Review of the application for a Wetlands Permit NHDES File Number: 2020-00183

Subject Property: 1A & B Old Runnels Bridge Rd, Hollis, Tax Map #10, Lot #33-1

Prepared by: Joseph Garruba

> 28 Winchester Dr. Hollis NH 03049 Jm002@garruba.com

603-685-3394

April 17, 2020 Date:

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Key problems with this application

Application 2020-00183 has many areas of non-compliance with state wetlands regulations. In particular, there are numerous problems relating to storm water treatment in the design. In addition, there are several shortcomings related to avoidance and minimization. The following report identifies these areas of non-compliances and attempts to clearly describe the non-compliant aspects of the application. It is intended to serve to draw attention to these problems so that the project can be brought into compliance.

The project uses wetlands to serve as storm water treatment

The project proposes filling a the southerly wetland and converting it to a detention (dry) basin. This is in direct conflict with the provisions of Env-Wt 524.04 (b), (c)(e) and (f). The language of Env-Wt 524.04 is specific in requiring that developments "shall be designed" to meet the criteria described. I have included the regulation below, for clarity and I will elaborate on each of the areas of non-compliance below

Env-Wt 524.04 Design Requirements for Residential, Commercial, and Industrial Development Projects. In addition to meeting the applicable design requirements established in Env-Wt 300, a residential, commercial, or industrial development project in non-tidal wetlands shall be designed to meet the following criteria:

- (a) The project complies with all applicable requirements of Env-Wt 400, Env-Wt 700, Env-Wt 800, Env-Wt 900, and other applicable project-specific criteria in this chapter;
- (b) The project does not use wetlands or surface waters to serve as stormwater or water quality treatment to mitigate impacts;
- (c) The project provides setbacks and water quality protection measures sufficient to protect private and public drinking water supplies, source water protection areas, and fisheries;
- (d) The project maintains or restores hydrologic connections to maintain flows necessary to preserve adjacent wetland and riparian functions;
- (e) The project maintains existing fishery spawning, feeding, or cover habitat and fish passage necessary to maintain fishery or habitat or populations; and
- (f) The project maintains existing wetland-dependent wildlife habitat and its associated migratory pathways, reproductive sites, and associated wetland complex or wetland community system.

Env-Wt 524.04 (b) use of surface water for stormwater treatment

Item (b) states "The project does not use wetlands or surface waters to serve as stormwater or water quality treatment to mitigate impacts;"

Storm water treatment at the Northerly Pond

It is clear from the plans that the southerly wetland is being removed and replaced with a large stormwater basin in order to **mitigate** the impact of additional stormwater created by the impervious cover added by the project. If it were not for the increased stormwater being directed to the location of the southerly pond, there would be no need to relocate it.

Storm water treatment at the Northerly Pond

The applicant has submitted a storm water management plan dated 4-1-2019 for the site to the Hollis planning board. In addition, the applicant has received conditional approval for an Alteration of Terrain permit (Aot-1741). A condition of that approval is the acquisition of a wetland permit. The storm water plan proposes approximately doubling the runoff into the northerly pond. Additional impervious roof surfaces from proposed buildings 10, 11 and 12 will flow into the Northerly pond.

To explain the increase in runoff I am including two citations from the storm water report. The first represents the existing conditions in a 10 year 24 hr storm, and the second represents the proposed conditions in the same 10 year storm.

1835 RAISANEN SDR PRE-DEV

Type III 24-hr 10 Year Storm Rainfall=4.42"

Prepared by Fieldstone Land Consultants, PLLC

HydroCAD® 10.00-24 s/n 06037 © 2018 HydroCAD Software Solutions LLC

Page 10

Summary for Subcatchment E1S: TO EXIST. POND

Runoff 0.31 cfs @ 12.72 hrs, Volume=

0.111 af, Depth> 0.16"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs Type III 24-hr 10 Year Storm Rainfall=4.42"

F	Area (sf)	CN	Description				
17,670 98 8 7,400 98 8 12,000 96 0 249,370 39 3 65,500 30 0 351,940 43 0 326,870 8			Paved parking, HSG A Roofs, HSG A Gravel surface, HSG A >75% Grass cover, Good, HSG A Noods, Good, HSG A Weighted Average 92.88% Pervious Area 7.12% Impervious Area				
Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description		
15.4	100	0.0500	0.11	\3.07	Sheet Flow, A=>B		
5.5	400	0.0300	1.21		Woods: Light underbrush n= 0.400 P2= 2.98" Shallow Concentrated Flow, B=>C		
2.1	260	0.0100	2.03	6.77	Short Grass Pasture Kv= 7.0 fps Parabolic Channel, C=>D W=10.00' D=0.50' Area=3.3 sf Perim=10.1' n= 0.035 High grass		
23.0	760	Total			Marie		

For the post development condition, we see that runoff to the northerly pond nearly doubles and 15,790 sf of paved parking is included.

Storm Water Management Report dated 4/1/2019 p30 below

1835 RAISANEN SDR POST-DEV

Type III 24-hr 10 Year Storm Rainfall=4.42"

Prepared by Fieldstone Land Consultants, PLLC

HydroCAD® 10.00-24 s/n 06037 © 2018 HydroCAD Software Solutions LLC

Summary for Subcatchment 108: TO EXIST. POND

Runoff 1.38 cfs @ 12.31 hrs, Volume= 0.207 af. Depth> 0.60"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 2.00-24.00 hrs, dt= 0.02 hrs Type III 24-hr 10 Year Storm Rainfall=4.42"

Д	rea (sf)	CN	Description					
	15,910 15,180 11,240 136,520	98 96 39		3 Å ace, HSG Æ s cover, Go				
	78,850 47,760 31,090		Weighted Average 82.62% Pervious Area 17.38% Impervious Area					
Tc (min)	Length (feet)	Slope (ft/ft		Capacity (cfs)	Description			
12.6	100	0.0300	0.13		Sheet Flow, A=>B Grass: Dense n= 0.240 P2= 2.98"			
2.1	220	0.0600	1.71		Shallow Concentrated Flow, B=>C Short Grass Pasture Kv= 7.0 fps			
0.7	85	0.0100	2.03	6.77				
15.4	405	Total						

Considering the impact of the proposed development on the runoff into the northerly pond, it is clear that the northerly pond is being used to mitigate the impacts of the increased impervious cover of this project. The language of Env-Wt 524.04 is clear that projects shall be designed not to use surface waters to serve as storm water treatment

Env-Wt 524.04 (c) required setbacks for water quality

Item (c) states "The project provides setbacks and water quality protection measures sufficient to protect private and public drinking water supplies, source water protection areas, and fisheries;" I have previously documented the noncompliances related to Septic setbacks in a prior correspondence. I've included the language below because it directly relates to the understanding of non-compliance with item (c) of Env-Wt 524.04

Septic Setback

The language of Env-Wt 307.11 (d) specifically prevents fill from being used to meet septic setbacks. I am including the text of the regulation below.

Env-Wt 307.11 Filling Activity Conditions. In addition to all other applicable conditions in this part, the following conditions shall apply to all temporary and permanent filling activities:

(d) No fill shall be allowed to achieve setbacks to septic systems specified in Env-Wq 1000;

The chart below is taken from Env-wq 1000. Section 1008.04 represents the required minimum setback distances. The distance from surface water is outlined with a rectangular box for emphasis.

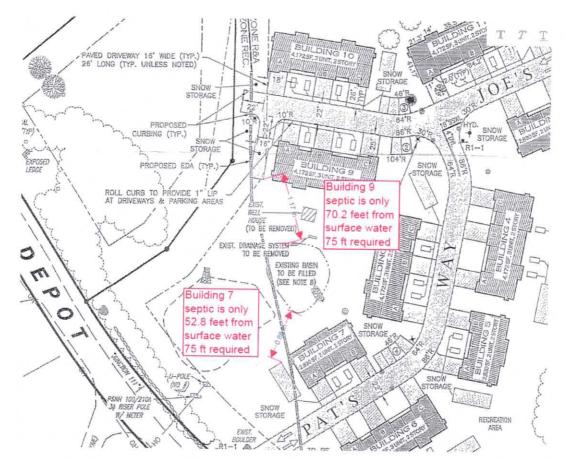
Env-Wq 1008.04 Minimum Distances.

(a) The minimum separation distance in feet between components of an ISDS and the identified receptors shall be as specified in Table 1008-2, subject to (b) through (j), below:

Table 1008-2: Minimum Separation Distances (in Feet)

Receptor Component→	Septic Tank	Bed	Sewer Line
Surface Water	75	75	1
Poorly Drained Jurisdictional Wetland	50	50	-
Very Poorly Drained Jurisdictional Wetland	7.5	75	
Open Drainage	75	75	
Culvert, Tight Pipe	10	25	
Catch Basin	35	35	
Reservoir	75	75	
Water Lines, pressure	10	25	10
Water lines, suction	50	50	50
Property lines	5	10	5
Foundation, any type, with Foundation Drains	5	15	
Foundation, full cellar, without Foundation Drains	5	10	
Foundation, slab, without Foundation Drains	5	5	
Foundation Drains Outfall Pipe (Solid)	5	5	
Foundation Drain Outfall (Discharge)	25	25	
Top of Natural Embankment or Natural Steep Slope	5	20	
Stormwater Pond intercepting SHWT	50	75	
Stormwater Pond not intercepting SHWT	25	35	
Geothermal well, open loop	7.5	75	
Geothermal well, closed loop	2.5	25	
Upgradient swale to divert surface water from EDA not intercepting SHWT, below finished grade of EDA	10	25	

Using the submitted site plan rev F dated 1/30/2020 one can observe that the required 75 foot setback from surface water would not be met unless the southerly pond is filled. These setback violations effect water quality. Per Env-Wt 524.04 The project **shall** be designed to meet the criteria of item (c) and this is not the case with the present design.



Submitted site plan rev F dated 1/30/2020

Further support indicating that the application is noncompliant specifically with regard to wetland regulations can be found in Env-Wt 307.03 (a) (4) which requires that no activity be conducted in violation of the requirements imposed by Env-Wq 1000 among others. This reinforces the need to have a compliant proposal . The language of Env-Wt 307.03 (a) (4) is quoted below.

Env-Wt 307.03 Protection of Water Quality Required.

(a) No activity shall be conducted in such a way as to cause or contribute to any violation of:

(4) Any provision of RSA 485-A, **Env-Wq 1000**, RSA 483-B, or Env-Wq 1400 that protects water quality.

Env-Wt 524.04 (e) destruction of fish habitat and populations

Item (e) states "The project maintains existing fishery spawning, feeding, or cover habitat and fish passage necessary to maintain fishery or habitat or populations; and..." The fact that there are fish in the southerly pond is not disputed. The removal of the pond is obviously not in compliance with this requirement since both habitat and fish population will be destroyed.

Env-Wt 524.04 (f) destruction of wetland dependent wildlife habitat

Item (f) states "The project maintains existing wetland-dependent wildlife habitat and its associated migratory pathways, reproductive sites, and associated wetland complex or wetland community system." Here again it can be seen that the removal of the southerly pond does not meet these requirements.

Lack Of Impact Avoidance and Minimization

The submitted application is deficient with regard to several areas related to the three step process of avoidance, minimization and mitigation which I believe need to be addressed before this application can be considered for approval. I will cite each regulation below and outline how the application is deficient with respect to each.

Env-Wt 313.03 Avoidance and Minimization (b)(1)

- (b) For any major or minor project, the applicant shall demonstrate specifically that:
 - (1) There is no practicable alternative that would have a less adverse impact on the area and environments under the department's jurisdiction;

The applicant has not taken actions to implement a design that avoids impacts to the jurisdictional areas. In fact several alternatives exist.

- 1. The project buildings could be relocated further to the east and north to avoid impacts to the southerly
- 2. The required storm water basin could be installed in a place other than the location of the southerly pond.
 - a. The applicant could increase the size of "Stormwater management area A" It is already situated at a low elevation
 - b. The applicant could use underground detention structures to infiltrate stormwater in areas with less wetland impact
- 3. Planned positions of buildings and roads could be adjusted to accommodate the development without filling the pond.
- 4. The number of buildings could be reduced.
- 5. The size of the buildings could be reduced.
- 6. The project's scope could be reduced (i.e build a few less units). This would reduce the impervious cover and reduce the area needed for storm water treatment.

All of the avoidance / mitigation measures suggested above would have less adverse impact than filling the southerly pond which is known to support fish and is a likely habitat for turtles and other aquatic life. The developer has not provided specific reasons why these alternatives could not be accomplished. In order to prove that there is "no practicable alternative", the developer should submit a site plan for each of the above alternatives and demonstrate why they are not practical.

Env-Wt 313.03 Avoidance and Minimization (b)(4) (bold and colored emphasis added)

- (b) For any major or minor project, the applicant shall demonstrate specifically that:
 - (4) The project avoids and minimizes impacts to wetlands and other areas of jurisdiction under RSA 482-A, especially those in which there are exemplary natural communities, vernal pools, protected species and habitat, documented fisheries, and habitat and reproduction areas for species of concern, or any combination thereof:

The developer's application does not address the requirement to first avoid and then if necessary minimize impacts to areas of jurisdiction under RSA482-A such as the southerly pond. Neither does it address protected species and habitat or documented fisheries. A New Hampshire Natural Heritage Bureau search was conducted in May of 2019. This search indicated reports of protected species in the area. In addition, a member of the Hollis Conservation Commission indicated that the report is likely a Blanding's Turtle. These turtles are state endangered species. They are identified as a wildlife action species in greatest need of conservation and are also identified as critically imperiled. Avoidance and minimization of impacts to their habitat is required by Env-Wt 313.03. The fact that the Natural Heritage Bureau does

not "expect" that they will be impacted does not relieve the applicant of the requirement to protect their habitat imposed by Env-Wt 313.03(b)(4)

The regulation requires the minimization and avoidance of impacts to all wetlands but especially to protected species, their habitat and to documented fisheries. The applicant must show that there are no practical alternatives to protecting this habitat.

The regulation is clear in its direction that impacts to wetlands and other areas of jurisdiction must be avoided if possible. The regulation goes on to enumerate specific areas of concern, but never the less it still requires avoidance and minimization of all areas of jurisdiction under RSA 482A. This can be understood by the choice of the word "especially", which serves to ensure the protection of the enumerated list, not to exclude other areas of jurisdiction from the requirement to avoid and minimize impacts.

Env-Wt 313.03 Avoidance and Minimization (b)(5)

- (b) For any major or minor project, the applicant shall demonstrate specifically that:
 - (5) The project avoids and minimizes impacts that eliminate, depreciate, or obstruct public commerce, navigation, or recreation;

The project proposes to increase runoff to the northerly pond, to treat stormwater generated by the proposal. This surely depreciates the ability of that pond to be used for recreational fishing. The applicant has not addressed a means of avoiding or minimizing this impact.

Definitions from wetland regulation

To be clear about the extent of protection for New Hampshire jurisdictional areas, the wetland regulations specifically define the related terms. I have included the definition of the regulation below. Emphasis in bold type added.

Env-Wt 102.12 "Avoidance" means not impacting jurisdictional areas if there is a practicable alternative to the proposed project that would have less impact on the aquatic ecosystem or jurisdictional areas, so long as the alternative does not have other significant adverse environmental consequences and is consistent with 40CFR 230.10(a). amended effective 12-24-2019

Env-Wt 102.13 "Avoidance, minimization, mitigation" means the 3-step sequence an applicant must follow to eliminate adverse impacts to jurisdictional areas to the maximum extent practicable.

Env-Wt 102.14 "Avoid and minimize" means to avoid impacts to the maximum extent practicable and then minimize those impacts that cannot be avoided.

Env-Wt 313.03 Avoidance and Minimization conclusion

There are many alternatives that need to be evaluated prior to considering approving this permit. The burden of proof rests solely with the applicant to demonstrate that the suggested alternatives are not practical. This will require detailed engineering to support any claims of impracticability. The language of Wt 313.03 is strongly written and imposes a requirement on the applicant to present a convincing evidence as to why each of the proposed alternatives is not practical. This is further reinforced by Env-Wt 313.01 which describes the specific approval criteria. The relevant regulation language is quoted below for clarity.

Env-Wt 313.01 Criteria for Approving Standard Permit Applications.

- (c) The requirements to avoid and minimize shall not be deemed to be met if:
 - (1) There is a practicable alternative that would have a less adverse impact on the area and

environments under the department's jurisdiction;

Review of Material submitted in response to the March 26, 2020 Request for More information letter

In order to understand and analyze the applicant's response to the RFMI letter of 3/26/19 I have captured the relevant text from the RFMI letter along with the referenced regulations as well as the applicant's response and any necessary supplemental information below. Organizing the information like this provides a clear way to judge the response against the regulation requirements. In addition, I have provided comments to specific details of the applicant's response in the margins using the Microsoft word comment feature

To complete the review, I have marked up the assessments and plans submitted by the applicant and included my comments in red font on those documents. I think this is the best way to communicate my technical concerns and provide recommendations about this project

Item 1 Alternatives per Rule Env-Wt 313.03(b)(1)

RFMI language

The response provided in Attachment A: Minor and Major Projects, for Section I.I – Alternatives, per Rule Env-Wt 313.03(b)(1), does not address the question. Please describe how there is no practicable alternative that would have a less adverse impact on the areas and environments under the Department's jurisdiction.

Related Rule

Env-Wt 313.03 Avoidance and Minimization

(b) For any major or minor project, the applicant shall demonstrate specifically that:

(1) There is no practicable alternative that would have a less adverse impact on the area and environments under the department's jurisdiction;

Commented Applicant Response

The plan that was submitted with this project is the result of a lengthy two plus year review process with the Town of Hollis Boards, state permitting, interested parties, State Representatives, reviews with DES personnel and alike. The layout of this site balances the existing features, topography, maintains the existing large irrigation/stormwater pond, maximizes buffers to abutters, addresses safe access and emergency response personnel, provides adequate buffering and landscaping to address rural impact concerns, addresses Alteration of Terrain and local stormwater standards, subsurface effluent system standards and meets local and state standards for workforce housing. All of these factors and more were contemplated and balanced for the better part of two years ultimately culminating in the plan that was submitted with this permit so we believe that this plan represents the best possible layout for all parties involved. To further support this layout the site has been designed to repurpose the existing manmade irrigation/stormwater basin in its current location to address safety concerns and meet state stormwater standards.

The proposed area of impact is a documented man-made irrigation/stormwater which was originally constructed for use with a now defunct golf course in accordance with RSA 482- A:3 IV(b) which is exempt from permitting for modifying / repurposing the basin to maintain its usefulness. The permit filed which requests to fill and alter the manmade basin has been submitted and prepared based on information gathered during a pre-application meeting and subsequent conversations with DES personnel which indicated that recent re-interpretation by the state legal department would allow for modifying the area to maintain its usefulness. Therefore an application has been filed to address the repurposing of an irrigation/stormwater basin to a stormwater basin that meets current DES Alteration of Terrain treatment standards and removes a safety hazard. The characteristics of the current basin construction includes very steep, stone lined side slopes with immediate deep water which is a significant safety and entrapment

Commented [u1]: The Alteration Of Terrain Permit is only conditionally approved and there are problems with the approval conditions that are outlined in item 15

Commented [u2]: There are non-compliances with subsurface effluent standards documented in item 15

Commented [u3]: This permit is the process for determining compliance with wetlands regulations, the steps prior do not relieve the applicant of state wetland requirements

Commented [u4]: The southerly pond is a golf course water hazard. It has not been described as a storm water basin before. Town records from 1997 and 1998 show that it was constructed for irrigation

Commented [u5]: The proposal is to fill the southerly pond and create a storm water basin to the south and west

Commented [u6]: Detailed explanation of why this pond is not exempt is included in item 15

Commented [u7]: The pond was not a storm water basin and it has been abandoned for many years

hazard. This hazard would certainly increase if it was located in a populated residential development with young children. The re-location of the irrigation/stormwater basin also was contemplated, however, moving the basin would also require a permit and would not meet current state stormwater basin design guidelines. NHDES AOT permit guidelines require that there be a separation of soil between the groundwater and the stormwater management basins to provide treatment. When we reviewed the site topography and soil characteristics there were not many options regarding locations for stormwater management for this property. Currently the larger manmade pond outlets into a closed drainage system that discharges into the smaller manmade pond which outlets to the southern property line. Soil testing was performed throughout the property and ultimately this information was utilized along with the existing site topography and state standards in order to determine viable options for mitigating stormwater runoff on-site. The subject property is self-contained meaning there is no stormwater outlet leaving the site so the stormwater design for the property had to contemplate infiltration. In reviewing this with state and local personnel the location of the existing manmade irrigation/stormwater basin was determined to be the best location for various reasons.

Repurposing the southern smaller irrigation/stormwater basin into a conforming stormwater management area allows for the removal of a significant safety hazard and legal liability that will be immediately adjacent to the residential buildings. This design also contemplates the rerouting of stormwater from the larger basin maintaining the stormwater system that exists on-site. This design allows for the larger man-made basin to remain undisturbed thus reducing and minimizing required environmental impacts.

Supplemental information related to this item

The applicant's response fails to address any of the practical alternatives listed below:

- The project buildings could be relocated further to the east and north to avoid impacts to the southerly pond.
- 2. The required storm water basin could be installed in a place other than the location of the southerly pond.
 - The applicant could increase the size of "Stormwater management area A" It is already situated at a
 low elevation
 - The applicant could use underground detention structures to infiltrate stormwater in areas with less wetland impact
- Planned positions of buildings and roads could be adjusted to accommodate the development without filling the pond.
- 4. The number of buildings could be reduced.
- 5. The size of the buildings could be reduced.
- The project's scope could be reduced (i.e build a few less units). This would reduce the impervious cover and reduce the area needed for storm water treatment.

In addition, the regulations require the applicant to **demonstrate** that there is no practicable alternative. The use of the word **demonstrate** is significant. A demonstration will require engineering and financial analyses. A three paragraph written narrative which does not address the engineering or financial concerns is not a demonstration. Professional judgement is not a demonstration and does not satisfy the requirements

Finally, the southern pond has always been referred to as an irrigation pond. It was not constructed to handle storm water. This is proven by the letter from the planning board below. It is further reinforced by the fact that the golf course was approved originally without the southerly pond. If the southerly pond was required for storm water mitigation it would have been included in the original design

Commented [u8]: The intent of this statement is unclear

Commented [u9]: This is one of the reasons that the southerly pond was not a storm water management feature

Commented [u10]: There are plenty of options for avoiding the wetlands it is not clear why they were not considered

Commented [u11]: The next sentence states that no storm water leaves the site which is correct??

Commented [u12]: This does not demonstrate that other alternatives with less impact to the jurisdictional area are impractical

Commented [u13]: The applicant specifically states that he is "repurposing" the existing pond which is not permitted by RSA 482- A:3 IV(b)

Commented [u14]: Removal of hazards and legal liability is not germane to the requirements of Env-Wt 313,03

Commented [u15]: The northerly pond is a recipient of residential roof runoff as per the applicant's AOT submittal. That can not be considered "undisturbed". Also, this is not the only design that would leave the northerly pond undisturbed

7 Monument Square Hollis, NH 03049-6121

> Town Hall 465-2209

Selectmen 465-2780

Town Clerk 465-2064

Tax Collector 465-7987

> Assessor 465-9860

Building Inspector 465-2514

Finance Department 465-2780

Planning Department 465-3446

Zoning Department 465-2209

Fax 465-3701

November 16, 1998

Mr. Alan Archambault Mr. Joseph Archambault 52 Runnells Bridge Road Hollis, NH 03049

Subject:

Conditions of Site Plan Approval

Pitch & Putt Golf Course

South Depot & Old Runnells Bridge Road

Map 10, Lot 33

Dear Mr. Archambault:

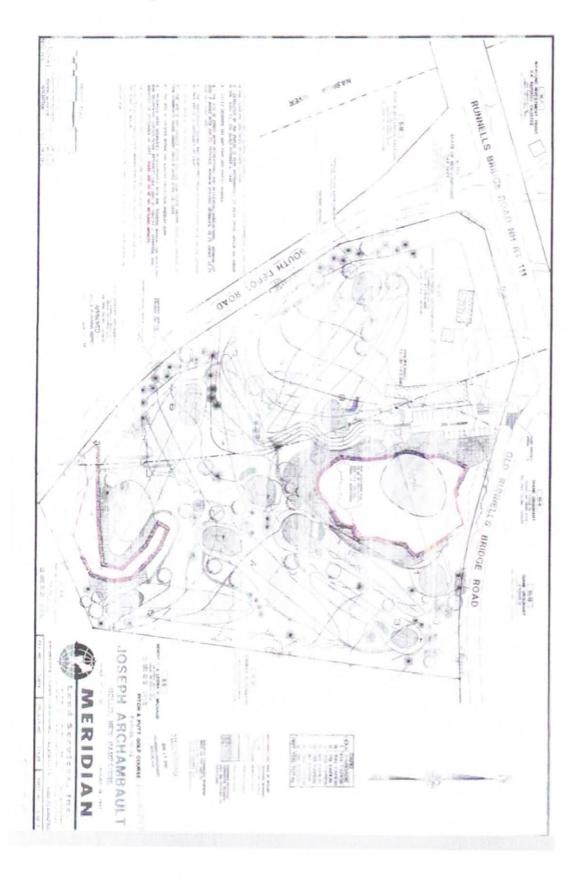
It has come to the attention of the Planning Board that you have violated your site plan approval by dredging the existing pond and destroying the natural vegetative buffer that was supposed to be the protection from run-off, particularly from the parking lot. We are aware that you have properly secured a State of NH Dredge and Fill Permit, which was signed by the Hollis Conservation Commission; however, this pond was a major part of the discussion for both the ZBA Wetland Special Exception and the Planning Board Site Plan Approval. The justification for creating a new pond for irrigation was to avoid impacting the existing pond.

Your intention to "grow grass to the edge of the pond similar to other golf courses" is contrary to what was requested by both Boards. The buffer area and wetlands adjacent to the pond will need to be restored with appropriate plant materials. A restoration plan should be prepared by a qualified wetland plant specialist, and provided to the Planning Board for approval.

5-18-1998 Revision E plan showing southerly irrigation pond described as an **irrigation pond**. Pond description highlighted with a red rectangle



Plan approved on 4-8-1998 showing southerly pond was not needed for storm water management and was added later for irrigation and as a golf course water hazard



Item 2 Avoidance and minimization required by Env-Wt 311.07

RFMI Language

In accordance with Env-Wt 311.04(j), provide either the narrative or checklist on avoidance and minimization required by Env-Wt 311.07. Ensure that the response includes a thorough explanation of whether alternative designs or techniques (such as different layouts or alternative technologies) could be used to avoid impacts to jurisdictional areas or their functions and values on the subject property or on other property that is reasonably available to the applicant, as described in the Avoidance and Minimization Best Management Practices (BMPs), per Rule Env-Wt 311.07(b)(3).

Related Rules

Env-Wt 311.04 <u>Application Information</u>. The applicant shall provide the following information on the wetlands standard permit application, NHDES W-06-012, dated December 15, 2019:

(j) The narrative or checklist on avoidance and minimization required by Env-Wt 311.07, the wetland assessment required by Env-Wt 311.10, resource-specific information required by Env-Wt 311.09, and project design considerations required by Env-Wt 313; and ...

Env-Wt 311.07 Demonstration of Avoidance and Minimization.

(a) Subject to (d), below, the applicant shall submit with the application a written narrative that explains how all impacts to functions and values of all jurisdictional areas have been avoided and minimized to the maximum extent practicable, as required by Env-Wt 313.03.

(b) The explanation required by (a), above, shall include the following:

(3) Whether alternative designs or techniques, such as different layouts, different construction sequencing, or alternative technologies could be used to avoid impacts to jurisdictional areas or their functions and values on the subject property or on other property that is reasonably available to the applicant as described in the A/M BMPs, available as noted in Appendix B; and...

Commented Applicant Response

As stated in our response to the first question, the plan that was submitted with this project is the result of a lengthy two plus year review process with the Town of Hollis Boards, state permitting, interested parties, State Representatives, reviews with DES personnel and alike. The layout of this site balances the existing features, topography, maintains the existing large irrigation/stormwater pond, maximizes buffers to abutters, addresses safe access and emergency response personnel, provides adequate buffering and landscaping to address rural impact concerns, addresses Alteration of Terrain and local stormwater standards, subsurface effluent system standards and meets local and state standards for workforce housing. All of these factors and more were contemplated and balanced for the better part of two years ultimately culminating in the plan that was submitted with this permit. Given these facts, we believe that this plan represents the best possible layout for all parties involved. To further support this layout the site has been designed to alter and repurpose the existing manmade irrigation/stormwater basin in its current location to address safety concerns and meet current state stormwater standards.

The subject site has no outlet so all stormwater management on-site is currently handled by the two manmade irrigation/stormwater basins or infiltration on-site. This drainage design contemplates the existing topography and soil characteristics in an effort to minimize disturbance and provide stormwater treatment within the existing topography; and since the man-made irrigation basin was constructed in one of the lower points on the property and since the basin needed to be filled in to rectify the safety hazard of steep banks, deep water and unsafe attraction to the public and certainly any young children living in the workforce housing development, it was determined that repurposing the area as a stormwater management area would minimize the amount of disturbance necessary, address a safety issue and would allow for the other larger man-made basin on the property to remain unaltered. As previously stated, the site also meets the AoT requirements and has received approval on January 28, 2020 Permit #AoT-1741.

Commented [u16]: The prior process does not relieve the applicant the responsibility of compliance with wetland regulation

Commented [u17]: The plan does not meet septic design standards see comments related to item 15

Commented [u18]: The regulation calls for the applicant to demonstrate compliance. The developer's "belief" is not sufficient

Commented [u19]: This does not address the requirement to avoid impacts to jurisdictional areas using alternate layouts

Commented [u20]: Alternate layouts with separate stormwater features in upland areas would avoid impacts to the jurisdictional areas but they were not presented

Commented [u21]: The applicant did not provide Justification for this statement. Why does the applicant claim that the pond needs to be filled in?

Commented [u22]: How is completely filling the pond minimizing the disturbance?

Commented [u23]: The proposal directs roof runoff into the northerly pond, it is not "unaltered"

Commented [u24]: The AOT permit is presently only conditional. One of the conditions is satisfaction of the wetland requirements

We believe this site has been designed to best utilize the property in the most efficient manner given the local and state setback requirements in order to provide for the needed workforce housing units that are otherwise non-existing in the area and Hollis community. The US ACE Section 404(b)(1) Guidelines require the Corps to permit the practicable alternative that has the least adverse impact on the aquatic ecosystem, provided there are no other significant adverse environmental consequences. Impacts on other resources of concern, including such things as aquifers, wildlife habitat blocks, and socio-economic constraints. Workforce housing is housing that is affordable to workers and close to their jobs. It is homeownership, as well as rental housing, that can be reasonably afforded by a moderate to middle income, critical workforce and located in acceptable proximity to workforce centers. Because of the nature of the proposed development for workforce housing, it is our opinion that the impacts to socio-economic constraints must also be considered when determining permitting the subject wetland impact.

Supplemental information related to this item

The applicant again did not address the alternative design methods that would avoid impacts to wetland. Why can't the project avoid wetland impacts with any of the means below?

- The project buildings could be relocated further to the east and north to avoid impacts to the southerly pond.
- 2. The required storm water basin could be installed in a place other than the location of the southerly pond.
 - e. The applicant could increase the size of "Stormwater management area A" It is already situated at a low elevation
 - f. The applicant could use underground detention structures to infiltrate stormwater in areas with less wetland impact
- Planned positions of buildings and roads could be adjusted to accommodate the development without filling the pond.
- 4. The number of buildings could be reduced.
- 5. The size of the buildings could be reduced.
- The project's scope could be reduced (i.e build a few less units). This would reduce the impervious cover and reduce the area needed for storm water treatment.

Commented [u25]: The regulations require demonstration of compliance, not "belief" of the applicant

Commented [u26]: Was this written by a wetland scientist?

Commented [u27]: New Hampshire regulations are often stricter than federal regulations. The US ACE guideline does not relieve the applicant from meeting NHDES regulations

Commented [u28]: What is legal basis for this statement?

Item 3 Per Env-Wt 524.04(b) Surface waters may not be used as stormwater treatment or to mitigate impacts

RFMI Language

Per Rule Env-Wt 524.04(b), residential development projects must be designed so that surface waters are not used to serve as stormwater or water quality treatment to mitigate impacts. As currently proposed, the project does not meet this design criteria and may not be permittable.

Related Rules

Env-Wt 524.04 Design Requirements for Residential, Commercial, and Industrial Development

Projects. In addition to meeting the applicable design requirements established in Env-Wt 300, a residential, commercial, or industrial development project in non-tidal wetlands shall be designed to meet the following criteria:

(b) The project does not use wetlands or surface waters to serve as stormwater or water quality treatment to mitigate impacts;

Commented Applicant Response

I think it is important to point out that the existing manmade ponds on-site are irrigation /stormwater basins. The subject parcel has no outlet so all drainage from the property either drains to these ponds or infiltrates. With this said the design of this site does not utilize the existing surface waters for mitigation or treatment for water quality purposes. The northern man-made basin remains untouched. The existing outlet culvert will have a new manhole installed down gradient of the edge of the basin which intercepts the existing drainage and routes it around the proposed buildings. There is no disturbance of the larger basin required or proposed for this modification to the existing drainage culvert. The southern man-made irrigation / stormwater basin is proposed to be altered and restored to its previous condition so that surface water is no longer present. This restored area will then be repurposed and utilized as an infiltration basin to meet DES stormwater treatment and management standards. The location for this stormwater basin was selected based upon site topography, as it is the lowest point on site, site-specific soils data from multiple test pits, and many other factors previously mentioned. The present stone-lined basin does not permit adequate infiltration and treatment of stormwater on site and must be upgraded to conform with regulatory requirements. We have secured an Alteration of Terrain Permit for this design. (AoT-1741).

Supplemental information related to this item

The proposal uses the footprint of the southerly pond for storm water treatment. In addition, the proposal uses the northerly pond to treat additional runoff as a result of increased impervious cover. The applicant has no basis to claim that the AOT permit serves as justification for a wetland impact, since the AOT permit specifically lists this wetland permit as a condition of approval. It would be more accurate to say that the AOT permit may be approved if the applicant successfully meets the wetland requirements. Presently this plan has many non-compliances with respect to the wetland requirements

Commented [u29]: The northerly pond is an altered natural wetland and the southerly pond was an irrigation pond and a golf course water hazard. See information in Item 15

Commented [u30]: This contradicts the applicant's statement made in paragraph 2 of Item 1 where the applicant claims that water flows out of the southerly pond to the southern property line

Commented [u31]: The proposal is to remove the southerly pond and create a storm water basin. Also, roof runoff is directed into the northerly pond

Commented [u32]: The southerly pond is perfectly adequate for the existing conditions. The proposal is using it to mitigate the addition of the newly proposed impervious cover.

Commented [u33]: This statement is unjustified. Other options exist to avoid impacts to the southerly pond

Commented [u34]: This is not entirely true. The conditional AOT approval lists this wetland permit as a condition.

First page of AOT Conditional approval showing that the wetlands permit is a condition of the AOT permit. This contradicts the applicant's claim that the southerly pond "must be must be upgraded to conform with regulatory requirements". In fact, it suggests that a new storm water management plan is needed if the wetlands permitting process results in changes to the design. Red rectangle added for emphasis.



The State of New Hampshire Department of Environmental Services

Robert R. Scott, Commissioner



January 28, 2020

Mr. Richard Raisanen Raisanen Leasing Corp. PO Box 748 Nashua, NH 03061

Re: Bella Meadows

Tax Map 10, Lot 33-1 - Hollis

Permit: AoT-1741

Dear Mr. Raisanen:

Based upon the plans and application, approved on January 28, 2020, we are hereby issuing RSA 485-A:17 Alteration of Terrain Permit AoT-1741. The permit is subject to the following conditions:

PROJECT SPECIFIC CONDITIONS:

- The plans in the file, last revision date January 13, 2020, are a part of this approval. The project must be constructed as shown on the project plans.
- 2. This permit expires on January 23, 2025. No earth moving activities shall occur on the project after this expiration date unless the permit has been extended by the Department. If an extension is required, the request must be received by the department <u>before the permit expires</u>. The Amendment Request form is available at: http://des.nh.gov/organization/divisions/water/aot/categories/forms.htm
- The project is to be phased as shown on Sheet SP-1 of the plans. Each phase shall be stabilized pursuant to Env-Wq 1505.04 before disturbance of subsequent phases.
- The permittee or their successors or assigns shall employ a New Hampshire Certified Green SnowPro Sait Applicator for winter snow and ice management activities.
- The condominium association shall have the responsibility to inspect, maintain and repair the stormwater BMPs, pursuant to Env-Wq 1500, when the Applicant or its successors or assigns relinquishes responsibility through legal instruments.
- No activity shall occur until a Wetlands Permit is obtained from the Department. Issuance of this permit
 does not obligate the Department to approve a Wetlands Permit for this project.

Item 4 Shoreland Water Quality Protection Act (SWQPA)

RFMI Language

The Nashua River is protected under the Shoreland Water Quality Protection Act (SWQPA). Please verify that work related to this project will not occur within 250 feet of the Nashua River reference line. If any work will occur within the Protected Shoreland, please contact Darlene Forst at Darlene.forst@des.nh.gov to discuss shoreland permitting requirements.

Commented Applicant Response

There is no work proposed with 250 ft of the Nashua River; the closest point to the Nashua River is greater than 400 ft from the proposed work area. The spatial separation between the site and the Nashua River is shown on the scaled locus included with the plans provided in the original submittal. This separation is also shown on the Town of Hollis Tax Map 10, which was also included with the original submittal.

Item 5 Hollis Tax map #5

RFMI Language

As the subject lot, Lot 33-1, extends into Tax Map 5, provide a copy of town tax map 5, in accordance with Env-Wt 311.06(a).

Related Rule

Env-Wt 311.06 Maps and Other Attachments. The applicant shall submit the following with the completed application form:

(a) A copy of a town tax map showing the subject property, the location of the project on the property, and the location of properties of abutters with each lot labeled with the name and mailing address of the abutter;

Commented Applicant Response

Town of Hollis Tax Map 5 is attached with this letter.

Supplemental information related to this item

The tax map submitted is not labeled with the name and address of the abutters and therefore is not compliant to Env-Wt 311.06(a)

Item 6 Work sequence timing and progression in accordance with Env-Wt 311.06(d)

RFMI language

In accordance with Env-Wt 311.06(d), provide a narrative that describes the work sequence, including preconstruction through post construction, and the relative timing and progression of all work.

Related Rule

Env-Wt 311.06 Maps and Other Attachments. The applicant shall submit the following with the completed application form:

(d) A narrative that describes the work sequence, including pre-construction through post- construction, and the relative timing and progression of all work;

Commented Applicant Response

Work sequence, including pre-construction through post-construction, and the relative timing and progression of all work is included in the overall site plan set, dated January 30,2020 (Sheets D-1 through D-4) provided with this letter.

Supplemental information related to this item

The response describes notes on "Sheets D-1 through D-4". I suspect this is a typo and the applicant intended to cite the notes on sheet DT-8? I also did not see any no post construction notes describing the removal of erosion control measures such as silt fences.

Commented [u35]: I agree with the applicant's assessment, the project is not within 250 feet of the Nashua River

Commented [u36]: The correct tax map is included with the applicant's RFMI response but it is required to be labeled with the name and mailing address of each abutter and it is not.

Commented [u37]: There are no sheets labeled D1 D4 included with the submittal, it is likely that the applicant meant sheet DT-1 which has 8 construction sequence notes

Item 7 Color photographs in accordance with Env-Wt 311.06(b)(2)

RFMI language

Per Rule Env-Wt 311.06(b)(2), provide dated and labeled color photographs that are printed no more than 2 per sheet on 8.5×11 inch sheets.

Related Rule

Env-Wt 311.06 Maps and Other Attachments. The applicant shall submit the following with the completed application form:

- (b) Dated and labeled color photographs that:
- (1) Clearly depict:
 - a. All jurisdictional areas, including but not limited to portions of wetland, shoreline, or surface water where impacts have or are proposed to occur; and
 - b. All existing shoreline structures; and
- (2) Are mounted or printed no more than 2 per sheet on 8.5×11 inch sheets;

Commented Applicant Response

Revised photograph sheets are attached.

Commented [u38]: There is a shoreline structure at the north end of the southerly pond. There is no photo of that structure

Item 8 Delineation of surface water bodies in accordance with Env-Wt 406.05(b) RFMI Language

Surface water bodies on the subject property must be delineated to the limit of the bank and include the normal high water line, in accordance with Env-Wt 406.05(b). Ensure all updated plans comply with this requirement.

Related Rule

Env-Wt 406.05 Identification of Other Jurisdictional Areas. Jurisdictional areas not subject to delineation as described in Env-Wt 406.01, Env-Wt 406.02, or Env-Wt 406.04 shall be identified as described below, as applicable:

(b) Surface water bodies such as lakes and ponds shall be delineated to the limit of the bank and include the normal high water line; and

Commented Applicant Response

The limit of bank and high-water line of each of the manmade irrigation basins have been shown on the submitted plans, in compliance with Env-Wt 406.05(b). It should also be noted that these basins are man-made, and have no natural inflow or outflow and show only minor seasonal fluctuations in the normal high water level which is shown on the plans. The banks of the both ponds have been artificially created and are not created or influenced by water action or movement that would be applicable in a natural situation such as a stream or naturally occurring waterbody. The southern pond has very steep slopes which are even armored with large stones; the artificial banks of the man-made ponds would not be considered a jurisdictional "top of bank" therefore the wetland delineation line is essentially the normal high water line as observed along the edge of each of the ponds. These features are also shown on the plan set submitted with this response letter. The wetland delineation was conducted by a certified wetland scientist and field located with survey instruments. Wetlands were evaluated using the following standards: Army Corps of Engineers Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, Technical Report ERDC/ELTR-12-1 (January 2012); Field Indicators for Identifying Hydric Soils in New England ~ Version 4, April 2019, New England Hydric Soils Technical Committee; US Army Corps of Engineers National Wetland Plant List, 2018; and Classification of Wetlands and Deepwater Habitats of the United States. USFW Manual FWS/OBS-79/31 (1979).

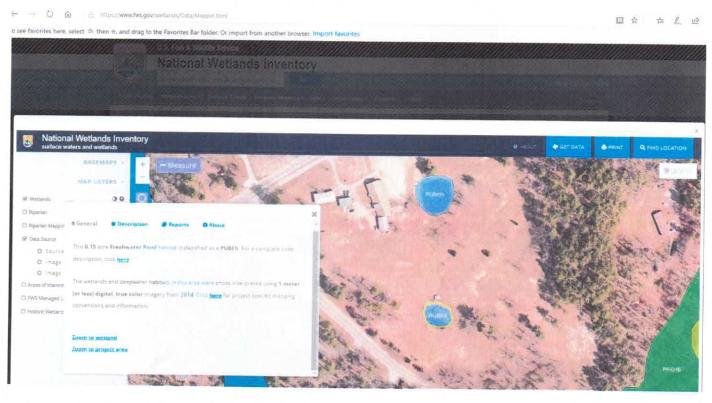
The wetland delineation performed by this office was also reviewed by third-party certified wetland scientist and certified soil scientist Jim Gove of Gove Environmental Services, Inc. per Town of Hollis request. The third-party review confirmed the wetland delineation presented by this office was an accurate representation of wetland resources on site, there are no other wetlands on site other than the man-made ponds.

There have been no updates to the submitted plans as the submitted plans meet this criterion. The entirety of the plan set has been submitted to supplement the original submitted materials and provide further clarity regarding the scope of the proposed impact.

Commented [u39]: Is there a note on a drawing stamped by a certified wetland scientist indicating this?

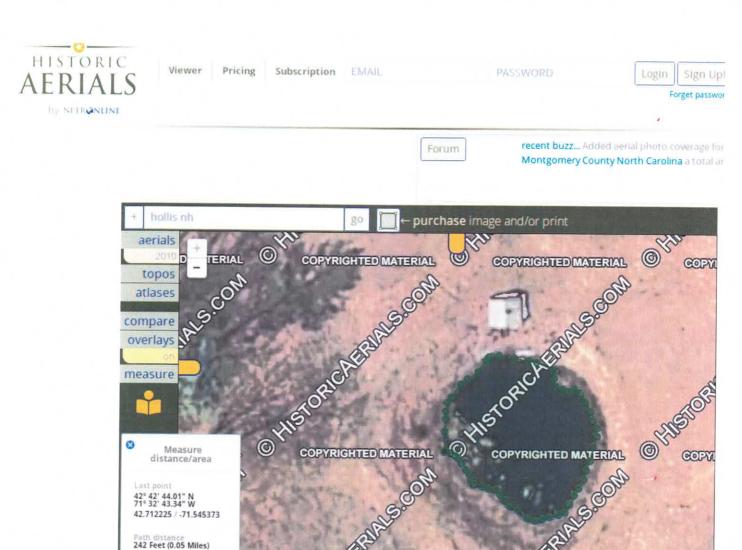
Supplemental information related to this item

The image below is taken from the National Wetlands Inventory website. It shows the limits of the bank of the southern pond as being considerably higher than the applicant's submitted plan. The area cited for the southern pond is .15 acres, not .077 as was reported in the applicant's map. It is understood that the NWI map is not to be the final answer when mapping the limit of a bank, but this info along with the subsequent aerial photo are proof that the limits of the bank of the southerly pond are variable and the normal level is greater than represented.



https://www.fws.gov/wetlands/Data/Mapper.html

The image below represents a measurement made from a historic aerial photo of the southerly pond. From this photo, it is evident that the limits of the bank are variable and often are much higher than shown on the plans submitted. In this case, the limits of the bank show the area of the pond as .09 acres and not .077 as the applicant proposes



COPYRIGHTED MATERIAL

Area 0.09 Acres Cancel Finish

COPYRIGHTED MATERIAL

Item 9 Provide a plan in accordance with Env-Wt 524.03(a)(2), (3) and (4) RFMI Language

In accordance with Env-Wt 524.03(a)(2), (3) and (4), as this project requires subdivision approval, provide a plan prepared and stamped by a licensed land surveyor showing:

- a. Existing and proposed topography.
- b. Location of all proposed lot lines.
- c. The boundaries of all wetlands and surface waters (with delineations depicted as indicated in comment #7).
- d. The footprint of all proposed impacts.
- e. Wetland classifications.

Related Rules

Env-Wt 524.03 Application Requirements for Residential, Commercial, and Industrial Development Projects.

(a) The project-specific information required by Env-Wt 310.01(c)(1) or Env-Wt 311.03(b)(11), as applicable, for a residential, commercial, or industrial development project in non-tidal wetlands shall be as follows:

- (2) For all projects requiring subdivision approval, a plan prepared and stamped by a land surveyor licensed in the state of New Hampshire pursuant to RSA 310-A showing:
 - a. Existing and proposed topography; and
 - b. The location of all proposed lot lines;
- (3) For all projects requiring subdivision approval, the following clearly delineated on the plan required by (2), above:
 - a. The boundaries of all wetlands and surface waters; and
 - b. The footprint of all proposed impacts;
- (4) For minor and major projects requiring subdivision approval, wetlands classifications clearly indicated in accordance with Env-Wt 400 on the plan required by (2), above; and..

Env-Wt 406.06 Classification of Wetlands.

- (a) Each wetland shall be classified by the applicant in accordance with the federal classification method
- (b) The wetland classification of each wetland shall be identified on plans submitted with an application for a standard permit.

Commented Applicant Response

We have enclosed an updated complete plan set with this submission. This plan set has all of the details requested. It shows the existing and proposed topography, the location of all existing and proposed lot lines and limited common area lines, wetland boundaries, surface waters, the footprint of all proposed impacts and wetlands classifications along with a significant amount of other details associated with this project. Wetland classification under the US Fish and Wildlife aka Cowardin System is not really appropriate given the nature of the jurisdictional resource in question, however, the wetland characteristics have been addressed in detail further in response to item 10.

Supplemental information related to this item

ENV-Wt 406.06 (b) requires that the wetland classifications be identified on the plans. I did not find the classifications indicated on the planset submitted. It is possible I missed the classifications. The applicant should point out where on the plans the classifications are shown and should include a legend explaining the classification codes.

Commented [u40]: The requested wetlands classification on the drawing set was not evident on review. Can the applicant identify the location of the classifications?

Commented [u41]: Sheet ST-1 Site Loading and nitrate setback plab does not show proposed storm water management area A

Sheet LT-1 Site Lighting Plan does not show Any storm water

Commented [u42]: Why does the applicant claim the Cowardin System is not appropriate? Env-Wt 524.03(a)(4) requires it for minor impact projects involving subdivision.

Item #10 Wetland impact plan in accordance with Env-Wt 311.05 RFMI Language

In accordance with Env-Wt 311.05, provide a Wetland Impact Plan for proposed impacts to the southern man-made pond, at a scale that provides greater detail, showing:

- a. Labeled and lightly shaded or stippled areas indicating limits of all temporary and permanent impacts in jurisdictional areas, per Rule Env-Wt 311.05(a)(18).
- b. The footprint of the proposed stormwater treatment structure, with any relevant features necessary to clearly define the project, per Rule Env-Wt 311.05(a)(10).
- c. Wetland classifications in accordance with the federal classification method, per Rule Env-Wt 406.06(a) and (b).
- d. The boundaries of all wetlands and surface waters (with delineations depicted as indicated in comment #7).

Related Rules

Env-Wt 311.05 Required Project Plans.

- (a) The applicant shall provide the following information on one or more plan sheets that conform to (c), below:
 - (10) The footprint and vertical dimensions of each existing structure, each proposed structure, and all other relevant features necessary to clearly define the project;
- (18) Labeled and lightly shaded or stippled areas indicating limits of all temporary and permanent impacts in jurisdictional areas;

Env-Wt 406.06 Classification of Wetlands.

(a) Each wetland shall be classified by the applicant in accordance with the federal classification method (b) The wetland classification of each wetland shall be identified on plans submitted with an application for a standard permit.

Commented Applicant Response

There are no temporary wetland impacts associated with this project. The project proposes the restoration of a manmade irrigation / stormwater basin associated with previous golf course operations to its natural condition. The US Fish and Wildlife Federal Classification for wetlands systems is typically intended for wetlands that are naturally occurring or have been modified by man or beavers to some extent, as such | am not aware of an entirely artificial classification that would be applied to stormwater basins and irrigation ponds. However, given the limited options within the Cowardin System the irrigation / stormwater pond would have some characteristics of the Palustrine system, Unconsolidated Bottom, persistent emergent, partially drained/ditched, farmed, artificial, excavated wetlands (PEM1/UB2dfrx).

The primary functions of the southern manmade irrigation / stormwater basin are sediment/toxicant/pathogen retention, nutrient removal/retention/transformation, and groundwater recharge/discharge. Each of these functions will be significantly enhanced by the proposed stormwater management system while removing the substantial safety hazard presented by the existing basin. Additional sheets showing details of the proposed impact area and stormwater treatment area for the project are included in the attached complete plan set. The new stormwater basin which will consist of filling the existing basin will provide for stormwater treatment of the site and proposed improvements. Again to clarify this entire manmade irrigation / stormwater basin will be altered so that there will be adequate separation to the seasonal high water table. This means there will be no manmade wetland components in the new stormwater basin, no standing water and no safety hazards.

Commented [u43]: The Cowardin system has a group called "special modifiers" which addresses man-made and man modified wetland and deep water habitats. Why are these not sufficient

Commented [u44]: "Partly Drained/Ditched " does not seem to be an appropriate modifier for a "permanently flooded" pond.

Commented [u45]: Is this "partially drained" an appropriate modifier for a "permanently flooded" pond?

Commented [u46]: "Artificial" does not seem to be a valid modifier in the Coward in system. Maybe this is intended to be "artificial substrate"?

Commented [u47]: According the Cowardin system PEM1/UB2dfrx is decoded as Palustrine, Emergent, Persistent, Unconsolidated bottom, Sand, partially drained, farmed, artificial substrate, Excavated,

Supplemental information related to this item

Below are the definitions of the special modifiers as copied from the <u>Classification of Wetlands and Deepwater Habitats</u> of the united states FGDC-STD-004-2013 Second Edition. It can be seen that the proper modifier for both ponds would be permanently flooded

Nontidal.

Nontidal Water Regime Modifiers are used for all nontidal parts of the Palustrine, Lacustrine, and Riverine Systems. Although not influenced by oceanic tides, Nontidal Water Regimes may be affected by wind or seiches in lakes. Nontidal Water Regimes are defined in terms of the growing season which, for the purposes of this classification, begins with green-up and bud-break of native plants in the spring and ends with plant dieback and leaf-drop in the fall due to the onset of cold weather. During the rest of the year, which is defined as the dormant season, even extended periods of flooding may have little influence on the development or survival of plant communities.

Permanently Flooded. Water covers the substrate throughout the year in all years.

Intermittently Exposed. Water covers the substrate throughout the year except in years of extreme drought.

Semipermanently Flooded. Surface water persists throughout the growing season in most years. When surface water is absent, the water table is usually at or very near the land surface.

Seasonally Flooded. Surface water is present for extended periods (generally for more than a month) during the growing season, but is absent by the end of the season in most years. When surface water is absent, the depth to substrate saturation may vary considerably among sites and among years.

On Page 44 of the same reference the definitions of Partially Drained/Ditched and Farmed are highlighted. Neither of these modifiers apply to either pond.

Federal Geographic Data Committee Classification of Wetlands and Deepwater Habitats

FGDC-STD-004-2013

following Modifiers should be used singly. It may be difficult, in some instances, to choose the single Special Modifier that best describes the landscape modification. Because the Diked/Impounded Modifier is crucial for use in coastal watersheds as denoting wetland modifications for sea level rise models, it will be given priority over any other Modifiers (e.g., spoil areas that have been diked or impounded should be classified using the Diked/Impounded Modifier, not the Spoil Modifier.)

Beaver— These wetlands have been created or modified by beaver (Castor canadensis). Dam building by beaver may increase the size of existing wetlands or create small impoundments that are easily identified on aerial imagery. Such flooding frequently creates Dead Forested or Dead Scrub-Shrub Wetland initially, followed in a few years by Aquatic Bed and Emergent Wetland.

Partly Drained/Ditched—A partly drained wetland has been altered hydrologically, but soil moisture is still sufficient to support hydrophytes. Drained areas that can no longer support hydrophytes are not considered wetland. This Modifier is also used to identify wetlands containing, or connected to, ditches. The Partly Drained/Ditched Modifier can be applied even if the ditches are too small to delineate. The Excavated Modifier should be used to identify ditches that are large enough to delineate as separate features; however, the Partly Drained/Ditched Modifier also should be applied to the wetland area affected by the ditching.

Farmed—Farmed wetlands occur where the soil surface has been mechanically or physically altered for production of crops, but where hydrophytes would become reestablished if the farming were discontinued. Farmed wetlands should be classified as Palustrine-Farmed. Cultivated cranberry bogs may be classified Palustrine-Farmed or Palustrine Scrub-Shrub Wetland-Farmed.

Managed — This modifier is used to identify wetlands where water inputs are controlled to achieve a specific water regime or habitat type. Water control structures in combination with dikes and impoundments are common.

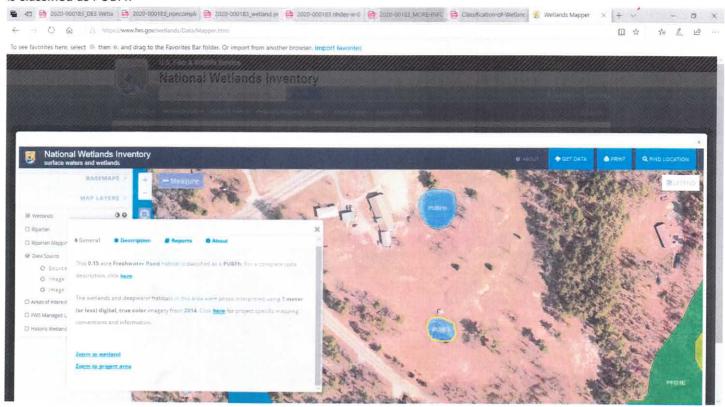
Excavated—This Modifier is used to identify wetland basins or channels that were excavated by humans.

Diked/Impounded—These wetlands have been created or modified by a man-made barrier or dam that obstructs the inflow or outflow of water.

Artificial Substrate—This Modifier describes concrete-lined drainageways, as well as Rock Bottom, Unconsolidated Bottom, Rocky Shore and Unconsolidated Shore where the substrate material has been emplaced by humans. Jetties and breakwaters are examples of Artificial Rocky Shores.

Spoil— The Spoil Modifier is used to describe wetlands where deposition of spoil material forms the primary substrate type. By definition, spoil is material that has been excavated and emplaced by humans. Ancillary data may be needed to accurately identify spoil in areas such as reclaimed strip mines that have become revegetated.

Finally according to the National Wetlands inventory the Northerly pond is classified as "PUBHh" and the Southerly Pond is classified as PUBFh



https://www.fws.gov/wetlands/Data/Mapper.html

The NWI wetlands mapper chose the Cowardin Classifications below. Why does the applicant come to a different classification?

Northerly Pond

Classification code: PUBHh System Palustrine (P)

Class Unconsolidated Bottom (UB)

Water Regime Permanently Flooded (H):

Special Modifier Diked/Impounded (h):

Southerly Pond

Classification code: PUBFh System Palustrine (P):

Class Unconsolidated Bottom (UB):

Water Regime Semipermanently Flooded (F):

(This likely should also be H. Since the pond was created in 1998 it has been permanently flooded in all available aerial imagery)

Special Modifier Diked/Impounded (h):

Item 11 Description of work proposed at the northern pond per Env-Wt 311.04(i) RFMI Language

Based on the Grading and Erosion Control Plan, the existing drainage system that runs from the northern pond (old farm pond) to the southern pond (old irrigation pond) is going to be removed. This indicates that jurisdictional impacts may occur within the bank of the northern pond, and potentially the pond bed, if sediment and turbidity controls are needed to protect water quality. Provide the following information regarding this portion of the project:

- Describe the work that is proposed at the northern pond in order to remove or modify the existing drainage system, per Rule Env-Wt 311.04(i).
- b. If jurisdictional impacts are to occur, provide photos that clearly depict where impacts are proposed to occur, per Rule Env-Wt 311.06(b)(1)a.
- c. If jurisdictional impacts are to occur, provide a Wetland Impact Plan for the old farm pond at a scale that provides detail, and that includes:
 - i. Labeled and lightly shaded or stippled areas indicating limits of all temporary and permanent impacts in jurisdictional areas, per Rule Env-Wt 311.05(a)(18).
 - ii. Existing and proposed structures, per Rule Env-Wt 311.05(a)(10).
 - iii. Erosion and sediment controls, per Rule Env-Wt 311.05(a)(19).
 - iv. Wetland classifications, per Rule Env-Wt 406.06(a) and (b).
 - v. The boundaries of all wetlands and surface waters (per comment #7).

Related Rules

Env-Wt 311.04 Application Information. The applicant shall provide the following information on the wetlands standard permit application, NHDES W-06-012, dated December 15, 2019:

(i) A brief description of the project and the purpose of the project, outlining the scope of work to be performed and whether impacts are temporary or permanent;

Commented Applicant Response

No impacts are proposed to the northern irrigation / stormwater basin or its banks. All proposed impact areas are shown on the submitted plans. The existing drainage pipe into the northern pond will remain undisturbed, the existing drain line will be intercepted outside of the edge of the pond and will be connected to a new manhole, located outside of the banks of the northern irrigation basin and as shown on the submitted plan set. All necessary sedimentation and erosion controls have been shown on the attached plan set. The plans have been designed to maintain the existing stormwater system connecting the two ponds. The only modifications to the stormwater system consist of modifying the smaller irrigation/ stormwater basin to meet current DES treatment criteria and to remove the existing safety hazard.

Commented [u48]: The term modification does not correctly describe filling the pond and creating a separate, larger storm water feature to handle increased runoff due to the proposed development.

Item 12 Modifications to jurisdictional impact areas RFMI Language

Ensure that any modifications to permanent or temporary jurisdictional impact area calculations are updated on the Wetland Impact Plan(s), and on page 5, Section 12 of the Wetland Application. A fee of \$0.40/SF is required for any additional proposed impacts.

Commented Applicant Response

There are no modifications to permanent or temporary jurisdictional impact area calculations from the original submittal and as such, no additional fees have been included with this letter.

Commented [u49]: Based on aerial photos of the site the normal high water line of the ponds is likely to include more area than is presently accounted for. See RFMI Item 8

Item 13 Citation of functional assessment method per Env-Wt 311.10(a)(2) RFMI Language

In accordance with Env-Wt 311.10(a)(2), if a method other than the US ACE Highway Methodology is used to perform a functional assessment, the method must be an alternative that is scientifically-supported, with cited reference provided, and the reasons to substantiate the alternative method provided.

Related Rules

Env-Wt 311.10 Functional Assessment.

(a) Subject to (d) and (e), below, the functional assessment required by Env-Wt 311.03(b)(10) for minor or major projects impacting non-tidal wetlands, vernal pools, and watercourses shall be:

- (1) Performed by a certified wetland scientist; and
- (2) Completed using one of the following methods:
- a. US ACE Highway Methodology Workbook, dated 1993, together with the US ACE New England District Highway Method Workbook Supplement, dated 1999, both available as noted in Appendix B; or
- b. An alternative scientifically-supported method with cited reference and the reasons for the alternative method substantiated.

Commented Applicant Response

Env-Wt 311.10(a)(2) allows for the use of scientifically-supported method for the functional assessment of wetlands. Up until the very recent adoption of the US ACE Highway Method on December 15, 2019, the NH Method was the premier means for inventorying and evaluating freshwater wetlands in New Hampshire. This method is scientifically supported, published by the University of New Hampshire Cooperative Extension, and is listed on the NH DES Resources/Links website under the Wetlands Identification and Assessment Resources. This particular project has been in the planning stages for several years and in our opinion it does not make sense to change the functional assessment method which has been used and understood by involved parties throughout this process. (https://www.des.nh.gov/organization/divisions/water/wetlands/categories/resources.htm).

The NH Method was selected for functional assessment as it provides a wetland evaluation method for use by public officials, community volunteers, and professionals with some familiarity with wetlands, but who are not wetland specialists. This method of assessment is more familiar to members of municipal conservation commissions and individual private citizens than the recently adopted US ACE Highway Method as it was the standard functional assessment used in New Hampshire for years.

Per your RFMI letter, we have also completed and attached a Highway Method Worksheet for each of the man-made ponds in addition to the NH Method assessment. A brief synopsis of the Highway Method functions and value results is as follows.

Both of the ponds primary functions and values are Nutrient Removal, Sediment and Toxicant Retention and Groundwater Recharge. Secondary F&V would be a minor element of Wildlife Habitat / Fish Habitat. However, due the exposed and the developed area around the ponds (former golf course/open lawn/grass area surrounded by major roadways) wildlife habitat vegetation cover and connectivity are essentially non-existent and the depth and area of the ponds may not be sufficient to prevent freezing to the bottom and creating oxygen deficient conditions. Although the F&V of both ponds are similar, the northern pond is 11,402 sf which is over 3 times the size of the southern pond and has been in existence longer than the southern pond, has more established vegetation, is up gradient from the southern pond and does not pose a significant safety hazard. The southern pond has stone lines steep slopes into deep water along with irrigation structures along with the pump/utility building that exacerbate the hazardous safety concerns associated with the southern pond. Since the existing stormwater drainage on site is self-contained with no outflow off the property it makes to maintain the existing system to the greatest extent possible and augment it as required to meet AoT standards but filling the southern pond back in to create a dry basin instead of a wet basin which will enhance the stormwater treatment capabilities of Sediment/Toxic Retention, Nutrient Removal and Groundwater Recharge as well

Commented [u50]: The ponds have both been characterized as being approx. 10 feet deep. I do not believe that ponds of that depth freeze to the bottom

Commented [u51]: The pump/utility building could be removed. A member of the Conservation Commission suggested fencing the pond to address concerns about the sloped side. The slope could be reduced by excavation.

Commented [u52]: The hazards do not justify discharging storm water from residential development into surface waters of the state especially considering that there are practical avoidance measures available

Commented [u53]: Enhancing capabilities is quite different from the argument that this should be allowed since it is maintaining or restoring usefulness

as removing and rectifying a hazardous safety issue. As you now know this project has been ongoing for over two years and in our professional opinion the functions and values assessment for these manmade irrigation / stormwater basins are essentially identical regardless of the assessment methods utilized.

Supplemental information related to this item

It seems that the applicant has submitted both an updated New Hampshire Method assessment as wellas an assessment conducted in accordance with the US ACE Highway method. Which method do they choose as their submittal? See separate comments marked on the functional assessment

Item 14 Functional assessment for each pond per Env-Wt 311.03(b)(10) RFMI Language

In accordance with Env-Wt 311.03(b)(10), a functional assessment must be provided for all wetlands on the subject property (both ponds), and the results of each functional assessment must be used to provide a narrative describing how the proposed project adheres to Env-Wt 311.10(c).

Related Rules

Env-Wt 311.03 Applications for Standard Permits.

(a) To apply for a standard permit, the applicant shall submit a complete application package, as specified in (b), below, in accordance with RSA 482-A:3, I(a)(1).

(b) A complete application package for a standard permit shall include the following:

(10) For minor and major projects, a functional assessment of all wetlands on the project site as specified in Env-Wt 311.10;...

Env-Wt 311.10 Functional Assessment.

(a) Subject to (d) and (e), below, the functional assessment required by Env-Wt 311.03(b)(10) for minor or major projects impacting non-tidal wetlands, vernal pools, and watercourses shall be:

(1) Performed by a certified wetland scientist; and

(2) Completed using one of the following methods:

a. US ACE Highway Methodology Workbook, dated 1993, together with the US ACE New England District Highway Method Workbook Supplement, dated 1999, both available as noted in Appendix B; or

b. An alternative scientifically-supported method with cited reference and the reasons for the alternative method substantiated.

(c) After completing the functional assessment, the applicant shall:

- (1) Use the results of the functional assessment to select the location of the proposed project having the least impact to wetlands functions;
- (2) Design the proposed project to have the least impact to wetlands functions;
- (3) Where impact to wetland functions is unavoidable, limit the project impacts to the least valuable functions on the site while avoiding and minimizing impacts to the highest and most valuable functions; and
- (4) Include on-site minimization measures and construction management practices to protect aquatic resource functions.
- (d) For minor or major projects requiring a standard permit without mitigation, the applicant shall submit a wetland evaluation report that includes completed checklists and information demonstrating the relative functions and values of each wetland evaluated.

Commented Applicant Response

A functional assessment was included in the original submittal, using the NH Method. The functional assessment for each of the manmade irrigation / stormwater basins is identical. Project impacts have been limited to the least valuable functions on site while avoiding and minimizing impacts to the highest and most valuable functions. The integrated stormwater management system will provide a significantly better function and value than the existing manmade irrigation basin. It will also remove a significant hazard to human health and safety that exists due to the presence of the southern irrigation basin. This selective and judicious impact results in no impacts to the northern irrigation basin, preserves the overall characteristics of the area, restores the land to its natural condition, allows for reasonable use of the property and provides much needed affordable workforce housing.

Commented [u54]: The functional assessment in the original submittal is not completed for this application. It refers to another project entirely

Commented [u55]: What are the least valuable functions? What are the impacts?

Commented [u56]: Which functions have not been impacted?

Commented [u57]: There will be no wetland function to consider if the pond is removed and replaced with a dry

Commented [u58]: How does this statement address the regulation? The hazards described could be addressed without removing the southerly pond.

Commented [u59]: This is not consistent with the data provided in the applicant's storm water calculations cited above. Runoff from residential development is directed into the northerly pond

Commented [u60]: Restoration of upland is not relevant to the stated rule and does not address the required avoidance and mitigation.

Commented [u61]: Not relevant to the cited rule.

Supplemental information related to this item

The applicant has just submitted the functional assessment in response to the RFMI letter. The regulation indicates that **after** conducting the functional assessment, the project is to be designed to avoid impacts. As stated elsewhere, there are many ways to avoid impacts to the wetlands, that the applicant has not pursued. The process calls for the functional assessment to be completed **first**, then the project is to be designed to avoid impacts to the assessed wetlands. For this application, the assessment was conducted well after the project was designed. It seems that the applicant is avoiding the required process, possibly because the project design was completed before the jurisdictional nature of the wetlands was understood by them. In either case, oversights are not a justification for non-compliance with state regulations.

Item 15 Address comments from a concerned citizen

RFMI Language

Please address comments from a concerned citizen that were submitted to NHDES and provide a response to their concerns. NHDES has carefully reviewed the comments and found that the quantity of material submitted is extensive, therefore digital copies will be forwarded to the agent, along with this letter, for review and response.

Commented Applicant Response

The current design is a result of two years of input from NHDES wetlands bureau personnel, Town of Hollis boards and selectmen, and NH State Representatives to prepare a plan that does not discriminate against workforce housing provisions and that minimizes impacts to environment.

The concerns of the hostile, disgruntled citizen who is not an abutter, Mr. Joseph Garruba, have been addressed extensively by this office over about 2 years of public meetings at the Town of Hollis Planning Board, Zoning Board, Conservation Commission, all of which have approved the project, as well as pre-application meetings with NHDES Wetlands Bureau personnel. Throughout all of the public meetings, discussions, and various other correspondences throughout this process, there has been ample opportunity for concerned citizens to provide comments and receive answers. The Town of Hollis Conservation Commission minutes were provided earlier for review and the commission unanimously voted to approve the application as presented. The Town of Hollis Conservation Commission explicitly decided not to submit any comments as recorded in the Hollis Conservation Commission Minutes of Public Meeting for February 5, 2020 and Approved February 19, 2020.

It is highly unusual for a NHDES to request an applicant directly address comments by a hostile citizen with a documented agenda to stop a project not to their liking. Typically NHDES will review information provided and incorporate any reasonable concerns into the RFMI. As of today 3/31/20 we have not received a copy of any additional "information" that was submitted to NHDES regarding this application and do not feel that it would be necessary nor appropriate to entertain a response to the concerned citizen comments at this point in the permitting process. Given the historical hostile actions of the concerned citizen over the last 2 years, we would request that NHDES review the additional information provided in this response to the RFMI letter dated March 26, 2020. Should the Town of Hollis Conservation Commission or

Commented [u62]: All projects in the State must follow NHDES regulations. There is no exemption for Workforce housing.

Commented [u63]: It is not clear why the applicant chose to make a personal attack. My actions have not been hostile. I simply want the project to comply with state and local regulations

Commented [u64]: Comments provided earlier in the process prior to the planning board conditional approval relate to town of Hollis Ordinance and regulations. Now is the appropriate time to provide comments on NHDES regulations.

Commented [u65]: The Hollis Conservation Commission reviews the application from a local environmental standpoint. They are not experts on NHDES regulations, so although their approval is necessary, it alone is not suffi

Commented [u66]: It is not my intention to "stop" the project. I am simply making sure that it meets all state and local requirements because sometimes things can be missed. I support a compliant project on this site.

Commented [u67]: A printed copy was provided by Fedex and was received by the applicant on 4-20-2020

Commented [u68]: There have been many shortcomings identified in the application, failing to address the valid noncompliance's can only increase the likelihood of a denial.

Commented [u69]: The analysis has been provided with the intent of achieving a compliant proposal.

Commented [u70]: Comments have been provided to the appropriate stakeholders throughout the process

NH DES Wetland Bureau personnel have genuine and explicit concerns as a result of any new information provided that has not already been addressed at length, those concerns will be evaluated on their merit and applicability.

I think it's important for everyone to understand the time and efforts that have been put forth on this project to date. This has not been a short road and extensive details have been provided and reviewed on every level. The person referenced in your letter has been involved in every step of the process along the way and has expressed his concerns on every level. He is not an abutter to the project and does not believe in workforce housing so he has taken every opportunity to try and dispute the merits of this proposal. The plans before you are the result of a lengthy review on every level and this is the last permit required to finalize this project. This interested party wants to discriminate against workforce housing despite the state and local laws that are in place to prevent this.

Commented [u71]: All concerns should be evaluated on their merit. The goal of this process is compliance with the regulations, not speedy approval.

Commented [u72]: Compliance is the objective. Time and effort during earlier phases does not guarantee compliance with wetlands regulations.

Commented [u73]: I believe this proposed development is should comply with ordinances and regulations, especially environmental ones.

Commented [u74]: This personal attack is not true

Commented [u75]: What state and local laws justify noncompliance NHDES regulations?

Supplemental information related to this item

Based on the applicant's response it seems that as of 3/31/2020 they had not received the additional info provided by the NHDES electronically. I printed full color copies of the material for them. The pages were bound and shipped overnight on Friday 4-17. I received confirmation of delivery on 4/20/2020 at 2:55 pm. (Fedex tracking num 391996157793). The filenames and page count provided are listed below.

2020-000183 nhdes-w-06-050 avoidance checklist-JG-review.pdf4 pages2020-000183_DES Wetland Permit_maps marked_J. Garruba.pdf3 pages2020-000183_noncompliance_letter (1)_J. Garruba.pdf25 pages2020-000183_wetland permit-marked (1)_J. Garruba.pdf46 pages

I Hope the applicant has taken the opportunity to address the noncompliance concerns explained in the material. The material covers significant issues with the application. I have listed some below

Impact Avoidance and Minimization and Mitigation
Definitions from wetland regulation
Septic Setback
Env-Wt 307.11 Filling Activity Conditions
Env-Wt 307.03 Protection of Water Quality Required
Compensatory Mitigation
Env-Wt 313.04 Mitigation Requirements.
Env-Wt 311.03 Applications for Standard Permits
Storm water treatment at the Northerly Pond
Env-Wq 1507.03 Pollutant Discharge Minimization Requirements.
Env-Wq 1508.09 Stormwater Treatment Practices: Vegetated Buffers

Problems with the Alteration of Terrain application Env-Wt 307.06 Rare species habitat to be destroyed

Lastly, I am surprised by the applicant's unprofessional response to my technical review of the application. It is unclear why they chose to present personal attacks instead of addressing the legitimate concerns and working to make the application compliant. I expect more from a credentialed professional hopefully future correspondences can be more focused on meeting the state requirements.

Review Of Wetlands application 2020-00183 by Joseph Garruba April 17, 2020 Page 37 | 38

Conclusion

There are many non-compliances with wetlands application 2020-00183. It is important that project changes be required in order for the states wetland regulations to be followed. The wetlands regulations are written for all residents of the state. They are intended to protect the state's resources as well as the rights of all of the state's property owners. The regulations cannot be overlooked or cast aside in the interests of developer's profits. The integrity of the system relies all parties' compliance with the regulations. For this reason, I request that this project be brought into compliance with the regulations, or be denied.