

April 26, 2022

Deerfield Conservation Commission
Deerfield Municipal Offices
8 Conway Street
South Deerfield MA 01373

Re: Notice of Intent Permit Application Review
Proposed Deerfield Park & Playing Fields – Map 151, Lot 1, 0 North Main Street
South Deerfield, MA

Deerfield Conservation Commission:

Freshwater Wetland Services (FWS) is pleased to submit this report per your request to review the development proposal as it relates to wetland resource areas associated with the property referenced as Map 151, Lot 1, 0 North Main Street, and as shown on the development plans entitled “Proposed Municipal Park & Fields, North Main Street, South Deerfield, MA”, dated 1.21.22, revised to 3.29.22 prepared by ProTerra Deign Group, LLC, herein referred to as the proposed project plans. A Determination of Applicability (DOA) for the wetland boundaries depicted on the plans was determined to be valid by the Deerfield Conservation Commission (DCC) on 8.27.20, with validity until 8.27.23. FWS visited the site on April 11, 2022. At that time buds were observed on woody vegetation and new herbaceous ground cover was becoming established, and soils were exposed and not frozen.

In addition, FWS has also reviewed the following documents or portions thereof as they pertain to regulated wetland resource areas as submitted as part of the municipal review process and are entitled as follows:

1. “Notice of Intent Application – Deerfield Park & Playing Fields”, Dated February 2022. (**NOI Application**)
 - a. “Limited Stormwater Hydrology Report. Under the Town of Deerfield Stormwater Regulations Bylaw, Stormwater Permit Application, and the DEP Stormwater Management Standards. Proposed Municipal Park & Fields”, dated December 13, 2021, prepared by ProTerra Design Group, LLC.
2. Wood Massachusetts, Inc. (Wood) correspondence letter regarding “Civil/Environmental Engineering and Permitting Peer Review Services, Deerfield, MA” dated April 15, 2022 to the Assistant Town Planner.
3. GML Green Miles Lipton, LLP, Letter referenced as “Site Plan Review, Map 151, Lot 1 North Main Street, Comments and Questions from Abutter”, dated March 16, 2022.
4. Chessia Consulting Services, LLC, letter referenced as “Notice of Intent & Stormwater, Map 151, Lot 1 North Main Street, Review for compliance with Stormwater Regulations promulgated by the state Department of Environmental Protection (“DEP”) and the Town of Deerfield Stormwater Regulations, dated April 1, 2022.

5. Chessia Consulting Services, LLC, letter referenced as “Site Plan Review, Map 151, Lot 1 North Main Street, Professional Engineering Review/Site Plan Regulations”, dated April 1, 2022.

The following letter details the review of the NOI Application, taking into consideration the supplemental comment letters submitted as part of the DCC and Planning Board reviews of this proposed project and citizens of the Town.

DOCUMENT AND REGULATORY REVIEW

In general, it should be stated that the site design team has presented a thoughtful design for a site that has notable restrictive development parameters. Historically, the property has been utilized as a till agricultural field that regularly disturbed the soil profile, received fertilization, and likely herbicide or pesticide application. In this configuration, there is an informal treatment system of farm ditches and berms which has potential for sediment and nutrient loading of adjacent wetland resource areas. Therefore, the proposed project, done properly, can balance preserving if not enhancing functions and values of wetland resource areas, while providing a community resource.

This concept is reviewed in accordance with the NOI Application and how it complies with the Wetlands Protection Act M.G.L. Chapter 131, § 40, the associated regulations detailed in 310 CMR: 10.00 Wetlands Protection, and associated regulatory guidance, policies, and manuals. This review does not include an engineering review of the stormwater management system or other engineering features. FWS questions and comments regarding the NOI Application are as follows.

1. The proper management of stormwater is a keystone requirement to maintaining the wetland resource areas’ functions and values. It is recommended that the Deerfield Conservation Commission coordinate stormwater management peer review of the proposed project with the Deerfield Planning Board, as they have already retained and received comments from Wood Massachusetts, Inc. as part of a peer review for the Board.
 - a. In this review, it is recommended that all stormwater management and design questions presented by qualified individuals be reviewed and addressed by the applicant.
 - b. FWS recommends that all decisions for approval or denial of the project be held until all peer review of the stormwater design has been completed, including relevant review findings submitted as part of the Planning Board peer review.
 - c. Recommended essential items for review include but are not limited to the following.
 - i. Verification of drainage calculations as they relate to groundwater conditions and design assumptions.
 - ii. Evaluation of the potential for downstream impacts to Bank stability and flooding potential.
 - iii. Reviewing the basins, swales, subdrains and other underground stormwater management features design as it relates to shallow groundwater conditions in all seasons to ensure design capacity is achieved.
 - iv. Please clarify if a poly pond liner is specified for the wetland creation/rain garden areas or only the parking area rain garden. If it is to be utilized in the wetland creation areas, please detail the function of this feature in consideration of high



groundwater conditions. If these areas are to be constructed differently, please clarify any associated details.

- d. Site observations by FWS indicated that in early spring, a notable portion of the site had inundated conditions due to low stormwater infiltration rates and recent rainfall. These areas were primarily restricted to areas with lower topography or proximity to adjacent wetlands. FWS utilized a hand auger to observe soil conditions and found that a reduced soil matrix profile was near to if just within 12” of the soil or organic surface horizon.
2. The “Limited Stormwater Hydrology Report” test pits and monitoring well locations and data are presented.
 - a. Test Pit Hole #1 – The Soil Suitability Assessment documents that at 7-inches, a soil matrix of 5YR 5/1, and high chroma mottles were noted at 12-inches. Soils with this matrix chroma at that depth are an indicator of hydric soil conditions. As soil by itself does not designate a jurisdictional wetland, it is recommended that a wetland data plot be completed, documented, surveyed onto the project plans, and submitted for review to determine if hydric vegetation or hydrology are also present. Please note, the DOA for the wetland delineation remains valid at this time.
 - b. Test Pit Hole #3 – Same comment as presented in item 2.a.
 - c. Test Pit Hole #10 – Same comment as presented in item 2.a.
 - d. Monitoring wells were noted in the field and their data and location was noted within the NOI Application. The monitoring well data does not indicate the date of observation and if observations are still being made and recorded. If so, it is recommended that this data be supplied once available to fully understand the year round site subsurface hydrology.
 3. It is noted that the proposed project design maintains the majority of the existing tree line. The project plans depict a fire department access way within the tree line to the north. Please expand upon the intended access from the east of the site, as the access way does not appear to intercept any existing vehicular access.
 4. Educational signage is recommended to be designed and located as part of the proposed project. Signage is recommended to be utilized for fertilizer and herbicide treatment, wetland areas, pervious pavement/surfaces, and rain gardens. Signage should be designed to educate the public on LID design features, wetland resource areas, and to create awareness for those who maintain the fields.
 5. Please detail the functions and values of the wetland system and how they will be preserved, enhanced, or reduced by the proposed project. It is of specific interest how the site will perform as it relates to flood control and nutrient attenuation as it relates to the current use and condition of the land.
 6. Please clarify how the site will be utilized during the winter months. Will snow plowing be necessary? If so, it is recommended that snow storage areas be identified, and de-icing methods be listed for review.
 7. This project requires that a Stormwater Pollution Prevention Plan (SWPPP) be submitted prior to the start of construction. FWS recommends that the Conservation Commission be provided a copy of this document as well as all inspection reports in a timely manner. This may be included as a condition of approval if the DCC so desires.
 8. FWS recommends that trees and shrubs be additionally planted for mitigation to the north of wetland flag A17B, extending east within the tree line where there is a path, an area void of woody



vegetation in this area. This will aid in enhancing the biological stormwater system as well as establish native vegetation to outcompete the establishment of invasive species within this cleared area.

9. Per Woods 4.15.22 letter, Item 36, FWS agrees with the management of invasive species. However, the rain garden/basin areas are not included in this required mitigation process of review and reporting, as they are not considered wetland replication areas. Therefore, FWS recommends that a condition of approval requires that the site be monitored for invasive species for a period of 2-years post construction. Post 2-years, the Operation and Maintenance Plan for the site should include provisions for managing invasive species within the stormwater management system.
10. FWS recommends that the methods or regulatory guidelines for invasive species control be specified.
11. FWS recommends that the Operations and Maintenance Plan be prepared and submitted as part of this review. This will ensure that the long-term maintenance items are preformed in a manner that maintains the functions and values of wetland resource areas on the property. If the applicant and Commission decide that it is not feasible or prudent to present this document for review at this time, it is recommended that it be submitted for review and approval prior to the start of construction. This may be included as a condition of approval.
12. FWS recommends a decision be withheld until the Planning Board has decided on the request to waive the requirement for 4-inch caliper trees. If the waiver is granted, revised plans shall be submitted for review and approval. FWS does not see a significant benefit to the installation of larger trees. However, in lieu of planting larger trees, a greater number of woody plantings may be substituted to achieve the required cover. This cover may also include shrub species to create enhanced vertical stratification.
13. FWS recommends that the applicant verify the details of the potential point source discharges per the Stormwater Management Regulations Standard 1 comments from Chessia Consulting Services, LLC, 4.1.22 DEP review letter. It is depicted on the Utility Project Plans that multiple pipe outlet stormwater flows to an existing stream channel and would qualify as point source discharges. The details for the outfall were not observed. Please clearly present the construction details for these outfalls so that it may be determined if they should be considered point source discharges and accounted for as such. Please modify the NOI Application and fee calculation sheet to reflect such findings.
14. General Plan Notes
 - a. Please verify the construction sequence as it relates to the stabilization of the wetland creation/rain gardens, specifically as it relates to seed germination and preventing excessive inundation until germination. These areas are proposed to be excavated to below the reported level of seasonal high groundwater.
 - b. FWS recommends that the applicant detail and submit for review specific project sequencing and the location for temporary stormwater control areas.

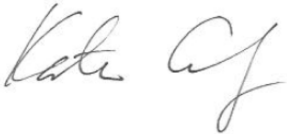


CONCLUSION

The proposed project as presented utilizes multiple mitigation measures to balance the impact of development and use of the site. FWS has reviewed the available information and it is our opinion that the NOI application for the proposed project requires additional data be submitted as detailed in this and referenced letter reports prior to FWS completing our review. At this time, it is recommended that the DCC reserve issuing any decisions on the project until all peer review comments and associated additional materials are reviewed and deemed to be in compliance. In addition, the final plan details are inherently linked to the Planning Board review, therefore FWS recommends that the DCC continue coordinate your review efforts concurrently.

As always, please feel free to contact me at 413-695-2195 or freshwaterwetland@gmail.com with any comments or questions.

Sincerely,



KATE BEDNAZ, PWS #1906
FRESHWATER WETLAND SERVICES
Registered Soil Scientist | President

