible to register under this General Permit.

Each registrant must perform a review of the Department's Natural Diversity Database maps to determine if the site of the construction activity is located within or in proximity (within ¼ mile) to a shaded area.

a. Provide the date the NDDB maps were reviewed: June 2013 (Print a copy of the NDDB map you viewed since it must be submitted with this registration as part of Attacment C.)

b. For a registrant using a limited one-year determination or safe harbor determination to register for this General Permit, provide the Department's Wildlife Divison NDDB identification number for any such determination: _____ (The number is on the determination issued by the Department's Wildlife Divison).

c. verify that I have completed Attachment C to this Registration Form. ☒ Yes ☐ No

For more information on threatened and endangered species requirements, refer to Appendix A and Section 3(b)(2) of this General Permit, visit the DEEP website at www.ct.gov/deep/nddbrequest or call the NDDB at 860-424-3011.

7. WILD AND SCENIC RIVERS: Is the proposed project within the watershed of a designated Wild and Scenic River? (See Appendix H for guidance) ☐ Yes ☒ No

8. AQUIFER PROTECTION AREAS: Is the site located within a mapped aquifer protection area www.ct.gov/deep/aquiferprotection as defined in section 22a-354h of the CT General Statutes? ☐ Yes ☒ No
(For additional guidance, please refer to Appendix C of the General Permit)

9. CT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL: Is the activity in accordance with CT Guidelines for Erosion and Sediment Control and local erosion & sediment control ordinances, where applicable? ☒ Yes ☐ No

10. HISTORIC AND/OR ARCHAEOLOGICAL RESOURCES:
Has the site of the proposed activity been reviewed (using the process outlined in Appendix G of this permit) for historic and/or archaeological resources? ☒ Yes ☐ No

a. The review indicates the proposed site does not have the potential for historic/ archaeological resources, OR ☒ Yes ☐ No

b. The review indicated historic and/ or archaeological resource potential exists and the proposed activity is being or has been reviewed by the Offices of Culture and Tourism, OR ☐ Yes ☒ No

c. The proposed activity has been reviewed and authorized under an Army Corps of Engineers Section 404 wetland permit. ☐ Yes ☒ No

11. CONSERVATION OR PRESERVATION RESTRICTION:
Is the property subject to a conservation or preservation restriction? ☐ Yes ☒ No

If Yes, proof of written notice of this registration to the holder of such restriction or a letter from the holder of such restriction verifying that this registration is in compliance with the terms of the restriction, must be submitted as Attachment D.

Part V: Stormwater Discharge Information

Table 1

Outfall #	a) Type	b) Pipe Material	c) Pipe Size	d) Note: To find lat/long, go to: CT ECO. A decimal format is required here. Directions on how to use CT ECO to find lat./long. and conversions can be found in Part V, Section d of the DEEP-WPED-INST-015 .		e) What method was used to obtain your latitude/longitude information?
				Longitude	Latitude	
1	pipe	concrete	12"	-73.258287	41.222218	CT ECO
	Select One:	not applicable	not applicable	- .	.	Select One:
	Select One:	Select One:	Select One:	- .	.	Select One:
	Select One:	Select One:	Select One:	- .	.	Select One:
	Select One:	Select One:	Select One:	- .	.	Select One:

Table 2

Outfall #	a) For temporary and permanent outfalls, provide a start date. For temporary discharges, also provide a date the discharge will cease.	b) For the drainage area associated with each outfall: Effective Impervious Area Before Construction	c) For the drainage area associated with each outfall: Effective Impervious Area After Construction	d) To what system or receiving water does your stormwater runoff discharge? either "storm sewer" or "wetlands/waterbody" (If you select "storm sewer" proceed to Part VI of the form. If you select "wetlands/waterbody" proceed to next question)	e) For each outfall, does it discharge to any of the following towns: *Branford, Kent, Manchester, Meriden, North Branford, Norwalk, or Wilton?* (If no, proceed to Part VI of the form. If yes, proceed to next question.)	f) For each outfall, does it discharge to a "freshwater" or "salt water" ? (If you select "freshwater" proceed to Table 3. If you selected "salt water", proceed to Part VI of the form.)
1	10-2014 mm/dd-mm/dd	35,900 sq feet	44,100 sq feet	storm sewer	☐ Yes ☒ No	Select one:
	- mm/dd-mm/dd	sq feet	sq feet	Select one:	☐ Yes ☐ No	Select one:
	- mm/dd-mm/dd	sq feet	sq feet	Select one:	☐ Yes ☐ No	Select one:
	- mm/dd-mm/dd	sq feet	sq feet	Select one:	☐ Yes ☐ No	Select one:
	- mm/dd-mm/dd	sq feet	sq feet	Select one:	☐ Yes ☐ No	Select one:
		total sq feet	**total sq feet**			

Part V: Stormwater Discharge Information (continued)

Table 3 Provide the following information about the receiving water(s)/wetland(s) that receive stormwater runoff from your site:			
Outfall #	a) What is your 305b ID # (water body ID #)? (Section 3.b, of the DEEP-WPED-INST-015, explains how to find this information)	b) Is your receiving water identified as a impaired water in the "Impaired Waters Table for Construction Stormwater Discharges"? If yes, proceed to next question. If no, proceed to Part VI: Pollution Control Plan.	c) Has any Total Maximum Daily Load (TMDL) been approved for the impaired water?
1	7108-00	☐ Y ☒ N	☐ Y ☐ N
		☐ Y ☐ N	☐ Y ☐ N
		☐ Y ☐ N	☐ Y ☐ N
		☐ Y ☐ N	☐ Y ☐ N
		☐ Y ☐ N	☐ Y ☐ N

Part V: Stormwater Discharge Information (continued)

1. **Impaired waters:** If you answered "yes" to Table 3, question b., verify the project's Pollution Control Plan (Plan) includes at least one of following control measures. Confirm compliance by selecting the control measure below that applies:

   a. No more than 3 acres is disturbed at any time , **OR** ☐ Yes ☐ No

   b. Stormwater runoff from a 2 yr, 24 rain event is **retained, OR** ☐ Yes ☐ No

   c. Impaired waters with an established TMDL: If you answered "yes" to Table 3, question c., verify the Plan includes all of the following control measures.

      Confirm compliance by selecting all of the below:

      1. The Plan documents there is sufficient remaining Waste Load Allocations (WLA) in the TMDL for the proposed discharge, ***AND*** ☐ Yes ☐ No

      2. Control measures shall be implemented to assure the WLA will not be exceeded, ***AND*** ☐ Yes ☐ No

      3. A. Stormwater discharges will be monitored for the indicator pollutant identified in the TMDL ***OR*** ☐ Yes ☐ No

         B. The Plan documents specific requirements for stormwater discharges specified in the TMDL ☐ Yes ☐ No

      Note: For TMDL waters, you must select "yes" to questions 1. c.1. and 1.c.2. above and either question 1.c.3.A. or 1.C.3.B. above to be eligible to register for this permit.

Part VI: Pollution Control Plan (select one of the following four categories)

☒ I am registering a Locally Exempt project and submitting the required electronic Plan (in Adobe™ PDF or similar publically available format) pursuant to Section 3(*c*)(2)(E) of this permit.

- ☒ Plan is attached to this registration form
- ☐ Plan is available at the following Internet Address (URL):

☐ I am registering a Locally Approvable project and have chosen not to submit the Plan with this registration pursuant to Section 3(*c*)(1) of this permit.

☐ I am registering a Locally Approvable project and have chosen to make my Plan electronically available pursuant to Section 4(*c*)(2)(N) of this permit.

- ☐ Plan is attached to this registration form
- ☐ Plan is available at the following Internet Address (URL):

☐ I am registering a Locally Exempt project and do not have the capability to submit the Plan electronically. Therefore, I am submitting a paper copy with this registration as Attachment E.

Part VII: Registrant Certification

The registrant *and* the individual(s) responsible for actually preparing the registration must sign this part. A registration will be considered incomplete unless all required signatures are provided.

For New Registrants:

" I hereby certify that I am making this certification in connection with a registration under such general permit,
[INSERT NAME OF REGISTRANT BELOW]
submitted to the commissioner by Mark D. Rolfe for
[INSERT ADDRESS OF PROJECT OR ACTIVITY BELOW]
an activity located at 360 Jefferson Street, Fairfield, CT 06825 and that all terms and conditions of the general permit are being met for all discharges which have been initiated and such activity is eligible for authorization under such permit. I further certify that a system is in place to ensure that all terms and conditions of this general permit will continue to be met for all discharges authorized by this general permit at the site. I certify that the registration filed pursuant to this general permit is on complete and accurate forms as prescribed by the commissioner without alteration of their text. I certify that I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(*b*) (8)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I certify that I have made an affirmative determination in accordance with Section 3(*b*)(8)(B) of this general permit. I understand that the registration filed in connection with such general permit is submitted in accordance with and shall comply with the requirements of Section 22a-430b of Connecticut General Statutes. I also understand that knowingly making any false statement made in the submitted information and in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under Section 53a-157b of the Connecticut General Statutes and any other applicable law."

For Re-registrants:

" I hereby certify that I am making this certification in connection with a registration under the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, submitted to the commissioner
[INSERT NAME OF REGISTRANT BELOW]
by _____ for an activity located at
[INSERT ADDRESS OF PROJECT OR ACTIVITY BELOW]
_____ and that all terms and conditions of the general permit are being met for all discharges which have been initiated and such activity is eligible for authorization under such permit. I further certify that all designs and plans for such activity meet the current terms and conditions of the general permit in accordance with Section 5(b)(5)(C) of such general permit and that a system is in place to ensure that all terms and conditions of this general permit will continue to be met for all discharges authorized by this general permit at the site. I certify that the registration filed pursuant to this general permit is on complete and accurate forms as prescribed by the commissioner without alteration of their text. I certify that I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(*b*)(8)(A) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I also understand that knowingly making any false statement made in the submitted information and in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under Section 53a-157b of the Connecticut General Statutes and any other applicable law."

Signature of Registrant	Date
Name of Registrant (print or type)	Title (if applicable)
Robert C Messina	11/12/13
Signature of Preparer (if different than above)	Date
Robert C Messina	Trans. Supervising Engineer
Name of Preparer (print or type)	Title (if applicable)

Part VIII: Professional Engineer (or Landscape Architect, where appropriate) Design Certification (for publically approvable and exempt projects)

The following certification must be signed by a Professional Engineer or Landscape Architect where appropriate.

"I hereby certify that I am a choose qualification licensed in the State of Connecticut. I am making this certification in connection with a registration under such general permit, submitted to the commissioner by

[INSERT NAME OF REGISTRANT BELOW]

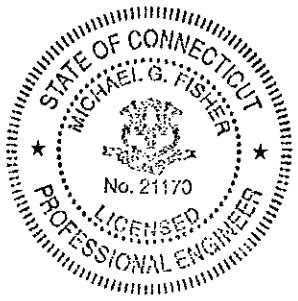
for an activity located at

[INSERT ADDRESS OF PROJECT OR ACTIVITY BELOW]

I certify that I have thoroughly and completely reviewed the Stormwater Pollution Control Plan for the project or activity covered by this certification. I further certify, based on such review and on the standard of care for such projects, that the Stormwater Pollution Control Plan has been prepared in accordance with the Connecticut Guidelines for Soil Erosion and Sediment Control, as amended, the Stormwater Quality Manual, as amended, and the conditions of the general permit, and that the controls required for such Plan are appropriate for the site. I further certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate, and complete to the best of my knowledge and belief. I also understand that knowingly making any false statement in this certification may subject me to sanction by the Department and/or be punishable as a criminal offense, including the possibility of fine and imprisonment, under section 53a-157b of the Connecticut General Statutes and any other applicable law."

	11/13/13
Signature of Design Professional	Date
MICHAEL G. FISHER	21170
Name of Professional (print or type)	License Number

Affix P.E/L.A Stamp Here



Part IX: Reviewing Qualified Professional Certification

The following certification must be signed by a) a Conservation District reviewer OR, b) a qualified soil erosion and sediment control and/or professional engineer

☐ **Review certification by Conservation District:**

1.) District: list of districts

Date of Affirmative Determination:

" I am making this certification in connection with a registration under General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities, submitted to the commissioner

[INSERT NAME OF REGISTRANT BELOW]

by _____ for an activity located at

[INSERT ADDRESS OF PROJECT OR ACTIVITY BELOW]

_____.

I have personally examined and am familiar with the information that provides the basis for this certification, and I affirm, based on the review described in Section 3(*b*)(11)(C) of this general permit and on the standard of care for such projects, that the Stormwater Pollution Control Plan is adequate to assure that the activity authorized under this general permit will comply with the terms and conditions of such general permit and that all stormwater management systems: (i) have been designed to control pollution to the maximum extent achievable using measures that are technologically available and economically practicable and that conform to those in the Guidelines and the Stormwater Quality Manual; (ii) will function properly as designed; (iii) are adequate to ensure compliance with the terms and conditions of this general permit; and (iv) will protect the waters of the state from pollution."

_____

Signature of District Professional and Date

_____

Name of District Professional and License Number (if applicable)

Or

☐ **Review certification by Qualified Professional**

Company: _____

Name: _____

License # : _____

Level of independency of professional:

Required for all projects:

1. Not an employee of the registrant ☐ Yes ☐ No
2. No ownership interest of any kind in the project for which the registration is being submitted. ☐ Yes ☐ No

Required for projects with 15 or more acres of site disturbance:

3. Did not engage in any activities associated with the preparation, planning, designing or engineering of the soil erosion and sediment control or plan for stormwater management systems for this registrant ☐ Yes ☐ No
4. Not under the same employ as any person associated with the preparation, planning, designing or engineering of the soil erosion and sediment control plan or plans and specifications for stormwater management systems for this registrant ☐ Yes ☐ No

Part IX: Reviewing Qualified Professional Certification (continued)

"I hereby certify that I am a qualified professional engineer or qualified soil erosion and sediment control professional, or both, as defined in the General Permit for Discharge of Stormwater and Dewatering Wastewaters from Construction Activities and as further specified in Sections 3(*b*)(11)(A) and (B) of such general permit. I am making this certification in connection with a registration under such general permit,

[INSERT NAME OF REGISTRANT BELOW]

submitted to the commissioner by _____

[INSERT ADDRESS OF PROJECT OR ACTIVITY BELOW]

for an activity located at _____.

I have personally examined and am familiar with the information that provides the basis for this certification, including but not limited to all information described in Section 3(*b*)(11)(C) of such general permit, and I certify, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining such information, that the information upon which this certification is based is true, accurate and complete to the best of my knowledge and belief. I further certify that I have made the affirmative determination in accordance with Sections 3(*b*)(11)(D)(i) and (ii) of this general permit. I understand that this certification is part of a registration submitted in accordance with Section 22a-430b of Connecticut General Statutes and is subject to the requirements and responsibilities for a qualified professional in such statute. I also understand that knowingly making any false statement in this certification may be punishable as a criminal offense, including the possibility of fine and imprisonment, under Section 53a-157b of the Connecticut General Statutes and any other applicable law."

_____

Signature of Reviewing Qualified Professional Date: _____

_____

Name of Reviewing Qualified Professional License No.: _____

Affix P.E./L.A. Stamp Here

Part X: Supporting Documents

Select the applicable box below for each attachment being submitted with this registration form. When submitting any supporting documents, please label the documents as indicated below (e.g., Attachment A, etc.) and be sure to include the registrant's name as indicated on this certification form.

☒ **Attachment A:** Select here as verification that an 8 ½" X 11" copy of the relevant portion of a USGS Quadrangle Map with a scale of 1:24,000, showing the exact location of the facility has been submitted with this registration. Indicate the quadrangle name on the map, and be sure to include the registrant's name. (To obtain a copy of the relevant USGS Quadrangle Map, call your town hall or DEEP Maps and Publications Sales at 860-424-3555)

☐ **Attachment B:** Documentation related to *Coastal Consistency Review,* if applicable.

☒ **Attachment C:** Threatened and Endangered Species Form and any additional information (such as a copy of a NDDB map)

☐ **Attachment D:** Conservation or Preservation Restriction Information, if applicable.

☒ **Attachment E:** Where applicable, non-electronic Pollution Control Plan.

Note: Please submit the fee along with a completed, printed and signed Registration Form and all additional supporting documents to:

CENTRAL PERMIT PROCESSING UNIT
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
79 ELM STREET
HARTFORD, CT 06106-5127

ATTACHMENT C: THREATENED AND ENDANGERED SPECIES

Information about compliance with the requirements of Section 3(b)(2) of this general permit, regarding threatened and endangered species, is in Appendix A of the general permit. Choose one or more (if applicable) of the following in order to be eligible to register for this General Permit. A registrant who does not or cannot do so is not eligible to register under this General Permit.

☒ Self Assessment using the NDDB maps – Select this only if:

a. The site of the construction activity is not entirely, partially or within a ¼ mile of a shaded area depicted on the Department's Natural Diversity Database maps and this determination was made not more than six months before the date of submitting this registration;

AND

b. The entity registering for this General Permit has no reasonably available verifiable scientific, or other credible information that the construction activity could reasonably be expected to have an adverse impact upon a federal or state species listed as threatened or endangered.

Attach a copy of the NDDB map used to conduct the self assessment used to register for this general permit.

Note: Both a and b as used in this section, must be true in order for a Registrant to register for this General Permit using the self-assessment option. If neither is true, a Registrant cannot use the self-assessment option to comply with Section 3(b)(2) and Appendix A of the General Permit.

☐ Limited One-Year Determination – Select this only if:

a. The entity registering for this General Permit has obtained a limited one-year determination from the Department's Wildlife Division regarding threatened and endangered species: i) within a year of the date of submitting this registration; or ii) more than 1 year before submitting this registration, but such determination has been extended by the Department within one year of the date of submitting this registration;

AND

b. The Registrant has provided to the Department's Wildlife Division any reasonably available verifiable scientific, or other credible information that the construction activity could reasonably be expected to have an adverse impact upon a federal or state species listed as threatened or endangered.

Provide the date the limited one-year determination was issued by the Department's Wildlife Division _____;

or

Provide the date that the most recent extension to a limited one year determination was issued by the Department's Wildlife Division _____.

Note: Both a and b as used in this section, must be true in order for a Registrant to register for this General Permit using the Limited One-Year Determination option. If a Limited One-Year Determination or extension to any such determination was issued by the Department's Wildlife Division more than one year before the submission of this registration, a Registrant cannot use any such determination or extension to comply with Section 3(b)(2) and Appendix A of the General Permit.

ATTACHMENT C: THREATENED AND ENDANGERED SPECIES (continued)

☐ **Select here if the Limited One-Year Determination issued by the Department includes a Mitigation Plan.**

Provide the date the Mitigation Plan was approved: _____

Governmental Entity Approving the Plan: _____

As of the date this Registration is submitted,

Has the Mitigation Plan been fully implemented? ☐ Yes ☐ No

Date commenced: _____ Date completed: _____

Is the Mitigation Plan partially implemented? ☐ Yes ☐ No

If yes, what actions have been taken? _____

And which actions are yet to be implemented and what is the timeframe for completion of such actions: _____

Is the Mitigation Plan yet to be implemented? ☐ Yes ☐ No

If yes, specify the timeframe for implementation: _____ to _____

And summarize actions to be implemented: _____

☐ Safe Harbor Determination - Select this only if:

a. The entity registering for this General Permit has obtained a Safe Harbor Determination from the Department's Wildlife Division regarding threatened and endangered species: i) within 3 years of the date of submitting this registration; or ii) more than 3 years before submitting this registration, but within one-year of a one-year extension issued by the Department's Wildlife Division to a safe harbor determination;

AND

b. The entity registering for this General Permit has provided to the Department's Wildlife Division any reasonably available verifiable scientific, or other credible information that the construction activity could reasonably be expected to have an adverse impact upon a federal or state species listed as threatened or endangered.

Provide the date the Department's Wildlife Division issued a Safe Harbor Determination: _____

If applicable, provide the date that any one-year extension to a Safe Harbor Determination was issued by the Department's Wildlife Division: _____.

Note: Both a and b as used in this section, must be true in order for a Registrant to register for this General Permit using the Safe Harbor Determination option. If a Safe Harbor Determination was issued by the Department's Wildlife Division more than three years before the submission of this registration, and has not been extended, a Registrant cannot use any such safe harbor to comply with section 3(b)(2) and Appendix A of this General Permit. If a Safe Harbor Determination was granted and extended for one-year, more than four years before the submission of this registration, a Registrant cannot use any such Safe Harbor Determination to comply with Section 3(b)(2) and Appendix A of the general permit.

ATTACHMENT C: THREATENED AND ENDANGERED SPECIES (continued)

☐ **Select here if the safe harbor noted above includes a Mitigation Plan.**

Provide the date the Mitigation Plan was approved: _____

Governmental Entity Approving the Plan: _____

As of the date this Registration is submitted,

Has the Mitigation Plan been fully implemented? ☐ Yes ☐ No

Date commenced: _____ Date completed: _____

Is the Mitigation Plan partially implemented? ☐ Yes ☐ No

If yes, what actions have been taken? _____

And which actions are yet to be implemented and what is the timeframe for completion of such actions: _____

Is the Mitigation Plan yet to be implemented? ☐ Yes ☐ No

If yes, specify the timeframe for implementation: _____ to _____

And summarize actions to be implemented: _____

STORMWATER POLLUTION CONTROL PLAN

Fairfield Salt Shed Rehabilitation
Fairfield, CT

State Project No.: 50-217

Connecticut Department of Transportation

October 2013

This Stormwater Pollution Control Plan (SPCP) is prepared to comply with the requirements for the General Permit for Stormwater Discharges (GPSD) from Construction Activities. Also to be considered part of the SPCP are the proposed construction plans, special provisions, and the Connecticut Department of Transportation's "Standard Specifications for Roads, Bridges and Incidental Construction" (Form 816) including supplements thereto and the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control

Table of Contents

Stormwater Pollution Control Plan
Connecticut Department of Transportation

---

1. Site Description

1.1 Site Description

State project no. 50-217 consists of the construction of a new salt shed and personnel shelter on the existing salt shed site on Jefferson Street, adjacent to the northbound entrance ramp of Exit 46 of CT Route 15, in Fairfield, CT. The purpose of this project is to construct an environmentally compliant salt storage building and to perform associated site improvements at the existing facility.

Site work includes demolition of the existing salt shed; excavation and grading; removal of portions of the existing pavement; construction of a small drainage basin to connect to the existing drainage system; installation of catchbasins and a hydrodynamic separator to handle the stormwater in the operations area; and installation of new pavement, landscaping, and exterior site lighting.

The new 96' long salt shed will be constructed of structural glue laminated timber arches, laminated tongue and groove wood decking, asphalt shingle roofing, and cedar shake siding on a concrete spread-footing foundation. A 12' x 12' personnel shelter will sit opposite the salt shed. It will be constructed with conventional residential wood framing, asphalt roofing and cedar shake siding on a concrete foundation.

A new double-walled calcium chloride tank will be installed near the personnel shelter to replace the existing single-walled tank.

This project is necessary because this site serves as the end point of snow plow routes that originate at three different maintenance garages; therefore, it is critical that a salt supply facility be located here. The routes served by this facility, primarily the Merritt Parkway, are critical routes that carry heavy traffic loads. If this site was not available, the plow trucks would have to spend additional time making return runs to other facilities to resupply, which could delay snow clearing operations, impacting traffic in the Town of Fairfield and this part of the state.

1.2 Total Areas

1.1.1 **Total Area of Site-** The total 'construction limits' area for this project is 3.74 acres with an additional 0.5 acres of treeline to be cleared of invasive species growth.

1.1.2 **Total Disturbed Areas-** The total maximum disturbed area for this project is 3.74 acres. The area of erodible soil within the total maximum disturbed area is approximately 3.30 acres (see figure 4 of appendix A).

1.3 Estimated Runoff Coefficient

The runoff coefficient assumed for pavement 0.7 and 1.0 for the building's roof. For the pervious areas, a coefficient of 0.4 was assumed for turf, 0.2 for wooded area, and 0.15 for debris area.

Pre Construction

$$\frac{(0.03\text{ ac. x }1)+(0.03\text{ ac. x }0.4)+(0.68\text{ac. x }0.15)+(1.1\text{ac. x }0.2)+(1.9\text{ac.x}0.7)}{0.03\text{ ac.} + 0.03\text{ ac.} + 0.68\text{ ac.}+1.1\text{ac.} +1.9\text{ac.}} = 0.45$$

The runoff coefficient assumed for pavement 0.9 and 1.0 for the building's roof. For the pervious turf areas, a coefficient of 0.4 and 0.25 were assumed.

Post-Construction

$$\frac{(0.25\text{ ac. x }0.4)+(0.86\text{ ac. x }0.9)+(0.11\text{ ac. x }1.0)+(2.52\text{ac. x }0.25)}{0.25\text{ ac.} + 0.86\text{ ac.} + 0.11\text{ ac.}+ 2.52\text{ac.}} = 0.43$$

The estimated runoff coefficients, with the corresponding contributing areas, are shown on Figures 2 and 3.

1.4 Receiving Waters

The site drainage, both pre-construction and post-construction, ties into an adjacent, state roadway drainage system, then discharges to the Mill River. The discharge location is shown on Figure 3.

1.5 Extent of Wetlands

There are no wetlands located within the construction limits of the project. The Fairfield salt shed facility site has approximately 0.01 acre of wetlands in the form of a small brook located near the entrance to the site.

2. Construction Sequencing

The contractor will be given approximately six months for the construction of all phases of the project.

The suggested sequence of construction for the building site is as follows:

1. Conduct a preconstruction meeting.
2. Install erosion controls at the affected inlets and at limits of disturbed slopes.
3. Perform clearing and grubbing activities.
4. Begin cut and fill operations for drainage basin and building foundation.
5. Construct building.
6. Continue cut and fill operations for paved areas. Install site utilities, stormwater system and pavement structure.
7. Grade grass slopes and immediately stabilize. Establish turf, per plan, on all remaining disturbed areas. Install landscaping.
8. Remove erosion controls when it is determined that disturbed areas have been stabilized. (This determination will be made by the Engineer).
9. All post-construction stormwater structures shall be cleaned of construction sediment and any remaining silt fence shall be removed prior to the filing of the "Notice of Termination Form".
10. Perform project cleanup.

3. Control Measures

CT DOT will have construction inspection personnel assigned to the project in order to oversee the Contractor's operations to ensure compliance with the provisions of the Standard Specifications. Further CT DOT oversight is provided by the District 3 Environmental Coordinator and the Office of Environmental Planning.

The following timelines will be followed for the proposed construction activities:

- If construction activities are complete or have been temporarily halted for more than seven (7) days, stabilization activities will be implemented within three (3) days.
- When final grades are completed in any part of the site, stabilization activities will be implemented within 3 days.
- Areas that will be disturbed past the planting season will be covered with a long-term, non-vegetative stabilization method that will provide protection through the winter.
- Stabilization practices will be implemented as quickly as possible in accordance with the Guidelines.
- The Contractor shall stabilize disturbed areas with temporary or permanent measures as quickly as possible after the land is disturbed. Driveway roadbed shall be stabilized immediately upon completion of rough grading with compacted road aggregate. Requirements for soil stabilization are detailed in Form 816 article 1.10.03, Best Management Practices.

3.1 Temporary Stabilization Practices:

- Erosion Control Matting: Matting shall be used to stabilize the topsoil on disturbed slopes where a stable, vegetated cover is not established within 30 days, or on temporary slopes steeper than 2:1.
- Silt Fence: Silt fence shall be placed at the toe of all disturbed slopes.
- Anti-Tracking Pads: Construction entrances (gravel anti-tracking pads) shall be constructed at truck access points to off –road route.
- Dust Control: Routine sweeping and application of dust suppression agents, including water and calcium chloride, over exposed subbase shall be completed for dust control.

Stabilization practices shall be implemented no more than three days after completion, as final grades are reached, or if work has been suspended for more than seven days.

Temporary seeding shall be spread over any disturbed areas which will remain inactive for at least 30 days. Areas to remain disturbed through winter shall be protected with non-vegetative stabilization measures. The Contractor must provide an Erosion and Sedimentation Control plan for each winter season during construction operations.

The Contractor may use other controls in the project as necessary if they conform to the 2002

Connecticut Erosion and Sedimentation Guidelines and are approved by the Engineer. The contractor will be required to provide the necessary details for any erosion controls not specifically called for on the project plans.

3.2 Permanent Stabilization Practices:

All new embankments disturbed by construction and unpaved areas that are graded or disturbed by construction will receive topsoil and turf establishment or landscape plantings. The Contractor may use other permanent stabilization practices approved by the Engineer and conforming to Connecticut's Erosion and Sedimentation Control Guidelines (2002).

3.3 Structural Measures

There will be no temporary structural practices implemented for this project.

3.4 General Note

Temporary and/or permanent seeding shall be placed over all disturbed areas which are inactive for an extended period of time per the requirements of Form 816 Section 1.10.03 – Best Management Practices, paragraph 11.

All of the disturbed slopes will be stabilized by grass seeding. The contractor shall follow all the governing regulations and best management policies during those activities.

3.5 Maintenance

All construction activities and related activities shall conform to the requirements of Section 1.10 "Environmental Compliance" of ConnDOT's Standard Specifications, Form 816. In general, all construction activities shall proceed in such a manner so as not to pollute any wetlands, watercourses, water body, and conduit carrying stormwater. The Contractor shall limit, in so far as possible, the surface area of earthen materials exposed by construction activity and immediately provide temporary and permanent pollution control to prevent soil erosion and contamination on the site. Water pollution control provisions and best management practices per Article 1.10.03 of the Standard Specifications shall be administered during construction.

4. Dewatering Wastewaters

4.1 Dewatering Guidelines

If encountered, dewatering wastewaters will be infiltrated into the ground unless otherwise directed by the Engineer. When dewatering is necessary, pumps used shall not be allowed to discharge directly into a wetland or watercourse. Prior to any dewatering, the Contractor must submit to the Engineer a written proposal for specific methods and devices to be used, and must obtain the Engineer's written approval of such methods and devices, including, but not limited to, the pumping of water into a temporary sedimentation basin, providing surge protection at the inlet or outlet of pumps, floating the intake of a pump, or any other method for minimizing and retaining the suspended solids. If the Engineer determines that a pumping operation is causing turbidity problems, the Contractor shall halt said operation until a means of controlling the turbidity is submitted by the Contractor in writing to the Engineer, approved in writing by the Engineer and implemented by the Contractor. If required, all activities are to be performed in compliance with ConnDOT Form 816.

5.Post-Construction Stormwater Management

5.1 Post-construction Guidelines

After the project is complete, the Department will perform the following maintenance and restorative measures:

- Litter/debris will be removed from the site regularly.
- Mowing and maintenance of the turf areas and vegetated areas will occur as needed.
- Drainage structure sumps and hydrodynamic separator will be inspected regularly and sediment will be removed when sumps are more than half full.
- Riprap outlet protection will be inspected and repaired annually or as needed.
- Stone check dams will be inspected and repaired annually or as needed. Sediment will be removed when it reaches half the height of the check dam.
- The stormwater basin will be inspected and repaired annually or as needed. Sediment will be removed when it interferes with the detention capacity of the basin. Outlets will be checked for excessive scour and repaired as needed.

5.2 Post Construction Performance Standards

Redevelopment- the site's detention basin has been designed to handle the water quality volume per the 2004 Connecticut Stormwater Quality Manual.

In addition, the following measures have been employed with the goal of capturing suspended solids and floatables and velocity dissipation:

Catchbasins with 4' sumps- The site surrounding the salt shed has been design with 4' sumps catchbasins that will be cleaned on an annual basis or as needed.

Detention Basin- The stormwater from the site will discharge into the stormwater basin, and then into an 18" pipe (the old outlet pipe for the site drainage). The basin was sized to hold all of the Water Quality Volume as per the 2004 Connecticut Stormwater Quality Manual.

Hydrodynamic separator- The new drainage system for the salt shed area includes the hydrodynamic separator which will be installed and connect to the portion of the drainage system conveying the water to the detention basin.

Riprap Splash Pads- rip rap splash pads have been used at the outlet into the detention basin to dissipate velocity and prevent ground erosion.

6. Other Controls

6.1 Waste Disposal

Construction site waste shall be properly managed and disposed of during the entire construction period. Additionally,

- A waste collection area will be designated. The selected area will minimize truck travel through the site and will not drain directly to the adjacent wetlands.
- Waste collection shall be scheduled regularly to prevent the containers from overfilling.
- Spills shall be cleaned up immediately.
- Defective containers that may cause leaks or spills will be identified through regular inspection. Any found to be defective will be repaired or replaced immediately.
- Any stockpiling of materials should be confined to the designated area as defined by the engineer.

6.2 Washout Areas

- No surface discharge of washout wastewaters from area
- All wash water to be directed into a container or pit such that no overflows can occur
- Washout shall be conducted:
    1. Outside of any buffers & at least 50 ft from any stream, wetland or other sensitive resources
    2. In an entirely self-contained washout system
- Washout areas to be designated & flagged off
- Implement BMPs to remove & dispose of hardened concrete waste to minimize the discharge to waters of the State
- Inspect containers or pits at least once a week to ensure structural integrity, adequate holding capacity & check for leaks or overflows – if structurally deficient repair prior to future use
- Remove hardened concrete waste when it accumulates to a height of ½ of the container or pit

6.3 Anti-tracking Pads and Dust Control

Temporary anti-tracking pads from the active work site to the existing maintenance facility pavement will be installed and maintained at the locations shown on the plans. Maintain the entrance in a condition which will prevent tracking and washing of sediment onto paved surfaces. Provide periodic top dressing with additional stone or additional length as conditions demand. Repair any measures used to trap sediment as needed. Immediately remove all sediment spilled, dropped, washed or tracked onto paved surfaces. Roads adjacent to a construction site shall be left clean at the end of each day. If the construction entrance is being properly maintained and the action of a vehicle traveling over the stone pad is not sufficient to remove the majority of the sediment, then either (1) increase the length of the construction entrance, (2) modify the construction access road surface, or (3) install washing racks and associated settling area or similar devices before the vehicle enters a paved surface. Construction site dust will be controlled by sprinkling the ground surface with water until it is moist on an as-needed basis.

6.4 Post-Construction

All post-construction stormwater structures, including the storm basin, shall be cleaned of construction sediment and any remaining silt fence shall be removed prior to acceptance of the project by the DOT.

6.5 Maintaining and Storing Vehicles and Equipment

The contractor shall take measures to prevent any contamination to wetlands and watercourses while maintaining and storing construction equipment on the site. The Deicing Liquid tank design for the site is a double-wall container and does not require a roof.

7. Inspections

7.1 Inspection Guidelines

All areas disturbed by construction activity that have not been stabilized need to employ E & S control measures and structural control measures. Soil stockpile areas, washout areas and locations where vehicles enter or exit the site shall be inspected at least once every seven calendar days. These areas shall also be inspected following any storm event, inspection shall occur upon the start of the subsequent normal working hours. All construction activities shall be inspected initially for Plan implementation and then weekly for routine inspections.

Where sites have been temporarily or finally stabilized, such inspection shall be conducted at least once every month for three months.

Qualified personnel provided by the DOT District 3 Office shall conduct inspections.

Items to be inspected: the following items shall be inspected as described below:

Item	Procedure
Silt Fence	Silt fence shall be inspected to ensure that the fence line is intact with no breaks or tears. The fence shall be firmly anchored to the ground. Areas where the fence is excessively sagging or where support posts are broken or uprooted shall be noted. Depth of sediment behind the fence shall be noted.
Catch Basin Protection	Protective measures shall be inspected to ensure that sediment is not entering the catch basins. Catch basin sumps shall be monitored for sediment deposition. Hay bales shall be inspected to ensure they have not clogged.
Vehicle Entrances / Exits	Locations where vehicles enter or exit the site shall be inspected for evidence of off-site tracking.
General	Construction areas and the perimeter of the site shall be inspected for any evidence of debris that may blow or wash off site or that has blown or washed off site. Construction areas shall be inspected for any spills or unsafe storage of materials that could pollute off site waters.

After each inspection conducted the report shall be prepared in conformance with SWPCP requirements.

8. Keeping Plans Current

Revisions to Stormwater Pollution Control Plans:

If the results of the inspections require modifications to the Stormwater Pollution Control Plan, the plans shall be revised as soon as practicable after the inspection. Such modifications shall provide for a timely implementation of any changes to the site within 24 hours and implementation of any changes to the plan within three calendar days following the inspection.

Record Keeping: A written report summarizing the scope of the inspection, the name(s) and qualifications of inspection personnel, the date and time of the inspection, major observations relative to the implementation of the Pollution Control Plan, and actions taken shall be completed within 24 hours of the inspection. This report shall be retained as part of the Stormwater Pollution Control Plan for at least three years after the date of the inspection

9. Monitoring Requirements

The sampling shall be conducted in conformance with the permit at least once every month, when there is a discharge of stormwater from the site while construction is ongoing, until final stabilization of the drainage area associated with each outfall is achieved.

Stormwater Monitoring Reports

Within 30 days following the end of each month, the stormwater sampling results shall be submitted on the SMR and submit in accordance with Net DMR. to the following address:

Bureau of Materials Management and Compliance Assurance
Water Permitting and Enforcement Division (Attn: DMR Processing) Connecticut Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

10. Contractors

1. General

This section shall identify all Contractors and Subcontractors who will perform on site actions which may reasonably be expected to cause or have the potential to cause pollution of the waters of the State.

2. Certification Statement

All contractors and subcontractors must sign the attached statement. All certification will be included in the Stormwater Pollution Control Plan.

State Project No. 50-217

Fairfield Salt Shed Rehabilitation
Fairfield, CT

"I certify under penalty of law that I have read and understand the terms and conditions of the general permit for the discharge of stormwater associated with construction activity. I understand that as Contractor on the project, I am covered by this general permit, and must comply with the terms and conditions of this permit, including, but not limited to, the requirements of the Stormwater Pollution Control Plan prepared for this project."

GENERAL CONTRACTOR

Signed:_____ Date:_____

Title:_____

Firm:_____ Telephone:_____

Address:_____

_____

_____

SUBCONTRACTOR

Signed:_____ Date:_____

Title:_____

Firm:_____ Telephone:_____

Address:_____

_____

_____

General:

This Stormwater Pollution Control Plan (SPCP) is prepared to comply with the requirements for the General Permit for Stormwater Discharges (GPSD) from Construction Activities. Also to be considered part of the SPCP are the proposed construction plans, special provisions, and the Connecticut Department of Transportation's "Standard Specifications for Roads, Bridges and Incidental Construction" (Form 816) including supplements thereto and the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control.
Report Storm water Pollution Control Plan
Connecticut Department of Transportation

Appendix A - Figures

Aerial Photo-	Figure 1
Pre-Constructions AI Conditions-	Figure 2
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Disturbed/Erodible Areas-	Figure 4
Detention Basin Drainage Areas-	Figure 5
Soil Map/ Soil Report	Figure 5A

Appendix B – Drainage Calculations

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Water Quality Computations	Figure 7
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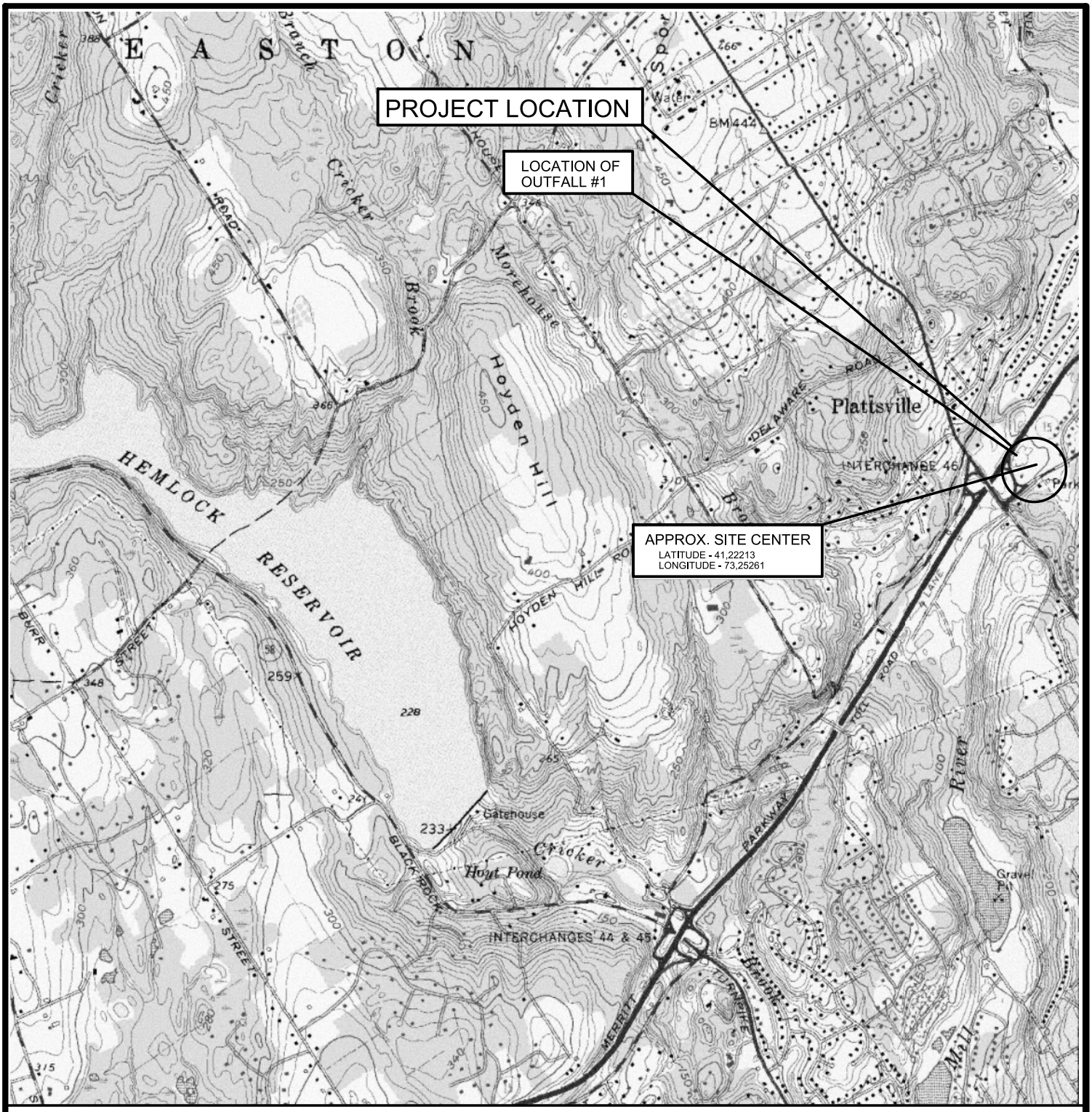
Appendix C – Plan Sheets

Sedimentation and Erosion Control	C-003
Site Plan-	C-004
Drainage and Utility Plan-	C-005
Grading Plan-	C-006
Civil Details -	C-009
Civil Grading Plan & Misc. Details	SS-010
Landscape Design Plan-	L-002



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QUADRANGLE NO. 108	WESTPORT, CONN N4107.5 - W7315/7.5 1960 PHOTOREVISED 1971 AMS 6366 III NE - SERIES V816

STATE PROJECT NO.: 50-217

COUNTY: FAIRFIELD

CITY/TOWN: FAIRFIELD

APPLICATION BY:

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

FAIRFILED SALT SHED
REHABILITATION

OFFICE OF ENGINEERING

DATE: JULY 2013

ATTACHMENT A

Natural Diversity Data Base Areas

FAIRFIELD, CT

June 2013

State and Federal Listed Species & Significant Natural Communities

Town Boundary

NOTE: This map shows general locations of State and Federal Listed Species and Significant Natural Communities. Information on listed species is collected and compiled by the Natural Diversity Data Base (NDDB) from a number of data sources . Exact locations of species have been buffered to produce the general locations. Exact locations of species and communities occur somewhere in the shaded areas, not necessarily in the center. A new mapping format is being employed that more accurately models important riparian and aquatic areas and eliminates the need for the upstream/downstream searches required in previous versions.

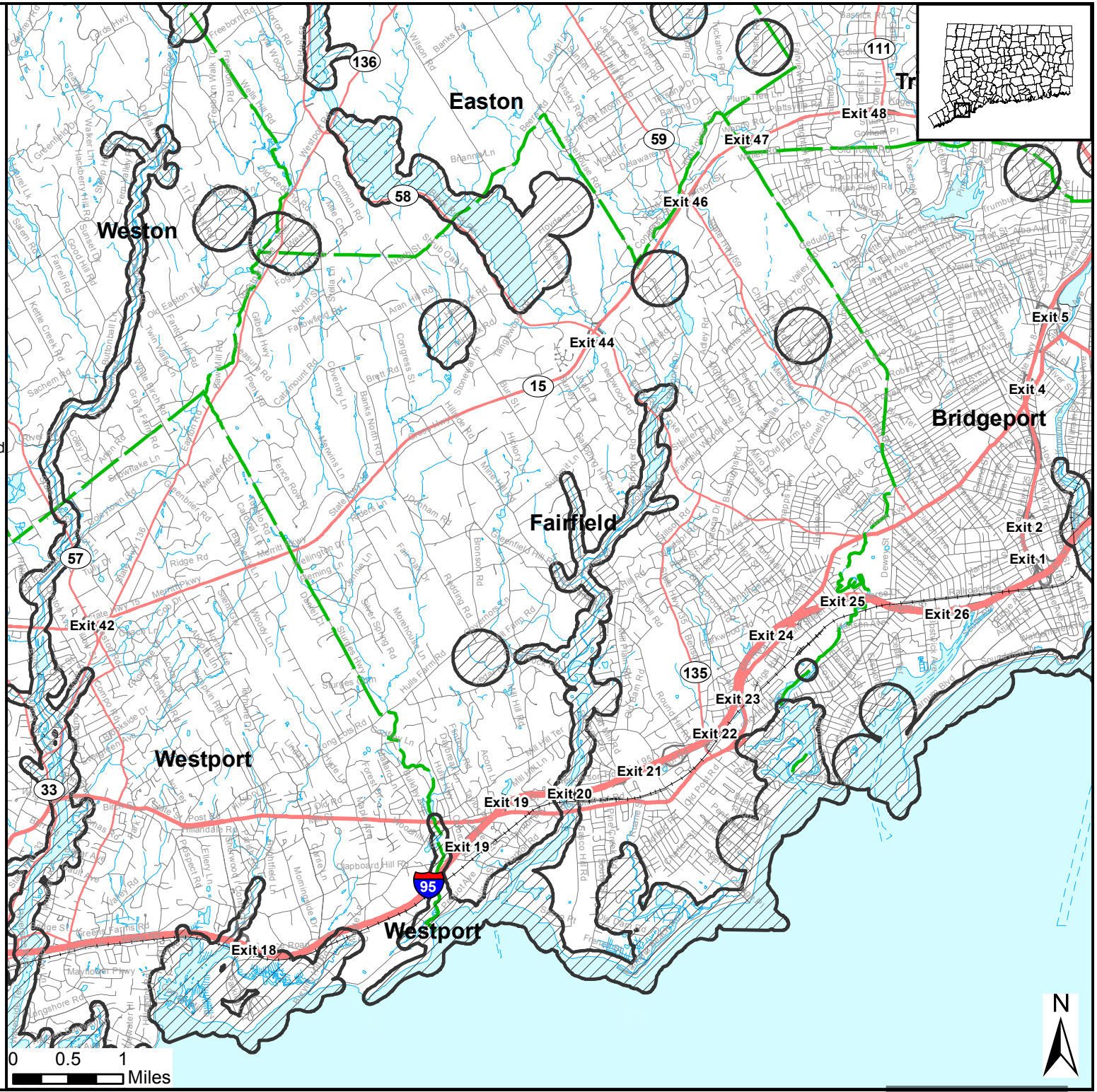
This map is intended for use as a preliminary screening tool for conducting a Natural Diversity Data Base Review Request. To use the map, locate the project boundaries and any additional affected areas. If the project is within a shaded area there may be a potential conflict with a listed species. For more information, complete a Request for Natural Diversity Data Base State Listed Species Review form (DEP-APP-007), and submit it to the NDDB along with the required maps and information. More detailed instructions are provided with the request form on our website.

www.ct.gov/deep/nddbrequest

This file has PDF Layers. Look for the Layers tab on the left. Expand the layers and use the "eye" icons to change visibility.

QUESTIONS: Department of Energy and Environmental Protection (DEEP)
79 Elm St., Hartford CT 06106
Phone (860) 424-3011

Connecticut Department of Energy & Environmental Protection
Bureau of Natural Resources
Wildlife Division



ATTACHMENT C

APPENDIX A

Figures
State Project No. 50-217

FAIRFIELD SALT SHED REHABILITATION SITE PLAN

FIGURE 1
PROJECT #50-217

DEBRIS AREA
0.16 AC.
0.15 DRAINAGE COEF.
AI # 0.024

PAVED AREA
1.92 AC.
0.70 DRAINAGE COEF.
AI # 1.36

WOODED AREA
1.05 AC.
0.20 DRAINAGE COEF.
AI # 0.210

DEBRIS AREA
0.63 AC.
0.15 DRAINAGE COEF.
AI # 0.095

TURF AREA
0.03 AC.
0.40 DRAINAGE COEF.
AI # 0.012

ROOF AREA
0.03 AC.
1.0 DRAINAGE COEF.
AI # 0.026

EXISTING TOTAL AI # 1.73

SCALE 1" = 80'

80 0 160

FIGURE 2

FAIRFIELD SALT SHED
STATE PROJECT #50-217
PRE-CONSTRUCTION CONDITIONS

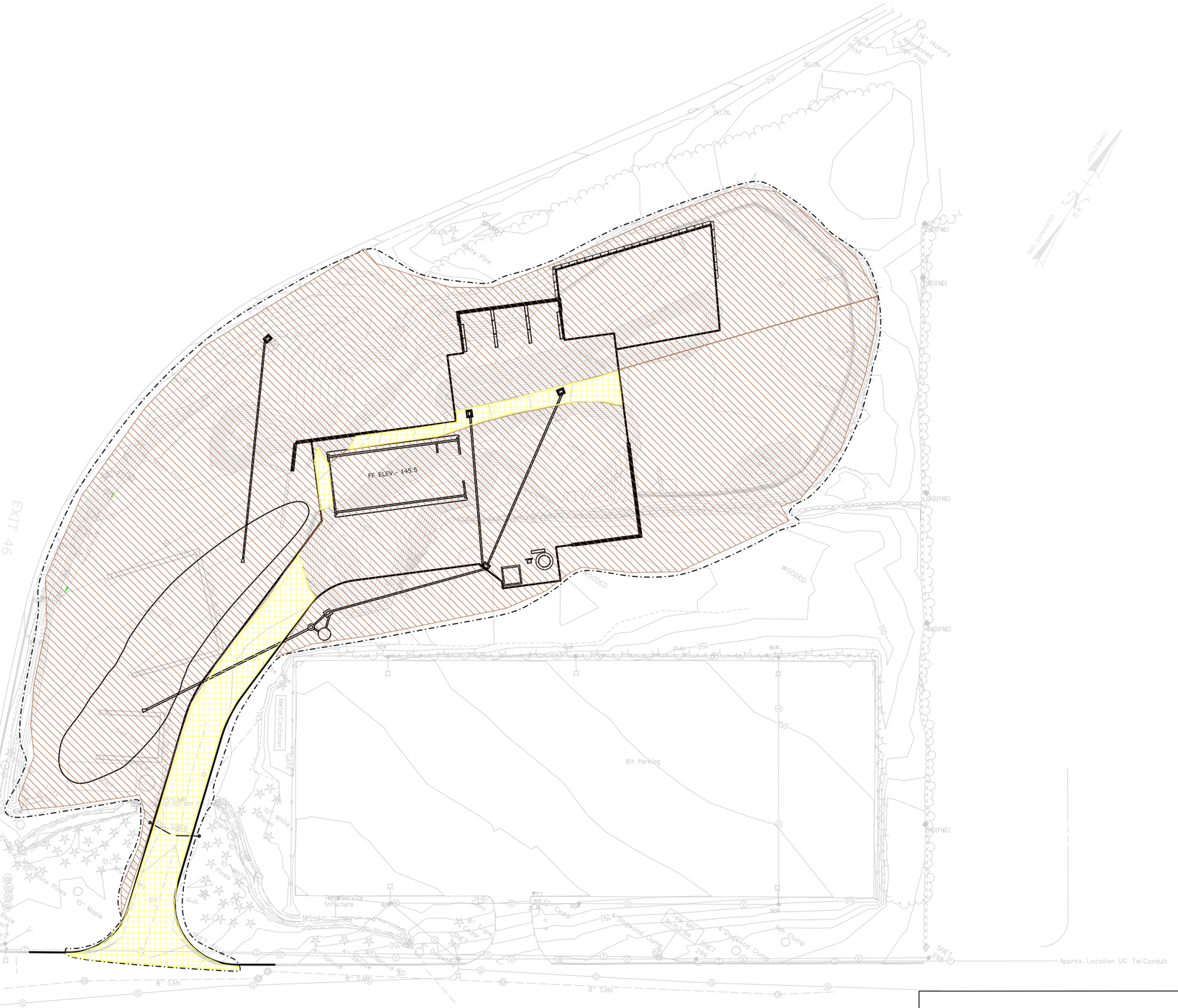
FIGURE 3

FAIRFIELD SALT SHED
STATE PROJECT #50-217
POST-CONSTRUCTION CONDITION

PROJECT #50-217

TOTAL AREA 3.74 ACRES

ERODIBLE AREA 3.30 ACRES



ERODIBLE SOIL

NON-ERODIBLE SOIL

FIGURE 4

FAIRFIELD SALT SHED
STATE PROJECT #50-217
DISTURBED/ ERODIBLE AREAS

DRAINAGE AREAS

A- 0.40 AC

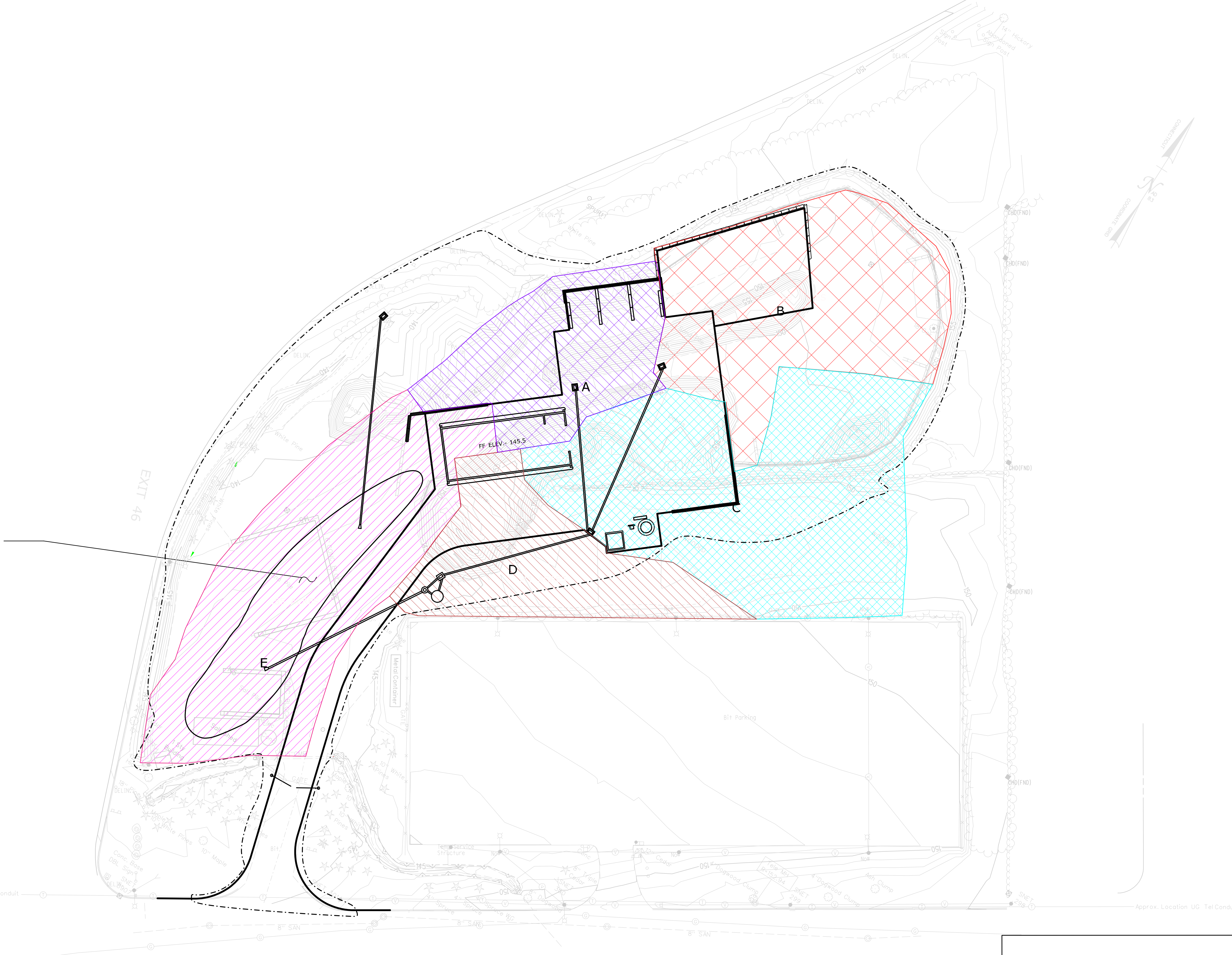
B- 0.69 AC

C- 0.93 AC

D- 0.41 AC

E- 0.85 AC

TOTAL AREA CONTRIBUTING
TO BASIN- 3.28 ACRES



SCALE 1" = 80'

80 0 160

FIGURE 5

FAIRFIELD SALT SHED
STATE PROJECT #50-217
DETENTION BASIN DRAINAGE AREAS

Custom Soil Resource Report
Soil Map

FIGURE 5A

FIGURE 5A

Limerick
Percent of map unit: 2 percent
Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Concave

238C—Hinckley-Urban land complex, 3 to 15 percent slopes

Map Unit Setting
Elevation: 0 to 1,200 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 140 to 185 days

Map Unit Composition
Hinckley and similar soils: 40 percent
Urban land: 35 percent
Minor components: 25 percent

Description of Hinckley

Setting
Landform: Terraces, kames, outwash plains, eskers
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Sandy and gravelly glaciofluvial deposits derived from granite and/or schist and/or gneiss

Properties and qualities
Slope: 3 to 15 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Excessively drained
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Very low (about 2.3 inches)

Interpretive groups
Farmland classification: Not prime farmland
Land capability (nonirrigated): 4e
Hydrologic Soil Group: A

Typical profile
0 to 8 inches: Gravelly sandy loam
8 to 20 inches: Very gravelly loamy sand
20 to 27 inches: Very gravelly sand
27 to 42 inches: Stratified cobbly coarse sand to extremely gravelly sand
42 to 60 inches: Stratified cobbly coarse sand to extremely gravelly sand

Description of Urban Land

Interpretive groups

Farmland classification: Not prime farmland
Land capability (nonirrigated): 8

Typical profile

0 to 6 inches: Material

Minor Components

Windsor

Percent of map unit: 5 percent
Landform: Terraces, kames, outwash plains
Down-slope shape: Convex
Across-slope shape: Convex

Sudbury

Percent of map unit: 5 percent
Landform: Terraces, outwash plains
Down-slope shape: Concave
Across-slope shape: Linear

Udorthents

Percent of map unit: 5 percent
Down-slope shape: Convex
Across-slope shape: Linear

Merrimac

Percent of map unit: 3 percent
Landform: Terraces, kames, outwash plains
Down-slope shape: Linear
Across-slope shape: Linear

Walpole

Percent of map unit: 3 percent
Landform: Drainageways on terraces, depressions on terraces
Down-slope shape: Concave
Across-slope shape: Concave

Agawam

Percent of map unit: 2 percent
Landform: Terraces, outwash plains
Down-slope shape: Linear
Across-slope shape: Linear

Scarboro

Percent of map unit: 2 percent
Landform: Terraces, drainageways, depressions
Down-slope shape: Concave
Across-slope shape: Concave

Leicester
Percent of map unit: 5 percent
Landform: Drainageways, depressions
Down-slope shape: Linear
Across-slope shape: Concave

Udorthents
Percent of map unit: 5 percent
Down-slope shape: Convex
Across-slope shape: Linear

Rock outcrop
Percent of map unit: 2 percent

306—Udorthents-Urban land complex

Map Unit Setting
Elevation: 0 to 2,000 feet
Mean annual precipitation: 43 to 56 inches
Mean annual air temperature: 45 to 55 degrees F
Frost-free period: 120 to 185 days

Map Unit Composition
Udorthents and similar soils: 50 percent
Urban land: 35 percent
Minor components: 15 percent

Description of Udorthents

Setting
Down-slope shape: Convex
Across-slope shape: Linear
Parent material: Drift

Properties and qualities
Slope: 0 to 25 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to high (0.00 to 1.98 in/hr)
Depth to water table: About 54 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 6.8 inches)

Interpretive groups
Farmland classification: Not prime farmland
Land capability (nonirrigated): 3e

Hydrologic Soil Group: B

Typical profile

0 to 5 inches: Loam
5 to 21 inches: Gravelly loam
21 to 80 inches: Very gravelly sandy loam

Description of Urban Land

Interpretive groups

Farmland classification: Not prime farmland
Land capability (nonirrigated): 8

Typical profile

0 to 6 inches: Material

Minor Components

Unnamed, undisturbed soils

Percent of map unit: 8 percent

Udorthents, wet substratum

Percent of map unit: 5 percent
Down-slope shape: Convex
Across-slope shape: Linear

Rock outcrop

Percent of map unit: 2 percent

APPENDIX B

Drainage Calculations
State Project No. 50-217

Pipe and Catchbasin Runs- Fairfield design for Salt Shed

Project 50-217

* Calculations based on CT Stormwater Quality Manual 10 yr storm.

Grass & Pavement Area- NEW DESIGN

Line Segment	Time to Inlet	Time in Pipe	Accum. Time	Contrib. Area	Imperv. Coeff.	AI Entering C.B.	Sum of AI in System	Rainfall Intensity	Q in System	Pipe Size	Length of Pipe	Slope	"n"	Average Velocity	Maximum Capacity
	min	*min*	*min*	*acre*				*in/hr*	*cfs*	*in*	*ft*	*ft/ft*		*ft/sec*	*cfs*
B--->C	10	0.89	10	0.06	0.9	0.054	0.178	4.8	0.584	12"	130	0.007	0.013	2.428	3.207
				0.62	0.2	0.124									
A--->C	10	0.55	10	0.14	0.9	0.126	0.196	4.8	0.9408	12"	100	0.007	0.013	3.037	3.207
				0.03	1	0.03									
				0.2	0.2	0.04									
C--->D	10	0.48	10.89	0.29	0.9	0.261	0.781	4.7	3.6707	15"	120	0.005	0.013	4.14	4.914
				0.63	0.2	0.126									
				0.02	1	0.02									
D--->D1	10	0.05	11.38	0.09	0.9	0.081	0.926	4.65	4.3059	15"	12	0.02	0.013	4.309	9.827
				0.32	0.2	0.064									
D1-->E	10	0.16	11.42	0	0.9	0	0.926	4.65	**4.3059**	15"	135	0.004	0.013	**3.766**	4.395

Pavement Area- NEW DESIGN

Line Segment	Time to Inlet	Time in Pipe	Accum. Time	Contrib. Area	Imperv. Coeff.	AI Entering C.B.	Sum of AI in System	Rainfall Intensity	Q in System	Pipe Size	Length of Pipe	Slope	"n"	Average Velocity	Maximum Capacity
	min	*min*	*min*	*acre*				*in/hr*	*cfs*	*in*	*ft*	*ft/ft*		*ft/sec*	*cfs*
B--->C	5	1.16	5	0.06	0.9	0.054	0.054	6	0.324	12"	130	0.007	0.013	1.866	3.207
				0.62	0	0									
A--->C	5	0.55	5	0.14	0.9	0.126	0.156	6	0.936	12"	100	0.007	0.013	3.029	3.207
				0.03	1	0.03									
				0.2	0	0									
C--->D	5	0.51	6.16	0.29	0.9	0.261	0.491	5.85	2.872	15"	120	0.005	0.013	3.937	4.914
				0.63	0	0									
				0.02	1	0.02									
D--->D1	5	0.03	6.67	0.09	0.9	0.081	0.572	5.65	3.232	15"	12	0.02	0.013	6.288	9.827
				0.32	0	0									
D1-->E	5	0.16	6.70	0	0	0	0.572	5.65	3.232	15"	135	0.004	0.013	3.694	4.395

Two 'Time to Inlet' concentrations were used, 5 minutes for pavement and 10 minutes for pavement and grass combined. Both showed an appropiate Q and velocity to meet CT Stormwater Quality Manual standards for piping design. The higher 'Q' and velocity was derived from 10 minute time to inlet.

FIGURE 6

Water Quality Computations- Fairfield Maintenance Facility

Water quality requirements were satisfied by providing measures designed in accordance with the Connecticut Department of Environmental Protection's 2004 Connecticut Stormwater Quality Manual. The stormwater basin was designed to act as both a peak flow reducer and a sediment interceptor.

The basin drains a total of 3.28 acres, of which 0.87 is impervious. The required storage volume for the "first flush" is as follows:

WQV = (1") (0.05 + 0.009 I) (A) / 12

WQV = Water Quality Volume, acres ft
R = Volumetric Runoff Coefficient→.05+.009(I)
I = I Percent of Impervious Cover (%)
A = Site Area, acres

WQV = (1") [0.05 + 0.009 x ((0.87/3.28) x 100%)] x 3.28 / 12

WQV of Basin= 3440 cf

Forebay-10% of Basin storage= 350 cf

The pond storage requirements for water quality treatment are more stringent than the requirements for peak flow reduction and therefore will be used to design the stormwater pond.

Total disturbed area is 3.6 acres. A small percentage of the site will sheet flow directly to a brook at the entrance of site and to several catch basins situated along the Merritt Parkway.

FIGURE 7

Detention Basin- Fairfield design for Salt Shed

Project 50-217

* Calculations based on CT Stormwater Quality Manual 10 yr storm.

Forebay	elevation	area in sf at elev.	cf per .5 ft ht.	Total Vol. cf
	138.5	770	0	0
	139.0	1095	466	466
	139.5	1260	589	1055
	140.0	1440	675	1730

Basin	elevation	area in sf at elev.	cf per .5 ft ht.	Total Vol. cf
0	138.0	1195	0	0
0.5	138.5	1560	689	689
1	139.0	1945	876	1565
1.5	139.5	2350	1074	2639
2	140.0	2810	1290	3929
2.5	140.5	5180	2358	6286
3	141.0	5935	2779	9065
3.5	141.5	6845	3195	12260
4	142.0	7875	3680	15940
4.5	142.5	8995	4218	20158
5	143.0	10225	4805	24963

Inlet pipe: 15" RCP inv @ elev. 139.6 , S= .004

Oulet pipes: 12" RCP, inv. @ elev. 138.6, S= .005

Total AI in(pavement only): = .72*9 + .08*1 = .728

Total AI in(pavement + grass): .728 + 2.45*.2 = 1.218

T(min)= 15 R(in/hr)= 4 Q(cfs)= 4.87

90 sec. intervals	1	2	3	4	5	6	7	8	9	10	Final Velocity (ft/sec)
in (cf)	438	438	438	438	438	438	438	438	438	438	
out (cf)	0	0	0	0	0	0	0	24	107	169	3.646
storage in forebay (cf)	438	877	1315	1730	1730	1730	1730	1730	1730	1730	Final Q
storage in basin (cf)	0	0	0	24	462	901	1339	1754	2086	2355	(cfs)
storage head (ft) basin	0.00	0.00	0.00	0.02	0.33	0.62	0.87	1.09	1.24	1.37	2.358
storage head (ft) to pipe	0.00	0.00	0.00	0.00	0.00	0.02	0.27	0.49	0.64	0.77	Basin Depth
flow depth in pipe (in)	0.00	0.00	0.00	0.00	0.00	0.25	3.25	5.86	7.71	9.21	(ft)
adjusted slope											1.37

T(min)= 20 R(in/hr)= 3.6 Q(cfs)= 4.38

120 sec. intervals	1	2	3	4	5	6	7	8	9	10	**Final Velocity (ft/sec)**
in (cf)	526	526	526	526	526	526	526	526	526	526	
out (cf)	0	0	0	0	0	0	53	185	265	311	**3.535**
storage in forebay (cf)	526	1052	1579	1730	1730	1730	1730	1730	1730	1730	**Final Q**
storage in basin (cf)	0	0	0	375	901	1427	1900	2242	2503	2719	**(cfs)**
storage head (ft) basin	0.00	0.00	0.00	0.28	0.63	0.93	1.16	1.32	1.45	1.54	**2.710**
storage head (ft) to pipe	0.00	0.00	0.00	0.00	0.03	0.33	0.56	0.72	0.85	0.94	**Basin Depth**
flow depth in pipe (in)	0.00	0.00	0.00	0.00	0.35	3.96	6.78	8.70	10.17	11.29	**(ft)**
adjusted slope											**1.54**

T(min)= 25 R(in/hr)= 3.2 Q(cfs)= 3.90

150 sec. intervals	1	2	3	4	5	6	7	8	9	10	Final Velocity (ft/sec)
in (cf)	585	585	585	585	585	585	585	585	585	585	
out (cf)	0	0	0	0	0	16	181	304	374	404	3.421
storage in forebay (cf)	585	1169	1730	1730	1730	1730	1730	1730	1730	1730	Final Q
storage in basin (cf)	0	0	24	609	1193	1762	2166	2446	2657	2838	(cfs)
storage head (ft) basin	0.00	0.00	0.00	0.44	0.79	1.09	1.28	1.41	1.51	1.58	2.671
storage head (ft) to pipe	0.00	0.00	0.00	0.00	0.19	0.49	0.68	0.81	0.91	0.98	Basin Depth
flow depth in pipe (in)	0.00	0.00	0.00	0.00	2.25	5.90	8.16	9.72	10.88	11.72	(ft)
adjusted slope											1.58

T(min)= 30 R(in/hr)= 2.8 Q(cfs)= 3.41

180 sec. intervals	1	2	3	4	5	6	7	8	9	10	Final Velocity (ft/sec)
in (cf)	614	614	614	614	614	614	614	614	614	614	
out (cf)	0	0	0	0	0	48	272	391	454	482	3.521
storage in forebay (cf)	614	1228	1730	1730	1730	1730	1730	1730	1730	1730	Final Q
storage in basin (cf)	0	0	112	725	1339	1905	2247	2470	2629	2761	(cfs)
storage head (ft) basin	0.00	0.00	0.08	0.52	0.87	1.16	1.32	1.42	1.50	1.55	2.708
storage head (ft) to pipe	0.00	0.00	0.00	0.00	0.27	0.56	0.72	0.82	0.90	0.95	Basin Depth
flow depth in pipe (in)	0.00	0.00	0.00	0.00	3.25	6.70	8.60	9.85	10.74	11.36	(ft)
adjusted slope											1.55

T(min)= 40 R(in/hr)= 2.5 Q(cfs)= 3.05

240 sec. intervals	1	2	3	4	5	6	7	8	9	10	Final Velocity (ft/sec)
in (cf)	731	731	731	731	731	731	731	731	731	731	
out (cf)	0	0	0	0	25	360	532	605	637	649	3.510
storage in forebay (cf)	731	1462	1730	1730	1730	1730	1730	1730	1730	1730	Final Q
storage in basin (cf)	0	0	462	1193	1899	2269	2469	2594	2688	2770	(cfs)
storage head (ft) basin	0.00	0.00	0.34	0.79	1.16	1.33	1.42	1.48	1.52	1.55	2.707
storage head (ft) to pipe	0.00	0.00	0.00	0.19	0.56	0.73	0.82	0.88	0.92	0.95	Basin Depth
flow depth in pipe (in)	0.00	0.00	0.00	2.25	6.67	8.73	9.85	10.55	11.03	11.41	(ft)
adjusted slope											1.55

FIGURE 8

Detention Basin- Fairfield design for Salt Shed

** Calculations based on CT Stormwater Quality Manual 100 yr storm.*

Forebay	elevation	area in sf at elev.	cf per .5 ft ht.	Total Vol. cf
	138.5	770	0	0
	139.0	1095	466	466
	139.5	1260	589	1055
	140.0	1440	675	1730

Basin	elevation	area in sf at elev.	cf per .5 ft ht.	Total Vol. cf
0	138.0	1195	0	0
0.5	138.5	1560	689	689
1	139.0	1945	876	1565
1.5	139.5	2350	1074	2639
2	140.0	2810	1290	3929
2.5	140.5	5180	2358	6286
3	141.0	5935	2779	9065
3.5	141.5	6845	3195	12260
4	142.0	7875	3680	15940
4.5	142.5	8995	4218	20158
5	143.0	10225	4805	24963

Inlet pipe: 15" RCP inv @ elev. 139.6 , S= .004

Oulet pipes: 12" RCP, inv. @ elev. 138.6, S= .005

Total AI in(pavement only): = .72*9 + .08*1 = .728

Total AI in(pavement + grass): .728 + 2.45*.2 = 1.218

T(min)= 15 R(in/hr)= 5.5 Q(cfs)= 6.70

90 sec. intervals	1	2	3	4	5	6	7	8	9	10	Final Velocity
in (cf)	603	603	603	603	603	603	603	603	603	603	(ft/sec)
out (cf)	0	0	0	0	0	18	130	211	244	238	3.622
storage in forebay (cf)	603	1206	1730	1730	1730	1730	1730	1730	1730	1730	Final Q
storage in basin (cf)	0	0	79	682	1285	1870	2343	2735	3094	3460	(cfs)
storage head (ft) basin	0.00	0.00	0.06	0.50	0.84	1.14	1.36	1.54	1.68	1.82	2.845
storage head (ft) to pipe	0.00	0.00	0.00	0.00	0.24	0.54	0.76	0.94	1.08	1.22	Basin Depth
flow depth in pipe (in)	0.00	0.00	0.00	0.00	2.88	6.50	9.15	11.25	12.92	14.62	(ft)
adjusted slope									0.0055	0.0064	1.82

T(min)= 20 R(in/hr)= 5.1 Q(cfs)= 6.21

120 sec. intervals	1	2	3	4	5	6	7	8	9	10	Final Velocity
in (cf)	745	745	745	745	745	745	745	745	745	745	(ft/sec)
out (cf)	0	0	0	0	19	199	311	306	335	362	4.026
storage in forebay (cf)	745	1491	1730	1730	1730	1730	1730	1730	1730	1730	Final Q
storage in basin (cf)	0	0	506	1252	1978	2524	2959	3398	3809	4192	(cfs)
storage head (ft) basin	0.00	0.00	0.37	0.82	1.19	1.45	1.62	1.78	1.95	2.06	3.162
storage head (ft) to pipe	0.00	0.00	0.00	0.22	0.59	0.85	1.02	1.18	1.35	1.46	Basin Depth
flow depth in pipe (in)	0.00	0.00	0.00	2.66	7.11	10.16	12.29	14.19	16.24	17.47	(ft)
adjusted slope							0.0051	0.0061	0.0072	0.0079	2.06

T(min)= 25 R(in/hr)= 4.6 Q(cfs)= 5.60

150 sec. intervals	1	2	3	4	5	6	7	8	9	10	Final Velocity
in (cf)	840	840	840	840	840	840	840	840	840	840	(ft/sec)
out (cf)	0	0	0	0	129	351	401	410	445	470	4.105
storage in forebay (cf)	840	1681	1730	1730	1730	1730	1730	1730	1730	1730	Final Q
storage in basin (cf)	0	0	791	1632	2343	2832	3271	3702	4097	4467	(cfs)
storage head (ft) basin	0.00	0.00	0.56	1.03	1.36	1.57	1.74	1.91	2.04	2.11	3.224
storage head (ft) to pipe	0.00	0.00	0.00	0.43	0.76	0.97	1.14	1.31	1.44	1.51	Basin Depth
flow depth in pipe (in)	0.00	0.00	0.00	5.17	9.15	11.70	13.74	15.74	17.23	18.17	(ft)
adjusted slope							0.0059	0.0069	0.0078	0.0082	2.11

T(min)= 30 R(in/hr)= 4.1 Q(cfs)= 4.99

180 sec. intervals	1	2	3	4	5	6	7	8	9	10	**Final Velocity**
in (cf)	899	899	899	899	899	899	899	899	899	899	**(ft/sec)**
out (cf)	0	0	0	482	470	512	548	569	585	600	**4.333**
storage in forebay (cf)	899	1730	1730	1730	1730	1730	1730	1730	1730	1730	**Final Q**
storage in basin (cf)	0	68	2629	3046	3474	3861	4212	4542	4856	5155	**(cfs)**
storage head (ft) basin	0.00	0.05	1.50	1.66	1.82	1.97	2.06	2.13	2.20	2.26	**3.403**
storage head (ft) to pipe	0.00	0.00	0.90	1.06	1.22	1.37	1.46	1.53	1.60	1.66	**Basin Depth**
flow depth in pipe (in)	0.00	0.00	10.74	12.69	14.68	16.48	17.52	18.36	19.16	19.92	**(ft)**
adjusted slope				0.0054	0.0064	0.0073	0.0079	0.0083	0.0088	0.0091	**2.26**

T(min)= 40 R(in/hr)= 3.6 Q(cfs)= 4.38

240 sec. intervals	1	2	3	4	5	6	7	8	9	10	Final Velocity
in (cf)	1052	1052	1052	1052	1052	1052	1052	1052	1052	1052	(ft/sec)
out (cf)	0	0	0	98	576	635	657	709	747	765	4.151
storage in forebay (cf)	1052	1730	1730	1730	1730	1730	1730	1730	1730	1730	Final Q
storage in basin (cf)	0	375	1427	2381	2858	3275	3671	4014	4320	4607	(cfs)
storage head (ft) basin	0.00	0.27	0.92	1.38	1.58	1.75	1.90	2.02	2.08	2.14	3.261
storage head (ft) to pipe	0.00	0.00	0.32	0.78	0.98	1.15	1.30	1.42	1.48	1.54	Basin Depth
flow depth in pipe (in)	0.00	0.00	3.85	9.36	11.82	13.76	15.60	17.02	17.79	18.52	(ft)

FIGURE 9

Riprap Pad

Median Stone Diameter for velocity of greater 3 mph = Intermediate (8")

d= .67 ft
Do= 1.5 ft
Q= 4.3 cfs

L(apron)= (1.7Q)/Do(3/2) + 8Do --> (1.7 * 4.3)/ (1.5^2/3) + 8*1.5
L(apron)= 16 ft

W(apron)= 3Do + La --> 3*1.5 + 16
W(apron) = 20.5 ft

Minimum thickness of riprap layer shall be 1.5 times stone diameter.
Layer = 1.5 * .67= 1 foot

Riprap Pad
Width= 20.5 ft
Length= 16 ft
Depth= 1 ft
Use Intermediate stone diameter of 8"

FIGURE 10

APPENDIX C

Plan Sheets
State Project No. 50-217

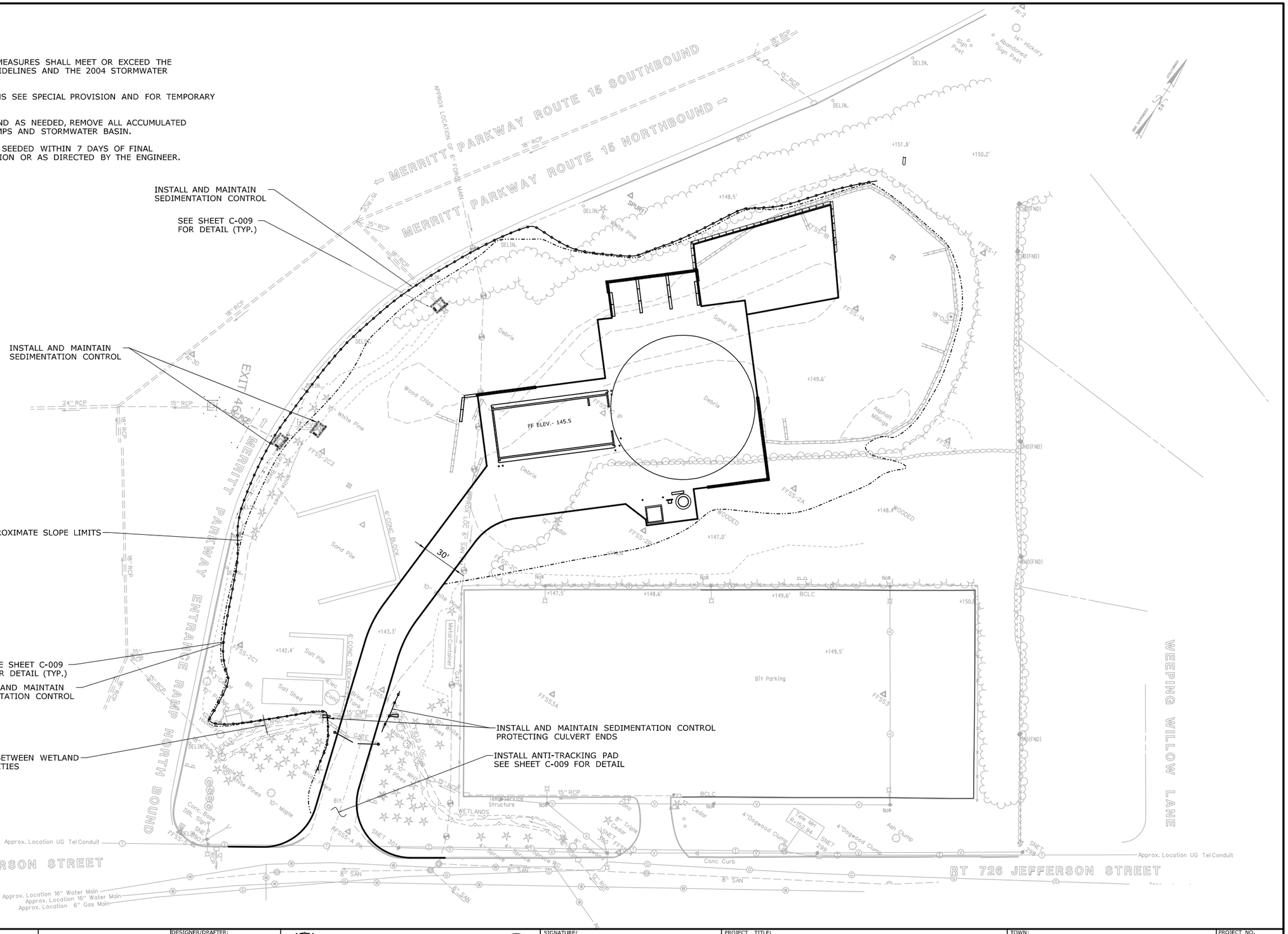
NOTES:

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL MEET OR EXCEED THE REQUIREMENTS OF THE D.E.P. 2002 E&S GUIDELINES AND THE 2004 STORMWATER QUALITY MANUAL.

2. FOR TEMPORARY SEEDING INSTRUCTIONS SEE SPECIAL PROVISION AND FOR TEMPORARY SEEDING AREAS SEE L-001.

3. AT THE COMPLETION OF THE PROJECT AND AS NEEDED, REMOVE ALL ACCUMULATED SEDIMENT FROM DRAINAGE STRUCTURE SUMPS AND STORMWATER BASIN.

4. ALL UNPAVED DISTURBED AREAS TO BE SEEDED WITHIN 7 DAYS OF FINAL GRADING AS DIRECTED BY SPECIAL PROVISION OR AS DIRECTED BY THE ENGINEER.



REV.	DATE	REVISION DESCRIPTION	SHEET NO.
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

THE INFORMATION, INCLUDING ESTIMATED QUANTITIES OF WORK, SHOWN ON THESE SHEETS IS BASED ON LIMITED INVESTIGATIONS BY THE STATE AND IS IN NO WAY WARRANTED TO INDICATE THE CONDITIONS OF ACTUAL QUANTITIES OF WORK WHICH WILL BE REQUIRED.

Plotted Date: 10/2/2013

DESIGNER/DRAFTER: **ME**

CHECKED BY: **SK**

SCALE IN FEET
0 40 80
SCALE 1"=40'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\FD-MSH-CIV-0050-0217-C003.dgn

SIGNATURE/ BLOCK:
OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE:
FAIRFIELD SALT SHED REHABILITATION

TOWN: **FAIRFIELD**

DRAWING TITLE:
SEDIMENTATION AND EROSION CONTROL

PROJECT NO. **50-217**

DRAWING NO. **C-003**

SHEET NO. **04.03**

LEGEND

Symbol	Description
(crosshatch)	ESTABLISH TURF ON 4" TOPSOIL. SEE NOTE #5.
(diagonal hatch)	BITUMINOUS CONCRETE WITHOUT MEMBRANE. SEE DWG NO.C-008 FOR PAVEMENT LAYERS.
(cross diagonal hatch)	BITUMINOUS CONCRETE WITH MEMBRANE. SEE DWG NO.C-008 FOR PAVEMENT LAYERS.
(stipple)	6" PROCESSED AGGREGATE BASE. SEE DWG NO.C-008 FOR PAVEMENT LAYERS.

NOTES:

1. ALL DISTURBED SLOPED (3 TO 1 OR GREATER) AREAS NEED TO BE STABLIZED WITH TEMPORARY SEEDING. TEMPORARY SEEDING TO BE REMOVED BEFORE TURF ESTABLISHMENT. SEE SPECIAL PROVISIONS FOR SPECIFICS.

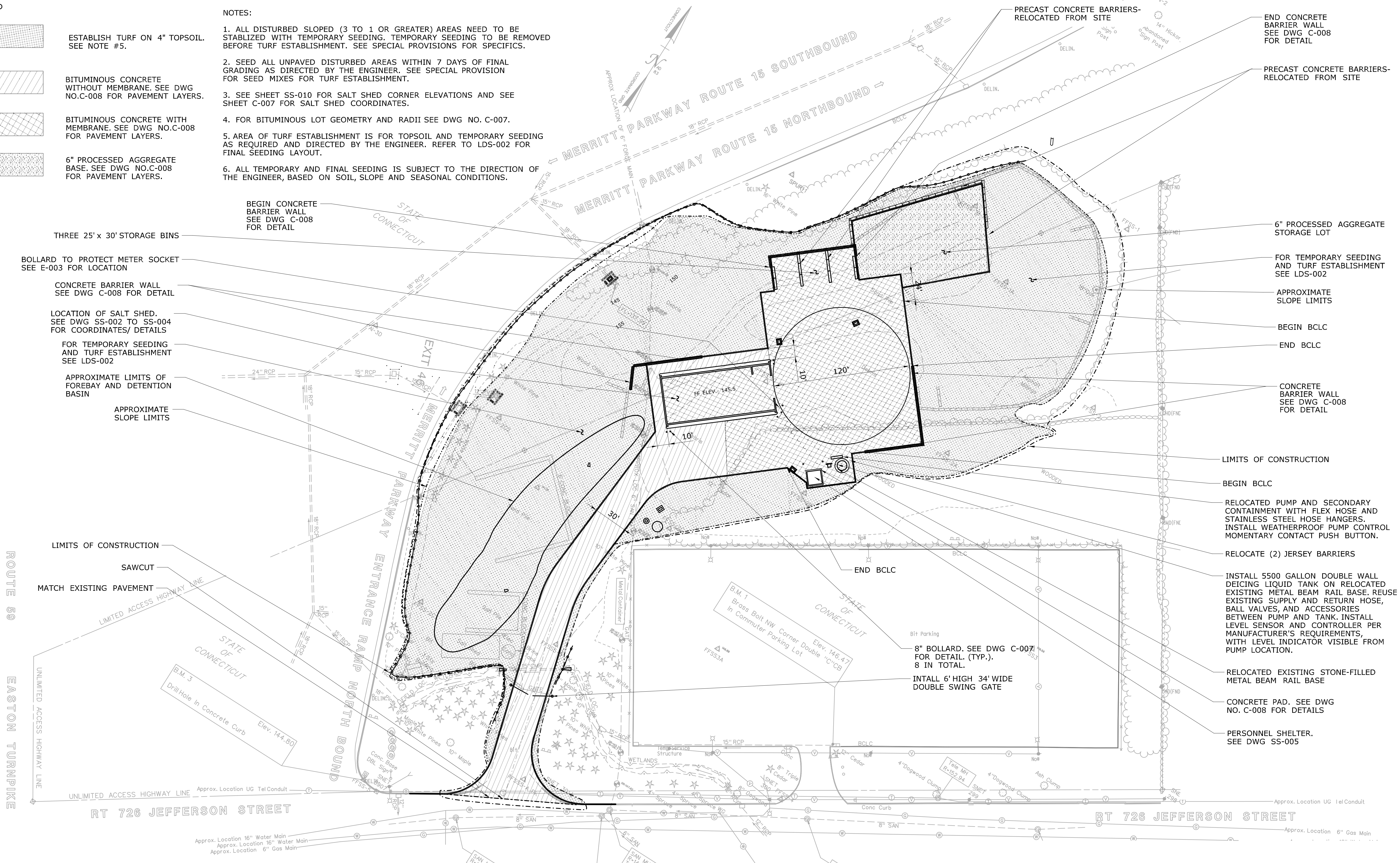
2. SEED ALL UNPAVED DISTURBED AREAS WITHIN 7 DAYS OF FINAL GRADING AS DIRECTED BY THE ENGINEER. SEE SPECIAL PROVISION FOR SEED MIXES FOR TURF ESTABLISHMENT.

3. SEE SHEET SS-010 FOR SALT SHED CORNER ELEVATIONS AND SEE SHEET C-007 FOR SALT SHED COORDINATES.

4. FOR BITUMINOUS LOT GEOMETRY AND RADII SEE DWG NO. C-007.

5. AREA OF TURF ESTABLISHMENT IS FOR TOPSOIL AND TEMPORARY SEEDING AS REQUIRED AND DIRECTED BY THE ENGINEER. REFER TO LDS-002 FOR FINAL SEEDING LAYOUT.

6. ALL TEMPORARY AND FINAL SEEDING IS SUBJECT TO THE DIRECTION OF THE ENGINEER, BASED ON SOIL, SLOPE AND SEASONAL CONDITIONS.



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Plotted Date: 10/2/2013

DESIGNER/DRAFTER: ME
CHECKED BY: SK

SCALE IN FEET 0 40 80
SCALE 1"=40'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\FD_MSH_CIV_0050_0217_C004.dgn

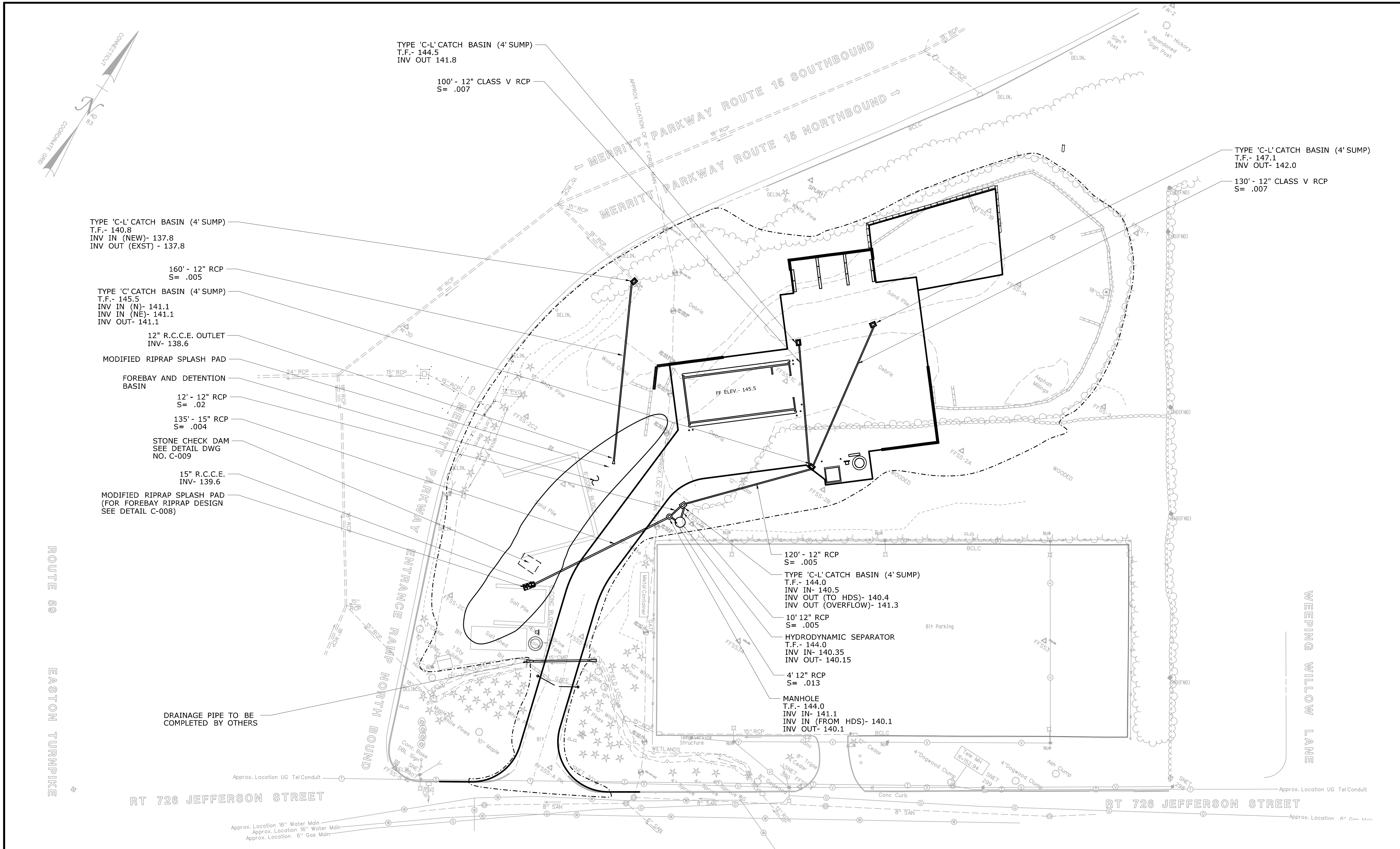
SIGNATURE/ BLOCK: OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE: **FAIRFIELD SALT SHED AREA REHABILITATION**

TOWN: **FAIRFIELD**

DRAWING TITLE: **SITE PLAN**

PROJECT NO. 50-217
DRAWING NO. C-004
SHEET NO. 04.04



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Plotted Date: 10/2/2013

DESIGNER/DRAFTER: **ME**

CHECKED BY: **SK**

SCALE IN FEET 0 40 80

SCALE 1"=40'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\FD_MSH_CIV_0050_0217_C005.dgn

SIGNATURE/ BLOCK:

OFFICE OF ENGINEERING

APPROVED BY:

PROJECT TITLE:

FAIRFIELD SALT SHED REHABILITATION

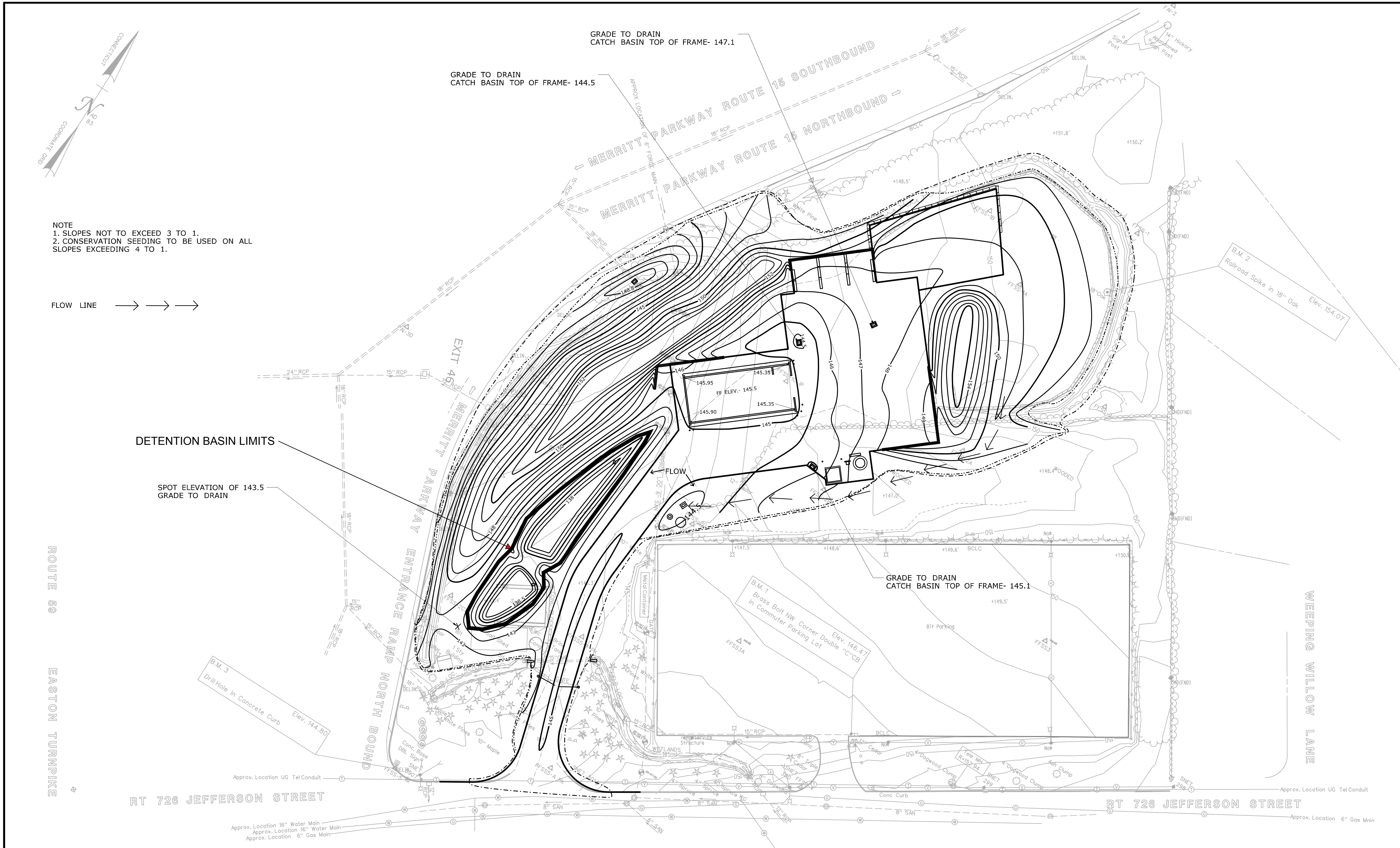
TOWN: **FAIRFIELD**

DRAWING TITLE: **DRAINAGE AND UTILITY PLAN**

PROJECT NO. **50-217**

DRAWING NO. **C-005**

SHEET NO. **04.05**



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Plotted Date: 11/12/2013

DESIGNER/DRAFTER: ME

CHECKED BY: SK

SCALE IN FEET 0 40 80

SCALE 1"=40'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\FD_MSH_CIV_0050_0217_C006.dgn

SIGNATURE/BLOCK: **OFFICE OF ENGINEERING**

APPROVED BY:

PROJECT TITLE: **FAIRFIELD SALT SHED REHABILITATION**

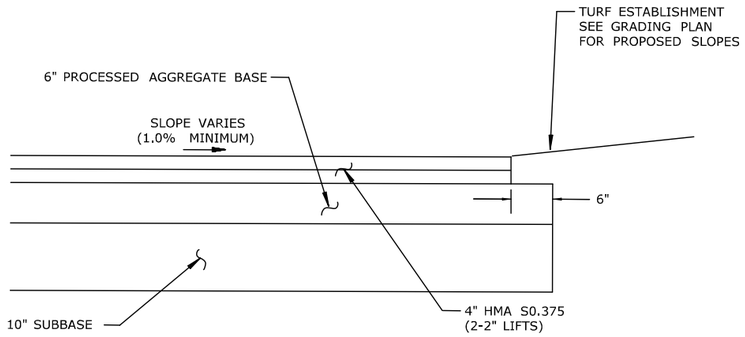
TOWN: **FAIRFIELD**

DRAWING TITLE: **GRADING PLAN**

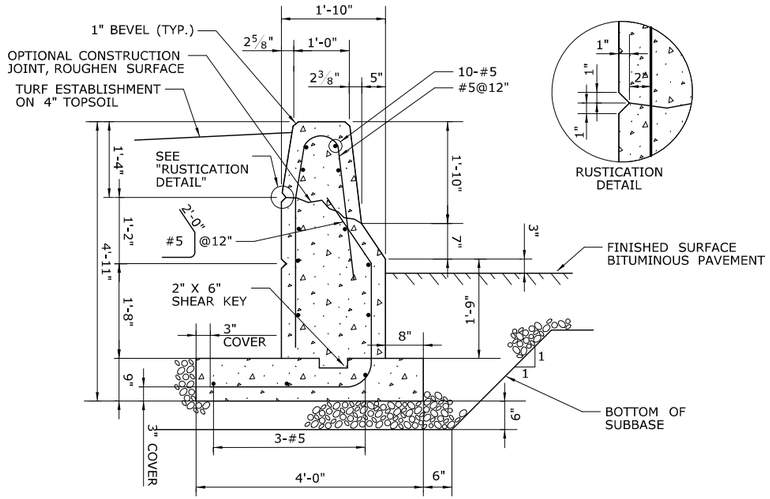
PROJECT NO. **50-217**

DRAWING NO. **C-006**

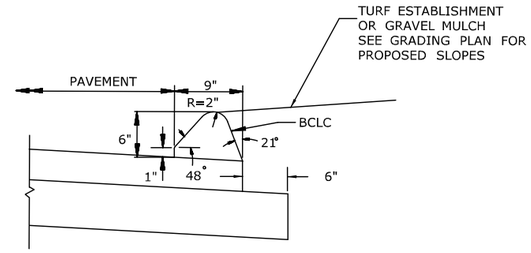
SHEET NO.



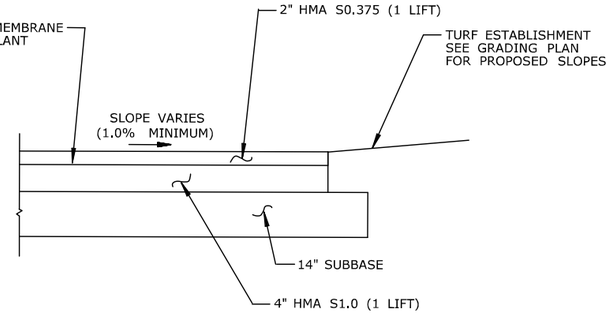
BITUMINOUS CONCRETE PAVEMENT - WITHOUT MEMBRANE
NOT TO SCALE



CONCRETE BARRIER WALL
NOT TO SCALE



BITUMINOUS CONCRETE CURBING
NOT TO SCALE



BITUMINOUS CONCRETE PAVING - WITH MEMBRANE
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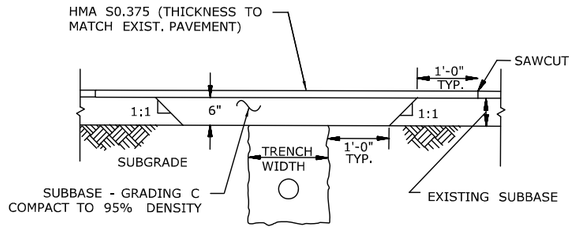
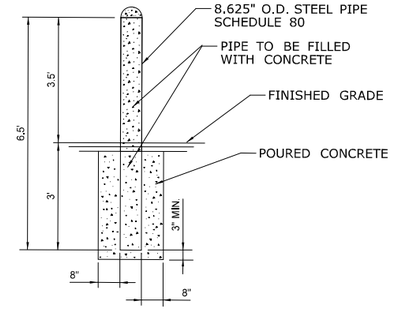


PAVEMENT REPAIR TRENCH DETAIL
NOT TO SCALE



NOTES:

1. BOLLARDS SHALL BE COVERED WITH 1/4" YELLOW POLYETHYLENE COVER.

BOLLARD
NOT TO SCALE

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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Plotted Date: 10/2/2013

DESIGNER/DRAFTER: ME
CHECKED BY: SK
SCALE AS NOTED

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

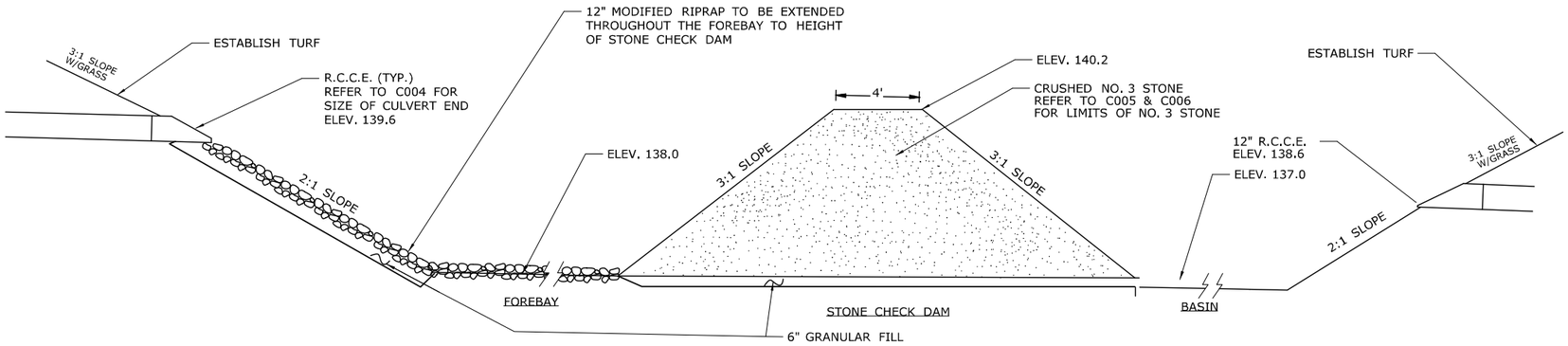
Filename: ...\FD-MSH-CIV-0050-0217-C008.dgn

SIGNATURE/BLOCK: OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE: FAIRFIELD SALT SHED REHABILITATION

TOWN: FAIRFIELD
DRAWING TITLE: MISCELLANEOUS DETAILS

PROJECT NO. 50-217
DRAWING NO. C-008
SHEET NO. 04.08

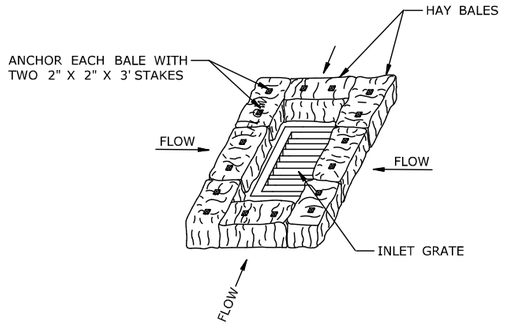


NOTE: AT DISCHARGE POINTS, PROVIDE 12" MODIFIED RIPRAP ON 6" GRANULAR FILL. RIPRAP SHALL EXTEND 2' ON EITHER SIDE OF THE CULVERT END FROM THE BASE OF THE CULVERT END TO THE BOTTOM OF THE STORMWATER BASIN.

ESTABLISH TURF ON THE REMAINDER OF THE STORMWATER BASIN SLOPES.

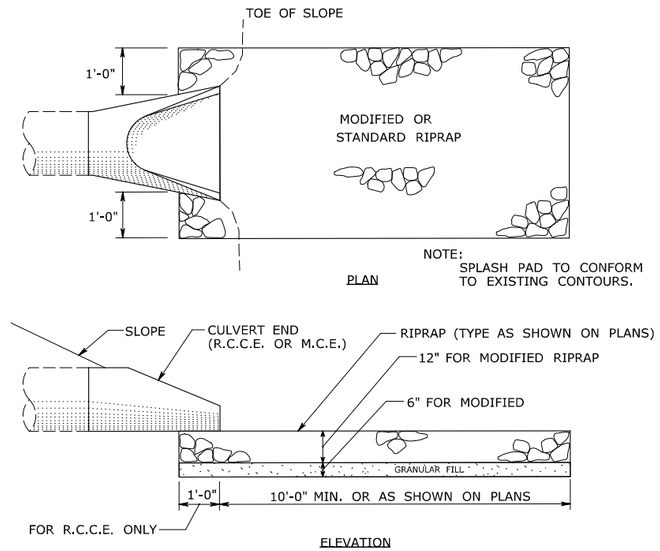
STORMWATER BASIN

NOT TO SCALE



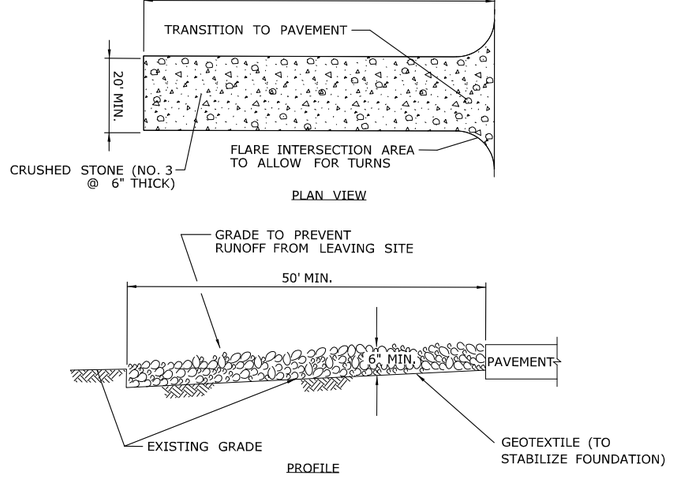
HAY BALE INSTALLATION AT CATCH BASIN

NOT TO SCALE



SPLASH PAD DETAIL (CULVERT END)

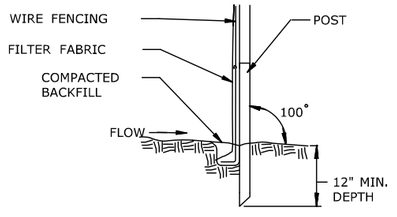
NOT TO SCALE



ANTI-TRACKING PAD

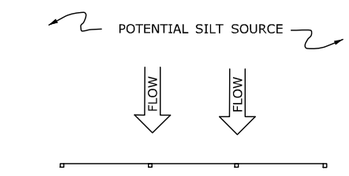
NOTE:

1. LOCATION TO BE APPROVED BY ENGINEER
2. ADJACENT PAVED ACCESS TO BE CLEANED ONCE A DAY.
3. MUD MUST BE REMOVED FROM ALL CONSTRUCTION VEHICLES BEFORE ENTERING PUBLIC ROADS.
4. PROVISIONS MUST BE MADE TO INTERCEPT THE WASH WATER AND TRAP SEDIMENT BEFORE IT IS CARRIED OFF-SITE.

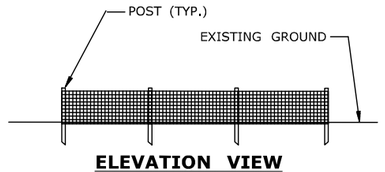


1. SET POSTS AS SHOWN AND EXCAVATE A 6" X 6" TRENCH ON UPSLOPE OF POST LINE
2. STAPLE THE WIRE MESH FENCING TO POSTS.
3. ATTACH FILTER FABRIC TO THE WIRE FENCING AND EXTEND THE FABRIC INTO THE TRENCH AS SHOWN.
4. BACKFILL THE TRENCH AND COMPACT THE EXCAVATED SOIL.

DETAIL



PLAN VIEW



ELEVATION VIEW

FILTER FABRIC SYSTEM FOR SEDIMENTATION CONTROL ON SLOPES

NOT TO SCALE

REV.	DATE	REVISION DESCRIPTION	SHEET NO.
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Plotted Date: 10/2/2013

DESIGNER/DRAFTER: ME
CHECKED BY: SK

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\FD-MSH-CIV-0050-0217-C009.dgn

SIGNATURE/BLOCK: OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE: FAIRFIELD SALT SHED REHABILITATION

TOWN: FAIRFIELD

DRAWING TITLE: MISCELLANEOUS DETAILS

PROJECT NO. 50-217
DRAWING NO. C-009
SHEET NO. 04.09

LANDSCAPE NOTES

1. SEE SITE AND DEMOLITION PLANS FOR ADDITIONAL INFORMATION AND LIMITS OF GRADING. SEEDING LIMITS ARE APPROXIMATE, AND SHALL BE FINALIZED IN THE FIELD BY THE ENGINEER. ALL DISTURBED AREAS SHALL BE SEEDED AS DIRECTED BY THE ENGINEER.
2. SEEDED AREAS SHALL BE FREE OF VEGETATION AT THE TIME OF FINAL SEEDING. SUBMITTALS AND SCHEDULES TO BE APPROVED BY THE ENGINEER, AND MAY BE MODIFIED BASED ON FIELD CONDITIONS OR SEASON. SEE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION.
3. AREAS OF RE-FORESTATION ARE APPROXIMATE, FINAL LOCATIONS TO BE FIELD LOCATED BY THE ENGINEER. CONTAINER STOCK OF HARDWOOD TREES ARE TO BE PLANTED IN CONTINUOUSLY MULCHED GROUPINGS ALONG WITH SEVERAL LARGER CALIPER TREES. GROUPINGS SHALL BE FREE OF WEEDS AND MAY REQUIRE THE REMOVAL OF TEMPORARY OR OTHER SEEDING.
4. SEE DEMOLISHION PLAN FOR APPROXIMATE TREE PROTECTION FENCE LOCATIONS. FINAL LOCATIONS WILL BE DETERMINED IN THE FIELD. STOCKPILING WITHIN THE DRIPLINE OF ANY TREE WITH TREE PROTECTION FENCE IS STRICTLY PROHIBITED. DRIVING WITHIN THE DRIPLINE IS PROHIBITED WITHOUT EXPRESS CONSENT FROM THE ENGINEER, AND WILL BE RESTRICTED TO IMMEDIATE CONSTRUCTION ACTIVITIES. TREE PROTECTION FENCE SHALL CORRECTED AFTER THE CONSTRUCTION ACTIVITY, AND MUST BE MAINTAINED THROUGHOUT CONSTRUCTION.
5. PLANTED AREAS MAY REQUIRE THE REMOVAL OF ESTABLISHED SEEDING BASED ON SEASON, SLOPE OR SOIL CONDITIONS.
6. BORROW USED FOR THE TOP 24" OF BERM CONSTRUCTION MUST BE SUITABLE FOR PLANT GROWTH, AND MUST BE APPROVED BY THE ENGINEER. ALL PLANTING PITS MUST BE BACKFILLED WITH PLANTING MIX. AT THE DESCRECTION OF THE ENGINEER, SOIL REMOVED FROM PLANT PITS MAY BE USED TO CONSTRUCT 6" PLANTING SAUCERS ONLY. THE REMAINDER OF THE EXCAVATED MATERIAL MUST BE REMOVED FROM THE SITE OR AS OTHERWISE DIRECTED BY THE ENGINEER.
7. LIMITS FOR THE CONTROL AND REMOVAL OF INVASIVE VEGETATION ARE APPROXIMATE. SEE SPECIAL PROVISION FOR ADDITIONAL INFORMATION.
8. THE CONTRACTOR MUST ADHERE TO SUPPLEMENTAL SECTION 9.49 - "FURNISHING, PLANTING & MULCHING OF TREES, SHRUBS, VINES AND GROUNDCOVER PLANTS", SPECIFIC TO THE MERRITT PARKWAY, INCLUDED IN THE SPECIAL PROVISIONS, AS DIRECTED BY THE ENGINEER. CONNDOT LANDSCAPE DESIGN MUST APPROVE ALL PLANT MATERIAL AT THE NURSURY SOURCE, AND FIELD LOCATE ALL PLANTINGS. A 7 DAY ADVANCED NOTICE IS REQUIRED, AND MAY INVOLVE COORDINATION WITH STAKEHOLDERS.

TREES

KEY	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	SPACING	SPRING DUG
A.r.	Acer rubrum	Red Maple	3'-4' Ht. Whips B.R.	100	4' On Center	
A.s.	Acer saccharum	Sugar maple	6'-8' Ht. Whips B.R.	100	5' On Center	
*A.s.	Acer saccharum	Sugar Maple	1 3/4"-2" Cal. B.B.	9	Field located	Spring only
Am.c.	Amelanchier canadensis	Shadblow Serviceberry	5'-6' Ht. B.B.	45	8' On Center	
B.n.	Betula nigra	River Birch	2"-2½" Cal. B.B.	5	Field located	
C.o.	Carya ovata	Shagbark Hickory	10'-15' Ht. B.B.	10	Field located	
C.f.	Cornus florida	Flowering Dogwood	2"-2½" Cal. B.B.	5	Field located	
J.v.	Juniperus virginia	Eastern Red Cedar	5'-6' Ht. B.B.	10	Field located	Spring only
N.s.	Nyssa sylvatica	Black Gum	2½"-3" Cal. B.B.	10	Field located	Spring only
Pic.a.	Picea abies	Norway Spruce	6'-8' Ht. B.B.	14	Field located	
*Pic.a.	Picea abies	Norway Spruce	10'-12' Ht. B.B.	20	Field located	
P.r.	Picea rubra	Red Spruce	5'-6' Ht. B.B.	6	Field located	
P.s.	Pinus strobus	Eastern White Pine	8'-10' Ht.B.B.	7	Field located	
Pl.a.	Platanus acerfolia	London Planetree	2 ½"-3" Cal. B.B.	6	Field located	
Ps.t.	Pseudotsuga taxifolia	Douglas Fir	8'-10' Ht. B.B.	6	Field located	
Q.bi.	Quercus bicolor	Swamp White Oak	2½"-3" Cal. B.B.	7	Field located	
Q.p.	Quercus palustris	Pin Oak	24"-36" Ht. No. 3 Cont.	100	4' On Center	Spring only
*Q.p.	Quercus palustris	Pin Oak	1 ¾"-2" Cal. B.B.	10	Field located	
Q.r.	Quercus rubra	Red Oak	24"-36" Ht. No. 3 Cont.	100	4' On Center	Spring only

SHRUBS & HERBACEOUS PLANTS

KEY	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY	SPACING	COMMENTS
A.s.	Andropogon scoparium	Little Bluestem	1 Gallon Cont.	100	4' On center	
A.v.	Andropogon species(virginicus)	Broomsedge	1 Gallon Cont.	100	4' On center	
C.p.	Carex species (pensylvanica)	Pennsylvania Sedge	1 Gallon Cont.	100	4' On center	
C.m.	Carex species (morrowii-'ice dance')	Ice Dance Sedge	1 Gallon Cont.	100	4' On center	
H.v.	Hamamelis virginiana	Common Witchhazel	24"-36" Ht.B.B.	60	4' On center	
C.r.	Cornus racemosa	Grey Dogwood	2'-3' Ht. B.B.	60	4' On center	
K.a.	Kalmia angustifolia	Sheep Laurel	24"-30" Ht. B.B.	30	4' On center	
Sp.a.	Spiraea alba	Meadowsweet	18"-24" Ht. B.B.	30	4' On center	
Rh.c.	Rhus coppallina	Flameleaf Sumac	3'-4' Ht. B.R.	60	4' On center	
V.d.	Viburnum dentatum	Arrowwood Viburnum	3'-4' Ht. B.B.	80	6' On center	

SUPPLEMENTAL ITEMS

ITEM	QUANTITIES
DETENTION BASIN AND SWALE SEED MIX	4500 S.Y.
WARM SEASON GRASS ESTABLISHMENT	3,300 S.Y.
WOOD CHIP MULCH	1400 S.Y.
TREE PROTECTION FENCE (SEE DEMOLISHION PLAN FOR APPROXIMATE LOCATIONS)	360 L.F.
CONTROL AND REMOVAL OF INVASIVE VEGETATION	2,300 S.Y.

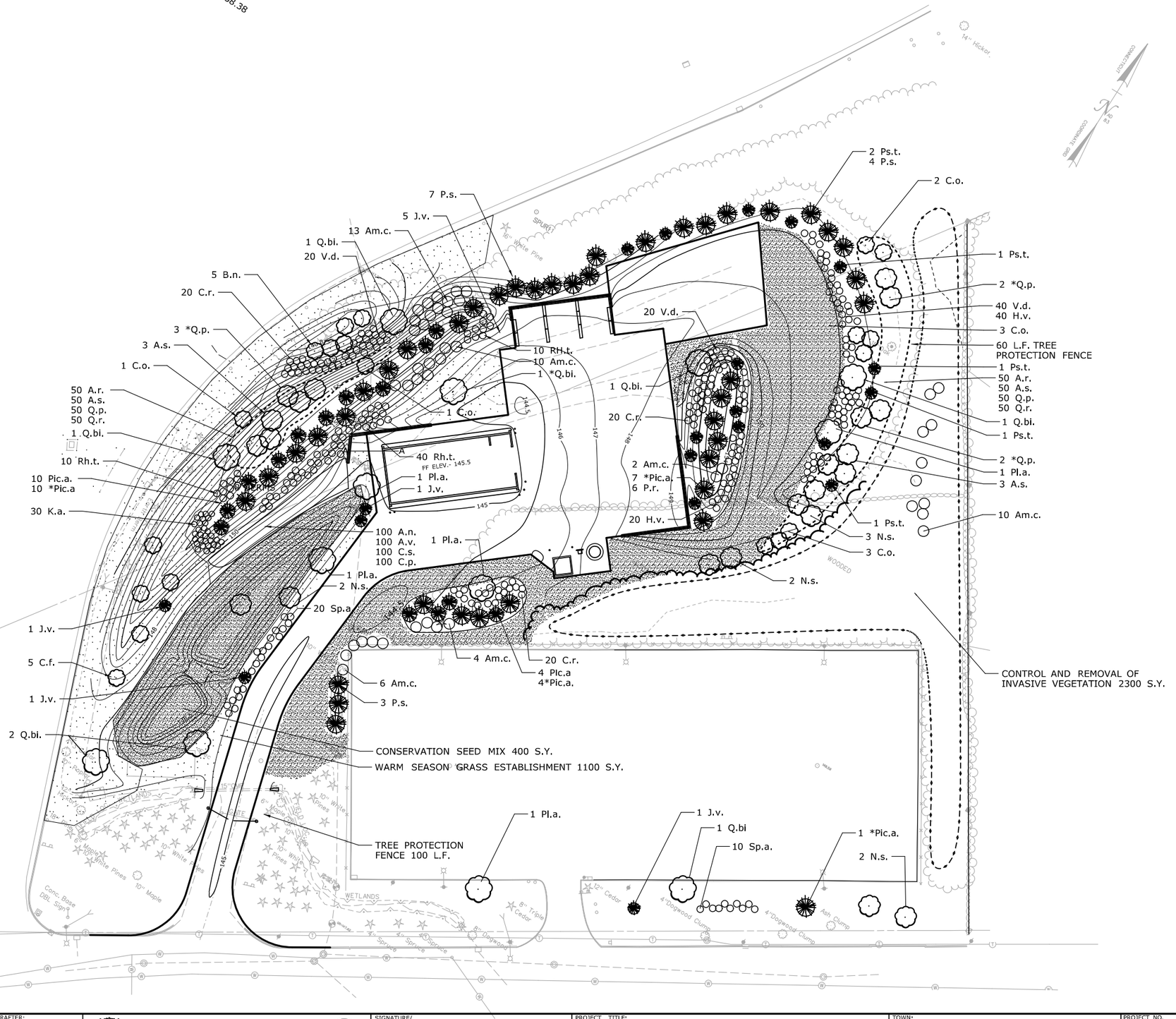
KEY

WARM SEASON GRASS SEED MIX
PAID FOR UNDER ITEM #0950034 (SEE NOTE 2)

DETENTION BASIN & SWALE SEED MIX
PAID FOR UNDER ITEM # 950029A (SEE NOTE 2)

CONTROL AND REMOVAL OF INVASIVE VEGETATION
PAID FOR UNDER ITEM # 952051A

REFORESTATION AREAS (SEE NOTE 3).



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Plotted Date: 10/2/2013

DESIGNER/DRAFTER: SF
CHECKED BY: MC
SCALE IN FEET
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SCALE 1"=40'

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

Filename: ...\FD_MSH_LDS_0050_0217_L002.dgn

SIGNATURE/ BLOCK:
OFFICE OF ENGINEERING
APPROVED BY:

PROJECT TITLE:
FAIRFIELD SALT SHED REHABILITATION

TOWN: FAIRFIELD

DRAWING TITLE:
LANDSCAPE DESIGN SHEET

PROJECT NO. 50-217
DRAWING NO. LDS-002
SHEET NO.