

**Conservation Commission Minutes
February 22, 2018**

Attendees:

Present: Marilyn MacDonald, Chair; Eileen Prisco, Member; Harry Bailey, Vice-Chair
and Azu Etoniru, Conservation Agent

Absent: Tina Bianco, Associate Member

Conservation Commission – Old Business

Notice of Intent – Off of Auburn Street, Map 79, Lots 1, 2,4 and 18 – SE116-1416

Ms. Marilyn MacDonald, Chair, opened the continued hearing. A letter dated February 20, 2018 from Imhoff Solar Farm Ten Citizen Group, c/o Frederick C. Chase, Jr., 60 Old Farm Road, Bridgewater, MA 02324 to the Town of Bridgewater Conservation Commission was reviewed and read into the record. It stated the following:

"I would appreciate if you would kindly accept this communication into the record in the above-captioned matter for consideration of the Commission during the proceedings to take place on February 22, 2018 and any continuation thereof. Taking note of the Applicant's Notice of Intent ("NOP") filed with the Commission on November 1, 2017, and responses of the Applicant's representatives and peer review consultants, HML Associates and Wetlands Strategies, Inc., received to-date, I offer the following observations and questions for the consideration of the Commission: 1) Tree Removal – The NOI states that no trees will be cleared from the site. In correspondence dated December 11, 2017, Mr. Lanney of HML Associates notes that the Applicant's plans fail to demonstrate "...how you will re-vegetate treed area that will be cleared". This discrepancy should be addressed by representatives of E.T. Engineering Enterprises, Inc. ("ETE"). 2) Site Grading – Phase I Mr. Lanney's correspondence of December 11 th characterizes the proposed grading of the site as "minor grading... along the east end of the project". The most recent site plans suggest that considerable grading will be required within the Southeastern-most corner of the site where GIS elevation contours indicate that existing elevation within the 25-foot and 50-foot wetlands buffers range from 36 feet to as high as 45 feet. ETE should be asked to disclose the estimated number of cubic yards of fill and the source of such fill as required to achieve post-development grade at this location, designated within the "Phase I" area of development. 3) Site Grading – Phase II The area presently existing as a former cranberry bog is a man-made alteration which, during active production, served to retain water when flooded for harvesting. The Applicant proposes to utilize the bog as a 100,000 square foot retention pond to retain storm water. Given the characteristically poor drainage of this area by design, ETE should be requested to assert the specific modifications proposed to enable siting of PV panels in this area to be utilized for storm water retention. If the area of the bog is to be filled to meet the perimeter elevation, the source of the estimated 100,000 cubic yards of fill (a figure reportedly removed during creation of the bog) should be identified. The cumulative impact of the Phase I and Phase II grading operations within the BVW buffer should be considered by the Commission. 4) Solar Panel Support – In correspondence dated February 13, 2018, HML Associates suggests that helical piles (i.e., "screw piles") would be suitable to support the PV panels at the Imhoff site. When questioned during the public hearing held on February 8, 2018, however, representatives of ETE did not commit to this technique. In fact, ETE's Project Review Response letter dated January 26, 2018 states that concrete footings will be employed. The Commission should consider the advisability of conditioning any plan approval upon the commitment of the Applicant to utilization of the screw pile method, with compliance therewith to be affirmatively demonstrated in any post development certificate of compliance. 5) Habitat Impact – In his February 13, 2018 correspondence, Mr. Lanny discusses the requirement for unhindered access for small animals as prescribed by MassDEP, although he mischaracterizes access points as "openings in the fence". The requirement calls for provision of a 6-inch minimum gap at ground level beneath the bottom edge of fencing "...for the length of the fence" Unfortunately, the plans as proposed call for creation of a gabion berm along the entire Easternmost limit of the site, to be combined with a perimeter security fence immediately adjacent thereto. The existence of the gabion berm entirely negates the wildlife access afforded by adherence to the fence gap requirement and for all practical purposes constitutes a hindrance to the natural migration of amphibians, reptiles and small mammals. It should be noted that the Eastern limit of the site is the direction from which wildlife species may be expected to emerge. The cumulative impact of restrictions imposed upon wildlife by virtue of the gabion berm should be considered by the Commission. 6) Interconnection Point with National Grid – MassDEP Policy 17-1, effective September 23, 2017, expresses strong preference for the avoidance of underground electrical interconnection locations at solar array installations in proximity to wetlands resources or buffer areas. The Commission should consider the advisability of conditioning any plan approval upon the commitment of the Applicant to utilize above-ground electrical inter-connection, with compliance therewith to be affirmatively demonstrated in any post development certificate of compliance. 7.) Construction of the Cranberry Bog – Correspondence received from Wetland

Strategies, Inc. dated February 5, 2018 makes reference to the jurisdictional status of the bog area, noting that "...the bog may have been constructed within the 100 foot buffer and the Commission may contemplate an appropriate response". ETE, in its Project Review Response, acknowledges the absence of permitting with respect to creation of the bog, but dismisses this inaction: "However, we believe the issue has resolved itself over the passage of time". Whether such dismissal of an infraction of this degree can be countenanced by the Commission is a matter subject to its discretion. Nonetheless, if the mere passage of time constitutes an acceptable alternative to regulatory compliance, the authority of the Commission is diminished. Out of concern for the interests protected under the Wetlands Protection Act, the Regulations thereunder and the Wetlands By-Laws of the Town of Bridgewater, the Imhoff Solar Farm Ten Citizen Group remains opposed to approval of the NOI filed by the Applicant in the proceedings hereunder as presently proposed. Thank you for your kind consideration."

Ms. Marilyn MacDonald, Chair, reviewed a memorandum dated February 13, 2018 from Nicholas Lanney to the Town of Bridgewater Conservation Commission in response to abutter concerns raised at the February 8, 2018 meeting, and read into the record and discussed it. It stated the following:

Use of concrete footings to support solar panels. BFI installed solar panels on top of its landfill off Route 24 in Randolph. The panels are supported on large concrete pads sitting on top of the landfill because a buried foundation will destroy the landfill cap. The large concrete footing is required to counter the uplift force from wind because the solar panel acts as a large sail. This technology is not needed at Imhoff Solar Farm. **Use of Helical or Screw Piles.** The soils at the Imhoff site are suitable to support the panels using "screw piles." The piles consist of a steel shaft to which are connected round steel plates. The number and diameter of the plates are a function of soil type and the amount of uplift forces that must be resisted. The piles are "screwed" into the ground by a hydraulic motor mounted on a small rubber track excavator or a Bob Cat. The piles are non-displacement and do not produce any spoils. The Commission may want to go to www.piertech.com/markets/solar.html and view the installation video. It would be helpful to see how simple the installation is and the limited amount ground disturbance this causes. Please note that what you see in the video may not exactly reflect how the solar panels are supported above ground at this project as that system is designed by the solar panel supplier. The Commission may want to include a condition that solar panels are supported on screw piles to minimize disturbance to the buffer zone. **Surface Water Flow Toward the Wetlands:** The abutters expressed concern about altering (lessening) the surface water flow toward the wetlands at the east end of the site. In order to comply with DEP and Bridgewater Planning Board requirements regarding attenuating peak flow and volume of runoff, the applicant has proposed a berm along the eastern edge of the solar farm to detain runoff and a series of infiltration basins to temporarily store stormwater runoff and allow it to infiltrate. The net effect is to reduce the volume of direct runoff to the wetlands and increase of volume of groundwater recharge so that while the "timing" of when the wetlands receive the water is extended over a longer period of time, the pre-construction volume is not significantly reduced. We also note the area of the site draining to the east from pre-construction to post construction does not significantly change either. **Animal Migration:** The entire solar farm will be enclosed in a 6-foot-high fence. I recall the applicant stating that there will be openings in the fence to allow small mammals to migration across or forage within the solar farm, but the fence detail does not show the location and size of the openings. This should be discussed and resolved at the next hearing. **Grade Changes:** There will be changes to elevation so that runoff is directed toward infiltration basins. The sediment and erosion control plan call for developing the site in three phases, with each phase stabilized with 6 inches of loam and grass seed before moving onto the next phase. Thus, once the project is completed, the ground cover will be grass in good to fair condition, consistent with the pre-construction conditions and what was used in the drainage calculations. The abutters questioned how solar panels can be located along the steeper slope in the southeast corner. It is my understanding that the support posts are made longer so that the panel are all the same elevation, but the applicant may want to address this as well.

Ms. Marilyn MacDonald, Chair, reviewed a memorandum dated February 16, 2018 from Nicholas Lanney to the Town of Bridgewater Conservation Commission regarding the review of February 8, 2018 ET Engineering Drainage Calculations and Site Plans and discussed it. It stated the following:

"We have completed our review of the February 8, 2018 site plan and drainage calculations and offer the following findings, conclusions and recommendations.

Findings and Recommendations - Stormwater Management 1) *The drainage analysis is based on conservative assumptions including: a) Treating the solar panel as paved surfaces even though they are not in contact with the ground surface. b) An infiltration rate of 0.17 inches/hour which is for sandy clay loam was used throughout the design rather using the soil type encountered in the test pit closest to the infiltration basin which included sand, loamy sandy and sandy loam. c) Using Hydrologic Soil Group C, even though published soil maps show portions of the site underlain by Hydrologic Soil Group A soils. 2) We found several inconsistencies between the what is shown on the site plans and the calculations. For example, the calculations used a thickness of stone of 1 foot for Swale B and 0.6 feet for swale D, but the plans all for 2 feet of stone for all swales. This inconsistency has no effect on the results and thus, no change is recommended to the calculations. 3) For the sake of clarity, the proposed contours around the infiltration swales should be labeled. 4) The proposed elevation on the south side of Swale H appears to be too low and we recommend wrapping the gabion berm around on the south side of Swale H.*

Conclusion: *The drainage analysis concluded that the proposed stormwater management system of 8 infiltration basins and a berm along the eastern limits of the solar farm will reduce the post construction peak rate and total volume of runoff to less than the pre-construction rate and volume and we concur with this conclusion. The analysis also shows that recharge volume requirement is satisfied.*

Findings and Recommendations - Erosion and Sediment Control Plan: *The erosion control plan calls for developing the project in three phases working from east to west, with each phase being completed and the ground stabilized with 6 inches loam and seed before moving onto the next phase. While not stated in the plan, we recommend that the native topsoil stripped from the site be reused for stabilization and that the seed mix used is comprised of native species consistent with the existing vegetation. The plan calls for inspection of the perimeter erosion control by the design engineer and the conservation commission at the start of the project and then delegates inspection to the contractor thereafter. We recommend that the design engineer and commission inspect the perimeter erosion control, the erosion control between phases as well ground stabilization of the previous phase at the start of Phases 2 and 3. We also recommend that the design engineer inspect the erosion control after any rain storm of 1 inch or greater. We recommend adding filter fabric between the subgrade and the stone for the entrance stabilization pad. Describe how disturbed areas will be temporarily stabilized if the site work is completed outside the growing season. In closing, it is our opinion the phasing plan of the project and the use of native soils and vegetating are appropriate measure to mitigate impact of this project on land disturbance. If you have any questions, feel free to contact me."*

Ms. Marilyn MacDonald, Chair, reviewed a memorandum dated February 22, 2018 from Nicholas Lanney to the Town of Bridgewater Conservation Commission regarding their review of February 19, 2018, ET Engineering Site Plans. It stated the following:

"We have completed our review of the February 19, 2018 site plan revisions and find that those revisions address our earlier comments. We have no further comments on the site plans, stormwater analysis and calculations and the sediment and erosion control plans. If you have any questions, feel free to contact me."

Mr. Dan Zani, abutter residing at 20 Old Farm Road raised several questions regarding the regulations and procedures surrounding the installation of solar farms. Mr. Zani also raised questions and concerns regarding the history of the wetlands and changes in those wetlands. These concerns were addressed.

Ms. Nicole Holmes, abutter residing at 80 Old Farm Road expressed her concerns regarding the impact to the wetland in relation to the project.

Mr. Harry Bailey, Vice-Chair, state that the Conservation Commission can only concern itself with any work being done within 100' of the Bordering Vegetative Wetlands, and all site design review concerns are done through the Planning Board review process.

APPROVED: October 25, 2018

Ms. Lenore White, Wetland Scientist, Wetlands Strategies, Inc. raised several concerns regarding solar panels being placed in the detention basins and the sediment that may get trapped, as well as abutter concerns regarding DEP policies regarding solar farms. Mr. Gallagher noted a maintenance and operations plans has been submitted and noted that no mature trees will be removed.

Mr. Harry Bailey, Vice-Chair, motioned to close the hearing. Ms. Eileen Prisco, Member, seconded the motion.
VOTE: All in favor, none opposed.

Notice of Intent – Lakeshore Center, Lot 5, Map 83; Map 96, Parcel 84 and 85, Parcel 13, 14, 16-23 - SE116-1413

Ms. Marilyn MacDonald, Chair, opened the continued hearing. Mr. Scott Goddard from Goddard Consulting, LLC, Lawrence Silva, Silva Engineering and Patrick Carney from Claremont. Mr. Goddard stated that the Conservation Commission hearing was being kept open, pending the Zoning Board of Appeals decision on the comprehensive permit petition. Mr. Goddard stated that the ZBA has been satisfied and they didn't expect any further updates to the plans and expected the hearing to close on February 28, 2018. Mr. Goddard requested that the Commission close the hearing, if they didn't have any further concerns.

Mr. Azu Etoniru asked if there was a final peer review letter, and if the Commission had the final plan set. The applicant stated that they did. The Commission reviewed all the information presented. No abutters were present for comment. Mr. Harry Bailey, Vice-Chair, motioned to close the hearing. Ms. Eileen Prisco, Member, seconded the motion.
VOTE: All in favor, none opposed.

Abbreviated Notice of Resource Area Delineation – Curve Street, Map 78/91, Lots 1,2,3,4,5/1,2,3,6 and Map 77, Lot 18 (Duxburrow Estates 40B) – SE116-1415

Ms. Marilyn MacDonald, Chair, opened the continued hearing. Mr. Scott Goddard, Professional Wetland Scientist from Goddard Consulting, LLC., representing the applicant. Mr. Azu Etoniru, Conservation Commission Agent, informed the applicant that the Commission has not been out to the site to review the wetlands due to snow cover, and the frost on the ground. Mr. Goddard informed the Commission that there are wood stakes with flagging has been done on the site, and reviewed the topography and location of the flags, as depicted on the engineered plans, previously submitted.

The Commission reviewed the information presented and stated that they will need to do a site walk visit and voted to a group site walk, scheduled for noontime on February 28, 2018 to do a proper assessment of the parcel. There were no abutters present for comment.

The applicant requested to continue the hearing. Mr. Harry Bailey, Vice-Chair, motioned to continue the hearing to March 8, 2018 at 7pm. Ms. Eileen Prisco, Member, seconded the motion. VOTE: All in favor, none opposed.

Notice of Intent – Oldfield Estates, off Oldfield Road – SE116-1395

Ms. Marilyn MacDonald, Chair, opened the continued hearing, and Lawrence Silva, P.E., from Silva Engineering Associates, P.C., representing the applicant, informed the Commission that the hearing was being held open, pending the decision of the Planning Board. Mr. Silva informed the Conservation Commission that the Planning Board has been satisfied requested that the Commission close the hearing, if they didn't have any further concerns.

Mr. Harry Bailey, Vice-Chair, motioned to close the hearing. Ms. Eileen Prisco, Member, seconded the motion.
VOTE: All in favor, none opposed.

APPROVED: October 25, 2018

Notice of Intent – Crimson Heights, off Lyman Place – SE116-1419

Ms. Marilyn MacDonald, Chair, opened the continued hearing, and Lawrence Silva, P.E., from Silva Engineering Associates, P.C., representing the applicant, informed the Commission that the site has been staked out and flagged as requested.

The Commission reviewed the information presented and stated that they will need to do a site walk visit and voted to a group site walk, scheduled for noontime on February 28, 2018 to do a proper assessment of the parcel. There were no abutters present for comment. The applicant requested to continue the hearing. Mr. Harry Bailey, Vice-Chair, motioned to continue the hearing to March 8, 2018 at 7pm. Ms. Eileen Prisco, Member, seconded the motion. VOTE: All in favor, none opposed.

Conservation Commission – New Business

Notice of Intent – 140 College Road, Map 32, Parcel 6 – SE116-1420

Mr. Harry Bailey, Vice-Chair, opened the hearing and read the public hearing notice into the record for the Notice of Intent filed by Michael Keith. The applicant sought approval to construct a single-family house and associated grading within the buffer zone to a bordering vegetated wetland. The property is owned by Michael Keith and is located at 140 College Road, Bridgewater, MA as identified on Assessor's Map 32, Parcel 6.

Mr. Lawrence Silva, PE, from Silva Engineering Associates, P.C., was present, made a presentation to the Commission, explaining the scope of the project as depicted on the engineered plans dated June 4, 2014 and entitled "Site Plan, Site: Assessor's Map 32, Lot 6, 140 College Road, Bridgewater, MA" as prepared by Silva Engineering Associates, P.C. Mr. Silva indicated that most of the work will be 75' or more from the wetlands.

The Conservation Commission reviewed and discussed the information and documents presented. There were no abutters for comment. Mr. Azu Etoniru, Conservation Commission Agent, who is very familiar with the neighborhood, recommended that the Commission close the hearing. Mr. Harry Bailey, Vice-Chair, motioned to close the hearing. Ms. Eileen Prisco, Member, seconded the motion. VOTE: All in favor, none opposed. Mr. Harry Bailey, Vice-Chair, motioned to issue an Order of Conditions. Ms. Eileen Prisco, Member, seconded the motion. VOTE: All in favor, none opposed.

Conservation Commission Business

Review of Certificate of Compliance for 275 Curve Street, Map 78, Parcel 8 – SE116-751

The Commission reviewed the Certificate of Compliance for DEP File Number SE116-751 for 275 Curve Street, Map 78, Parcel 8 as presented. Mr. Harry Bailey, Vice-Chair, made a motion to issue the Certificate of Compliance. Ms. Eileen Prisco, Member, seconded the motion. VOTE: All in favor, none opposed.

Review of Certificate of Compliance for Bedford Street, Map 48, Parcel 57 – SE116-814

The Commission reviewed the Certificate of Compliance for DEP File Number SE116-814 for Bedford Street, Map 48, Parcel 57 as presented. Mr. Harry Bailey, Vice-Chair, made a motion to issue the Certificate of Compliance. Ms. Eileen Prisco, Member, seconded the motion. VOTE: All in favor, none opposed.

Commissioner Eileen Prisco, Member, made a motion to adjourn the regular meeting at 8:00pm. Commissioner Tina Bianco, Associate Member, seconded the motion. VOTE: All in favor, none opposed. Ms. Marilyn MacDonald closed the meeting. Next meeting will be on March 8, 2018 at 7:00pm in the Council Chambers located on the second floor of the Municipal Office Building, 66 Central Sq, Bridgewater.

Respectfully submitted,



Jane K. Brown
Administrative Assistant