

Monday, January 13, 2014

Attendance

David Henry (Chairman), Ron O'Reilly (Vice-Chairman),
Julian Kadish, Lisa Carrozza, Scott Ollerhead
and Jennifer Carlino, Conservation Agent

Chris Baker was absent.

Minutes

The members reviewed the Bills Payable Sheet (Verizon). Scott Ollerhead made a motion, seconded by Lisa Carrozza, to pay the bill. Approved.

The members reviewed the draft minutes for **June 24, 2013**. Lisa Carrozza made a motion, seconded by Julian Kadish, to accept the minutes as written. Approved.

The members reviewed a Notice of Intent – **(#250-888) – Turtle Crossing, LLC – Parcels 4 & 22 (Assessor's Map 2) – Newland Street – (cont. from the December 16, 2013 mtg.)** - for proposed plans to construct 7 buildings, 8 garages, driveways, parking, utilities and associated grading within 100 feet of wetlands.

Document List

1. WPA Form 3 – Notice of Intent
2. Stormwater Report
3. Plans entitled “Turtle Crossing Comprehensive Permit Application Local Initiative Program, Newland Street, Norton, MA, prepared by Level Design Group and signed and stamped by Nicola Facendola dated April 12, 2012.
4. Turtle Crossing Comprehensive Permit-Local Initiative Program, AM2/Parcels 4 & 22, Newland Street, Norton, Massachusetts, Off-Site LP Sewer Line dated March 5, 2012. (Scale 1”=40’)
5. Letter dated July 24, 2013 from Jennifer Carlino to Dustin DiNunzio.
6. Letter from Level Design Group dated August 29, 2013. (Response to BSC Group)
7. Letter from Level Design Group dated August 29, 2013. (Response to BSC Group)
8. Letter from Level Design Group dated September 3, 2013 (Response to Jennifer Carlino’s letter of June 28, 2012).
9. Letter from Level Design Group dated September 5, 2013 with submittal of revised plans dated February 25, 2013, revised Site Plans dated August 29, 2013, modified Notice of Intent, revised Stormwater report August 29, 2013.
10. Comment 10-5-13 site inspection letter by Jennifer Carlino.
11. Email letter received from Atty. Jamy Madeja dated October 28, 2013

Norton Conservation Commission

Monday, January 13, 2014

Minutes, Page 2.

12. Memo dated November 5, 2014 to ZBA from Jennifer Carlino
13. Response letter from the Norton Conservation Commission to Level Design Group dated November 5, 2013.
14. Contract Amendment to the BSC Group invoice for \$3,200 dated November 13, 2013.
15. BSC Group letter to Norton Conservation Commission dated December 9, 2013.
16. BSC Group letter to Norton Conservation Commission dated December 11, 2013.

Present at the public hearing was Dan Campbell, Level Design Group, Steve Kominsky and Mike Flood of Dakota Partners.

Dan Campbell and said he would like to respond to BSC Group's comment letter of December 11, 2013 as follows: He noted that the original question comes first, then his response is in italics, secondly and BSC Group's latest response is bolded.

Review of Design Plans

1. Has the Applicant responded to the June 28, 2012, letter from Ms. Jennifer Carlino to Mr. Daniel Campbell of Level Design Group LLC? Specifically related to Comments 9 through 29, which relate to the Design Plans.

Responses to the above referenced comments have been provided under separate cover to the Conservation Commission.

BSC has reviewed the Applicant's responses and directs their attention to the November 5, 2013 letter from the Commission which documents several open comments. Additionally, in this letter, the Commission has requested that BSC verify certain information. Our responses to these items are listed at the end of this report.

Dan Campbell replied he will answer this comment at the end.

2. Has the Applicant considered any low impact development (LID) techniques for stormwater management such as bio-retention areas, additional water quality swales, or permeable pavements?

LID Techniques are being utilized for the proposed development. The proposed development is a high density residential development concentrated within approximately Y2 of the building lot area leaving approximately 12 acres of uplands undisturbed.

The LID Storm water Techniques mentioned in the above comment were examined during the plan development phase. They were not used due to the amount of land area required to implement those techniques. The proposed design utilizes 9 separate infiltration basins located under paved surfaces, which minimizes the site disturbance and provides substantial groundwater recharge spread out over the developed area to closer approximate natural surface infiltration.

As the project site is constrained by resource areas in most directions limiting usable land and the Applicant is using numerous infiltration areas to more closely mimic infiltration to

groundwater under undeveloped conditions, we believe they have sufficiently considered LID techniques. We consider this item closed.

Lisa Carrozza asked Mr. Kominsky if the applicant could have done anything else in terms of LID and he replied that they tried to reduce the pavement. Lisa Carrozza asked about rain gardens. Mr. Kominsky replied that rain gardens tend to take up a lot of space.

Lisa Carrozza asked why the project is being squeezed into a small area and Mr. Campbell replied that if the project is spread out further there will be more pavements and roads on the site. Lisa Carrozza suggested decreasing the number of units for the project and Mr. Campbell stated the number will not be reduced.

Dan Campbell stated that during the Comprehensive Permit process the applicant agreed not to develop the back portion of the property but is not willing to donate the property to the Conservation Commission.

3. Will the Applicant consider phasing the project to minimize land disturbance at any given time?

The project will not be phased. Factors influencing this decision include the significant amount of fill required throughout the project area and the close proximity of the proposed structures to each other. The cost to construct the site is significantly less when these items are all done simultaneously thought out the entire site. The comprehensive permit approval granted by the Zoning Board of Appeals prohibits project phasing.

While phasing a project of this size would be ideal, the Applicant's reasoning for not phasing the project are appropriate. We consider this item closed.

Dan Campbell noted that the ZBA Comprehensive Permit prohibits the project to be phased.

4. Three roof drain connections to Stormtech System 1 are shown from Building 1, an 8-inch header and two 6-inch roof drains. Based on the assumed layout of the system, the two 6-inch roof drains would appear to connect into the side of the system, which is not possible. The Applicant should clarify the layout of this system.

The two 6-inch roof drain leaders have been removed from the site plan. A new 8-inch roof drain header has been added along with a new connecting DMH with a new 12" discharge to Stormtech System 1.

We consider this item closed.

Dan Campbell replied that he has modified the system to have one roof drain connection. He said he modified the Stormtech System 1 also.

5. A test pit has not been performed in the vicinity of Stormtech System 8. A test pit should be performed to verify soil types and determine seasonal high groundwater elevation.

A test pit has been performed within Stormtech System 8. The new test pit information has been added to the existing test pit logs within the revised Stormwater Report.

A test pit labeled LDG-9 is shown on the Plans in the location of System 8, but is not included in the version of the Stormwater Report provided to BSC. Please provide the data for this test pit.

Dan Campbell noted he had submitted a copy and will provide more copies tomorrow.

6. What pre-treatment is being provided for the water quality swale northeast of the cul-desac? Pre-treatment is required per the Water Quality Swale section of Volume 2, Chapter 2 of the Handbook.

The Water Quality Swale has been removed from the Site Plans and Replaced with a Deep Sump and Hooded Catch Basin discharging to a new Stormtech System.

We consider this item closed.

Dan Campbell replied that he has removed the water quality swale and replaced it with Stormtech System #9.

7. A test pit has not been performed in the area of the Water Quality Swale. Per Volume 2, Chapter 2 of the Handbook, seasonal high groundwater shall not be within 4-feet of the water quality swale bottom.

A test pit has been performed within are of the Water Quality Swale. The new test pit information has been added to the existing test pit log within the revised Stormwater Report. This Test Pit is within the area of the new Stormtech System detail in comment response #6.

The new test pit data has been provided. We consider this item closed.

8. Would the Applicant consider using perimeter erosion controls such as silt socks, compost berms, or straw wattles instead of haybales and silt fence? These types of controls have been shown to be as or more effective as haybales and silt fence and are bio-degradable and less likely to contain weed or invasive seeds.

The Erosion Controls surrounding the disturbed area have been changed to Straw Wattles, replacing the Haybale.

The detail on Sheet C-6.2 has been revised accordingly. However, the legend on Sheets C-3.0 and 3.1 continues to call out ""Hay Bales w/Siltation Fence"". The legend should be changed as well.

Dan Campbell stated he will change “haybales” on plans with “wattles with silt fence”.

9. Why is the entry drive 28-feet wide? This is very wide for a residential development that should receive minimal truck traffic. A reduction in this width would significantly reduce the amount of impervious surface on site.

The 28' entry driveway is a requirement of the Comprehensive Permit Approval from the Zoning Board of Appeals.

As it is required by the Comprehensive Permit, we consider this item closed.

Ron O'Reilly asked if the Fire Dept. approved the plans and Mr. Campbell replied they had.

10. The snow storage areas southwest of the access driveway, northeast of Building 4, and south of the Club House are all partially within the area to be planted per the "Resource Area Protection Plan" by LEC. Is snow storage appropriate within or adjacent to this area?

The intent of Resource Area Protection Plan is to provide nesting areas for turtles which have been observed to nest on the site in the outlined areas. It is anticipated that the turtles will not be nesting during the winter when snow will be stored in those designated areas which is why there is an overlap of the two areas. The site as designed contains sufficient snow storage areas and those overlapped zones have been removed from the revised site plan.

The overlapping areas of snow storage have been removed. However, the Applicant should clarify what, if any, impacts sediment laden melt water from these snow storage areas will have on the adjacent turtle nesting areas.

Mr. Campbell pointed out areas that have been modified and stated that all storage areas are below the nesting areas. Jennifer Carlino asked Mr. Campbell if he intended on installing visual barriers to prevent people from pushing the snow closer to the wetlands. He asked what type of barriers the commission would require. Jennifer Carlino suggested putting in a permanent barrier. Dan Campbell suggested placing boulders in front of the slope. Lisa Carrozza suggested adding a condition to the Order of Conditions requiring a visual barrier that can be re-inspected by the commission in perpetuity.

11. Could the large snow storage area northwest of Building 3 be reduced in size or adjusted to not encroach so close to the wetlands?

This Snow Storage Area has been modified to maintain a minimum separation distance of 50 feet from the BVW.

We consider this item closed.

12. A portion of the snow storage area northeast of Building 4 appears to slope towards the pond. It is not appropriate to store snow this close to the pond in an area sloping towards the pond. This storage area should either be removed or revised.

This Snow Storage Area has been modified to maintain a minimum separation distance of 50 feet from the edge of the Pond.

We consider this item closed.

13. Is the Grass Swale detail shown on this sheet intended as the Water Quality Swale? If so, it does not conform to the design requirements of a water quality swale detailed in Volume 2, Chapter 2 of the Handbook. Specifically, water quality swales must be parabolic or trapezoidal in shape with a minimum 2-foot bottom width, side slopes cannot exceed 3H:1 V, and swales should have a minimum 18-inch soil bed that is a 50/50 mix of sand and loam. This detail should be revised to meet the design requirements for water quality swales in Volume 2, Chapter 2 of the Handbook.

The Water Quality Swale has been removed from the Site Plans and Replaced with a Deep Sump and Hooded Catch Basin discharging to a new Stormtech System.

We consider this item closed.

14. It is not clear from the Stormtech details provided if the project will be making use of Stormtech's Isolator Row. It is recommended that the Isolator Row be used to provide further sediment removal prior to infiltration and discharge within a critical area.

The Isolator Row is not proposed to be used for Stormtech Systems 1-8. An isolator now will be utilized for the newly added Stormtech System, identified as Stormtech System 9 on the revised Site Plans.

We recommend using the Isolator Row wherever possible as it provides improved sediment removal and helps prevent resuspension of removed sediments. Based on our perceived layouts of the Stormtech systems on site, Systems 4 and 6 could utilize the Isolator Row with little or no revisions to the layout and Systems 1, 2, and 3 could utilize the Isolator Row with the addition of one additional drainage structure each.

Dan Campbell stated he would add one structure to the site.

15. No inspection port detail is provided for the Stormtech systems.

An Inspection Port Detail has been added to the revised Site Plans.

We consider this item closed.

Review of Stormwater Report

Narrative

16. The Pre-Development Conditions section references the wrong soil types from SCS.

The revised Stormwater Report has been modified accordingly.

We consider this item closed.

17. The project does not comply with Storm water Standard 2 as there is the post-development peak runoff rate exceeds the pre-development peak runoff rate for each storm even analyzed at Control Point R2 - Wetland 2.

There is a minor increase inflow to Wetland 2 seen for all three storm events. This is from the site grading required to install the access driveway. There are no new point discharges to Wetland 2 with the increase coming from surface flow from 127 Newland Street, a single family residential property now being directed to Wetland 2, where previously a majority of the surface runoff was directed to Wetland 3.

While the actual increase in rate is small, proportionally, it is actually quite large. Additionally, regardless of the size of the increase, the project does not comply with Standard 2. BSC will defer to the discretion of the Conservation Commission with regard to this matter.

Lisa Carrozza replied that if a project does not meet Standard 2, the commission cannot approve it.

Mr. Flood replied that comments 17 & 18 are reversed. He said that it is the 2-yr. & 10-yr. storm events that will increase the peak runoff. Dan Campbell replied he would mitigate the 2-yr. & 10-yr. to meet Standard 2.

18. There is a significant increase in the peak runoff rate from the 100-year storm event to Control Point R3 - Wetland 3 (0.90 cfs pre-development; 3.94 cfs post-development). The report narrative states that this ""will not cause significant downstream flooding impacts because the existing on-site pond provides additional storage capacity to mitigate the peak flow increase."" However, no evidence for this statement has been provided. The Applicant should provide evidence that this storage exists and will not cause downstream flooding during the 100-year storm event.

This is an isolated pond at the elevation detailed and though fed from surface water and rainwater, the pond is essentially stabilized at the elevation of the groundwater in the immediate vicinity. The additional flow will dissipate into the surrounding groundwater and provide significant recharge to the Canoe River Basin as detailed in the ENF Certificate. The infiltration and recharge on-site is detailed in the ENF as a primary consideration in any site redesign. The increase in overall CFS to the pond will dissipate into the groundwater and will be a short term fluctuation in water levels, it will not increase the temperature or change the type of habitat provided. It will provide a stable environment with source of inflow while allowing for site recharge over a larger dissipation area.

Based on the information provided, it is unlikely that the increased peak runoff rate will result in downstream flooding impacts. We consider this item closed.

19. As portions of the site driveways will flow to the water quality swale, less than 100% of runoff from the impervious surfaces on site will be directed to infiltration BMP's. Therefore, the project must provide the adjusted required recharge volume as detailed in Volume 3, Chapter 1 of the Handbook (see page 27). In addition, the Applicant should provide calculations showing that runoff from at least 65% of impervious surfaces is directed to infiltration BMP's.

The Water Quality Swale has been removed from the Site Plans and Replaced with a Deep Sump and Hooded Catch Basin discharging to a new Stormtech System.

As all impervious surfaces on site are now directed to infiltration BMP's, we consider this item closed.

20. The Applicant has indicated on the Checklist for Stormwater Report that recharge calculations are based on the static method. However, the provided recharge volume has not been calculated in accordance with the Handbook. The Applicant should provide calculations that the adjusted required recharge volume is provided within the infiltration BMP's.

Simple Dynamic Method Recharge Calculations have are included within the revised Stormwater Report.

Appropriate simple dynamic method calculations have been provided and the Checklist has been revised accordingly. We consider this item closed.

21. Calculations documenting that each infiltration BMP meets the 72-hour drawdown requirements (See Volume 3, Chapter 1) should be provided.

Recharge Calculations for the 72-drawdown are included within the revised Stormwater Report.

Appropriate calculations have been provided. We consider this item closed.

22. Sizing for the CDS units should be in accordance with DEP's "Standard Method to Convert Required Water Quality Volume to a Discharge Rate for Sizing Flow Based Manufactured Proprietary Stormwater Treatment Practices". The Applicant should submit documentation from the manufacturer that each CDS unit has been sized appropriately using this method.

The sizing of the CDS is based upon base flow data for treatment provided by the manufacturer. The CDS unit flow path is different than a majority of the remainder of the units. The CDS does not officially "by-pass" flow which is a primary concern of the DEP. They form a maximum flow and a

treatment flow based upon the amount of water which can flow through the treatment screen within the unit. Also the CDS is sized based upon CFS flow as a standard pipe or other drainage structure is. Each unit is sized based upon the criteria detailed in the manufacturer requirements.

According to the CDS manufacturer's information, the CDS units include an internal bypass. Therefore it is still our belief that the units should be sized in accordance with the DEP's methodology to ensure that the full required water quality volume is treated by the unit and not bypassed. It is our experience that many manufacturers or proprietary treatment units under estimate the water quality volume when sized using their own methods and not the DEP's method.

Mr. Campbell stated that with many other treatment units, if the volume of water flow is too large for the funnel, water spills over the edges. He noted that with the CDS units, no water escapes the screening unit. Mr. Flood stated that the sizing calculations are usually the same as DEP's calculations. Mr. Campbell stated the unit has been TARP testing and has agreed to submit the data for the units.

23. The Applicant should provide calculations showing the volume below the invert of each infiltration BMP.

<i>System</i>	<i>Volume Below,Outlet (cf)</i>
<i>Stormtech System 1:</i>	<i>8,932</i>
<i>Stormtech System 2:</i>	<i>6,300</i>
<i>Stormtech System 3:</i>	<i>6,567</i>
<i>Stormtech System 4:</i>	<i>4,086</i>
<i>Stormtech System 5:</i>	<i>5,042</i>
<i>Stormtech System 6:</i>	<i>3,280</i>
<i>Stormtech System 7:</i>	<i>4,529</i>
<i>Stormtech System 8:</i>	<i>1,388</i>
<i>Stormtech System 9:</i>	<i>1,434</i>

We consider this item closed.

Checklist for Stormwater Report

24. The project is within a Zone II, so this box should be checked under Standard 4.

The Checklist for Stormwater Report has been modified accordingly.

The Checklist has not been modified in the Stormwater Report provided to BSC.

Dan Campbell replied he would check the box.

25. The project discharges to a critical area and is within a Zone II, so the boxes under Standard 6 should be checked accordingly.

The Checklist for Stormwater Report has been modified accordingly.

The Checklist has not been modified in the Stormwater Report provided to BSC. Hydraulic/Hydrologic Calculations.

Dan Campbell replied he would check the boxes.

Hydraulic/Hydrologic Calculations

26. Pre and post-development watershed plans should be provided to clarify the limits of each subcatchment and location of each design point.

Watershed Drainage Maps have been included within the revised Stormwater Report.

We consider this item closed.

Dan Campbell replied he submitted the Watershed Drainage maps.

27. The latest version of TR-55 only recognizes surface conditions of "paved" and "unpaved" for the shallow concentrated flow portion of time of concentration calculations. Several subcatchments in both pre and post-development calculations use surface conditions other than "paved" or "unpaved". These calculations should be revised to use only "paved" and "unpaved".

It is common practice to use the newer surface condition descriptions when calculating Time of Concentration and is at the discretion of the stamping engineer. The surface conditions have not been modified within the revised Stormwater Report.

As stated in the original comment, the latest version of TR-55 does not recognize any surface type other than "paved" and "unpaved" for determining velocity factors in shallow concentrated flow. Therefore, it is our belief that it is not at the discretion of the stamping engineer to use an older version of the methodology.

Dan Campbell replied that TR-55 does the calculations in this manner because the areas usually timed are much larger than this project. He said he is using a less conservative approach but will use a more conservative approach if the commission requests him to do so. Lisa Carrozza suggested she would like to have the more conservative figures and Dan Campbell replied that he would send them to her electronically.

28. Pre-development subcatchment E3 has a sheet flow length of 150-feet. According to the "Massachusetts Supplement for the TR-55 Hydrology Procedure", sheet flow length limits of 50 to 100-feet are more appropriate for the northeast. The calculations should be revised accordingly.

The Sheet Flow Length in Subcatchment E3 has been limited to 100with the remaining 50 feet added to the shallow concentrated flow.

The requested revision has been made. We consider this item closed.

Dan Campbell replied that the modifications have been made.

29. Pre-development subcatchment E4 and post-development subcatchment S4 include two segments of sheet flow in the time of concentration calculations. It is more typical and appropriate to only include one segment of sheet flow followed by shallow concentrated or channelized flow. The calculations should be revised accordingly.

The Sheet Flow Length in Subcatchment E4 has been limited to one 1 00-foot section with the remaining 20 feet added to the shallow concentrated flow.

The flow length has been revised for pre-development subcatchment E4, but has not been revised for post-development subcatchment S4.

Dan Campbell replied he will make the changes in the electronic version before sending it and adding it to the final revised plans.

30. A larger version of the post-development routing diagram should be provided as the smaller version is not legible.

A larger scale version of the post-development routing diagram has been included within the revised Stormwater Report.

We consider this item closed.

Dan Campbell replied he has submitted the larger scale version.

31. The pre and post-development calculations are based on different total areas (751,396 sq.ft. and 750,717 sq.ft. respectively). These calculations should be revised so that pre and post-development total drainage areas are the same.

The pre-and post-development areas have been reviewed and revised accordingly.

The calculations have been revised such that the pre- and post-development areas are equal. We consider this item closed.

Dan Campbell replied that he did submit revised calculations.

TSS Removal Spreadsheet

32. The TSS removal rate and starting load for the CDS unit row have been reversed.

The TSS removal rate has been adjusted on the new TSS Removal Worksheets.

We consider this item closed.

Dan Campbell stated he has made the modifications to the TSS sheets.

33. TSS removal for each Stormtech system and the Water Quality Swale should be provided. These calculations should also include any areas of non-building impervious surfaces that are not treated, if any, and provide a weighted average TSS removal rate for the entire project site.

Individual TSS Removal Worksheets for all "individual" Stormtech Systems along with TSS Removal Worksheets for each of the six separate discharges have been included within the revised Stormwater Report. A weighed average TSS removal calculation has been provided within the revised Stormwater Report of Discharge 1 because there are multiple separate treatment systems connecting to a single discharge point.

Appropriate TSS removal worksheets and calculations showing a weighted average for the site have been provided. The information provided shows the project complies with Stormwater Standard 4. We consider this item closed.

Dan Campbell noted that the requested information has been submitted.

Construction Period Pollution Prevention and Erosion & Sediment Control Plan

34. If this section is intended to act as a Stormwater Pollution Prevention Plan (SWPPP) under the NPDES Construction General Permit (CGP), it should be revised to match the EPA's SWPPP template including information about receiving waters.

Please note that while BSC did not receive a response to this comment, the Applicant's response to a similar comment from the Commission indicates that this is not meant as a SWPPP and that a SWPPP will be submitted at a later date. We consider this item closed pending the SWPPP submittal.

Dan Campbell replied that at this time a SWPPP contractor has not been hired, but he would be submitting the Storm Water Pollution Prevention Plan before construction begins. He said he had already agreed to submit the plan approximately 1 month before the pre-construction meeting.

35. The Pre-Development Conditions section references the wrong soil types from SCS.

Please note that while BSC did not receive a response to this comment, the soil types have been revised in the updated Stormwater Report. We consider this item closed.

36. The Post-Development Conditions section refers to the wrong number of buildings and units.

Please note that while BSC did not receive a response to this comment, the number of buildings and units has been revised in the updated Stormwater Report. We consider this item closed.

Dan Campbell replied to 35 & 36 by stating he has completed the appropriate mappings.

37. The Inspections section requires inspections every 14-days as well as within 24-hours of all storm events greater than 0.5-inches. This requirement has been increased to within 24-hours of all storm events greater than 0.25-inches in the 2012 CGP. The section should be adjusted accordingly.

While this has not been revised, the Applicant has indicated that this section is not meant as a SWPPP and that an appropriate SWPPP will be submitted at a later date. We consider this item closed pending the SWPPP submittal.

Dan Campbell replied the answer to this was given in comment #34.

Operation and Maintenance Plan

38. In the Driveways and Parking Areas section, spring maintenance calls for monthly sweeping of parking areas while the last sentence calls for parking lots to be swept two (2) times per year. The Applicant should clarify which requirement holds.

This section has been clarified. We consider this item closed.

Dan Campbell replied modifications have been made as requested.

39. The Driveways and Parking Areas section states that snow storage shall be located within paved parking areas. However, the Design Plans (Drawings 4.0 & 4.1) show snow storage off of paved areas. The Applicant should clarify this.

This section has been revised to require snow storage within the designated stockpile areas per the approved plans and never directed towards or stockpiled in the wetlands. We consider this item closed.

Dan Campbell replied modifications have been made as requested.

40. It is our recommendation that only vacuum trucks be used to clean catch basins and not clam shells. The vacuum truck is more effective at removing sediment and is less likely to break off the outlet hood.

This section has been revised to require the use of vacuum trucks. We consider this item closed.

Dan Campbell replied he has made the revisions to reflect the use of vacuum trucks.

41. It is our recommendation that the inspection ports for the Stormtech systems be larger than 6-inches. It is more difficult to see into the system through a 6-inch port and, if system maintenance is needed, a 6-inch port is not large enough for vacuum truck access. A minimum 10-inch port is recommended.

This section, and the details shown on the plans, have been revised to include a 10-inch inspection port. We consider this item closed.

Dan Campbell replied the revisions have been made as requested. He stated that Stormtech may not approve the 10-inch port because of structural issues, but he will submit the shop drawings as soon as he gets them.

42. The Water Quality Swale section should detail mowing of the swale. This should include a provision that grass not be cut less than 4-inches tall and that all clippings be removed after mowing.

The Operation and Maintenance Plan has been modified accordingly.

The water quality swale section has been removed from the O&M Plan as the water quality swale has been removed from the project. We consider this item closed.

Dan Campbell replied that since the water quality swale has been removed from the project, it has been removed from the Operation and Maintenance Plan.

Additional Review Comments on Revised Documents

43. The estimated seasonal high groundwater (ESHW) elevation for test pit LDG-2 has changed since the previous version of the Stonnwater Report (5/17/12). In the 5/17/12 submittal, weeping was observed in pit LDG-2 at 12-inches while the latest report indicates weeping at 6-inches. Additionally, the elevation at the test hole was presented as 102 in the 5/17/12 report and is listed as 102.5 in the latest report. This results in less than 2-feet of separation between ESHGW and the bottom of Stormtech System 2.

44. The estimated seasonal high groundwater (ESHGW) elevation for test pit LDG-3 has changed since the previous version of the Stormwater Report (5/17/12). It appears that the math to determine the ESHGW elevation was incorrect in the 5/17/12 report and has been corrected in this latest version. However, this results in less than 2-feet of separation between ESHGW and the bottom of Stormtech System 3.

COMMENTS FROM THE COMMISSION FOR WHICH BSC VERIFICATION WAS REQUESTED

The following comments were initially made by the Commission in a letter dated June 28, 2012 with responses provided by the Applicant in a letter dated September 3, 2013. Per a letter from the Commission dated November 5, 2013, these items were "Resolved but will be confirmed by the Commission's consulting engineer." The comment numbers correspond to the Commission's June 28, 2012 letter with the Applicant's responses in italics and the Commission's additional comments in bold. BSC's opinion on the matter follows in bold.

20. The construction entrance should flare out at the ends along the new curb (sheet C-3.0) and in the detail (C-6.2). Please revise.

The plans and detail show a flared end. **Resolved but will be confirmed by the Commission's consulting engineer.**

BSC Comment: The plan view and detail both show flared ends around the curb corners as requested and appropriate.

Dan Campbell replied that he had made the revisions as requested.

21. Temporary storm water control swales and elevations in the dewatering basin should be shown in greater detail (sheet C-3 .0). Should swales have intermittent check dams as well? The contractor has to be able to determine how to construct this based on the plans. Also, demonstrate that the temperature of the water released from the temporary swales and dewatering basins will not be increased prior to entering the wetland or pond.

The plan has additional detail on the type, slope and make-up of the temporary basin of sufficient detail to construct the ponds. There is a detention time to allow for sediment removal, the typical storm will infiltrate through the bottom of the basin. A storm which would be too intense to fully infiltrate will not have a detention time to allow water to heat or change temperature to affect the surrounding wetland complexes. **Resolved but will be confirmed by the Commission's consulting engineer.**

BSC Comment: We concur with the Applicant's statement that sufficient information is provided for the contractor to construct the temporary basin and that this temporary basin should not alter the temperature of surrounding wetlands or water bodies.

Dan Campbell noted that he provided sufficient information for the contractor to protect the wetlands.

32. Confirm that all post-development contribution to the identified potential vernal pools is the same as the pre-development contributions.

The post development and pre-development contributions to Potential vernal Pool areas is substantially equivalent. Resolved but will be confirmed by the Commission's consulting engineer.

BSC Comment: We concur with the Applicant's assessment.

Dan Campbell replied that he has confirmed the post development and pre-development contributions to Potential vernal Pool areas.

33. Identify the wetlands on the pre- and post-development drainage plans to be consistent with the Summary of Peak Storm water Runoff (CPS) described in the stormwater report.

The revised stormwater report contains maps detailing areas as requested. Resolved but will be confirmed by the Commission's consulting engineer.

BSC Comment: Appropriate pre- and post-development watershed maps have been provided.

Dan Campbell replied the changes have been made.

35. Provide the TSS worksheet for all treatment trains. All other projects within the ACEC have provided greater than 93% TSS removal rates. Please increase the amount of TSS removal and demonstrate that greater than 44% will be removed prior to reaching infiltration bmps.

The revised stormwater report contains TSS removal worksheets for each area. CDA units provide pretreatment at 76% Step certified. Resolved but will be confirmed by the Commission's consulting engineer.

BSC Comment: The revised Stormwater Report includes TSS removal worksheets for each treatment train as well as a weighted average TSS removal for the entire site. These calculations show that the project will achieve 94% TSS removal for the entire site and that a minimum of 44% TSS will be removed prior to discharge to an infiltration BMP.

Dan Campbell replied that the TSS removal is much higher than required.

Dan Campbell proceeded to respond to the letter from BSC Group dated December 9, 2013 as follows:

1. Direct permanent impacts have been avoided in regulated wetland resource areas and the proposed project work is generally in compliance with the WPA with regard to direct impacts on resource areas.

As we mentioned in our previous review letter, extensive activities are proposed in the jurisdictional 100-foot Buffer Zone to Bordering Vegetated Wetlands (BVW). We view the statement in the Applicant's response to our April rd comment regarding work in buffer zones as incorrect and not meeting the 'Burden of Proof' requirements of the WPA. The Applicant states that ""The regulations allow for the construction within 0' of the wetland border under the state regulations..."". The WPA regulations in fact recognize the importance of a buffer and give the Commissions the discretionary authority to permit work in the 100 foot buffer. There is no ""right"" to develop buffer zone explicitly granted in the WPA regulations. We feel that the Applicant still needs to meet the Burden of Proof. The General Provisions at 310 CMR 10.03(1) describe the Burden of Proof where:

a. Any person who files a Notice of Intent to perform any work within an Area Subject to Protection Under M. G.L. c. 131, § 40 or within the Buffer Zone has the burden of demonstrating to the issuing authority.....

3. that proposed work within the buffer zone will contribute to the protection of the interests identified in M.G.L. c.131, § 40.

Dan Campbell replied that he will be submitting more information for these two items.

2. It is BSC's understanding that Town's 25 foot No Disturbance (No Touch) buffer zone requirement has not been waived. (Dan Campbell noted that Jennifer Carlino has been invited to the ZBA meeting to discuss this issue.) **The project plans depict several areas where work is proposed within 25 feet of wetlands. Some of these areas are:**

- **The entrance road near wetland flags (WF) 23 and 24. Given property constraints and road curvature there does not appear to be an alternative to this action.**

Dan Campbell replied that he was able to limit the disturbance to the bottom half of the slope. He pointed out the area for a retaining wall between the road and the wetlands. Jennifer Carlino had concerns with people dumping snow in this area. He said he would place boulders in this area to keep people from dumping snow.

- **The entrance road near WF 52 to 55. Could the roadway and adjacent parking area be moved to the north to avoid this impact?**

Dan Campbell replied that this is a new disturbance caused by moving building 1 which has been discussed. He said there is no other area to put the parking.

- **Site grading behind Buildings 2 and 3 near WF 35 to 40. Could a vertical retaining wall in this area help avoid this impact?**

Dan Campbell stated that the grading has been limited by the moving building 1. He noted that the parking area is actually lower than the wetlands. He said he added a fence line along this area.

- **Site grading for the roadway and garage near WF 66 to 73. Could a vertical retaining wall in this area help avoid this impact?**

Dan Campbell replied that the grading has been pulled back in this area. He said a retaining wall could be installed in this area about 60-feet long between flags 69 -73. He said all the disturbances will be within pre-disturbed areas. Jennifer Carlino asked why grading was being done across from the clubhouse at 104? Dan Campbell replied this grading was going to be done through the berm or remove the false berm which he will do.

- **Site grading for the roadway and garage near WF 77 to 80. Could a vertical retaining wall in this area help avoid this impact?**

Dan Campbell noted there will be no plantings in this area, just grass. Jennifer Carlino stated this area can be designated for restoration with the same Conservation mix. She asked if snow was planned to be dumped down side of an embankment and Dan Campbell replied it was. She suggested putting in a retaining wall and flattening out the area for the snow dumping. Dan Campbell noted that since the swale is being eliminated, it might be possible to dump the snow at the end of the road.

- **Site grading for the dewatering basin WF 134 and 135. Can the orientation of the basin be changed to avoid this impact?**

Dan Campbell stated that since the water quality swale has been eliminated, the dewatering basin can be pulled back to limit disturbance in this area.

- **Site grading and the flared end section near WF 132 and 133. Can the Stormtech system ((#9) be installed under the cul de sac or slightly to the east to avoid this impact?**

Dan Campbell replied that the limitation for putting the Stormtech underneath the pavement is that the increase the elevation of the pavement to get enough cross section above the Stormtech to be able to drive on it. He said, therefore, more grading will be done on the side of the pavement than at this time.

- **The discharge points for Stormtech systems 4, 6, 7, and 8 are all within the 25 foot No Touch Buffer Zone. There appear to be opportunities to move the discharge points further away from the wetlands.**

Dan Campbell pointed out the location of Stormtech system 4 and noted that the discharge is out of the 25-ft. no touch zone. He noted that the rip rap goes into the 25-ft no touch zone. He said he could shorten the area a little bit to pull it out of the 25-ft no touch zone. Dan Campbell commented that if he pulls Stormtech system 6 out of the 25-ft no touch zone, it will then be on the wrong side of the berm. He noted that Stormtech system 7 is out of the 25-ft no touch zone and he will pull the rip rap out of the 25-ft no touch zone. He commented that Stormtech system 8 connects to Stormtech system 1 and he can pull the rip rap out of the 25-no touch zone.

- **Grading for the rear of Buildings 6 and 7 (WF 15 to 25). appears to be partially within the 25 foot No Touch Buffer Zone.**

Dan Campbell replied that originally grading was proposed behind buildings 6 and 7 with a slope of 3:1. He said that after surveying the area, the grading was moved out eliminating the grading except for the direct disturbance by the pipe flared end section. He pointed out sections that will still be within the 25-foot No-Touch zone. Lisa Carrozza asked Mr. Campbell what the distance between the limit of grading and edge of the flagging was. He pointed out the corner on the plans. He measured it at 16 feet. Lisa Carrozza said she had concerns with the area between the limit of grading and the pond during construction and by residents. She suggested putting a visual barrier in this area. It was agreed a visual barrier shall be installed in this area. Jennifer Carlino requested that the bank be flagged and added to the plans. It was agreed the details would be added in larger detail on the plans.

- **The garage for Building 5 (WF 11 to 14) appears to be partially within the 25 foot No Touch Buffer Zone. Can this structure be moved to the north to avoid this impact?**

Dan Campbell commented that the rear of the garage is within the 25-ft no touch zone and he can move the garage slightly out of the zone.

In the materials currently submitted, BSC did not find significant efforts to describe alternatives that were considered in order to maintain (or restore) a larger buffer between the proposed activities and the boundary of the BVW, or how the proposed activities would contribute to the protection of the WPA interests. Therefore, it is still our opinion that additional information is necessary to meet the Burden of Proof.

Snow Storage and Landscaping Plans

3. There appear to be conflicts between the snow storage areas shown on Sheets C4.0 and C4.1 and the proposed landscaping shown on Sheets C5.0 and C5.1. As we mentioned in our April comment letter, BSC remains concerned about the effect of salt/de-icing materials and sanding material that will likely be deposited in these areas. How will the applicant address the potential effects on the proposed plantings? Specifically:

- The snow storage area shown to the northwest of Building 3 overlaps significantly with the proposed native landscaping area. Also, the landscaping is shown extending into a currently vegetated buffer. Snow storage within an area specified for native plantings and imitated disturbance is not consistent with that purpose.

Dan Campbell replied that this has already been discussed this evening.

- The snow storage area along the road south of the Clubhouse is shown on the landscaping plan as the location of a row of street trees. These two uses for the same area conflict with one another. Dan Campbell replied they are a line of street trees and that they are not a conflicting use. Jennifer Carlino had concerns with snow plows injuring the trees and Dan Campbell replied that as a condition within the Comprehensive Permit, they have to replace dead or damaged trees. It was suggested to use a different area for snow storage. Jennifer Carlino suggested moving the trees back. Dan Campbell said this could be done.

- There is a label for a snow storage area south of the parking lot near Building 7 but the boundaries of the snow storage area are not shown.

Dan Campbell replied the boundary is on the plan but printed out very light.

- The snow storage area shown to the north of the Building 4 parking area is beyond the area specified for native landscaping. This will require plows to traverse the landscape area to access the designated snow storage area.

Dan Campbell replied that he has replanted the swale at the bottom of the berm. He said he will change the planting areas to restore the snow storage areas.

- In general, given the area of paved surfaces on the site requiring snow removal there does not appear to be adequate snow storage allocated on the site.

Dan Campbell replied some of the snow will be removed from the site per the Operations & Maintenance Manual.

4. The tree palette could certainly be more reflective of the forests in the area. Although pin oak is routinely introduced it is not considered a native to this region and its use near walkways and roads is problematic due to its descending branching habit. Pink dogwood is susceptible to anthracnose disease. Blue spruce is a western species, not a New England native. Also they grow

to be very large with a broad base of low branches, so planting in close proximity to roads and in parking islands is not advisable. Since so much of this site is within buffer zones a plant list reflective of the native communities in the area is preferable to the rather "artificial" plant community suggested.

Dan Campbell replied that the general species were picked according to the types of soil in the area as well as being tolerant to salt. He said he would check out some other species more native to the area.

Wildlife Crossing/Box Culvert

5. The current proposal for the wildlife crossing is to install an approximately 80 feet long box culvert under the entrance road and parking area. Sheet C2.0 calls for a 4' X 2' RCP Box Culvert with four catch basin frame and grates brought to 3" above the surrounding grade". This sheet also refers to a detail on sheet C6.4 which shows a continuous grate along the entire box culvert. The literature on the subject recommends an open top grate along the length of the tunnel to mitigate for the small openness ratio of a 2 feet tall culvert. If the continuous grate is not considered advisable due to stormwater flow in the area we would recommend adding another one or two catch basin frames and grates along the length of the culvert. Also it is unclear whether this is a bottomless box culvert, one with a bottom but with native substrate installed, or a concrete floor box.

Dan Campbell replied he would add a couple more grates. He stated the box culvert is bottomless.

6. The detail on Sheet C6.4 still shows a dry well with a grate at the opening to the tunnel. We recommend eliminating this feature since it will act as a pitfall trap and become an obstacle for amphibians and small mammals. Instead, there should be a gentle slope away from the entrance to the tunnel and possibly a buried "French drain" ensuring proper drainage away from the tunnel.

Dan Campbell replied that he would remove the drywell from the entrance and add a stone line trench if this is what the commission would like.

Jennifer Carlino pointed out a couple of places to install a post and rail fence to keep snow dumping out. Lisa Carrozza requested that "No Snow Storage" signs be placed in several locations.

Resident Earl Willcott suggested changing the types of trees to be planted.

Dan Campbell said he would submit the response letter and revised plans for the next public meeting on Monday, January 27, 2014. Jennifer Carlino replied that BSC Group would need time to review the documents. He said he would drop off a check for the Peer Review. He commented that the ZBA would like Jennifer Carlino to attend their meeting on January 27, 2014 to clarify a few issues regarding the 25-ft. no touch zone.

Lisa Carrozza made a motion, seconded by Julian Kadish, to continue the public hearing until the next meeting of Monday, January 27, 2014. Approved.

Norton Conservation Commission

Monday, January 13, 2014

Minutes, Page 21.

The members reviewed a request for a Certificate of Compliance for **#250-726 – George Perry – Parcel 39 (Map 17) 13 Cross Street** – to construct a garage and sanitary disposal system within 100 feet of wetlands.

Jennifer Carlino noted that all the work has been completed as proposed. Lisa Carrozza made a motion, seconded by Scott Ollerhead, to issue the Certificate of Compliance. Approved.

OLD BUSINESS

Violations:

East Hodges Street – Fred Bottomley
Alder Road
12 Forest Lane

6 Rumford Road - Jennifer Carlino stated the owner has never submitted a Notice of Intent as requested. Lisa Carrozza made a motion, seconded by Scott Ollerhead, to issue an Enforcement Order. Approved.

7 Todd Drive
14 Laura Lane violation

112 Mansfield Avenue – Jennifer Carlino stated that part of the dock has been removed but did not finish fixing the violation. It was agreed to wait until spring to send a letter.

243 So. Worcester Street – violation - Jennifer Carlino stated she would send a letter to the owner.

NEW BUSINESS

License Agreement – Norton Kayak Company, Inc. and Norton Conservation Commission

The members signed the page that was not signed at the previous meeting.

Watershed Policy
Reservoir Update
Report from Staff
Site visits
Waterbodies Committee update

Norton Conservation Commission

Monday, January 13, 2014

Minutes, Page 22.

Open Session (topics not reasonably anticipated 48 hours in advance)

Jennifer Carlino stated that 2 LAND grants have been received totaling almost \$400,000.00. She commented that the Crane Street grant was fine because the Nature Conservancy is matching that grant but there is a problem with the Erikson property. She stated that Bay Road Heights LLC was going to match the funds and donate \$82,000 for turtle mitigation but has stated that they are not going to do this now. She said she has contacted NHESP who might be doing an RFR in the amount of \$25,000 for a box turtle habitat project. She said the Land Preservation Society suggested they might be able to donate \$20,000 to \$40,000, she might obtain grants for \$10,000 from Waste Management and \$10,000 from Field and Pond Foundation. She said she might be able to obtain the \$78,000 needed for the Erikson property grants.

Scott Ollerhead made a motion, seconded by Lisa Carrozza, to sign the two Grant Agreements for Crane Street and the Erikson property. Approved.

Jennifer Carlino stated that a section of Union Road has been flooding. She said it is coming from the Attleboro area and not from the shpack site.

Lisa Carrozza made a motion, seconded by Julian Kadish, to adjourn the meeting at 9:20 pm. Approved.

Minutes Approved by Committee on: _____
(Date)

Respectfully submitted,

Signature:

(Name)

Chairman, _____