



SO.ESSEX #340 Bk:40943 Pg:001
05/18/2022 02:05 PM CONDN Pg 1/129
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ORIGINAL



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 5 – Order of Conditions

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:
002-1299

MassDEP File #

eDEP Transaction #

Amesbury

City/Town

A. General Information

Please note:
this form has
been modified
with added
space to
accommodate
the Registry
of Deeds
Requirements

Important:
When filling
out forms on
the
computer,
use only the
tab key to
move your
cursor - do
not use the
return key.



1. From: Amesbury
Conservation Commission

2. This issuance is for
(check one): a. ☒ Order of Conditions b. ☐ Amended Order of Conditions

3. To: Applicant:

Carl

a. First Name

Pearson

b. Last Name

Amesbury Sports Ventures, LLC

c. Organization

80 First Street

d. Mailing Address

Bridgewater

e. City/Town

MA

f. State

02324

g. Zip Code

4. Property Owner (if different from applicant):

a. First Name

b. Last Name

c. Organization

d. Mailing Address

e. City/Town

f. State

g. Zip Code

5. Project Location:

12-14 South Hunt Road

a. Street Address

Amesbury

b. City/Town

97

c. Assessors Map/Plat Number

4 and 5

d. Parcel/Lot Number

Latitude and Longitude, if known:

d

m

s

d

m

s

d. Latitude

e. Longitude



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A. General Information (cont.)

6. Property recorded at the Registry of Deeds for (attach additional information if more than one parcel):

Essex South

a. County

33777

c. Book

b. Certificate Number (If registered land)

599

d. Page

7. Dates: 1.17.22 4.4.22 4.20.22
a. Date Notice of Intent Filed b. Date Public Hearing Closed c. Date of Issuance

8. Final Approved Plans and Other Documents (attach additional plan or document references as needed):

Global Property Developers - Amesbury Sports Park

a. Plan Title

Weston & Sampson Engineers

b. Prepared By

3.8.22

d. Final Revision Date

See Attachment to Order of Conditions

f. Additional Plan or Document Title

James Pearson, PE

c. Signed and Stamped by

1" = 100'

e. Scale

g. Date

B. Findings

1. Findings pursuant to the Massachusetts Wetlands Protection Act:

Following the review of the above-referenced Notice of Intent and based on the information provided in this application and presented at the public hearing, this Commission finds that the areas in which work is proposed is significant to the following interests of the Wetlands Protection Act (the Act). Check all that apply:

- a. ☐ Public Water Supply b. ☐ Land Containing Shellfish c. ☒ Prevention of Pollution
d. ☐ Private Water Supply e. ☐ Fisheries f. ☒ Protection of Wildlife Habitat
g. ☒ Groundwater Supply h. ☒ Storm Damage Prevention i. ☒ Flood Control

2. This Commission hereby finds the project, as proposed, is: (check one of the following boxes)

Approved subject to:

- a. ☒ the following conditions which are necessary in accordance with the performance standards set forth in the wetlands regulations. This Commission orders that all work shall be performed in accordance with the Notice of Intent referenced above, the following General Conditions, and any other special conditions attached to this Order. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, these conditions shall control.



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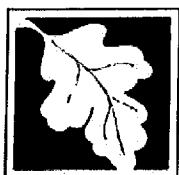
B. Findings (cont.)

Denied because:

- b. ☐ the proposed work cannot be conditioned to meet the performance standards set forth in the wetland regulations. Therefore, work on this project may not go forward unless and until a new Notice of Intent is submitted which provides measures which are adequate to protect the interests of the Act, and a final Order of Conditions is issued. **A description of the performance standards which the proposed work cannot meet is attached to this Order.**
- c. ☐ the information submitted by the applicant is not sufficient to describe the site, the work, or the effect of the work on the interests identified in the Wetlands Protection Act. Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides sufficient information and includes measures which are adequate to protect the Act's interests, and a final Order of Conditions is issued. **A description of the specific information which is lacking and why it is necessary is attached to this Order as per 310 CMR 10.05(6)(c).**
3. ☒ Buffer Zone Impacts: Shortest distance between limit of project disturbance and the wetland resource area specified in 310 CMR 10.02(1)(a) a. linear feet

Inland Resource Area Impacts: Check all that apply below. (For Approvals Only)

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. ☐ Bank	<u> </u> a. linear feet	<u> </u> b. linear feet	<u> </u> c. linear feet	<u> </u> d. linear feet
5. ☒ Bordering Vegetated Wetland	<u>1070</u> a. square feet	<u>2166</u> b. square feet	<u>2166</u> c. square feet	<u>2166</u> d. square feet
6. ☐ Land Under Waterbodies and Waterways	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. square feet	<u> </u> d. square feet
	<u> </u> e. c/y dredged	<u> </u> f. c/y dredged		
7. ☐ Bordering Land Subject to Flooding	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. square feet	<u> </u> d. square feet
Cubic Feet Flood Storage	<u> </u> e. cubic feet	<u> </u> f. cubic feet	<u> </u> g. cubic feet	<u> </u> h. cubic feet
8. ☐ Isolated Land Subject to Flooding	<u> </u> a. square feet	<u> </u> b. square feet		
Cubic Feet Flood Storage	<u> </u> c. cubic feet	<u> </u> d. cubic feet	<u> </u> e. cubic feet	<u> </u> f. cubic feet
9. ☐ Riverfront Area	<u> </u> a. total sq. feet	<u> </u> b. total sq. feet		
Sq ft within 100 ft	<u> </u> c. square feet	<u> </u> d. square feet	<u> </u> e. square feet	<u> </u> f. square feet
Sq ft between 100-200 ft	<u> </u> g. square feet	<u> </u> h. square feet	<u> </u> i. square feet	<u> </u> j. square feet



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B. Findings (cont.)

Coastal Resource Area Impacts: Check all that apply below. (For Approvals Only)

	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
10. ☐ Designated Port Areas	Indicate size under Land Under the Ocean, below			
11. ☐ Land Under the Ocean	<u> </u> a. square feet	<u> </u> b. square feet		
	<u> </u> c. c/y dredged	<u> </u> d. c/y dredged		
12. ☐ Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. ☐ Coastal Beaches	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. nourishment cu yd	<u> </u> d. nourishment cu yd
14. ☐ Coastal Dunes	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. nourishment cu yd	<u> </u> d. nourishment cu yd
15. ☐ Coastal Banks	<u> </u> a. linear feet	<u> </u> b. linear feet		
16. ☐ Rocky Intertidal Shores	<u> </u> a. square feet	<u> </u> b. square feet		
17. ☐ Salt Marshes	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. square feet	<u> </u> d. square feet
18. ☐ Land Under Salt Ponds	<u> </u> a. square feet	<u> </u> b. square feet		
	<u> </u> c. c/y dredged	<u> </u> d. c/y dredged		
19. ☐ Land Containing Shellfish	<u> </u> a. square feet	<u> </u> b. square feet	<u> </u> c. square feet	<u> </u> d. square feet
20. ☐ Fish Runs	Indicate size under Coastal Banks, Inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above			
	<u> </u> a. c/y dredged	<u> </u> b. c/y dredged		
21. ☐ Land Subject to Coastal Storm Flowage	<u> </u> a. square feet	<u> </u> b. square feet		
22. ☐ Riverfront Area	<u> </u> a. total sq. feet	<u> </u> b. total sq. feet		
Sq ft within 100 ft	<u> </u> c. square feet	<u> </u> d. square feet	<u> </u> e. square feet	<u> </u> f. square feet
Sq ft between 100-200 ft	<u> </u> g. square feet	<u> </u> h. square feet	<u> </u> i. square feet	<u> </u> j. square feet



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B. Findings (cont.)

* #23. If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.5.c (BVW) or B.17.c (Salt Marsh) above, please enter the additional amount here.

23. ☐ Restoration/Enhancement *:

a. square feet of BVW

b. square feet of salt marsh

24. ☐ Stream Crossing(s):

a. number of new stream crossings

b. number of replacement stream crossings

C. General Conditions Under Massachusetts Wetlands Protection Act

The following conditions are only applicable to Approved projects.

1. Failure to comply with all conditions stated herein, and with all related statutes and other regulatory measures, shall be deemed cause to revoke or modify this Order.
2. The Order does not grant any property rights or any exclusive privileges; it does not authorize any injury to private property or invasion of private rights.
3. This Order does not relieve the permittee or any other person of the necessity of complying with all other applicable federal, state, or local statutes, ordinances, bylaws, or regulations.
4. The work authorized hereunder shall be completed within three years from the date of this Order unless either of the following apply:
 - a. The work is a maintenance dredging project as provided for in the Act; or
 - b. The time for completion has been extended to a specified date more than three years, but less than five years, from the date of issuance. If this Order is intended to be valid for more than three years, the extension date and the special circumstances warranting the extended time period are set forth as a special condition in this Order.
 - c. If the work is for a Test Project, this Order of Conditions shall be valid for no more than one year.
5. This Order may be extended by the issuing authority for one or more periods of up to three years each upon application to the issuing authority at least 30 days prior to the expiration date of the Order. An Order of Conditions for a Test Project may be extended for one additional year only upon written application by the applicant, subject to the provisions of 310 CMR 10.05(11)(f).
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not extend the issuance date of the original Final Order of Conditions and the Order will expire on _____ unless extended in writing by the Department.
7. Any fill used in connection with this project shall be clean fill. Any fill shall contain no trash, refuse, rubbish, or debris, including but not limited to lumber, bricks, plaster, wire, lath, paper, cardboard, pipe, tires, ashes, refrigerators, motor vehicles, or parts of any of the foregoing.



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C. General Conditions Under Massachusetts Wetlands Protection Act

8. This Order is not final until all administrative appeal periods from this Order have elapsed, or if such an appeal has been taken, until all proceedings before the Department have been completed.
9. No work shall be undertaken until the Order has become final and then has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of the registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is done. The recording information shall be submitted to the Conservation Commission on the form at the end of this Order, which form must be stamped by the Registry of Deeds, prior to the commencement of work.
10. A sign shall be displayed at the site not less than two square feet or more than three square feet in size bearing the words,

"Massachusetts Department of Environmental Protection" [or, "MassDEP"]
"File Number 002-1299 "
11. Where the Department of Environmental Protection is requested to issue a Superseding Order, the Conservation Commission shall be a party to all agency proceedings and hearings before MassDEP.
12. Upon completion of the work described herein, the applicant shall submit a Request for Certificate of Compliance (WPA Form 8A) to the Conservation Commission.
13. The work shall conform to the plans and special conditions referenced in this order.
14. Any change to the plans identified in Condition #13 above shall require the applicant to inquire of the Conservation Commission in writing whether the change is significant enough to require the filing of a new Notice of Intent.
15. The Agent or members of the Conservation Commission and the Department of Environmental Protection shall have the right to enter and inspect the area subject to this Order at reasonable hours to evaluate compliance with the conditions stated in this Order, and may require the submittal of any data deemed necessary by the Conservation Commission or Department for that evaluation.
16. This Order of Conditions shall apply to any successor in interest or successor in control of the property subject to this Order and to any contractor or other person performing work conditioned by this Order.



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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

17. Prior to the start of work, and if the project involves work adjacent to a Bordering Vegetated Wetland, the boundary of the wetland in the vicinity of the proposed work area shall be marked by wooden stakes or flagging. Once in place, the wetland boundary markers shall be maintained until a Certificate of Compliance has been issued by the Conservation Commission.
18. All sedimentation barriers shall be maintained in good repair until all disturbed areas have been fully stabilized with vegetation or other means. At no time shall sediments be deposited in a wetland or water body. During construction, the applicant or his/her designee shall inspect the erosion controls on a daily basis and shall remove accumulated sediments as needed. The applicant shall immediately control any erosion problems that occur at the site and shall also immediately notify the Conservation Commission, which reserves the right to require additional erosion and/or damage prevention controls it may deem necessary. Sedimentation barriers shall serve as the limit of work unless another limit of work line has been approved by this Order.
19. The work associated with this Order (the "Project")
- (1) ☒ is subject to the Massachusetts Stormwater Standards
 - (2) ☐ is NOT subject to the Massachusetts Stormwater Standards

If the work is subject to the Stormwater Standards, then the project is subject to the following conditions:

- a) All work, including site preparation, land disturbance, construction and redevelopment, shall be implemented in accordance with the construction period pollution prevention and erosion and sedimentation control plan and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Construction General Permit as required by Stormwater Condition 8. Construction period erosion, sedimentation and pollution control measures and best management practices (BMPs) shall remain in place until the site is fully stabilized.
- b) No stormwater runoff may be discharged to the post-construction stormwater BMPs unless and until a Registered Professional Engineer provides a Certification that:
 - i. all construction period BMPs have been removed or will be removed by a date certain specified in the Certification. For any construction period BMPs intended to be converted to post construction operation for stormwater attenuation, recharge, and/or treatment, the conversion is allowed by the MassDEP Stormwater Handbook BMP specifications and that the BMP has been properly cleaned or prepared for post construction operation, including removal of all construction period sediment trapped in inlet and outlet control structures;
 - ii. as-built final construction BMP plans are included, signed and stamped by a Registered Professional Engineer, certifying the site is fully stabilized;
 - iii. any illicit discharges to the stormwater management system have been removed, as per the requirements of Stormwater Standard 10;



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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

iv. all post-construction stormwater BMPs are installed in accordance with the plans (including all planting plans) approved by the issuing authority, and have been inspected to ensure that they are not damaged and that they are in proper working condition;

v. any vegetation associated with post-construction BMPs is suitably established to withstand erosion.

c) The landowner is responsible for BMP maintenance until the issuing authority is notified that another party has legally assumed responsibility for BMP maintenance. Prior to requesting a Certificate of Compliance, or Partial Certificate of Compliance, the responsible party (defined in General Condition 18(e)) shall execute and submit to the issuing authority an Operation and Maintenance Compliance Statement ("O&M Statement") for the Stormwater BMPs identifying the party responsible for implementing the stormwater BMP Operation and Maintenance Plan ("O&M Plan") and certifying the following:

i.) the O&M Plan is complete and will be implemented upon receipt of the Certificate of Compliance, and

ii.) the future responsible parties shall be notified in writing of their ongoing legal responsibility to operate and maintain the stormwater management BMPs and implement the Stormwater Pollution Prevention Plan.

d) Post-construction pollution prevention and source control shall be implemented in accordance with the long-term pollution prevention plan section of the approved Stormwater Report and, if applicable, the Stormwater Pollution Prevention Plan required by the National Pollution Discharge Elimination System Multi-Sector General Permit.

e) Unless and until another party accepts responsibility, the landowner, or owner of any drainage easement, assumes responsibility for maintaining each BMP. To overcome this presumption, the landowner of the property must submit to the issuing authority a legally binding agreement of record, acceptable to the issuing authority, evidencing that another entity has accepted responsibility for maintaining the BMP, and that the proposed responsible party shall be treated as a permittee for purposes of implementing the requirements of Conditions 18(f) through 18(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 18(f) through 18(k) with respect to that BMP shall be a violation of the Order of Conditions or Certificate of Compliance. In the case of stormwater BMPs that are serving more than one lot, the legally binding agreement shall also identify the lots that will be serviced by the stormwater BMPs. A plan and easement deed that grants the responsible party access to perform the required operation and maintenance must be submitted along with the legally binding agreement.

f) The responsible party shall operate and maintain all stormwater BMPs in accordance with the design plans, the O&M Plan, and the requirements of the Massachusetts Stormwater Handbook.



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C. General Conditions Under Massachusetts Wetlands Protection Act (cont.)

g) The responsible party shall:

1. Maintain an operation and maintenance log for the last three (3) consecutive calendar years of inspections, repairs, maintenance and/or replacement of the stormwater management system or any part thereof, and disposal (for disposal the log shall indicate the type of material and the disposal location);
2. Make the maintenance log available to MassDEP and the Conservation Commission ("Commission") upon request; and
3. Allow members and agents of the MassDEP and the Commission to enter and inspect the site to evaluate and ensure that the responsible party is in compliance with the requirements for each BMP established in the O&M Plan approved by the issuing authority.

h) All sediment or other contaminants removed from stormwater BMPs shall be disposed of in accordance with all applicable federal, state, and local laws and regulations.

i) Illicit discharges to the stormwater management system as defined in 310 CMR 10.04 are prohibited.

j) The stormwater management system approved in the Order of Conditions shall not be changed without the prior written approval of the issuing authority.

k) Areas designated as qualifying pervious areas for the purpose of the Low Impact Site Design Credit (as defined in the MassDEP Stormwater Handbook, Volume 3, Chapter 1, Low Impact Development Site Design Credits) shall not be altered without the prior written approval of the issuing authority.

l) Access for maintenance, repair, and/or replacement of BMPs shall not be withheld. Any fencing constructed around stormwater BMPs shall include access gates and shall be at least six inches above grade to allow for wildlife passage.

Special Conditions (if you need more space for additional conditions, please attach a text document):

-
20. For Test Projects subject to 310 CMR 10.05(11), the applicant shall also implement the monitoring plan and the restoration plan submitted with the Notice of Intent. If the conservation commission or Department determines that the Test Project threatens the public health, safety or the environment, the applicant shall implement the removal plan submitted with the Notice of Intent or modify the project as directed by the conservation commission or the Department.



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D. Findings Under Municipal Wetlands Bylaw or Ordinance

1. Is a municipal wetlands bylaw or ordinance applicable? ☒ Yes ☐ No
2. The Amesbury hereby finds (check one that applies):
Conservation Commission

- a. ☐ that the proposed work cannot be conditioned to meet the standards set forth in a municipal ordinance or bylaw, specifically:

1. Municipal Ordinance or Bylaw

2. Citation

Therefore, work on this project may not go forward unless and until a revised Notice of Intent is submitted which provides measures which are adequate to meet these standards, and a final Order of Conditions is issued.

- b. ☒ that the following additional conditions are necessary to comply with a municipal ordinance or bylaw:

Amesbury Wetlands Protection Ordinance

AWO

1. Municipal Ordinance or Bylaw

2. Citation

3. The Commission orders that all work shall be performed in accordance with the following conditions and with the Notice of Intent referenced above. To the extent that the following conditions modify or differ from the plans, specifications, or other proposals submitted with the Notice of Intent, the conditions shall control.

The special conditions relating to municipal ordinance or bylaw are as follows (if you need more space for additional conditions, attach a text document):

See Attachment to Order of Conditions



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E. Signatures

This Order is valid for three years, unless otherwise specified as a special condition pursuant to General Conditions #4, from the date of issuance.

4.20.22

1. Date of Issuance

Please indicate the number of members who will sign this form.

This Order must be signed by a majority of the Conservation Commission.

2. Number of Signers

The Order must be mailed by certified mail (return receipt requested) or hand delivered to the applicant. A copy also must be mailed or hand delivered at the same time to the appropriate Department of Environmental Protection Regional Office, if not filing electronically, and the property owner, if different from applicant.

Signature

Signature

Signature

Signature

Signature

Signature

Signature

Signature

☐ by hand delivery on

Date

Printed Name

Printed Name

Printed Name

Printed Name

Printed Name

Printed Name

Printed Name

Printed Name

☒ by certified mail, return receipt requested, on

Date



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F. Appeals

The applicant, the owner, any person aggrieved by this Order, any owner of land abutting the land subject to this Order, or any ten residents of the city or town in which such land is located, are hereby notified of their right to request the appropriate MassDEP Regional Office to issue a Superseding Order of Conditions. The request must be made by certified mail or hand delivery to the Department, with the appropriate filing fee and a completed Request for Departmental Action Fee Transmittal Form, as provided in 310 CMR 10.03(7) within ten business days from the date of issuance of this Order. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

Any appellants seeking to appeal the Department's Superseding Order associated with this appeal will be required to demonstrate prior participation in the review of this project. Previous participation in the permit proceeding means the submission of written information to the Conservation Commission prior to the close of the public hearing, requesting a Superseding Order, or providing written information to the Department prior to issuance of a Superseding Order.

The request shall state clearly and concisely the objections to the Order which is being appealed and how the Order does not contribute to the protection of the interests identified in the Massachusetts Wetlands Protection Act (M.G.L. c. 131, § 40), and is inconsistent with the wetlands regulations (310 CMR 10.00). To the extent that the Order is based on a municipal ordinance or bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.



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G. Recording Information

Prior to commencement of work, this Order of Conditions must be recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land subject to the Order. In the case of registered land, this Order shall also be noted on the Land Court Certificate of Title of the owner of the land subject to the Order of Conditions. The recording information on this page shall be submitted to the Conservation Commission listed below.

Amesbury

Conservation Commission

Detach on dotted line, have stamped by the Registry of Deeds and submit to the Conservation Commission.

To:

Amesbury

Conservation Commission

Please be advised that the Order of Conditions for the Project at:

12-14 South Hunt Road

Project Location

002-1299

MassDEP File Number

Has been recorded at the Registry of Deeds of:

Essex South

County

Book

Page

for: Carl Pearson/Amesbury Sports Ventures, LLC (Global Property Developers Co.)
Property Owner

and has been noted in the chain of title of the affected property in:

Book

Page

In accordance with the Order of Conditions issued on:

Date

If recorded land, the instrument number identifying this transaction is:

Instrument Number

If registered land, the document number identifying this transaction is:

Document Number

Signature of Applicant



**Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands**

DEP File Number: _____

**Request for Departmental Action Fee
Transmittal Form**

Provided by DEP

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

A. Request Information

1. Location of Project

a. Street Address _____

b. City/Town, Zip _____

c. Check number _____

d. Fee amount _____

2. Person or party making request (if appropriate, name the citizen group's representative):

Name _____

Mailing Address _____

City/Town _____

State _____

Zip Code _____

Phone Number _____

Fax Number (if applicable) _____

3. Applicant (as shown on Determination of Applicability (Form 2), Order of Resource Area Delineation (Form 4B), Order of Conditions (Form 5), Restoration Order of Conditions (Form 5A), or Notice of Non-Significance (Form 6)):

Name _____

Mailing Address _____

City/Town _____

State _____

Zip Code _____

Phone Number _____

Fax Number (if applicable) _____

4. DEP File Number:

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



B. Instructions

1. When the Departmental action request is for (check one):

- ☐ Superseding Order of Conditions – Fee: \$120.00 (single family house projects) or \$245 (all other projects)
- ☐ Superseding Determination of Applicability – Fee: \$120
- ☐ Superseding Order of Resource Area Delineation – Fee: \$120



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands
Request for Departmental Action Fee
Transmittal Form

DEP File Number:

Provided by DEP

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Instructions (cont.)

Send this form and check or money order, payable to the *Commonwealth of Massachusetts*, to:

Department of Environmental Protection
Box 4062
Boston, MA 02211

2. On a separate sheet attached to this form, state clearly and concisely the objections to the Determination or Order which is being appealed. To the extent that the Determination or Order is based on a municipal bylaw, and not on the Massachusetts Wetlands Protection Act or regulations, the Department has no appellate jurisdiction.
3. Send a **copy** of this form and a **copy** of the check or money order with the Request for a Superseding Determination or Order by certified mail or hand delivery to the appropriate DEP Regional Office (see <https://www.mass.gov/service-details/massdep-regional-offices-by-community>).
4. A copy of the request shall at the same time be sent by certified mail or hand delivery to the Conservation Commission and to the applicant, if he/she is not the appellant.

ATTACHMENT TO ORDER OF CONDITIONS

Applicant: Carl Pearson
Global Property Developers Corporation
80 First Street
Bridgewater, MA 02324

Site Address: 12-14 South Hunt Road

DEP File: 002-1299

Pursuant to Massachusetts Wetlands Protection Act (M.G.L. chapter 131, §40) and its implementing regulations (310 CMR, § 10.00) and the City of Amesbury Wetlands Ordinance and its implementing regulations:

This Order permits: At the 4.4.22 meeting, the Amesbury Conservation Commission approved the redevelopment of the above referenced address to include the construction of an eastern entrance to the property; entrance road site grades with site elevations altered so that the roadway can meet acceptable slope requirements under the current planning board road regulations and the regrading of the property and much of the existing exterior use areas. Specifically, the Amesbury Conservation Commission (ACC) approved: 1) construction of the main access roadway to the site (roadway will connect to South Hunt Road and will be located on the western portion of the site and travel southbound access the site and traverse the elevation change, as shown on the approved plans, and connect to the east side of the property); installation of an underground stormwater system, utilizing commercial chambers which will be located below the field location to the east and adjacent to the wetlands and current parking area to the north; installation of a synthetic turf field above the stormwater system; installation of an air support structure above the turf field location; creation of a wetland replication area; demolition, removal and redevelopment of all associated structures and features noted on the site, included but not limited to field, parking utilities and other structures; and regrading of the site areas as needed to meet approved grades that accommodate construction of new roadway system.

See Appendix for details.

Background:

- 1) On 7.10.2020, a Notice of Intent was filed in support of the proposed re-development of 12-14 South Hunt Road (assessors map 97/lot(s) 4 and 5).
- 2) The ACC opened the hearing and by unanimous vote selected Horsley Witten Group to conduct a peer review under the Wetlands Protection Act (MGL ch. 131, sec. 40) and the Amesbury Wetlands Ordinance. The review included relevant provisions of the MA Stormwater Handbook and Stormwater Standards.

- 3) On 2.3.21, the ACC received a third and final peer review comments by Horsley Witten Group with recommendations for a conditional approval on outstanding issues. In response, the applicant's representative (Weston and Sampson) responded agreeing to supply the outstanding items on 2.5.21.
- 4) On 2.24.21, an Order of Conditions was issued by the ACC with conditional requirements pursuant to DEP 002-1266. All conditional conditions were subsequently met.
- 5) On 10.22.21: A stop work order was issued by the Director of Inspectional Services, City of Amesbury, on all works as it related to the athletic field and a proposed inflatable dome over the field. Work included unauthorized regulated activities within a jurisdictional area pursuant to MGL ch. 131, sec. 40 and the City of Amesbury in violation of a valid Order of Conditions. The stop work order specifically addressed work not approved pursuant to any Amesbury Planning Board (PB) or the Amesbury Conservation Commission thus requiring the applicant to either apply for a major modification to the PB and a Notice of Intent to the ACC or if they agreed to advance unopposed by simply remaining in compliance with what was approved by the relevant boards and commissions.
- 6) On 12.9.21, a request for an Amended Order of Conditions was received pursuant to DEP 002-1266 in support of regulated activities deviating from the approved plan. The request included amendments approving and documenting excavation and the partial filling of a Bordering Vegetated Wetland. The request for an Amended Order of Conditions included the proposed installation of a synthetic turf field in support of a proposed air-supported structure to be located over the synthetic turf field and the associated stormwater management system. Amended plans and stormwater calculations were submitted as support material.
- 7) The ACC determined that, in accordance with MassDEP Wetlands Policy: Amending Order 85-4, an amendment to an Order of Conditions should be filed for changes that are relatively minor. Substantial changes (i.e., potential for adverse wetland impacts have increased or scope of work has increased) would warrant the filing of a new Notice of Intent. It was also MA DEP's opinion that the amendment, which is seeking approval for additional BVW alteration and providing replication, as well as redesigning portions of the stormwater system, are substantial changes to the project, and cannot be approved under this process. The proponent was advised consider relocating the retaining wall out of the BVW to avoid wetland alteration and be required to restore the BVW to its preexisting conditions. Also, any stormwater infiltration unit must be placed greater than 50' or greater from a surface water (i.e., a wetland resource area) (see Vol. 1, Ch 1. Table RR pg. 8) and are required to have a least 2 feet separation from the bottom of the infiltration unit to estimated seasonal high groundwater. If the unit is within 4 feet of estimated seasonal high groundwater, a mounding analysis is needed.
- 8) Based on this information, the Applicant elected to submit a Notice of Intent (DEP 002-1299) prior to submitting a Request for Certificate of Compliance for the outstanding Order of Conditions.

All work shall conform to the following:

Notice of Intent filed by:

**Carl Pearson
Global Property Developers Corporation
80 First Street
Bridgewater, MA 01921**

Site plans prepared by:

**Weston & Sampson Engineers
55 Walkers Brook Drive, Suite 100
Reading MA 01867**

**Title: Global Property Developers Corporation
Amesbury Sports Park
Signed/Stamped by: James Pearson, PE
Dated: 11.12/22 with the following revision sheet/dates:
C101: 3.28.22; C102: 3.28.22; C104: 3.28.22; C105:
3.28.22; C106: 3.28.22; C201: 3.28.22
C202: 3.28.22; C203: 3.28.22; C204: 3.28.22; C205:
3.28.22; C206: 3.28.22; C207: 3.28.22**

Scale: as indicated

**Title: Stormwater Report
Amesbury, Massachusetts
Amesbury Sports Park
Date: 8.17.2020 revised 3.28.22
JOB NO: 2190336**

**Prepared by: Weston & Sampson
55 Walkers Brook Drive, Suite 100
Reading, MA 01867**

**Title: Amesbury Sports Park,
12-14 South Hunt Road
Amesbury, Massachusetts
Stormwater Management Peer Review – DEP 002-1299
Date: 4.4.22**

**Prepared by: TEC, The Engineering Corp.
146 Dascomb Road
Andover, MA 01810**

Notice of Intent (WPA Form 3)
12 – 14 South Hunt Road
Amesbury, MA 01913
Date: January 2022

Prepared by: Weston and Sampson
Weston and Sampson
55 Walkers Brook, Suite 100”
Reading, MA 01867
Representative: Anthony Zerilli

Prepared for: Amesbury Sports Ventures, LLC &
Global Property Developers Corporation
80 First Street
Bridgewater, MA 02324

I. SPECIAL CONDITIONS:

1. Failure to comply with any and all conditions stated herein, all requirements and standards of the plans and documents, and with all related statutes and regulatory measures, shall be deemed cause to revoke or modify this Order of Conditions (“Order”) as determined by the Commission.
2. The Conservation Commission acknowledges that this project and associated wetland alternation is for the sole purpose of providing alternate access to the Maples Crossing project (DEP 002-1222), and the road widening along the South Hunt Road (DEP 002-1265) is to support the two sports complex projects and provide improved safety measures along this portion of South Hunt Road with the anticipated increased traffic as a result of the construction of the sports complex. As a result, the Amesbury Conservation Commission shall cross reference all three projects within their files such that the overall wetland impacts are understood.
3. Wetland boundaries show on the approved plans have been reviewed through the Notice of Intent and include the jurisdictional status of the wetlands areas associated with this project as approved.
4. This Order of Conditions shall be recorded at the Essex south Registry of Deeds following the 10-day appeal period based on the date of issuance. A copy of the recorded Order of Conditions shall be submitted to the Amesbury Conservation Commission no later than the pre-construction meeting.
5. Once constructed, the Applicant or its successor shall monitor the newly created wetland replacement area a minimum of twice annually for two growing seasons to monitor the success of the wetland plantings. The Mitigation Plan Checklist shall be

updated with respect to the monitoring schedule. In addition, the wetland replacement area shall be monitored four times during the growing season for the first two growing seasons to monitor for and manage invasive species.

6. Final design of the sports field shall be submitted to the Amesbury Conservation Commission for administrative review and approval prior to construction of the field, to document how the under-drains will tie into the proposed drainage system.
7. The Applicant shall include a final construction plan set be provided to the Amesbury Conservation Commission in advance of any land disturbance for administrative review.
8. Applicant is required to provide the Conservation Commission with any revised plans that propose an increase of more than 5,000 sf of impervious area that will discharge into either Detention System 1 or Infiltration System 2. The Applicant is required to verify that the increased impervious area has been appropriately accounted for in the permitted design in accordance with the stormwater regulations at that time.
9. The Applicant is required to provide the Conservation Commission the signed illicit discharge statement prior to land disturbance.
10. Construction Sequence Plan: The contractor will provide a construction sequence plan for installation of the stormwater management facilities, erosion and sediment control barriers, and other work within ACC jurisdictional areas, including mitigation measures, prior to the pre-construction meeting for review and approval by the ACC. Work within areas under ACC jurisdiction may not begin prior to approval by ACC or ACC's Agent of the construction sequence plan. The construction sequence plan shall be reviewed by the ACC's environmental monitor for approval. The construction sequence shall be submitted to the Amesbury Conservation Commission not less than 60 days prior to the start of construction for review and approval by the peer reviewer.
11. Pursuant to the Operations and Maintenance plan, as cited herein, the applicant will conduct post development reporting of maintenance practices for a period of three (3) years to confirm that maintenance practices commensurate with said plan are conducted. Where reports indicate noncompliance with said plan the applicant will propose improvements, rehabilitation, restoration for approval by the Commission and its designee. This in no way limits the powers of the Commission to conduct their own maintenance and make recommendations to ensure compliance.
12. Approval of this application does not constitute compliance with any law or regulation other than MGL Chapter 131, Section 40, Wetlands Regulations 310 CMR 10.00 and Amesbury Wetlands Protection Ordinance ("Ordinance") and its implementing regulations ("Regulations") as promulgated by the City of Amesbury Conservation Commission (ACC).

13. All Federal, state, local and tribal permits must be obtained and be valid for this Order of Conditions to be valid.
14. Approved plans under this Order of Conditions must be consistent with those of the City of Amesbury Planning Board and all permits issued by the City of Amesbury Office of Inspectional Services and all relevant Federal, state and tribal entities.
15. This Order shall apply to any successor in interest or successor in control of the property.
16. This Order shall be recorded by the applicant at the Registry of Deeds promptly after the expiration of all appeal periods. No work shall be undertaken until the Final Order has been recorded in the Registry of Deeds or the Land Court for the district in which the land is located, within the chain of title of the affected property. In the case of recorded land, the Final Order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of registered land, the Final Order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is to be done. The recording information shall be submitted to the ACC on the form at the end of this Order prior to commencement of the work. Any Order not recorded by the applicant before work commences may be recorded by the ACC at the applicant's expense.
17. The work authorized hereunder shall be completed within three (3) years from the date of this Order.
18. This Order may be extended by the issuing authority for one or more periods of up to one year, for not more than a total of three years each upon application to the issuing authority at least thirty (30) days prior to the expiration date of the Order.
19. This Order shall be made part of all construction contracts and subcontracts dealing with the work proposed and approved, and the requirements of this Order shall supersede any conflicting contract requirements. The contractor or contractors responsible for the project's completion shall understand and be notified of the requirements of this Order. Any person performing work on the activity that is the subject of this Order is individually responsible for understanding and complying with the requirements of this Order.
20. A sign shall be displayed for the duration of the project as defined by the receipt of a Certificate of at the site not less than two (2) feet or more than three (3) square feet in size bearing the words,

"MA DEP File Number 002-1299"

21. The Amesbury Conservation Commission (ACC) reserves the right to impose additional conditions on this project, including but not limited to additional or

modified erosion control / siltation controls during construction, if it deems that site conditions warrant such measures to mitigate potential impacts to wetland resources.

22. A copy of this Order and the plan approved by this Order shall be available on site when work within any ACC jurisdictional area is in progress.
23. If the subject parcel is sold or the development rights are transferred to any other person, the applicant shall be required to submit to the ACC a signed and notarized letter of acknowledgement from the buyer or their assignees stating that they have been provided copies of all permits associated with the proposed project, including this Order, and that they understand their responsibility associated with the construction of this project under those permits, including this Order.
24. The applicant shall be required to pay in full any outstanding invoices from the Commission's peer review consultants for this project.

25. Environmental Monitor:

a. Qualifications: The Amesbury Conservation Commission shall designate an "Environmental Monitor," such as a Registered Professional Engineer, Professional Wetland Scientist or other qualified consultant who has relevant experience in wetland impact/assessment and erosion/sedimentation control measures to oversee placement of controls and regular inspection or replacement of sedimentation control devices including any emergency measures which may be required. The Environmental Monitor will be required to inspect all such devices and oversee cleaning and the proper disposal of waste products and monitor for deviations from the approved plan(s) and violations. Cleaning shall include removal of any entrapped silt. The selection of the Environmental Monitor shall be subject to approval by the ACC or its designated representative(s). The Environmental Monitor shall monitor construction and document compliance with the approved plans.

b. The applicant shall designate a Wetland Scientist who has relevant experience in wetland construction and management to oversee the construction of the wetland replication area. The selection of the Wetland Scientist is subject to approval by the ACC or its designated representative.

c. Authority: The name and phone number of the Environmental Monitor and Wetland Scientist must be provided to the ACC in the event that this person has to be contacted, due to an emergency at this site, during any 24-hour period, including weekends. Both the Wetland Scientist and the Environmental Monitor shall be given the authority to stop construction should there be unlawful entry into the wetland resources areas and / or for other violations of this Order of Conditions. Site Inspections: Shall be conducted consistent with USEPA's NPDES Construction General Permit, the Environmental Monitor shall conduct

site inspections on site at least weekly and within 24 hours of rainstorms of 0.5 inches or more during periods of active site work or construction within ACC jurisdictional areas. If warranted, less frequent inspections may be conducted to the extent permitted by the USEPA NPDES Construction General Permit and as the ACC or the ACC's Environmental Monitor or Agent may approve during the course of construction based on consideration of the site conditions, the level of site activity, and other relevant factors. During inspections, the Environmental Monitor must (1) visually inspect all sedimentation / erosion control measures and ensure that they are being properly maintained and functioning as intended, and (2) visually inspect all wetland resource areas near or down-gradient from site activities for siltation, turbidity, and/or other water quality impacts. The Wetland Scientist shall be present for all phases of construction of the wetland replication area and shall make at least weekly inspections during construction of the wet basin.

d. Reporting: During periods in which Site Inspections are required, the Environmental Monitor and Wetland Scientist shall submit a written report with relevant photographs of site conditions to the ACC following each inspection (except as the ACC or the ACC's Agent may otherwise approve).

i. The Environmental Monitor and Wetland Scientist must certify that, to the best of his / her knowledge and belief based on a careful site inspection, all work is being performed in compliance with this Order of Conditions, except any incidents of noncompliance that the Environmental Monitor may identify in the report, for which mitigation and/or corrective actions shall also be identified.

ii. The reports shall describe what work is anticipated to be complete over the next reporting period (this will update the construction sequence); current conditions of the erosion controls; description of any erosion or sedimentation repair and/or replacement; and any erosion problems and mitigation measures implemented. Photographs of relevant site conditions shall be included.

iii. Such reports shall continue until the applicant has requested and the ACC or the ACC's Agent has approved in writing either a less frequent reporting schedule or an end of the reporting.

24. Commission's Environmental Monitor:

a. At the applicant's expense, the ACC shall designate a consultant to act as the "Commission's Environmental Monitor." The CEM shall have specific environmental monitoring expertise and may be a professional engineer or a qualified wetland scientist who has relevant experience in wetland impact / assessment and erosion / sedimentation control measures.

b. Inspections and Reporting: The Commission's Environmental Monitor shall inspect the Site and report back to the Commission (with copies to the Applicant) as follows:

i. After installation of erosion controls and prior to the Applicant's commencement of site work;

ii. Every week (or at a reduced frequency if authorized by the ACC or ACC's Agent) during periods of active site work or construction activity within 100 feet of resource areas; and

iii. As otherwise requested by the ACC's Agent after significant rain events or at other times when active Site work is being conducted that the ACC's Agent believes to present a risk of adverse impacts to resource areas if not properly conducted or managed and warranting review by the Commission's Environmental Monitor.

iv. Wetland replication areas for a monitoring of two growing seasons.

v. Review of Documents: The Commission's Environmental Monitor shall also review and make recommendations to the ACC or ACC's Agent (with copies to the Applicant) regarding any key project-related documents submitted to the ACC or ACC's Agent by the Applicant pursuant to this Order of Conditions if such review is determined to be warranted and is requested by the ACC or ACC's Agent.

25. There shall be no pumping of water from wetland resource areas on or adjacent to the site.

26. Plan Modifications: Any modification to the approved plans shall require review and approval by the ACC. Prior to consideration of any such request, the ACC may require the applicant to have the relevant wetland resource areas re-flagged or the originally approved flagging established. The applicant shall be required to submit the modification request in writing along with all the necessary forms and supporting documents in a timely manner for the ACC's consideration.

a. The ACC may require any significant plan modification request to be reviewed by the Commission's Environmental Monitor, in which case the applicant shall submit the necessary funds to the ACC for the consultant services.

b. The Commission shall also review the request and decide if an Amended Order of Conditions is required pursuant to the Massachusetts Wetlands Protection Act and the Amesbury Wetlands Protection Ordinance. As stated, any change that requires modification of approved plans within the jurisdictional area or changes to the erosion control plan or to the stormwater management system may require an Amended Order of Conditions unless the Commission decides

otherwise at its regularly posted public meeting. If the ACC decides that a change is of sufficient magnitude to warrant imposition of additional conditions to ensure adequate protection of the resource area and / or the interests covered under the Ordinance and Regulations and an Amended Order of Conditions, a public hearing shall be required.

c. Any requests for modification or amendment of the Order shall not be considered or reviewed if the Order has expired or there is an outstanding Enforcement Order on the subject parcel – except as the ACC may otherwise explicitly allow.

27. The approved project shall conform to the approved plan(s) and Stormwater Plan submitted by the Applicant and any and all correspondence and updated material including approved meeting minutes received and approved by the Amesbury Conservation Commission.

II. PRE-CONSTRUCTION CONDITIONS:

1. The limit of clearing within the buffer zone should be clearly staked out by a professional land surveyor prior to site clearing to avoid buffer zone impacts and wetland flags shall be re-established if not still present and legible according to the approved plans. Both requirements shall be subject to review and approval by the Commissions Environmental Monitor.
2. Erosion Control Bond: The applicant shall be required to post an erosion control bond with the ACC and the amount shall be calculated @ \$0.25 per square feet of buffer zone and wetland resource area within the approved limit of work. Such funds shall be sufficient to repair any damages to the wetlands due to soil erosion, stabilization of all soils and the disturbed areas on the site. The applicant shall be exempt from establishing a separate erosion control bond if such a bond is established with the Planning Board approval. The ACC may periodically reduce the bond amount based on completed work and site conditions. Prior to any release of bond amount, the ACC shall require the inspection of work completed. Final release of the bond amount shall be allowed upon completion of all site work, including but not limited to, the stormwater management system, roadway binder course and final stabilization. If the erosion control bond is held by the Planning Board, the ACC shall send a letter to the Planning Board prior to final release of the bond.
3. Performance Bond: Unless required by the Amesbury Planning Board, the applicant shall post a performance bond in the amount necessary to install and complete the stormwater management system and wetland replication area as required by this Order. The applicant shall submit the necessary legal and financial documents to post the bond. Upon receiving the request from the applicant, the Commission's Environmental Monitor shall review the work to be done and make its recommendation to the Commission. No work shall be conducted within

jurisdictional areas until the approved performance bond has been established by the applicant. The applicant may periodically request reductions in the bond amount as portions of the work are completed. The final release from the performance bond shall be made after two growing seasons have passed and at least 90% of the plants in the approved mitigation areas have survived and are healthy as confirmed by the Commission's Environmental Monitor and approved by the ACC. Any release of funds shall be made by the Commission upon verification of work by its consultant and/or its Agent.

4. **Wetlands Flagging:** Prior to the pre-construction meeting and commencement of any activity on this site, the boundaries of all wetland resource areas shown on the approved plan shall be re-established by flagging in good condition, with readable labeling. Wetland flags shall be checked and replaced as necessary and maintained until a Certificate of Compliance is issued for the project or any earlier period as the ACC or the ACC's Agent may authorize.
5. **Erosion Controls:** Prior to the pre-construction meeting and commencement of any activity on this site including any site clearing, all erosion control devices approved under this Order shall be staked by a professional land surveyor according to the approved plan. Once the location is approved at the pre-construction meeting, the erosion controls can be installed according to the approved plans with the exception that all erosion control barriers within 100 feet of jurisdictional areas consist of compost tube as well as staked and entrenched siltation fencing immediately down-gradient of the compost tube. The ACC and/or its Agent and Commission's Environmental Monitor shall inspect and approve such installation prior to commencement of any clearing or other site work. The erosion control devices must remain in place and functioning until the ACC or its Agent has authorized their removal. All workers must be instructed not to work beyond this limit.
6. **Pre-Construction Meeting:** Once the above-mentioned pre-construction requirements are complete, the applicant shall contact the Conservation Department prior to site preparation or construction and shall arrange an on-site PRE-CONSTRUCTION MEETING with a representative from the ACC and/or its Agent, the project supervisor, the contractor responsible for work, the engineer, the Applicant's Environmental Monitor and Wetland Scientist, and the Commission's Environmental Monitor to ensure all of the Conditions of this Order are understood. Please contact the Amesbury Conservation Department office at (978) 388-8110 ext. 317 at least seventy-two (72) hours prior to any activity to arrange the pre-construction meeting.
7. **NPDES Permit and SWPPP:** If warranted, prior to construction the applicant will provide the ACC a copy of the NPDES permit application (EPA Construction General Permit Notice of Intent), final SWPPP and supporting documents. Additionally, the applicant will provide a statement from the operator/manager of the SWPPP acknowledging the responsibilities and requirements in the plans and agree to carry out said responsibilities and adhere to Best Management Practices of the plans

as a perpetual responsibility and condition.

8. **Contractors/Subcontractors:** All contractors and subcontractors shall be informed of the conditions and provisions of this Order. This Order shall be included in all construction contracts and subcontracts dealing with the work and shall supersede other contract requirements. Failure to have this OoC present during a site visit shall constitute a violation of the Wetlands Protection Act and the Amesbury Wetlands Ordinance and shall be subject to enforcement action by the ACC in a public meeting.
9. **Project Supervisor:** Prior to any work being done at the project site, the applicant shall inform the ACC and the Environmental Monitor in writing of the names, addresses, business, mobile and home telephone numbers of both the project supervisor who will be responsible for ensuring on-site compliance with this Order and his/her alternate. The notification shall occur at least 72 hours prior to commencement of work on the site. The 72 hours shall not be over weekends or holidays. The applicant shall also notify the ACC and its Environmental Monitor in writing of any changes.
10. **Recorded Order:** A recorded copy of the Order of Conditions shall be presented to the Agent no later than the time of the pre-construction meeting.
11. The limit of work shall be staked and clearly marked in the field by a Professional Land Surveyor prior to commencement of clearing activities.
12. A stockpile of not less than 200 linear feet of compost tube, 200 feet of siltation fencing and 50 straw haybales shall be maintained on site throughout construction to provide emergency repairs to erosion control barriers.

III. CONSTRUCTION CONDITIONS:

1. A copy of the recorded Order shall be provided to the Commission, the Building Inspector, and any and all contractors or consultants, applicable to the work herein, at the time of making application for Building Permit along with a set of approved plans.
2. Prior to making application for building permits, copies of all recorded legal documents pertaining to drainage and utility easements, restrictions on individual lots and other conservation restrictions shall be provided to the Commission for their records.
3. Accepted engineering and Best Management Practices for construction standards shall be followed in the conduct of all work. All site improvements shall be installed as per approved plans and engineering details shown on them. Any modifications or deviations from approved plans shall only be made upon approval from the ACC (or,

with respect to minor deviations, by the ACC's Agent).

4. Erosion control devices shall be inspected regularly by the applicant, the Environmental Monitor and Wetland Scientist as described in Special Condition 13 above; and within 24 hours of precipitation of 0.5 or more. Any entrapped silt shall be removed to an area outside of the buffer zone and wetland resource areas; silt fence and hay bales shall be replaced as necessary.
5. After final grading, all areas of disturbed soil shall be stabilized permanently against erosion. This shall be done in the ACC approved manner. Achievement of stabilization is considered to be when the surface shows complete vegetation cover as prescribed in the approved landscape plan. This shall be measured by at least 80% coverage by durable vegetative cover.
6. Bare soil in the Buffer Zone that cannot be permanently stabilized within thirty (30) days shall be stabilized by a temporary cover of rye or other methods as approved by the ACC and the ACC Environmental Monitor. If the season is not appropriate for plant growth, exposed surfaces shall be stabilized using NRCS approved Best Management Practices. Any stabilization materials such as jute netting shall be firmly anchored to prevent them from being washed from slopes by rain, snow melt, or flooding.
7. All slopes graded to 2.5:1 or steeper shall be immediately stabilized utilizing a geotextile erosion control blanket as shown on final plan details, Sheet C7.01.
8. Site grading and construction in the Buffer Zone shall be scheduled to avoid periods of high water. Once begun, grading and construction shall move uninterrupted to completion to avoid erosion and siltation to the wetlands.
9. No alteration or activity shall occur beyond the limit or work as defined by the siltation barriers shown on the approved plan.
10. All waste generated by, or associated with, the construction activity shall be contained within the construction area, and away from the resource area. There shall be no stump dumps, burying of stumps or any material onsite. The applicant shall maintain a dumpster (or other suitable means) at the site for the storage and removal of such construction material off-site. However, no trash dumpsters will be allowed within 100-feet of the Bordering Vegetated (BVW) or riparian bank.
11. Stockpiles:
 - a. All stockpiles within the ACC jurisdictional areas shall be enclosed by erosion control consisting of hay bales and entrenched silt fence or other barriers as the ACC or the ACC's Agent may approve. For stockpiles located outside of ACC jurisdictional areas, a sediment barrier shall be installed along all down gradient perimeter areas. There shall be no stockpiling outside the approved limit of work

and staging/storage and stockpiling areas shall be located further than 100 feet from wetland resource areas unless otherwise approved by the ACC Environmental Monitor. Stockpiles shall be set back at least 10 feet from the top-of-slope at any culvert (existing or being installed). Prior to storms predicted to produce 1-inch or more within a 24-hour period, stockpiles must be moved at least 50 feet away from wetland resource areas or have the side of the stockpile facing the wetland resource area(s) stabilized.

b. Stockpiles shall not drain toward wetland resource areas or drainage conveyances or catch basin inlets. If this is not possible, then the side facing such features shall be stabilized.

c. Stockpiles not in active use must be stabilized as soon as practicable, but not more than 14 days after the use of the stockpile ceases temporarily or permanently, unless:

i. Stabilization by the 14th day is precluded by snow cover or frozen ground, in which case stabilization measures must be initiated as soon as practicable; or

ii. Use of the stockpile will resume by the 14th day after activities ceased.

12. Equipment, machinery, and vehicle storage, washing, and refueling operations shall be situated in an upland area at a distance greater than 100-feet from jurisdictional areas. All machinery shall be checked daily for leaking fluids.

13. Cleaning of concrete mixing equipment and/or machinery shall be restricted to upland areas at a distance greater than 100 feet to jurisdictional areas, and appropriate discharge control measures shall be implemented, including monitoring of the pH of discharge waters to ensure that the appropriate Massachusetts Surface Water Quality Discharge Standards are met.

14. Dust Control Program: Prior to construction, a dust control program shall be developed and provide to the ACC for its approval. The dust control program shall be implemented as outlined in the ACC-approved program.

15. Unless approved by the Commission for control of invasive species, chemicals, pesticides, herbicides, hazardous materials, etc. shall not be used or stored within 100' of a wetland resource area, with the exception of the use of herbicides as part of the approved Invasive Species Management Plan.

16. Any damage caused as a direct result of this project to any wetland resource areas, on or off site, shall be the responsibility of the applicant to repair, restore and / or replace. Sedimentation or erosion into these areas shall be considered damage to wetland resource areas. If sediment reaches these areas, the Commission and/or its agents shall be contacted and a plan for abatement of the problem and proposed

restoration / mitigation measures shall be submitted for approval and implementation. If the applicant fails to address the failure or damage as required by the Commission in a timely manner, it shall be deemed as a violation under the Regulations.

17. Monitoring by the Environmental Monitor (Applicant's and ACC's), follow-up eradication of invasive species, and any necessary re-plantings as required by this Order shall be continued until a Certificate of Compliance is issued or as otherwise authorized by the ACC or ACC's Agent. The applicant shall provide sufficient funds to ensure this to avoid enforcement action.

IV. AFTER CONSTRUCTION:

1. Upon completion of the project, the applicant shall submit the following to the Amesbury Conservation Commission to Request for a Certificate of Compliance (COC):
 - a. WPA Form 8A- Request for a Certificate of Compliance;
 - b. A letter from the applicant requesting the Certificate of Compliance with the following information included:
 - i. Name and address of current landowner;
 - ii. The name and address of the individual or other entity to whom the COC is to be issued;
 - iii. The street address and lot number for the project; and DEP file #
 - iv. "As-Built" plans prepared, sign, and stamped by a Registered Professional Civil Engineer (and / or Registered Professional Land Survey) of the Commonwealth, for public record.
2. Erosion control devices shall remain in place and functioning properly until all exposed soils have been stabilized with final vegetative cover and the ACC and/or its Agent has authorized their removal.
3. The Applicant's Environmental Monitor shall also provide a full review of the as-built plans and provide comments and recommendations in support of a Request for Certificate of Compliance and the subsequent issuance of a Certificate of Compliance by the Amesbury Conservation Commission. Deviations, both authorized and unauthorized, shall be fully documented. Unauthorized deviations from the approved plan may result in additional mitigation measures imposed on the applicant by the ACC and/or enforcement action with possible fines. At the ACC's discretion, the ACC may have the Request for Certificate of Compliance reviewed by the

Commission's Environmental Monitor, at the applicant's expense.

4. Prior to issue of Certificate of Compliance, the applicant shall be required to pay in full any outstanding invoices from the Commission's Environmental Monitor.
5. The applicant shall make request for Certificate of Compliance as provided for under Section 7.12 of the Amesbury Wetlands Regulations, as amended.

V. PERPETUAL CONDITIONS:

The following conditions are ongoing and do not expire with the issuance of the Certificate of Compliance – except as the ACC may otherwise specify in its Certificate of Compliance:

1. The drainage easements on individual lots shall not be obstructed by any structure and shall always be available for maintenance and repair. This condition shall be noted on individual property Deed.
2. The management contract between the owner and the site management company shall provide that the dumping of leaves, grass clippings and/or brush is prohibited in buffer zones and in wetland areas, both on and offsite, into perpetuity.
3. There shall be no storage of soils, material or equipment between the erosion control barriers and the applicable resource area during construction. Equipment refueling shall occur outside the 100-foot buffer zone and/or on impervious surfaces.
4. The site management agreement between the owner and the site manager shall provide that no chemical herbicides, pesticides, non-organic fertilizers or road deicers are to be used within ACC jurisdictional areas on the property, including both open space and developed areas, at any time now or in the future and that any contractors providing maintenance services to the site shall be advised of the requirement. The site management agreement may permit the use of chemical deicers, such as low salt/sand mix or calcium chloride, in the areas shown on the as-built plans that are outside of the jurisdictional areas.
5. Fertilizers utilized for landscaping and lawn care within ACC jurisdictional areas shall be slow release, low-nitrogen types (<5%), and shall not be used within 25-feet of a resource area. Unless approved by the Commission for control of invasive species, pesticides and herbicides shall not be used within 100-feet of a wetland resource area. This condition shall survive the Order of Conditions and shall run with the title of the property and noted in the Deed.
6. If pets are allowed by the site manager, management must provide receptacles for the disposal of pet waste and arrange to have the receptacles emptied in accordance with sanitary codes.
7. It is the responsibility of the property owner to maintain the stormwater management systems as specified in the Operation and Maintenance Plan to ensure that they

function properly. This condition shall exist in perpetuity and shall be recorded as such in the Certificate of Compliance. On the sale or change of hands of the property, the applicant shall provide the new owner with a copy of the Operation and Maintenance Plan. At each subsequent sale of the property, the then current owner shall provide a copy of the Operation and Maintenance Plan to the new owner. A copy of the new owner's acknowledgement of receipt of the Operation and Maintenance Plan shall be sent to the ACC. This condition shall exist in perpetuity and shall be recorded as such in the Certificate of Compliance.

8. The applicant shall comply with all requirements of the Operation and Maintenance Plan filed with the Order of Conditions. The applicant shall maintain and repair all components of the stormwater management system to ensure that the design capacity, the stormwater treatment and pollution abatement capacity, and structural integrity of these facilities are maintained. The applicant shall maintain all stabilized surfaces as designed including maintenance and repair of pavement and maintenance of landscaped areas maintaining a vigorous growth of all plant materials. Catch basins and stormwater treatment units shall be inspected and cleaned and roadways, driveways and sidewalks shall be swept at intervals specified in the Operation and Maintenance Plan (O&M Plan). Snow shall be plowed onto designated areas to encourage infiltration during subsequent thawing periods. Sediments shall be removed from snow storage areas by April 4 of each year. Accumulated sediments shall be removed from sumps and floatable wastes shall be removed from the surface of every catch basin at intervals specified in the operation plan. All drainpipes shall be inspected, and sediment and debris removed at intervals specified in the O&M Plan. All drainpipes shall be inspected, and sediment and debris removed at intervals specified in the O&M Plan. Sediments and wastes shall be disposed of in accordance with all applicable federal, state, and local laws. The subsurface infiltration structures shall be inspected and cleaned at intervals specified in the O&M Plan.

Appendix

Approved Work

Description and Plans

PROJECT DESCRIPTION

Background

The Amesbury Sports Park (ASP) purchased by Amesbury Sports Ventures; LLC in September 2019 will be amalgamated with the Maples Crossing project on the abutting 24 South Hunt Road parcel. Master Planning performed in coordination with the City and State agencies introduces a reuse planning of land assets.

Approvals at the ASP allow the proponent (Developer/Agent - Global Property Developers Corp), to construct the Maples Crossing Sports Complex (formerly The Atlantic Sports Center) that include two buildings and associated infrastructure. The development uses are intended to be mixed uses, including but not limited to, sports, ice rinks, viewing and restaurant areas, commerce, hospitality, wellness and associated uses. The City, working through the Mayor's office and it's CDEC, with this applicant, are preparing the parcel and its development as a piece of Maples Crossing and in support of the second South Hunt MA works grant for development associated for it.

Amesbury Sports Park (ASP) will now connect to and become part of the Maples Crossing campus. The properties provide the applicant a 72+ acre campus to facilitate the growth of youth sports, including outdoor sports across a now consolidated campus within shared facilities. The attached design furthers the infrastructure design and provides for additional access and egress from the east. The proposal by the proponent will modify the existing site to accommodate an additional entrance. This Eastern Entrance does include some wetland considerations, which is the subject of this submittal.

Site Description

The ASP parcels were acquired in September by the applicant under the Amesbury Sports Ventures, LLC name. The property is made up of two parcels located on Assessors Map 97 (Parcels 4 and 5) and account for approximately 22+ acres of land.

The ASP parcel has served the Amesbury area and region for outdoor recreation in the form of Tubing and Athletic fields with Restaurant and Entertainment for many decades. Uses are generally parsed as approximately ½ of the site with athletics & building (on it's northern side), while the southern half of the site is occupied by a now non-active snow tubing hill and forested area.

The grade rises from approximately elevation 100 in the north at the field location and then rises up the hill to elevation 230 on the south. The site is bound by South Hunt Road to the north, includes a forested area to the south, and is abutted by the City and Eastern Propane to the east and the forested area



owned by the City known as (Margaret Rice) to the South. Maples Crossing borders the property to the west as does a commercial building owned by Peter Hosmer. The site is predominantly developed with active outdoor recreation and entertainment amenities. The only exception is the far southern edge (top of the hill) which is currently forested.

The Merrimack River is to the south of the site and Lake Attitash to the North, but neither is within ½ mile from the site. There are bordering vegetated wetlands (BVW) along the eastern side of the site that drain north and terminate through a culvert under South Hunt Road. There is also a small drainage easement on the northwestern property line.

Scope of Work

The proposed site re-development is to include the construction of an Eastern Entrance to the MC property. Entrance road site grades will require site elevations to be altered so that the roadway can meet acceptable slope requirements under the current PB road regulations. Re-grading of the property and much of the existing exterior use areas will require adjustments and therefore need to be modified or altered. The work will impact the Northeast and Northwest corners of the property, where identified wetland conditions exist.

The scope of Conservation Commission jurisdiction, as it is related to the work, will include the following:

- Construction of the main access roadway to the site. The roadway will connect to South Hunt Road and will be located on the western portion of the ASP parcel. The road will travel southbound across the site, and traverse the elevation change, as depicted on the plans, and connect to the east side of MC property.
- Installation of an underground storm water system, utilizing commercial chambers, which will be located below the moved field location to the east and adjacent to the wetlands and current parking area to the north.
- *Installation of a synthetic turf field above the stormwater system.*
- *Installation of an air supported structure above the turf field location.*
- Creation of a Wetland Replication Area.
- Except for the primary building and associated utilities, the project will be inclusive of demolition, removal and redevelopment of all associated structures and features noted on the site, including but not limited to fields, parking, utilities, and other structures.
- Re-grading of the site areas as needed to meet proposed grades that accommodate construction of new roadway system.

Environmental Considerations

Buffer Zone Impacts:

Work will be conducted within 100' Buffer zones to Bordering vegetated wetlands along the northwest and the eastern property lines. Existing Development exists within much of the buffer zone on this property. It is previously developed with paved internal roadways and a parking lot system. The intent is to utilize much of these existing disturbed areas as much as possible while providing improvements, especially from a storm water perspective, over existing conditions.

The gravel and paved parking lot located within 10 feet of the eastern wetlands will be removed and replaced with a **synthetic turf field with full drainage system**. Current drainage and grading is subject to failed public storm water systems below South Hunt Road, minimizing relief from the area. The development in association with the City will allow much of this impervious area to drain. Current conditions allow water shed to directly run into the wetland.

The proposed plan calls for upgrades to the existing conditions and the full capture and treatment of site storm water so that the site will meet the Massachusetts Stormwater Standards, as described in Appendix B – Stormwater Report.

Bordering Vegetated Wetland Impacts:

Based on the proposed design, work will occur within a small wetland located to the northwest. Due to drainage basin extension coming off the abutting property to the west, the proposed design will acknowledge the necessity to fill a small area, defined as BVW. This drainage area has been flagged as a BVW as it contains wetland species. However, it exists because drainage from the abutting property drains onto the ASP site and encounters a restriction from the drainage pipe under South Hunt Road. This pipe is clogged and restricts the flow from leaving the site and draining to the north. The DPW has acknowledged this, and it has resulted in a small BVW being created as water collects here.

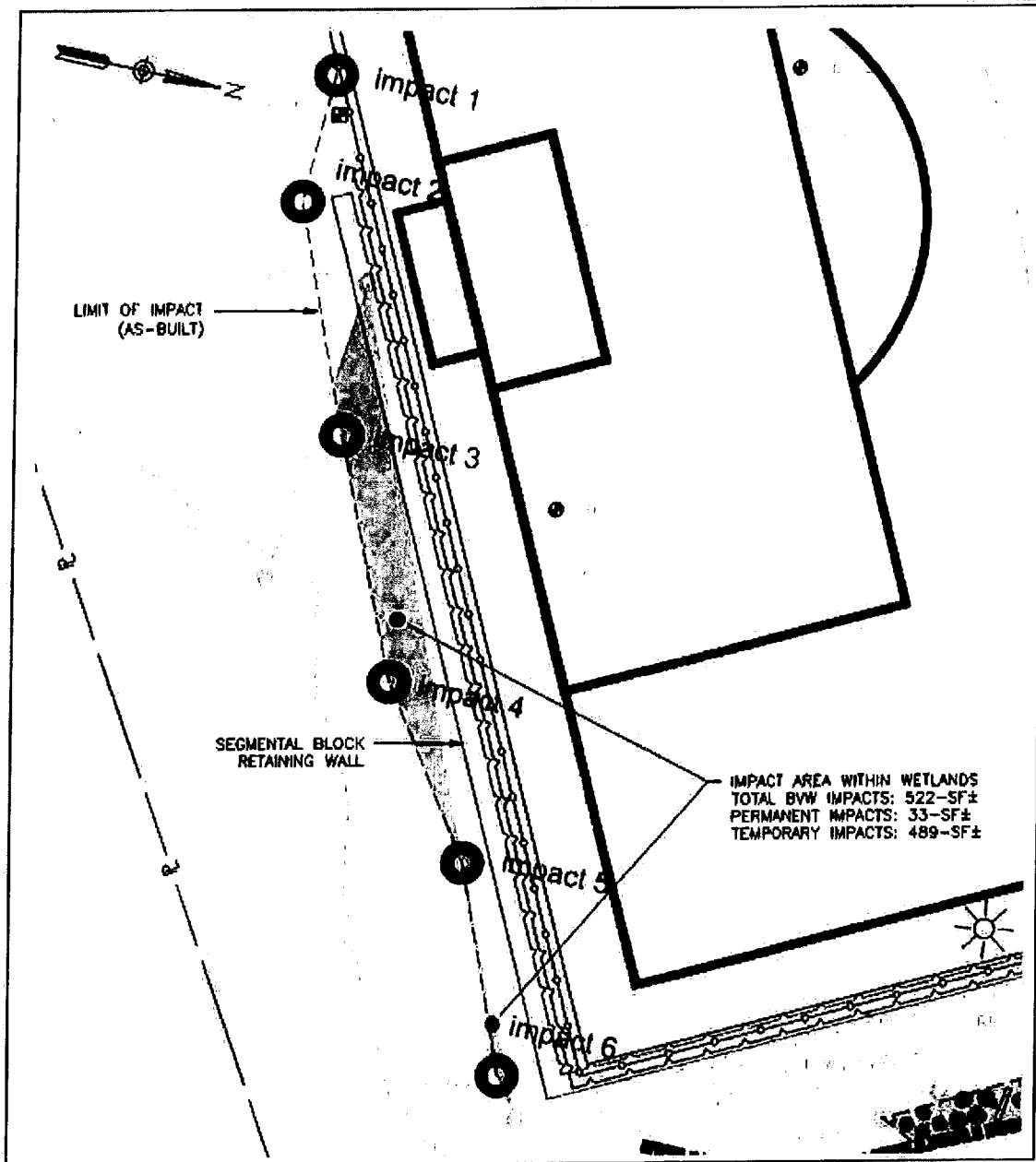
Based on existing property lines and required roadway grades, the entrance to the proposed roadway must be located at this location, so that the design can maintain sensitive and appropriate elevation planning for road grades to align with the top of the site. The proposed roadway requires the filling of approximately 1,034 square feet (sf) of permanent impacts. A waiver for this fill is provided to the conservation commission as part of this NOI filing.

The wetland impact area will be replicated on site, to the east side of the property adjacent to the eastern wetlands, near the field re-location site. In addition, the drainage structures in the northwest are proposed to be fixed and will be redesigned to ensure proper flow to the existing City of Amesbury drainage pipe in South Hunt Road, as part of the MA works grant project managed by the Mayor's DCED and DPW, which is separate, but coordinated.

The proposed ASP replication area will be located adjacent to an existing wetland resource area. Additional functions and benefits will be added that are currently not present at the impacted area; they include improved foraging habitat, additional flood control and improved ecology based on the diversity of the replication area plantings. Per the Amesbury Wetland Protection Ordinance, the wetland replacement ratio is 2:1 (replacement: lost), therefore 2,100 square feet (SF) of area is being proposed for replication. Please refer to the Technical Specification "02677 - Wetland's Protection and Replication" found in Appendix D, the Wetlands Replication and Monitoring Plans in Appendix G, and the Project Plans – Sheet C203 in Appendix H for additional information on wetland replication.

UPDATE: In addition to this impact a small section of Bordering Vegetated Wetland (BVW) was impacted during the construction of a portion of this project. This impact was realized

during the installation of the retaining wall along the eastern portion of the site. We have updated our waiver request and the plans to include this area. Essentially the location of the wall impacted 33 SF of BVW that will be replicated as part of the previously approved replication area. Additionally, 489 SF of BVW adjacent to the wall were temporarily impacted during the installation. This area will be restored in place by grading and reseedling the altered area.



We believe our plan meets all performance standards for work within a BVW as outlined in 310 CMR 10.55 (4)(b-e):.

(b) the issuing authority may issue an Order of Conditions permitting work which results in the loss of up to 5000 square feet of Bordering Vegetated Wetland when said area is replaced in accordance with the following general conditions and any additional, specific conditions the issuing authority deems necessary to ensure that the replacement area will function in a manner similar to the area that will be lost:

1. the surface of the replacement area to be created ("the replacement area") shall be equal to that of the area that will be lost ("the lost area");

The proposed replacement area is twice the size of the lost area 2,166 SF:1,070 SF

2. the ground water and surface elevation of the replacement area shall be approximately equal to that of the lost area;

Both lost and replaced area exist around elevations 98'-100'

3. The overall horizontal configuration and location of the replacement area with respect to the bank shall be similar to that of the lost area;

The lost area is a small depression that errantly acts as a drainage swale for the abutting property as well as the eastern most fringe of the BVW. In addition to creating the 2:1 replication rate, the replacement area will also function as bank to an existing wetland complex that does not have one. The proposed replication area will create approximately 400' linear feet of bank.

4. the replacement area shall have an unrestricted hydraulic connection to the same water body or waterway associated with the lost area;

Both wetland areas hydraulically drain to the north under South Hunt Road to a larger wetland complex.

5. the replacement area shall be located within the same general area of the water body or reach of the waterway as the lost area;

The lost area is a drainage area and is not technically on a waterway. It is separated by drainage pipes and roadway systems. Both lost and replaced areas ultimately flow through a similar designed drainage program and utilize the same type of drainage structures connected to the same waterway. The 33 SF of impact caused during construction is part of the same wetland complex where the replication is occurring.

6. at least 75% of the surface of the replacement area shall be reestablished with indigenous wetland plant species within two growing seasons, and prior to said vegetative reestablishment any exposed soil in the replacement area shall be temporarily stabilized to prevent erosion in accordance with standard U.S. Soil Conservation Service methods; and

The proposed plan and specification and plan calls for "at least 75%" of the surface area to be covered with indigenous wetland plant species within two growing seasons. We have provided a monitoring plan to confirm this.

7. the replacement area shall be provided in a manner which is consistent with all other General Performance Standards for each resource area in Part III of 310 CMR 10.00. In the exercise of this discretion, the issuing authority shall consider the magnitude of the alteration and the significance of the project site to the interests identified in M.G.L. c. 131, § 40, the extent to which adverse impacts can be avoided, the extent to which adverse impacts are minimized, and the extent to which mitigation measures, including replication or restoration, are provided to contribute to the protection of the interests identified in M.G.L. c. 131, § 40.

(c) Notwithstanding the provisions of 310 CMR 10.55(4)(a), the issuing authority may issue an Order of Conditions permitting work which results in the loss of a portion of Bordering Vegetated Wetland when;

- 1. said portion has a surface area less than 500 square feet;*
- 2. said portion extends in a distinct linear configuration ("finger-like") into adjacent uplands; and*
- 3. in the judgment of the issuing authority it is not reasonable to scale down, redesign or otherwise change the proposed work so that it could be completed without loss of said wetland.*

NOT APPLICABLE: We are proposing Replication of the lost 1,070 SF with 2:1 replication of 2,166 SF.

(d) Notwithstanding the provisions of 310 CMR 10.55(4)(a),(b) and (c), no project may be permitted which will have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species, as identified by procedures established under 310 CMR 10.59.

NOT APPLICABLE: There are no specified habitat sites of rare vertebrate or invertebrate species on site.

(e) Any proposed work shall not destroy or otherwise impair any portion of a Bordering Vegetated Wetland that is within an Area of Critical Environmental Concern designated by the Secretary of Energy and Environmental Affairs under M.G.L. c. 21A, § 2(7) and 301 CMR 12.00: Areas of Critical Environmental Concern. 310 CMR 10.55(4)(e):

NOT APPLICABLE: There are no ACECs on site.

Erosion and Sedimentation Controls:

Before ground clearing activities commence, erosion controls will be installed to minimize sediment migration from the work area to resource areas. These erosion controls will include, at a minimum, compost filter tubes, siltation fence, anti-tracking pad, catch basin

filter sacks and temporary sedimentation basins. Please see Sheet CD-101 for location of erosion and sedimentation controls.

\\wse03.local\WSE\Projects\Private\Global Property Developers Corporation\Hunt Road Adjacent Parcel - Global Property Developers\Permitting\Amesbury Sports Park 7.13.20\NOI\Appendix A - Project Description\PROJECT DESCRIPTION 2020_07_08 (002).doc

SECTION 02677

WETLANDS PROTECTION AND REPLICATION

PART 1 - GENERAL

1.01 WORK INCLUDED:

This section consists of providing all plants, labor, equipment, materials, tools, and required professional services in connection with the protection, replication, and provision of specific mitigation measures to minimize and compensate for impacts to existing wetland areas.

1.02 QUALITY ASSURANCE:

- A. This Contract requires construction adjacent to environmentally sensitive resource areas including vegetated wetlands. The Wetlands Protection Act ("Act") G.L. Chapter 131 Sec. 40 governs work in these areas and the Contractor shall be required to comply with this and all other applicable Federal, State and local statutes, regulations, and ordinances, and with the Order of Conditions issued by the Conservation Commission.
- B. The Contract Drawings show the extent of the Vegetated Wetlands (VW) and Buffer Zone (BZ). Work within the BWV or BZ shall also comply with the requirements of this section.

PART 2 - PRODUCTS

2.01 HYDRIC SOILS:

- A. Hydric soils would need to be purchased and transplanted on site and consist of a loam and organic mixture. The soils will be made up of equal volumes of organic and mineral content. The following shall be true:
 - 1. Loam shall be a natural, fertile, friable soil, typical of productive soils in the vicinity. Loam shall be free of admixture of subsoil and foreign matter or objects (gravel, roots, debris) larger than 2-inches in diameter.
 - 2. Loam shall be uncontaminated and free of toxic substances or any materials harmful to plant growth, regeneration or reproduction. The pH of the loam shall range between 6.0 and 8.0.
 - 3. Peat (if used) shall be supplied from an authorized peat supplier or nursery. Peat shall have an organic content ranging from 75 to 100%. Peat shall be uncontaminated and free of toxic substances or any materials harmful to plant growth, regeneration or reproduction.
 - 4. The loam and organic mixture shall be mixed onsite to achieve a 5% organic carbon content. This will be determined through laboratory analysis or organic content by

the loss of weight by ignition of oven-dried samples. Test samples shall be oven-dried to a constant weight at a temperature of 230 degrees F. The final pH of the loam-peat mixture shall range from 5.8 to 8.0.

2.02 MULCH:

- A. Straw Mulch - Straw mulch shall consist of stalks or stems of grain after threshing.
- B. Wood Fiber Mulch - Wood fiber mulch shall consist of wood fiber produced from clean, whole, uncooked wood, formed into resilient bundles having a high degree of internal friction and shall be dry when delivered to the project.

2.03 PROPAGULES:

- A. The wetlands restoration and enhancement areas shall be vegetated with indigenous wetlands shrubs, and emergent species. Individual species to be planted are indicated on the final design plans.
- B. Propagules shall be nursery or plantation stock and shall be supplied from a bonded source. Nursery stock shall conform to the requirements and recommendations of American National Standards Institute (ANSI) Z60.1.
- C. Plants, propagules or cultivars other than those listed in this section will not be accepted unless specifically approved by the wetlands restoration specialist.
- D. Propagules shall be dug and prepared for shipment in a manner that will not cause significant damage to branches, roots, shape and future growth and development after planting.
- E. Balled and burlapped plants shall have ball sizes and ratios conforming to ANSI Z60.1. Plants shall be balled with firm, natural balls of soil. Balled and burlapped plants shall be wrapped firmly with burlap, strong cloth, or plastic and tied.
- F. Planting stock shall be well-branched and well-formed, sound, vigorous, healthy, and free from disease, sun-scald, windburn, abrasion and harmful insect eggs and shall have healthy normal and unbroken root systems.
- G. Plants shall have been grown under climactic conditions similar to those in the vicinity of the site, specifically New England. Plants budding into leaf or having soft growth shall be sprayed with an antidesiccant at the nursery prior to delivery.
- H. Emergent propagules shall be rootstock.
- I. The following Shrub Species and volumes shall be used at this site: Shrubs - Winterberry (*Ilex verticillata*) – 14, Highbush blueberry (*Vaccinium angustifolium*) – 14, Spicebush (*Lindera benzoin*) – 10

- J. The following Emergent Plant species and volumes shall be used at this site: Cinnamon fern (*Osmunda cinnamomea*) – 42, Sensitive fern (*Onoclea sensibilis*) – 42, Royal fern (*Osmunda regalis*) - 28

2.04 HYDROSEED:

- A. Hydroseed shall be supplied by an authorized hydroseed contractor. The Hydroseed mixture shall include annual grasses and seed stock from *Juncus spp.* and *Carex spp.* The wetlands restoration specialist shall approve the final hydroseed mixture.
- B. Wetland Seed Mix - WETMIX (New England Wetland Plants, Inc.) shall be used within the wetland restoration area. Species in this mix include: Fox Sedge (*Carex vulpinoidea*), Lurid Sedge (*Carex lurida*), Blunt Broom Sedge (*Carex scoparia*), Blue Vervain (*Verbena hastata*), Fowl Bluegrass (*Poa palustris*), Hop Sedge (*Carex lupulina*), Green Bulrush (*Scirpus atrovirens*), Creeping Spike Rush (*Eleocharis palustris*), Fringed Sedge (*Carex crinita*), Soft Rush (*Juncus effusus*), Spotted Joe Pye Weed (*Eupatorium maculatum*), Rattlesnake Grass (*Glyceria canadensis*), Swamp aster (*Aster puniceus*), Blueflag (*Iris versicolor*), Swamp Milkweed (*Asclepias incarnata*), Square stemmed Monkey Flower (*Mimulus ringens*).
- C. New England Erosion Control/ Restoration Mix for Dry Sites (New England Wetland Plants, Inc.) shall be used on the slopes surrounding the replication area. Species in this mix include: Red Fescue (*Festuca rubra*), Canada Wild Rye (*Elymus canadensis*), Annual Ryegrass (*Lolium multiflorum*), Perennial Ryegrass (*Lolium perenne*), Little Bluestem (*Schizachyrium scoparium*), Indian Grass (*Sorghastrum nutans*), Switch Grass (*Panicum virgatum*), Upland Bentgrass (*Agrostis perennans*).
- D. Hydroseeded areas shall be seeded at a rate of 2 pounds per 5,000 sf. Hydroseed application shall be conducted between 15 April and 15 June or 15 September to 30 October, or as recommended by the hydroseed contractor.

2.05 WATER:

Water shall not contain elements toxic to plant life.

PART 3 - EXECUTION

3.01 GENERAL:

- A. Once the replication area has been excavated, backfilling of the excavation with wetland soil can occur. Prior to the spreading of the wetland soil, the subsoil within the replication area shall be inspected and approved by the Engineer. The elevation and slope of the backfilled subgrade are critical elements in assuring proper replacement of wetlands soils and the function of the wetland. When backfilled, elevation and slopes of backfilled areas shall be consistent with the Contract Drawings minus 1-foot to allow for replacement of hydric soils.

- B. Hydric soils, once deposited onsite, shall be placed in the replication area within days of placement on site. If this is not possible, they hydric soils stockpile shall be watered to prevent the drying out of these soils.
- C. Hydric soils shall be deposited to a minimum depth of twelve (12) inches and deposited so as to minimize travel and subsequent compression of the underlying material and the replaced wetland topsoil. Hydric soils shall be provided by a licensed nursery.
- D. Upon completion of final grading, the surface of the hydric soil shall be shallowly harrowed (depth 3-inches), prior to planting. The final grading of the replacement wetlands topsoil shall be completed so as to result in no discontinuities in elevation upon removal of any siltation barrier or erosion control materials.
- E. All plant materials dug for this purpose shall be dug by hand, hydraulic tree spade specifically designed for this purpose or other suitable equipment of sufficient size to remove an adequate rootball.
- F. All shrub mixtures shall be planted randomly as indicated on the plan. Shrub mixtures shall be planted in groups to create clusters, under the direction of the wetlands restoration specialist. Shrub size will be a minimum of 24" spread.
- G. Emergent plantings shall be planted by hand in random locations under the direction of the wetlands restoration specialist in locations designated by the plan. Plantings shall be placed in groups to create clusters. Emergent plantings will come in 6" – 12" pot nursery stock, or larger.
- H. American Association of Nurserymen, Inc., American Standard for Nursery Stock (latest edition) for each species. For hand dug plants, a suitable burlap or other wrap or container shall be provided to keep the rootball intact.
- H. In order to protect the wetlands from siltation caused by excavation in the replication area, a continuous line of staked compost filter tubes shall be placed as detailed in the Contract Drawings.

3.02 VEGETATED WETLANDS (VW) SOILS:

- A. Wetlands topsoil shall be deposited to a minimum depth of twelve (12) inches. Wetlands topsoil shall be deposited so as to minimize travel and subsequent compression of the underlying material and the replaced wetland topsoil. Replacement wetlands topsoil shall be provided by a licensed nursery and shall be similar in composition, texture, fertility, and as described in Section 2.01 Hydric Soils. The final grading of the replacement wetlands topsoil shall be completed so as to result in no discontinuities in elevation upon removal of any siltation barrier or erosion control materials.
- B. Upon completion of final grading, the surface of the new wetlands topsoil shall be shallowly harrowed (depth 3-inches), prior to planting.

- C. Upon completion of grading, a final condition survey of the wetlands restoration and enhancement areas shall be performed by a licensed surveyor. Elevations shall be checked in numerous random locations, and shall be within 0.1 feet of the final planned surface elevation. Areas that do not meet the 0.1 foot criteria shall be regraded.

3.03 PLANTING SCHEDULE:

- A. Spring planting of shrubs shall occur between 30 April and 15 June. Fall planting shall occur as dormant planting between 15 September and 15 November for shrubs. If special conditions warrant a variance from the above planting schedules or conditions, and if in concurrence with the wetlands restoration specialist, the above dates can be modified only if recommended by the nursery and if all warranties still apply.
- B. Planting and hydroseeding shall not occur when the ground is frozen, snow covered or in an unsuitable condition for planting.
- C. All shrubs and emergent propagules shall be planted in the wetlands restoration areas in accordance with a planting plan and schedule as indicated on the wetland restoration plan.
- D. All balled and burlapped and container grown plants shall be handled and moved only by the root ball or container.
- E. Pits for planting shall be dug to produce vertical sides and flat bottoms. The depth of pits shall be 6-inches deeper than the root ball. The diameter of the pits shall allow a minimum distance between the ball and the sides of the hole of 6-inches for shrubs. The bottom 4-inches of the pit shall be loosened with a shovel prior to planting.
- F. Shrubs shall be set plumb and manually held in position until sufficient soil has been firmly placed around roots or ball. Shrubs shall be set at the same depth at which they were grown in the nursery or container.
- G. Balled and burlapped stock shall be backfilled with soil to approximately half the depth of the ball and watered. Burlap and tying materials shall be carefully removed or folded back at the recommendation of the nursery. Plastic wrap shall be completely removed before placement of backfill. The remainder of backfill shall be tamped and watered.
- H. Emergent plantings shall be planted by hand in random locations under the direction of the wetlands restoration specialist in locations designated by the plan.

3.04 HYDROSEEDING:

Hydroseeded areas shall be seeded at a rate of 2 pounds per 5,000 sf. Hydroseed application shall be conducted between 15 April and 15 June or 15 September to 30 October, or as recommended by the hydroseed contractor.

3.05 MULCH:

Shrubs shall be mulched to a depth of 2-inches around the base of the pit, at the discretion of the wetlands restoration specialist.

3.06 WATERING:

All shrubs shall be watered by flooding the backfilled hole within the same working day of planting. Additional soil shall be added around each plant as required to compensate for settling.

3.09 PLANTING OF WETLANDS VEGETATION IN THE REPLICATION AREA:

- A. Mitigation of the disturbed areas shall require planting with indigenous wetland species. The intent of this Section is to insure that at least 75 percent of the surface area of all replicated wetlands is reestablished with indigenous wetland plant species within two growing seasons of their planting in accordance with the Massachusetts DEP Wetlands Protection Act Regulations. The growing season for wetlands revegetation areas shall be April 15 to October 15. If after 180 growing season days it is evident in the opinion of the Engineer that it is unlikely that the 75 percent reestablishment requirement will be achieved, the Contractor shall supplement the plantings as necessary to achieve the required coverage at no additional cost to the Owner. If at the end of two growing seasons, 75 percent reestablishment has not been achieved, the Contractor shall provide and plant additional new plant material to achieve 75 percent reestablishment at no additional cost to the Owner.
- B. Wetland plantings shall be performed as designated on the wetland replication plan.
- C. On average, for each 75 square feet of replication area, provide and plant a total of 1 shrub. Shrubs will be spaced according to the Contract Plans.
- D. New shrubs shall be balled and burlapped or container grown Nursery Stock.
- E. All planting shall be supervised by a licensed nurseryman, qualified to do this work. At least four weeks prior to any wetland planting, the Contractor shall submit details of proposed planting methods, plant layout, and personnel qualifications for approval by the Engineer.
- F. Warranty and final inspection of all wetland plantings shall be a minimum of one year from the date of preliminary acceptance.

- G. Maintenance shall be provided until final acceptance. Final acceptance shall be obtained as stipulated in the attached Order of Conditions.

3.11 EROSION CONTROL SEEDING FOR WETLANDS:

- A. After wetland soil is respread, no further preparation for seeding is required or allowed. Seed mixture and application rates for this work shall follow the contract plans.
- B. A wetland seed mixture containing a wide variety of seeds native to New England and which do not include any invasive plant species prohibited in the latest edition of the "Performance Guidelines and Supplemental Information on the Checklist for Review of Mitigation Plan", published by the U.S. Army Corps of Engineers New England Division. Application rates shall be two pounds per 5000 square feet. Seed mixes are identified in Section 2.04.
- C. Where required by the Engineer, for reasons of excessive soil moisture, the wetland seed mixture shall be modified by the addition of an approved portion by weight of Winter Rye seed to provide soil stabilization cover in the fall.

3.12 WORK IN THE BUFFER ZONE (BZ):

- A. When any work occurs in the Buffer Zone (BZ) within 100 feet of vegetated wetlands (VW), certain measures, as indicated on the Contract Drawings, shall be taken to protect the integrity of the wetlands.
- B. A siltation barrier consisting of a continuous row of compost filter tubes shall be placed between the VW and the work area to prevent soil materials from entering the VW from the BZ. This siltation barrier shall be inspected and maintained on a daily basis. Compost filter tubes are specified in Section 01570.
- C. In general, storage of equipment or materials in VW or BZ areas shall not be permitted. Storage of oil products or the repairing of vehicles and/or maintenance operations shall not be permitted in the VW or BZ areas. Should the Engineer deem that the Contractor's activities are unnecessarily detrimental to the wetlands, the Engineer reserves the right to order the Contractor to immediately cease all activities on-site until the situation is resolved to the satisfaction of the Engineer.

END OF SECTION

SECTION 01 57 10

ENVIRONMENTAL PROTECTION (Revised 6.29.20)

PART 1 – GENERAL

1.01 DESCRIPTION:

- A. The work covered by this section of the specifications consists of furnishing all labor, materials, tools and equipment and performing all work required for the prevention of environmental pollution during and as a result of construction operations under this contract.
- B. The requirements set forth in this section of the specifications apply to cross-country areas, river and stream crossings, and construction in and adjacent to wetlands, unless otherwise specifically stated.
- C. All work under this Contract shall be in accordance with the Conservation Commissions' Orders of Conditions as well as any conditional requirements applied, attached hereto.
- D. Prior to commencement of work, the Contractor shall meet with representatives of the Engineer to develop mutual understandings relative to compliance of the environmental protection program.
- E. All work will be done in accordance with the Requirements of all Planning Board and Conservation Commission approvals, the Stormwater Pollution Prevention Plan (SWPPP), and the Construction General Permit.

1.03 SUBMITTALS:

- A. The Contractor shall submit details and literature fully describing environmental protection methods to be employed in carrying out construction activities within 100 feet of wetlands or across areas designated as wetlands.

PART 2 - PRODUCTS

2.01 SILT FENCE:

- A. The silt fence shall consist of a 3-foot wide continuous length sediment control fabric, stitched to a mesh backing, and stapled to preweathered oak posts installed as shown on the drawings. The oak posts shall be 1-1/4-inches by 1-

- 1/4-inches (Minimum Dimension) by 48-inches and shall be tapered. The bottom edge of the silt fence shall be buried as shown on the drawings.
- B. Where indicated on the drawings or where required by the Engineer, the Contractor shall erect and maintain a temporary silt fence. In areas designated as wetlands, the Contractor shall line the limits of the construction easement with a silt fence. The silt fence shall be used specifically to contain sediment from runoff water and to minimize environmental damage caused by construction.
 - C. The silt fence shall be DOT Silt Fence PPDM3611, as manufactured by U.S. Silt & Site Supply/Getsco, Concord, NH, or approved equal.
 - D. Silt fence properties:

Physical Properties	Test Method	Minimum Value
Grab Strength, lbs.	ASTM-D-4632	124
Grab Elongation, %	ASTM-D-4632	15
Mullen burst, psi	ASTM-D-3786	300
Puncture, lbs.	ASTM-D-4833	65
Trapezoidal Tear, lbs.	ASTM-D-4533	65
UV Resistance ² , %3	ASTM-D-4355	80@500 hrs.
AOS, US Sieve No.	ASTM-D-4751	30
Flow Rate, gal/min/sq ft	ASTM-D-4491	10
Permittivity, (1/sec)gal/min/sq ft	ASTM-D-4491	0.05 sec ⁻¹

2.02 STRAW BALES:

- A. To trap sediment and to prevent sediment from clogging drainage systems, baled straw shall be used where shown on the drawings. Care shall be taken to keep the bales from breaking apart. The bales should be securely staked to prevent overturning, flotation, or displacement. All deposited sediment shall be removed periodically. Straw bales shall not be placed within a waterway during construction of the pipeline crossing.
- B. Straw bales shall consist of certified seed free stems of agricultural grain and cereal crops and shall be free of grasses and legumes. Standard bales shall be 14-inches high, 18- inches wide and 36- to 40-inches long tied with polypropylene twine and weigh within 5 percent of 7 lbs. per cubic ft.

2.03 STRAW WATTLES:

- A. The wattles will be placed in a shallow trench (2-3 inches deep) and staked in the ground using wooden stakes driven at 4-foot intervals. The wooden stakes will be placed at a minimum depth of 24-inches into the ground. Straw Wattles shall consist of a 100% biodegradable exterior jute or coir netting with 100% wheat

straw interior filling as manufactured by GEI Works, Sebastian, Florida (Phone: 772-646-0597; website: www.erosionpollution.com), or approved equal.

- B. The wattles shall be regularly inspected and before and after every forecasted major weather event. All deposited sediment shall be removed and not allowed to accumulate to the top of the wattles. Wattles damaged during construction shall be repaired or replaced as required by the Engineer at no additional cost to the Owner.
- C. The Contractor shall remove all wattles after construction is completed.

2.05 CATCH BASIN PROTECTION:

- A. To trap sediment and to prevent sediment from clogging drainage systems, catch basin protection in the form of a siltation sack (Silt sack as manufactured by ACF Environmental, Inc. or approved equal) shall be provided as approved by the Engineer.
- B. Catch basin protection shall be used for every catch basin, shown on the plans or as required by the Engineer, to trap sediment and prevent it from clogging drainage systems and entering wetlands. Siltation sack shall be securely installed under the catch basin grate. Care shall be taken to keep the siltation sack from breaking apart or clogging. All deposited sediment shall be removed periodically and at times prior to predicted precipitation to allow free drainage flow. Prior to working in areas where catch basins are to be protected, each catch

basin sump shall be cleaned of all debris and protected. The Contractor shall properly dispose of all debris at no additional cost to the Owner.

- C. All catch basin protection shall be removed by the Contractor after construction is complete.

2.06 COIR FASCINE/COMPOST FILTER TUBES

- A. Coir fascine logs shall be as manufactured by New England Wetland Plants, Inc. or approved equal. Installation shall be performed as required by the supplier.

2.07 EROSION CONTROL BLANKET

- A. Erosion Control Blankets will be used to cover bare or newly planted soil with moderate slopes. Their use stabilizes the soil to protect new seed and plantings and reduces sediment during storm water run-off events.
- B. Blankets will be made of the following, either:
 - a. 100% agricultural straw fibers sewn to a biodegradable weaved jute net on one side. Suitable for slopes 3:1 or less, for low-flow to moderate-flow runoff conditions.
 - b. 100% agricultural straw fibers sewn to a biodegradable weave jute net on both top and bottom. Suitable for slopes 2:1 or less and low to medium flow channels.

2.08 DIVERSION SWALE

- A. Diversion swales will be designed based on site topography and identified on the plans. The swales will be built as depressions in the proposed topography that

will drain stormwater from disturbed areas to the proposed temporary sediment basins.

2.09 CHECK DAMS

- A. Check Dams will be utilized in diversion swales, as necessary. Check dams will be utilized to control stormwater runoff, prevent erosion, trap sediment, and prevent it from passing through the dam.
- B. Check dams will be constructed of either rocks or stones or coir fascines or fiber rolls.

2.10 SEDIMENT BASIN

- A. Temporary Sediment Basins will be constructed and sized as shown on the plans. The contractor will excavate the area, as required in order to meet the required storage volumes.
- B. Basins will be designed to overflow at a designated low point.

PART 3- EXECUTION

3.01 NOTIFICATION AND STOPPAGE OF WORK:

- A. The Engineer will notify the Contractor in writing of any non-compliance with the provisions of the Order of Conditions. The Contractor shall, after receipt of such notice, immediately take corrective action. Such notice, when delivered to the Contractor or his authorized representative at the site of the work, shall be deemed sufficient for the purpose. If the Contractor fails to act promptly, the Owner may order stoppage of all or part of the work through the Engineer until satisfactory corrective action has been taken. No claim for an extension of time or for excess costs or damage incurred by the Contractor as a result of time lost due to any stop work orders shall be made unless it was later determined that the Contractor was in compliance.

3.02 AREA OF CONSTRUCTION ACTIVITY:

- A. Insofar as possible, the Contractor shall confine his construction activities to those areas defined by the plans and specifications. All land resources within the project boundaries and outside the limits of permanent work performed under this contract shall be preserved in their present condition or be restored to a

condition after completion of construction at least equal to that which existed prior to work under this contract.

- B. The contractor will periodically clean any and all sediment off of any public right of way (as needed). It is anticipated that this will occur at a minimum weekly, if not more frequent, depending on traffic and amount of build up the public right of way.

3.03 PROTECTION OF WATER RESOURCES:

- A. The Contractor shall not pollute streams, lakes or reservoirs with fuels, oils, bitumens, calcium chloride, acids or other harmful materials. It is the Contractor's responsibility to comply with all applicable Federal, State, County and Municipal laws regarding pollution of rivers and streams.
- B. Erosion and sedimentation control measures, as shown on the plans, will be installed and inspected prior to any work commencing on site.
- C. Special measures should be taken to insure against spillage of any pollutants into public waters.

3.04 CONSTRUCTION IN AREAS DESIGNATED AS WETLANDS ON THE DRAWINGS:

- A. Insofar as possible, the Contractor shall make every effort to minimize disturbance within areas designated as wetlands or within 100-feet of wetland resource areas. Total easement widths shall be limited to the widths shown.
- B. The Contractor shall perform his work in such a way that these areas are left in the condition existing prior to construction.

3.05 PROTECTING AND MINIMIZING EXPOSED AREAS:

- A. The Contractor shall limit the area of land which is exposed and free from vegetation during construction. In areas where the period of exposure will be greater than two (2) months, temporary vegetation, mulching or other protective measures shall be provided as specified.
- B. The Contractor shall take account of the conditions of the soil where temporary cover crop will be used to insure that materials used for temporary vegetation are

adaptive to the sediment control. Materials to be used for temporary vegetation shall be approved by the Engineer.

3.06 LOCATION OF STORAGE AREAS:

- A. The location of the Contractor's storage areas for equipment and/or materials shall be upon cleared portions of the job site or areas to be cleared as a part of this project, and shall require written approval of the Engineer. Plans showing storage facilities for equipment and materials shall be submitted for approval of the Engineer.
- B. No excavated materials or materials used in backfill operations shall be deposited within a minimum distance of one hundred (100) feet of any watercourse or any drainage facility. Adequate measures for erosion and sediment control such as the placement of baled straw around the downstream perimeter of stockpiles shall be employed to protect any downstream areas from siltation.
- C. There shall be no storage of equipment or materials in areas designated as wetlands.
- D. The Engineer may designate a particular area or areas where the Contractor may store materials used in his operations.

3.07 CLEARING AND GRUBBING:

- A. The Contractor shall clear and grub only on the Owner's land or the Owner's easements, and only the area as shown on the plans as approved by the Planning Board and Conservation Commission and as approved by the Engineer.

3.08 DISCHARGE OF DEWATERING OPERATIONS:

- A. Any water that is pumped and discharged from a trench and/or excavation as part of the Contractor's water handling shall be filtered by an approved method prior to its discharge into a receiving water or drainage system.
- B. Under no circumstances shall the Contractor discharge water directly to the areas designated as wetlands.
- C. The pumped water shall be filtered through filter fabric and baled hay, a vegetative filter strip or a vegetated channel to trap sediment occurring as a result of the construction operations. The vegetated channel shall be constructed such

that the discharge flow rate shall not exceed a velocity of more than 1 foot per second. Accumulated sediment shall be cleared from the channel periodically.

3.09 DUST CONTROL:

- A. During the progress of the work, the Contractor shall conduct his operations and maintain the area of his activities, including sweeping and sprinkling of streets as necessary, to minimize creation and dispersion of dust. If the Engineer decides it is necessary to use calcium chloride for more effective dust control, the Contractor shall furnish and spread the material, as directed. Calcium chloride shall be as specified under Section 01 14 19.16, DUST CONTROL.
- B. Calcium Chloride shall not be used for dust control within a drainage basin or in the vicinity of any source of potable water.

3.10 SEPARATION AND REPLACEMENT OF TOPSOIL:

- A. Topsoil shall be carefully removed from vegetated areas where excavations are to be made, and separately stored to be used again as required. The topsoil shall be stored in an area acceptable to the Engineer and adequate measures shall be employed to prevent erosion of said material.

END OF SECTION

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SECTION 31 00 00

EARTHWORK (Revised 6.30.20)

PART 1 – GENERAL

1.01 GENERAL PROVISIONS:

- A. Attention is directed to the CONTRACT AND GENERAL CONDITIONS and all SECTIONS within DIVISION 1 – GENERAL REQUIREMENTS, which are hereby made a part of this section of Specifications.

1.02 DESCRIPTION:

- A. Work Included: Furnish all labor, supervision, equipment, supplies, and materials and perform all operations necessary to complete the work of this Section, including but not limited to the following:

1. Earth and rock excavation of all types.
2. Grading to achieve final grades, compaction and testing.
3. Subsurface explorations to evaluate soil and groundwater conditions.
4. Sheet piling, shoring and dewatering of excavations and trenches.
5. Providing, processing, placing, and compacting earth and rock fill materials as indicated and specified.
6. Preparing subgrades for structures, foundations, segmental retaining walls, pipes or underground utilities, appurtenances, paved areas, and sidewalks.
7. Removal, hauling, stockpiling, re-handling, and placement of materials.
8. Off-site disposal of excess or unsuitable materials.
9. Preserving and protecting existing site features to remain, and new site improvements during the course of the work.

B. Site-Specific Information:

1. Geotechnical reports titled "Geotechnical Engineering Report, Proposed Atlantic Sports Center, Amesbury, Massachusetts," dated July 17, 2019, and "Geotechnical Engineering Report, Amesbury Sports Park, Amesbury Massachusetts," dated July 1, 2020, have been prepared for this Project and is included in the Contract Documents.
2. Completed explorations indicate subsurface conditions at specific locations only and only to the depths penetrated. They do not reflect subsurface conditions present between or outside exploration locations. Variation of

subsurface conditions should be anticipated.

3. Excavations for site grading and proposed construction may encounter groundwater or perched water conditions. Requirements for construction dewatering are provided herein and in Section 31 23 19 – DEWATERING.
4. Site preparation, grading and earthwork will encounter topsoil, subsoil and predominantly fine-grained glacial deposits with frequent cobbles and/or boulders. Topsoil, subsoil, and other unsuitable materials defined herein and as determined by the Engineer shall be removed from within proposed building, retaining wall, pavement, sidewalk, and fill areas and within a distance of 5-feet of these areas.
5. The existing site soils are highly susceptible to softening and disturbance by construction activity during wet or freezing weather. Subgrade protection is the responsibility of the contractor and special precautions and protective measures appropriate for the weather conditions during construction shall be used during earthwork and foundation construction to preserve the integrity of subgrades. Disturbed subgrades shall be repaired at the sole expense of the Contractor.
6. Native soil conditions shall be considered as natural glacial deposits consisting of sandy silt to silty sand with varying amounts of silt, clay, cobbles and/or boulders as described in the project geotechnical engineering report. Existing or undocumented soil fill and fill containing debris, if encountered, shall not be considered native soil conditions.
7. Contractor shall perform as many additional exploratory excavations as necessary to verify subsurface conditions and groundwater levels at the time of construction. A minimum of 6 to 8 test borings or test pit excavations shall be completed by the Contractor below proposed finished grades within the proposed building areas to further evaluate groundwater conditions during construction. Each exploration shall be completed to a minimum depth of 10-feet below the lowest level finished floor elevation and in locations acceptable to and observed by the Engineer.
8. Contractor shall perform a minimum of 4 to 6 test borings to verify subsurface conditions and groundwater levels in areas of proposed embankments during construction. Each exploration shall be completed to a minimum depth of 25-feet below the existing ground surface and in locations acceptable to and observed by the Engineer.

C. Geotechnical Field and Laboratory Testing:

1. The Owner will retain the services of a geotechnical testing laboratory to conduct the laboratory analyses and field testing of soil materials required by this specification. Coordinate locations and types of field tests to be performed with the Engineer and cooperate in every way with the Engineer

and testing laboratory during field testing and with collection of soil samples for laboratory testing.

D. Related Work: The following items are not included in this Section and will be performed under the designated Sections:

1. Section 00 31 32, SUBSURFACE DATA
2. Section 01 57 19, ENVIRONMENTAL PROTECTION
3. Section 31 05 13.22, CONTROLLED DENSITY FILL
4. Section 31 11 00, CLEARING AND GRUBBING
5. Section 31 23 19, DEWATERING
6. Section 31 50 00, SUPPORT OF EXCAVATION
7. Section 32 32 23.13, SEGMENTAL RETAINING WALL SYSTEM

1.02 SUBMITTALS AND TESTING:

- A. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated:
1. Classification according to ASTM D 2487 and moisture content according to ASTM D 2216 of each on-site and borrow soil and/or fill material proposed for fill and backfill.
 2. Laboratory compaction curve according to ASTM D 1557 for each onsite and borrow soil and/or fill material proposed for fill and backfill.
- B. Prior to commencing earthwork activities, a pre-construction meeting shall be attended by representatives from the General Contractor, Earthwork Contractor, Geotechnical Testing Laboratory, the Engineer and the Owner. The meeting shall discuss the planned earthwork operations including the frequency and locations of tests and inspections, including locations and methods of excavating, handling, and stockpiling (if applicable) excavated material, including drainage, as specified in this Section. Construction sequencing and methods to keep materials from various sources separated during stockpiling operations (if applicable) shall be discussed. No work shall be performed until this plan has been approved by the Engineer.
- C. Supply and Quality Control Inspection Results: Submit the results of all sources of supply and quality control inspections and tests. Submittals reviewed beyond the second rejection (or required submittal) shall be provided at no cost to the Owner and shall be reviewed by the Engineer at the Contractor's expense. No work shall be performed until the Engineer has reviewed the source of supply. It is the Contractor's responsibility to submit the Supply and Quality Control Inspection Results in a timely manner to assure the project's workflow.

1. Backfill Materials: Submit 50-pound samples for each backfill material from each proposed source including on-site materials. Samples of off-site soil borrow for submission shall be collected in the presence of the Engineer so that the Engineer has the opportunity to see each borrow material at the source.
2. Submit a grain size distribution curve performed in accordance with ASTM D422 and results of a moisture-density relationship determination in accordance with ASTM D1557 for each proposed backfill material for review by the Engineer. Additional samples and analysis shall be submitted if a change in material occurs at the borrow source.
3. In addition, a certification statement and analytical results shall accompany each physical sample of earth materials to be imported onto the site, including but not limited to crushed stone, lightweight fill, controlled density fill, loam, bedding sand, gravel sub-base, common fill and structural backfill. At a minimum the certification shall state the point of origin and that the material is free of contaminants. The certification shall include representative sample analysis from each point of origin of backfill to be used on the site. The sample(s) shall be analyzed by a certified laboratory for total metals (EPA priority pollutant metals), volatile organic compounds (EPA Method 8260), semi-volatile organic compounds (EPA Method 8270), petroleum hydrocarbons (EPA Method 8100), and Total PCBs and pesticides (EPA Method 8081 and 8082).
 - i. All sampling of soils for chemical testing shall be performed by a person experienced in sample collection and shall be either: 1) a Licensed Site Professional registered in the Commonwealth of Massachusetts; 2) a Professional Engineer registered in the Commonwealth of Massachusetts; 3) a professional Geologist registered in the Commonwealth of Massachusetts; 4) a certified groundwater/environmental professional; or 5) an authorized representative of the one of the persons listed above. Samples of each material shall be submitted to a chemical analytical laboratory, certified by the Massachusetts Department of Environmental Protection.
4. Submit additional samples and geotechnical and analytical test data and certifications for every 1000 cubic yards (every 500 cubic yards for moisture density curves) of material imported or reused on-site or anytime consistency of material changes in the opinion of the Engineer. Submit associated chemical laboratory data on the imported materials throughout the course of the Work, if requested by the Engineer, to evaluate the consistency of the source or process, at no additional cost to the Owner.
5. Information identifying the name of the field and laboratory soil testing subcontractor proposed for documenting conformance of earthwork activities. Include examples of typical field and laboratory test result

documentation from the subcontractor that are proposed for use the project. In addition to test results, the report documentation shall include the location and elevation of all tests, materials tested, a description of methods and equipment used, compaction requirements, and conformance or non-conformance.

- D. During Construction, submit written confirmation of fill lift thickness, in-place soil moisture content, and percentage of compaction to the Engineer before placing the next lift or constructing foundations or structures.

1.03 QUALITY CONTROL

- A. The Owner shall engage a qualified, independent testing agency to perform quality control testing and inspections.
- B. The Contractor shall assume full responsibility for coordination and providing timely and safe access for quality control inspection and testing. The Contractor shall give sufficient notice to the Engineer to permit the witnessing of the inspections or tests.
- C. Source of supply. No earthwork materials will be accepted on the jobsite without written approval from the Engineer. The Contractor shall perform sufficient tests and inspections necessary to determine the acceptability of the source of supply. A Certified Testing and Inspection Agency may be used to perform such tests and inspections. The qualifications of the person or agency performing these tests and inspections shall be forwarded to the Engineer for approval. Subsequent to this approval, test results showing the acceptability of the source of supply, shall be forwarded to the Engineer for approval.
- D. The Engineer reserves the right to perform inspections and tests at any time during the execution of the work.
- E. Notification Point: The Contractor shall give the Engineer at least two days of notice in advance of quality control tests and inspections.

1.04 REFERENCE STANDARDS

- A. The following standards are applicable to the work of this section to the extent referenced herein.

American Society for Testing and Materials (ASTM):

ASTM C131	Test Method for Resistance to Degradation of Small Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.
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ASTM C136	Method for Sieve Analysis of Fine and Coarse Aggregates.
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ASTM D1557 Test Methods for Moisture-density Relations of Soils and Soil Aggregate Mixtures Using Ten-pound (10 Lb.) Hammer and Eighteen-inch (18") Drop.

ASTM D2922 Test Methods for Density of Soil and Soil-aggregate in Place by Nuclear Methods (Shallow Depth).

Commonwealth of Massachusetts Highway Department (MHD) Standard Specification for Highways and Bridges.

Code of Massachusetts Regulations (CMR) 310 CMR 40.0000 Massachusetts Contingency Plan.

Code of Massachusetts Regulations (CMR) 520 CMR 14.00 Excavation & Trench Safety Regulation.

1.05 EXAMINATION OF SITE AND DOCUMENTS

- A. It is hereby understood that the Contractor has carefully examined the site and all conditions affecting work under this Section. No claim for additional costs will be allowed because of a lack of knowledge of existing conditions as indicated in the Contract Documents, or obvious from observation of the site.
- B. Plans, surveys, measurements and dimensions under which the work is to be performed are believed to be correct, but the Contractor shall have examined them independently during the bidding period and form their own conclusions as to the full requirements of the work involved.
- C. Refer to Section 00 31 32, SUBSURFACE DATA for information on site and subsurface conditions.

1.06 DEFINITIONS

- A. Backfill and Fill Materials: Soil and rock material used in construction as specified herein.
- B. Structures: Buildings, equipment pads, manholes, retaining walls, stormwater management systems, below grade vaults and equipment capsules.
- C. Unsuitable Material: Includes topsoil, subsoil, existing undocumented fill, material containing organic silt, organic clay, peat, vegetation, wood or roots, stones or rock fragments over 6-inches in diameter, porous biodegradable matter, disturbed soils, debris, contaminated media, snow, ice or refuse. Unsuitable material also includes any materials not suitable for reuse as backfill as defined by the requirements of this Specification.
- D. Subgrade: the bottom surface of a trench or excavation extending to the underside

of site improvements, including bedding materials for building foundations and slabs, structures, pavement subbase, or other surfacing material.

- E. Pass: a single complete coverage with compaction equipment over the entire surface of an exposed lift or subgrade being compacted.
- F. Zone-of-Influence: Defined by a horizontal plane extending away from the outside bottom edge of the footings, slabs, or structures a distance of two feet, then by a plane that slopes down and away at a maximum 1H:1V slope to suitable natural inorganic soil subgrade as determined by the Engineer.

1.07 EXCAVATION CLASSIFICATIONS

- A. Earth Excavation or "Excavation" consists of removing materials encountered to the subgrade elevations indicated and subsequent reuse or disposal of the materials removed. All excavation is classified as earth excavation unless it otherwise meets the classifications provided below for unauthorized excavation, additional excavation, or rock excavation.
- B. Unauthorized Excavation consists of removal of materials beyond indicated subgrade elevations or dimensions without specific direction of the Engineer. Unauthorized excavation, as well as remedial work required by the Engineer, shall be at the Contractor's expense.
 - 1. Under footings, foundations, concrete slabs, retaining walls or other structures, fill unauthorized excavations to the proper elevations with Structural Fill as defined herein. Elsewhere, backfill and compact unauthorized excavations as specified for excavations of the same class, unless otherwise required.
- C. Additional Excavation:
 - 1. When excavation has reached required subgrade elevations, notify the Engineer, who will observe subgrade conditions.
 - 2. If unsuitable bearing materials are encountered at the required subgrade elevations as determined by the Engineer, carry excavations deeper and to the lateral extent as required by the Engineer. Replace excavated material as required by the Engineer.
 - 3. Fill shall not be placed over the required subgrade elevations prior to observation by the Engineer.
 - 4. Removal of unsuitable material and its replacement as required will be paid on the basis of contract conditions relative to changes in work or as provided for under the unit rates for this classification, as applicable.

D. Rock Excavation:

1. Rock excavation in trenches and footing excavations includes removal and disposal of materials and obstructions encountered which cannot be excavated with a 1.0 cubic yard (heaped) capacity, 42-inch wide bucket on medium-size track-mounted hydraulic excavator equivalent to Caterpillar Model 215, rated at not less than 90HP flywheel power and 30,000 lb. drawbar pull. Trenches and footing excavations in excess of 10-feet in width are classified as open excavation.
2. Rock excavation in open excavations includes removal and disposal of materials and obstructions encountered which cannot be dislodged and excavated with modern track-mounted heavy-duty hydraulic excavating equipment without drilling or ripping. Rock excavation equipment is defined as Caterpillar Model No. 973 or No. 977K, or equivalent track-mounted loader, rated at not less than 170 HP flywheel power and developing 40,000-lb. breakout force (measured in accordance with SAE J732C).
3. Determination of rock excavation classification will be made by the Engineer. Typical of materials classified as rock are boulders 3.0 cubic yards or more in volume, solid rock, rock in ledges, and rock-hard cementitious aggregate deposits. Intermittent drilling or ripping performed to increase production and not necessary to permit excavation of material encountered will be classified as earth excavation. Do not perform rock excavation work until material to be excavated has been cross-sectioned and classified by the Engineer. Visual observation of the completed excavation may be made by the Engineer to modify the excavation classifications. Removal of rock excavation prior to classification by the Engineer shall be considered as earth excavation unless accepted by the Engineer in writing. Such excavation will be paid on the basis of contract unit rates for this classification.
4. Rock payment lines (if applicable) are limited to the following:
 - a. Two feet outside of concrete work for which forms are required.
 - b. In footing excavations, one foot below bottom-of-footing elevation.
 - c. One foot below bottom-of-slab elevation.
 - d. One foot outside of the vertical walls of utility structures.
 - d. In pipe trenches, depth limits shall be 6 inches below the bottom of the pipe:

Depth from Ground Surface to Invert of Pipe	Pay Width (Pipe ID)	
	0 - 24"	Over 24"
0 to 12'	5'-0"	Pipe I.D. + 3'-0"
12' to 20'	7'-0"	Pipe I.D. + 7'-0"

Over 20'

9'-0"

Pipe I.D. +7'-0"

- e. Rock sloping across the width of trench shall have the top of rock established at the rock elevation over the centerline of the pipe.
- f. For all other site improvements not listed above, including but not limited to landscape plantings, and roadways, the payment line for rock removal shall be the subgrade for installation of the earthen components of the particular site improvement.

1.08 EXCAVATION

- A. Perform all excavations of whatever materials encountered, in a manner as required to allow for placing of temporary earth support, dewatering, forms, installation of pipe and other work, and to permit access for the purpose of observing the work. Excavations shall be to such widths as will give suitable space for the required work. Bottoms of trenches and excavations shall be protected from frost and shall be firm, dry and in an acceptable condition to receive the work. Work shall not be placed on frozen surfaces nor shall work be placed on wet or unstable surfaces.
- B. All excavations made in open cut will be controlled by the conditions existing at that location. In no case shall earth be excavated or disturbed by machinery so near to the finished subgrade for structures, retaining walls and utilities as to result in the disturbance of the earth below the subgrade. The final excavation to subgrade should be accomplished with a smooth bladed bucket or by hand. Subgrades shall be observed by the Engineer prior to placement of overlying materials including fill, concrete forms, and rebar.
- C. The Contractor shall segregate (i.e., screen) and stockpile separately materials that are considered suitable for on-site re-use by the Engineer from unsuitable materials and materials requiring off-site disposal. Costs associated with off-site disposal of materials that are considered suitable for re-use by the Engineer, whether mixed with unsuitable materials or not, shall be borne by the Contractor.
- D. Temporary excavation support shall be provided in accordance with Section 31 50 00, SUPPORT OF EXCAVATION.
- E. Dewatering shall be provided in accordance with Section 31 23 19, DEWATERING.

1.09 PERMITS, CODES, AND SAFETY REQUIREMENTS

- A. Comply with all rules, regulations, laws and ordinances of the municipality, the Commonwealth of Massachusetts, and other authorities having jurisdiction over the project site or work. All labor, materials, equipment and services necessary to make the work comply with these requirements shall be provided by the Contractor without additional cost to the Owner.
- B. Comply with the provisions of the Manual for Accident Prevention in Construction

31 00 00-9

of the Associated General Contractors of America, Inc., and the requirements of the Occupational Safety and Health Administration, United States Department of Labor.

- C. The Contractor shall obtain and pay for all permits and licenses required to the complete work specified herein and shown on the Contract Drawings.
- D. The Contractor shall not close or obstruct any street, sidewalk, utility easement or passageway without written permission from authorities having jurisdiction unless otherwise indicated on the Contract Drawings. The Contractor shall conduct operations as to minimize interference with the use of roads, driveways, or other facilities near enough to the work to be affected by the work.
- E. The Contractor shall notify "Dig Safe" at 1-888-DIG-SAFE prior to commencing any excavation work.
- F. The Contractor shall provide police details when working in roadways as required by local jurisdictional authorities. The Contractor shall pay for any and all details.

1.10 PROTECTION OF EXISTING CONDITIONS

- A. All work shall be executed in such a manner as to prevent any damage to existing buildings, streets, curbs, paving, service utility lines, structures at the site and adjoining properties. Protect existing conditions from damage caused by settlement, lateral movements, undermining, washout and other hazards created by earthwork operations.
- B. Locate and mark underground utilities to remain in service before beginning the work. Protect all existing utilities to remain in service during operations. Do not interrupt existing utilities except when authorized in writing by authorities have jurisdiction unless otherwise indicated on the Contract Drawings.
- C. When an active utility line is exposed during construction its location and elevation shall be recorded on the Record Drawings by the Contractor and both the Engineer and the Utility Owner shall be notified in writing. Active utilities existing on the site shall be carefully protected from damage or relocated as required by the work.
- D. Inactive or abandoned utilities encountered during construction operations shall be removed or abandoned in place by completely filling with grout or Controlled Density Fill in a manner to prevent voids. The location of such utilities shall be recorded on the Record Drawings.
- E. Provide barricades, fences, lights, signs, and all other safety devices required to protect the public against injury.
- F. In case of any damage or injury caused in the performance of the work the Contractor shall, at their own expense make good such damage or injury to the satisfaction of, and without cost to, the Owner. Existing streets, sidewalks and curbs damaged during the project work shall be repaired or replaced to their

condition prior to commencement of earthwork operations. The Contractor shall replace, at their own cost, existing benchmarks, observation wells, monuments, and other reference points, which are disturbed or destroyed.

- G. Acceptance of any of the Contractor's plans, design calculations and methods of construction by the Designer shall not relieve the Contractor of the responsibility for the adequacy of the excavation lateral support system; preventing damage to existing or new structures, utilities and streets adjacent to excavations; the safety of persons working within excavated areas and the public at large; and excavation dewatering.

1.12 FROST PROTECTION, SNOW REMOVAL AND WET WEATHER:

- A. The Contractor shall, at its own expense, keep earthwork operations clear and free of accumulations of snow, ice and frost as required to carry out the work.
- B. The Contractor shall protect the subgrade beneath new structures, retaining walls, utilities and areas of grade increases from frost penetration when freezing temperatures are expected.
- C. Silty soils are highly susceptible to softening and disturbance by construction activity during wet or freezing weather. Subgrade protection is the responsibility of the contractor and special precautions and protective measures appropriate for the weather conditions during construction shall be used during earthwork and foundation construction to preserve the integrity of subgrades. Disturbed subgrades shall be repaired at the sole expense of the Contractor.

1.13 DISPOSAL

- A. All excess and unsuitable excavated soil shall be removed from the site and legally disposed off-site by the Contractor at no additional cost to the Owner.

PART 2 – PRODUCTS

2.01 BACKFILL MATERIALS

- A. **Common Fill:** Common Fill shall be well-graded, natural inorganic soil containing no stone greater than 6 inches maximum dimension. The materials shall be free of trash, ice, snow, tree stumps, roots and other organic and deleterious materials. It shall be free of plastic clays, of all materials subject to decay or other materials that will corrode piping or metals. It shall be of such a nature and character that it can be compacted to the specified densities. Topsoil shall not be considered Common Fill.
- B. **Gravel Borrow:** Gravel Borrow shall consist of inert mineral soil from a natural borrow source and shall be free from any form of manmade chemical constituents. Gravel Borrow shall consist of hard, durable stone and coarse sand, free from loam

and clay, surface coatings, and deleterious materials. Gradation requirements shall satisfy the requirements listed in MassDOT Specification Section M1.03.0, Type b, unless otherwise indicated on the Drawings.

- C. **Dense Graded Crushed Stone:** Dense Graded Crushed Stone shall satisfy the requirements listed in MassDOT Specification Section M2.01.7.
- D. **Structural Fill:** Structural Fill shall satisfy the requirements of Gravel Borrow or Dense Graded Crushed Stone, above.
- E. **Crushed Stone:** Crushed Stone shall satisfy the requirements listed in MassDOT Specification Section M2.01.4 (3/4-inch crushed stone) unless otherwise specified or directed. Crushed Stone thicknesses equal to or greater than 12 inches shall be separated from the surrounding soil with Filter Fabric as specified herein. Crushed stone may be used as Structural Fill where approved by the Engineer.
- F. **Sand:** Sand shall satisfy the requirements listed in MHD Specification Section M1.04.
- G. **Impervious Soil Borrow:** Impervious Soil Borrow shall satisfy the requirements listed in MassDOT Section M1.08.0.
- H. **Controlled Density Fill:** Controlled Density Fill (CDF) shall be in accordance with Section 31 05 13.22 – CONTROLLED DENSITY FILL.
- I. **Modified Rockfill:** Modified Rockfill shall satisfy the requirements listed in MassDOT Specification Section M2.02.4.
- J. **Rip Rap:** 12-inch to 18-inch riprap shall have sharp, angular edges and relatively flat faces. The riprap should be blocky in shape rather than elongated. The smallest cross section dimension of an individual stone should be at least one-half the largest cross section dimension of the stone. The riprap shall meet the following gradation requirements:

Particle Size (Diameter)	Percent Finer
18 in.	100
12 in.	25-100
9 in.	5-25
6 in.	0-5

1. Riprap shall be placed to its full course thickness in one operation and in such a manner as to avoid displacing the underlying material. Placing of riprap in layers or by dumping into chutes or by other similar methods likely to cause segregation will not be permitted.
2. Riprap stones shall be placed and distributed such that there will be no large

accumulation of either the larger or smaller stones in any given area.

- K. Existing available soil materials from on-site excavations may be reused (after processing or amending) as Common Fill or for Structural Fill provided the on-site materials meet the material requirements as described above and are acceptable to the Engineer.

2.02 GEOTEXTILE FABRIC

- A. Geotextile non-woven filter/drainage fabric shall be composed of continuous-filament fibers bonded together to form a sheet. The fabric shall be an average of 90 mils thick and possess the characteristics of Tencate Mirafi 180N.
- B. The filter/drainage fabric shall be Tencate Mirafi 180N as manufactured by Tencate Geosynthetics, Pendergrass, GA; Foss-65 by Foss Manufacturing Co., Hampton, NH; US 120NW, as manufactured by US Fabrics, Cincinnati, OH, or approved equal.
 - 1. The filter/drainage fabric shall be installed at locations shown on the drawings or designated by the Engineer. Each width of drainage fabric shall be overlapped in accordance with manufacturer's recommendations, but not less than 2 feet, to prevent intrusion of soil fines.

PART 3 – EXECUTION

3.01 GENERAL REQUIREMENTS

- A. The Contract Drawings indicate the proposed finish alignments, elevations, and grades of the work. Establish the line and grade in close conformity with the Contract Drawings. The Engineer, however, may make minor adjustments in the field as necessary due to conditions encountered.
- B. The Contractor is responsible for establishing construction phasing (including any preloading or surcharging required by the Contract Documents), means, and methods and interim grading and temporary conditions required to attain the finish product required by the Contract Documents. The Contractor is responsible for all construction, protection, movement, and maintenance of stockpiles. Establish and maintain suitable benchmarks and grade control to accurately perform the work.
- C. All excavation shall be performed in the dry. Excavation and dewatering shall be accomplished by methods, which preserve the undisturbed state of the subgrade soils.
- D. No excavation is permitted below a line drawn downwards at 2 horizontal to 1 vertical from the underside of the closest edge of any in-place footing or utility at a higher elevation without providing adequate sheeting and bracing (designed by a Professional Engineer in Massachusetts and retained by the Contractor) to prevent

movement of the in-place footing or utility.

- E. When excavations have reached the prescribed depths, the condition of the bottom of the trench, subgrade, or foundation bearing surface shall be observed by the Engineer prior to placement of overlying materials including crushed stone, concrete forms and rebar. When excavating to subgrade level for pavement and hardscaping areas has been completed, the subgrade surface shall be observed by the Engineer prior to placement of overlying materials. After observation the Contractor will receive approval to proceed if conditions meet project requirements.
- F. The Contractor shall follow a construction procedure, which permits visual identification of stable native subgrade conditions. Where groundwater and/or surface water from the reservoir are encountered, the size of the open excavation shall be limited to that which can be handled by the Contractor's chosen method of dewatering and which will allow visual observation of the bottom and backfilling with the excavation in the dry.
- G. The Contractor shall excavate unsuitable materials to stable native subgrade conditions where encountered at proposed excavation subgrade, as required by the Engineer. Unsuitable material includes topsoil, loam, peat, other organic materials, snow, ice, and trash. Unless specified elsewhere or otherwise required by the Engineer, areas where unsuitable materials have been excavated to stable ground shall be backfilled with compacted Gravel Borrow or Crushed Stone wrapped all around in non-woven filter fabric.
- H. No excavated material shall be deposited or stockpiled at any time to endanger portions of new or existing utilities, slopes or structures, either by direct pressure or indirectly by overloading areas contiguous to the operation. If there is not sufficient area available for stockpiling within the limits of the project, the Contractor will be required to furnish their own area for stockpiling.
- I. When the plans require excavation in areas in close proximity to existing roads, structures, slopes and utilities it shall be the responsibility of the Contractor at their expense to use satisfactory means and methods to protect and maintain the stability of such roads, slopes, utilities and structures.
- J. Temporary ditches shall be made as needed to drain off surface water to avoid damaged to areas of cut or fill. Such ditches shall be maintained as required for efficient operations, at no additional cost to the Owner.
- K. The Contractor shall place a minimum of 12 inches of crushed stone wrapped in non-woven Geotextile Fabric to stabilize areas which may become disturbed as a result of rain, foot traffic, surface water runoff or groundwater seepage pressures, all at no additional cost to the Owner. The Contractor also has the option of drying materials in-place and compacting to specified densities.
- L. Provide shoring, sheeting, and/or bracing at excavations, as required, to assure

complete safety against collapse of earth at the side of excavations. Provide shoring of public utility lines where exposed in the excavations in accordance with rules and regulations of the local authorities, as no additional cost to the Owner.

- M. Crushed stone for pipe and structure bedding shall be wrapped in non-woven filter fabric where placed below the groundwater table or as otherwise required by the Engineer.

3.02 SUBGRADES, FILLING, AND BACKFILLING

- A. The Contractor shall remove loam and topsoil, loose vegetation, stumps, large roots, organics, fill, debris, etc., from areas upon which retaining walls will be built, embankments constructed or areas where material will be placed for grading. The subgrade shall be shaped as indicated on the Drawings and shall be prepared by forking, furrowing, or plowing so that the first layer of the fill material placed on the subgrade will be well bonded to the subgrade.
- B. Subgrade Preparation: The subgrades for site improvements shall be shaped to lines, grades, and cross-sections shown on the Contract Drawings and observed by the Engineer as described in Paragraph 3.01F. These operations shall include any required reshaping and moisture conditioning to obtain proper re-compaction of loose granular materials. All soft or otherwise unsuitable material shall be removed and replaced with suitable material from excavation or borrow. The resulting area, and all other low sections, holes, or depressions shall be brought to the required grade with accepted material and the entire subgrade shaped to line, grade and cross-section and thoroughly compacted.
 - 1. Before surface or base materials are spread, coarse-grained subgrade preparation shall include recompacting the exposed soils using a minimum 12-ton vibratory compactor until the subgrade surface is dense and stable. Fine-grained subgrade should be recompacted and static rolled to avoid deterioration of the subgrade.
 - 2. The subgrade shall then be proof rolled using a fully loaded 10-yard dump truck or construction equipment of similar size, weight and configuration. The stability of the subgrade and proof roll shall be observed by the geotechnical engineer.
 - 3. Before surface or base materials are spread, the subgrade shall be shaped to an accurate and true surface conforming to the line and grades indicated on the Contract Drawings and described above. All surface irregularities shall be filled with suitable material or removed and such areas recompacted until the surface is properly shaped and properly compacted. A tolerance of 3/8- inch in paved areas and 1/2-inch in non-paved areas above or below the finished subgrade elevation will be allowed provided that this dimension above or below grade is not maintained for a distance longer than 50-feet and that the required crown is maintained in the subgrade. Any

portion, which is not accessible to a roller, shall be thoroughly compacted by other mechanical or manual methods.

C. The vertical and lateral limits of Structural Fill shall be within the ZOI as defined in Section 1.06.

D. Backfill Material: Unless otherwise specified or directed, material used for filling and backfilling shall meet the following material requirements:

1. Common Fill for all unpaved and embankment areas around the site.
2. Structural Fill within three feet of finished grade below proposed pavements or sidewalks and within the ZOI beneath foundations, slabs, structures and other site features.
3. Controlled Density Fill shall be used in areas where the required degree of compaction cannot be achieved using conventional earth materials and compaction equipment, such as around structures and support of excavation systems, to fill abandoned utilities, or as directed by the Engineer.
4. In areas where the bottom of the excavation is susceptible to disturbance, and is below the groundwater table, crushed stone may be placed and compacted in maximum 12-inch layers to provide a working mat and drainage layer. The crushed stone shall be separated on the top and all sides from adjacent material by non-woven geotextile fabric as specified herein.

E. Fill Placement

1. All fills shall be placed from the bottom of slopes towards the top, in compacted lifts, following removal of topsoil, subsoil and other unsuitable soils as determined by the Engineer.
2. All fills shall be placed in continuous horizontal layers. Fill shall not be placed following the natural contours of the ground. Fill shall be placed starting in the lowest areas working up to finish grades in horizontal layers in the manner specified herein. Where horizontal layers meet a rising slope, each layer of fill shall be benched into the existing slope in order to avoid the formation of a shear plane.
3. Place backfill materials in a maximum loose lift thickness of 9-inches. Maintain backfill material with uniform moisture content, with no visible wet or dry streaking, and at a moisture content that allows compaction to the degree specified herein. Maximum lift thickness shall be 6-inches (loose thickness) where hand operated compaction equipment is used.

F. Trench Backfill:

1. After the utility pipe installation has been observed by the Engineer, trenches shall be backfilled as soon as practicable with specified material.

2. Backfill material for pipe bedding shall be deposited in the trench, uniformly on both sides of the pipe, for the entire width of the trench to the springline of the pipe. The backfill material shall be placed by hand shovels, in layers not more than 6-inches thick in loose depth, and each layer shall be thoroughly and evenly compacted by tamping on each side of the pipe to provide uniform support around the pipe, free from voids.
3. The balance of backfill shall be spread in layers not exceeding 9-inches in loose depth. Each layer shall be thoroughly compacted by mechanical methods and shall contain no rock, stones or boulders larger than 4 inches in their greatest dimension.
4. All trench backfilling shall be done with special care and must be carefully placed so as not to disturb the work at any time; if necessary, a timber grillage or other suitable method shall be used to break the fall of the material. The moisture content of the backfill material shall be such that proper compaction will be obtained. Puddling of backfill with water will not be permitted. Backfill within areas to receive topsoil or pavement construction shall be made to grades required to establish the proper subgrade for the placement of topsoil or pavement base courses.
5. In backfilling trenches, each layer of backfill material shall be moistened and compacted to a density as specified herein.
6. Any trenches or excavations improperly backfilled or where settlement occurs shall be reopened, to the depth required for proper compaction, then refilled and compacted with the surface restored to the required grade and condition, at no additional expense to the Owner.
7. During filling and backfilling operations, pipelines will be checked by the Engineer to determine whether any displacement of the pipe has occurred. If the observation of the pipelines shows poor alignment, displaced pipe or any other defects they shall be remedied in a manner satisfactory to the Engineer at no additional cost to the Owner.

G. Backfilling Against Structures:

1. Backfilling against masonry or concrete shall not be done until permitted by the Engineer. The Contractor shall not place backfill against or on structures until they have attained sufficient strength to support the loads (including construction loads) to which they will be subjected, without distortion, cracking or other damage.
2. Prior to placing backfill, the areas shall be cleaned of all excess construction material and debris and the bottom of excavations shall be in a thoroughly compacted condition. In general, use Structural Fill for backfilling against structures where the finished ground surface will be pavement or sidewalks; use Common Fill where the finished ground surface will be lawn or landscaped areas.

3. Symmetrical backfill loading shall be maintained. Special care shall be taken to prevent any wedging action or eccentric loading upon or against the structures. During backfilling operations, care shall be exercised that the equipment used will not overload the structures in passing over and compacting these fills. Backfill shall be placed in 9-inches in loose depth and each layer of backfill shall be compacted thoroughly and evenly using approved types of mechanical equipment. Each pass of the equipment shall cover the entire area of each layer of backfill.
 4. In compacting and other operations, the Contractor shall conduct their operations in a manner to prevent damage to structures due to passage of heavy equipment over, or adjacent to, structures, and any damage thereto shall be made good by the Contractor at no additional expense to the Owner.
- H. After backfilling trenches and excavations, the Contractor shall maintain the surfaces of backfill areas in good condition so as to present a smooth surface at all times level with adjacent surfaces. Any subsequent settling over backfilled areas shall be repaired by the Contractor immediately, and such maintenance shall be provided by the Contractor for the life of this Contract, at no additional expense to the Owner.
- I. The completed and approved subgrades upon which topsoil is to be placed, or pavements are to be installed, shall not be disturbed by traffic of other operations and shall be maintained in a satisfactory condition until the base and finished courses are placed. The storage or stockpiling of materials on finished subgrade is not permitted.
- J. Uniformly shape the surfaces of all areas to be graded, to the lines and grades indicated on the Contract Drawings, and as directed, including excavated and filled sections, embankments and adjacent transition areas, and all areas disturbed as a result of the Contractor's operations. The finished surfaces shall be reasonably smooth, compacted and free from surface irregularities.
- K. The Contractor is responsible to provide the finish grades as shown on the Contract Drawings. The Contractor shall provide temporary erosion control throughout the construction period to maintain all constructed lawns, and to protect all existing drains, catch basins, swales, from any debris or soil entering from excavation, backfill, or erosion. Contractor shall take whatever precautions necessary to accomplish temporary erosion control such as straw bales, silt fence, erosion control fabric, or pumping, at no additional cost to the Owner.

3.03 COMPACTION

- A. Compaction Requirements: The degree of compaction is expressed as a percentage of the maximum dry density of the material at optimum moisture

content as determined by ASTM Test D 1557, Method C. The compaction requirements are as follows:

Area	ASTM Density Degree of Compaction
In the zone of influence below foundations, exterior slabs, and other structural features	95%
Pavement base course	95%
Pavement subgrade	95%
General fill below pavement subbase	95%
Embankment fill	95%
Trench backfill - below pavements	95%
- below landscaped areas	92%
- below structures	95%

Crushed stone used for backfill should be placed and compacted by multiple passes of a vibratory plate compactor or drum roller to a firm and unyielding condition as observed by the Engineer.

- B. Retaining wall backfill shall be in accordance with Section 32 32 23.13 – SEGMENTAL RETAINING WALL SYSTEM.
- C. Moisture Control:
 - 1. Fill that is too wet for proper compaction shall be disced, harrowed, or otherwise mixed and dried to a proper moisture content to allow compaction to the required density. If fill cannot be dried within 24 hours of placement, it shall be removed and replaced with drier fill.
 - 2. Fill that is too dry for proper compaction shall receive water uniformly applied over the surface of the loose layer. Sufficient water shall be added to allow compaction to the required density.
- D. Unfavorable Conditions:
 - 1. In no case shall fill be placed over material that is saturated or frozen. In no case shall frozen soil or soil material containing frost, snow or ice be placed as backfill. No fill material shall be placed, spread or rolled during unfavorable weather conditions. When work is interrupted by heavy rains, fill operations shall not be resumed until the moisture content and the density of the previously placed fill are as specified.

2. In freezing weather, a layer of fill shall not be left in an uncompacted state at the close of the day's operations. Prior to terminating work for the day, the final layer of compacted fill shall be rolled with a smooth wheeled roller to eliminate ridges of soil left by compaction equipment.

E. Compaction Control:

1. In-place density tests shall be made in accordance with ASTM D2167 as the work progresses, to determine the degree of compaction being attained by the Contractor. Any corrective work required as a result of such tests, such as additional compaction, or a decrease in the thickness of layers, shall be performed by the Contractor at no additional expense to the Owner. Additional in-place density testing shall be made at the Contractor's expense by the geotechnical testing laboratory.
2. In-place density tests shall be performed at a minimum according to the following:
 - a. One test per lift for each 5,000 square feet of building area fill.
 - b. A minimum of one test per lift for each 100 linear feet of trench.
 - c. One test per lift for each 10,000 square feet of pavement and sidewalk areas.
 - d. One test per lift for each 10,000 square feet of embankment fill.
 - e. One test per lift for each 100 linear feet of roadway fills.
 - f. One test per lift for each 100 linear feet of backfill for retaining walls (including segmental retaining wall systems).
3. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained.

END OF SECTION

Mitigation Plan Checklist

Project: Amesbury Sports Park (12-14 S. Hunt Rd.)
City: Amesbury
State: Massachusetts
Plan Title, Preparer, Date: Amesbury Sports Park Replication Plan
Mel Higgins, January 2022

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A. General Information:

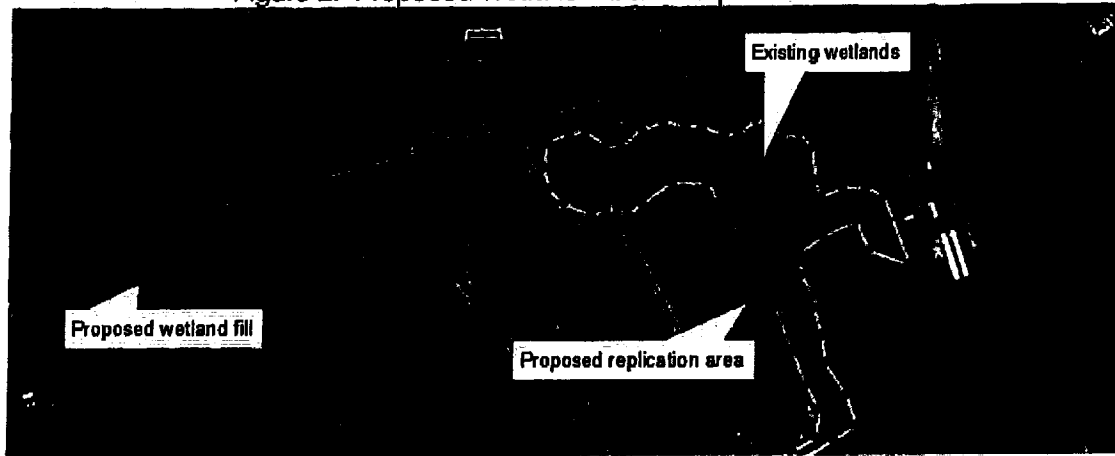
The Amesbury Sports Park (ASP) is located at 12-14 S. Hunt Road in Amesbury, Massachusetts. The site locus map can be found in Figure 1, below. The proposed project calls for the filling of a small drainage structure at the northwest corner of the property *as well as the edge of a large wetlands complex to the east of the property. These areas were delineated as wetlands as both had the presence of wetland vegetation and/or standing water.* Due to the location of the proposed roadway, this wetland area requires filling and therefore replication is proposed adjacent to a more substantial wetland resource area along the northeast side of the site.

Figure 1. Locus Map



This project proposes to fill an estimated 1,070 square feet (sf) of wetlands and replicate an estimated 2,166 sf of wetlands at the site. See Figure 2, below, for location of proposed wetland fill and replication areas. These areas are discussed in further detail, below.

Figure 2. Proposed Wetland Fill and Replication Areas.



B. Impact Area(s):

Impacts to vegetated wetlands total 1,070 square feet (sf) of permanent impacts to jurisdictional vegetated wetland. Impacts are the result of establishing an access road for the property *as well as the installation of a retaining wall along the edge of a recreational field*. Based on existing and proposed topography the road access must be located at this location so that grades can be developed to reach the top of the project site, without violating slope requirements for the roadway system. This replication is in response to this permanent fill.

The lost wetland area will be replicated on site, on the eastern property line, adjacent to a larger wetland system. The proposed replication area serves very similar functions as does the impacted wetland resource area. Because of these similarities, replication in this area would be optimal for replication because the functions being lost due to fill can be replaced at the replication area. The replication area will also be located adjacent to an existing wetland resource area, which will aid in its establishment. Additional functions will be added that are not present at the impacted area include improved foraging habitat and improved ecology based on the diversity of the replication area plantings.

C. Replication Area(s):

The existing vegetation at the replication area includes upland shrubs and cover layer. Within the replication area, indigenous vegetation types selected from the Town of Amesbury's approved species list will be planted.

The MassGIS database indicates that the replication area is not located within any habitat listed by the Natural Heritage and Endangered Species Program (NHESP). Similarly, the site is not located in an Area of Critical Environmental concern (ACEC).

Per the Amesbury Wetland Protection Ordinance, the wetland replacement ratio is 2:1 (replacement: lost), therefore 2,166 square feet (SF) of replication area is required and is proposed.

Construction oversight will be conducted by an environmental scientist from Weston & Sampson. The planting schedule includes spring planting of shrubs, ferns and seed mix (between April 30 and June 15) or fall planting (between September 15 and October 7).

The contractor will be responsible for having extra compost filter tubes on site in case additional materials are needed during construction. After the first two growing seasons, the Conservation Commission will determine whether the replication area has successfully been created. The Contractor will be responsible for ensuring that 75% reestablishment will occur.

D. Hydrology:

Water in the replication area will come from the same sources that currently feed the existing wetlands that the replication area will be connected to. Specifically, groundwater and surface water drainage that currently feeds the existing adjacent wetland. Additionally, this area will be fed with treated stormwater being diverted from a proposed upgradient development. The intent of the design is to utilize existing hydrology on site to create an expansion of the existing wetland into the mitigation area.

E. Grading Plan:

Existing and proposed grading plans can be seen in the attached wetland replication plan (Sheet C203 of the Plan Set) that accompanies this document. Upon completion of grading, a final condition survey of the wetlands restoration and enhancement areas shall be performed by a licensed surveyor. Elevations shall be checked in numerous random locations and shall be within 0.1 feet of the final planned surface elevation. Areas that do not meet the 0.1-foot criteria shall be regraded.

F. Hydric Soils:

Hydric soils would need to be purchased and transplanted on site and consist of a loam and organic mixture. The soils will be made up of equal volumes of organic and mineral content. The following shall be true:

1. Loam shall be a natural, fertile, friable soil, typical of productive soils in the vicinity. Loam shall be free of admixture of subsoil and foreign matter or objects (gravel, roots, debris) larger than 2-inches in diameter.
2. Loam shall be uncontaminated and free of toxic substances or any materials harmful to plant growth, regeneration or reproduction. The pH of the loam shall range between 6.0 and 8.0.
3. Peat (if used) shall be supplied from an authorized peat supplier or nursery. Peat shall have an organic content ranging from 75 to 100%. Peat shall be

uncontaminated and free of toxic substances or any materials harmful to plant growth, regeneration or reproduction.

4. The loam and organic mixture shall be mixed onsite to achieve a 5% organic carbon content. This will be determined through laboratory analysis or organic content by the loss of weight by ignition of oven-dried samples. Test samples shall be oven-dried to a constant weight at a temperature of 230 degrees F. The final pH of the loam-peat mixture shall range from 5.8 to 8.0.

Hydric soils, once deposited onsite, shall be placed in the replication area within days of placement on site. If this is not possible, they hydric soils stockpile shall be watered to prevent the drying out of these soils.

Hydric soils shall be deposited to a minimum depth of twelve (12) inches and deposited so as to minimize travel and subsequent compression of the underlying material and the replaced wetland topsoil. Hydric soils shall be provided by a licensed nursery.

Upon completion of final grading, the surface of the hydric soil shall be shallowly harrowed (depth 3-inches), prior to planting. The final grading of the replacement wetlands topsoil shall be completed so as to result in no discontinuities in elevation upon removal of any siltation barrier or erosion control materials.

G. Planting Plan:

The proposed plant species and seed mix will be native and indigenous to the area and have been hand selected from the City of Amesbury's preferred plant list (please see plan set for number of plants per category), including:

Shrubs

- Winterberry (*Ilex verticillata*)
- Highbush blueberry (*Vaccinium angustifolium*)
- Spicebush (*Lindera benzoin*)

All shrub mixtures (within the wetlands restoration) shall be planted randomly as indicated on the plan. Shrub mixtures shall be planted in groups to create clusters, under the direction of the wetlands restoration specialist. Shrub size will be a minimum of 24" spread.

Emergent Plantings

- Cinnamon fern (*Osmunda cinnamomea*)
- Sensitive fern (*Onoclea sensibilis*)
- Royal fern (*Osmunda regalis*)

Emergent plantings shall be planted by hand in random locations under the direction of the wetlands restoration specialist in locations designated by the plan. Plantings shall be placed in groups to create clusters. Emergent plantings will come in 6" – 12" pot nursery stock, or larger.

Cover

- New England Wetmix (New England Wetland Plants, Inc.)
- New England Erosion Control/Restoration Mix for Dry Sites (New England Wetland Plants, Inc.)

Hydroseed shall be supplied by an authorized hydroseed contractor. The Hydroseed mixture shall seed Wetland Seed Mix - WETMIX (New England Wetland Plants, Inc.) within the wetland restoration area. Species in this mix include: Fox Sedge (*Carex vulpinoidea*), Lurid Sedge (*Carex lurida*), Blunt Broom Sedge (*Carex scoparia*), Blue Vervain (*Verbena hastata*), Fowl Bluegrass (*Poa palustris*), Hop Sedge (*Carex lupulina*), Green Bulrush (*Scirpus atrovirens*), Creeping Spike Rush (*Eleocharis palustris*), Fringed Sedge (*Carex crinita*), Soft Rush (*Juncus effusus*), Spotted Joe Pye Weed (*Eupatorium maculatum*), Rattlesnake Grass (*Glyceria canadensis*), Swamp aster (*Aster puniceus*), Blueflag (*Iris versicolor*), Swamp Milkweed (*Asclepias incarnata*), Square stemmed Monkey Flower (*Mimulus ringens*).

New England Erosion Control/ Restoration Mix for Dry Sites (New England Wetland Plants, Inc.) will be used on the slopes surrounding the replication area. Species in this mix include: Red Fescue (*Festuca rubra*), Canada Wild Rye (*Elymus canadensis*), Annual Ryegrass (*Lolium multiflorum*), Perennial Ryegrass (*Lolium perenne*), Little Bluestem (*Schizachyrium scoparium*), Indian Grass (*Sorghastrum nutans*), Switch Grass (*Panicum virgatum*), Upland Bentgrass (*Agrostis perennans*).

Hydroseeded areas shall be seeded at a rate of 2 pounds per 5,000 sf. Hydroseed application shall be conducted between 15 April and 15 June or 15 September to 30 October, or as recommended by the hydroseed contractor.

Spring planting of shrubs shall occur between 30 April and 15 June. Fall planting shall occur as dormant planting between 15 September and 15 November for shrubs. If special conditions warrant a variance from the above planting schedules or conditions, and if in concurrence with the wetlands restoration specialist, the above dates can be modified only if recommended by the nursery and if all warranties still apply. Planting and hydroseeding shall not occur when the ground is frozen, snow covered or in an unsuitable condition for planting.

Invasive or non-native species will not be included in the planting or seeding plans. All care will be taken to reduce the production of invasive species within the replication area.

H. Coarse Woody Debris and Other Features:

Based on USACOE guidelines, a supply of dead and dying woody debris should be added throughout the replication site after construction is completed. This should be in a combination of sizes, including logs, stumps, and smaller branches. Wood chips and mulch are not to be used for this purpose. A minimum of five logs will be added to the replication site.

I. Erosion Controls:

Temporary devices and structures used to control erosion and sedimentation in and around replication sites shall be properly maintained at all times. The devices and structures shall be disassembled and properly disposed of as soon as the site is suitable and approved by the Amesbury conservation commission. Sediment collected by these devices will be removed and placed upland in a manner that prevents its erosion and transport to a waterway or wetland.

The specification for erosion controls, including compost filter tubes, will be used to prevent sediment from migrating into the replication area. Once stabilization has occurred, and the Amesbury Conservation Commission has given final approval, the erosion control measures will be removed. To be given final approval, the replication site will demonstrate that at least 75% of the surface area of the mitigation wetland shall be reestablished with indigenous wetland plant species within two growing seasons.

J. Invasive and Noxious Species:

No new invasive species will be introduced to the replication site. Monitoring for invasive species will be part of the required post-replication monitoring efforts (see monitoring plan below under Section L). Should invasive species be identified, they will be removed from the site in plastic bags to avoid seed spreading at the site.

K. Off-Road Vehicle Use:

No off-road vehicles will be permitted in this replication area. The neighboring area is not conducive to off-road traffic and there are no off-road trails in this area. As such, there is a low probability of off-road vehicle use in the replication area.

L. Monitoring Plan:

During construction, weekly inspections will be made to determine constructability, soils, hydrology and to ensure the proper plantings are conducted. These inspections will be coordinated with a representative of the Amesbury Conservation Commission to ensure compliance with all local ordinances.

Post replication, two (2) 10x10-foot wetland monitoring plots (for ground cover) and two (2) 30x30-foot wetland monitoring plots (for shrub cover) will be located at the site. Wooden stakes will be driven into the ground at each corner of the monitoring plots and spray-painted orange for easy identification.

These plots will be monitored each four times a year, during the following two (2) growing seasons to determine percent dominance and percent cover of each species identified within the plot. This evaluation will determine the overall health of the restored area. The wetland scientist will photograph each plot from a fixed point so that visual comparisons can be made during future monitoring events.

The following monitoring schedule has been established:

- Year 1 – 1st Quarter 2022, 2nd Quarter 2022, 3rd Quarter 2022, 4th Quarter 2022,
- Year 2 - 1st Quarter 2023, 2nd Quarter 2023, 3rd Quarter 2023, 4th Quarter 2023

The intent of this monitoring is to ensure that at least 75 percent of the surface area of all restored wetlands is reestablished with indigenous wetland plant species within two growing seasons of their planting in accordance with the Massachusetts DEP Wetlands Protection Act Regulations. The growing season for wetlands vegetation areas shall be April 15 to October 7.

If after 180 growing season days it is evident, in the opinion of the Wetland Scientist, that it is unlikely that the 75 percent reestablishment requirement will be achieved, then plantings shall be supplemented as necessary to achieve the required coverage. If at the end of two growing seasons, 75 percent reestablishment has not been achieved, then planting of additional new plant material to achieve 75 percent reestablishment will be conducted and the monitoring period will be extended for an additional year for a total of three (3) years.

After each monitoring event, proper documentation will be kept for reference and to be used for future monitoring and control of each site. The information gathered during the monitoring events will be incorporated into two annual reports, to be completed at the end of 2021, 2022 and 2023 and submitted to the Conservation Commission. This report will detail the following:

- Success of Wetlands Restoration,
 - Wetland enhancements completed (if necessary),
- Invasive species identification,
 - Methods of invasive species control (if necessary),
 - Timing and frequency of control,
 - Success of control methods,
- Anticipated follow-up monitoring efforts

It was noted that Asian bittersweet (*Celastrus orbiculatus*), Japanese barberry (*Berberis thunbergii*), Morrow's honeysuckle (*Lonicera morrow*) and multiflora rose (*Rosa multiflora*) were located within the property limits. During each monitoring effort, the monitor will look for the presence of these species as well as other non-native species at the replication site that are on the Massachusetts Invasive Plant Advisory Group (MIPAG) invasive species list.

The wetland scientist will document any and all invasive species found, as well as the overall health of the re-seeded area. At any time during the monitoring period, if 10% of invasive species or more are found within any plot, work will be conducted to remove all invasive species from the entire restored area. Removal operations will be overseen by a trained wetlands scientist.

M. Assessment Plan:

The replication area will have achieved 75% reestablishment by the end of the second growing season.

N. Contingency:

If 75% reestablishment by the end of the second growing season is not achieved, the contractor will be responsible for ensuring that 75% reestablishment will occur, whether by replanting or other manner. Continued monitoring will occur.

\\wse03.local\WSE\Projects\Private\Global Property Developers Corporation\Hunt Road Adjacent Parcel - Global Property Developers\Permitting\Amesbury Sports Park 7.13.20\NO\updated wetland replication plan (Oct 2020)\wetland replication plan Oct 2.doc

Wetlands Monitoring and
Invasive Species Management Plan

Project Name: Amesbury Sports Center
Project Address: 12-14 S. Hunt Road, Amesbury, MA
Prepared by: Mel Higgins, PWS
Firm: Weston & Sampson

Below is a detailed description of the Wetlands Monitoring and Invasive Species Management Plan as it applies to the subject site:

General:

For grading and restoration plantings please see the wetland replication plan attached to the wetland mitigation plan document.

Wetlands Monitoring Program

A wetlands replication monitoring program will be conducted at 12-14 South Hunt Road. An area of approximately 2,166 SF will be replicated along the eastern property line adjacent to an existing wetland complex.

During construction, weekly inspections will be made to determine constructability, soils, hydrology and to ensure the properly plantings are conducted. These inspections will be coordinated with a representative of the Amesbury Conservation Commission to ensure compliance with all local ordinances.

Post replication, two (2) 10x10-foot wetland monitoring plots (for ground cover) and two (2) 30x30-foot wetland monitoring plots (for shrub cover) will be located at the site. Wooden stakes will be driven into the ground at each corner of the monitoring plots and spray painted orange for easy identification.

These plots will be monitored each Spring and Fall during the following two (2) growing seasons to determine percent dominance and percent cover of each species identified within the plot. This evaluation will determine the overall health of the restored area. The wetland scientist will photograph each plot from a fixed point so that visual comparisons can be made during future monitoring events.

The following monitoring schedule has been established:

- Year 1 – 1st Quarter 2022, 2nd Quarter 2022, 3rd Quarter 2022, 4th Quarter 2022,
- Year 2 - 1st Quarter 2023, 2nd Quarter 2023, 3rd Quarter 2023, 4th Quarter 2023

The intent of this monitoring is to ensure that at least 75 percent of the surface area of all restored wetlands is reestablished with indigenous wetland plant species within two growing seasons of their planting in accordance with the Massachusetts DEP Wetlands Protection Act Regulations. The growing season for wetlands vegetation areas shall be April 15 to October 7.

If after 180 growing season days it is evident, in the opinion of the Wetland Scientist, that it is unlikely that the 75 percent reestablishment requirement will be achieved, then plantings shall be supplemented as necessary to achieve the required coverage. If at the end of two growing seasons, 75 percent reestablishment has not been achieved, then planting of additional new plant material to achieve 75 percent reestablishment will be conducted and the monitoring period will be extended for an additional three (3) years for a total of five (5) years.

After each monitoring event, proper documentation will be kept for reference and to be used for future monitoring and control of each site. The information gathered during the monitoring events will be incorporated into two annual reports, to be completed at the end of 2021 and 2022 and submitted to the Conservation Commission. This report will detail the following:

- Success of Wetlands Restoration,
 - Wetland enhancements completed (if necessary),
- Invasive species identification,
 - Methods of invasive species control (if necessary),
 - Timing and frequency of control,
 - Success of control methods,
- Anticipated follow-up monitoring efforts

Identify Non-Native Invasive Species

Weston & Sampson personnel, trained in the U.S. Army Corps of Engineers Wetland Delineation Manual, noted Asian bittersweet (*Celastrus orbiculatus*), Japanese barberry (*Berberis thunbergii*), Morrow's honeysuckle (*Lonicera morrow*) and multiflora rose (*Rosa multiflora*) within the property limits. During each monitoring effort, the monitor will look for the presence of these species as well as other non-native species at the replication site that are on the Massachusetts Invasive Plant Advisory Group (MIPAG) invasive species list.

The wetland scientist will document any and all invasive species found, as well as the overall health of the re-seeded area. At any time during the monitoring period, if 10% of invasive species or more are found within any plot, work will be conducted to remove all invasive species from the entire restored area, in the same manner as described below. Removal operations will be overseen by a trained Wetlands Scientist from Weston & Sampson.

Invasive Species Removal/Control

If invasive species are found at the replication site, all plant material including root mass, stolons, and rhizomes will be removed to prevent re-sprouting from occurring. This will occur using hand tools. The vegetation will be placed inside plastic bags so seeds do not spread to any non-impacted areas.

When leaving the work area, all equipment and clothing used during removal shall be cleaned to remove seed material before entering non-impacted areas.

Mr. Timothy Broadrick, Chair
Conservation Commission
City of Amesbury
39 South Hunt Road
Amesbury, MA 01913

April 4, 2022

Re: Amesbury Sports Park, 12-14 South Hunt Road
Stormwater Management Peer Review – DEP # 002-1299

Dear Mr. Broadrick and Members of the Commission:

On behalf of the City of Amesbury Conservation Commission, TEC, Inc. is pleased to provide this stormwater peer review of the Amesbury Sports Park development project located at 12-14 South Hunt Road. The purpose of this letter is to provide a technical stormwater review for conformance with the Massachusetts Stormwater Standards and City of Amesbury Wetlands Regulations. Below is a list of documents utilized by TEC as part of the peer review:

- Site Plans, revised March 28, 2022, prepared by Weston & Sampson Engineers (WSE)
- Stormwater Report, revised March 28, 2022, prepared by WSE
- Proposed HydroCAD Report, revised April 4, 2022, prepared by WSE
- PCSWMM Report, revised April 4, 2022, prepared by WSE

Upon review of the above listed documents, TEC has compiled the following comments:

General Comments

1. TEC performed a review of the Amesbury Wetlands Protection Ordinance (Chapter 460) and the Amesbury Wetlands Regulations (last revised June 20, 2012) for specific performance standards and requirements for stormwater management. The local Ordinance and Regulations ultimately defer to the Wetlands Protection Act for stormwater requirements. 310 CMR 10.05(6)(k) states that stormwater runoff from all commercial developments shall provide stormwater best management practices (BMPs) in accordance with the Stormwater Management Standards specified within the Massachusetts Stormwater Handbook. The purpose of this letter is to document the project's conformance with the 10 Stormwater Management Standards as listed under the Wetlands Protection Act. This comment is informational only. No response required.
2. *Stormwater Standard 1 – no untreated discharges or erosion to wetlands*
The project has been designed in conformance with Standard 1. The project utilizes street sweeping, deep sump hooded catch basins, and subsurface infiltration/detention chambers with isolator rows to provide treatment prior to each stormwater discharge. The outlets have been designed with flared end sections and rip rap dissipation pads to eliminate the chance of erosion. Standard 1 is fully met by the project. This comment is informational only. No response required.
3. *Stormwater Standard 2 – peak rate attenuation*
A stormwater analysis has been prepared to document existing and proposed conditions and to confirm that there will be no increase in peak rates of runoff from the development. The analysis was performed using a combination of HydroCAD and PCSWMM software, both are acceptable and conform to industry standards. The analysis shows a reduction in peak flow rates at all design points. Additionally, the calculations show that the project, in combination with the South Hunt Road improvements, provide improved hydrologic conditions at the intersection of the site driveway and

South Hunt Road. The Stormwater Calculations show that South Hunt Road will not be flooded ("overtopped"), even in a 100-year storm event. Standard 2 is fully met by the project. This comment is informational only. No response required.

4. During the review of the documents, TEC identified a minor discrepancy between the Site Plans and PCSWMM report. The PCSWMM report states that the invert of the perimeter drain is 101.50, where the Site Plans show an invert of 102.90. TEC recommends that the Site Plans be revised to show an invert of 101.50, consistent with the PCSWMM model. TEC considers this a minor drafting revision, and would recommend that the revised Site Plans be provided to the Commission as a condition of approval.
5. *Stormwater Standard 3 – stormwater recharge*
The project has been designed with two subsurface infiltration chamber systems to provide stormwater recharge. Calculations have been prepared to show that the infiltration BMPs have been sized in conformance with Standard 3 and will provide a combined 20,834 cubic feet of groundwater recharge. The Stormwater Report documents that test pits were performed (in 2019) within the footprint of the proposed BMPs to document the soil characteristics and depth to groundwater.

Infiltration Basin IS-2

The provided test pit information shows that greater than 4-feet of separation has been provided between the bottom of the proposed subsurface basin and observed groundwater. Additionally, TEC confirmed that the proposed elevation of IS-2 has remained consistent between the original design and the current plan set. The elevations of IS-2 have not changed since the original Order of Conditions was issued by the Commission.

Infiltration Basin IS-3

The provided test pit information shows that less than 4-feet of separation, but greater than 2-feet of separation has been provided between the bottom of the proposed subsurface basin and observed groundwater. Consistent with the requirements of the Stormwater Handbook, the report includes a groundwater mounding analysis to show that the groundwater mound will not reach the bottom of the basin.

Based on the above information, TEC can confirm that the project fully meets Standard 3. This comment is informational only. No response required.

6. *Stormwater Standard 4 – water quality*
The project proposes a combination of street sweeping, deep sump hooded catch basins, and subsurface chambers equipped with an isolator row to provide a minimum of 80% total suspended solids (TSS) removal. TSS removal calculations have been provided to document conformance with Standard 4. Standard 4 is fully met by the project. This comment is informational only. No response required.
7. *Stormwater Standard 5 – land uses with higher potential pollutant loads*
TEC's opinion is that the proposed early childhood education and indoor/outdoor recreation uses do not qualify as a land use with higher potential pollutant load (LUHPPL). The future development on the site or on the adjacent parcel may qualify as a LUHPPL due to the anticipated traffic generation. To provide a conservative design, the stormwater system is equipped to meet the requirements of Standard 5. Specific pre-treatment and treatment BMPs are utilized to fully meet Standard 5. This comment is informational only. No response required.

8. *Stormwater Standard 6 – critical areas*

TEC can confirm that the project is not near critical areas identified in Standard 6. This standard is not applicable to the project.

9. *Stormwater Standard 7 – redevelopment*

A portion of the project does constitute redevelopment of the existing Amesbury Sports Park site; however, the project will result in increased impervious area. The Stormwater Calculations have been prepared to show that the project fully meets the Stormwater Standards. Standard 7 is not applicable to the project. This comment is informational only. No response required.

10. *Stormwater Standard 8 – construction period controls*

The Stormwater Report has been prepared to include a Long Term Pollution Prevention Plan and Construction Period Pollution and Erosion and Sedimentation Control Plan in accordance with Standard 8. TEC can confirm that the combination of these documents, as well as the Stormwater Pollution Prevention Plan for the project, fully meet Standard 8. This comment is informational only. No response required.

11. *Stormwater Standard 9 – Operations & Maintenance Plan*

The Stormwater Report has been prepared to include an Operations & Maintenance (O&M) Plan. The O&M Plan has been developed in accordance with Standard 8. The Applicant has indicated that a comprehensive snow management plan will be developed for the site. TEC recommends that the Snow Management Plan be submitted to the Commission as a condition of approval. The snow management plan should detail the snow storage areas, methods for snow removal (including equipment), use and storage of de-icing chemicals, and if/when snow will be trucked off-site.

12. *Stormwater Standard 10 – illicit discharges to drainage system*

TEC can confirm that the stormwater management system has been designed to eliminate any chance of an illicit connection. Additionally, the stormwater report includes a draft affidavit stating that there will be no illicit connections. TEC recommends that the illicit discharge statement be signed by the Applicant and submitted to the Commission as a condition of approval.

13. Overall, TEC can confirm that the project has been designed to fully meet the Massachusetts Stormwater Standards as listed under the Wetlands Protection Act. The Stormwater Report has been developed to document compliance with each Standard as noted above.

Please do not hesitate to contact me directly if you have any questions concerning our peer review at 978-794-1792. Thank you for your consideration.

Sincerely,
TEC, Inc.
"The Engineering Corporation"



Peter F. Ellison, PE
Director of Strategic Land Planning

Path: \\wse03.local\WSE03\p\Water\ERMAP\GIS - Constraints Mapping\Amesbury\50 S Hunt Road\February 2019 Delineation\Figure 1 - locus.mxd User: GasparA Saved: 2/11/2019 1:18:28 PM Opened: 2/11/2019 1:21:01 PM

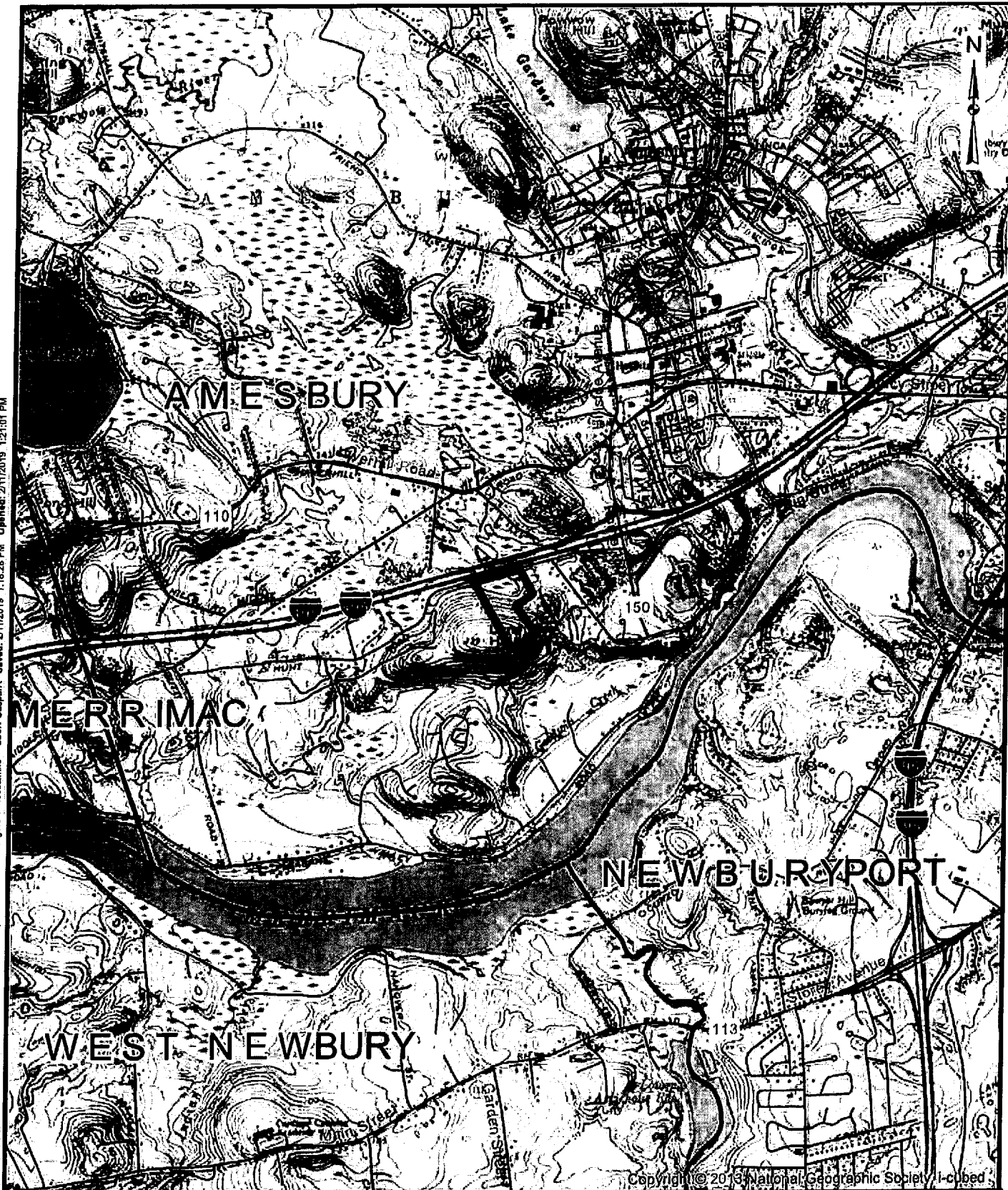


FIGURE 1
South Hunt Road
Amesbury, Massachusetts

Locus Map

 **Work Area**

1,000 0 1,000

Scale In Feet

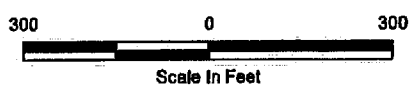
Weston & Sampson

- Work Area
- Perennial Stream
- Intermittent Stream
- NHESP Certified Vernal Pools
- DEP Wetlands
- NHESP Priority Habitats of Rare Species
- NHESP Estimated Habitats of Rare Wildlife
- ACECs



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

FIGURE 2
South Hunt Road
Amesbury, Massachusetts
ENVIRONMENTAL RECEPTORS



Weston & Sampson

National Flood Hazard Layer FIRMette



42°50'21.72"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

USGS The National Map Orthorectified Data referenced October 2017.
42°49'55.34"N
70°56'22.58"W

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS

- Without Base Flood Elevation (BFE)
Zone A, V, AE, AR
- With BFE or Depth Zone AE, AO, AH, VE, AR
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD

- 0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
- Future Conditions 1% Annual Chance Flood Hazard Zone X
- Area with Reduced Flood Risk due to Levee, See Notes, Zone X
- Area with Flood Risk due to Levee Zone X

OTHER AREAS

- Area of Minimal Flood Hazard Zone X
- Effective LOMRs
- Area of Undetermined Flood Hazard Zone X
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

GENERAL STRUCTURES

- Cross Sections with 1% Annual Chance Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

OTHER FEATURES

- Digital Data Available
- No Digital Data Available
- Unmapped

MAP PANELS

- The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

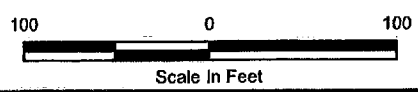
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 2/11/2019 at 2:26:09 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Path: I:\wse03\local\WSE\Depts\Water\Water Resources Group\GIS - Constraints Mapping\Amesbury\50 S Hunt Road\February 2019 Delineation\delinations combine.mxd User: GasparA Saved: 6/27/2019 2:57:36 PM Opened: 6/27/2019 2:56:04 PM



FIGURE 1
South Hunt Road
Amesbury, Massachusetts
Wetland Flag Map



Weston & Sampson

-  Work Area
-  Perennial Stream
-  Intermittent Stream
-  NHESP Certified Vernal Pools
-  DEP Wetlands
-  NHESP Priority Habitats of Rare Species
-  NHESP Estimated Habitats of Rare Wildlife
-  ACECs



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

FIGURE 3
South Hunt Road
Amesbury, Massachusetts
ENVIRONMENTAL RECEPTORS

300 0 300

 Scale In Feet

Weston & Sampson

National Flood Hazard Layer FIRMette



42°50'21.72"N



USGS The National Map of the United States Date revised October 2017



42°49'55.34"N

70°56'22.58"W

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
 Without Base Flood Elevation (BFE)
 Zone A, V, AE
 With BFE or Depth Zone AE, AO, AH, VE, AR
 Regulatory Floodway

0.2% Annual Chance Flood Hazard, An
 of 1% annual chance flood with average
 depth less than one foot or with drainage
 areas of less than one square mile Zone
 Future Conditions 1% Annual
 Chance Flood Hazard Zone X
 Area with Reduced Flood Risk due to
 Levee. See Notes, Zone X
 Area with Flood Risk due to Levee Zone

OTHER AREAS OF
 FLOOD HAZARD

NO SCREEN
 Area of Minimal Flood Hazard Zone X
 Effective LOMRs
 Area of Undetermined Flood Hazard Zone

OTHER AREAS

GENERAL
 STRUCTURES
 Channel, Culvert, or Storm Sewer
 Levee, Dike, or Floodwall

Cross Sections with 1% Annual Chance
 Water Surface Elevation
 Coastal Transect
 Base Flood Elevation Line (BFE)
 Limit of Study
 Jurisdiction Boundary
 Coastal Transect Baseline
 Profile Baseline
 Hydrographic Feature

OTHER
 FEATURES

MAP PANELS
 Digital Data Available
 No Digital Data Available
 Unmapped



The pin displayed on the map is an approximate
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 regulatory purposes.

AMESBURY, MA 01913

**GLOBAL PROPERTY
DEVELOPERS
CORPORATION**
801ST STREET
BRIDGEWATER, MA 02226

C002	ABBREVIATIONS, NOTES & LEGEND
C003	EXISTING CONTOUR PLAN
C010	SITE DEMOLITION PLAN
C0180	EROSION & SEDIMENT CONTROL PLAN
C0101	LAYOUT & MATERIALS PLAN
C102	GRADINGS & DRAINAGE PLAN
C103	ROADWAY PROFILE
C104	DRAINAGE INVERT TABLES
C106	TRAFFIC CIRCULATION PLAN
C108	UTILITY PLAN
C109	PHOTOMETRIC PLAN
C201	ENLARGED PAVING LOT LAYOUT PLAN
C202	ENLARGED PAVING LOT LAYOUT PLAN
C203	ENLARGED PAVING LOT LAYOUT PLAN
C204	WETLAND IMPACT & REPLICATION PLAN
C206	ENLARGED GRADING & DRAINAGE PLAN
C208	ENLARGED GRADING & DRAINAGE PLAN
C207	PLANTING PLAN - OVERALL KEY PLAN
L101	PLANTING PLAN - OVERALL KEY PLAN
L102	CONSTRUCTION DETAILS
C300	CONSTRUCTION DETAILS
C301	CONSTRUCTION DETAILS
C302	CONSTRUCTION DETAILS
C303	CONSTRUCTION DETAILS
C304	CONSTRUCTION DETAILS
C306	LANDSCAPE DETAILS
C308	LANDSCAPE DETAILS



Now watch below.
Call before you dig.

THE UNIVERSITY OF CHICAGO

PERMITTING - NOT FOR CONSTRUCTION

GENERAL SYMBOLS

[illegible]

ABBREVIATIONS

[illegible]

DEMOLITION & SITE PREPARATION NOTES

- [illegible]

AYOUT & MATERIALS NOTES

- On 11/11/1981, a letter was received from the Hon. Charles E. Wicks, Chairman, Senate Committee on Government Operations and Administration, regarding the proposed changes in the Federal Bureau of Investigation (FBI) organizational structure. The letter stated that the FBI was to be reorganized into three major divisions: the Criminal Division, the Civil Rights Division, and the Administrative Division. The letter also stated that the FBI was to be reorganized into three major divisions: the Criminal Division, the Civil Rights Division, and the Administrative Division. The letter also stated that the FBI was to be reorganized into three major divisions: the Criminal Division, the Civil Rights Division, and the Administrative Division.

SEWERING, UTILITIES & DRAINAGE NOTES

- [illegible]

GENERAL NOTES

- [illegible]

EROSION AND SEDIMENT CONTROL NOTES:

- the 1990s, the number of people who have been convicted of a crime and sentenced to life in prison has increased significantly. In 1990, there were 1,000 people in prison for life. By 2000, there were 1,500 people in prison for life. By 2010, there were 2,000 people in prison for life. By 2020, there were 2,500 people in prison for life. This increase in the number of people in prison for life is a result of a number of factors, including the increase in the number of people who are convicted of a crime and sentenced to life in prison, and the increase in the number of people who are sentenced to life in prison for a crime that is not a capital offense.

WETLAND REPLICATION CONSTRUCTION & SEQUENCING

- As the CHSMA's Third Annual Meeting approaches, we are pleased to announce that the CHSMA has received a grant from the National Science Foundation (NSF) to support the development of a new research program in the area of environmental health and safety. The grant is for the period of 2001-2003 and is for the amount of \$1,000,000. The grant is for the purpose of supporting the development of a new research program in the area of environmental health and safety. The grant is for the purpose of supporting the development of a new research program in the area of environmental health and safety.

Inventory		Balance	
No.	Qty	Unit	Value
1	1	1	1
2	1	1	1
3	1	1	1
4	1	1	1
5	1	1	1
6	1	1	1
7	1	1	1
8	1	1	1
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98	1	1	1
99	1	1	1
100	1	1	1



Chlorine is known to be a hazardous air pollutant and is listed as such in the National Air Quality Criteria Study. Chlorine is also a known irritant to the respiratory system and is listed as such in the National Air Quality Criteria Study.

PERMITTING - I

NAME	AGE
ALICE	10
BOB	12
CHARLIE	15
DAVE	18
EVE	20
FRANK	22
GRACE	25
HELEN	28
IRVING	30
JANE	32
JOHN	35
KATE	38
LARRY	40
MARY	42
NED	45
OLIVE	48
PETER	50
QUINN	52
ROSE	55
SAM	58
TOM	60
WILLIAM	62
YVONNE	65
ZOE	68

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 二、
 三、

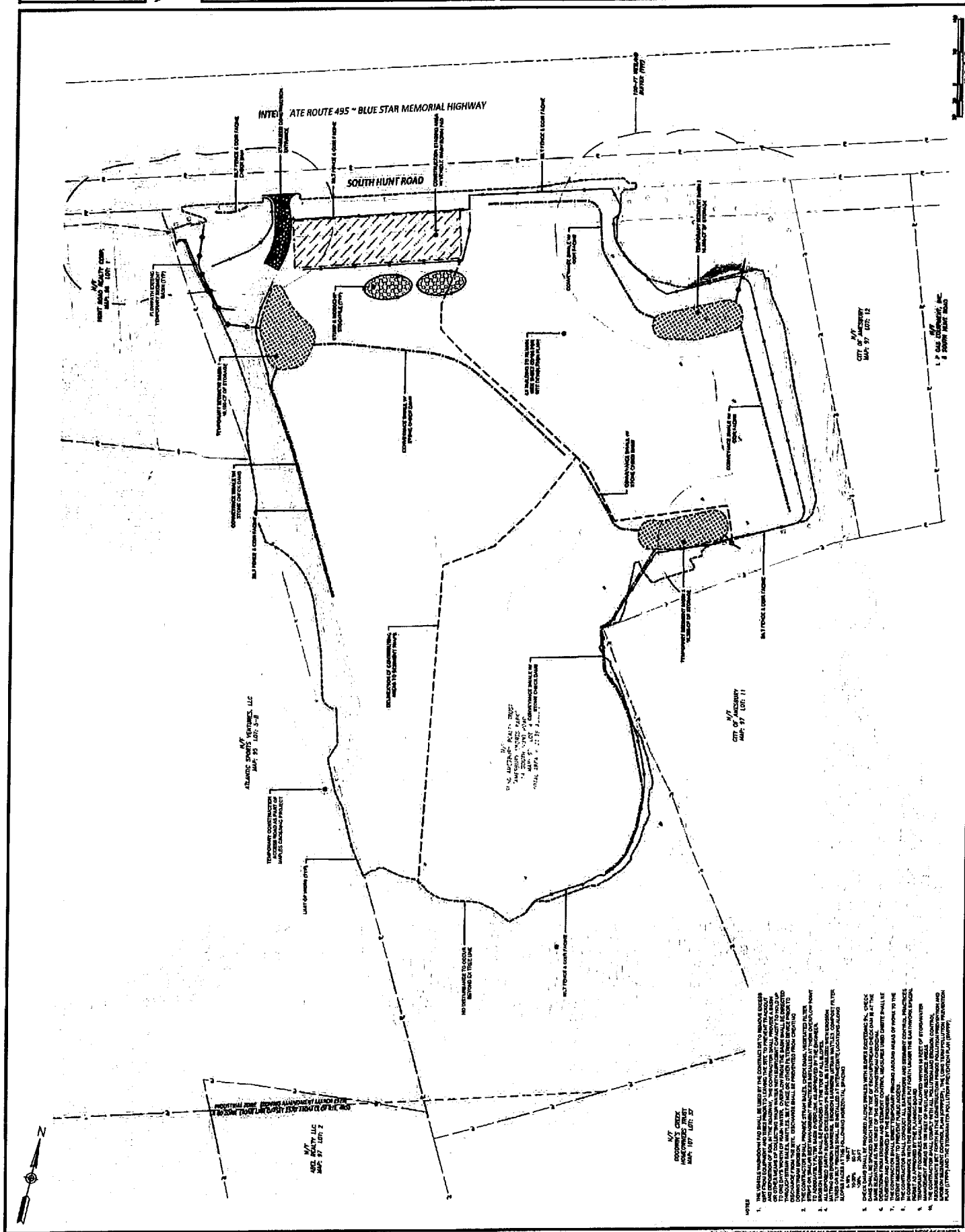
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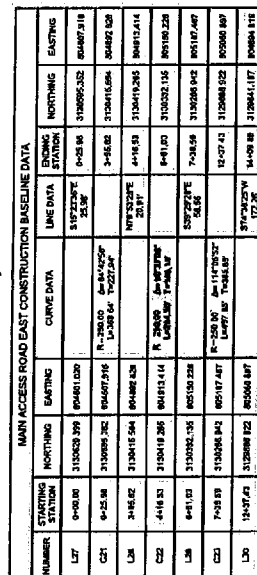
CONDITIONS P

Serial Number



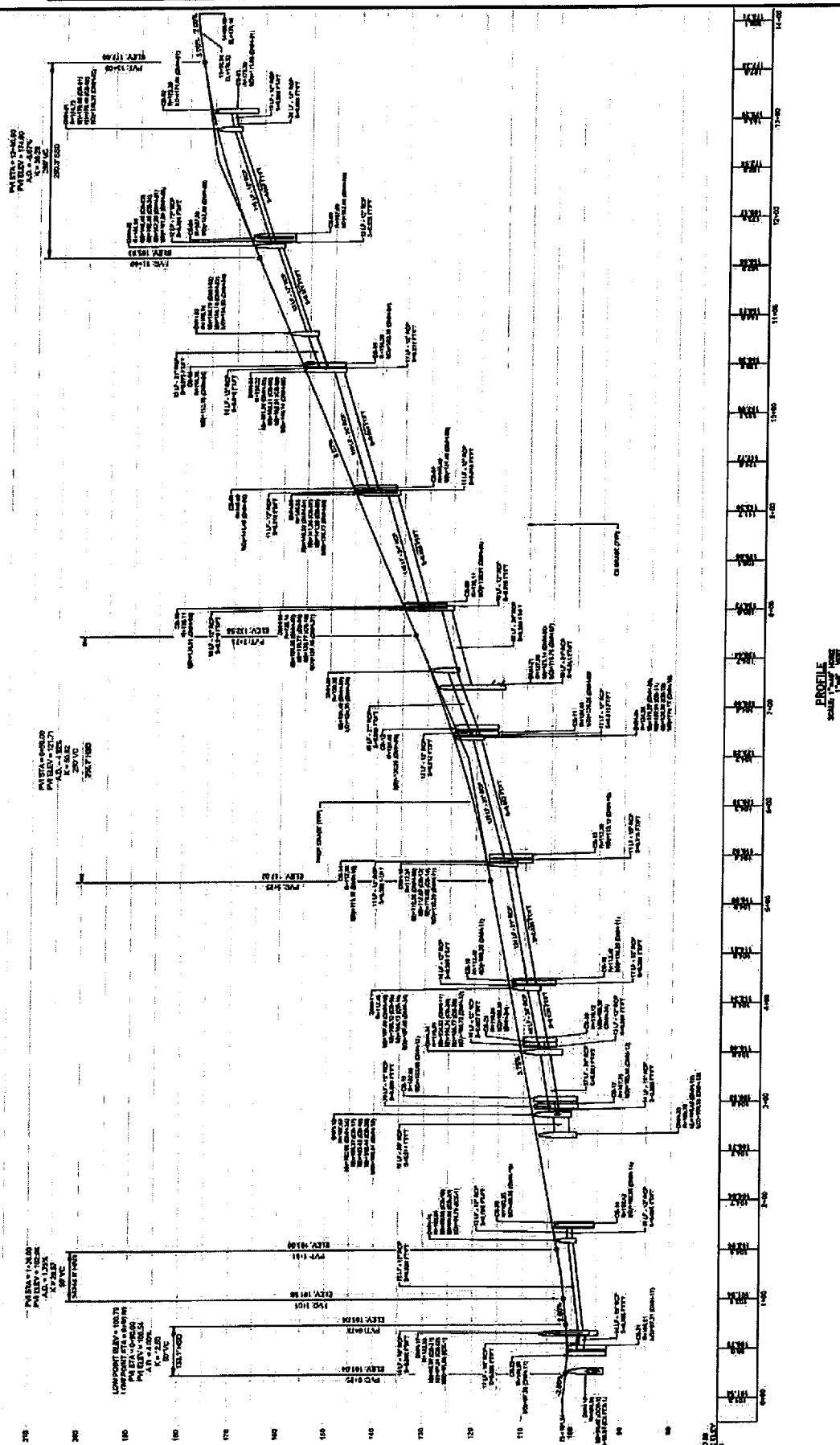
- EXISTING COMPOSITIONS INFORMATION SHOWN PER AN ON THE ATTACHED SHEET. THIS INFORMATION WAS OBTAINED FROM THE ANALYSIS CONDUCTED BY DATA F. PERSONS, INC. IN MAY OF 2015.**
1. NUTRACEUTICALS AND PHARMACEUTICALS, INC. (NUTRACEUTICALS) HAS A PATENT PENDING FOR A TOPICAL OIL ON DECEMBER 11, 2014 AND FEBRUARY 11, 2015.
 2. A PORTION OF WETLAND DERRIS A WAS RECLASSIFIED BY WESTON LAMSON PROFESSIONAL WETLAND AND SCIENTIST (PWS) ON JANUARY 11, 2015 TO CORRECT THE PRESIDENCE OF PWS. THE RECLASSIFICATION WAS MADE TO CORRECT THE PRESIDENCE OF PWS AND BECAUSE A SHEDDING IN THE WETLAND IS LOCATED BETWEEN THE LARGER WETLAND COMPLEX AND A LARGER WETLAND ADJACENT TO THE U.S. AND USE OF THE RESULT.
 3. WETLAND DERRIS A WAS RECLASSIFIED AS A SHEDDING WETLAND AND THE RECLASSIFICATION WAS MADE TO CORRECT THE PRESIDENCE OF PWS AND BECAUSE A SHEDDING WETLAND ADJACENT TO THE U.S. AND USE OF THE RESULT.
 4. THE WETLAND DERRIS A WAS RECLASSIFIED AS A SHEDDING WETLAND AND THE RECLASSIFICATION WAS MADE TO CORRECT THE PRESIDENCE OF PWS AND BECAUSE A SHEDDING WETLAND ADJACENT TO THE U.S. AND USE OF THE RESULT.
 5. THE WETLAND DERRIS A WAS RECLASSIFIED AS A SHEDDING WETLAND AND THE RECLASSIFICATION WAS MADE TO CORRECT THE PRESIDENCE OF PWS AND BECAUSE A SHEDDING WETLAND ADJACENT TO THE U.S. AND USE OF THE RESULT.





IN WORK SHOWN BEYOND THE LIMIT OF WORK IS PART OF THE MAPLES CONCERNING DEVELOPMENT AND IS OUTSIDE OF THE SCOPE OF THESE PLANS. THIS WORK IS

MAIN ACCESS ROAD EAST



PROFILE

ROADWAY PRO

C10E

10. 22. 4



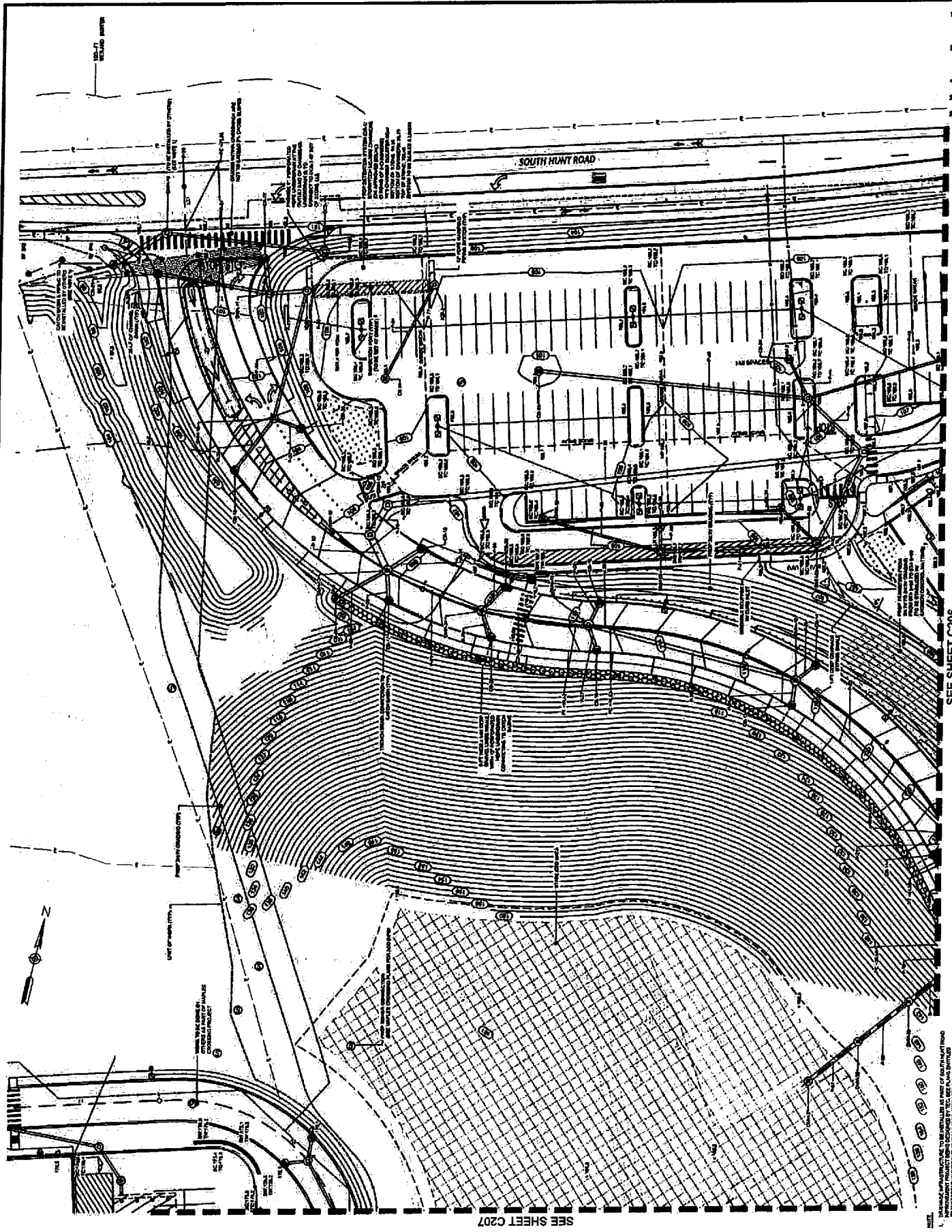






REPLICATION AREA

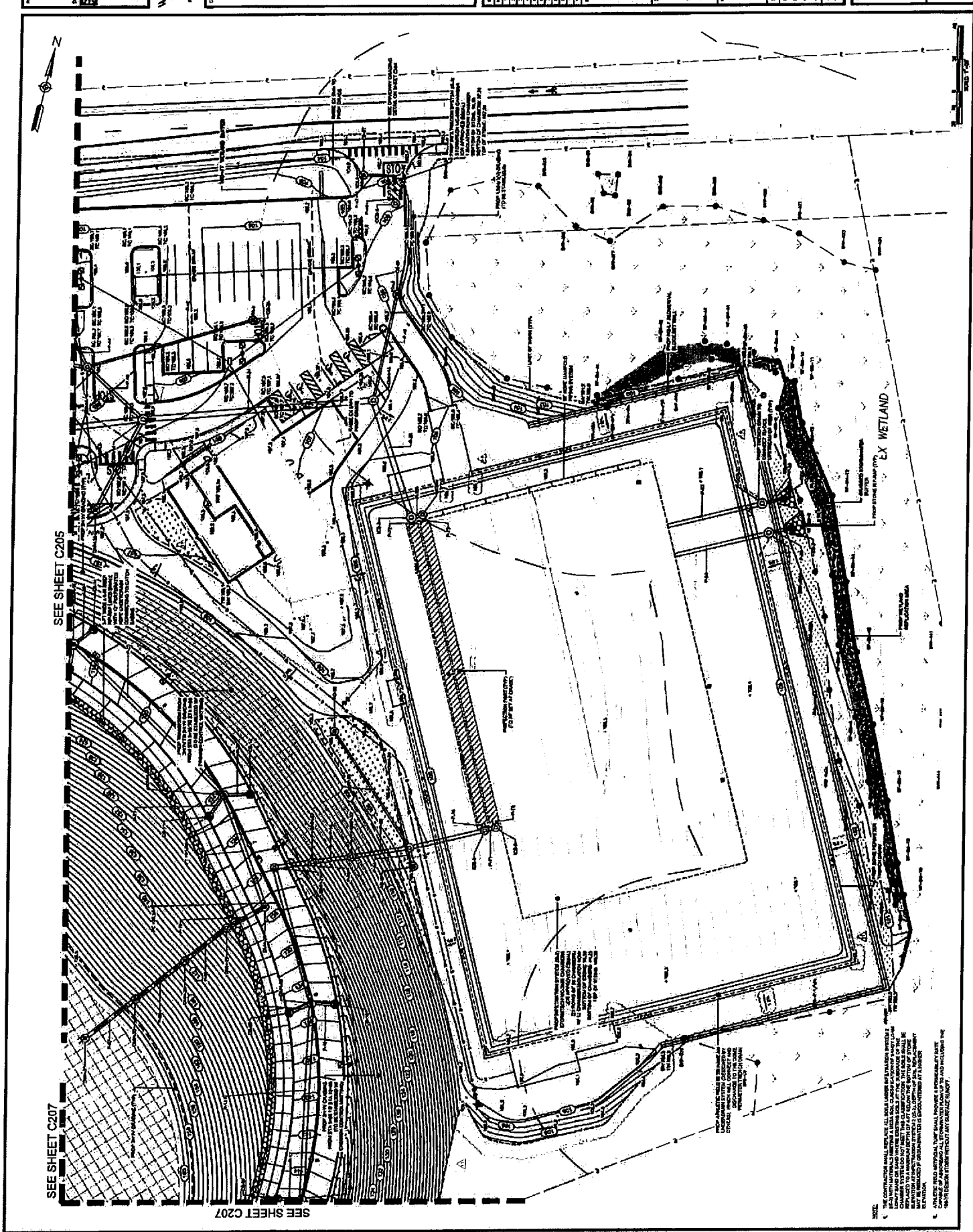
C20

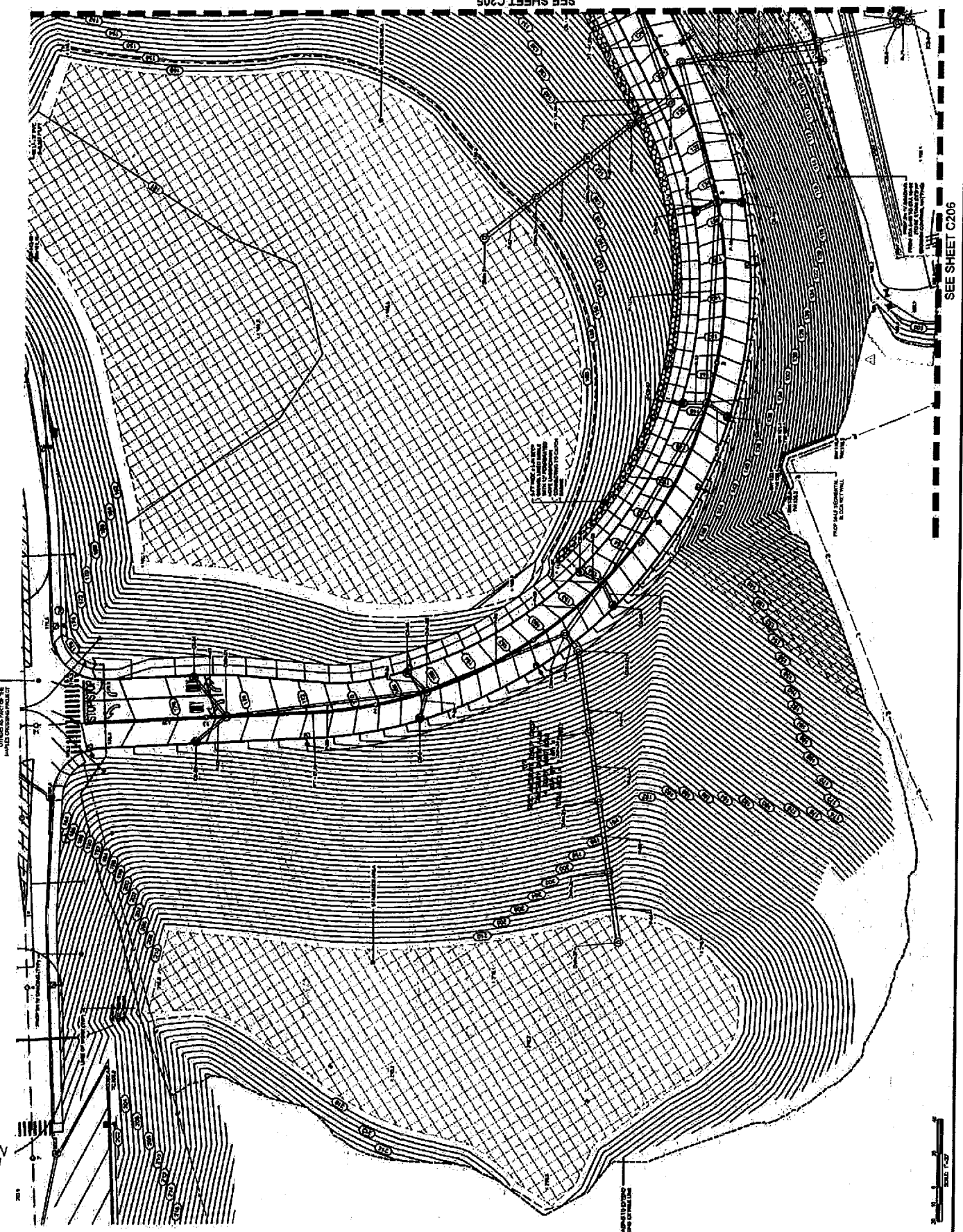


SEE SHEET C206

SEE SHEET C207

1. DRAINAGE AND GRADING TO BE INSTALLED AS SHOWN ON THIS PLAN.
 2. PRELIMINARY PROPOSED DRAINAGE TO BE INSTALLED AS SHOWN ON THIS PLAN.
 3. DRAINAGE AND GRADING TO BE INSTALLED AS SHOWN ON THIS PLAN.



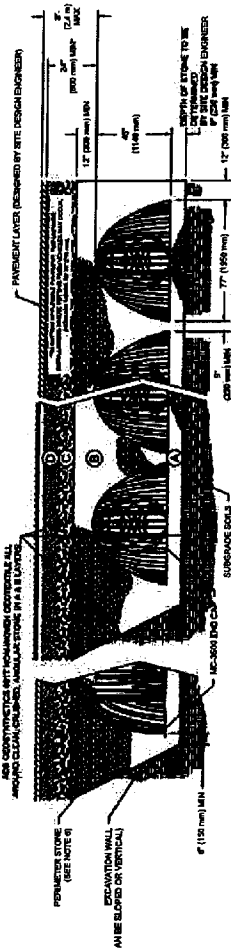
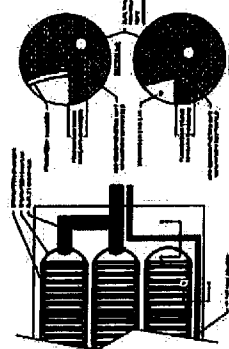


SEE SHEET C205

SEE SHEET C206

SEE SHEET C207

	MATERIAL LOCATION	DESCRIPTION	ASPH/TO MATERIAL CLASSIFICATIONS	COMPACTION/DENSITY REQUIREMENT
D	FROM THE TOP OF THE "C" LAYER TO THE BOTTOM OF THE "E" LAYER. ALL MATERIAL FOR FILL UP TO THE TOP OF THE "C" LAYER TO THE BOTTOM OF THE "E" LAYER. ALL MATERIAL FOR FILL UP TO THE TOP OF THE "C" LAYER TO THE BOTTOM OF THE "E" LAYER. ALL MATERIAL FOR FILL UP TO THE TOP OF THE "C" LAYER TO THE BOTTOM OF THE "E" LAYER.	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR OTHER EXISTING MATERIALS THAT ARE PLACED FOR PAVEMENT SUBGRADE. NOTE THAT PAVEMENT SUBGRADE MAY BE PART OF THE "D" LAYER.	N/A	PREPARE PROPOSED DESIGN DIMENSIONS IN PLACE. MATERIALS MUST BE PLACED IN LIFT. MATERIALS MUST BE PLACED IN LIFT. MATERIALS MUST BE PLACED IN LIFT.
E	ENTIRE RULL FOR LAYER "C" STARTING FROM THE TOP OF THE EMBANKMENT TO THE BOTTOM OF THE "D" LAYER. THE "C" LAYER TO THE BOTTOM OF THE "D" LAYER. THE "C" LAYER TO THE BOTTOM OF THE "D" LAYER.	BRIMALLA RULL CRUSHED SOIL AGGREGATE MATERIALS, 40% FINE, OR PROPOSED AGGREGATE MATERIALS. MOST PAVEMENT SUBGRADE MATERIALS CAN BE USED IN LIFT OF THIS LAYER.	ASPH/TO 4-4.1, 4-4.2, 4-4.3, 4-4.4, 4-4.5, 4-4.6, 4-4.7, 4-4.8, 4-4.9, 4-4.10, 4-4.11, 4-4.12, 4-4.13, 4-4.14, 4-4.15, 4-4.16, 4-4.17, 4-4.18, 4-4.19, 4-4.20, 4-4.21, 4-4.22, 4-4.23, 4-4.24, 4-4.25, 4-4.26, 4-4.27, 4-4.28, 4-4.29, 4-4.30, 4-4.31, 4-4.32, 4-4.33, 4-4.34, 4-4.35, 4-4.36, 4-4.37, 4-4.38, 4-4.39, 4-4.40, 4-4.41, 4-4.42, 4-4.43, 4-4.44, 4-4.45, 4-4.46, 4-4.47, 4-4.48, 4-4.49, 4-4.50, 4-4.51, 4-4.52, 4-4.53, 4-4.54, 4-4.55, 4-4.56, 4-4.57, 4-4.58, 4-4.59, 4-4.60, 4-4.61, 4-4.62, 4-4.63, 4-4.64, 4-4.65, 4-4.66, 4-4.67, 4-4.68, 4-4.69, 4-4.70, 4-4.71, 4-4.72, 4-4.73, 4-4.74, 4-4.75, 4-4.76, 4-4.77, 4-4.78, 4-4.79, 4-4.80, 4-4.81, 4-4.82, 4-4.83, 4-4.84, 4-4.85, 4-4.86, 4-4.87, 4-4.88, 4-4.89, 4-4.90, 4-4.91, 4-4.92, 4-4.93, 4-4.94, 4-4.95, 4-4.96, 4-4.97, 4-4.98, 4-4.99, 4-4.100, 4-4.101, 4-4.102, 4-4.103, 4-4.104, 4-4.105, 4-4.106, 4-4.107, 4-4.108, 4-4.109, 4-4.110, 4-4.111, 4-4.112, 4-4.113, 4-4.114, 4-4.115, 4-4.116, 4-4.117, 4-4.118, 4-4.119, 4-4.120, 4-4.121, 4-4.122, 4-4.123, 4-4.124, 4-4.125, 4-4.126, 4-4.127, 4-4.128, 4-4.129, 4-4.130, 4-4.131, 4-4.132, 4-4.133, 4-4.134, 4-4.135, 4-4.136, 4-4.137, 4-4.138, 4-4.139, 4-4.140, 4-4.141, 4-4.142, 4-4.143, 4-4.144, 4-4.145, 4-4.146, 4-4.147, 4-4.148, 4-4.149, 4-4.150, 4-4.151, 4-4.152, 4-4.153, 4-4.154, 4-4.155, 4-4.156, 4-4.157, 4-4.158, 4-4.159, 4-4.160, 4-4.161, 4-4.162, 4-4.163, 4-4.164, 4-4.165, 4-4.166, 4-4.167, 4-4.168, 4-4.169, 4-4.170, 4-4.171, 4-4.172, 4-4.173, 4-4.174, 4-4.175, 4-4.176, 4-4.177, 4-4.178, 4-4.179, 4-4.180, 4-4.181, 4-4.182, 4-4.183, 4-4.184, 4-4.185, 4-4.186, 4-4.187, 4-4.188, 4-4.189, 4-4.190, 4-4.191, 4-4.192, 4-4.193, 4-4.194, 4-4.195, 4-4.196, 4-4.197, 4-4.198, 4-4.199, 4-4.200, 4-4.201, 4-4.202, 4-4.203, 4-4.204, 4-4.205, 4-4.206, 4-4.207, 4-4.208, 4-4.209, 4-4.210, 4-4.211, 4-4.212, 4-4.213, 4-4.214, 4-4.215, 4-4.216, 4-4.217, 4-4.218, 4-4.219, 4-4.220, 4-4.221, 4-4.222, 4-4.223, 4-4.224, 4-4.225, 4-4.226, 4-4.227, 4-4.228, 4-4.229, 4-4.230, 4-4.231, 4-4.232, 4-4.233, 4-4.234, 4-4.235, 4-4.236, 4-4.237, 4-4.238, 4-4.239, 4-4.240, 4-4.241, 4-4.242, 4-4.243, 4-4.244, 4-4.245, 4-4.246, 4-4.247, 4-4.248, 4-4.249, 4-4.250, 4-4.251, 4-4.252, 4-4.253, 4-4.254, 4-4.255, 4-4.256, 4-4.257, 4-4.258, 4-4.259, 4-4.260, 4-4.261, 4-4.262, 4-4.263, 4-4.264, 4-4.265, 4-4.266, 4-4.267, 4-4.268, 4-4.269, 4-4.270, 4-4.271, 4-4.272, 4-4.273, 4-4.274, 4-4.275, 4-4.276, 4-4.277, 4-4.278, 4-4.279, 4-4.280, 4-4.281, 4-4.282, 4-4.283, 4-4.284, 4-4.285, 4-4.286, 4-4.287, 4-4.288, 4-4.289, 4-4.290, 4-4.291, 4-4.292, 4-4.293, 4-4.294, 4-4.295, 4-4.296, 4-4.297, 4-4.298, 4-4.299, 4-4.300, 4-4.301, 4-4.302, 4-4.303, 4-4.304, 4-4.305, 4-4.306, 4-4.307, 4-4.308, 4-4.309, 4-4.310, 4-4.311, 4-4.312, 4-4.313, 4-4.314, 4-4.315, 4-4.316, 4-4.317, 4-4.318, 4-4.319, 4-4.320, 4-4.321, 4-4.322, 4-4.323, 4-4.324, 4-4.325, 4-4.326, 4-4.327, 4-4.328, 4-4.329, 4-4.330, 4-4.331, 4-4.332, 4-4.333, 4-4.334, 4-4.335, 4-4.336, 4-4.337, 4-4.338, 4-4.339, 4-4.340, 4-4.341, 4-4.342, 4-4.343, 4-4.344, 4-4.345, 4-4.346, 4-4.347, 4-4.348, 4-4.349, 4-4.350, 4-4.351, 4-4.352, 4-4.353, 4-4.354, 4-4.355, 4-4.356, 4-4.357, 4-4.358, 4-4.359, 4-4.360, 4-4.361, 4-4.362, 4-4.363, 4-4.364, 4-4.365, 4-4.366, 4-4.367, 4-4.368, 4-4.369, 4-4.370, 4-4.371, 4-4.372, 4-4.373, 4-4.374, 4-4.375, 4-4.376, 4-4.377, 4-4.378, 4-4.379, 4-4.380, 4-4.381, 4-4.382, 4-4.383, 4-4.384, 4-4.385, 4-4.386, 4-4.387, 4-4.388, 4-4.389, 4-4.390, 4-4.391, 4-4.392, 4-4.393, 4-4.394, 4-4.395, 4-4.396, 4-4.397, 4-4.398, 4-4.399, 4-4.400, 4-4.401, 4-4.402, 4-4.403, 4-4.404, 4-4.405, 4-4.406, 4-4.407, 4-4.408, 4-4.409, 4-4.410, 4-4.411, 4-4.412, 4-4.413, 4-4.414, 4-4.415, 4-4.416, 4-4.417, 4-4.418, 4-4.419	

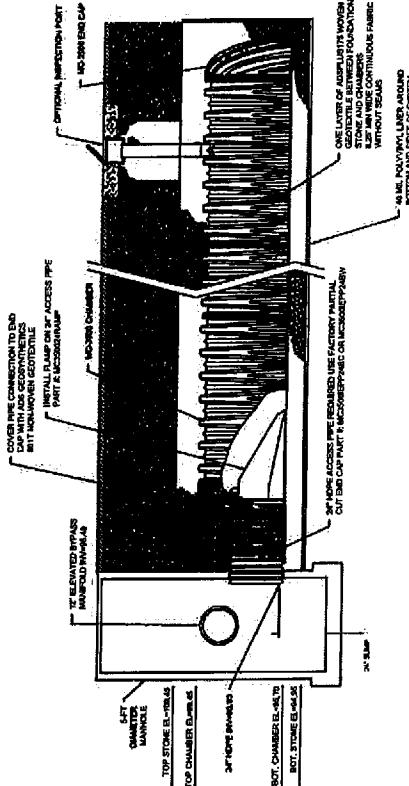
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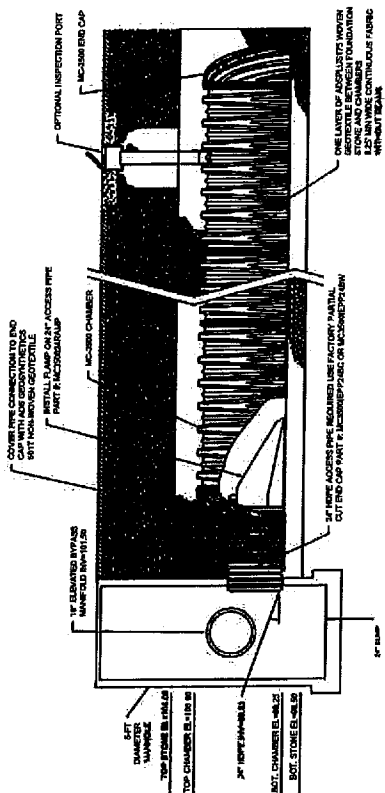
FILE NO.

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1. **INSPECT EVERY 8 MONTHS** DURING THE FIRST YEAR OF OPERATION. ADJUST THE INSPECTION INTERVAL BASED ON PREVIOUS OBSERVATIONS OF SEDIMENT ACCUMULATION AND HIGH WATER ELEVATIONS. INSPECTIONS SHALL OCCUR ANNUALLY AT A MINIMUM.
2. **CONDUCT SETTING AND VACUUMING ANNUALLY** OR WHEN INSPECTION SHOWS THAT MAINTENANCE IS NECESSARY.

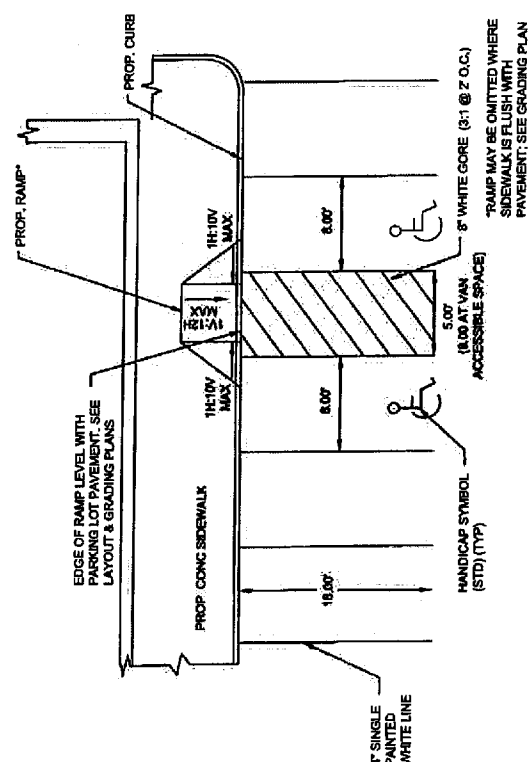


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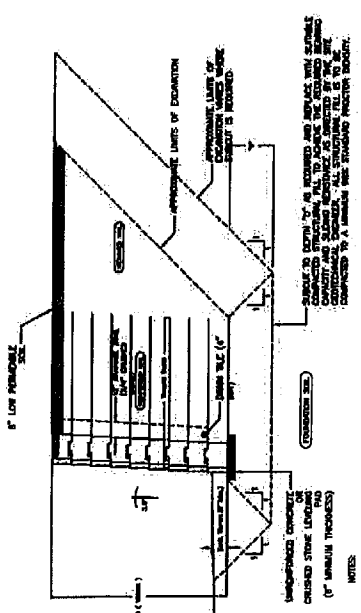


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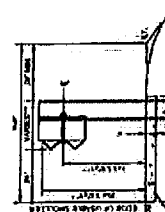


2 **PARTING STALLS & SYMBOLS**
PAGE 413

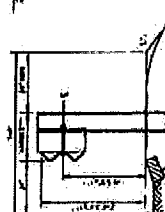


- 1) THE VERTICAL DISTANCE BETWEEN THE ILLUMINATION FIXTURES SHALL BE MAINTAINED AS SHOWN ON THE ATTACHED PRELIMINARY WALL MOUNTING DETAIL. THE DISTANCE SHALL BE MAINTAINED AS SHOWN ON THE ATTACHED PRELIMINARY WALL MOUNTING DETAIL. THE DISTANCE SHALL BE MAINTAINED AS SHOWN ON THE ATTACHED PRELIMINARY WALL MOUNTING DETAIL.
- 2) THE RETAINING WALL DESIGN CRITERIA SHALL INCLUDE (BUT NOT BE LIMITED TO) THE FOLLOWING:
 - A) SECTIONS OF LATERAL EARTH PRESSURE
 - B) SECTIONS OF LATERAL EARTH PRESSURE
 - C) SECTIONS OF LATERAL EARTH PRESSURE
 - D) SECTIONS OF LATERAL EARTH PRESSURE
 - E) SECTIONS OF LATERAL EARTH PRESSURE
 - F) SECTIONS OF LATERAL EARTH PRESSURE
 - G) SECTIONS OF LATERAL EARTH PRESSURE
 - H) SECTIONS OF LATERAL EARTH PRESSURE
 - I) SECTIONS OF LATERAL EARTH PRESSURE
 - J) SECTIONS OF LATERAL EARTH PRESSURE
 - K) SECTIONS OF LATERAL EARTH PRESSURE
 - L) SECTIONS OF LATERAL EARTH PRESSURE
 - M) SECTIONS OF LATERAL EARTH PRESSURE
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 - O) SECTIONS OF LATERAL EARTH PRESSURE
 - P) SECTIONS OF LATERAL EARTH PRESSURE
 - Q) SECTIONS OF LATERAL EARTH PRESSURE
 - R) SECTIONS OF LATERAL EARTH PRESSURE
 - S) SECTIONS OF LATERAL EARTH PRESSURE
 - T) SECTIONS OF LATERAL EARTH PRESSURE
 - U) SECTIONS OF LATERAL EARTH PRESSURE
 - V) SECTIONS OF LATERAL EARTH PRESSURE
 - W) SECTIONS OF LATERAL EARTH PRESSURE
 - X) SECTIONS OF LATERAL EARTH PRESSURE
 - Y) SECTIONS OF LATERAL EARTH PRESSURE
 - Z) SECTIONS OF LATERAL EARTH PRESSURE
- 3) RETAINING WALL MATERIAL SHALL BE PRECAST CONCRETE BLOCKS AND ARE REQUIRED TO RESIST LATERAL EARTH WALLS

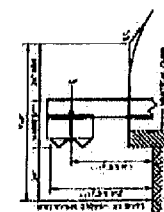
1. TYPICAL RETAINING WALL CROSS SECTION



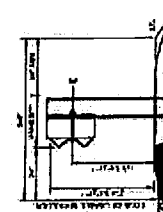
SECTION 7-700
PAVEMENT MILLING MULCH



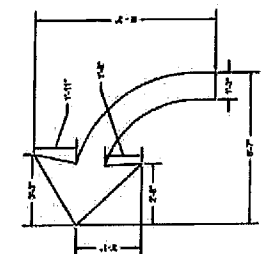
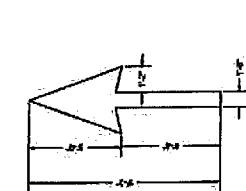
SECTION 2-700



SECTION Z-Z'
L GRANITE CURB OR SIMILAR
ITE CURB ALONG EDGE OF SHOULDER

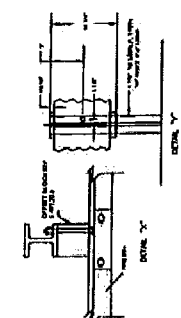


SECTION 7-200

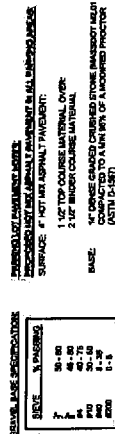


4 PAVEMENT ARROW DETAIL
SCALE 1/4" = 1'-0"

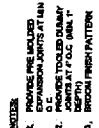
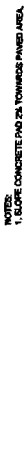
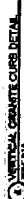
THE REVENUE OF INSURANCE IS A SIGNIFICANT PART OF THE BUDGET OF MANY COUNTRIES. IN THE UNITED STATES, IT IS ABOUT 2.4 PERCENT OF THE GROSS NATIONAL PRODUCT. IN THE UNITED KINGDOM, IT IS ABOUT 1.5 PERCENT. IN THE UNITED STATES, THE REVENUE OF INSURANCE IS ABOUT 2.4 PERCENT OF THE GROSS NATIONAL PRODUCT. IN THE UNITED KINGDOM, IT IS ABOUT 1.5 PERCENT. IN THE UNITED STATES, THE REVENUE OF INSURANCE IS ABOUT 2.4 PERCENT OF THE GROSS NATIONAL PRODUCT. IN THE UNITED KINGDOM, IT IS ABOUT 1.5 PERCENT.



STEEL GUARDRAIL DETAIL

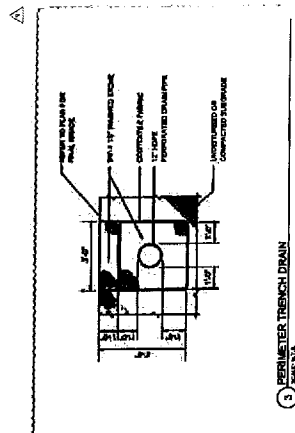


1 ROADWAY CROSS SECTIONS AND PAVING DETAILS

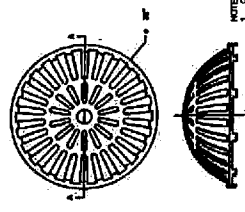


CEMENT CONCRETE WALK

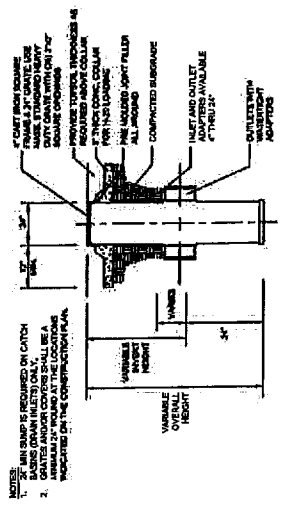
2 DRIVEWAY ENTRANCE GRADING DETAIL



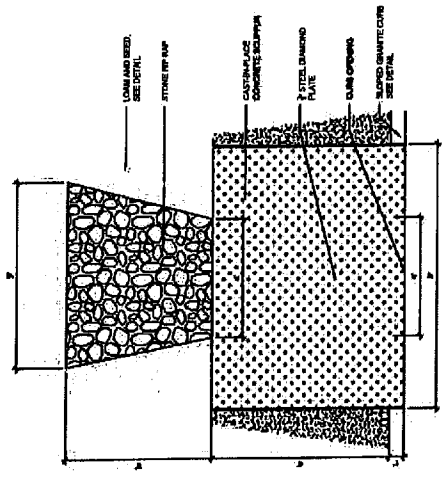
3 PERIMETER TRENCH DRAIN
SCALE: 1/4\"/>



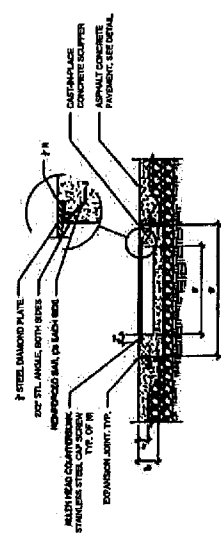
2 36\"/>



1 ONE AREA DRAIN
SCALE: 1/4\"/>

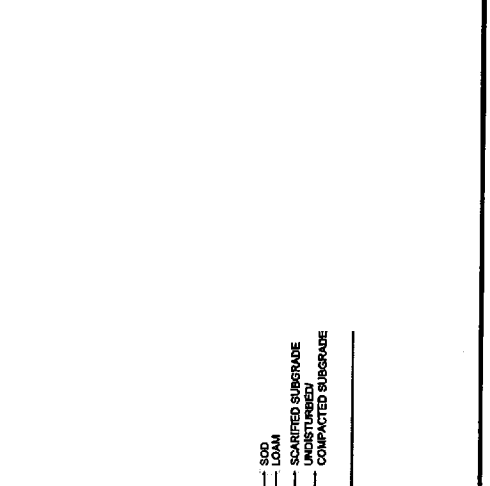
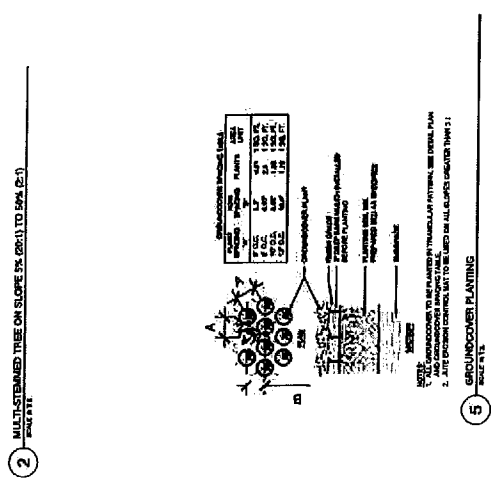
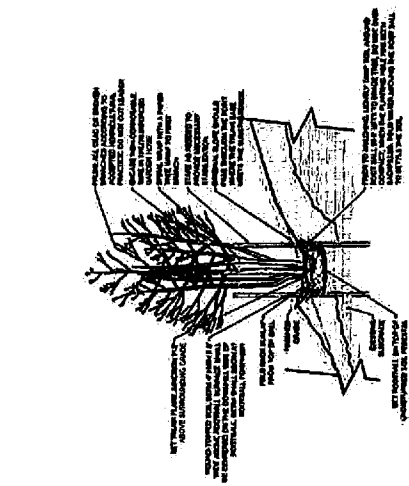
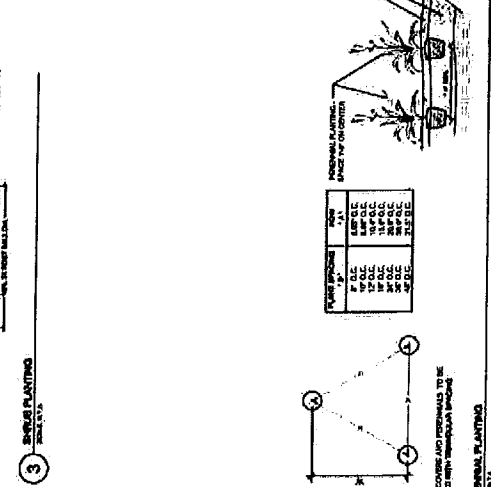
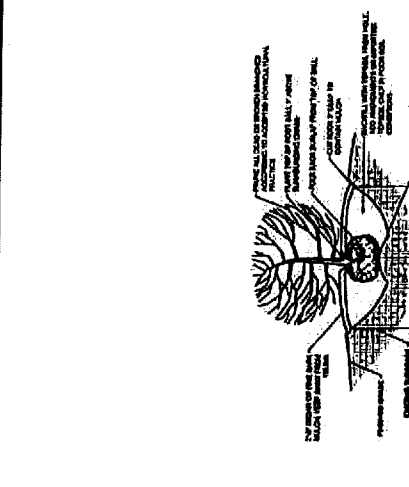
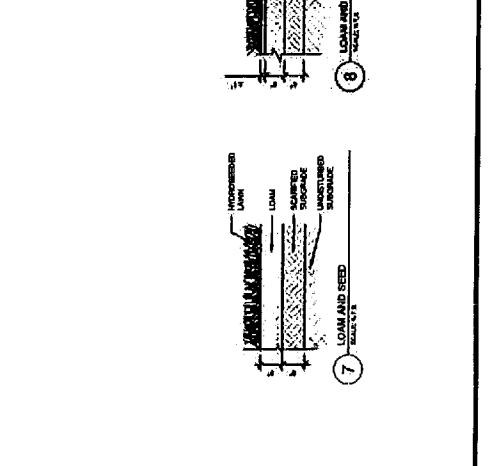
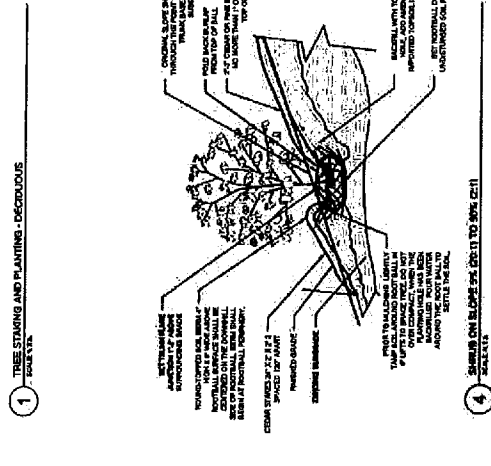
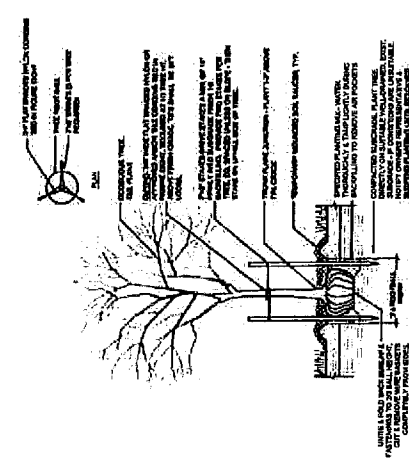


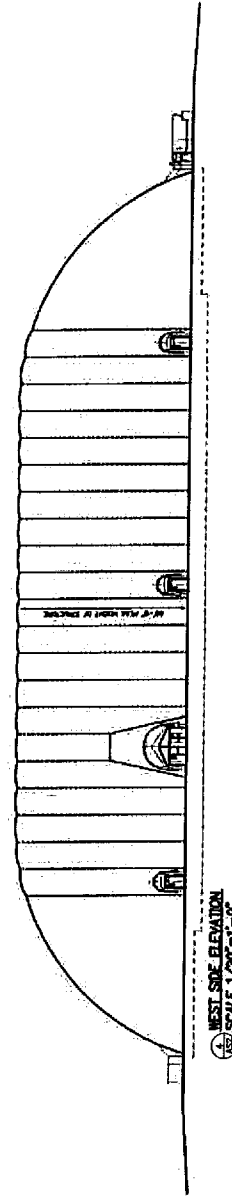
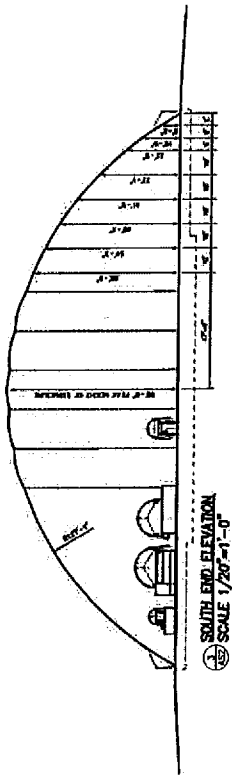
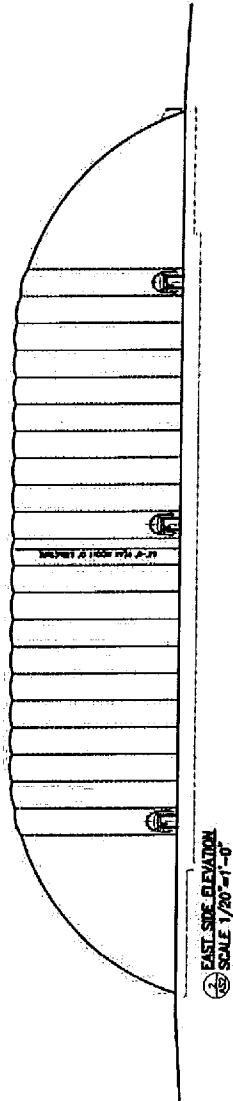
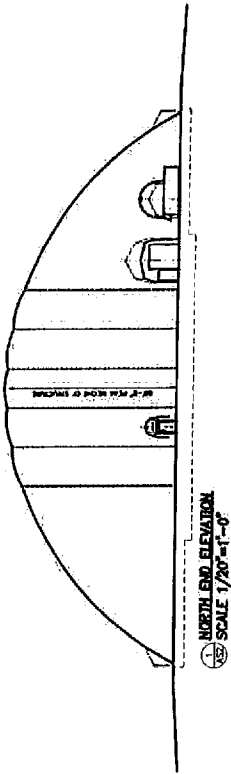
5 STEEL PIPE BOLLARD WITH HIPSIE SIEVE
SCALE: 1/4\"/>



4 SIDEWALK SCUMPER
SCALE: 1/4\"/>

- NOTES:
1. SEE PLANS FOR BOLLARD LOCATION.
 2. BOLLARD SHALL BE 12\"/>
 - 3. BOLLARD SHALL BE 12\"/>
 - 4. BOLLARD SHALL BE 12\"/>
 - 5. BOLLARD SHALL BE 12\"/>
 - 6. BOLLARD SHALL BE 12\"/>





NO.	REVISION	DATE	BY	CHKD.
1	ISSUED FOR PERMIT	08/20/2001	AS	AS
2	ISSUED FOR CONSTRUCTION	08/20/2001	AS	AS

PRELIMINARY ONLY
NOT FOR CONSTRUCTION



GLOBAL PROPERTY
ATHLETICS

AIR SUPPORTED STRUCTURE
FOR MULTI-USE
(225'-0" x 350'-0" x 68'-0")

12 SOUTH HART ROAD,
ALEXANDRIA, VA 22304

ELEVATIONS

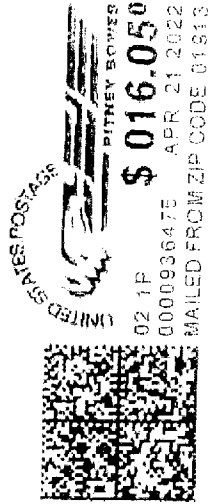
NO.	REVISION	DATE	BY	CHKD.
1	ISSUED FOR PERMIT	08/20/2001	AS	AS
2	ISSUED FOR CONSTRUCTION	08/20/2001	AS	AS

AS2



7020 0090 0002 2111 7934

RETURN RECEIPT REQUESTED



TOWN OF AMESBURY

Community and Economic Development
TOWN HALL

62 Friend Street
Amesbury, Massachusetts 01913

T

Carl Pearson
Amesbury Sports Ventures, LLC
80 First Street
Bridgewater, MA 02324