Fletcher Tilton PC
Attorneys at law

February 12, 2021

Kerri A. Martinek, Chairman
Northborough Planning Board
63 Main Street
Northborough, MA 01532

RE: Definitive Subdivision Plan
0 Bartlett Street, Northborough, Massachusetts

Dear Chairperson Martinek and Members of the Board:

During the course of the last public hearing with regard to the Definitive Subdivision Plan, the Board has inquired as to the status of Conservation Commission review of the Subdivision Plan.

Please note that the proposed subdivision roadway is, in all material respects, in approximately the same location of the driveway shown on the previous plan submitted to the Board for Site Plan Approval pertaining to an approximately 151,900 square foot warehouse facility. That plan reflected a total impervious area of approximately 7.03 acres and further reflected, as evident from the plan denied by the Board, impervious area and construction activities in closer proximity to Wetland Resource Areas than the proposed Subdivision Plan. The Subdivision Plan reflects impervious area created by the subdivision road of approximately 0.5 acres and has no impact within the 35 foot "no structures" buffer and minimal impact (a stormwater basin) within the 100 foot buffer.

The previous plan received an Order of Conditions from the Northborough Conservation Commission permitting the work creating the 7.03 acres of impervious area in closer proximity to Wetland Resource Areas. A copy of the Order of Conditions is attached for the convenience of the Planning Board.

Unlike the law as it relates to Special Permits, Definitive Subdivision Plans and other plans within with the jurisdiction of the Planning Board, the practice of the Northborough Conservation Commission is to only have one Order of Conditions open at only one time as to a particular site. As such, approval of the subdivision would require an Amendment to the existing Order of Conditions or a withdrawal of that Order and a filing for a new Notice of Intent. The Applicant is not going to do either as the Applicant is proceeding at the present time in seeking entitlements for alternative development plans. It would be unreasonable to request the

Applicant to forego the rights it has established by obtaining the existing Order of Conditions. However, it is a fair assumption that the Commission's approval of the creation of impervious area greater than 7 acres on the site when compared to the reduced impact proposed by the Subdivision plan roadway located in approximately the same location as the previous driveway, would receive similar approval.

As further discussed during the public hearing, the Applicant has previously submitted the 8(M) Permit approved and issued by the Massachusetts Water Resource Authority (MWRA) relative to the warehouse driveway crossing. As that driveway and the proposed subdivision roadway lay in the same location where they cross the aqueduct, there is no meaningful difference as it relates to the purpose of obtaining future MWRA approval (protection of the aqueduct) between the previously approved warehouse driveway and the subdivision road. The Applicant does not intent to submit to MWRA the subdivision plans until they have been approved in final form by the Northborough Planning Board. As such, the Applicant would propose the Planning Board's approval be conditioned upon the following:

1. Prior to commencement of construction of the subdivision roadway, the Applicant shall provide to the Planning Board a copy of the 8(M) Permit updated to reflect the subdivision roadway as presented in the approved subdivision plan.

I look forward to continuing the public hearing on February 16th.

Very truly yours,

Mark L. Donahue
Fletcher Tilton PC
The Guaranty Building
370 Main Street, 11th Floor
Worcester, MA 01608
Tel: 508.459.8029
Email: mdonahue@fletchertilton.com

MLD/mmp
Enclosure

Town of Northborough

Conservation Commission
63 Main Street
Northborough, Massachusetts 01532-1994
(508) 393-5015 Office (508) 393-6996 Fax

July 17, 2020

Israel Lopez, The Gutierrez Company
200 Summer Drive, Suite 400
Burlington MA 01803

RE: Order of Condition DEP #247-1176
0/301 Bartlett Street/Parcel H, Northborough, MA

Enclosed is a copy of the Order of Conditions issued by the Conservation Commission for the above referenced project.

Please submit a check to our office in the amount of $105.00 payable to the "Commonwealth of Massachusetts". This will be sent with the original Order of Conditions to the Registry of Deeds in Worcester for recording.

Please do not hesitate to call me if you have any questions.

Regards,

Mia McDonald
Agent for the Commission

Enclosure

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:
MassDEP File #:247-1176
eDEP Transaction #:1209958
City/Town:NORTHBOROUGH

A. General Information

1. Conservation Commission: NORTHBOROUGH
2. Issuance: a. ☑ OOC b. ☐ Amended OOC
3. Applicant Details

a. First Name	ISRAEL	b. Last Name	LOPEZ
c. Organization	THE GUITIERREZ COMPANY		
d. Mailing Address	200 SUMMIT DRIVE, SUITE 400		
e. City/Town	BURLINGTON	f. State MA	g. Zip Code

4. Property Owner

a. First Name		b. Last Name	
c. Organization			
d. Mailing Address			
e. City/Town	f. State		g. Zip Code

5. Project Location

a.Street Address	0 AND 301 BARTLETT STREET		
b.City/Town	NORTHBOROUGH	c. Zip Code	
d. Assessors Map/Plat#	51/66	e. Parcel/Lot#	3/16
f. Latitude	42.32140N	g. Longitude	71.61003W

6. Property recorded at the Registry of Deed for:

a. County	b. Certificate	c. Book	d. Page
WORCESTER		23107	356

7.Dates

a. Date NOI Filed : 1/6/2020 b. Date Public Hearing Closed: 6/29/2020 c. Date Of Issuance: 7/17/2020

8.Final Approved Plans and Other Documents

a. Plan Title:	b. Plan Prepared by:	c. Plan Signed/Stamped by:	d. Revised Final Date:	e. Scale:
SITE DEVELOPMENT PLANS FOR PARCEL H DEVELOPMENT BARTLETT STREET MAP 51 LOT 3 AND MAP 66 LOT 16, NORTHBOROUGH, MA	CARLTON M. QUINN, PE		6/4/2020	
NOTICE OF INTENT SUPPLEMENTAL MATERIALS	ALLEN & MAJOR ASSOCIATES, INC.		12/18/2019	

DRAINAGE REPORT PARCEL H DEVELOPMENT	CARLTON M. QUINN, PE	6/25/2020
DETAILED WILDLIFE HABITAT EVALUATION AND RESTORATION PLAN	GODDARD CONSULTING, LLC	5/28/2020
BASE FLOOD ELEVATION ESTIMATE	JORDAN LOFFREDO, PE	4/9/2020

B. Findings

1.Findings pursuant to the Massachusetts Wetlands Protection Act
Following the review of the 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.

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. ☑ Ground Water Supply	h. ☑ Storm Damage Prevention	i. ☑ Flood Control

2. Commission hereby finds the project, as proposed, is:

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.

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 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 interests of the Act , 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 310CMR10.02(1)(a). _____ a. linear feet

Inland Resource Area Impacts:(For Approvals Only):

Resource Area	Proposed Alteration	Permitted Alteration	Proposed Replacement	Permitted Replacement
4. ☐ Bank	_____ a. linear feet	_____ b. linear feet	_____ c. linear feet	_____ d. linear feet
5. ☐ Bordering Vegetated Wetland	_____ a. square feet	_____ b. square feet	_____ c. square feet	_____ d. square feet
6. ☐ Land under Waterbodies and Waterways	_____ a. square feet	_____ b. square feet	_____ c. square feet	_____ d. square feet
	_____ e. c/y dredged	_____ f. c/y dredged		
7. ☐ Bordering Land Subject to Flooding	_____ a. square feet	_____ b. square feet	_____ c. square feet	_____ d. square feet
Cubic Feet Flood Storage	_____ e. cubic feet	_____ f. cubic feet	_____ g. cubic feet	_____ h. cubic feet
8. ☐ Isolated Land Subject to Flooding	_____ a. square feet	_____ b. square feet		
Cubic Feet Flood Storage	_____ c. cubic feet	_____ d. cubic feet	_____ e. cubic feet	_____ f. cubic feet
9. ☑ Riverfront Area	32365 a. total sq. feet	_____ b. total sq. feet		
Sq ft within 100 ft	0 c. square feet	0 d. square feet	0 e. square feet	0 f. square feet
Sq ft between 100-200 ft	32365 g. square feet	32365 h. square feet	0 i. square feet	0 j. square feet

Coastal Resource Area Impacts:

Resource Area	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	_____ a. square feet	_____ b. square feet		
	_____ c. c/y dredged	_____ d. c/y dredged		
12. ☐ Barrier Beaches	Indicate size under Coastal Beaches and/or Coastal Dunes below			
13. ☐ Coastal Beaches				

	a. square feet	b. square feet	c. c/y nourishment	d. c/y nourishment
14.☐ Coastal Dunes	a. square feet	b. square feet	c. c/y nourishment	d. c/y nourishment
15.☐ Coastal Banks	a. linear feet	b. linear feet		
16.☐ Rocky Intertidal Shores	a. square feet	b. square feet		
17.☐ Salt Marshes	a. square feet	b. square feet	c. square feet	d. square feet
18.☐ Land Under Salt Ponds	a. square feet	b. square feet		
	c. c/y dredged	d. c/y dredged		
19.☐ Land Containing Shellfish	a. square feet	b. square feet	c. square feet	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			
	c. c/y dredged	d. c/y dredged		
21.☐ Land Subject to Coastal Storm Flowage	a. square feet	b. square feet		

22.

☐ Restoration/Enhancement (For Approvals Only)

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 & d or B.17.c & d above, please entered the additional amount here.

a. square feet of BVW

b. square feet of Salt Marsh

23.

☐ Streams Crossing(s)

If the project involves Stream Crossings, please enter the number of new stream crossings/number of replacement stream crossings.

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.
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.
6. If this Order constitutes an Amended Order of Conditions, this Amended Order of Conditions does not exceed the issuance date of the original Final Order of Conditions.
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.
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 then two square feet or more than three square feet in size bearing the words,

" Massachusetts Department of Environmental Protection"
[or 'MassDEP"]
File Number :"247-1176"

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 Mass DEP.
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.
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.

NOTICE OF STORMWATER CONTROL AND MAINTENANCE REQUIREMENTS

19. The work associated with this Order(the "Project") is (1) ☑ is not (2)☐ subject to the Massachusetts Stormwater Standards. If the work is subject to 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 Pollutant Discharge Elimination System Construction General Permit as required by Stormwater Standard 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; *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 19(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 Pollutant 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 19(f) through 19(k) with respect to that BMP. Any failure of the proposed responsible party to implement the requirements of Conditions 19(f) through 19(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.

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:

D. Findings Under Municipal Wetlands Bylaw or Ordinance

1.Is a municipal wetlands bylaw or ordinance applicable? ☑ Yes ☐ No

2.The Conservation Commission hereby(check one that applies):

a.☐ DENIES the proposed work which 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 or Conditions is issued. Which are necessary to comply with a municipal ordinance or bylaw:

b. ☑ APPROVES the proposed work, subject to the following additional conditions.

1. Municipal Ordinance or Bylaw: NORTHBOROUGH WETLANDS BYLAW AND REGULATIONS

2. Citation: CH 6 OF MUNICIPAL CODE

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:
SEE ATTACHED EXHIBIT A

E. Signatures

This Order is valid for three years from the date of issuance, unless otherwise specified pursuant to General Condition #4. If this is an Amended Order of Conditions, the Amended Order expires on the same date as the original Order of Conditions.

7/17/2020
1. Date of Original Order

Please indicate the number of members who will sign this form. This Order must be signed by a majority of the Conservation Commission.

4
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.

Signatures:

Thomas Beals

Gregory Young

Justin Dufresne

Diane Guldner

Kelley Marston

Todd Helwig

☐ by hand delivery on

☒ by certified mail, return receipt requested, on

Date

Date 7/17/20

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.

G. Recording Information

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.

NORTHBOROUGH
Conservation Commission

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

To:

NORTHBOROUGH
Conservation Commission

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

0 AND 301 BARTLETT STREET — Project Location
247-1176 — MassDEP File Number

Has been recorded at the Registry of Deeds of:

County | Book | Page

for:

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

Town of Northborough
Conservation Commission
Special Conditions
"Exhibit A"

1. This Order shall apply to any successor in interest or successor in control of the property.

2. Changes to the Plan or Errors & Omissions

   a. Any change in the plans, or any deviation in construction from the plans, shall require the applicant to file a notice of project change with the Northborough Conservation Commission (the Commission) with a written inquiry as to whether the change is substantial enough to require filing a new Notice of Intent. The Commission shall either hold a public hearing for the purpose of amending this Order or, if the change is substantial, shall require submission of a new Notice of Intent.

   b. If any plan, calculation, or other data presented to the Office of the Commission is in error or have omissions, and are deemed significant by the Commissioners or their Agents, all work will stop at the discretion of the Commission, until the discrepancies have been rectified to the Commission's satisfaction.

   c. The applicant must notify the Commission in writing of any changes in the plans or implementation of the proposed activity where mandated by any local, state, or federal agencies having jurisdiction over the proposed activity. If, in the opinion of the Commission, any changes in the plans or implementation of the proposed activity so require, then the Commission may modify, amend or rescind this Order in a way consistent with:

      - M.G.L. Chapter 131, Section 40,
      - 310 CMR 10.00, *Wetlands Protection*,
      - the Town of Northborough *Wetlands Bylaw*, and
      - the Commission's *Wetlands Regulations*

   If any provisions of any conditions, or application thereof is held to be invalid, such invalidity shall not affect any other provisions of this Order. If the Commission deems that a proposed change is major or substantial, a new hearing may be required.

3. A Conservation Commissioner, agent of the Commission or the Department of Environmental Protection reserves the right to enter and inspect the property at all reasonable times, until a Certificate of Compliance is issued, to evaluate compliance with this Order of Conditions, the Act, Town Bylaws, 310 CMR 10.00 and town regulations, and may acquire any information, measurements, photographs, observations and/or materials, or may require the submittal of any data or information deemed necessary by the Commission for that evaluation. Further, work shall be halted on the site if the Commissioner, agent, or DEP determines that any of the work is not in compliance with this Order. Work shall not resume until the commission is satisfied that the work will comply, and has so notified the applicant in writing.

4. The applicant shall notify the Commission in writing of the name, address, and business and home telephone numbers of the project supervisor or contractor who shall be responsible for ensuring compliance with the conditions in this Order and shall notify the Commission (by telephone or in writing) at least 48 hours prior to commencement of work on the site.

5. The project site shall be cleared as detailed in the approved plans. Tree cutting shall be limited to Phased Area 1 until temporary basins are installed. Phased Area 1 shall be stabilized prior to the removal of stumps from Phased Area 2.

6. Prior to the start of any tree cutting, excavation or construction, there shall be a preconstruction conference on the site involving the contractor conducting the work, the site engineer, the applicant, and a member or agent of the Commission to ensure that the requirements of this Order are understood by all parties. At that meeting, the applicant shall provide the Commission or it's agent a construction activity plan that outlines the timing and duration of tree cutting, soil disturbing activities and construction of the drainage system.

   a. Prior to the start of each subsequent phase, there shall be a pre-construction conference on the site involving the contractor conducting the work and a member or agent of the Commission to ensure that the requirements of this Order are understood by all parties and the phasing is progressing as approved.

7. The contractor, site engineer, or other individual in charge of work on the site shall have a copy of this Order available on the site at all times.

8. Flagging spaced at intervals not greater than 25 feet apart shall identify the boundaries of all wetland resource areas. Flagging used to identify wetland resource areas shall be of a color different from any other flagging used on the site. Flags shall be checked and replaced as necessary prior to the start of work. The flags shall be maintained until work is complete.

9. The limits of disturbance within the 100-foot buffer zone and wetland resource areas shall be clearly flagged in the field by stakes at intervals not greater than 25 feet apart. A continuous construction barrier consisting of erosion control devices shall be established between all construction areas and wetland resource areas. The location and installation of the barrier shall be approved by the Commission *prior to construction*.

10. No equipment is to cross or enter wetland resource areas at any time unless the location of disturbance is marked on the plans referenced in this Order and flagged in the field.

11. Equipment storage and refueling operations shall be situated in an upland area at a distance greater than 100 feet from the wetland resource areas.

12. All debris, fill and excavated material shall be stockpiled as far away from wetland resource areas as possible and surrounded by staked hay bales to prevent sediment from surface runoff entering the wetland resource areas. At no time shall any debris or other material be buried or disposed of within the buffer zone or wetland resource areas, except as allowed by this Order.

13. All utility installations shall be to the Town of Northborough's specifications, standards, and/or State codes.

14. Use of fertilizers shall be in accordance with manufacturer's recommendations and federal law. Herbicide and pesticide usage shall be in accordance with federal regulations. This condition shall remain in perpetuity, and shall be recorded as such on the Certificate of Compliance.

15. Use of de-icing chemicals shall be limited. Reduced amounts of de-icing chemicals shall be achieved through careful application. Sand shall be the primary agent used for driveways, pedestrian walkways, and parking lots during snow/ice conditions. When necessary for safety conditions, alternative de-icing compounds, such as calcium chloride and/or calcium magnesium acetate shall be used. No de-icing chemicals shall be used where direct run-off/drainage will

discharge into the wetland resource areas. This condition shall remain in perpetuity, and shall be recorded as such on the Certificate of Compliance.

16. Snow storage areas shall be located outside wetland areas. Accumulated sediments shall be removed from the snow storage area as needed.

17. Equipment necessary to quickly attend to inadvertent spills or leaks will be stored on-site in a secure but accessible location. This spill prevention kit shall consist of but not be limited to the following: safety goggles, chemical resistant gloves and overshoe boots, water and chemical fire extinguishers, sand and shovels, suitable absorbent materials, storage containers and first aid equipment.

18. Upon completion of the work covered by this Order, the applicant shall submit an as-built plan, in accordance with the provisions of Section 9 of the Wetlands Regulations of the Town of Northborough. The as-built plan shall include, at a minimum, and as applicable to the project, a permanent benchmark, location of all utilities, elevation of all pipe inverts and outlets, pipe sizes, materials, slopes; all other drainage structures, limits of clearing, grading and fill; all structures, limits of pavement, and contours within 100 feet of wetland resource areas; locations of wetland boundaries; all alterations within wetland resource areas; all wetland replication areas; location of approved snow storage areas; and all dates of fieldwork. The as-built plan shall include a list of all discrepancies from the approved plan. The as-built plan shall be based on the 1988 NGVD vertical datum and the 1983 NAD horizontal datum. The applicant shall also submit a certification by a Massachusetts licensed Professional Engineer stating the drainage system was built substantially in accordance with the design and will perform as designed.
    a. ☒ When checked, the applicant shall also submit a certification by a Massachusetts licensed Professional Engineer stating the drainage system was built substantially in accordance with the design and will perform as designed.
    If permanent markers were required, the certified as-built plan-of-land shall depict their location.

19. After completion of work, the applicant shall permanently mark an offset line no closer than 25-feet from the edge of wetland resource areas with one of the following permanent markers:

    a. Post w/signs: The steel post shall be a minimum of 4-feet in height with minimum post dimension of 2-inchs (round or square) and shall be set in concrete or driven into the ground a minimum of the height of the sign. The sign shall be a minimum of 12-inch by 18-inch and conform to MUTCD standard for informational traffic signs. The sign shall indicate the wetlands. The wording of the sign shall be submitted to the Conservation Agent for review and approval.

    b. Other: The applicant can submit a different type of marker. This marker would need to be approved by the Conservation Commission.

    c. The Markers shall be placed along the development side of the wetlands in such a way that generally defines an offset line; the markers shall be no more than 50-feet apart from one another. The markers shall not impede the movement of wildlife.

    d. The applicant shall submit to the Conservation Agent a sketch plan of the location and type of wetland markers and construction detail(s) of the marker(s). The Conservation Agent will review and approve the sketch and details prior to installation of the markers.

20. Special Conditions number 14, 15, 16 and 38-51 shall extend beyond the Certificate of Compliance, in perpetuity, and shall be referenced in the Certificate of Compliance.

21. The Commission reserves the right to make further requirements of the applicant should a site inspection show this to be necessary.

EROSION CONTROL

22. Erosion control devices shall be designed, installed, and maintained in accordance with the General Performance Standards set forth in Section 3.4.3 of the Wetlands Regulations of the Town of Northborough.

23. The project will require a permit from the U.S. Environmental Protection Agency under the General Permit for Construction Activities. A copy of the EPA Notice of Intent shall be submitted to the Commission prior to the start of construction. The applicant shall submit the project's Stormwater Pollution Prevention Plan and other supporting documentation that show how the applicant will meet the requirements of the General Permit. The Stormwater Pollution Prevention Plan shall be considered part of this Order by amendment and that shall be followed during the course of construction. Copies of the weekly SWPPP reports shall be submitted to the Office of the Commission via email within 10 days of the SWPPP inspection.

24. The work shall be designed and constructed to ensure that there shall be no erosion or sedimentation into wetland resource areas during construction or after completion of the project.

25. Erosion control devices shall be installed in the location as shown on the plan.

26. Erosion control devices shall be inspected, and approved by the Commission before the commencement of any site work and site preparation. THE SILT FENCE MUST BE INSPECTED PRIOR TO THE START OF ANY WORK OR A $100 PER DAY FINE WILL BE LEVIED ON THE APPLICANT AND THE CONTRACTOR.

27. Prior to any earth moving activity, erosion control devices, as approved by the Commission, shall be placed upgradient of all resource areas along the limit of activity between all disturbed areas and the wetland resource areas. This shall also define the limit of activity downgradient of which no work shall take place. The applicant is also responsible for obtaining a permit from the Earthwork Board.

28. Erosion control devices shall remain in place, until all disturbed surfaces have been stabilized with final vegetative cover or the Commission has authorized their removal.

29. Erosion control measures and barriers shall be monitored daily and maintained, or reinforced as necessary to ensure and prevent erosion and siltation of soils to wetland resource areas. Additional filter fabric and straw wattles shall be stored on site for emergency use.

30. During all phases of construction, all disturbed or exposed areas shall be brought to finished grade and either: ☐ a) loamed and seeded for permanent stabilization, in accordance with U.S. Soil Conservation Service procedures, or ☒ b) stabilized in another way approved by the Commission. Areas that cannot be permanently stabilized within 30 days of disturbance shall be stabilized with straw, mulch or any other protective covering and/or method approved by the U.S. Department of Agriculture Soil Conservation Service or by other temporary measures acceptable to the Commission.

31. If soils are to be disturbed for longer than two months, a temporary cover of rye or other grass should be established following U.S. Department of Agriculture Soil Conservation Service procedures to prevent erosion and sedimentation. If the season is not appropriate for plant growth, exposed surfaces shall continue to be temporarily stabilized. Prior to winter, exposed soils

shall be stabilized (e.g. with demonstrated vegetative growth, impermeable barriers, erosion control blankets, etc.)

32. All exposed soils shall receive a minimum of 4 inches of loam or topsoil prior to seeding and final stabilization.

33. The applicant and/or their designated Erosion Control Monitor (ECM) assignee shall inspect the stormwater water controls measures frequently (minimum weekly inspections and during/after rainfall events) to ensure control measures are functioning properly. The applicant and/or their designated ECM shall maintain a daily log containing times of inspections, conditions of control measures at the time of inspections, any problems or failures with the control measures, rainfall events and the action taken to correct problems or failures. The log shall be maintained on site and be available for review by the Town or their designated consultant(s) during the hours of operation. Monthly, a field report shall be submitted (electronically, via e-mail) to the Commission from the civil engineer of record or mutually agreed upon professional civil engineer registered in the Commonwealth of Massachusetts certifying that, to the best of their knowledge and belief based upon periodic site inspection(s), work is being performed in general compliance with this Order and that stormwater control measures are functioning. The Commission shall be notified immediately, in writing, of any change of ECM or engineer of record.

34. The applicant or designate ECM shall oversee any emergency placement of controls and regular inspection of replacement of erosion and sediment control devices. The name, phone number and e-mail address of the ECM shall be provided to the Commission in the event that this person has to be contacted, due to an emergency at the site, during any 24-hour period, including weekends. This person shall be given authority to stop construction for erosion control purposes. In addition to stormwater control measures, the ECM shall be required to inspect other pollution control devices and oversee cleaning and the proper disposal of waste products. Other pollution control devices include temporary sanitary facilities, controls for equipment fueling/repair areas, spill containment controls, etc, Cleaning shall include removal of any entrapped silt. The ECM shall meet/consult with the Conservation Agent or their designee on a weekly basis to update them on construction status. Consultation/meetings may occur during a site visit. These weekly meetings/consultations shall be noted in the ECM's daily log book.

35. Sedimentation basins shall be constructed at the locations shown on the plans to entrap any soils that may be eroded during construction. Additional temporary basins may be required by the Commission or its Agent as needed. Additional temporary basins may be constructed by the site contractor as needed after approval by the Commission or its Agent.

36. There shall be no sedimentation into wetland resource areas from discharge pipes or surface runoff leaving the site.

37. The Commission reserves the right to require any additional erosion and/or damage prevention controls it may deem necessary.

OPERATION AND MAINTENANCE PLAN

38. The operation and maintenance of the storm water management system shall be the responsibility of the property owner and shall run with the land in perpetuity.

39. The Operation and Maintenance Plan shall be incorporated as part of this Order and shall remain in perpetuity and shall be recorded as such on the Certificate of Compliance.

40. The Commission shall be notified before all maintenance activities occur other than routine maintenance not included in the Operation and Maintenance Plan, and shall be afforded the opportunity to inspect the work.

41. Copies of all inspection reports indicated in the "Operation and Maintenance Plan" shall be submitted to the Commission electronically via e-mail.

42. The sidewalks and parking lot shall be swept during early and late spring at a minimum or in the event of excessive accumulation.

43. Snow storage shall be limited to the designated locations as indicated on the approved plans.

44. CATCH BASINS: The owner shall be responsible for cleaning catch basin sumps on an annual basis. Prior to building occupancy the project developer shall monitor sumps and remove sediment as necessary, considering both annual necessity and the need for more frequent cleaning during construction. All accumulated sediments shall be disposed of in accordance with applicable local, state and federal guidelines and regulations.

45. ROOF DRAINAGE: The roof shall be kept clear of debris. An annual inspection shall be conducted and any sediment or other particulate matter that may accumulate shall be removed.

46. MECHANICAL OIL & GRIT MANAGEMENT SYSTEM: This system shall be inspected annually and shall be cleaned using a vacuum truck in accordance with the manufacturer's instructions and at a minimum annually. Sediment shall be removed when the depth in the chamber reaches 12 inches. During the first year of operation, inspection shall occur monthly and during periods of heavy contaminant loading (e.g., construction, winter sanding, soil disturbances, or fuel spills). All records of annual maintenance shall be provided to the Commission electronically via e-mail.

47. All accumulated sediments, hydrocarbons, trash and debris shall be disposed of in accordance with current applicable local, state and federal guidelines and regulations.

48. STORM WATER DETENTION BASINS: Basins shall be maintained and inspected as follows:

    a. The detention basins shall be inspected a minimum of once per year to ensure that they are operating as intended and that all components are stable and in working order.

    b. The retention basins shall be inspected a minimum of once per year and monitored after a rainfall event to determine if the basin is infiltrating per design.

    c. The property manager/owner shall retain the services of a professional engineer with experience in drainage and stormwater management to perform the inspections. A written report shall be provided to the property manager/owner and the Conservation Commission (via e-mail) indicating the condition of the basins. This report shall include at a minimum:

        - Status of the stormwater management system.

        - Record of inspections and maintenance activities, and recommendations for additional maintenance activities.

        - An assessment of the infiltration rate of the retention basins.

    d. During the growing season the side slopes shall be mowed at least twice with additional cutting performed as needed. Wetland plants shall be allowed to grow along the wet basin

bottom, except that any such plants that interfere with the inlet or outlet control devices shall be removed.

e. All tree saplings shall be removed from embankments and the pond bottom.

f. The inlet and outlet shall be inspected for erosion, scour and sedimentation; riprap shall be repaired promptly in the event of erosion, scour and/or sedimentation.

g. The basins shall be inspected for sediment accumulation annually and any accumulated sediments shall be removed when the depth reaches six inches anywhere in the basins. All accumulated sediments shall be disposed of in accordance with current applicable local, state and federal guidelines and regulations. Sediment removal and other pond maintenance activities shall not be considered as a wetland alteration under the Massachusetts Wetlands Protection Act or the Northborough Wetlands Bylaw, however the Commission shall be notified of all such activities.

h. All routine maintenance of the detention basins shall be performed by hand where practicable (i.e. not including mowing the slopes). The use of motorized equipment shall only be used where necessary or for emergency repairs or as allowed by the Commission or it's agent.

49. Accumulated debris and sediment shall be removed on an as needed basis, annually at a minimum.

50. The stormwater system, basins, side slopes, parking areas, lawned areas and site shall be kept clear of trash and debris.

51. All trash receptacles and storage units shall be secured to prevent trash and debris from blowing, flowing, falling or entering the surrounding wetland resource areas, roads, and abutting properties in any way.

52. The operation and maintenance plan as prepared by the applicant and approved by the Commission has been appended to this Order.

HABITAT RESTORATION

53. All habitat restoration work shall be performed in accordance with the "**Habitat Restoration Plan Parcel H Development, Bartlett Street Northborough, MA**" dated May 20, 2020 by Goddard Consulting (the "HRP").

54. Prior to commencement of construction activities, a wetland encroachment limit line, approved by the Commission, shall be identified using stakes and flagging at the site for the wetland resource areas (Riverfront Area) that will be altered Per Step 1 in the HRP.

55. The habitat restoration area shall take place during suitable growing conditions and not before completion of the site grading and invasive plant species removal in accordance with Step 4.6 of the HRP with the goal of allowing the maximum time for it to become established.

56. Habitat restoration will be performed up to the delineated mean annual high water line of Stirrup Brook. In portions of the restoration area where the habitat restoration takes place within bordering vegetated wetland, no soils shall be disturbed and only hand removal of invasive plant species shall be performed.

57. The habitat restoration area will be planted with native species of wetland plants in accordance with the planting schedule in Step 4 of the HRP or as may be substituted per the provisions in the HRP.

58. If the seed bank and vegetative structures in the habitat restoration area do not result in establishment of a plant community comparable to the desired wetland restoration plan in species composition, removal of invasive species and with at least 50 percent cover of desired species, by the end of the first growing season, the applicant shall supplement with plantings of indigenous species obtained from a nursery specializing in the propagation of wetlands plants and conduct additional removal of invasive species under the supervision of a qualified wetland. The Commission shall be notified of this in the seasonal monitoring report.

59. A professional wetland scientist with at least five years experience in wetland replication/ habitat restoration shall be on site during construction of the habitat restoration area and shall supervise its construction.

60. Seasonal monitoring reports shall be prepared for the restoration area by a qualified wetland scientist for a period of 2 additional years after installation. This monitoring program will consist of early summer and early fall inspections, and will include photographs and details about the vitality of the restoration area. Monitoring reports shall be submitted to the Commission by November 30th of each year.

61. The Certificate of Compliance shall require that at least 75% of the new plantings in the habitat restoration area survive by the end of the second growing season. The Commission shall be provided with a final report prepared by the wetland scientist.

May 20, 2020

Habitat Restoration Plan

Parcel H Development, Bartlett Street
Northborough, MA

Submitted to:
Northborough Conservation Commission

Prepared for:
The Gutierrez Company
200 Summit Drive, Suite 400
Burlington, MA 01803

1. INTRODUCTION

On behalf of the Applicant, The Gutierrez Company, Goddard Consulting, LLC is pleased to submit this Habitat Restoration Plan as a component of the Notice of Intent filed for 0 & 301 Bartlett Street in Northborough, MA. Restoration is proposed within the Inner Riparian Zone of Stirrup Brook to the north of the proposed warehouse building, in order to mitigate for the proposed alteration of natural vegetation dominated by berry-producing shrubs within the Riverfront Area. See the following figures for a locus view of the restoration location (Figure 1) and a close-up view (Figure 2).

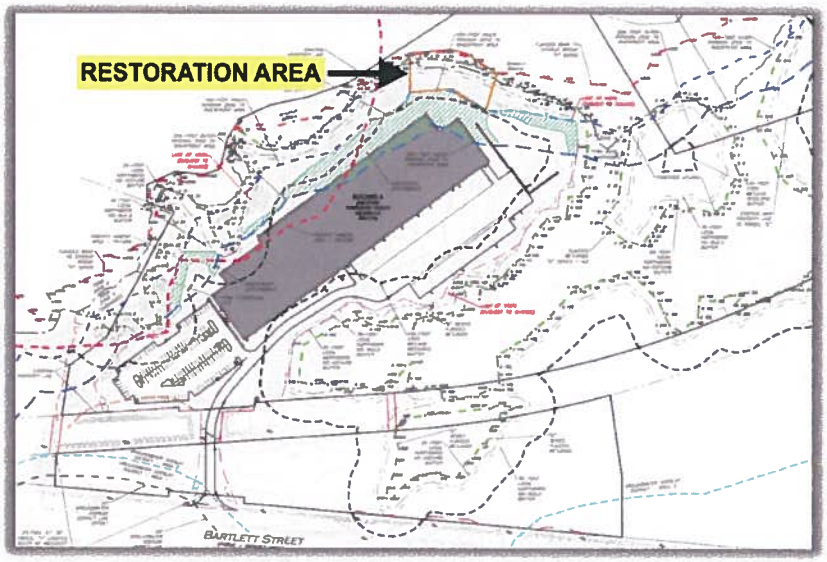

Figure 1 - Locus view of Restoration Area.

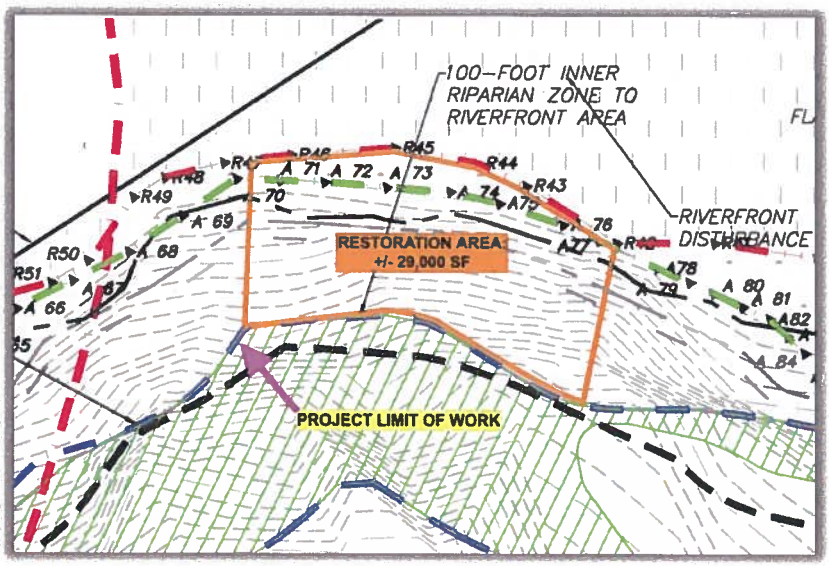

Figure 2 - Close-up view of Restoration Area.

2. EXISTING CONDITIONS

This location was chosen because this area abuts a large Open Water / Deep Marsh section of Stirrup Brook (Figure 3; Photo 1). Upstream of the restoration area, the Brook traverses a forested wetland, then opens up into a shrub swamp before widening and deepening into the habitat shown in Photo 1.

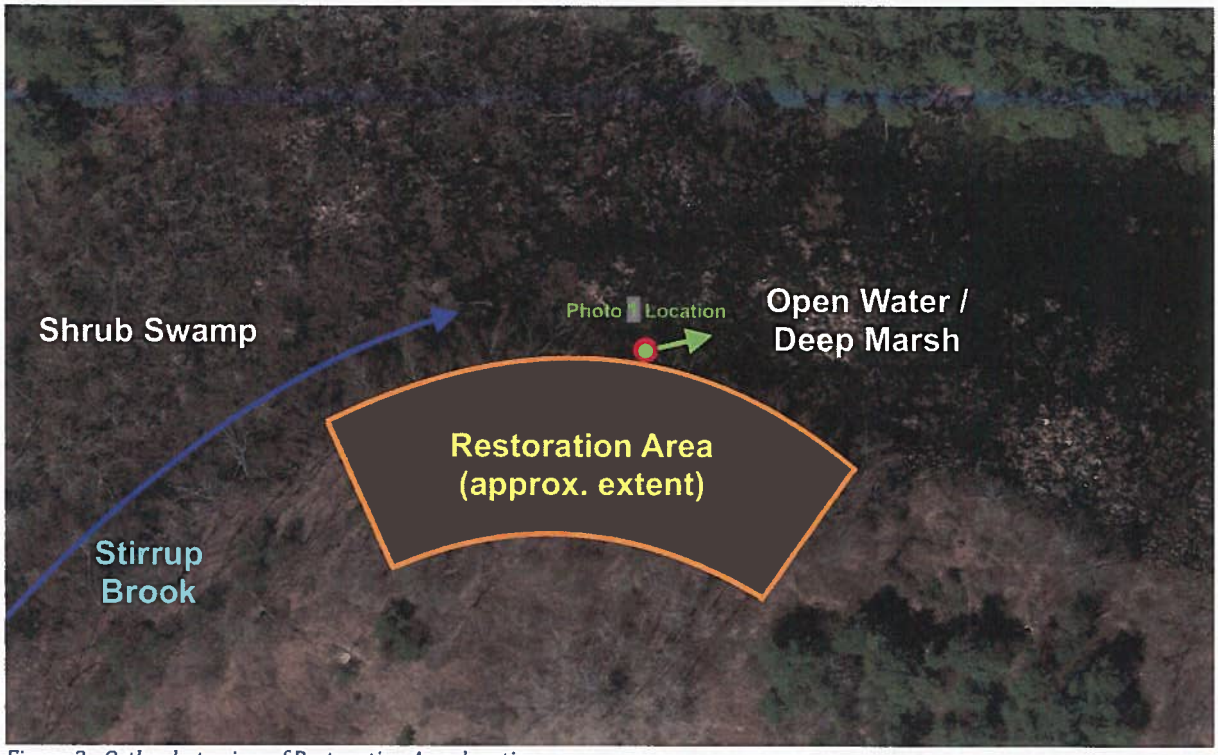

Figure 3 - Orthophoto view of Restoration Area location.

Photo 1 - View of Open Water / Deep Marsh habitat north of Restoration Area.

Photos 2-4 show the existing conditions within the Restoration Area. The light green shrub vegetation in the photos is predominantly multiflora rose, followed in abundance by Japanese barberry, honesuckle, burning bush. Oriental bittersweet and glossy false buckthorn respectively. There are existing red maple trees, which will remain undisturbed. The invasives in this area are generally low and not too dense so as to be hard to remove effectively.

Photo 2 - View of existing invasive species habitat in northwest corner of Restoration Area.

Photo 3 - View of existing invasive species habitat, facing north with Open Water visible in background.

Photo 4 - View of dense multiflora rose understory in Restoration Area.

3. RESTORATION PLAN DETAILS

3.1 Overview

The Restoration Area consists of an approximately 29,000 sf area to the north of the proposed warehouse building where a high density of invasive shrub and woody vine species are present. The plan includes invasive species removal/management plus native shrub and fern plantings.

Supervision: All work within the restoration area shall be supervised by a qualified wetland scientist or biologist with a minimum of five years' experience. The supervisor shall submit monitoring reports to the Conservation Commission as described below. Reports shall contain details of all work performed and photographs of completed conditions.

Timing: Invasive species removal and management may take place during any time of year, however if herbicide use will be utilized, treatment should follow best management practices. Restoration area plantings should be installed during the Spring or Fall growing seasons.

3.2 Sequencing of Procedures

Step 1: Define Limits of Work

Flag and/or stake out limits of work for the restoration area. Erosion control barriers shall not be necessary given the lack of grading required and because most of the activity will be performed by hand or small equipment. The supervising wetland scientist shall have authority to require erosion control measures if deemed necessary. If deemed necessary, erosion control barriers shall be installed in the form of staked siltation fence or mulch sock (or similar invasive-free barrier) placed at the limit of work. These will remain in place and be maintained until the areas are completely stabilized and then may be removed after approval of the Conservation Commission.

Step 2: Identify invasive species for removal

The wetland scientist shall identify and flag (with pink flagging) a representative sample of any non-native invasive species to be removed. Scientist shall provide identification training to removal contractor and laborers if necessary. Any native tree or shrub species to be left in place shall be clearly identified with a color other than pink and labeled.

Step 3: Management of invasive species

If possible, invasive species specimens shall be removed completely including the roots. If not possible, plants shall be treated with herbicide by a licensed chemical applicator, in accordance with generally accepted procedures. Upon removal or treatment, dead plants should be discarded in accordance with the following species-specific procedures:

Glossy false buckthorn, multiflora rose, privet, burning bush and honeysuckle: Chip or burn, taking care not to spread any berries beyond already-contaminated areas.

Oriental bittersweet: Chip or burn removed pieces, taking care not to spread berries beyond already-contaminated area.

Step 4: Planting

The supervising wetland scientist shall direct the placement of shrubs and ferns during installation, but they should be generally distributed evenly throughout the area. Suggested species and actual quantity to be planted include:

Shrubs (48 total)

- 24 highbush blueberry (*Vaccinium angustifolium*) (2-3' height)
- 24 winterberry (*Ilex verticilata*) (2-3' height)

Ferns (60 total)

- 30 sensitive fern (*Onoclea sensibilis*) (1 gal. pot)

- 30 cinnamon fern *(Osmundastrum cinnamomea)* (1 gal. pot)

Seed Mix

- 10 lbs. New England Wetland Plants New England Conservation/Wildlife Mix or equivalent (25 lbs/acre) applied to newly planted portions

Notes

1) The shrubs to be planted must be native "non-cultivar" individuals. Cultivars are hybrids between the native species and a similar but non-native species, usually created to produce larger fruits/berries or showier flowers. These cultivars often are not used by the local native wildlife, which have not adapted to the different size/shape food source. Below is an example of how to choose a non-cultivar plant at the nursery:

* VACCINIUM COR. 'BLUE CROP' #3	CULTIVARS: DO NOT CHOOSE	BLUE CROP HIGHBUSH BLUEBERRY #3
* VACCINIUM COR. 'JERSEY' #3		JERSEY HIGHBUSH BLUEBERRY #3
* VACCINIUM COR. 'NORTHCOUNTRY' #3		NORTHCOUNTRY HIGHBUSH BLUEBERRY #3
* VACCINIUM COR. 'PINK LEMONADE' #3		PINK LEMONADE HIGHBUSH BLUEBERRY #3
* VACCINIUM CORYMBOSUM #1	STRAIGHT NATIVE SPECIES	HIGHBUSH BLUEBERRY #1
* VACCINIUM CORYMBOSUM #3		HIGHBUSH BLUEBERRY #3

Figure 4 - Example of cultivar vs. straight species of Highbush Blueberry (from Bigelow Nurseries, Northboro, MA).

2) If the specified non-cultivar shrub species are not available at any local nurseries, then substitutions can be made. Substitutions shall be approved by the Conservation Commission or its agent.

3) All plantings shall be distributed randomly within bare openings in the understory throughout the area; shrubs spaced at 6-8' on center and ferns 3' on center. Precise citing of plants may be determined by the wetland scientist in the field prior to installation.

4) Each plant will have it roots loosened prior to planting to encourage root growth away from the planting bulb.

5) Leaf litter shall be spread throughout area if available. Seed mix shall be scattered evenly by hand throughout the restoration area.

6) Plantings shall take place during suitable growing conditions and not before completion of the site grading and invasive plant species removal.

7) All plantings shall be watered appropriately during the first growing season.

8) Any plants that do not survive the first growing season shall be replaced prior to the next growing season.

Step 6: Place woody debris

A variety of woody debris stockpiled from the development area shall be randomly placed throughout the restoration areas to provide cover for wildlife and provide wildlife habitat. Dead wood shall consist of 6" or greater diameter logs approximately 6-feet long.

Step 7: Monitoring

Seasonal monitoring reports shall be prepared for the restoration area by a qualified wetland scientist for a period of 2 additional years after installation. This monitoring program will consist of early summer and early fall inspections, and will include photographs and details about the vitality of the restoration area. Monitoring reports shall be submitted to the Commission by November 30th of each year.

Step 8: Erosion Controls Removal

Once the restoration area is stable and plantings are complete, a request shall be submitted to the Conservation Commission to remove the erosion controls (if applicable).

OPERATIONS AND MAINTENANCE PLAN

In accordance with the standards set forth by the Stormwater Management Policy issued by the Department of Environmental Protection (DEP), Allen & Major Associates, Inc. (A&M) has prepared the following Operation and Maintenance plan for the 0 & 301 Bartlett Street drainage improvements.

This plan is broken into two major sections. The first section describes construction-related erosion and sedimentation controls. The second section is devoted to a post-development operation and maintenance plan. An operation and maintenance schedule is included with this report.

Stormwater Management System Owner: The Gutierrez Company
200 Summit Drive, Suite 400
Burlington, MA 01803

Emergency Contact Information:

The Gutierrez Company	Phone: (781) 272-7000
Allen & Major Associates, Inc. (Site Civil Engineer)	Phone: (781) 935-6889
Northborough Public Works Department	Phone: (508) 393-5030
Northborough Fire Department	Phone: (508) 393-1537

INTRODUCTION

The stormwater management system (SMS) for this project is owned by the Gutierrez Company, and shall be legally responsible for long-term operation and maintenance for this SMS as outlined in this Operation and Maintenance (O&M) Plan. Should ownership of the SMS change, the succeeding owner will be presented with this O&M Plan and supporting attachments at or before legal conveyance of ownership and will assume the obligations of the O&M Plan.

In the event that the SMS will be operated and maintained by an entity other than that listed in this document, the applicant shall provide a plan and easement deed that provides a right of access for the legal entity to be able to perform said operation and maintenance functions. In the event the SMS will serve multiple lots/owners, the applicant shall also provide a copy of the legal instrument (deed, homeowner's association, utility trust, or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the entire SMS.

DEMOLITION & CONSTRUCTION MAINTENANCE PLAN

1. Call Digsafe: 1-888-344-7233
2. Contact the city at least three (3) days prior to start of demolition and/or construction activities.
3. Install Erosion Control measures as shown on the Plans prepared by A&M. The municipality shall review the installation of straw bales and silt fencing prior to the start of any site demolition work. Install construction fencing if determined to be necessary at the commencement of construction.
4. Install construction entrances, straw bales, and silt fence at the locations shown on the Erosion Control Plan prepared by A&M.
5. Site access shall be achieved only from the designated construction entrances.
6. Cut and clear trees in construction areas only (within the limit of work; see plans).
7. Stockpiles of materials subject to erosion shall be stabilized with erosion control matting or temporary seeding whenever practicable, but in no case more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.
8. Install silt sacks and straw bales around each drain inlet prior to any demolition and or construction activities and within downgradient areas along Bartlett Street.
9. All erosion control measures shall be inspected weekly and after every rainfall event as well as per the NPDES SWPPP regulations and the Conservation Commission Order of Conditions. Records of these inspections shall be kept on-site for review.
10. All erosion control measures shall be maintained, repaired, or replaced as required or at the direction of the owner's engineer or the municipality.
11. Sediment accumulation up-gradient of the straw bales, silt fence, and stone check dams greater than 6" in depth shall be removed and disposed of in accordance with all applicable regulations.
12. If it appears that sediment is exiting the site, silt sacks shall be installed in all catch basins adjacent to the site. Sediment accumulation on all adjacent catch basin inlets shall be removed and the silt sack replaced if torn or damaged.
13. Install stone check dams on-site during construction as needed. Refer to the erosion control details. Temporary sediment basins combined with stone check damns shall be installed on-site during construction to control and collect runoff from upland areas of this site during demolition and construction activities.

14. The contractor shall comply with the Sedimentation and Erosion Control Notes as shown on the Site Development Plans and Specifications.
15. The stabilized construction entrances shall be inspected weekly and records of inspections kept. The entrances shall be maintained by adding additional clean, angular, durable stone to remove the soil from the construction vehicle's tires when exiting the site. If soil is still leaving the site via the construction vehicle tires, adjacent roadways shall be kept clean by street sweeping.
16. Dust pollution shall be controlled using on-site water trucks and/or an approved soil stabilization product.
17. During demolition and construction activities, Status Reports on compliance with this O&M Document shall be submitted weekly. The report shall document any deficiencies and corrective actions taken by the applicant.

POST CONSTRUCTION MAINTENANCE PLAN

The SMS shall be inspected immediately after construction. A maintenance log will be kept (i.e. report) summarizing inspections, maintenance, and any corrective actions taken. The log will include the date on which each inspection or maintenance task was performed, a description of the inspection findings or maintenance completed, and the name of the inspector or maintenance personnel performing the task. If a maintenance task requires the clean-out of any sediments or debris, the location where the sediment and debris was disposed after removal will be indicated. The log will be made accessible to department staff and a copy provided to the department upon request.

Inspection and Maintenance Frequency and Corrective Measures

The following areas, facilities, and measures will be inspected and the identified deficiencies will be corrected. Clean-out must include the removal and legal disposal of any accumulated sediments, trash, and debris. In any and all cases, operations, inspections, and maintenance activities shall utilize best practical measures to avoid and minimize impacts to wetland resource areas outside the foot print of the SMS.

The following SMS components that will require continuing inspection as outlined in the document:

- *Deep Sump Catch Basins*
- *Proprietary Separators*
- *Surface Infiltration Ponds*
- *Outlet Control Structures*
- *Emergency Spillways/Overflow*

Monthly Post Construction Inspection (first three months only)

- **Surface Detention/Infiltration Systems**: Inspect the pond after all rainfalls greater than 1" to ensure that the system to ensure the slopes are not washing out and that the basin is draining within 72 hours. Repair as required.

Quarterly Inspections (specifically after foliage and snow season)

- **Deep Sump Catch Basins**: Inspect catch basins to ensure that the catch basins are working in their intended fashion and that they are free of debris. Structures will be skimmed of floatable debris at each inspection and sediment will be removed at a minimum once per year (typically after snow season) or when sediment has accumulated to within 2 feet of the outlet invert. If the basin outlet is designed with a hood to trap floatable materials (i.e. Snout), check to ensure watertight seal is working.
- **Proprietary Separators**: Separators shall be operated in strict accordance with manufacturer's recommended practices. Available manufacturer specific O&M plans attached as Appendix. Separators shall be inspected to ensure that they are working in their intended fashion and that they are free of debris. Structures shall be cleaned with a vacuum truck at least once annually (typically after snow season) or when sediment has accumulated to a depth of six inches (6"), whichever is more frequent.

Semi-Annual Inspection (specifically after foliage and snow season)

- **Culverts**: Inspect culverts to ensure that the culverts are working in their intended fashion and that they are free of debris. Remove any obstructions to flow; remove accumulated sediments and debris at the inlet, at the outlet, and within the conduit and to repair any erosion damage at the culvert's inlet and outlet.
- **Vegetated Areas:** Inspect slopes and embankments early in the growing season to identify active or potential erosion problems. Replant bare areas or areas with sparse growth. Where rill erosion is evident, armor the area with an appropriate lining or divert the erosive flows to on-site areas able to withstand the concentrated flows.
- **Roadway and Parking Surfaces:** Sweep paved areas as soon as possible after snow melt and no less than four times annually. Clear accumulations of winter sand in parking lots and along roadways at least once a year, preferably in the spring. Accumulations on pavement may be removed by pavement sweeping. Accumulations of sand along road shoulders may be removed by grading excess sand to the pavement edge and removing it manually or by a front-end loader.

- Level Spreaders, Check Dams, Rip-Rap: These accessories will be inspected for erosion, debris accumulation, and unwanted vegetation. Erosion will be stabilized and sediment, debris, and woody vegetation will be removed.

LANDSCAPE MANAGEMENT PLAN

It should be recognized that this is a general guideline towards achieving high quality and well-groomed landscaped areas. The grounds staff/landscape contractor must recognize the shortcomings of a general maintenance program such as this, and modify and/or augment it based on weekly, monthly, and yearly observations. In order to assure the highest quality conditions, the staff must also recognize and appreciate the need to be award of the constantly changing conditions of the landscaping and be able to respond to them on a proactive basis.

- **Fertilizer**: Maintenance practices should be aimed at reducing environmental, mechanical, and pest stresses to promote healthy and vigorous growth. When necessary, pest outbreaks should be treated with the most sensitive control measure available. Synthetic chemical controls should be used only as a last resort to organic and biological control methods. Fertilizer, synthetic chemical controls and pest management applications (when necessary) should be used as conservatively as possible.
- **Suggested Aeration Program**: In-season aeration of lawn areas is good cultural practice, and is recommended whenever feasible. It should be accomplished with a solid thin tine aeration method to reduce disruption to the use of the area. The depth of solid tine aeration is similar to core type, but should be performed when the soil is somewhat drier for a greater overall effect.
    - *Depending on the intensity of use, it can be expected that all landscaped lawn areas will need aeration to reduce compaction at least once per year. The first operation should occur in late May following the spring season. Methods of reducing compaction will vary based on the nature of the compaction. Compaction on newly established landscape areas is generally limited to the top 2-3" and can be alleviated using hollow core or thin tine aeration methods.*
    - *The spring aeration should consist of two passes at opposite directions with ¼" hollow core tines penetrating 3-5" into the soil profile. Aeration should occur when the soil is moist but not saturated. The cores should be shattered in place and dragged or swept back into the turf to control thatch. If desired the cores may also be removed and the area top-dressed with sand or sandy loam. If the area drains on average too slowly, the topdressing should contain a higher percentage of sand. If it is draining on average too quickly, the top dressing should contain a higher percentage of soil or organic matter.*

Landscape Maintenance Program Practices

Lawn

- Mow a minimum of once a week in spring, to a height of 2" to 2 ½" high. Mowing should be frequent enough so that no more than 1/3 of grass blade is removed at each mowing. The top growth supports the roots; the shorter the grass is cut, the less the roots will grow. Short cutting also dries out the soil and encourages weeds to germinate.
- Mow approximately once every two weeks from July 1st to August 15th depending on lawn growth.
- Mow on a ten-day cycle in fall, when growth is stimulated by cooler nights and increased moisture.
- Do not remove grass clippings after mowing (Except in Drainage BMP's).
- Keep mower blades sharp to prevent ragged cuts on grass leaves, which cause a brownish appearance and increase the chance for disease to enter a leaf.
- Supplemental irrigation of lawn areas should provide 1" of water per week in two watering's per week—when no natural rainfall has occurred.

Shrubs

- Mulch not more than 3" depth with shredded pine or fir bark.
- Hand pruning shall be performed annually based on the natural growth characteristics of each species to keep plants from overgrowing walks and windows. NO SHEARING OF SHRUBS IS PERMITTED. Typically, pruning of each variety shall be immediately after blooming.
- Fertilize with ½ lb. slow-release fertilizer (see above section on Fertilizer) every second year.
- Hand-prune evergreen shrubs only as needed to remove dead and damaged wood and to maintain the naturalistic form of the shrub. Never mechanically shear evergreen shrubs.

Trees

- Provide aftercare for new tree plantings for the first three years.
- Do not fertilize trees, it artificially stimulates them (unless tree health warrants).
- Water once a week for the first year; twice a month the second year; once a month the third year.
- Prune trees on a four-year cycle.

Maintenance Phase

By the fourth growing season, the planted grasslands should be reaching maturity. At this time, half of the grassland habitat area should be mown annually in mid- August to maintain the grassland habitat, limiting the opportunity for shrubs and late-blooming forbs to spread, and allowing the grasses time to recover before dormancy.

Management of Deicing Chemicals and Snow

Snow shall not be plowed towards any area protected by the Massachusetts Wetlands Protection Act. Additionally, it is prohibited to dump snow into the bioretention swales, or gravel swales. If the stockpiles of snow do not fit on-site, then snow will be disposed off-site. It will be the responsibility of the snow removal contractor to properly dispose of transported snow according to the Massachusetts Department of Environmental Protection, Bureau of Resource Protection – Snow Disposal Guideline #BRPG01-0, governing the proper disposal of snow. It will be the responsibility of the snow removal contractor to follow these guidelines and all applicable laws and regulations. A copy of the MassDEP Snow Disposal Guideline #BRPG01-01 has been included at the end of Section 2 for reference.

The site's maintenance staff (or its designee) will be responsible for the clearing of the sidewalk and building entrances. The site may be required to use a de-icing agent such as potassium chloride (or approved equal) to maintain a safe walking surface; however, these are to be used at the minimum amount practicable. The de-icing agent for the walkways and building entrances will be kept within the storage rooms located within the buildings. De-icing agents will not be stored outside.

Spill Prevention and Response

Sources of potential spill hazards include vehicle fluids, liquid fuels, pesticides, paints, solvents, and liquid cleaning products. The majority of the spill hazards would likely occur within the building and would not enter the stormwater drainage system. However, there are spill hazards from vehicle fluids or liquid fuels located outside of the buildings. These exterior spill hazards have the potential to enter the stormwater drainage system and are to be addressed as follows:

- *Spill Hazards of pesticides, paints, and solvents shall be remediated using the Manufacturers' recommended spill cleanup protocol.*
- *Vehicle fluids and liquid fuel spill shall be remediated according to the local and state regulations governing fuel spills.*
- *The owner shall have the following equipment and materials on hand to address a spill clean-up: brooms, dust pans, mops, rags, gloves, absorptive material, sand, sawdust, plastic and metal trash containers.*

- *All spills shall be cleaned up immediately after discovery.*
- *Spills of toxic or hazardous material shall be reported, regardless of size, to the Massachusetts Department of Environmental Protection at 888-304-1133.*
- *Should a spill occur, the pollution prevention plan will be adjusted to include measures to prevent another spill of a similar nature. A description of the spill, along with the causes and cleanup measures will be included in the updated pollution prevention plan.*

OPERATION & MAINTENANCE PLAN SCHEDULE

Project: Parcel H Warehouse/Distribution Center Development
Address: 0 & 301 Bartlett Street
Northborough, MA

Responsible for O & M Plan: The Gutierrez Company
Address: 200 Summit Drive, Suite 400
Burlington, MA 01803

Phone: 781-272-7000

Date: 12/24/2019
Revised: N/A

Structure or Task	Maintenance Activity	Schedule/Notes	Annual Maintenance Cost	Inspection Performed	
				Date:	By:
Street Sweeping	Sweep, power broom or vacuum paved areas.	Sweep paved areas as needed, but not less than four times annually	$2,000		
		Submit information that confirms that all street sweepings have been disposed in accordance with state and local requirements			
Deep Sump Catch Basins(s)	Clam shell or vacuum sumps	Inspect at least twice annually. Clean when sediment is within 2 feet of the outlet invert.	$500		
		Submit information that confirms that all catch basin sediments have been disposed in accordance with state and local requirements			
Proprietary Stormwater Separator	Vactor trucks or manual cleaning. Clean units in accordance with manufacturers recommendations and requirements. Clam shell not recommended for these units.	Inspect in accordance with manufacturers requirements, but no less than monthly for the first year following installation, and no less than once a year thereafter. Remove sediment and other trapped pollutants at frequency or level specified by manufacturer or when the sediment depth in the chamber reaches 12 inches.	$2,000		
Storm Water Management System					
Surface Basins	Inspect to ensure it is draining properly. Inspect inlets, outlets and riprap and repair immediately	Perform every other month as well as after every storm event over 1/2". See also note #1 below.	$2,500		
	Side slopes mowed at least twice during growing season				
	Inspect system bottoms and remove any accumulated sediment greater than 6 inches	On a semi-annual basis.			
Outlet Control Structure(s)	Vacuum.	Periodic cleaning of Outlet Control Structures as needed.	$500		
Mosquito Control	CB management targeted larviciding treatment to CB's and all storm drains to control mosquitoes in their aquatic stages.	Surveillance is a non chemical inspection method that involves classification of mosquito breeding sites, larval presents, and survey.	$100		
Snow Storage	Debris shall be cleared from the site and properly disposed of at the end of the snow season, but shall be cleared no later than May 15.	Avoid dumping snow removal over catch basins, in detention ponds, sediment forebays, rivers, wetlands, and flood plain. It is also prohibited to dump snow in the bioretention basins or gravel swales.	$500		

Note #1 - During the first year of operation, all of the BMP's shall be inspected during and after large storm events to ensure they are functioning properly.

Commonwealth of Massachusetts
Executive Office of Energy & Environmental Affairs

Department of Environmental Protection
One Winter Street Boston, MA 02108 • 617-292-5500

Massachusetts Department of Environmental Protection
Bureau of Water Resources
Snow Disposal Guidance

Effective Date: December 23, 2019

Applicability: Applies to all federal, state, regional and local agencies, as well as to private businesses.

Supersedes: Bureau of Resource Protection (BRP) Snow Disposal Guideline No. BRPG97-1 issued December 12, 1997 and BRPG01-01 issued March 8, 2001; Bureau of Water Resources (BWR) snow disposal guidance issued December 21, 2015 and December 12, 2018.

Approved by: Kathleen Baskin, Assistant Commissioner, Bureau of Water Resources

PURPOSE: To provide guidelines to all government agencies and private businesses regarding snow disposal site selection, site preparation and maintenance, and emergency snow disposal options that are protective of wetlands, drinking water, and water bodies, and are acceptable to the Massachusetts Department of Environmental Protection (MassDEP), Bureau of Water Resources.

APPLICABILITY: These Guidelines are issued by MassDEP's Bureau of Water Resources on behalf of all Bureau Programs (including Drinking Water Supply, Wetlands and Waterways, Wastewater Management, and Watershed Planning and Permitting). They apply to all federal agencies, state agencies, state authorities, municipal agencies and private businesses disposing of snow in the Commonwealth of Massachusetts.

INTRODUCTION

Finding a place to dispose of collected snow poses a challenge to municipalities and businesses as they clear roads, parking lots, bridges, and sidewalks. While MassDEP is aware of the threats to public safety caused by snow, collected snow that is contaminated with road salt, sand, litter, and automotive pollutants such as oil also threatens public health and the environment.

As snow melts, road salt, sand, litter, and other pollutants are transported into surface water or through the soil where they may eventually reach the groundwater. Road salt and other pollutants can contaminate water supplies and are toxic to aquatic life at certain levels. Sand washed into

waterbodies can create sand bars or fill in wetlands and ponds, impacting aquatic life, causing flooding, and affecting our use of these resources.

There are several steps that communities can take to minimize the impacts of snow disposal on public health and the environment. These steps will help communities avoid the costs of a contaminated water supply, degraded waterbodies, and flooding. Everything that occurs on the land has the potential to impact the Commonwealth's water resources. Given the authority of local government over the use of the land, municipal officials and staff have a critically important role to play in protecting our water resources.

The purpose of these guidelines is to help federal agencies, state agencies, state authorities, municipalities and businesses select, prepare, and maintain appropriate snow disposal sites before the snow begins to accumulate through the winter. Following these guidelines and obtaining the necessary approvals may also help municipalities in cases when seeking reimbursement for snow disposal costs from the Federal Emergency Management Agency is possible.

RECOMMENDED GUIDELINES

These snow disposal guidelines address: (1) site selection; (2) site preparation and maintenance; and (3) emergency snow disposal.

1. SITE SELECTION

The key to selecting effective snow disposal sites is to locate them adjacent to or on pervious surfaces in upland areas or upland locations on impervious surfaces away from water resources and drinking water wells. At these locations, the snow meltwater can filter into the soil, leaving behind sand and debris which can be removed in the spring. The following conditions should be followed:

- Within water supply Zone A and Zone II, avoid storage or disposal of snow and ice containing deicing chemicals that has been collected from streets located outside these zones. Municipalities may have a water supply protection land use control that prohibits the disposal of snow and ice containing deicing chemicals from outside the Zone A and Zone II, subject to the Massachusetts Drinking Water Regulations at 310 CMR 22.20C and 310 CMR 22.21(2).
- Avoid storage or disposal of snow or ice in Interim Wellhead Protection Areas (IWPA) of public water supply wells, and within 75 feet of a private well, where road salt may contaminate water supplies.
- Avoid dumping snow into any waterbody, including rivers, the ocean, reservoirs, ponds, or wetlands. In addition to water quality impacts and flooding, snow disposed of in open water can cause navigational hazards when it freezes into ice blocks.
- Avoid dumping snow on MassDEP-designated high and medium-yield aquifers where it may contaminate groundwater.
- Avoid dumping snow in sanitary landfills and gravel pits. Snow meltwater will create more contaminated leachate in landfills posing a greater risk to groundwater, and in gravel pits, there is little opportunity for pollutants to be filtered out of the meltwater because groundwater is close to the land surface.

- Avoid disposing of snow on top of storm drain catch basins or in stormwater drainage systems including detention basins, swales or ditches. Snow combined with sand and debris may block a stormwater drainage system, causing localized flooding. A high volume of sand, sediment, and litter released from melting snow also may be quickly transported through the system into surface water.

Recommended Site Selection Procedures

It is important that the municipal Department of Public Works or Highway Department, Conservation Commission, and Board of Health work together to select appropriate snow disposal sites. The following steps should be taken:

- Estimate how much snow disposal capacity may be needed for the season so that an adequate number of disposal sites can be selected and prepared.
- Identify sites that could potentially be used for snow disposal, such as municipal open space (e.g., parking lots or parks).
- Select sites located in upland locations that are not likely to impact sensitive environmental resources first.
- If more storage space is still needed, prioritize the sites with the least environmental impact (using the site selection criteria, and local or MassGIS maps as a guide).

Snow Disposal Mapping Assistance

MassDEP has an online mapping tool to assist in identifying possible locations to potentially dispose of snow. MassDEP encourages municipalities to use this tool to identify possible snow disposal options. The tool identifies wetland resource areas, public drinking water supplies and other sensitive locations where snow should not be disposed. The tool may be accessed through the Internet at the following web address: https://maps.env.state.ma.us/dep/arcgis/js/templates/PSF/.

2. SITE PREPARATION AND MAINTENANCE

In addition to carefully selecting disposal sites before the winter begins, it is important to prepare and maintain these sites to maximize their effectiveness. The following maintenance measures should be undertaken for all snow disposal sites:

- A silt fence or equivalent barrier should be placed securely on the downgradient side of the snow disposal site.
- Wherever possible maintain a 50-foot vegetated buffer between the disposal site and adjacent waterbodies to filter pollutants from the meltwater.
- Clear debris from the site prior to using the site for snow disposal.
- Clear debris from the site and properly dispose of it at the end of the snow season, and no later than May 15.

3. SNOW DISPOSAL APPROVALS

Proper snow disposal may be undertaken through one of the following approval procedures:

- Routine snow disposal – Minimal, if any, administrative review is required in these cases when upland and pervious snow disposal locations or upland locations on impervious surfaces that have functioning and maintained stormwater management systems have been identified, mapped, and used for snow disposal following ordinary snowfalls. Use of upland and pervious snow disposal sites avoids wetland resource areas and allows snow meltwater to recharge groundwater and will help filter pollutants, sand, and other debris. This process will address the majority of snow removal efforts until an entity exhausts all available upland snow disposal sites. The location and mapping of snow disposal sites will help facilitate each entity's routine snow management efforts.
- Emergency Certifications – If an entity demonstrates that there is no remaining capacity at upland snow disposal locations, local conservation commissions may issue an Emergency Certification under the Massachusetts Wetlands Protection regulations to authorize snow disposal in buffer zones to wetlands, certain open water areas, and certain wetland resource areas (i.e. within flood plains). Emergency Certifications can only be issued at the request of a public agency or by order of a public agency for the protection of the health or safety of citizens, and are limited to those activities necessary to abate the emergency. See 310 CMR 10.06(1)-(4). Use the following guidelines in these emergency situations:
    - Dispose of snow in open water with adequate flow and mixing to prevent ice dams from forming.
    - Do not dispose of snow in salt marshes, vegetated wetlands, certified vernal pools, shellfish beds, mudflats, drinking water reservoirs and their tributaries, Zone IIs or IWPAs of public water supply wells, Outstanding Resource Waters, or Areas of Critical Environmental Concern.
    - Do not dispose of snow where trucks may cause shoreline damage or erosion.
    - Consult with the municipal Conservation Commission to ensure that snow disposal in open water complies with local ordinances and bylaws.

- Severe Weather Emergency Declarations – In the event of a large-scale severe weather event, MassDEP may issue a broader Emergency Declaration under the Wetlands Protection Act which allows federal agencies, state agencies, state authorities, municipalities, and businesses greater flexibility in snow disposal practices. Emergency Declarations typically authorize greater snow disposal options while protecting especially sensitive resources such as public drinking water supplies, vernal pools, land containing shellfish, FEMA designated floodways, coastal dunes, and salt marsh. In the event of severe winter storm emergencies, the snow disposal site maps created by municipalities will enable MassDEP and the Massachusetts Emergency Management Agency (MEMA) in helping communities identify appropriate snow disposal locations.

  If upland disposal sites have been exhausted, the Emergency Declaration issued by MassDEP allows for snow disposal near water bodies. In these situations, a buffer of at

least 50 feet, preferably vegetated, should still be maintained between the site and the waterbody. Furthermore, it is essential that the other guidelines for preparing and maintaining snow disposal sites be followed to minimize the threat to adjacent waterbodies.

Under extraordinary conditions, when all land-based snow disposal options are exhausted, the Emergency Declaration issued by MassDEP may allow disposal of snow in certain waterbodies under certain conditions. ***A federal agency, state agency, state authority, municipality or business seeking to dispose of snow in a waterbody should take the following steps***:

- Call the emergency contact phone number [(888) 304-1133)] and notify the MEMA of the municipality's intent.
- MEMA will ask for some information about where the requested disposal will take place.
- MEMA will confirm that the disposal is consistent with MassDEP's Severe Weather Emergency Declaration and these guidelines and is therefore approved.

During declared statewide snow emergency events, MassDEP's website will also highlight the emergency contact phone number [(888) 304-1133)] for authorizations and inquiries. For further non-emergency information about this Guidance you may contact your MassDEP Regional Office Service Center:

Northeast Regional Office, Wilmington, 978-694-3246
Southeast Regional Office, Lakeville, 508-946-2714
Central Regional Office, Worcester, 508-792-7650
Western Regional Office, Springfield, 413-755-2114

Chapter 5
Miscellaneous Stormwater Topics

Mosquito Control in Stormwater Management Practices

Both aboveground and underground stormwater BMPs have the potential to serve as mosquito breeding areas. Good design, proper operation and maintenance and treatment with larvicides can minimize this potential.

EPA recommends that stormwater treatment practices dewater within 3 days (72 hours) to reduce the number of mosquitoes that mature to adults, since the aquatic stage of many mosquito species is 7 to 10 days. Massachusetts has had a 72-hour dewatering rule in its Stormwater Management Standards since 1996. The 2008 technical specifications for BMPs set forth in Volume 2, Chapter 2 of the Massachusetts Stormwater Handbook also concur with this practice by requiring that all stormwater practices designed to drain do so within 72 hours.

Some stormwater practices are designed to include permanent wet pools. These practices – if maintained properly – can limit mosquito breeding by providing habitat for mosquito predators. Additional measures that can be taken to reduce mosquito populations include increasing water circulation, attracting mosquito predators by adding suitable habitat, and applying larvicides.

The Massachusetts State Reclamation and Mosquito Control Board (SRMCB), through the Massachusetts Mosquito Control Districts, can undertake further mosquito control actions specifically for the purpose of mosquito control pursuant to Massachusetts General Law Chapter 252. The Mosquito Control Board, http://www.mass.gov/agr/mosquito/, describes mosquito control methods and is in the process of developing guidance documents that describe Best Management Practices for mosquito control projects.

The SRMCB and Mosquito Control Districts are not responsible for operating and maintaining stormwater BMPs to reduce mosquito populations. The owners of property that construct the stormwater BMPs or municipalities that "accept" them through local subdivision approval are responsible for their maintenance.[1] The SRMCB is composed of officials from MassDEP, Department of Agricultural Resources, and Department of Conservation and Recreation. The nine (9) Mosquito Control Districts overseen by the SRMCB are located throughout Massachusetts, covering 176 municipalities.

Construction Period Best Management Practices for Mosquito Control

To minimize mosquito breeding during construction, it is essential that the following actions be taken to minimize the creation of standing pools by taking the following actions:

- ***Minimize Land Disturbance:*** Minimizing land disturbance reduces the likelihood of mosquito breeding by reducing silt in runoff that will cause construction period controls to clog and retain standing pools of water for more than 72 hours.
- ***Catch Basin inlets:*** Inspect and refresh filter fabric, hay bales, filter socks or stone dams on a regular basis to ensure that any stormwater ponded at the inlet drains within 8 hours after precipitation stops. Shorter periods may be necessary to avoid hydroplaning in roads

[1] MassDEP and MassHighway understand that the numerous stormwater BMPs along state highways pose a unique challenge. To address this challenge, the 2004 MassHighway Stormwater Handbook will provide additional information on appropriate operation and maintenance practices for mosquito control when the Handbook is revised to reflect the 2008 changes to the Stormwater Management Standards..

caused by water ponded at the catch basin inlet. Treat catch basin sumps with larvicides such as *Bacillus sphaericus* (*Bs*) using a licensed pesticide applicator.

- ***Check Dams:*** If temporary check dams are used during the construction period to lag peak rate of runoff or pond runoff for exfiltration, inspect and repair the check dams on a regular basis to ensure that any stormwater ponded behind the check dam drains within 72 hours.
- ***Design construction period sediment traps*** to dewater within 72 hours after precipitation. Because these traps are subject to high silt loads and tend to clog, treat them with the larvicide *Bs* after it rains from June through October, until the first frost occurs.
- ***Construction period open conveyances:*** When temporary manmade ditches are used for channelizing construction period runoff, inspect them on a regular basis to remove any accumulated sediment to restore flow capacity to the temporary ditch.
- ***Revegetating Disturbed Surfaces:*** Revegetating disturbed surfaces reduces sediment in runoff that will cause construction period controls to clog and retain standing pools of water for greater than 72 hours.
- ***Sediment fences/hay bale barriers:*** When inspections find standing pools of water beyond the 24-hour period after a storm, take action to restore barrier to its normal function.

Post-Construction Stormwater Treatment Practices

- Mosquito control begins with the environmentally sensitive site design. Environmentally sensitive site design that minimizes impervious surfaces reduces the amount of stormwater runoff. Disconnecting runoff using the LID Site Design credits outlined in the Massachusetts Stormwater Handbook reduces the amount of stormwater that must be conveyed to a treatment practice. Utilizing green roofs minimizes runoff from smaller storms. Storage media must be designed to dewater within 72 hours after precipitation.
- Mosquito control continues with the selection of structural stormwater BMPs that are unlikely to become breeding grounds for mosquitoes, such as:
    - ***Bioretention Areas/Rain Gardens/Sand Filter:*** These practices tend not to result in mosquito breeding. If any level spreaders, weirs or sediment forebays are used as part of the design, inspect them and correct them as necessary to prevent standing pools of water for more than 72 hours.
    - ***Infiltration Trenches:*** This practice tends not to result in mosquito breeding. If any level spreaders, weirs, or sediment forebays are used as part of the design, inspect them and correct them as necessary to prevent standing pools of water for more than 72 hours.
- Another mosquito control strategy is to select BMPs that can become habitats for mosquito predators, such as:
    - ***Constructed Stormwater Wetlands:*** Habitat features can be incorporated in constructed stormwater wetlands to attract dragonflies, amphibians, turtles, birds, bats, and other natural predators of mosquitoes.
    - ***Wet Basins:*** Wet basins can be designed to incorporate fish habitat features, such as deep pools. Introduce fish in consultation with Massachusetts Division of Fisheries and Wildlife. Vegetation within wet basins designed as fish habitat must be properly managed to ensure that vegetation does not overtake the habitat. Proper design to ensure that no low circulation or "dead" zones are created may reduce the potential for mosquito breeding. Introducing bubblers may increase water circulation in the wet basin.

Effective mosquito controls require proponents to design structural BMPs to prevent ponding and facilitate maintenance and, if necessary, the application of larvicides. Examples of such design practices include the following:

- ***Basins:*** Provide perimeter access around wet basins, extended dry detention basins and dry detention basins for both larviciding and routine maintenance. Control vegetation to ensure that access pathways stay open.
- ***BMPs without a permanent pool of water:*** All structural BMPs that do not rely on a permanent pool of water must drain and completely dewater within 72 hours after precipitation. This includes dry detention basins, extended dry detention basins, infiltration basins, and dry water quality swales. Use underdrains at extended dry detention basins to drain the small pools that form due to accumulation of silts. Wallace indicates that extended dry extended detention basins may breed more mosquitoes than wet basins. It is, therefore, imperative to design outlets from extended dry detention basins to completely dewater within the 72-hour period.
- ***Energy Dissipators and Flow Spreaders:*** Currier and Moeller, 2000 indicate that shallow recesses in energy dissipators and flow spreaders trap water where mosquitoes breed. Set the riprap in grout to reduce the shallow recesses and minimize mosquito breeding.
- ***Outlet control structures:*** Debris trapped in small orifices or on trash racks of outlet control structures such as multiple stage outlet risers may clog the orifices or the trash rack, causing a standing pool of water. Optimize the orifice size or trash rack mesh size to provide required peak rate attenuation/water quality detention/retention time while minimizing clogging.
- ***Rain Barrels and Cisterns:*** Seal lids to reduce the likelihood of mosquitoes laying eggs in standing water. Install mosquito netting over inlets. The cistern system should be designed to ensure that all collected water is drained into it within 72 hours.
- ***Subsurface Structures, Deep Sump Catch Basins, Oil Grit Separators, and Leaching Catch Basins:*** Seal all manhole covers to reduce likelihood of mosquitoes laying eggs in standing water. Install mosquito netting over the outlet (CALTRANS 2004).

The Operation and Maintenance Plan should provide for mosquito prevention and control.

- ***Check dams:*** Inspect permanent check dams on the schedule set forth in the O&M Plan. Inspect check dams 72 hours after storms for standing water ponding behind the dam. Take corrective action if standing water is found.
- ***Cisterns:*** Apply *Bs* larvicide in the cistern if any evidence of mosquitoes is found. The Operation and Maintenance Plan shall specify how often larvicides should be applied to waters in the cistern.
- ***Water quality swales:*** Remove and properly dispose of any accumulated sediment as scheduled in the Operation and Maintenance Plan.
- ***Larvicide Treatment:*** The Operation and Maintenance Plan must include measures to minimize mosquito breeding, including larviciding.
- The party identified in the Operation and Maintenance Plan as responsible for maintenance shall see that larvicides are applied as necessary to the following stormwater treatment practices: catch basins, oil/grit separators, wet basins, wet water quality swales, dry extended detention basins, infiltration basins, and constructed stormwater wetlands. The Operation and Maintenance Plan must ensure that all larvicides are applied by a licensed pesticide applicator and in compliance with all pesticide label requirements.
- The Operation and Maintenance Plan should identify the appropriate larvicide and the time and method of application. For example, *Bacillus sphaericus (Bs)*, the preferred

larvicide for stormwater BMPs, should be hand-broadcast.[2] Alternatively, Altosid, a Methopren product, may be used. Because some practices are designed to dewater between storms, such as dry extended detention and infiltration basins, the Operation and Maintenance Plan should provide that larviciding must be conducted during or immediately after wet weather, when the detention or infiltration basin has a standing pool of water, unless a product is used that can withstand extended dry periods.

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[2] *Bacillus thuringienis israelensis* or *Bti* is usually applied by helicopter to wetlands and floodplains

Massachusetts Department of Environmental Protection

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