



TOWN OF SOUTHBOROUGH CONSERVATION COMMISSION

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May 25, 2017

William Depietri
Capital Group Properties, Inc.
259 Turnpike Road, Suite 100
Southborough, MA 01772

Dear Mr. Depietri,

The Southborough Conservation Commission (SCC) has completed its review of the Notice of Intent and Supplemental Materials originally filed on April 11, 2016 by William Depietri of Capital Group Properties, LLC for the development and construction of The Residences at Park Central, a proposed mixed use residential development project within Bank, Bordering Vegetated Wetland (BVW), Isolated Vegetated Wetland (IVW), Land Under Water Bodies and Waterways (LUWW), and their associated Buffer Zones. The project as originally filed included the construction of two (2) apartment buildings containing a total of 180 units to be developed under a Comprehensive Permit, MGL Chapter 40B, and one hundred and forty-two (142) single and duplex townhome condominium units. The project was assigned MassDEP File # 290-0981.

At their meeting held on May 25, 2017, after careful, thoughtful and comprehensive review, vetting, discussion and deliberation, the SCC voted (5-0-2 with Ms. Simoneaux and Mr. Pietrewicz recused) to deny the issuance of an Order of Conditions for the proposal. Two (2) of seven (7) Conservation Commission members did not vote or participate in the hearings; Michele Simoneaux recused herself from all of the proceedings when the Notice of Intent was filed at the request of the Applicant; and Mark Pietrewicz was appointed to an open SCC seat on October 4, 2016, six (6) months after the first public hearing had been opened and therefore, had missed a number of the public hearings and was, therefore, unable to vote on the Decision.

The SCC unanimously agreed that the Applicant failed to meet numerous Performance Standards under the Wetlands Protection Act (WPA), and the Stormwater Management Standards under MassDEP. The SCC believes that the project as currently designed would not adequately protect the environment and the Interests of the WPA, does not meet the WPA Performance Standards, is not in compliance with the current MassDEP Stormwater Standards, and therefore cannot be approved in its present form.

FINDINGS:

It is the SCC's position that, due to the Applicant's failure to provide information to adequately address the numerous comments raised throughout the review process as documented in the town's consultants' review letters and in other comment letters received by the SCC (as listed in Appendices B & C), the lack of significant data submitted and the numerous plan inconsistencies with the Wetlands Protection Act (WPA) and the MassDEP Stormwater Management Standards, the project as proposed cannot be conditioned to meet the WPA and the Stormwater Management Policy performance standards and acceptably protect the Interests of the WPA. The Applicant has failed to provide information demonstrating that the Interests and Performance Standards of the WPA and the MassDEP Stormwater Management Standards are being satisfactorily complied with. The Applicant has proposed the use of confirmed wetland resource areas as stormwater detention basins; the impoundment of stormwater through a system designed to 1983 standards which does not meet the current 1996 Stormwater Standards or WPA regulations; and has shown a lack of understanding in how the WPA Regulations are written. These facts have led the SCC to deny the project for reasons below.

1. Failure to meet WPA performance standards:

- a. The Project as proposed does not meet 310 CMR 10.05 (6)(k) of the WPA which states that *"No Area Subject to Protection under MGL c. 131 § 40 other than bordering land subject to flooding, isolated land subject to flooding, land subject to coastal storm flowage, or riverfront area may be altered or filled for the impoundment or detention of stormwater, the control of sedimentation or the attenuation of pollutants in stormwater discharges, and the applicable performance standards shall apply to any such alteration or fill. Except as expressly provided, stormwater runoff from all industrial, commercial, institutional, office, residential and transportation projects that were subject to regulation under MGL c. 131 §40 including site preparation, construction, and redevelopment and all point source stormwater discharges from said projects within an Area Subject to Protection under MGL c. 131 §40 or within Buffer Zone shall be provided with stormwater best management practices to attenuate pollutants and to provide a setback from the receiving waters and wetlands in accordance with the following Stormwater Management Standards as further defined in the Massachusetts Stormwater Handbook"*

Wetlands D, I, H and F were confirmed as BVW under an Order of Resource Area Delineation (MassDEP File #290-0976). BVW, Inland Bank, and LUWW will be significantly impacted under the Applicant's proposed design and use of these areas for stormwater detention and pollutant attenuation are prohibited, per the WPA Regulations.

Per this regulation, no alteration within a BVW, LUWW, or Inland Bank is permitted. The WPA does not allow the SCC discretionary approval of alterations or fill to BVW, LUWW, and/or Bank for the impoundment or detention of stormwater or the control of sedimentation or attenuation of pollutants; these activities are strictly prohibited within said resource areas. There are no provisions in the WPA or Regulations to demonstrate that use of these resource areas for stormwater management will have no adverse effect, and therefore, as currently designed, the stormwater management system is not permissible.

The exemptions for constructed stormwater management Best Management Practices (BMPs), sections 310 CMR 10.02 (2)(c), 310 CMR 10.02 (3), 310 CMR 10.02 (4) and 310 CMR 10.02 (5) of the WPA Regulations do not apply to the existing wetland resource areas currently proposed as detention basins. The detention basins that were created within existing wetland in 1983 were not designed, constructed, installed and/or improved in accordance with the 1996 Stormwater Management Policy, or 310 CMR 10.05 (6)(k) through (q).

- b. Section 310 CMR 10.02 (2)(c) of the WPA Regulations states *“Notwithstanding the provisions of 310 CMR 10.02(1) and (2)(a) and (b), stormwater management systems designed, constructed, installed, operated, maintained, and/or improved as defined in 310 CMR 10.04 in accordance with the Stormwater Management Standards as provided in the Stormwater Management Policy (1996) or 310 CMR 10.05 (6)(k) through (q) do not by themselves constitute Areas Subject to Protection under MGL c. 131, § 40 or Buffer Zone provided that:*
- i. The system was designed, constructed, installed, and/or improved as defined in 310 CMR 10.04 on or after November 19, 1996; and*
 - ii. If the system was constructed in an Area Subject to Protection under MGL c. 131 § 40 or Buffer Zone, the system was designed, constructed, and installed in accordance with all applicable provisions in 310 CMR 10.00.”*

The 1980's stormwater system was designed and constructed prior to 1996 and is within Areas Subject to Protection under MGL c. 131 § 40. The system was not designed, constructed, or installed in accordance with 310 CMR 10.00 as the application was submitted on March 25, 1983, prior to the promulgation of the WPA Regulations under 310 CMR 10.00 on April 1, 1983. As such, the exemption does not apply to wetlands containing the proposed detention basins.

- c. Section 310 CMR 10.02(3)(a-c) of the WPA states that *“Notwithstanding the provisions of 310 CMR 10.02(1) and (2), the maintenance of a stormwater management system constructed and/or improved as defined in 310 CMR 10.04 from November 18, 1996 through January 1, 2008, in accordance with the Stormwater Management Standards, as provided in the Massachusetts Stormwater Policy, issued by the Department on November 18, 1996 or on or after January 2, 2008, in accordance with the Stormwater Management Standards as provided in 310 CMR 10.05(6)(k) through (q) is not subject to regulation under MGL c. 131 §40 provided that...”*

This provision does not apply as the stormwater management system was approved in the late 1980's and there is no evidence that it was maintained or used for any future development as previously proposed.

- d. Section 310 CMR 10.02(4)(a-c) of the WPA states that *“Notwithstanding anything to the contrary in 310 CMR 10.00, work other than maintenance that may later or affect a stormwater management system (including work to repair or replace the stormwater management system, and any change to the site that increases the total or peak volume of stormwater managed by the system, directs additional stormwater to the system, and/or increases the volume of stormwater exposed to land uses with higher potential pollutant loads) that was designed, constructed, installed and/or improved after November 18, 1996, as defined in 310 CMR 10.04, and if constructed in an Area Subject to Protection under MGL c. 131 §40 or Buffer Zone, as described in 310 CMR*

10.02(1) and (2)(a) through (d), the system was constructed in accordance with all applicable provisions of 310 CMR 10.00, solely for the purpose of stormwater management, in accordance with the Stormwater Management Standards as provided in the Stormwater Management Policy (1996) or 310 CMR 10.05(6)(k) through (q), may be permitted through an Order of Conditions, or Negative Determination of Applicability provided that the work:

- i. At a minimum provides the same capacity as the original design to attenuate peak discharge rates, recharge the ground water, and remove total suspended solids;*
- ii. Complies with the Stormwater Management Standards as provided in 310 CMR 10.05(6)(k) through (q); and*
- iii. Meets all applicable performance standards for any work that expands the existing stormwater management system into an Area Subject to Protection under MGL c 131 §40 or Buffer Zone as described in 310 CMR 10.02(1) and (2)(a) through (d).*

These provisions do not apply as the stormwater management system was approved in the 1980's and there is no evidence that it was maintained or used for any future development as previously proposed. Additionally, the project does not comply with 310 CMR 10.05(6)(k) as noted above.

- e. Section 310 CMR 10.02(5) of the WPA states that *"For purposes of 310 CMR 10.02(2)(c) and (4), the applicant has the burden of proving that the proposed project involves a stormwater management system designed, constructed, installed, operated, maintained and/or improved as defined at 310 CMR 10.04 in accordance with the Stormwater Management Standards as provided in the Stormwater Management Policy (1996) or 310 CMR 10.05(6)(k) through (q) and that the system was designed, constructed, installed and/or improved on or after November 18, 1996. The applicant also has the burden of establishing whether said stormwater management system was installed in an Area Subject to Protection under MGL c. 131 §40 or associated Buffer Zone, and, if so, that the system was constructed in accordance with all applicable provisions of 310 CMR 10.00. An applicant shall use the best evidence available to meet the burden of proof required. For purposes of 310 CMR 10.02(2)(c) and (4), the best evidence is the Order of Conditions, Order of Resource Area Delineation or Determination of Applicability for the project served by the stormwater management system together with the plans referenced in and accompanying such Order or Determination, and, if applicable, the Certificate of Compliance..."*

The Applicant has provided documentation that the stormwater system was designed, installed, and constructed prior to 1996 and within an Area Subject to Protection under MGL c. 131 § 40.

2. Failure to Comply with MassDEP Stormwater Standards:

a. Standard #1: No Untreated Discharge or Erosion to Wetlands

The project has been designed with various treatment and pretreatment systems, however, there are several stormwater outlets that do not have the required treatment prior to

discharge to resource areas and there are several underground infiltration systems that do not have the proper pretreatment of stormwater.

b. Standard #2: Peak Rate Attenuation

As designed, the project maintains or reduces peak runoff rates to adjacent properties, however, the Applicant has achieved this through the use of existing resource areas as stormwater management for peak flow attenuation. The peak flows have not been attenuated prior to discharge to the wetland resource areas. Per the MassDEP Stormwater Handbook, the proponent must manage stormwater so that discharges within the wetland resource areas of Buffer Zones complies with the Stormwater Management Standards, including mitigation peak flows prior to discharge to resource areas.

Per the MassDEP Stormwater Handbook and WPA, proponents are not allowed to alter wetland resource areas to comply with the Stormwater Management Standards. The Applicant proposes to utilize the wetland resource areas on the site to impound additional stormwater from the proposed development. This impoundment of additional stormwater within resource areas is an alteration and not allowed per the MassDEP Stormwater Handbook and the WPA.

Standard #2 has not been met because peak flows have not been attenuated prior to discharge of stormwater to resource areas, and the proposed use of resource areas to be used to attenuate peak flows.

c. Standard #3: Stormwater Recharge

In general, the Applicant is meeting Standard #3 to the maximum extent possible. Due to high ground water and poor soils, it is understood that meeting the recharge requirements to the full extent is difficult. However, there are several technical deficiencies that still must be addressed to ensure the project complies with Standard #3.

d. Standard #4: Water Quality

The project has been designed with treatment; although there are several areas where stormwater discharges are not being treated prior to entering resource areas.

Water quality is being achieved through flow-based proprietary stormwater treatment structures and infiltration systems. The Applicant has demonstrated the proprietary stormwater treatment structures have been sized for the required 1" water quality volume. However, the Applicant has not demonstrated or provided calculations that confirm that the open infiltration basin and subsurface infiltration systems have been properly sized to meet the 1" inch water quality volume.

TSS removal summaries have also not been submitted to demonstrate that the treatment train meets the required 80% TSS removal.

e. Standard #5: Land Uses with Higher Potential Pollutant Loads (LUHPPL)

The project does not qualify as a LUHPPL; therefore, this standard is not applicable.

f. Standard #6: Critical Area

Based on GIS mapping, stormwater runoff from the site is contributory to the Sudbury Reservoir. As such, these wetlands/watercourses would be considered as tributary to a Class A Public Water Supply and an Outstanding Resource Water (ORW) – Sudbury Reservoir, as defined under 314 CMR 4.00 et seq. The project has been designed with several proprietary stormwater treatment structures to provide pretreatment prior to discharge to some of the infiltration systems. However, there are several areas where pretreatment has not been provided prior to discharge to an infiltration system.

In addition, water quality is being achieved through flow-based proprietary stormwater treatment and infiltration systems for several of the stormwater management areas. However, the Applicant has not demonstrated that the infiltration basin and underground infiltration systems have been sized to meet the required 1" Water Quality Volume (see Standard #4 above).

TSS removal summaries have not been provided to confirm that the treatment train meets the required 44% TSS removal for pretreatment.

g. Standard #7: Redevelopment

The project is not redevelopment; Standard #7 is not applicable.

h. Standard #8: Construction Period Controls

The Applicant has prepared a Stormwater Pollution and Prevention Plan (SWPPP) and has provided details and locations for erosion and sedimentation controls to be used during construction. This data generally complies with the Standards, although there are some technical details that remain to be addressed by the Applicant.

i. Standard #9: Operation and Maintenance Plan

An Operation and Maintenance Plan has been provided. Some minor technical details still need to be addressed by the Applicant.

j. Standard #10: Illicit Discharges to Drainage System

The Applicant has stated that an Illicit Discharge Compliance Statement will be provided prior to the start of discharge of stormwater to post-construction BMP's.

3. Failure to calculate and address all of the potential impacts of the Project and provide requested information to assess resource area impacts:

- a. The Applicant asserts that the Project meets the current Stormwater Management Standards and will have "no adverse impact" to the eight interests of the Act. The correct standard, 310 CMR 10.55(4)(a) states: "*Any proposed work in BVW shall not destroy or otherwise impair any portion of said area.*"

- b. The Applicant proposes to alter existing wetland resource areas for stormwater management and to provide additional stormwater storage and pollutant attenuation. This will introduce pollutants that would have been removed if impoundments were located outside of resource areas.
- c. 310 CMR 10.00 and 310 CMR 10.05(6)(k) do not allow the alteration or filling of BVW, Bank, or LUWW for the purpose of stormwater management.
- d. Subject resource areas on the site have not received runoff from the 1983 built-out development (since it was never constructed). If the 1983 build-out had been constructed, resource areas would have received stormwater runoff via the stormwater system.
- e. 310 CMR 10.05(6)(k) requires compliance with the applicable performance standards of Land Subject to Flooding and Riverfront Area if such areas are to be altered or filled for stormwater management.
- f. 310 CMR 10.05(6)(k) requires that compliance with the ten (10) Stormwater Standards is achieved before stormwater is discharged from point source discharges to receiving waters and wetlands, and further requires that point source discharges are set back from the receiving waters and wetlands.
- g. The submitted "Wetland Resource Evaluation & Stormwater Impact Analysis, Park Central, 0 Turnpike Road, Southborough, Massachusetts", dated March 13, 2017, prepared by Goddard Consulting, LLC in association with Waterman Design Associates, Inc. for Park Central, LLC (the "Analysis") on page 3 references values and functions of resource areas. The only discussion that pertains to resource area alterations addresses the vertical extent, horizontal extent and duration of the resource areas being inundated. The Analysis does not address other aspects of resource area alteration (such as changing of water temperature, biochemical oxygen demand (BOD), and other physical, biological, or chemical characteristics of the receiving water) that would occur if a BVW or water body were used for stormwater management and compliance with Stormwater Management Standards.
- h. Section 4.2 of the Analysis does not adequately demonstrate that flooding or stormwater damage will not occur to the protected interests.
- i. Section 4.4 of the Analysis claims there is no proposed change to ponds B or H. Review of peak water elevations and drawdown time provided in Appendix F and G demonstrate there is an increase in peak water elevation and drawdown for the 2-, 10- and 100-year storms in Ponds B and H. The increase in peak water elevations will have an adverse effect on the BVW surrounding the ponds.
- j. Appendix E of the Analysis shows an increase in impoundment depths at the protected resource areas of generally 0.5 to 2 feet. Likewise, Appendices F and G show the associated lateral extents of impoundment. Resource area alterations resulting from changes in impoundment can be significantly reduced and possibly eliminated by providing stormwater impoundment outside of the resource areas in accordance with 310 CMR 10.00 and the Stormwater Handbook.
- k. Page 9 of the Analysis concludes that "the proposed stormwater management system will not have an adverse impact to the resource areas as the proposed conditions are nearly identical to the approved 1983 conditions." 1983 conditions should not be the baseline for comparison; the baseline must be the existing conditions as of the filing of the Notice of Intent.
- l. Stormwater generated from developed areas and discharged directly to wetlands and water bodies without the benefit of peak rate attenuation (as is being proposed) can have physical and chemical properties that otherwise could have been mitigated if the

stormwater were impounded. For example, stormwater heated by pavement or roof surfaces would not be cooled prior to discharge to resource areas. Increased water temperatures reduce the amount of dissolved oxygen that a water body can hold and increased biological activity, both of which can negatively impact organisms that rely on dissolved oxygen by reducing the amount of dissolved oxygen within the water body. The project proposes to convey stormwater runoff from roads, driveways and sidewalks directly to resource areas A, B and D via point source discharges.

- m. Site hydrology associated with the vernal pools has not been addressed in the documents submitted. The calculations address stormwater runoff rates and volumes as they pertain to Standard #2, the calculations are not sufficiently detailed to address pre- versus post- development runoff volumes to the site's vernal pools. An analyses of runoff volumes to the vernal pools which should include an analysis of a one-year storm event was not submitted.
- n. 8.85 acres of disturbance in the Buffer Zone is proposed, which represents nearly 20% of the total amount of Buffer Zone on the project site. 310 CMR 10.53 (1) states that the potential for adverse impacts to Resource Areas from work in the Buffer Zone may increase with the extent of the work and the proximity to the Resource Area.
- o. Potential vernal pools on the site have not been adequately assessed to verify whether they are actually functioning and would qualify as vernal pool habitat under 310 CMR 10.60(2)(c) and the "2009 Guidelines for the Certification of Vernal Pool Habitat," by the MA Division of Fisheries and Wildlife.
- p. Vernal Pool surveys were conducted by Goddard Consulting in March 2016. The additional documentation/evidence collected during the evaluations was not provided as requested. It is standard practice to conduct weekly inspections during the vernal pool season to adequately document the lack of breeding amphibians. In order to determine if areas are not functioning as vernal pools, it is standard practice to conduct several site visits during the spring breeding period between March and April/May. One site visit, particularly on May 19th of 2016, is not sufficient to determine that a potential vernal pool (PVP) is not functioning as such. Many amphibian species had hatched by this time in 2016. The mapped PVP off-site, and PVPs identified within Wetlands F, H, and the 2nd area within Wetland R may be functioning as vernal pools and must be evaluated and inspected again.
- q. Wetland R and the northern area of Wetland D have been identified as vernal pools. Development is proposed surrounding the pool associated with Wetland R and may isolate the feature from other regulated wetland resource areas that the vernal pool species are migrating to and from and have an adverse impact on wetland dependent wildlife. Most of the upland surrounding the pool associated with Wetland D is proposed for development, which will have an adverse impact on the amphibians utilizing the adjacent upland areas within the Buffer Zone. As such, development surrounding a vernal pool can be detrimental to the species utilizing the pool for spring breeding. Per Section 310 CMR 10.53(1) of the WPA, *"the potential for adverse impacts to Resource Areas from work in the Buffer Zone may increase with the extent of the work and the proximity to the Resource Area. The Issuing Authority may consider the characteristics of the Buffer Zone, such as the presence of steep slopes, that may increase the potential for adverse impacts on Resource Areas. Conditions may include limitations on the scope and location of work in the Buffer Zone as necessary to avoid alteration of Resource Areas."* The SCC may consider the scope and limit of development adjacent to vernal pools, particularly within the Buffer Zone. Mr. Goddard of Goddard Consulting indicated during a previous hearing that the U.S,

Army Corps of Engineers (USACE) requested that the forested area surrounding the vernal pool (#1) in Wetland R would be protected. It appears that this forested area is proposed for development with Units 11-19. The SCC requested the limit of the forested edge be identified in this area. The SCC is also concerned with the development surrounding the potential vernal pools associated with Wetlands F, H, and R in addition to the certifiable vernal pool with Wetland D. No additional information was provided by the Applicant.

- r. Per the Massachusetts Wildlife Habitat Protection Guidance (2006), *“Extensive work in the inner fifty (50)-foot portion of the buffer zone, particularly clearing of natural vegetation and soil disturbance is likely to alter the physical characteristics of resource areas by changing their soil composition, topography, hydrology, temperature, and the amount of light received. Alterations to biological conditions in adjacent resource areas may include changes in plant community composition and structure, invertebrate and vertebrate biomass and species composition, and nutrient cycling. These alterations from extensive work in the buffer zone can occur through the disruption and erosion of soil, loss of shading, reduction in nutrient inputs, and changes in litter and soil composition that filters runoff, serving to attenuate pollutants and sustain important wildlife habitat within resource areas.”* Stormwater impacts and potential altered hydrology to the vernal pool area were not evaluated with development proposed in proximity to all potential vernal pool areas.
- s. Additional documentation and impact assessment on the compliance with the MA Stream Crossing Standards and WPA performance standards for each stream crossing and wetland crossing was not provided by the Applicant.
- t. Additional quantification of Bank impacts was not provided by the Applicant.
- u. Additional information on alternatives to adequately review the measures the Applicant has taken to 1) avoid wetland impacts areas, and 2) minimize where avoidance is not feasible was not provided by the Applicant. If avoidance and minimization are not feasible, mitigation should then be examined.
- v. The wastewater treatment reserve leaching area is located within the Buffer Zone and the pump building is in close proximity to a wetland. The Applicant has not demonstrated that the wastewater treatment facility complies with MassDEP setbacks for the siting of a facility in a Surface Water Supply/ORW Watershed.
- w. The Applicant has not provided additional details on the mechanism for the preservation of the 21.4 acres of Open Space mitigation.
- x. The Applicant did not provide requested evidence that the significant alteration to the Buffer Zone will not have an adverse impact to wetland resource areas or the interests of the WPA.
- y. The Applicant did not provide additional information on the wetland mitigation/restoration plans/narrative as requested.
- z. The Applicant did not provide requested information related to the construction phasing, Stormwater Operation & Maintenance Plan (O&M), Long-Term Pollution Prevention Plan, Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan, Draft Stormwater Pollution Prevention Plan (SWPPP), or complete snow storage areas/operations.
- aa. Several streams also flow through culverts within the site and contain Inland Bank were not identified on the plans. The plans identify Special Drain Manholes DMH-S1, DMH-S2, DMH-N2 and DMH-N3 proposed within culverts conveying intermittent streams. It is not clear if the proposed work surrounding Wetland P will impact the 12" and 24" RCPs which convey intermittent stream flows. It is also not clear if the

proposed work associated with Blackthorn Extension will impact the two 36" culverts between Wetland E and G.

- bb. Runoff volume to the intermittent stream that crosses Flagg Road will be increased significantly for the 2-, 10-, and 100-year storms per, Addendum 1 Stormwater Management Summary for Park Central, prepared by Waterman Design Associates, Inc., dated August 2016. The increased runoff volume and extended stream flow duration will potentially impact the groundwater table in the vicinity of the stream, and may cause downstream flooding impacts in addition to scouring and erosion along the steeper sections of the stream
- cc. A groundwater mounding analysis has not been performed to confirm the recharge and infiltration areas can sufficiently manage the increased volume of flows
- dd. As described in comment review letters received from Fuss & O'Neill, Inc. and Lucas Environmental, LLC (attached in Appendix C), numerous comments and inconsistencies were not addressed by the Applicant and remain outstanding.

Procedural History:

I. Use Variance:

- a. The Applicant filed and was granted a Use Variance by the Zoning Board of Appeals (ZBA) on May 27, 2015. The Use Variance as granted allowed the developer to obtain a waiver from compliance under Section 174-25 of the Southborough Zoning Code, which included waivers from Sections 174-8.2 (Residence A Zoning District), 174-8.6 (Industrial Park Zoning District), 174-87 (Industrial Zoning District), and the Special Permit requirements as set forth in Section 174-13.2 (Major Residential Development). The Applicant stated that relief from these local Zoning Regulations was necessary to allow the development of the proposed townhome residential condominiums as part of the provisions afforded under Chapter 40B, under which the affordable apartment complex portion of the project was being proposed.
- b. Under Findings and Decision of the Use Variance, Section 6 (c) states the Applicant shall "provide a fully-executed copy of this Agreement to the Southborough Zoning Board of Appeals, Planning Board and Conservation Commission (at or before the time of application to such Board) and request that the terms and conditions set forth in this Agreement be reflected, as appropriate, in the permits and approvals to be issued by those Boards in connection with the Project.
- c. At no time during the review of the Use Variance by the ZBA was the SCC consulted for their opinion on the consequences of granting this Special permit.
- d. At no time during the public hearings for the Notice of Intent, or the submittal of the NOI application, did the Applicant provide the SCC with a fully-executed copy of the Use Variance Agreement or request that its terms and conditions be included in the permit approval.
- e. By granting the Use Variance, the ZBA allowed the Applicant to combine both distinct development scenarios (townhome units and affordable apartment complex) under the broad umbrella of the Comprehensive Permit, which then allowed the Applicant to seek waivers from additional local Bylaws and Regulations for the development of the townhome portion of the project (which does not include any affordable units). As such, the Developer sought waivers during the ZBA proceedings under the Comprehensive Permit application from the Southborough Stormwater and Erosion Control Bylaw and Regulations (Section 174-13.5) as well as from Chapter 170 of the Town of Southborough Code, Southborough Wetlands Protection By-Law.

II. Comprehensive Permit:

- a. A Comprehensive Permit was approved and filed by the ZBA on August 25, 2016. The Permit as granted included approval to develop the Overall Site as a single development project pursuant to MGL Chapter 183A due to shared infrastructure between the proposed apartment complex and the townhome development, which included a Connector Road, stormwater and drainage, and a Waste Water Treatment Plant.
- b. Section B General Conditions of the Comprehensive Permit states that all waivers set forth in Exhibit 4 are granted. Exhibit 4 is a copy of the ZBA Administrative Minutes of March 24, 2016, and there is no mention in these minutes of any votes on waivers from Chapter 170 (Wetlands Protection By-Law) or Section 174-13.5 (Stormwater & Erosion Control Bylaw).
- c. Correspondence from the SCC to the ZBA was submitted on December 1, 2015, March 21, 2016 and August 22, 2016. In each of these memos, the SCC requested the ZBA to allow them to submit additional comments on the waivers being requested by the Applicant, and stated that the information currently provided to the SCC by the Applicant was voluminous and of a complex technical nature, and would take significant time to review and digest in order to determine the potential impacts that granting waivers might have on environmental issues and resource areas.
- d. A letter dated February 18, 2016, from the SCC to the Secretary of Energy and Environmental Affairs, Matthew Beaton, was copied to the ZBA. This letter outlined in great detail concerns the SCC had in regards to the project's effects on wetlands and stormwater management.
- e. Chapter 40B grants the permission for a ZBA to override local requirements and regulations that are inconsistent with affordable housing needs if environmental and planning concerns have been addressed. It also stated that a local ZBA must investigate the facts, and also consult with other town boards and officials and then decide whether to waive or modify local restrictions. On occasion after occasion, the SCC informed the ZBA either in writing or by their presence at ZBA hearings, that their evaluation of the proposal indicated that additional information about the potential impacts of the project on environmental concerns was warranted, and asked that waivers not be granted. Consultants hired by the town to review the project for the ZBA, Planning Board, and the SCC provided comments that the project as proposed did not meet the Stormwater Standards under the WPA; yet these facts were not given due consideration by the ZBA. Due diligence by the ZBA to obtain all of the facts, and investigate the magnitude and effects these waivers might have on the environment and downstream flooding, was not done prior to waivers being granted.
- f. The Applicant also never provided an explanation, justification, or specific details as to why the particular waivers from those Bylaws and Regulations under the authority of the SCC were necessary and would not cause any negative impacts under the local Stormwater and Erosion Control Bylaw or Southborough Wetlands Protection By-Law, as is required under Chapter 40B.

III. Massachusetts Environmental Policy Act (MEPA):

- a. Expanded Environmental Notification Form (ENF) (EEA# 15472) prepared by Epsilon Associates Inc. on behalf of Applicant, was submitted January 15, 2016.
- b. Supplemental information for the Expanded ENF (EEA# 15472) was submitted January 20, 2016.
- c. Draft Environmental Impact Report (DEIR) (EEA# 15472) was submitted June 15, 2016.
- d. Final Environmental Impact Report (FEIR) (EEA# 15472) has not been submitted yet.

- On February 4, 2016, the SCC participated in the MEPA site visit and review with MEPA Analyst Anne Canaday.
- On February 18, 2016, the SCC submitted comments on the ENF to Secretary Beaton.
- On July 21, 2016, the SCC submitted comments on the DEIR to Secretary Beaton.

IV. Conservation Applications Submitted by Applicant:

1. Abbreviated Notice of Resource Area Delineation (ANRAD) was submitted on November 3, 2015 MassDEP File # 290-0976):
 - a) Public Hearings were scheduled and held on November 19, 2015; December 10, 2015; January 7, 2016; and January 28, 2016.
 - b) Order of Resource Area Delineation (ORAD) issued on February 18, 2016
2. Notice of Intent (NOI) was submitted on April 11, 2016 (MassDEP File #290-0981). The Applicant did not submit the NOI under the Southborough Wetlands Protection By-law, claiming this requirement was waived by the ZBA under the Comprehensive Permit:
 - a) Public Hearings were scheduled and held on April 21, 2016; May 12, 2016; June 2, 2016 (Applicant submitted a written request to continue to June 23, 2016); June 23, 2016 (Applicant submitted a written request to continue to July 14, 2016); July 14, 2016 (Applicant submitted a written request to continue to August 4, 2016); August 4, 2016; August 31, 2016; September 27, 2016; October 27, 2016 (Applicant appeared in person and requested a continuance to December 1, 2016); December 1, 2016 (Applicant submitted a written request to continue to January 5, 2017); January 5, 2017 (Applicant submitted a written request to continue to February 16, 2017); February 16, 2017 (Applicant submitted a written request to continue to March 9, 2017); March 9, 2017 (Applicant submitted a written request and appeared in person requesting a continuance to May 11, 2017); and May 11, 2017, where Applicant requested the SCC close the hearing due to being at an impasse.
 - b) A total of fourteen (14) public hearings were scheduled for the NOI.
 - Six (6) public hearings where the Applicant appeared before the SCC and actual discussion of the project occurred.
 - Eight (8) requests for continuances were received and granted.
 - c) In addition, three (3) "work sessions" were conducted in-between the scheduled public hearings on May 24, 2016, July 12, 2016 and April 13, 2017 for the purpose of attempting to resolve and come to agreement on a number of technical engineering and environmental items on the consultant level where an impasse had occurred. These sessions were attended by: Applicant (Bill Depietri), his staff (Danny Ruiz), his wetland and engineering consultants (Scott Goddard of Goddard Consulting & Mike Scott of Waterman Design). The Town was represented by Conservation Administrator Beth Rosenblum, Christopher Lucas of Lucas Environmental, LLC (LE), and Aimee Bell and Dan DeLany of Fuss & O'Neill, Inc. (F&O). SCC Chair Mark Possemato also attended the primary meeting.

V. Peer Review of the Notice of Intent application:

The SCC utilized the services of two (2) review consultants, and also received comments from MassDEP:

1. Lucas Environmental, LLC (LE) performed the environmental review under the WPA Regulations and provided comments on May 12, 2016, July 12, 2016, September 27, 2016 and May 8, 2017.

Review comments from LE included the following additional observations:

- i. Approximately 9.13± acres (397,800 square feet) of wetlands were altered for construction of a stormwater management system for future development of the site. Future development did not occur. It appears that approximately two (2) acres of wetlands were lost for construction of the stormwater management system.
 - ii. The Department of Environmental Quality Engineering (DEQE) noted that a Water Quality Certificate (WQC) would be required if U.S. Army Corps of Engineers (USACE) permit was needed. The Environmental Notification Form (ENF) on the 1980's project did not note any state or federal agencies other than Massachusetts Department of Public Works. It is not clear if this wetland alteration was authorized under the Federal Clean Water Act.
 - iii. The ponds on the site were all constructed for future development, which never occurred.
 - iv. Only rough grading of the roadway was completed, with water main and drainage installation; future finished roadway work was not completed.
2. Fuss & O'Neill, Inc. (F&O) performed the stormwater and drainage review under the MassDEP Stormwater Policy and submitted comments on December 3, 2015 (addressed to ZBA Chair Leo Bartolini, Jr.), August 24, 2016 (addressed to Acting ZBA Chair David Eagle), May 12, 2016 (addressed to Beth Rosenblum, Conservation Administrator), July 12, 2016 (addressed to Beth Rosenblum, Conservation Administrator), September 15, 2016 (addressed to Jyothi Grama, Town Planner), September 22, 2016 (addressed to Jyothi Grama, Town Planner), September 26, 2016 (addressed to Beth Rosenblum Conservation Administrator) and May 10, 2017 (addressed to Beth Rosenblum Conservation Administrator). (See Appendix C)
 3. MassDEP Central Region provided three (3) comment letters (May 10, 2016, September 20, 2016 and April 19, 2017) on the original NOI application and as additional documents were submitted and revised.

Additionally, the SCC finds that it is unclear if waivers from the Southborough Bylaws and Regulations under the jurisdiction of the SCC were justifiably granted by the ZBA during the Comprehensive Permit hearing process, since no information on the effects of the requested waivers was provided, and the SCC was not given the opportunity to offer an opinion on each waiver specifically. The Comprehensive Permit Decision does not include a "listing" of the specific waivers related to the SCC, and the official recorded proceedings of the ZBA hearings in fact include a condition which the Applicant also agreed to do, which was to work with the Conservation Commission to attempt to comply with their local Regulations to the extent practicable and to return to the ZBA to consider rescinding of the waivers if the SCC deemed it necessary to safeguard public health and the environment, and if plan revisions were necessitated.

The Southborough Wetlands Protection By-Law and Regulations provides an additional 20-foot No Disturb Zone around resource areas and also regulates Isolated Vegetated Wetlands (IVW), both of which are not being respected under the NOI application and submittal. The Southborough Stormwater

and Erosion Control Bylaw and Regulations require that *“new development, redevelopment and all land conversion activities maintain the after-development runoff characteristics as equal to or less than the pre-development runoff characteristics to provide recharge and to reduce flooding, stream bank erosion, siltation, nonpoint source pollution, property damage, and to maintain the integrity of stream channels and aquatic habitats.”* As the Applicant has asserted, the proposed post-development runoff volume from the Park Central project will significantly increase from pre-development conditions. It was stated by the Applicant’s consultants that the runoff volume would actually “double” that of existing conditions. The anticipated downstream impacts of this increase in runoff volume has not been quantified or considered.

Conclusion

Based on the Applicant’s failure to meet performance standards under the WPA and the MassDEP Stormwater Policy, and the lack of information to adequately address the numerous comments raised throughout the review process as documented in the review letters of the town’s consultants, the SCC is compelled to deny the issuance of an Order of Conditions for The Residences at Park Central for all of the reasons articulated herein. The SCC believes that the project as currently designed would not adequately protect the environment and the Interests of the WPA, is not in compliance with the current MassDEP Stormwater Management Standards, and therefore cannot be approved in its present form.

A list of documents and plans submitted by the Applicant and his representatives is attached as Appendix A. A list of additional documents submitted by others is found under Appendix B, and Appendix C contains comment letters submitted by the Town’s review consultants

Sincerely,



Mark S. Possemato
Conservation Commission Chair

CC: MassDEP, Central Region, Wetlands Division
Southborough Board of Selectmen
Southborough Planning Board
Southborough Zoning Board of Appeals
Aldo Cipriano, Town Counsel
Angelo Cantanzaro, Attorney
Mark Purple, Town Administrator
Karina Quinn, Town Planner
Mark Robidoux, Building Commissioner
EOEEA-MEPA, Secretary Matthew Beaton
USACE, New England District
Fuss & O’Neill, Inc.
Lucas Environmental, LLC
Scott Goddard, Goddard Consulting
Mike Scott, Waterman Design

Appendix A
Documents Submitted by Applicant

1. Document, titled, "Park Central Notice of Intent, 0 Turnpike Street, Southborough, Massachusetts," prepared by Goddard Consulting, LLC, dated April 11, 2016.
2. Document, titled, "Stormwater Management Summary for: Park Central, Southborough, Massachusetts," prepared by Waterman Design Associates, Inc., dated April 2015.
3. Project Plans titled "Comprehensive Permit Plans, Pursuant to Notice of Decision on a Use Variance, Town of Southborough Board of Appeals, for Park Central in Southborough, Massachusetts (Worcester County)," prepared by Waterman Design Associates, Inc., dated November 4, 2015, revised through April 6, 2016.
4. Project Plans titled "Comprehensive Permit Plans, Pursuant to Notice of Decision on a Use Variance, Town of Southborough Board of Appeals, for Park Central in Southborough, Massachusetts," prepared by Waterman Design Associates, Inc., stamped by Stephen P. Converse, revised through August 15, 2016.
5. Letter by Waterman Design Associates, Inc., dated August 18, 2016, to Mr. Eagle and Members of the Board, concerning response to Fuss & O'Neill, Inc. Stormwater Review, dated May 12, 2016.
6. Report titled, "Addendum 1 Stormwater Management Summary for Park Central, Southborough, Massachusetts," prepared by Waterman Design Associates, Inc., dated August 2016.
7. Plan titled, "Plan Revision Issue "E", 100' Buffer Zone Impacts Exhibit, The Residences At Park Central, Southborough, MA," prepared by Waterman Design Associates, Inc, dated August 31, 2016, unstamped.
8. Plan titled, "Plan Revision Issue "E", 20' Buffer Zone Impacts Exhibit, The Residences At Park Central, Southborough, MA," prepared by Waterman Design Associates, Inc, dated August 31, 2016, unstamped.
9. Plan titled, "Plan Revision Issue "E", Restoration Areas Inside 20' Buffer Zone & Restored Areas outside 20' Buffer Zone, Exhibit, The Residences At Park Central, Southborough, MA," prepared by Waterman Design Associates, Inc, dated August 31, 2016, unstamped.
10. Plan titled "Capital Group Properties, Park Central – Potential 40B Projects, Park Central, Southborough, MA," dated August 18, 2014, unstamped.
11. Plan titled "Capital Group Properties, Park Central – Full Site, Park Central, Southborough, MA," dated August 8, 2015, unstamped.
12. Plan Set (9 Sheets; W1.00 – W1.08) titled, "20' No Disturb Zone, Restoration Plan Index, Park Central, Southborough, MA (Worcester County)," prepared by Goddard Consulting, LLC, and Waterman Design Associates, Inc., dated August 26, 2016, unstamped.
13. Report, titled, "Park Central Alternatives Analysis (MassDEP File #290-0981), prepared by Goddard Consulting, LLC, dated June 14, 2016.
14. Plan titled, "Master Drainage Plan in Southborough, & Westborough, MA," prepared by BSC, dated March 30, 1983.
15. Plan titled, "Exhibit Plan for Certificate of Compliance," prepared by Beals and Thomas, Inc., dated September, unstamped.

16. Document titled "Park Central Comment Response Letter (MassDEP File #290-0981), prepared by Goddard Consulting, LLC, dated September 6, 2016, with supporting documentation referenced in Response Letter.
17. Report titled, "Wetland Resource Evaluation & Stormwater Impact Analysis," prepared by Goddard Consulting, LLC, dated March 13, 2017.

Appendix B

Documents Submitted by Others

1. Letter from Lindsey Lefebvre, Project Manager, Regulatory Division, U.S. Army Corps of Engineers, dated March 8, 2016 and addressed to Capital Group Properties, explains that the proposed project may require a permit from the Corps of Engineers and the documentation that needs to be submitted.
2. Letter from Karen Galligan, Department of Public Works, re Park Central, dated August 24, 2016.
3. Letter from Fire Chief Joe C. Mauro, dated June 14, 2016.
4. Letter from Jeffrey M. Walsh, P.E., Graves Engineering, Inc., re Limited Peer Review of Comprehensive Permit Documents, Park Central, Southborough, MA, dated September 19, 2016.
5. Letter from Jeffrey M. Walsh, P.E., Graves Engineering, Inc., re Limited Review of "Wetland Resource Evaluation & Stormwater Impact Analysis," dated May 2, 2017.
6. Letter from Brandon B. Faneuf, M.S., Principal, PWS, RPSS, CWB, CPESC, of Ecosystem Solutions, Inc., re NOI – Park Central, dated September 27, 2016.
7. Letter from Brandon B. Faneuf, M.S., Principal, PWS, RPSS, CWB, CPESC, of Ecosystem Solutions, Inc., re NOI – Park Central, dated October 2, 2016.
8. Letter from Attorney Nathaniel Stevens of McGregor & Legere, Attorneys At Law, re Park Central LLC Notice of Intent, DEP File # 29-0981," dated May 4, 2017.
9. Letter from John Bartolini, Jr., re Proposed Park Central stormwater impacts at Flagg Road area properties, dated May 10, 2017 with accompanying Report from Bruce Saluk of Saluk & Associates, Inc., dated May 9, 2017.
10. Meeting Notes Taken by Beth Rosenblum, Conservation Administrator, at Work Sessions on July 1, 2016 and April 13, 2017.
11. Comments from MassDEP Central Region (Judith Schmitz) dated May 10, 2016, September 20, 2016 and April 19, 2017.

Appendix C
List of and Copies of Town Consultant Review Letters

1. Project Review for the Notice of Intent: Park Central – 0 Turnpike Street (Map/Lots 24/3, 25/5, 33/4, and 41/4A) Memorandums (#1, #2, #3 and #4) from Christopher M. Lucas, PWS, RPSS of Lucas Environmental, LLC (LE) dated May 12, 2016, July 12, 2016, September 27, 2016 and May 8, 2017.
2. Comment Review re Park Central Drive, 40B (Draft), unsigned from Project Manager and Senior Vice President of Fuss & O'Neill, Inc., addressed to ZBA Chair Mr. Leo Bartolini, Jr., Zoning Board of Appeals, dated December 3, 2015.
3. Comment Review re Park Central Drive, 40B, from Aimee Bell (Project Engineer) and Dan DeLany, P.E. (Senior Project Manager) of Fuss & O'Neill, Inc., addressed to Mr. David Eagle, Zoning Board of Appeals, dated August 24, 2016.
4. Comment Review re Park Central 40B, Stormwater Review, from Aimee Bell (Project Engineer) and Dan DeLany, P.E. (Senior Project Manager) of Fuss & O'Neill, Inc., addressed to Beth Rosenblum, Conservation Administrator, dated May 12, 2016.
5. Comment Review re Park Central 40B, Stormwater Review, from Aimee Bell (Project Engineer) and Dan DeLany, P.E. (Senior Project Manager) of Fuss & O'Neill, Inc., addressed to Beth Rosenblum, Conservation Administrator, dated July 12, 2016.
6. Comment Review re Park Central 40B, Planning Board Site Plan Review, from Aimee Bell (Project Engineer) and Dan DeLany, P.E. (Senior Project Manager) of Fuss & O'Neill, Inc., addressed to Jyothi Grama, Town Planner, dated September 15, 2016.
7. Comment Review re Park Central 40B, Planning Board Site Plan Review, from Aimee Bell (Project Engineer) and Dan DeLany, P.E. (Senior Project Manager) of Fuss & O'Neill, Inc., addressed to Jyothi Grama, Town Planner, dated September 22, 2016.
8. Comment Review re Park Central 40B, Stormwater Review, from Aimee Bell (Project Engineer) and Dan DeLany, P.E. (Senior Project Manager) of Fuss & O'Neill, Inc., addressed to Beth Rosenblum, Conservation Administrator, dated September 26, 2016.
9. Comment Review re Park Central 40B, Stormwater Review, from Aimee Bell (Project Engineer) and Dan DeLany, P.E. (Senior Project Manager) of Fuss & O'Neill, Inc., addressed to Beth Rosenblum, Conservation Administrator, dated May 10, 2017.

MEMORANDUM #1

Date: May 12, 2016

To: Southborough Conservation Commission

From: Lucas Environmental, LLC
Christopher M. Lucas, PWS, RPSS

Re: Project Review for the Notice of Intent: Park Central – 0 Turnpike Street
(Map/Lots: 24/3, 25/5, 33/4, and 41/4A)

Lucas Environmental, LLC (LE) has completed a review of information submitted in support of a Notice of Intent (NOI) for the proposed Park Central project at 0 Turnpike Street (Map/Lot: 24/3, 25/5, 33/4, and 41/4A) in Southborough, Massachusetts. The review of the NOI has been completed in compliance with the Massachusetts Wetlands Protection Act (WPA; 310 CMR 10.00 et seq.). LE understands that the Applicant is working with the Commission regarding the project's compliance with the Southborough Wetlands By-law and the Southborough Wetland Regulations (By-law). LE has reviewed the project's compliance under the By-law at the request of the Conservation Commission. LE understands that Fuss & O'Neill is reviewing the project for compliance with the Massachusetts Stormwater Regulations, Stormwater and Erosion Control By-law, and the Stormwater and Erosion Control Regulations.

Documents Reviewed

- Document, entitled, "Park Central Notice of Intent, 0 Turnpike Street, Southborough Massachusetts," prepared by prepared by Goddard Consulting, LLC, dated April 11, 2016.
- Document, entitled, "Stormwater Management Summary for: Park Central, Southborough Massachusetts," prepared by prepared by Waterman Design Associates, Inc., dated April 2015 [assumed to be 2016].
- Project Plans entitled "Comprehensive Permits Plans for Park Central in Southborough, Massachusetts (Worcester County)," prepared by Waterman Design Associates, Inc., dated November 4, 2015, revised through April 6, 2016.

Summary of Proposed Project

Capital Group Properties, LLC (Applicant) is seeking to construct a mixed-use development on an approximate 101-acre site consisting of four parcels (Map/Lots: 24/3, 25/5, 33/4, and 41/4A) commonly referred to as "Park Central". Proposed work includes a 180-unit affordable apartment complex (proposed under the M.G.L. Ch. 40B) and 140 single and duplex townhome condominium units. The 125-room hotel and a 150 unit (225-bedroom) assisted living facility referenced in the Environmental Notification Form (ENF) are not included in this NOI. A new, central roadway will be constructed to access the project site, with connections to Park Central Drive, Blackthorn Drive, and Flagg Road.

New utilities will also be required, as well as a proposed wastewater treatment plant. Approximately 21.4 acres will be preserved as Open Space. A nature path and dock are also proposed.

Wetland and watercourse boundaries were reviewed and approved by the Commission under an Order of Resource Area Delineation (ORAD; MassDEP File No. 290-0976) issued on February 18, 2016. The NOI notes that the project is not eligible to be treated as a Limited Project per 301 CMR 10.53 of the WPA, although the ENF proposed portions of the project as such.

The project site is not located within Natural Heritage and Endangered Species Program (NHESP) Priority Habitat of Rare Species or Estimated Habitat of Rare Wildlife. No mapped certified vernal pools are located within the subject property, although two wetland areas meet the physical and biological criteria to be certified by the NHESP (Wetland R and the northern portion of Wetland D). Based on GIS mapping, the BVWs on-site have a hydrologic connection to the Wachusett Aqueduct and Sudbury Reservoir. As such, these wetlands would be considered a tributary to a Class A Public Water Supply and an Outstanding Resource Water – Sudbury Reservoir, as defined under 314 CMR 4.00 et seq. The site is not located within a FEMA-mapped Special Flood Hazard Zone.

Comments and Requests for Additional Information

The following are our comments and/or requests for additional information. Additional materials submitted to the Southborough Conservation Commission during the course of the public hearings will be reviewed by LE and commented on, as needed. LE concurs with the Applicant and Conservation Commission that a working session will be useful to address these comments. LE has not reviewed the project's compliance with the MA Stormwater Management Standards, with the understanding that Fuss & O'Neill will provide comments.

General Comments

1. The NOI states that the project is not subject to the By-law as the project has been classified under M.G.L. Chapter 40B; however, the project attorney noted during the initial meeting that the Use Variance, granted by the Zoning Board of Appeals, waived the local By-law requirements, not specifically under Chapter 40B. The project attorney should provide written clarification of the Chapter 40B components of the project and the Land Use Variance discussed during the first hearing to clarify this distinction.
2. The NOI Project Narrative references the existing scrub-shrub habitat; however, the Existing Land Cover Type map identifies this area as deciduous forest. An area along Route 495 and south of West Q is identified as Successional Forest, although would be more appropriately classified as Mixed Forest. Please revise this map and label the two Vernal Pools.
3. The Applicant should provide the referenced "Location of Impact Areas" Map in the NOI. The "Wetland Line Comparison" Map was provided in its place.
4. The Applicant should clarify the total area of disturbance on the site and new impervious surface for the project limit of work for this NOI.

Project Plans

5. The 100-Foot Buffer Zone for the Wetland Z Series should be field located and identified on the plans. This was not confirmed as part of the ORAD.
6. The 20-Foot No Disturb Zone is not shown on the project plans. The Commission to discuss.
7. There are inconsistencies in the Project Narrative description of the wetland resource areas under Section 2.2.1 and the project plans. The plans accurately represent the approved ORAD delineation. MassDEP requested labels be added to the plans for wetland impact areas and replication areas. The labels should follow those referenced/approved in the ORAD.
8. The Applicant should identify the Open Space Areas of the project on the plans.
9. The proposed dock is identified on the Layout and Materials Plan and should be identified on all plan sheets, including the Grading & Drainage.
10. The proposed nature trail and wooden foot bridge (with wetland impacts) should be identified on the Grading & Drainage plan sheet.
11. Grading & Drainage Plan – Site Preparation and Erosion and Sediment Control Notes:
 - a. Note #5 – Revise the first bullet to indicate for a particular phase, not the entire site.
 - b. Note #5 – Revise the second bullet for use of straw bales or a certified weed and invasive free hay bale. This should be noted throughout the plan set and NOI. The Erosion Control Detail correctly notes the use of straw bales.
 - c. Note #11 – Add an additional note that any polymers, flocculants, or other treatment chemicals require approval from the Conservation Commission prior to use on the site.
12. Please provide clarification on the necessity of CB-266 and the drain connection to DMH-265.
13. Please provide a detail and spec for the proposed swales. The Site Details show swales along the roadside edges, although swales are proposed in other areas as part of the drainage system.
14. The Applicant should clarify if there is sufficient treatment at the discharge points at FE-271, 184, 200, 67 and 180. These areas discharge in close proximity to wetlands classified as ORWs.
15. Following MassDEP's comment, the Site Details indicate the detention basins are proposed as infiltration basins. The Applicant should provide clarification on these structures. Furthermore, Infiltration Structure 301A, is located within 50 feet of a wetland.
16. The Applicant should revise Straw Bale Check Dam on the Site Details as it references the use of hay. Please revise to note straw.
17. The Site Details should provide a cross-section for all wetland crossings at scale, identifying the wetland and stream boundaries.

18. The Site Details should identify the wetland fill and replication areas clearly with quantitative impact numbers included.
19. The erosion control barrier label on Sheet C3.03 near wetland Flag DA-40 needs to be adjusted.
20. Erosion controls should be installed along the following areas of the site:
 - a. Southern corner of the property at Flagg Road – Sheet C3.02.
 - b. Eastern side of property near Bantry Road – Sheet C3.04.
 - c. Northern side of property near Tara Road – Sheet C3.04.
 - d. Eastern side of the property along the northern swale – Sheet C3.05.
 - e. Surrounding the wastewater treatment facility – Sheet C3.06.
 - f. Connect the erosion control barriers near Special DMH-N2 – Sheet C3.06.

Wetland Resource Areas

21. LE conducted a site visit on May 5, 2016 to inspect the wetland crossing locations. Impact Areas #1 & #6 contain intermittent streams. Impact Area #1 was delineated by Goddard Consulting, LLC with eight Bank flags numbered Bank 1-4 and 10-13. Ms. Rosenblum was present at Impact Area #1. The limits of the Bank extend beyond the location of the flags located in the field. LE recommends a site walk with Goddard Consulting to review the flags and Impact Area #6.
22. As noted in the ORAD, Wetlands A, C, D/DA, E, F, I, G and P contain segments of intermittent streams which have not been completely delineated (except for Series F). The stream associated with Impact Area #6 needs to be field delineated and reviewed, as an intermittent stream is located at the crossing; although the NOI states otherwise. Bank impacts need to be assessed for this location.
23. Several of the aforementioned streams also flow through culverts within the site and contain Inland Bank which will need to be identified on the plans. The plans identify Special Drain Manholes DMH-S1, DMH-S2, DMH-N2 and DMH-N3 proposed within culverts conveying intermittent streams. It is not clear if the proposed work surrounding Wetland P will impact the 12" and 24" RCPs which convey intermittent stream flows. It is also not clear if the proposed work associated with Blackthorn Extension will impact the two 36" culverts between Wetland E and G. As such, the impacts to Inland Bank need to be quantified for these areas as applicable. Diversions of stream flow (if required), and other construction related information should be submitted for review to assess potential permanent and temporary impacts.

Wildlife Habitat Evaluation/Vernal Pools

24. A Wildlife Habitat Evaluation was conducted by the Applicant's wetland consultant. Please provide the information on the methodology used to conduct the evaluation and the qualifications of the person conducting the work. Per Section 310 CMR 10.60(1)(b) of the WPA: "*An evaluation by the applicant of whether a proposed project will have an adverse effect on wildlife habitat beyond permissible thresholds shall be performed by an individual with at least a masters degree in wildlife biology or ecological science from an accredited college or university, or other competent professional with at least two years experience in wildlife habitat evaluation.*"

25. Further information (and possibly an Appendix B Wildlife Habitat Evaluation) should be provided for the following two Impact Areas:
 - a. #8 – There appears to be a beaver den in close proximity to the proposed dock location. It is not clear if the den is active.
 - b. #5 – The area should be further examined for potential turtle nesting areas. An egg shell of a turtle was observed during the May 5th site walk in the area, although it may have been disturbed during the test pit work.
26. Vernal Pool surveys were conducted by Goddard Consulting in March 2016. Please provide the qualifications of staff that conducted the surveys, methodology, and documentation/evidence collected during the evaluations. It is standard practice to conduct weekly inspections during the vernal pool season to adequately document the lack of breeding amphibians.
27. Wetland R and the northern area of Wetland D have been identified as Vernal Pools. LE is concerned that the development surrounding the pool associated with Wetland R may isolate the feature from other regulated wetland resource areas that the vernal pools species are migrating to/from and have an adverse impact on wetland dependent wildlife. LE is also concerned the most of the upland surrounding the pool associated with Wetland D is proposed for development, which will have an adverse impact on the amphibians utilizing the adjacent upland areas. The Applicant should consider re-examining the design at these locations to avoid adverse impacts to the vernal pools and wetland dependent wildlife.

Intermittent Streams/Inland Bank

28. The Applicant will need to provide documentation on the compliance for each stream crossing (Impact Areas #1 & 6) for work within Inland Bank, per Section 310 CMR 10.54(4)(a)1-6 of the WPA, including impacts to Impact Area #1 observed following the preliminary soil testing.
29. The Applicant should provide calculations for the openness ratio for each wetland crossing area. The Applicant should re-examine each location to meet the Optimal Standard to the extent feasible.
30. The Applicant should provide documentation on the installation of underground utilities through the resource areas at each crossing (i.e., quantify impacts or provide details on directional drilling). The NOI Narrative notes that no physical alteration will occur in the stream; however, the plans show the drain, sewer, and water main through the resource area.
31. The NOI calculates Bank alteration for shade impacts, but states that no physical alteration will occur. It was noted previously that the work for the preliminary soil testing crossed the stream within Wetland C. Physical alteration to the Banks of the intermittent stream and BVW were observed and require restoration. The impacts should be reassessed for this area, and cumulative impacts updated, as necessary.
32. The impacts to the Bank of the pond associated with the proposed nature trail and dock should be quantified (Impact Area #8).

Wetlands & Wetland Impact Analysis

33. Under Section 310 CMR 10.55(4)(b), the Commission *as the issuing authority may issue an Order of Conditions permitting work which results in the loss of up to 5000 square feet of Bordering Vegetated Wetland...In the exercise of this discretion, the issuing authority shall consider the magnitude of the alteration and the significance of the project site to the interests identified in M.G.L. c. 131, § 40, the extent to which adverse impacts can be avoided, the extent to which adverse impacts are minimized, and the extent to which mitigation measures, including replication or restoration, are provided to contribute to the protection of the interests identified in M.G.L. c. 131, § 40.*

The following information should be provided so the Commission may adequately review the measures the Applicant has taken to 1) avoid wetland impacts areas, and 2) minimize where avoidance is not feasible. If avoidance and minimization are not feasible, mitigation should then be examined.

- a. The Applicant should provide documentation as to why the main access drive to Park Central by the Red Roof Inn is not viable in lieu of wetland impacts via access off Flag Road. LE understands that traffic is an issue and this should be included in the NOI filing (Impact Area #1).
 - b. The Applicant should provide a detail of the proposed foot bridge for Impact Area #2.
 - c. The Applicant should look at options to adjust the layout/alignment of Webber Circle to avoid wetland impacts at Wetland N (Impact Area # 5).
 - d. The Applicant should examine options to avoid the wetland crossing at Impact Area #3. During the ENF site walk, there was a discussion to consider two cul-de-sacs on either side of the wetland to avoid the crossing. This alternative should be explored.
 - e. Detention Basin (DB) BSN-310 is located within the 100-Foot Buffer Zone to Wetlands M & B and requires a temporary wetland alteration for construction. It is not clear how this area will be accessed for maintenance. It appears that permanent alteration will be required to access and maintain the DB. The Applicant should examine alternate locations for DB BSN-310 to avoid permanent wetland impacts and provide further detail on the access and maintenance as currently proposed (Impact Area #4).
 - f. Avoidance of Impact Area # 6 should be evaluated by the Commission. As noted above, the impacts and fragmentation of the wetland systems are solely for three additional units (#46-48). The Commission to discuss.
 - g. The Applicant should look at options to adjust the layout of Blackthorn Extension to avoid wetland impacts at Wetlands G & E (Impact Area # 7).
 - h. The Applicant should provide a detail of the proposed dock (Impact Area #8).
34. The Commission requested potential alternatives to avoid wetland impacts in the southwestern portion of the site during the MEPA ENF review. The NOI mentions that the current design provides a reduction of wetland impacts; however, previous iterations of the project have not been submitted. The Applicant should provide alternative design layouts that seek to avoid and minimize wetland impacts, including Buffer Zone alteration.

35. Many of the discharge locations on the site are in close proximity to wetlands classified as ORWs, i.e., Detention Basin BSN-302 riprap spillway directly to wetland (6'); DB BSN-304 discharge to wetland edge (3'); DB BSN-305 to wetland (12'). Per the MA Stormwater Management Standards, the *stormwater discharges to ORWs must be set back from the receiving water or wetland and receive the highest and best practical method of treatment*. Infiltration structures require a minimum setback of 50 feet. The Applicant should consider design revisions that set back the discharges further from the wetland resource areas.
36. The wastewater treatment reserve leaching area is located within the Buffer Zone and the pump building is in close proximity to a wetland. The Applicant should demonstrate that the wastewater treatment facility complies with MassDEP setbacks for the siting of a facility in a Surface Water Supply/ORW Watershed.
37. The Applicant should provide additional details on the mechanism for the preservation of the 21.4 acres of Open Space.

Buffer Zones

38. The Applicant proposes approximately 8.86 acres of disturbance within the 20-Foot No Disturb Area. The Applicant should recalculate this number, as it does not appear accurate based on it being 11.34% of the total disturbance of the 20-Foot No Disturb Zone, in reference to the total site acreage.
39. The Applicant should examine alternate designs to avoid and minimize impacts within the 20-Foot No Disturb Area in addition to the 100-Foot Buffer Zone.
40. The By-law requires an alternatives analysis for work within the 20-Foot No Disturb Zone. The Commission to discuss.
41. The Applicant should quantify the impacts within the 100-Foot Buffer Zone. The total acreage of the Buffer Zone within the site (excluding the Open Space areas) should be quantified to examine the potential impacts of the entire site development.
42. The Applicant should demonstrate that the impacts to the BVW, Inland Bank, and Buffer Zone will have no adverse impact to the interests identified under Section 310 CMR 10.01(2) of the WPA.

Wetland Mitigation

43. Wetland replication areas are spread throughout the site and do not provide significant functionally value. The locations proposed will require additional alteration of Buffer Zone to construct. LE recommends identifying an alternate location(s) that may provide better mitigation without further impacts to the Buffer Zone.
44. The By-law requires 2:1 mitigation for wetland impacts. The Applicant proposes roughly 1:1 mitigation. The Commission to discuss.

45. The wetland mitigation areas are proposed with small shrubs. The Applicant should consider also planting trees a minimum of 1-2" caliper in size to add additional benefit/substrate to the proposed mitigation areas.
46. The wetland replication information within the NOI Narrative should be incorporated directly into the project plans to ensure the Contractor has the information, including the specifications.
47. The wetland replication narrative should be revised to excavate a minimum of 12-24" below grade if suitable soils are not identified. Due to the past gravel operation, suitable soils are not likely present to these depths.
48. The species composition of the wetland seed mixes should be specified on the plans.
49. As part of the wetland replication areas, post-implementation monitoring should include a quantitative vegetative analysis. This includes a stem count for nursery stock, and vegetation plots to calculate percent cover and dominant species.
50. A Professional Wetland Scientist or qualified wetland scientist with a minimum of five years' experience with wetland replication should oversee all work in and near wetland resource areas during the course of construction and post-construction monitoring.

Construction & Phasing

51. The Phasing Plan provided on Sheets C.101-103 is not consistent with the NOI Narrative; although more detail and specifications are provided on the plans. The NOI Project Narrative references 2 phases to the project, which do not appear to coincide with the Phasing Plan. The Applicant should clarify the Phasing Plans.
52. The Phasing Plan references Phases I, IA, II & III, although IA is not shown on the plans. Please clarify.
53. Phase I incorporates Park Central Drive and associated drainage. Phase II & III appear to be proposed concurrently and will open a significant portion of the site. The separation of Phases II & III throughout the site is not clear. The Applicant should provide a more detailed phasing of the project to avoid clearing the majority of Phases II & III simultaneously.
54. The plans do not show the separation of Phase I with II & III associated with the 40B units and the wastewater treatment facility.
55. The notes for the Phasing Plan include removal of erosion controls once the site is stable. Please revise to note that erosion controls are to remain in place until Conservation Commission approves removal or the Certificate of Compliance is issued.
56. The duration of construction for each phase should be provided. If the project will continue through the winter, a winter stabilization plan should be submitted.
57. The wetland replication construction schedule should be noted on the Phasing Plans.

58. The Stormwater Operation & Maintenance Plan (O&M) and Long-Term Pollution Prevention Plan note that the stormwater treatment units will be operated and maintained in accordance with the manufacturer's Maintenance Manual. Please provide additional information of the maintenance required for the units on this site.
59. The Stormwater O&M and Long-Term Pollution Prevention Plan reference the use of pesticides and fertilizers. The Commission should discuss due to the sensitive nature of the surrounding wetlands as ORWs and the Public Water Supply Watershed.
60. All snow storage areas should be clearly identified on the project plans. The Applicant should provide a detail on how they will be clearly demarcated throughout the site. The Commission should consider the use of signage or barriers to avoid sensitive areas and stormwater features for snow storage.
61. The Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan were not included in the NOI or Stormwater Report. Please provide.
62. Due to the size of the site and proposed work in close proximity to wetland resource areas, a Draft Stormwater Pollution Prevention Plan (SWPPP) should be submitted during the NOI review.
63. During the ENF, the Applicant indicated that the construction would mitigate dust impacts using wetting agents and wheel wash stations. This should be noted on the plans.

Landscape and Lighting Plans

64. The Landscape and Lighting Plan, Note #23 on Sheet C5.01 discusses invasive species removal. The Applicant should provide additional detail on the mechanisms and disposal for invasive plant removal.
65. The Applicant should add a note to Sheet C5.01 on the Landscape and Lighting Plan that any substitutions approved by the Landscape Architect should not be included on the Massachusetts Prohibited Plant List or identified as potentially invasive, likely invasive, or invasive by the Massachusetts Invasive Plant Advisory Group (MIPAG).
66. The plant list on Sheet C5.07 of the Landscape and Lighting Plans needs to be updated to include the species referenced along John Boland Road. The table list does not match the plan sheet.
67. The following species listed in the Landscape and Lighting Plans are acceptable; however, there are similar species listed as invasive or prohibited in the same genus. The Applicant may consider use of different species; otherwise any substitutions required during construction for these plants should be approved by the Commission.
 - c. Maiden Grass (*Miscanthus sinensis*) – *M. sacchariflorus* and *M. x giganteus* prohibited
 - d. California Privet (*Ligustrum ovalifolium*) – *L. obtusifolium* prohibited
 - e. Euonymus (*Euonymus fortunei*) – *E. alatus* prohibited

MEMORANDUM #2

Date: July 12, 2016
To: Southborough Conservation Commission
From: Lucas Environmental, LLC
Christopher M. Lucas, PWS, RPSS
Re: Project Review for the Notice of Intent: Park Central – 0 Turnpike Street
(Map/Lots: 24/3, 25/5, 33/4, and 41/4A)

Lucas Environmental, LLC (LE) has completed additional review of information submitted in support of a Notice of Intent (NOI) for the proposed Park Central project at 0 Turnpike Street (Map/Lot: 24/3, 25/5, 33/4, and 41/4A) in Southborough, Massachusetts. The review of this supplemental material has been completed in compliance with the Massachusetts Wetlands Protection Act (WPA; 310 CMR 10.00 et seq.). LE understands that the Applicant is working with the Commission regarding the project's compliance with the Southborough Wetlands By-law and the Southborough Wetland Regulations (By-law). LE has reviewed the project's compliance under the By-law at the request of the Conservation Commission. LE understands that Fuss & O'Neill is reviewing the project for compliance with the Massachusetts Stormwater Regulations, Stormwater and Erosion Control By-law, and the Stormwater and Erosion Control Regulations.

Documents Reviewed to Date

- Document, entitled, "Park Central Alternatives Analysis (MassDEP File #:290-0981), prepared by Goddard Consulting, LLC, dated June 14, 2016.
- Document, entitled, "Park Central Notice of Intent, 0 Turnpike Street, Southborough Massachusetts," prepared by Goddard Consulting, LLC, dated April 11, 2016.
- Document, entitled, "Stormwater Management Summary for: Park Central, Southborough Massachusetts," prepared by Waterman Design Associates, Inc., dated April 2015 [assumed to be 2016].
- Project Plans entitled "Comprehensive Permits Plans for Park Central in Southborough, Massachusetts (Worcester County)," prepared by Waterman Design Associates, Inc., dated November 4, 2015, revised through April 6, 2016.

Comments and Requests for Additional Information

A 2nd Working Session was conducted on July 12, 2016 with the Applicant, Project Engineer, Project Wetland Consultants, Conservation Commission Chair, Conservation Administrator, Fuss & O'Neill, and LE.

The following comments are related specifically to the Park Central Alternatives Analysis prepared in response to Comments #33 & #34 of our original comment letter. As such, the following comments are specific to this document and LE understands that the Applicant will address the remaining comments under separate cover at a later date. The Alternatives Analysis comments are numbered sequentially as a continuation from the previous comment letter.

Additional materials submitted to the Southborough Conservation Commission during the course of the public hearings will be reviewed by LE and commented on, as needed. LE has not reviewed the project's compliance with the MA Stormwater Management Standards, with the understanding that Fuss & O'Neill will provide comments.

Alternatives Analysis

68. The Alternatives Analysis ("Analysis") notes that the project went through three initial design phases that were too large of a scale and not supported by the Town of Southborough Zoning Board of Appeals and local abutters, or too dense to have been feasible due to existing wetland resource areas. This was mentioned at a previous hearing and the Commission requested to review these designs as part of the NOI. LE suggests referencing them as alternatives and documenting how each design was specifically not viable for the site.

69. Impact Area #1:

- a. Goddard Consulting notes that Park Central Drive is not viable due to a letter from MassDOT (formerly the Massachusetts Department of Public Works), dated November 1, 1988. LE understands that traffic is an issue and current documentation should be included in the NOI filing. As this letter is almost 30 years old, the Applicant should provide an update from the MassDOT regarding Park Central Drive access.
- b. The Analysis notes that the proposed crossing at Impact Area #1 has been designed to meet the Massachusetts Stream Crossing Standards. LE has not been contacted by Goddard Consulting to review the wetland delineation of the intermittent stream as noted in Comment #21. This will need to be addressed with the revised plans. Goddard Consulting and LE will conduct the site walk prior to the hearing on August 4th.

70. Impact Area #2:

- a. LE suggests that the Applicant consider using a material similar to the dock in lieu of wood, if feasible, to allow more light to pass through. If not feasible, examine other options for the wooden decking of the bridge to allow light to pass through. The Applicant should address Comment #33(b) with the revised plans and submit a detail of the proposed foot bridge and specifications for the trail.
- b. Based upon discussions during the Working Session, the Applicant is going to examine increasing the length of the bridge.

71. Impact Area #3:

- a. The Applicant notes that avoidance of wetlands at this location is not feasible based upon discussions with the Town of Southborough Fire Department. The Applicant noted during the Working Session that the cul-de-sac option using a gated emergency access roadway between the two cul-de-sacs, solely for fire/emergency access, was discussed with the Fire Department and will provide an updated letter from the Fire Department.
- b. According to the Applicant, the roadway in this area will be redesigned to 18 feet, which is the minimum width allowable by the Planning Board.

72. Impact Area #4: The Applicant has noted that it is feasible to remove the proposed detention basin in this area and avoid wetland impacts for the access. The Applicant should provide details in the revised plans and stormwater analysis that this basin is not required for the project.

73. Impact Area #5:

- a. LE notes that although the IVW located at this impact area is not regulated under the WPA, it is locally regulated under the Bylaw and federally regulated under the Clean Water Act.
- b. The Applicant notes that Alternative 1 is not feasible, although has not explored this alternative with the removal of units. It appears that removal of at least one unit may allow for both permanent and temporary wetland impacts to be avoided completely at this location.
- c. The Applicant has noted that under Alternative 3 that the roadway can be reduced and all direct impacts can be eliminated. This will need to be confirmed upon review of revised plans. Please clarify if there will be temporary wetland impacts at this location. If so, Alternative 1 could be explored further. The Commission to discuss.

74. Impact Area #6:

- a. The Applicant has provided an alternative which proposes the crossing through Wetland D and noted it is not feasible. The Applicant should consider removal of the 3 units and associated infrastructure to avoid this wetland crossing. The Commission to discuss.
- b. The Analysis notes that the proposed crossing at Impact Area #6 has been designed to meet the Massachusetts Stream Crossing Standards. LE has not been contacted by Goddard Consulting to review the wetland delineation of the intermittent stream as noted in Comment #21. This will need to be addressed with the revised plans. Goddard Consulting and LE will conduct the site walk prior to the hearing on August 4th.

75. Impact Area #7:

- a. The Applicant notes that this alternative was attempted during the initial design phases. LE suggests that these designs be submitted to the Commission for review.
- b. The Applicant should examine shifting the roadway toward Units 63 & 64 to avoid wetland impacts and determine if this is feasible, with or without the units present. Based upon discussions during the Working Session, this is not feasible. Previous concepts will be submitted for review.
- c. The Applicant agreed to reduce the roadway width to 18 feet, the minimum width allowable by the Planning Board for this roadway to further reduce wetland impacts, assuming the ZBA allows the reduction. This roadway is required for emergency access from the Fire Department.

76. Impact Area #8: No Comment.

77. The Applicant should assess all temporary impacts at each Impact Area. There are retaining walls and other work proposed to the edge of the wetland that will likely have a temporary impact to the resource areas and should be quantified.
78. LE suggests that future figures show the approved wetland delineation only. The original wetland delineation should not be shown as it is not relevant to review under this NOI.
79. The Analysis did not copy MassDEP. The Applicant should confirm that it was submitted to MassDEP.

MEMORANDUM #3

Date: September 27, 2016
To: Southborough Conservation Commission
From: Lucas Environmental, LLC
Christopher M. Lucas, PWS, RPSS
Re: Project Review for the Notice of Intent: **Park Central – 0 Turnpike Street**
(Map/Lots: 24/3, 25/5, 33/4, and 41/4A)

Lucas Environmental, LLC (LE) has completed a review of supplemental information submitted in support of a Notice of Intent (NOI) for the proposed Park Central project at 0 Turnpike Street (Map/Lot: 24/3, 25/5, 33/4, and 41/4A) in Southborough, Massachusetts. The review of the NOI has been completed in compliance with the Massachusetts Wetlands Protection Act (WPA; 310 CMR 10.00 et seq.). LE understands that the Applicant is working with the Commission regarding the project's compliance with the Southborough Wetlands By-law and the Southborough Wetland Regulations (By-law). LE has reviewed the project's compliance under the By-law at the request of the Conservation Commission. LE understands that Fuss & O'Neill is reviewing the project for compliance with the Massachusetts Stormwater Regulations, Stormwater and Erosion Control By-law, and the Stormwater and Erosion Control Regulations.

Documents Reviewed

- Document entitled "Park Central Comment Response Letter (MassDEP File # 290-0981), prepared by Goddard Consulting, LLC, dated September 6, 2016; received September 8, 2016, with supporting documentation referenced in Response Letter.
- Document entitled "Addendum 1 Stormwater Management Summary for: Park Central, Southborough Massachusetts," prepared by prepared by Waterman Design Associates, Inc., dated August 2016.
- Project Plans entitled "Comprehensive Permits Plans for Park Central in Southborough, Massachusetts (Worcester County)," prepared by Waterman Design Associates, Inc., dated November 4, 2015, revised through August 15, 2016.
- 1983 Project Plans and documents.

Previous Documents Reviewed

- Document entitled "Park Central Alternatives Analysis (MassDEP File #:290-0981), prepared by Goddard Consulting, LLC, dated June 14, 2016.

- Document entitled "Park Central Notice of Intent, 0 Turnpike Street, Southborough Massachusetts," prepared by prepared by Goddard Consulting, LLC, dated April 11, 2016.
- Document, entitled, "Stormwater Management Summary for: Park Central, Southborough Massachusetts," prepared by prepared by Waterman Design Associates, Inc., dated April 2015 [assumed to be 2016].
- Project Plans entitled "Comprehensive Permits Plans for Park Central in Southborough, Massachusetts (Worcester County)," prepared by Waterman Design Associates, Inc., dated November 4, 2015, revised through April 6, 2016.

Comments and Requests for Additional Information

Stormwater Management System Discussion

LE concurs with MassDEP's assessment of the stormwater management design as raised in the September 23, 2016 comments. LE raised a major concern regarding the stormwater design during the working sessions and last hearing. The Applicant currently proposes the use of Wetlands D, I, H, and F to detain stormwater as part of the overall stormwater management system. Per Section 310 CMR 10.05(6)(k) of the Wetlands Protection Act: *No Area Subject to Protection under M.G.L. c. 131, § 40 other than bordering land subject to flooding, isolated land subject to flooding, land subject to coastal storm flowage, or riverfront area may be altered or filled for the impoundment or detention of stormwater, the control of sedimentation or the attenuation of pollutants in stormwater discharges, and the applicable performance standards shall apply to any such alteration or fill...*

Wetlands D, I, H, and F were confirmed as BVW at the request of the Applicant as approved in the Order of Resource Area Delineation issued on February 19, 2016 (MassDEP File # 290-0976). BVW, Inland Bank, and Land Under Water Bodies and Waterways (LUWW) will be significantly impacted under this design and use of these areas for stormwater detention is prohibited, per the Wetlands Protection Act Regulations.

Additionally, the exemptions for constructed stormwater management Best Management Practices (BMPs), sections 310 CMR 10.02(2)(c), 310 CMR 10.02(3), 310 CMR 10.02(4) and 310 CMR 10.02(5) of the WPA Regulations (described below), do not appear to apply to the existing wetland resource areas currently proposed as detention basins. The detention basins that were created within existing wetlands in 1983 were not designed, constructed, installed and/or improved in accordance with the 1996 Stormwater Management Policy or 310 CMR 10.05(6)(k) through (q).

Section 310 CMR 10.02(2)(c) of the WPA Regulations states *Notwithstanding the provisions of 310 CMR 10.02(1) and (2)(a) and (b), stormwater management systems designed, constructed, installed, operated, maintained, and/or improved as defined in 310 CMR 10.04 in accordance with the Stormwater Management Standards as provided in the Stormwater Management Policy (1996) or 310 CMR 10.05(6)(k) through (q) do not by themselves constitute Areas Subject to Protection under M.G.L. c. 131, § 40 or Buffer Zone provided that:*

1. *the system was designed, constructed, installed, and/or improved as defined in 310 CMR 10.04 on or after November 18, 1996; and*

2. *if the system was constructed in an Area Subject to Protection under M.G.L. c. 131, § 40 or Buffer Zone, the system was designed, constructed, and installed in accordance with all applicable provisions in 310 CMR 10.00.*

The 1980's stormwater system was designed and constructed prior to 1996 AND within Areas Subject to Protection under M.G.L. c. 131, § 40. The system was not designed, constructed or installed in accordance with 310 CMR 10.00 as the application was submitted on March 25, 1983, prior to the promulgation of the WPA regulations under 310 CMR 10.00 on April 1, 1983. As such, the exemption does not apply to wetlands containing the proposed detention basins.

Section 310 CMR 10.03 of the WPA states that *Notwithstanding the provisions of 310 CMR 10.02(1) and (2), the maintenance of a stormwater management system constructed and/or improved as defined in 310 CMR 10.04 from November 18, 1996 through January 1, 2008, in accordance with the Stormwater Management Standards, as provided in the Massachusetts Stormwater Policy, issued by the Department on November 18, 1996 or on or after January 2, 2008, in accordance with the Stormwater Management Standards as provided in 310 CMR 10.05(6)(k) through (q) is not subject to regulation under M.G.L. c. 131, § 40 provided that...* This provision does not apply as the stormwater management system was constructed in the 1980's and does not appear to have ever been maintained or used for any future development as previously proposed.

Section 310 CMR 10.04(a-c) of the WPA state that *Notwithstanding anything to the contrary in 310 CMR 10.00, work other than maintenance that may alter or affect a stormwater management system (including work to repair or replace the stormwater management system, and any change to the site that increases the total or peak volume of stormwater managed by the system, directs additional stormwater to the system, and/or increases the volume of stormwater exposed to land uses with higher potential pollutant loads) that was designed, constructed, installed and/or improved after November 18, 1996, as defined in 310 CMR 10.04, and if constructed in an Area Subject to Protection under M.G.L. c. 131, § 40 or Buffer Zone, as described in 310 CMR 10.02(1) and (2)(a) through (d), the system was constructed in accordance with all applicable provisions of 310 CMR 10.00, solely for the purpose of stormwater management, in accordance with the Stormwater Management Standards as provided in the Stormwater Management Policy (1996) or 310 CMR 10.05(6)(k) through (q), may be permitted through an Order of Conditions, or Negative Determination of Applicability provided that the work:*

- (a) at a minimum provides the same capacity as the original design to attenuate peak discharge rates, recharge the ground water, and remove total suspended solids;*
- (b) complies with the Stormwater Management Standards as provided in 310 CMR 10.05(6)(k) through (q); and*
- (c) meets all the applicable performance standards for any work that expands the existing stormwater management system into an Area Subject to Protection under M.G.L. c. 131, § 40 or Buffer Zone as described in 310 CMR 10.02(1) and (2)(a) through (d).*

This provision does not apply as the stormwater management system was constructed in the 1980's and does not appear to have ever been maintained or used for any future development as previously proposed. Additionally, the project does not comply with 310 CMR 10.05(6)(k) as noted above.

Section 310 CMR 10.05 of the WPA states that *For purposes of 310 CMR 10.02(2)(c) and (4), the applicant has the burden of proving that the proposed project involves a stormwater management system designed, constructed, installed, operated, maintained and/or improved as defined at 310 CMR 10.04 in accordance with the Stormwater Management Standards as provided in the Stormwater Management Policy (1996) or 310 CMR 10.05(6)(k) through (q) and that the system was designed, constructed, installed and/or improved on or after November 18, 1996. The applicant also has the burden of establishing whether said stormwater management system was installed in an Area Subject to Protection under M.G.L. c. 131, § 40 or associated Buffer Zone, and, if so, that the system was constructed in accordance with all applicable provisions of 310 CMR 10.00. An applicant shall use the best evidence available to meet the burden of proof required. For purposes of 310 CMR 10.02(2)(c) and (4), the best evidence is the Order of Conditions, Order of Resource Area Delineation or Determination of Applicability for the project served by the stormwater management system together with the plans referenced in and accompanying such Order or Determination, and, if applicable, the Certificate of Compliance. If the best evidence is available, the date the system was designed shall be the date the Notice of Intent, Request for Determination or Notice of Resource Area Delineation was filed. If the best evidence is not available, the applicant shall rely on other credible evidence to meet the required burden of proof such as local approval of the stormwater management system along with the plans referenced in and accompanying said approval and any wetland conservancy maps and wetland change maps for the relevant time period published by the Department on MassGIS. The Applicant has provided documentation that the stormwater system was designed, installed, and constructed prior to 1996 AND within an Area Subject to Protection under M.G.L. c. 131, § 40.*

Based upon a review of the information submitted by Goddard Consulting and Conservation Commission records on the 1980's proposed work, LE notes the following:

- Approximately 9.13+ acres (397,800 square feet) of wetlands were altered for construction of a stormwater management system for future development of the site. Future development did not occur. It appears that approximately two (2) acres of wetlands were lost for construction of the stormwater management system.
- The Department of Environmental Quality Engineering (DEQE) noted that a Water Quality Certificate (WQC) would be required if U.S. Army Corps of Engineers (USACE) permit was needed. The Environmental Notification Form (ENF) on the 1980's project did not note any state for federal agencies other than Massachusetts Department of Public Works. It is not clear if this wetland alteration was authorized under the Federal Clean Water Act.
- Only rough grading of the roadway was completed, with water main and drainage installation; future finished roadway work was not completed.
- Southern pond – proposed storage of 8 acre-feet during 100-year storm
- Northern pond – proposed storage of 4 acre-feet during 100-year storm
- Ponds were all constructed for future development, which never occurred.
- NOI Filed March 25, 1983, prior to the promulgation of 310 CMR 10.00
- OOC issued May 4, 1983 (MassDEP File # 290-59)
- Partial COC issued November 20, 1987; for roadway and drainage structures
- Partial COC issued July 12, 1991; releasing Lots 139 & 140
- Permit Extensions granted through May 4, 1998
- Extension request made on April 17, 1998; however it does not appear that it was granted. No further extensions are in the record.

In conclusion, the existing wetland resource areas, which the Applicant's representative claims are in some part a result of an approved stormwater management system from the 1980's development, are proposed for detention and/or treatment of stormwater. However, the existing wetlands that were altered would have been designed, installed, and/or constructed prior to 1996, were never used to treat runoff from any development of the site as planned, and do not appear to have been maintained. As such, the exemptions afforded to constructed stormwater BMPs under the WPA Regulations do not apply. The proposed project appears to utilize the on-site wetlands for the detention of stormwater, which is not permissible under the WPA Regulations. The project should be redesigned to meet the current Stormwater Management Standards and the existing wetlands on the site must not be utilized for stormwater management.

LE has reviewed the additional materials submitted and updated our comments below, with the original comment presented in standard font and the update in bold. Additional materials submitted to the Southborough Conservation Commission during the course of the public hearings will be reviewed by LE and commented on, as needed. LE has not reviewed the project's compliance with the Massachusetts Stormwater Management Standards, with the understanding that Fuss & O'Neill will provide comments.

General Comments

1. The NOI states that the project is not subject to the By-law as the project has been classified under M.G.L. Chapter 40B; however, the project attorney noted during the initial meeting that the Use Variance, granted by the Zoning Board of Appeals, waived the local By-law requirements, not specifically under Chapter 40B. The project attorney should provide written clarification of the Chapter 40B components of the project and the Land Use Variance discussed during the first hearing to clarify this distinction. **Attorney Catanzaro has provided written clarification as requested. The Commission to discuss.**
2. The NOI Project Narrative references the existing scrub-shrub habitat; however, the Existing Land Cover Type map identifies this area as deciduous forest. An area along Route 495 and south of West Q is identified as Successional Forest, although would be more appropriately classified as Mixed Forest. Please revise this map and label the two Vernal Pools. **A revised Existing Land Cover Type map was provided; however, it does not identify the corrected areas noted during the working sessions. See attached mark-up, per discussions during the working sessions. The Map should be revised accordingly.**
3. The Applicant should provide the referenced "Location of Impact Areas" Map in the NOI. The "Wetland Line Comparison" Map was provided in its place. **The Location of Impact Areas Map has been included. LE suggests that any future revisions to the Comprehensive Permit Plans identify the Impact Area # for all locations for consistency.**
4. The Applicant should clarify the total area of disturbance on the site and new impervious surface for the project limit of work for this NOI. **The Applicant has noted that approximately 19± acres of the 100-Foot Buffer Zone will be disturbed and includes six acres of new impervious surfaces.**

Project Plans

5. The 100-Foot Buffer Zone for the Wetland Z Series should be field located and identified on the plans. This was not confirmed as part of the ORAD. LE recommends that the Applicant confirm that Wetland Z is 122 feet from proposed work areas by field locating and identifying the area on the plans. Due to topography on the site, it is difficult to accurately measure the distance to proposed work areas that have not been staked out in the field.
6. The 20-Foot No Disturb Zone is not shown on the project plans. The Commission to discuss. The area has been identified on the project plans. No further comment.
7. There are inconsistencies in the Project Narrative description of the wetland resource areas under Section 2.2.1 and the project plans. The plans accurately represent the approved ORAD delineation. MassDEP requested labels be added to the plans for wetland impact areas and replication areas. The labels should follow those referenced/approved in the ORAD. All labels were not added to the plans. The labels as shown on the approved ANRAD plans should be turned on to properly identify resource areas on all sheets in the Comprehensive Permit Plans.
8. The Applicant should identify the Open Space Areas of the project on the plans. The Open Space Area has been identified, with 21.6 acres proposed. No further comment.
9. The proposed dock is identified on the Layout and Materials Plan and should be identified on all plan sheets, including the Grading & Drainage. The proposed dock has been added as requested. No further comment.
10. The proposed nature trail and wooden foot bridge (with wetland impacts) should be identified on the Grading & Drainage plan sheet. The proposed nature trail and wooden foot bridge has been added as requested and wetland impacts identified on the Grading & Drainage plan sheet. No further comment.
11. Grading & Drainage Plan – Site Preparation and Erosion and Sediment Control Notes:
 - a. Note #5 – Revise the first bullet to indicate for a particular phase, not the entire site. The intent of this comment was to limit clearing the entire site at one time. LE recommends limiting tree clearing to each phase. The Commission to discuss.
 - b. Note #5 – Revise the second bullet for use of straw bales or a certified weed and invasive free hay bale. This should be noted throughout the plan set and NOI. The Erosion Control Detail correctly notes the use of straw bales. The note has been appropriately revised. No further comment.
 - c. Note #11 – Add an additional note that any polymers, flocculants, or other treatment chemicals require approval from the Conservation Commission prior to use on the site. The note has been appropriately revised. No further comment.

12. Please provide clarification on the necessity of CB-266 and the drain connection to DMH-265. **The Applicant has noted that these structures are for the future build out of the vacant commercial parcel. It appears that CB-266 could be built at a future date when the parcel is developed as the limit of work for this structure is outside of proposed work areas required for the roadway construction.**
13. Please provide a detail and spec for the proposed swales. The Site Details show swales along the roadside edges, although swales are proposed in other areas as part of the drainage system. **The detail has been provided. No further comment.**
14. The Applicant should clarify if there is sufficient treatment at the discharge points at FE-271, 184, 200, 67 and 180. These areas discharge in close proximity to wetlands classified as ORWs. **LE will defer to Fuss & O'Neil's review of the stormwater management system.**
15. Following MassDEP's comment, the Site Details indicate the detention basins are proposed as infiltration basins. The Applicant should provide clarification on these structures. Furthermore, Infiltration Structure 301A, is located within 50 feet of a wetland. **The following detention basins have been removed from the design: DB-304, -305, -308, -310, -409, -413, and -414. DB-302 and -411 were redesigned as infiltration basins, located just over 50 feet from wetland resource areas, as required. DB-407 was also redesigned as an infiltration basin. A detail for the infiltration basins has been provided. See Stormwater Management System Discussion above regarding the stormwater management system design.**
16. The Applicant should revise Straw Bale Check Dam on the Site Details as it references the use of hay. Please revise to note straw. **The detail has been updated. No further comment.**
17. The Site Details should provide a cross-section for all wetland crossings at scale, identifying the wetland and stream boundaries. **The requested information has been provided on Sheets C6.05 & C6.06. Additional comments on cross-sections and wetland impacts assessment below.**
18. The Site Details should identify the wetland fill and replication areas clearly with quantitative impact numbers included. **The information has been added to the plans. Additional comments on wetland fill and replication areas below.**
19. The erosion control barrier label on Sheet C3.03 near wetland Flag DA-40 needs to be adjusted. **The plan was revised. No further comment.**
20. Erosion controls should be installed along the following areas of the site:
 - a. Southern corner of the property at Flagg Road – Sheet C3.02. **No further comment.**
 - b. Eastern side of property near Bantry Road – Sheet C3.04. **Noted. No further comment.**
 - c. Northern side of property near Tara Road – Sheet C3.04. **Noted. No further comment.**
 - d. Eastern side of the property along the northern swale – Sheet C3.05. **LE recommends that the erosion controls be extended eastern side of the property along the northern swale. If a large storm event occurs during construction, there is a concern that off-site impacts could occur here.**

- e. Surrounding the wastewater treatment facility – Sheet C3.06. The erosion controls should be examined north of the wastewater treatment facility, as the existing and proposed grading contours do not align. Additionally, the erosion controls should be placed along the eastern edge of grading along the recreational field. The intent of this comment was to protect downgradient resource areas from potential erosion during construction of the steep slopes in this area. Additionally, there is a small section where the double row of ECB's ends near wetland flags WF H4-7 and should be extended.
- f. Connect the erosion control barriers near Special DMH-N2 – Sheet C3.06. No further comment.

Wetland Resource Areas

- 21. LE conducted a site visit on May 5, 2016 to inspect the wetland crossing locations. Impact Areas #1 & #6 contain intermittent streams. Impact Area #1 was delineated by Goddard Consulting, LLC with eight Bank flags numbered Bank 1-4 and 10-13. Ms. Rosenblum was present at Impact Area #1. The limits of the Bank extend beyond the location of the flags located in the field. LE recommends a site walk with Goddard Consulting to review the flags and Impact Area #6. **The plans were revised as agreed upon in the field during a site visit on August 12, 2016. No further comment.**
- 22. As noted in the ORAD, Wetlands A, C, D/DA, E, F, I, G and P contain segments of intermittent streams which have not been completely delineated (except for Series F). The stream associated with Impact Area #6 needs to be field delineated and reviewed, as an intermittent stream is located at the crossing; although the NOI states otherwise. Bank impacts need to be assessed for this location. **As noted in Comment #21, the plans were revised as agreed upon in the field during a site visit on August 12, 2016. Bank impacts were not referred to in the response; however, Table 2 of the Response Letter quantifies the Bank impact at this location to be 110 linear feet. The square foot area of the Bank to be altered should be provided. See Comment #23.**
- 23. Several of the aforementioned streams also flow through culverts within the site and contain Inland Bank which will need to be identified on the plans. The plans identify Special Drain Manholes DMH-S1, DMH-S2, DMH-N2 and DMH-N3 proposed within culverts conveying intermittent streams. It is not clear if the proposed work surrounding Wetland P will impact the 12" and 24" RCPs which convey intermittent stream flows. It is also not clear if the proposed work associated with Blackthorn Extension will impact the two 36" culverts between Wetland E and G. As such, the impacts to Inland Bank need to be quantified for these areas as applicable. Diversions of stream flow (if required), and other construction related information should be submitted for review to assess potential permanent and temporary impacts. **The Applicant refers to the Restoration Plan and Wetland Replication Plan for details. The plans do not note that intermittent streams flow through the culverts and should be revised accordingly. The installation of the drainage manholes within the culverts containing intermittent streams has not been detailed. The Applicant should provide additional information on the installation procedures and details on how impacts will be avoided during construction. The Restoration Plan refers to protocols more related to natural channels than culverts and should be revised. See Comment #33k for additional discussion on Wetland P.**

Wildlife Habitat Evaluation/Vernal Pools

24. A Wildlife Habitat Evaluation was conducted by the Applicant's wetland consultant. Please provide the information on the methodology used to conduct the evaluation and the qualifications of the person conducting the work. Per Section 310 CMR 10.60(1)(b) of the WPA: *"An evaluation by the applicant of whether a proposed project will have an adverse effect on wildlife habitat beyond permissible thresholds shall be performed by an individual with at least a masters degree in wildlife biology or ecological science from an accredited college or university, or other competent professional with at least two years experience in wildlife habitat evaluation."* The methodology and resume were provided. No further comment.
25. Further information (and possibly an Appendix B Wildlife Habitat Evaluation) should be provided for the following two Impact Areas:
- a. #8 – There appears to be a beaver den in close proximity to the proposed dock location. It is not clear if the den is active. **The Applicant notes that the den could be muskrat. It appears to be a beaver den. No further comment.**
 - b. #5 – The area should be further examined for potential turtle nesting areas. An egg shell of a turtle was observed during the May 5th site walk in the area, although it may have been disturbed during the test pit work. **LE observed evidence of turtle shells in the area between Impact Areas # 3 and 5, likely disturbed during soil testing. Goddard Consulting examined this impact area and did not find any direct evidence or sandy habitat suitable at the impact area. LE notes that the turtles are using the adjacent areas for nesting. No further comment.**
26. Vernal Pool surveys were conducted by Goddard Consulting in March 2016. Please provide the qualifications of staff that conducted the surveys, methodology, and documentation/evidence collected during the evaluations. It is standard practice to conduct weekly inspections during the vernal pool season to adequately document the lack of breeding amphibians. **The methodology and resume were provided. In order to determine if areas are not functioning as vernal pools, it is standard practice to conduct several site visits during the spring breeding period between March and April/May. One site visit, particularly on May 19th of this year, is not sufficient to determine that a potential vernal pool is not functioning as such. LE conducted vernal pool surveys during the Spring of 2016 in Massachusetts and many amphibian species had hatched by this time. The mapped PVP off-site, and PVPs identified within Wetlands F, H, and the 2nd area within Wetland R may be functioning as vernal pools and should be evaluated during this NOI review, and inspected again during the Spring of 2017.**
27. Wetland R and the northern area of Wetland D have been identified as Vernal Pools. LE is concerned that the development surrounding the pool associated with Wetland R may isolate the feature from other regulated wetland resource areas that the vernal pools species are migrating to/from and have an adverse impact on wetland dependent wildlife. LE is also concerned the most of the upland surrounding the pool associated with Wetland D is proposed for development, which will have an adverse impact on the amphibians utilizing the adjacent upland areas. The Applicant should consider re-examining the design at these locations to avoid adverse impacts to the vernal pools and wetland dependent wildlife. **LE concurs with Goddard's definition of vernal pool habitat per the WPA regulations; however, the Applicant agreed to work with the Conservation Commission to avoid wetland impacts.**

As such, development surrounding a vernal pool can be detrimental to the species utilizing the pool for spring breeding. Per Section 310 CMR 10.53(1) of the WPA, *the potential for adverse impacts to Resource Areas from work in the Buffer Zone may increase with the extent of the work and the proximity to the Resource Area. The Issuing Authority may consider the characteristics of the Buffer Zone, such as the presence of steep slopes, that may increase the potential for adverse impacts on Resource Areas. Conditions may include limitations on the scope and location of work in the Buffer Zone as necessary to avoid alteration of Resource Areas.* The Commission may consider the scope and limit of development adjacent to vernal pools, particularly within the Buffer Zone. Mr. Goddard indicated during a previous hearing that the USACE requested that the forested area surrounding the vernal pool (#1) in Wetland R would be protected. It appears that this forested area is proposed for development with Units 11-19. LE previously requested the limit of the forested edge be identified in this area. LE is also concerned with the development surrounding the potential vernal pools associated with Wetlands F, H, and R in addition to the certifiable vernal pool with Wetland D.

Per the Massachusetts Wildlife Habitat Protection Guidance (2006), *Extensive work in the inner fifty (50)-foot portion of the buffer zone, particularly clearing of natural vegetation and soil disturbance is likely to alter the physical characteristics of resource areas by changing their soil composition, topography, hydrology, temperature, and the amount of light received. Alterations to biological conditions in adjacent resource areas may include changes in plant community composition and structure, invertebrate and vertebrate biomass and species composition, and nutrient cycling. These alterations from extensive work in the buffer zone can occur through the disruption and erosion of soil, loss of shading, reduction in nutrient inputs, and changes in litter and soil composition that filters runoff, serving to attenuate pollutants and sustain important wildlife habitat within resource areas.* Stormwater impacts and potential altered hydrology to the vernal pool area should be examined with development proposed in proximity to all potential vernal pool areas.

Intermittent Streams/Inland Bank

28. The Applicant will need to provide documentation on the compliance for each stream crossing (Impact Areas #1 & 6) for work within Inland Bank, per Section 310 CMR 10.54(4)(a)1-6 of the WPA, including impacts to Impact Area #1 observed following the preliminary soil testing. The Applicant has provided documentation in the Comprehensive Permit Plans for compliance with the Massachusetts River & Stream Crossing Standards. LE has reviewed Sheets C6.05 and C6.06 and offers the following comments:
- The revised delineation at Impact Area #1 at John Boland Road has an approximate width of 8' at the widest. The plans identify a 6'7" width and should be revised. The actual width of the widest part of the channel should be reviewed for compliance with the Massachusetts River & Stream Crossing Standards.
 - There appears to be an approximate 2' separation from the stream channel edge to the backfill associated with the footings. This will likely be about 1' once the revised plans are updated to show the approximate 8' wide channel sections. The Applicant should demonstrate how the footings will be installed, trenches dug, location of dewatering basins, installation of the utilities, etc. to avoid direct impacts to the stream channel.

- c. The plans note a “General Stream Crossing Construction Notes: (Not Intended to be an All Inclusive Construction Sequence)”. The Applicant should provide an All Inclusive Construction Sequence.
 - d. The stream bed should not consist solely of stone upon completion and the Contractor should be directed to ensure the substrate will be similar to existing conditions upon completion of work.
29. The Applicant should provide calculations for the openness ratio for each wetland crossing area. The Applicant should re-examine each location to meet the Optimal Standard to the extent feasible.
- a. The Applicant has provided documentation for compliance with the General Standards of the Massachusetts River & Stream Crossing Standards. The Applicant should demonstrate compliance with the Optimum Standards, or provide documentation as to why they are not applicable.
 - b. The Applicant provided details on the openness ratio; however, has not provided calculations as requested. LE has confirmed that the openness ratio is met for the General Standards; however, it should be provided in the record for the Commission.
 - c. The arch culvert span for the purposes of calculating the openness ratio and bankfull width should be calculated from the edge of fill to the edge of the span. Based upon this, the bankfull width for the downstream area of Impact Area #3 (Wetland Crossing #2), is not met. An approximate 2’ increase in width of the span should address this issue and be confirmed by the Applicant.
30. The Applicant should provide documentation on the installation of underground utilities through the resource areas at each crossing (i.e., quantify impacts or provide details on directional drilling). The NOI Narrative notes that no physical alteration will occur in the stream; however, the plans show the drain, sewer, and water main through the resource area.
- a. The Applicant should provide written details on how the utilities will be installed.
 - b. The Applicant should consider the feasibility of directional drilling for installation of underground utilities to avoid direct impacts to the stream channel.
 - c. The square footage of the Bank impacts should be calculated.
31. The NOI calculates Bank alteration for shade impacts, but states that no physical alteration will occur. It was noted previously that the work for the preliminary soil testing crossed the stream within Wetland C. Physical alteration to the Banks of the intermittent stream and BVW were observed and require restoration. The impacts should be reassessed for this area, and cumulative impacts updated, as necessary. As noted in Comment #30, square footage of the Bank impacts should be quantified.
32. The impacts to the Bank of the pond associated with the proposed nature trail and dock should be quantified (Impact Area #8). The Applicant notes that approximately 6 linear feet of temporary vegetative trimming to install the dock will be required. The Applicant should include the linear feet and square feet of alteration in Table 2, as it will be a permanent alteration for the long-term use of the dock.

Wetlands & Wetland Impact Analysis

33. Under Section 310 CMR 10.55(4)(b), the Commission *as the issuing authority may issue an Order of Conditions permitting work which results in the loss of up to 5000 square feet of Bordering Vegetated Wetland...In the exercise of this discretion, the issuing authority shall consider the magnitude of the alteration and the significance of the project site to the interests identified in M.G.L. c. 131, § 40, the extent to which adverse impacts can be avoided, the extent to which adverse impacts are minimized, and the extent to which mitigation measures, including replication or restoration, are provided to contribute to the protection of the interests identified in M.G.L. c. 131, § 40.*

The following information should be provided so the Commission may adequately review the measures the Applicant has taken to 1) avoid wetland impacts areas, and 2) minimize where avoidance is not feasible. If avoidance and minimization are not feasible, mitigation should then be examined. **Additional comments are included in the Alternatives Analysis section as related to the Impact Areas.**

- a. The Applicant should provide documentation as to why the main access drive to Park Central by the Red Roof Inn is not viable in lieu of wetland impacts via access off Flag Road. LE understands that traffic is an issue and this should be included in the NOI filing (Impact Area #1). **LE understands that the Applicant submitted a letter to MassDOT to address this issue; however, that letter did not contain the information requested by the Commission Chairman during a working session. To date, LE has not been provided any further information on this issue.**
 1. **Temporary impacts in the amount of 140 square feet are proposed. The Applicant should clarify what work is occurring in Areas A-D as shown on the plans.**
 2. **The width from wall to wall of the crossing appears to be 42'. The Applicant should confirm the minimum widths allowable for the sidewalk, etc. are being proposed.**
- b. The Applicant should provide a detail of the proposed foot bridge for Impact Area #2. A plan and profile view of the footbridge should be submitted to provide details on the footings. Sheet C6.10 does not show the footbridge and refers to a design by others.
 1. **The Applicant notes that *the walking trail leading to this footbridge will consist of grass (with boundary markers) and will be maintained by regular mowing.* This note should be added to the plans and referenced in an Order of Conditions.**
 2. **The Applicant should confirm that grading will not be required for trail and work will only consist of vegetation clearing.**
 3. **The vegetated area underneath the bridge will likely be lost; therefore the temporary impacts of 80 square feet should be considered permanent and included in the wetland replication area.**

- c. The Applicant should look at options to adjust the layout/alignment of Webber Circle to avoid wetland impacts at Wetland N (Impact Area # 5). **The Applicant has reduced the roadway width to 18' and removed all permanent wetland impact. The Applicant should describe the work required adjacent to the roadway which will require temporary wetland impacts.**
- d. The Applicant should examine options to avoid the wetland crossing at Impact Area #3. During the ENF site walk, there was a discussion to consider two cul-de-sacs on either side of the wetland to avoid the crossing. This alternative should be explored. **The Applicant has reduced the roadway width to 18' to reduce permanent impacts. The width from wall to wall of the crossing appears to be 27'. The Applicant should confirm the minimum widths allowable for the sidewalk, etc. are being proposed.**
- e. Detention Basin (DB) BSN-310 is located within the 100-Foot Buffer Zone to Wetlands M & B and requires a temporary wetland alteration for construction. It is not clear how this area will be accessed for maintenance. It appears that permanent alteration will be required to access and maintain the DB. The Applicant should examine alternate locations for DB BSN-310 to avoid permanent wetland impacts and provide further detail on the access and maintenance as currently proposed (Impact Area #4). **DB-310 was eliminated. No further comment on this Impact Area.**
- f. Avoidance of Impact Area # 6 should be evaluated by the Commission. As noted above, the impacts and fragmentation of the wetland systems are solely for three additional units (#46-48). The Commission to discuss. **Units #46-48 have been eliminated. No further comment on this Impact Area.**
- g. The Applicant should look at options to adjust the layout of Blackthorn Extension to avoid wetland impacts at Wetlands G & E (Impact Area # 7). **The Applicant will need to revise this assessment and plans per the memorandum from the Southborough Fire Department Chief Joseph C. Mauro, dated August 23, 2016, provided by the Applicant and attached. Per the memo, the Fire Department will not allow the roadway width reduction.**
- h. The Applicant should provide a detail of the proposed dock (Impact Area #8). **A profile view of the dock should be submitted.**
- i. **The Comprehensive Permit Plans should be consistent with Goddard Consulting references for Impact Areas and be revised to include Impact Area #s.**
- j. **Temporary wetland impacts do not appear to include the installation of erosion controls through the wetland resource area at the Impact Areas. Although minor, the impacts should be included in the assessment.**
- k. **The Applicant should examine the long-term potential impacts for Wetland P. The majority of the 100-Foot Buffer Zone surrounding this wetland will be lost (86.28%) and as such, will likely have an adverse impact on this wetland. Mitigation may be required.**

34. The Commission requested potential alternatives to avoid wetland impacts in the southwestern portion of the site during the MEPA ENF review. The NOI mentions that the current design provides a reduction of wetland impacts; however, previous iterations of the project have not been submitted. The Applicant should provide alternative design layouts that seek to avoid and minimize wetland impacts, including Buffer Zone alteration. **The previous design iterations were referenced in the response letter and difficult to review on 8.5x11. The Applicant has taken measures to reduce impacts to wetland resource areas; however, has not examined alternative site design layouts that may reduce the significant alteration proposed within the Buffer Zones, per Section 310 CMR 10.53(1) referenced in Comment #27. The Commission to discuss. LE disagrees that the development is proposed within the limits of the previously altered area of the site as noted in the Goddard Consulting response letter. A large portion of the development is proposed within areas consisting of deciduous, mixed, and successional forests, and successional fields, which have not been altered for approximately 15-30 years.**
35. Many of the discharge locations on the site are in close proximity to wetlands classified as ORWs, i.e., Detention Basin BSN-302 riprap spillway directly to wetland (6'); DB BSN-304 discharge to wetland edge (3'); DB BSN-305 to wetland (12'). Per the MA Stormwater Management Standards, *the stormwater discharges to ORWs must be set back from the receiving water or wetland and receive the highest and best practical method of treatment.* Infiltration structures require a minimum setback of 50 feet. The Applicant should consider design revisions that set back the discharges further from the wetland resource areas. See Stormwater Management System Discussion above regarding the stormwater management system design.
36. The wastewater treatment reserve leaching area is located within the Buffer Zone and the pump building is in close proximity to a wetland. The Applicant should demonstrate that the wastewater treatment facility complies with MassDEP setbacks for the siting of a facility in a Surface Water Supply/ORW Watershed.
- a. **It appears the leach field is in the location of the proposed recreational areas with a reference to plans prepared by Mount Hope Engineering, which have not been received and should be submitted for review.**
 - b. **The location of the leach field is not clearly identified throughout the plans. The Applicant should provide a clear limit of the leach field and label appropriately.**
 - c. **The Applicant should examine options to provide additional undisturbed buffer zone between the treatment buildings and Wetland I.**
37. The Applicant should provide additional details on the mechanism for the preservation of the 21.4 acres of Open Space. The Applicant notes existing resource areas in the Open Space; however, has not provided detail on how it will be permanently protected, restrictions, etc.

Buffer Zones

38. The Applicant proposes approximately 8.86 acres of disturbance within the 20-Foot No Disturb Area. The Applicant should recalculate this number, as it does not appear accurate based on it being 11.34% of the total disturbance of the 20-Foot No Disturb Zone, in reference to the total site acreage. **The Applicant has provided the requested additional information and detailed plans documenting the location of impacts. The total area of 20-Foot No Disturb Zone (NDZ) within the limit of work is approximately 9.36 acres. Approximately 1.97 acres (21.0%) of disturbance with the 20-Foot NDZ is proposed within the limit of work for the project. Approximately 0.22 acres (2.4%) of permanent impervious surfaces consisting of decks, building, and pavement are proposed within the 20-Foot NDZ. The area to be graded will be restored. There appears to be a minor discrepancy in the plans and the Goddard Consulting response letter in relation to the 20-Foot NDZ where the square footage numbers differ slightly (75,799 square feet versus 75,740 square feet). The Applicant should confirm the correct number.**
39. The Applicant should examine alternate designs to avoid and minimize impacts within the 20-Foot No Disturb Area in addition to the 100-Foot Buffer Zone. **Approximately 1.97 acres of disturbance in the 20-Foot NDZ is significant and may have an adverse impact on adjacent resource areas. The Commission to discuss. See Comment #42.**
40. The By-law requires an alternatives analysis for work within the 20-Foot No Disturb Zone. The Commission to discuss. **The alternatives analysis provided by Goddard Consulting is limited to the wetland impact areas and does not discuss alternatives to avoid work with in the 20-Foot NDZ.**
41. The Applicant should quantify the impacts within the 100-Foot Buffer Zone. The total acreage of the Buffer Zone within the site (excluding the Open Space areas) should be quantified to examine the potential impacts of the entire site development. **The Applicant has provided the requested additional information and detailed plans documenting the location of impacts. The total area of 100-Foot Buffer Zone within the limit of work is approximately 44.40 acres. Approximately 19.39 acres (43.7%) of disturbance with the 100-Foot Buffer Zone is proposed within the limit of work for the project. Approximately 6.66 acres (15.0%) of permanent impervious surfaces are proposed within the 100-Foot Buffer Zone. A small portion of this area consisting of approximately 0.84 acres will be restored.**
42. The Applicant should demonstrate that the impacts to the BVW, Inland Bank, and Buffer Zone will have no adverse impact to the interests identified under Section 310 CMR 10.01(2) of the WPA. **Impacts to the 20-Foot NDZ and 100-Foot Buffer Zone are significant for the proposed project. The Applicant should examine options to avoid work in the 20-Foot NDZ to the extent practicable and further reduce impacts within the 100-Foot Buffer Zone as part of the revisions required for the stormwater management system. The Applicant should submit detailed evidence that the significant alteration to the Buffer Zone will not have an adverse impact to wetland resource areas or the interests of the WPA.**

Wetland Mitigation & Buffer Zone Restoration

43. Wetland replication areas are spread throughout the site and do not provide significant functionally value. The locations proposed will require additional alteration of Buffer Zone to construct. LE recommends identifying an alternate location(s) that may provide better mitigation without further impacts to the Buffer Zone. **The Restoration Plan and Comprehensive Permit Plans have been revised accordingly. One location has been selected for all wetland mitigation as requested. LE recommends the Applicant re-evaluate the location upon completion of revisions required for the stormwater management system. The Applicant should avoid clearing undisturbed Buffer Zone for the siting of the replication area if feasible.**
44. The By-law requires 2:1 mitigation for wetland impacts. The Applicant proposes roughly 1:1 mitigation. The Commission to discuss. **The wetland replication has been increased to 2:1, as required by the By-law. No further comment.**
45. The wetland mitigation areas are proposed with small shrubs. The Applicant should consider also planting trees a minimum of 1-2" caliper in size to add additional benefit/substrate to the proposed mitigation areas. **The Applicant has added trees to the Restoration Plan. LE offers the additional comments:**
 - a. **LE suggests increasing the number of trees to 2-3 for each species, and shrubs to 4-5 for each species.**
 - b. **Any areas with temporary wetland impacts should also be mitigated with tree/shrub plantings in addition to seeding.**
46. The wetland replication information within the NOI Narrative should be incorporated directly into the project plans to ensure the Contractor has the information, including the specifications. **The Commission should include a Special Condition in an Order of Conditions that the Contractor will be required to verify that they have read and understood the requirements of the Restoration Plan prior to construction. No further comment.**
47. The wetland replication narrative should be revised to excavate a minimum of 12-24" below grade if suitable soils are not identified. Due to the past gravel operation, suitable soils are not likely present to these depths. **The narrative has been revised as requested. LE offers the additional comments:**
 - a. **Any areas with temporary wetland impacts should be supplemented with soils as specified in the wetland replication procedure of the Restoration Plan.**
 - b. **It is anticipated that dewatering will be required for all wetland Impact Areas and dewatering basins should be shown on the plans and a detail provided.**
48. The species composition of the wetland seed mixes should be specified on the plans. **A specification was noted in the Restoration Plan; however, the sheets were not included in the report.**

49. As part of the wetland replication areas, post-implementation monitoring should include a quantitative vegetative analysis. This includes a stem count for nursery stock, and vegetation plots to calculate percent cover and dominant species. The Restoration Plan has included the requested information. LE offers the additional comments:
- The monitoring requirement for all restoration should be revised to note that all restoration/replication areas must not contain any invasive species, otherwise the remediation plan will be required.
 - LE also recommends that a late spring (June) and early fall (September) inspection occur each year during monitoring.
50. A Professional Wetland Scientist or qualified wetland scientist with a minimum of five years' experience with wetland replication should oversee all work in and near wetland resource areas during the course of construction and post-construction monitoring. The Restoration Plan has included the requested information. No further comment.
- 50a. Additional comments on the Restoration Plan:
- The 20-Foot NDZ Restoration should use soils consisting of an organic content of at least 12%.
 - The 20-Foot NDZ and 100-Foot Buffer Zone restoration plans should provide more shrub diversity. Overall numbers of shrubs are sufficient.
 - The 20-Foot NDZ and 100-Foot Buffer Zone restoration plans should increase the number of proposed trees to ensure success.
 - The 20-Foot NDZ Restoration and 100-Foot Buffer Zone restoration plans should replace northern bush honeysuckle (*Diervilla lonicera*), to ensure a nursery does not deliver the wrong species and provide an invasive honeysuckle.
 - The 20-Foot NDZ Restoration may be more appropriate specifying plants (or a mix therefore) with a wetland indicator status of "Facultative" due to the topography of the site and high groundwater. Upland plants may not survive as well.
 - The Applicant may consider the use of snags, brush and/or rock piles, logs and woody debris, or other features to provide immediate wildlife habitat features in the restoration and replication areas.

Construction & Phasing

51. The Phasing Plan provided on Sheets C.101-103 is not consistent with the NOI Narrative; although more detail and specifications are provided on the plans. The NOI Project Narrative references 2 phases to the project, which do not appear to coincide with the Phasing Plan. The Applicant should clarify the Phasing Plans. The Applicant has noted that there are three phases to the project. The demarcation between the different phases has been removed from the plans and should be included in the Layout & Material Plan sheets.
52. The Phasing Plan references Phases I, IA, II & III, although IA is not shown on the plans. Please clarify. Phase IA has been eliminated. No further comment.

53. Phase I incorporates Park Central Drive and associated drainage. Phase II & III appear to be proposed concurrently and will open a significant portion of the site. The separation of Phases II & III throughout the site is not clear. The Applicant should provide a more detailed phasing of the project to avoid clearing the majority of Phases II & III simultaneously. **The Applicant has provided a detailed narrative of the phasing and stabilization. It appears that the Applicant still proposes to clear a significant portion of the site at one time. Based upon the various components to the site development, it appears that additional phasing of the work can be accomplished to minimize the amount of open and active area on the site during construction.**
54. The plans do not show the separation of Phase I with II & III associated with the 40B units and the wastewater treatment facility. **The Applicant has included updated notes on this work; however, the Applicant should confirm if both areas will be working simultaneously. If not, they should be incorporated into different phases and identified on the plans as such.**
55. The notes for the Phasing Plan include removal of erosion controls once the site is stable. Please revise to note that erosion controls are to remain in place until Conservation Commission approves removal or the Certificate of Compliance is issued. **The notes have been updated and the Commission should add this as a Special Condition for an Order of Conditions. No further comment.**
56. The duration of construction for each phase should be provided. If the project will continue through the winter, a winter stabilization plan should be submitted. **The construction schedule should be provided for each phase of the project. A winter stabilization plans should also be submitted as the Applicant indicates the construction will take approximately two years.**
57. The wetland replication construction schedule should be noted on the Phasing Plans. The Goddard Consulting response letter indicates this work will be completed prior to construction; however the Comprehensive Permit Plans indicate otherwise. **The Applicant should clarify the wetland construction schedule.**
58. The Stormwater Operation & Maintenance Plan (O&M) and Long-Term Pollution Prevention Plan note that the stormwater treatment units will be operated and maintained in accordance with the manufacturer's Maintenance Manual. Please provide additional information of the maintenance required for the units on this site. **The Stormwater Operation & Maintenance Plan (O&M) and Long-Term Pollution Prevention Plan will be reviewed upon completion of revisions required for the stormwater management system. Note that the Applicant's O&M Plan will serve as the Long-Term Pollution Prevention Plan.**
59. The Stormwater O&M and Long-Term Pollution Prevention Plan reference the use of pesticides and fertilizers. The Commission should discuss due to the sensitive nature of the surrounding wetlands as ORWs and the Public Water Supply Watershed. **The Applicant has prepared a Landscape Installation and Maintenance Protocol which includes the use of pesticides and fertilizers. The Protocol appears appropriate and LE will review the Stormwater Operation & Maintenance Plan (O&M) and Long-Term Pollution Prevention Plan upon completion of revisions required for the stormwater management system.**

60. All snow storage areas should be clearly identified on the project plans. The Applicant should provide a detail on how they will be clearly demarcated throughout the site. The Commission should consider the use of signage or barriers to avoid sensitive areas and stormwater features for snow storage. Snow storage areas have been identified on the plans. The following information should be provided:
- a. The Applicant should confirm the areas are sufficient for snow storage for the entire site, or document alternative off-site snow removal operations.
 - b. The snow storage areas proposed along Wetland D should be relocated or removed as they are in close proximity to a wetland.
 - c. A detail should be provided identifying the type of signage to prevent snow dumping and storage. Locations of signs should be identified on the plans. The Commission may also consider barriers in sensitive areas.
61. The Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan were not included in the NOI or Stormwater Report. Please provide. The plans were updated to include additional detail on the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan. LE offers the following comments:
- a. The staging areas should be identified on the plans.
 - b. The stockpile areas should be identified on the plans.
 - c. The truck wash-out areas should be identified on the plans.
 - d. The construction entrance locations should be identified on the plans.
 - e. The temporary settling basins appear to be proposed in the previous locations of the stormwater basins. Alternative measures should be examined to avoid clearing adjacent to Buffer Zones for temporary construction measures if avoidable.
 - f. Sheet C1.04 references the Princeton Conservation Commission. Please revise.
 - g. Sheet C1.04 references erosion controls to be inspected after rainfall events of 0.5" or greater. Per the NPDES NOI requirements, this should be revised to 0.25" or greater.
 - h. Sheet C1.04 references the old MassDEP address. Please revise.
 - i. Rip rap slopes are referenced for possible stabilization of slopes during and post-construction. The Conservation Commission prefers alternate measures for slope stabilization and the plans should be revised to reflect this.
62. Due to the size of the site and proposed work in close proximity to wetland resource areas, a Draft Stormwater Pollution Prevention Plan (SWPPP) should be submitted during the NOI review. A Draft Stormwater Pollution Prevention Plan (SWPPP) has not been submitted for review.
63. During the ENF, the Applicant indicated that the construction would mitigate dust impacts using wetting agents and wheel wash stations. This should be noted on the plans. The information was included on the plans. No further comment.

Landscape and Lighting Plans

64. The Landscape and Lighting Plan, Note #23 on Sheet C5.01 discusses invasive species removal. The Applicant should provide additional detail on the mechanisms and disposal for invasive plant removal. LE acknowledges that the root mass will be removed when invasive species are encountered during construction. The Applicant should include mechanisms for preventing the establishment and for removal of invasive species in all restoration areas during the monitoring period.
65. The Applicant should add a note to Sheet C5.01 on the Landscape and Lighting Plan that any substitutions approved by the Landscape Architect should not be included on the Massachusetts Prohibited Plant List or identified as potentially invasive, likely invasive, or invasive by the Massachusetts Invasive Plant Advisory Group (MIPAG). A note was added to the plan referencing the "Massachusetts Invasive Species List". The note should include a reference to the Massachusetts Prohibited Plant List AND to any species identified as potentially invasive, likely invasive, or invasive by the Massachusetts Invasive Plant Advisory Group (MIPAG), as they are the references for invasive species in Massachusetts.
66. The plant list on Sheet C5.07 of the Landscape and Lighting Plans needs to be updated to include the species referenced along John Boland Road. The table list does not match the plan sheet. The plant list has been updated. No further comment.
67. The following species listed in the Landscape and Lighting Plans are acceptable; however, there are similar species listed as invasive or prohibited in the same genus. The Applicant may consider use of different species; otherwise any substitutions required during construction for these plants should be approved by the Commission.
- a. Maiden Grass (*Miscanthus sinensis*) – *M. sacchariflorus* and *M. x giganteus* prohibited
 - b. California Privet (*Ligustrum ovalifolium*) – *L. obtusifolium* prohibited
 - c. Euonymus (*Euonymus fortunei*) – *E. alatus* prohibited
- The Applicant has elected to keep these plants in the Landscape Plans. The Commission should include a Special Condition in an Order of Conditions for the project requiring any substitutions of species be approved by the Commission prior to planting.

Alternatives Analysis

68. The Alternatives Analysis ("Analysis") notes that the project went through three initial design phases that were too large of a scale and not supported by the Town of Southborough Zoning Board of Appeals and local abutters, or too dense to have been feasible due to existing wetland resource areas. This was mentioned at a previous hearing and the Commission requested to review these designs as part of the NOI. LE suggests referencing them as alternatives and documenting how each design was specifically not viable for the site. The previous design iterations were referenced in the response letter and difficult to review on 8.5x11.

69. Impact Area #1:

- a. Goddard Consulting notes that Park Central Drive is not viable due to a letter from MassDOT (formerly the Massachusetts Department of Public Works), dated November 1, 1988. LE understands that traffic is an issue and current documentation should be included in the NOI filing. As this letter is almost 30 years old, the Applicant should provide an update from the MassDOT regarding Park Central Drive access. **LE understands that the Applicant submitted a letter to MassDOT to address this issue; however, that letter did not contain the information requested by the Commission Chairman during a working session. To date, LE has not been provided any further information on this issue.**
- b. The Analysis notes that the proposed crossing at Impact Area #1 has been designed to meet the Massachusetts Stream Crossing Standards. LE has not been contacted by Goddard Consulting to review the wetland delineation of the intermittent stream as noted in Comment #21. This will need to be addressed with the revised plans. Goddard Consulting and LE will conduct the site walk prior to the hearing on August 4th. **The plans were revised as agreed upon in the field during a site visit on August 12, 2016. No further comment.**

70. Impact Area #2:

- a. LE suggests that the Applicant consider using a material similar to the dock in lieu of wood, if feasible, to allow more light to pass through. If not feasible, examine other options for the wooden decking of the bridge to allow light to pass through. The Applicant should address Comment #33(b) with the revised plans and submit a detail of the proposed foot bridge and specifications for the trail. **See Response to Comment #33b.**
- b. Based upon discussions during the Working Session, the Applicant is going to examine increasing the length of the bridge. **The Applicant has increased the length of the bridge to 25'. No further comment.**

71. Impact Area #3:

- a. The Applicant notes that avoidance of wetlands at this location is not feasible based upon discussions with the Town of Southborough Fire Department. The Applicant noted during the Working Session that the cul-de-sac option using a gated emergency access roadway between the two cul-de-sacs, solely for fire/emergency access, was discussed with the Fire Department and will provide an updated letter from the Fire Department. **The letter from the Southborough Fire Department Chief Joseph C. Mauro, dated June 14, 2016, provided by the Applicant and attached, references this issue; however, during the July 12, 2016 working session, the Applicant was requested to confirm with the Fire Department that two dead end cul-de-sacs could not be designed utilizing an emergency fire access roadway. To date, LE has not received any additional correspondence from the Applicant addressing this comment.**

- b. According to the Applicant, the roadway in this area will be redesigned to 18 feet, which is the minimum width allowable by the Planning Board. **See Response to Comment #33d.**

72. Impact Area #4: The Applicant has noted that it is feasible to remove the proposed detention basin in this area and avoid wetland impacts for the access. The Applicant should provide details in the revised plans and stormwater analysis that this basin is not required for the project. **DB-310 was eliminated. No further comment on this Impact Area.**

73. Impact Area #5:

- a. LE notes that although the IVW located at this impact area is not regulated under the WPA, it is locally regulated under the Bylaw and federally regulated under the Clean Water Act. **The Applicant acknowledges this. No further comment.**
- b. The Applicant notes that Alternative 1 is not feasible, although has not explored this alternative with the removal of units. It appears that removal of at least one unit may allow for both permanent and temporary wetland impacts to be avoided completely at this location. **Permanent wetland impacts have been removed. Minor temporary impacts remain. The Commission to discuss.**
- c. The Applicant has noted that under Alternative 3 that the roadway can be reduced and all direct impacts can be eliminated. This will need to be confirmed upon review of revised plans. Please clarify if there will be temporary wetland impacts at this location. If so, Alternative 1 could be explored further. The Commission to discuss. **No further comment.**

74. Impact Area #6:

- a. The Applicant has provided an alternative which proposes the crossing through Wetland D and noted it is not feasible. The Applicant should consider removal of the 3 units and associated infrastructure to avoid this wetland crossing. The Commission to discuss. **Units #46-48 have been eliminated. No further comment on this Impact Area.**
- b. The Analysis notes that the proposed crossing at Impact Area #6 has been designed to meet the Massachusetts Stream Crossing Standards. LE has not been contacted by Goddard Consulting to review the wetland delineation of the intermittent stream as noted in Comment #21. This will need to be addressed with the revised plans. Goddard Consulting and LE will conduct the site walk prior to the hearing on August 4th. **Units #46-48 have been eliminated. No further comment on this Impact Area.**

75. Impact Area #7:

- a. The Applicant notes that this alternative was attempted during the initial design phases. LE suggests that these designs be submitted to the Commission for review. **The previous design iterations were referenced in the response letter and difficult to review on 8.5x11.**

- b. The Applicant should examine shifting the roadway toward Units 63 & 64 to avoid wetland impacts and determine if this is feasible, with or without the units present. Based upon discussions during the Working Session, this is not feasible. Previous concepts will be submitted for review. **The previous design iterations were referenced in the response letter and difficult to review on 8.5x11.**
- c. The Applicant agreed to reduce the roadway width to 18 feet, the minimum width allowable by the Planning Board for this roadway to further reduce wetland impacts, assuming the ZBA allows the reduction. This roadway is required for emergency access from the Fire Department. **The Applicant will need to revise this assessment and plans per the memorandum from the Southborough Fire Department Chief Joseph C. Mauro, dated August 23, 2016, provided by the Applicant and attached. Per the memo, the Fire Department will not allow the roadway width reduction.**

76. Impact Area #8: No Comment.

77. The Applicant should assess all temporary impacts at each Impact Area. There are retaining walls and other work proposed to the edge of the wetland that will likely have a temporary impact to the resource areas and should be quantified. **Construction sequencing details have not clearly identified how the work will be completed in and adjacent to wetlands. The Applicant should demonstrate how the footings will be installed, trenches dug, location of dewatering basins, installation of the utilities, etc. to confirm temporary impacts have been fully assessed.**

78. LE suggests that future figures show the approved wetland delineation only. The original wetland delineation should not be shown as it is not relevant to review under this NOI. **The figures have been revised. No further comment.**

79. The Analysis did not copy MassDEP. The Applicant should confirm that it was submitted to MassDEP. **The Applicant has confirmed this information and the most recent submittal have been submitted to MassDEP. The Applicant should ensure that any future revisions, documents, plans, etc. are copied to MassDEP concurrently when filed with the Conservation Commission. No further comment.**



Southborough Fire Department

MEMORANDUM

DATE: August 23, 2016

TO: ZBA, Park Central Chair

FROM: Chief Joseph C. Mauro

RE: Blackthorn Extension Width

In reviewing the latest comprehensive plan for Park Central dated August 15, 2016 I noticed the widths of some of the roads had been reduced from 20' or 22' to 18'. I was aware of the reduction of the road width on Webber Circle after a concern raised by the Conservation Commission because of wetland issues. I was never requested the reduction of the other roads, Phaneuf Dr., Berry Cr, and Blackthorn Dr. ext. as indicated on the plan.

My greatest concern is with the reduction in Blackthorn Dr. ext. which will serve as a secondary emergency access into the project. I consider this a main access point which limits the width to the requirements of a fire lane which is 18'. This does not leave room should there be vehicles parked or other impediments along that access. I am requesting that the roadway be returned to a width of 22' to accommodate access for emergency vehicles. I request that this be part of your conditions for approval.

Thank you for your cooperation and if you have any questions please feel free to contact me.

Received ZBA

Date: 8/23/16

@ 4:38 PM



SOUTHBOROUGH FIRE DEPARTMENT

21 MAIN STREET
SOUTHBOROUGH, MA 01772

(508) 485-3235 (508) 485-3887 (FAX)

Joseph C. Mauro, Fire Chief
jmauro@southboroughma.com

June 14, 2016

Mr. Daniel Ruiz
Permitting Manager
Capital Group Properties
259 Turnpike Road, Suite 100
Southborough, MA 01772

Dear Mr. Ruiz,

On Thursday June 9, 2016 we met in regards to the road access around what is known as Webber Circle in the Park Central development. The meeting was also attended by Mr. William Depietri and Fire Prevention Officer Neal Aspesi. The original plan called for a 22' wide through street. As a result of issues with a wet land crossing, you and Mr. Depietri presented two options for the road.

The first was to create two dead end roads terminating approximately at the midpoint of the loop. The second reducing the width of the road to 18' and making it a one way. As a result of this discussion I support the second option of reducing the width to 18' and making it a one way. I do not support creating two dead ends as it further complicates access issues from a public safety response and would create two very long dead end roads.

Because this will be a one way through street, no parking will be allowed and the roadway will be posted "No Parking, Fire Lane".

If you need further information please feel free to contact me at (508) 485-3235 or email at jmauro@southboroughma.com.

Very Truly Yours,

Joseph C. Mauro
Fire Chief

CC: Beth Rosenblum, Conservation Administrator
Lt. Neal Aspesi, Fire Prevention Officer

Document1

MEMORANDUM #4

Date: May 8, 2017
To: Southborough Conservation Commission
From: Lucas Environmental, LLC
Christopher M. Lucas, PWS, RPSS
Re: Project Review for the Notice of Intent: **Park Central – 0 Turnpike Street**
(Map/Lots: 24/3, 25/5, 33/4, and 41/4A)

Lucas Environmental, LLC (LE) has completed a review of supplemental information submitted in support of a Notice of Intent (NOI) for the proposed Park Central project at 0 Turnpike Street (Map/Lot: 24/3, 25/5, 33/4, and 41/4A) in Southborough, Massachusetts. The review of the NOI has been completed in compliance with the Massachusetts Wetlands Protection Act (WPA; 310 CMR 10.00 et seq.). LE has reviewed the project's compliance under the Southborough Wetlands By-law and the Southborough Wetland Regulations (By-law) at the request of the Conservation Commission. LE understands that Fuss & O'Neill is reviewing the project for compliance with the Massachusetts Stormwater Regulations, Stormwater and Erosion Control By-law, and the Stormwater and Erosion Control Regulations.

Documents Reviewed

- Wetland Resource Evaluation & Stormwater Impact Analysis, prepared by Goddard Consulting, LLC, dated March 13, 2017

Previous Documents Reviewed

- Document entitled "Park Central Comment Response Letter (MassDEP File # 290-0981), prepared by Goddard Consulting, LLC, dated September 6, 2016; received September 8, 2016, with supporting documentation referenced in Response Letter.
- Document entitled "Addendum 1 Stormwater Management Summary for: Park Central, Southborough Massachusetts," prepared by prepared by Waterman Design Associates, Inc., dated August 2016.
- Project Plans entitled "Comprehensive Permits Plans for Park Central in Southborough, Massachusetts (Worcester County)," prepared by Waterman Design Associates, Inc., dated November 4, 2015, revised through August 15, 2016.
- 1983 Project Plans and documents.
- Document entitled "Park Central Alternatives Analysis (MassDEP File #:290-0981), prepared by Goddard Consulting, LLC, dated June 14, 2016.

- Document entitled "Park Central Notice of Intent, 0 Turnpike Street, Southborough Massachusetts," prepared by prepared by Goddard Consulting, LLC, dated April 11, 2016.
- Document, entitled, "Stormwater Management Summary for: Park Central, Southborough Massachusetts," prepared by prepared by Waterman Design Associates, Inc., dated April 2015 [assumed to be 2016].
- Project Plans entitled "Comprehensive Permits Plans for Park Central in Southborough, Massachusetts (Worcester County)," prepared by Waterman Design Associates, Inc., dated November 4, 2015, revised through April 6, 2016.

Comments and Requests for Additional Information

LE has reviewed the additional materials submitted. A response to the comments raised in the September 27, 2016 LE Comment Letter has not been submitted to date and the previous comments remain valid. LE will review the response that Comment Letter upon receipt and authorization from the Commission. LE has not reviewed the project's compliance with the Massachusetts Stormwater Management Standards, with the understanding that Fuss & O'Neill will provide comments.

A working session was conducted on April 13, 2017 with Beth Rosenblum, Scott Goddard from Goddard Consulting, LLC, Michael Scott from Waterman Design Associates, Inc., Daniel Ruiz from Capital Group Properties, Aimee Bell and Daniel DeLany from Fuss & O'Neill, and William Depietri (arriving 40 minutes into the session) from Capital Group Properties. LE understands that a summary of the working session discussions is being prepared by Beth Rosenblum and will not be further detailed herein.

The Wetland Resource Evaluation & Stormwater Impact Analysis ("Analysis") was prepared by Goddard Consulting to document that the proposed utilization of certain resource areas for stormwater management will not have an adverse impact to the resource areas and is in compliance with 310 CMR 10.05(6)(k). The regulation was included in Appendix H of the Analysis. The Applicant and project team are no longer pursuing the stormwater exemptions previously raised in comment letters and public hearings regarding 310 CMR 10.02, and to date have not provided any documentation on the history of the maintenance of the areas as referenced during the last public hearing.

Wetland Resource Evaluation & Stormwater Impact Analysis

80. The Wetland Resource Evaluation & Stormwater Impact Analysis notes that alterations are proposed to the wetland hydrology for the site development, although arguing that there will be no adverse effect. As previously noted, per 310 CMR 10.05(6)(k) of the Wetlands Protection Act: *No Area Subject to Protection under M.G.L. c. 131, § 40 other than bordering land subject to flooding, isolated land subject to flooding, land subject to coastal storm flowage, or riverfront area may be altered or filled for the impoundment or detention of stormwater, the control of sedimentation or the attenuation of pollutants in stormwater discharges, and the applicable performance standards shall apply to any such alteration or fill. Except as expressly provided, stormwater runoff from all industrial, commercial, institutional, office, residential and transportation projects that are subject to regulation under M.G.L. c. 131, § 40 including site preparation, construction, and redevelopment and all point source stormwater discharges from said projects within an Area Subject to Protection under M.G.L. c. 131, § 40 or within the Buffer Zone shall be provided with stormwater best management practices to attenuate pollutants and to*

provide a setback from the receiving waters and wetlands in accordance with the following Stormwater Management Standards as further defined and specified in the Massachusetts Stormwater Handbook...Per this regulation, no alternation within a BVW, Land Under Water Bodies and Waterways (LUWW), or Inland Bank is permitted. The WPA does not afford the Commission discretionary review of alterations to BVW, LUWW, and/or Bank; it is strictly prohibited within said resource areas. There are no provisions in the WPA or Regulations to demonstrate that use of these resource areas for stormwater management will have no adverse effect. Therefore, the Analysis provided is not applicable for an impact study of said resource areas as the WPA prohibits the alterations currently proposed. As currently designed, the stormwater management system is not permittable for proposed alterations to said resource areas and should be revised.

81. After a thorough review, LE has noted several technical deficiencies with the Analysis and does not support the conclusions stated. As the results of the Analysis are immaterial, LE felt it prudent to not waste the Commission's time and resources in noting the technical deficiencies herein. A detailed comment letter can be prepared if requested by the Commission.
82. LE concurs with MassDEP's assessment of the stormwater management design and review of the Analysis as raised in their April 19, 2017 comments.



FUSS & O'NEILL

December 3, 2015

Mr. Leo F. Bartolini Jr.
Chairman – Zoning Board of Appeals
Southborough Town House
17 Common Street
Southborough, MA 01772

RE: Park Central Drive 40B
Comprehensive Permit Review

Dear Mr. Bartolini Jr:

Fuss & O'Neill, Inc., has conducted a review of the documents submitted by Waterman Design Associates, Inc. relating to the Comprehensive Permit Application for Park Central Drive 40B. We offer the following comments.

Materials Reviewed

1. Notice of Decision on use Variance, William A. Depietri and Park Central, LLC, Park Central Drive, dated June 11, 2015.
2. Report titled, "Stormwater Management Summary, for Park Central, Southborough, Massachusetts," prepared by Waterman Design Associates, Inc., dated November 4, 2015.
3. Plan Set titled, "Comprehensive Permit Plans, Pursuant to Notice of Decision on a use Variance, Town of Southborough Board of Appeals, for Park Central in Southborough, Massachusetts," prepared by Waterman Design Associates, Inc., dated November 4, 2015.

Notice of Decision on a use Variance – Conditions

1. Condition 4, the Applicant's land shall only be used as set forth on the Concepts Plan with approximately 9.08 acres limited to 180 unit affordable housing rentals, 4.29 acres for a waste water treatment plant, and 9.07 acres for Future Development and 21.42 acres deed restricted open space. Please clarify areas and acreage on plans.
2. Condition 6 (c)(1) lists abutters along Bantry Road, Tara Road, and Blackthorn Drive. However Lot 119, owned by Mark and Lori Ruthfield and located on Tara Road, is not listed. Does this abutter have any concerns and conditions they wish to address?

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Connecticut
Massachusetts
Rhode Island
South Carolina

Mr. Leo F. Bartolini Jr.

December 3, 2015

Page 2

3. Condition 6(e)(7)(ii), Developer shall install an equal mix of blue spruce and white pines along both sides of the roadway between the emergency access connection of Blackthorn Drive and the Apartment Component. The proposed street trees are not blue spruce or white pines.
4. Condition 6(e)(7)(vi)(1), any centralized trash/recycling area(s) shall be set back a minimum 200 feet from any lot having frontage on Bantry, Tara or Blackthorn Road. There are currently dumpsters shown within the area of the apartments which are located greater than 200 feet from the above mentioned roads. Will there be central trash/recycling center for the townhouse?
5. Per Condition 7(c) allows for connector roads to have a minimum width of 22 feet and common driveways to have a minimum pavement width of 18 feet. Is there a minimum number of units a common driveway can service before it can no longer be considered a common driveway?
6. Per Condition 7(c) allows for connector roads to have a minimum width of 22 feet and common driveways to have a minimum pavement width of 18 feet. The connector road is 22 feet as required however there are several branch roads located off the connector that service many units. There is concern some of the branch roads and common driveway are proposed at too narrow of a width to accommodate the number of units they serve. It is recommend the applicant review the width of proposed roads and driveways. Some examples:
 - a. Road C serves 25 units and is proposed with a width of 20 feet.
 - b. Loop road shown on Sheet C2.05 serves 25 units and is proposed at a width of 20 feet.
7. Per Condition 10, configuration and lay out of the proposed c.40B Project and Multifamily Housing Development, roadways and infrastructure shall be reasonably pursuant to the concept plan dated April 8, 2015 and approved by the Zoning Board of Appeals. Minor changes necessitated by site conditions and engineering requirements are allowed within the discretion of the Building Inspector. The current proposed site layout has changed from the concept plan dated April 8, 2015. It appears the layout has been revised to lessen the impact to the existing wetlands and abutting neighbors. It is recommend the Zoning Board of Appeals the Building Inspector review the plans.
8. Per Condition 11, Multifamily Townhouse Buildings to be limited to a maximum of three-bedrooms and 2200 square feet of living area. Please provided architectural drawings showing the number of bedrooms and size of units.
9. Per Condition 12, Multifamily Townhouse Buildings shall have a minimum side yard setback between buildings of 20 feet and a front yard setback from roadways or common drives of 15

Mr. Leo F. Bartolini Jr.
December 3, 2015
Page 3

feet. Several Townhouse along Road B have a side yard setback of 15 to 20 feet from the road.
What is the side yard setback from a roads or common drives?

Comprehensive Permit Regulations and Guidelines

10. Per Section 4.1.3.1, plan submittals shall conform to Section 244-10 of the Town Subdivisions Rules and Regulations.
 - a. Section 244-10B(6), proposed names of streets shall be provided. Proposed names do not appear to have been provided. Please provide.
 - b. Section 244-10B(7), lengths and bearings of boundary lines shall be included on the plans. Please provide the length and bearing of existing and proposed boundary lines.
 - c. Section 244-10B(9), both roadway and right-of-way width for streets and private ways shall be provided on the plans. Please provide the roadway and right-of-way widths for the existing streets.
 - d. Section 244-10B(10), plans shall include all easements, covenants or restrictions. On the plans, please indicate area of restricted open space and future development parcels of land.
 - e. Section 244-10B(13), existing and proposed street profiles shall be provided. Please provide street profiles.
 - f. Section 244-10B(16), calculations to substantiate pipe sizes shall be provided. The proposed drainage does not appear to have been sized. Once pipe sizing has been completed calculations shall be provided for review.
11. Per Section 4.1.3.3, plans shall show:
 - a. general dimensions and materials of streets, drives, parking areas, walks, and paved areas, the applicant has provided dimensions and material types for the streets, drives, and walks, however the dimensions of the driveways, parking areas, and paved areas has not been provided. Please provide dimension for the driveways servicing each unit and for the parking areas for the apartments and the town houses.
 - b. show setback distances of structures from all property lines, dimensional distances from the structures to the property lines has not been provided. Please provided dimension from structures to the property lines.
 - c. plans shall open areas within the site, open areas have not been labeled on the plans. Please provide open areas.
12. Per Section 4.1.3.4, plans shall show boundaries of Town Zoning Districts. District boundaries do not appear to have provided on the plans. Please provide the Town Zoning Discitis boundaries.

Mr. Leo F. Bartolini Jr.

December 3, 2015

Page 4

13. Per Section 4.1.3.5, plans shall show location and ownership of abutting property within 300 of the property, including land from abutting the abutting Town of Westborough. Information for the direct abutters has been provided, however abutter information within 300 of the property has not been provided.
14. Per Section 4.1.3.8 and Section 244-10(B)(15)(a), utility locations and types shall be included on plans. Utility locations have been provided for drainage, water, gas, sewer, electrical, telecom and cable, however types have not been provided. Please provide pipe type and sizes for the utilities.
15. Per Section 4.1.3.9, where a subdivision of land is involved, plans shall include a subdivision plan. Will the land be subdivided to match developed areas, ie the townhouse units, the rental units, the open space restricted area, the treatment plan site, and the future development site?
16. Per Section 4.1.3.10, landscaping quantity, size, and species of plantings shall be provided on the landscaping plans. Quantity and sizes have not been included on the landscaping plan. Please provide quantity and sizes.
17. Per Section 4.1.3.11
18. Per Section 4.1.3.12 and Section 244-10B(12), plans shall contain suitable space on every plan sheet to record the action of the Board and the signatures of the Board. This does not appear to have been provided on every plan sheet.
19. Per Section 4.1.3.13, plans shall show location and results of soil, percolation, and water table tests. This information has not been provided on the plans. Please provide test pit location and information on the plan sheets.
20. Per Section 4.1.3.14, plans shall include location, size, length, invert elevations, and slopes of proposed drains and culverts. Location of proposed drainage has been provided, however the size, length, invert elevations and slopes have not been provided. Please provide.
21. Per Section 4.1.5, the architectural drawings for each building shall be submitted and shall include construction type and exterior finish. Architectural drawings have not been provided. Please provide.
22. Per Section 4.1.7, a tabulation of proposed building by type, size (number of bedrooms, floor area) and ground coverage, and a summary showing percentage of tract to be occupied by building, by parking and other paved vehicular areas, and by open areas shall be provided. This information has not been provided. Please provide.

Mr. Leo F. Bartolini Jr.

December 3, 2015

Page 5

23. Per Section 4.1.8, a list of requested exceptions to local requirements and regulations shall be submitted that include an analysis of each requirement and why its waiver would increase the affordability of the project should be included. A list of waivers has been provided however it does not include an analysis on how the each of the waivers would increase the affordability of the project. Please provide an analysis.
24. Per Section 4.1.9, a complete copy of any and all materials and applications submitted by the Applicant to any prospective Subsidizing Agency or source shall be provided. This information has not been included within the review information provided to Fuss & O'Neill. The Board is to ensure this information has been provided and determine if our review of the materials is required.
25. Per Section 4.1.10, a list of each member of the development and marketing team, including all contractors and subcontractors. It appears a list of the development team is provided on the cover page of the plans set. This list does not include contractors and subcontractors, however it is understood this information may not be available. When available the list of contractors and subcontractors shall be provided to the Board.
26. Per Section 4.1.11, a list of all prior development projects completed by the Applicant within the past ten (10) years, along with a brief description. This information was not included within the review materials provided to Fuss & O'Neill. The Board is to ensure this information has been provided and determine if our review of the materials is required.
27. Per Section 4.1.12 and Section 244-10D, an Environmental Analysis shall be prepared for the project. An Environmental Analysis was not included with the review materials provided to Fuss & O'Neill. Please provide an Environmental Analysis for review.
28. Per Section 4.1.15, a long term monitoring plan shall be submitted which identifies the governmental agency or other entity which will be responsible for project monitoring for the duration of the affordable units. A long term monitoring plan was not included in the review materials provided to Fuss & O'Neill. The Board is to ensure this information has been provided and determine if our review of the materials is required.
29. Per Section 6.3, project size? Waived by variance?
30. Per Section 6.4, building height is recommended to not exceed three habitable stories and be consistent with the heights of other buildings in its neighborhood. Proposed building heights have not been provided. Please provide height of proposed buildings.

Mr. Leo F. Bartolini Jr.

December 3, 2015

Page 6

31. Per Section 6.5, access shall assure reasonable standards of public safety. If not done so already the applicant shall work with DPW, Fire Chief, Police Chief, and other emergency personal to ensure there is adequate access to the site.
32. Per Section 6.6, the affordability of units shall be pursuant to DHCD regulations and Town guidelines. A breakdown of unit types has not been included with review materials provided to Fuss & O'Neill. The Board is to ensure this information has been provided and determine if our review of the materials is required.
33. Per Section 6.8, baseline parking is two spaces for each housing unit and one parking space for each to legal occupants of the community center. Please provide a breakdown of the proposed parking.
34. Per Section 6.9, the applicant is encouraged to retain a minimum 50% of the site as permanent open space. Please provide a percentage of proposed open space.
35. Per Section 6.10, the plans shall conform to requirements of the DEP Stormwater Management Guidelines and Policy, the Town's Stormwater By-Law, and the standards for a 100-year storm.
 - a. In review of the provided Stormwater Management Summary, for the 2-year and 10-year storm event contributing to the northern property line. Notes do indicate additional infiltration and/or detention will be required on the final Site Plans for areas contributing to the northern property line. Per the Stormwater Standards peaks for the 2-year and 10-year storm events must be maintained or reduced. Once additional infiltration and/or detention is provided additional review will be required.
 - b. There is an increase in peak rates for the 100-year storm event contributing to Flagg Road. Per Stormwater Standards and the Town's By-law, the project shall ensure that the 100-year storm does not increase off-site flooding. It's also good engineering practice to reduce or maintain peak flows for the 100-year storm event. It is recommended the applicant reduce or maintain the peak flows for the 100-year storm event.
 - c. The applicant has indicated compliance with the Stormwater Standards, however has not provided back up calculations or required documentation. The applicant has indicated that this information will be provided with submission of the NOI to the Conservation Commission. Once the NOI is submitted further review will be required.

Subdivision of Land, Chapter 244

Mr. Leo F. Bartolini Jr.

December 3, 2015

Page 7

36. Per Section 244-13A(3), where streets end within 250 feet of the subdivision, connections shall be made to provide continuous network with other existing and proposed streets. It is understood the abutting neighbors requested the subdivision not connect to Tara Road and Bantry Road. It is recommended the applicant request a waiver from this section.
37. Per Section 244-13A(5), street jogs with center-line offsets of less than one hundred fifty (150) feet between two (2) street joining the third street from the opposite side shall be avoided. The applicant has requested a waiver from this regulation.
38. Per Section 244-13A(7), where street grade exceeds 4% a leveling area of not more than 2% shall be provided for a distance of 75 feet from the side line of the intersection street right-of-way. The main entrance to the site, off Flagg Road, appears to be greater than 4% and a level landing has not been provided. Please review the grading for the main entrance. In addition the there appears to be several interior roads that do not meet the standard. Please review grading of interior roads.
39. Per Section 244-13A(8), changes in grades shall be by means of vertical curves. Please provide profiles to ensure vertical curves have used and provide adequate site distance.
40. Per Section 244-13B(3), no driveway openings shall be located within 65 feet of the intersection of the center lines of intersecting streets. The applicant has requested a waiver from this regulation.
41. Per Section 244-13B(4), between the side line of the street right-of-way and the edge of the pavement or gutter line, driveway grades shall be not less than 1%, nor more than 8%. The applicant has requested a waiver from this regulation.
42. Section 244-14 Open Space? Waived by variance?
43. The stormwater drainage system shall be designed in accordance with Section 244-16B, drainage calculations, pipe sizing calculations, rims, inverts and pipe information has not been completed. In a phone conversation with the applicant, they have stated the required calculations and drainage information will be provided with the NOI. Once the NOI is submitted further review will be required.
44. Per Section 244-17, water mains shall have a minimum inside diameter of eight inches. The size of the water main has not been provided. Please provide the pipe size.

Mr. Leo F. Bartolini Jr.

December 3, 2015

Page 8

45. Per Section 244-2, the proposed roadway appears to be classified as a major residential road. According to the Design Standards for Various Street Classifications table provided in Chapter 244,

- a. a major residential road the pavement shall consists of 1 ½ inches of surface course and 2 ½ inches of binder course. The Bituminous Concrete Pavement detail provided on Sheet C6.05 provides 1 ½ inches of top coarse and 2 inches of binder course. Please revise details to meet regulations.
- b. a major residential road shall have maximum street grade shall be 6%. It appears some areas of the road are graded with a stepper slope. Please review the grading and revise as needed.
- c. a major residential road shall sidewalks on both sides of the road. The plans show one side of the road with a sidewalk. Please review and revise as needed.
- d. granite curb shall be proposed along a major residential road. Curb is shown however the type has not been provided. Please provide the type of curb to be installed.

46. Per Section 244-21 A, sidewalks shall be constructed within the subdivision and outside the subdivision to connect to existing sidewalks. The applicant has requested a waiver from this regulation.

47. Per Section 244-23, the entire area between the gutter or curb and the side line of street right-of-way on each side not occupied by a sidewalk shall be graded to within six (6) inches of the finished grade, shall have six-inch depth of well-compacted loam installed, graded to slope down not less than three-eighths (3/8) inch per foot toward the gutter or curb, and shall be seeded with a high-quality grass seed. The area shall be maintained and reseeded if necessary. Utility and light poles shall be placed in the grass plot, centered three (3) feet away from the gutter or curb face, except that no poles shall be located less than thirty (30) feet from the intersection of tangents of street side lines at corner roundings. The applicant has requested a waiver from this regulation.

48. Per Section 244-24B, Suitable existing trees within the right-of-way approved by the Tree Warden, if larger than four (4) inches caliper and located outside the shoulders, shall be preserved. Trees to be retained shall not have grade changes over their root areas more than twelve (12) inches. Where suitable trees do not exist at intervals of less than forty (40) feet on each side of the street, they shall be provided by the developer. The applicant has requested a waiver from this regulation.

Zoning, Chapter 174

District, setbacks per variance – good

Mr. Leo F. Bartolini Jr.
December 3, 2015
Page 9

Section 174-11, Signs

49. Proposed signs must follow regulations as outlined in Section 174-11. There appears to be a proposed sign located at the entrance off Flag Road. Details of the sign have not been provided. To ensure the regulations have been adequately met, please provide details of the proposed sign.

Section 174-12, Parking and loading regulations

50. Per Section 174.12 C(2), parking spaces shall be at least 9 ½ feet wide by 18 feet long. Please provide dimension of the parking spaces.
51. Per Section 174.12 E(1), two (2) spaces are required for each dwelling unit containing one (1) or two (2) bedrooms, three (3) for each dwelling unit containing three (3) or more bedrooms. It is difficult to determine the number of required and the number provided. Please provide a room count of each of the dwellings and the number of spaces provided for each dwelling.

Number of spaces for an apartment????????

Section 174-21.1, Outdoor Illumination

52. Proposed lighting must follow Section 174-12.1. Location of lighting, size, and the fact the lighting will be shielded has been provided. However, this is not sufficient detail to ensure the regulations have been properly met. Please provide sufficient detail, including but not limited to,
- a. luminaire manufacture's specifications,
 - b. type of lamp such as metal halide, compact fluorescent, or high pressure sodium
 - c. photometric plan to ensure sufficient lighting is provided and there is no light trespassing onto neighboring properties.
53. Are wall mounted fixtures proposed on the townhouse and/or the apartments buildings?

Section 174-13, Landscaping

Rule and Regulations for Lower Impact Development (LID)

Review of the LID Regulations will be conducted when updated stormwater information has been submitted to the Conservation Commission with the NOI.

Mr. Leo F. Bartolini Jr.
December 3, 2015
Page 10

Stormwater Report & Project Narrative

54. Page 2, first paragraph of the provided Stormwater Management Summary indicates the site contains intermittent Streams. The streams are shown on the USGS Quad. Maps as perennial.
55. It is difficult to tell were the limits of each hydrological soils type on the plans. In review of the Soil Mapping provided, the Existing and Proposed Hydrology Plans, and the NRCS Website, it appears there may be several hydrological soil types labeled incorrectly on the plans. Please clarify.

Further review of catchment areas, Tc, and calculations required.

A more extensive review of the Stormwater report and calculations will be completed when the NOI has been submitted to the Conservation Commission.

Site Plans

56. A construction phasing and sequencing plan should be included on the plans. Will the site be developed in one phase or in multiple phases?

Further review of plans required.

General Design Comments

57. Several town houses are proposed close to existing wetlands. There is concern for groundwater elevations and disturbance of wetlands within these areas. One example is located on Sheet C2.03, where several town houses are proposed within a few feet of an isolated vegetated wetland. It is recommend the applicant review the location of town houses with the proximity existing wetland and move them further from the wetlands to eliminate the disturbance of wetlands and groundwater.

58. Club house dock disturbs BVW around pond, is there proposed mitigation?

Futher review of materials required.

The above comments are based on the plans and documentation received at the time of review. Any revisions to the plans, documentation and calculations will need further review. Please contact our office should you have any questions or require any additional information.

Mr. Leo F. Bartolini Jr.
December 3, 2015
Page 11

Sincerely,

Reviewed by:

Project Manager

Senior Vice President

/Admin Initials Here

Enclosures: *Optional: List Enclosures Here*
Enclosure Name Here

c:



FUSS & O'NEILL

August 24, 2016

Mr. David Eagle
Zoning Board of Appeals
Southborough Town House
17 Common Street
Southborough, MA 01772

RE: Park Central Drive 40B
Comprehensive Permit Review

Dear Mr. Eagle,

Fuss & O'Neill, Inc., has conducted a review of the revised documents submitted by Waterman Design Associates, Inc. relating to the Comprehensive Permit Application for Park Central Drive 40B. We offer the following comments.

Materials Reviewed

1. Notice of Decision on use Variance, William A. Depietri and Park Central, LLC, Park Central Drive, dated June 11, 2015.
2. Report titled, "Addendum 1 Stormwater Management Summary, for Park Central, Southborough, Massachusetts," prepared by Waterman Design Associates, Inc., dated August 2016.
3. Plan Set titled, "Comprehensive Permit Plans, Pursuant to Notice of Decision on a use Variance, Town of Southborough Board of Appeals, for Park Central in Southborough, Massachusetts," prepared by Waterman Design Associates, Inc., revised through August 15, 2016.
4. Letter by Waterman Design Associates, Inc., dated August 18, 2016, to Mr. Eagle and Members of the Board, concerning response to Fuss & O'Neill, Inc. comments.

Fuss & O'Neill, Inc. has the following outstanding comments, concerns and additional comments based on our review of the documents listed above, the applicant's response and revised materials addressing Fuss & O'Neill's previous review comment letter dated December 3, 2015. The outstanding comments and concerns are detailed below. For tracking and clarification purposes the original comment numbers are the same. Responses made by Waterman Design Associates, Inc. have been italicized and new responses by Fuss & O'Neill are in bold lettering.

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Mr. David Eagle
August 24, 2016
Page 2

Notice of Decision on a use Variance – Conditions

1. Condition 4, the Applicant's land shall only be used as set forth on the Concepts Plan with approximately 9.08 acres limited to 180 unit affordable housing rentals, 4.29 acres for a waste water treatment plant, and 9.07 acres for Future Development and 21.42 acres deed restricted open space. Please clarify areas and acreage on plans.

The Index Sheets label each area however the acreage is not listed for each use area. The Future Development is listed with 9.49± acres and the Open Space is listed as 21.6 acres, however none of the other uses list the acreage.

3. Condition 6(e)(7)(ii), Developer shall install an equal mix of blue spruce and white pines along both sides of the roadway between the emergency access connection of Blackthorn Drive and the Apartment Component. The proposed street trees are not blue spruce or white pines.

It's at the discretion of the board to allow predominantly Blue Spruce.

5. Per Condition 7(c) allows for connector roads to have a minimum width of 22 feet and common driveways to have a minimum pavement width of 18 feet. Is there a minimum number of units a common driveway can service before it can no longer be considered a common driveway?

While acknowledging the development is not a subdivision and the proposed driveways are part of a condominium development, driveways serving a large number of units will function the same as a roadway; therefore it's recommended the same design and safety requirements be applied. In addition widths and design of driveways serving a large number of units should be reviewed by local emergency personal to ensure adequate access is provided for emergency vehicles.

6. Per Condition 7(c) allows for connector roads to have a minimum width of 22 feet and common driveways to have a minimum pavement width of 18 feet. The connector road is 22 feet as required however there are several branch roads located off the connector that service many units. There is concern some of the branch roads and common driveway are proposed at too narrow of a width to accommodate the number of units they serve. It is recommend the applicant review the width of proposed roads and driveways. Some examples:

- a. Road C serves 25 units and is proposed with a width of 20 feet.
- b. Loop road shown on Sheet C2.05 serves 25 units and is proposed at a width of 20 feet.



Mr. David Eagle
August 24, 2016
Page 3

While acknowledging the development is not a subdivision and the proposed driveways are part of a condominium development, driveways serving a large number of units will function the same as a roadway; therefore it's recommended the same design and safety requirements be applied. In addition widths and design of driveways serving a large number of units should be reviewed by local emergency personal to ensure adequate access is provided for emergency vehicles.

A reduction in the width the of access drives, Weber Circle, Phaneuf Drive, Berry Circle, Blackthorn Extension, and other 18' wide driveways, causes concern that there will not be enough turning radius to provide proper access into individual driveways for each of the units. In addition, Blackthorn Extension is proposed as a 2-way drive, 18 feet is too narrow to serve the proposed 8 units.

Many individual driveways for each of the units are proposed at a length of 20 feet, with some longer and some shorter. There is concern vehicles will overhang into the access drives or adjacent sidewalks. In addition with the reduction of the access drives and many of the units being directly across from each other, there is concern there will not be enough turning radius to provided proper access to each of the driveway. It is recommended the driveway lengths be increased to accommodate parked vehicles, s, and/or increase the width of the access drives.

7. Per Condition 10, configuration and lay out of the proposed c.40B Project and Multifamily Housing Development, roadways and infrastructure shall be reasonably pursuant to the concept plan dated April 8, 2015 and approved by the Zoning Board of Appeals. Minor changes necessitated by site conditions and engineering requirements are allowed within the discretion of the Building Inspector. The current proposed site layout has changed from the concept plan dated April 8, 2015. It appears the layout has been revised to lessen the impact to the existing wetlands and abutting neighbors. It is recommended the Zoning Board of Appeals the Building Inspector review the plans.

The plans have been revised to accommodate comments from the Conservation Commission. It is recommended the Zoning Board of Appeals review the revised plans.

8. Per Condition 11, Multifamily Townhouse Buildings to be limited to a maximum of three-bedrooms and 2200 square feet of living area. Please provide architectural drawings showing the number of bedrooms and size of units.

Parking Summary Table provided on Sheet C2.00 of the Plan sets indicates 3 spaces are provided for units with 3 and more bedrooms. Per Condition 11 Townhouse are limited



Mr. David Eagle

August 24, 2016

Page 4

to a maximum of 3 bedrooms. In addition a square footage of living area has not been provided. The applicant should clarify the number of bedrooms and the square footage of living area for each of the units.

9. Per Condition 12, Multifamily Townhouse Buildings shall have a minimum side yard setback between buildings of 20 feet and a front yard setback from roadways or common drives of 15 feet. Several Townhouse along Road B have a side yard setback of 15 to 20 feet from the road. What is the side yard setback from a roads or common drives?

Comprehensive Permit Regulations and Guidelines

10. Per Section 4.1.3.1, plan submittals shall conform to Section 244-10 of the Town Subdivisions Rules and Regulations.

c. Section 244-10B(13), existing and proposed street profiles shall be provided. Please provide street profiles.

While acknowledging the development is not a subdivision and the proposed driveways are part of a condominium development, driveways serving a large number of units will function the same as a roadway; therefore it's recommended the same design and safety requirements be applied. To ensure the drives have been designed to provide a safe vehicle travel path, profiles should be provided. In addition it's understood the Proponent is has been granted a waiver from the Subdivision Regulations; however this is a requirement of the Comprehensive Permit Regulations and Guidelines, which the Proponent is not exempt from.

2. Per Section 4.1.3.3, plans shall show:

12. Per Section 4.1.5, the architectural drawings for each building shall be submitted and shall include construction type and exterior finish. Architectural drawings have not been provided. Please provide.

It is a requirement of the Comprehensive Permit Regulations. In addition, to ensure the applicant has meet Condition 11 under the Notice of Decision on a use Variance, to adequately determine number of rooms and living area of each unit it's recommended Architectural drawings be provided. It's at the discretion of the Zoning Board of Appeals if Architectural drawings be provided.

22. Per Section 4.1.7, a tabulation of proposed building by type, size (number of bedrooms, floor area) and ground coverage, and a summary showing percentage of tract to be occupied by



Mr. David Eagle
August 24, 2016
Page 5

building, by parking and other paved vehicular areas, and by open areas shall be provided. This information has not been provided. Please provide.

A tabulation of the required information does not appear to have been provided. Please provide.

23. Per Section 4.1.8, a list of requested exceptions to local requirements and regulations shall be submitted that include an analysis of each requirement and why its waiver would increase the affordability of the project should be included. A list of waivers has been provided however it does not include an analysis on how the each of the waivers would increase the affordability of the project. Please provide an analysis.

The Zoning Board of Appeals shall ensure this information has been provided.

24. Per Section 4.1.9, a complete copy of any and all materials and applications submitted by the Applicant to any prospective Subsidizing Agency or source shall be provided. This information has not been included within the review information provided to Fuss & O'Neill. The Board is to ensure this information has been provided and determine if our review of the materials is required.

The Zoning Board of Appeals shall ensure this information has been provided.

25. Per Section 4.1.10, a list of each member of the development and marketing team, including all contractors and subcontractors. It appears a list of the development team is provided on the cover page of the plans set. This list does not include contractors and subcontractors, however it is understood this information may not be available. When available the list of contractors and subcontractors shall be provided to the Board.

The Zoning Board of Appeals shall ensure this information has been provided.

26. Per Section 4.1.11, a list of all prior development projects completed by the Applicant within the past ten (10) years, along with a brief description. This information was not included within the review materials provided to Fuss & O'Neill. The Board is to ensure this information has been provided and determine if our review of the materials is required.

The Zoning Board of Appeals shall ensure this information has been provided.

27. Per Section 4.1.12 and Section 244-10D, an Environmental Analysis shall be prepared for the project. An Environmental Analysis was not included with the review materials provided to Fuss & O'Neill. Please provide an Environmental Analysis for review.



Mr. David Eagle
August 24, 2016
Page 6

It is at the discretion of the ZBA to require Fuss & O'Neill to review the Environmental Analysis

28. Per Section 4.1.15, a long term monitoring plan shall be submitted which identifies the governmental agency or other entity which will be responsible for project monitoring for the duration of the affordable units. A long term monitoring plan was not included in the review materials provided to Fuss & O'Neill. The Board is to ensure this information has been provided and determine if our review of the materials is required.

The Zoning Board of Appeals shall ensure this information has been provided.

29. Per Section 6.3, project size? Waived by variance?

It is as the discretion of the Zoning Board of Appeals to allow the current proposed project size.

30. Per Section 6.4, building height is recommended to not exceed three habitable stories and be consistent with the heights of other buildings in its neighborhood. Proposed building heights have not been provided. Please provide height of proposed buildings.

See comment 21 above.

32. Per Section 6.6, the affordability of units shall be pursuant to DHCD regulations and Town guidelines. A breakdown of unit types has not been included with review materials provided to Fuss & O'Neill. The Board is to ensure this information has been provided and determine if our review of the materials is required.

The Zoning Board of Appeals is to ensure this information has been provided and determine if our review of the materials is required.

33. Per Section 6.8, baseline parking is two spaces for each housing unit and one parking space for each to legal occupants of the community center. Please provide a breakdown of the proposed parking.

A breakdown of parking provided for the town houses and rental units has been provided, however a parking breakdown has not been provided for the community center (club house) located off Weber Circle and within the apartment complex. To ensure proper parking for the community center please provide a parking break down.



Mr. David Eagle

August 24, 2016

Page 7

3. 34. Per Section 6.9, the applicant is encouraged to retain a minimum 50% of the site as permanent open space. Please provide a percentage of proposed open space.

The percentage of proposed open space does not appear to have been provided.

35. Per Section 6.10, the plans shall conform to requirements of the DEP Stormwater Management Guidelines and Policy, the Town's Stormwater By-Law, and the standards for a 100-year storm.

- a. In review of the provided Stormwater Management Summary, for the 2-year and 10-year storm event contributing to the northern property line. Notes do indicate additional infiltration and/or detention will be required on the final Site Plans for areas contributing to the northern property line. Per the Stormwater Standards peaks for the 2-year and 10-year storm events must be maintained or reduced. Once additional infiltration and/or detention is provided additional review will be required.
- c. The applicant has indicated compliance with the Stormwater Standards, however has not provided back up calculations or required documentation. The applicant has indicated that this information will be provided with submission of the NOI to the Conservation Commission. Once the NOI is submitted further review will be required.

It is understood the ZBA has waived the requirements of various aspects of the local bylaws, however the applicant must meet the requirements of State Regulations, which include the Massachusetts DEP Stormwater Management Guidelines and the DEP Wetland Protection Act. A review of project as it relates to the Massachusetts DEP Stormwater Management Guidelines has been completed as part of the Stormwater Review for the Conservation Commission. In addition a review of the project as it relates to the Wetlands Protection Act has been completed by Lucas Environment, LLC. Please refer to the review comments provided to the Conservation Commission for additional comments on stormwater.

Subdivision of Land, Chapter 244

39. Per Section 244-13A(8), changes in grades shall be by means of vertical curves. Please provide profiles to ensure vertical curves have used and provide adequate site distance.

While acknowledging the development is a condominium development and not a subdivision, it is standard engineering practice to provide vertical curves for changes in grades. In addition driveways serving a large number of units will function the same as



Mr. David Eagle
August 24, 2016
Page 8

a roadway; there it's recommended the same design and safety requirements be applied. To ensure the drives have been designed to provide a safe travel path, profiles should be provided.

43. The stormwater drainage system shall be designed in accordance with Section 244-16B, drainage calculations, pipe sizing calculations, rims, inverts and pipe information has not been completed. In a phone conversation with the applicant, they have stated the required calculations and drainage information will be provided with the NOI. Once the NOI is submitted further review will be required.

The NOI with stormwater calculations has been provided to the Conservation Commission. For comments on the stormwater design, please refer to the review letter provided to the Conservation Commission.

45. Per Section 244-2, the proposed roadway appears to be classified as a major residential road. According to the Design Standards for Various Street Classifications table provided in Chapter 244, a major residential road shall have maximum street grade shall be 6%. It appears some areas of the road are graded with a steeper slope. Please review the grading and revise as needed.

While acknowledging the development is not a subdivision and the proposed driveways are part of a condominium development, driveways serving a large number of units will function the same as a roadway; therefore it's recommended the same design and safety requirements should be applied. The grade of the driveways should be taken into consideration and designed to provide a safe travel path for resident vehicles, delivery vehicles and emergency vehicles.

Zoning, Chapter 174

Section 174-11, Signs

49. Proposed signs must follow regulations as outlined in Section 174-11. There appears to be a proposed sign located at the entrance off Flag Road. Details of the sign have not been provided. To ensure the regulations have been adequately met, please provide details of the proposed sign.

Details of the proposed signs have not been provided, only the location. It is understood that the ZBA has waived the requirements of the Zoning Bylaw, however to ensure the signs do not inhibit site distances along Route 9 and Flagg Road, details with the size of each proposed sign should be provide.



Mr. David Eagle
August 24, 2016
Page 9

Section 174-12, Parking and loading regulations

50. Per Section 174.12 C(2), parking spaces shall be at least 9 ½ feet wide by 18 feet long. Please provide dimension of the parking spaces.

While acknowledging the ZBA has waived the requirements of the Zoning Bylaw, it is standard practice for a parking space to be at least 9 feet wide by 18 feet long. To ensure proper construction of the proposed parking spaces, including the visitor "green parking," please dimension each of the parking space areas.

51. Per Section 174.12 E(1), two (2) spaces are required for each dwelling unit containing one (1) or two (2) bedrooms, three (3) for each dwelling unit containing three (3) or more bedrooms. It is difficult to determine the number of required and the number provided. Please provide a room count of each of the dwellings and the number of spaces provided for each dwelling.

In review of the Parking Summary Table and the Site Plans, the number of units listed in the table does not add up to the number of units proposed. The table lists a total of 105 rental/40B units whereas 180 are proposed. In addition the table list 378 spaces are required however only 304 spaces are provided for the rental/40B units. Please review the parking summary table and revise as needed.

Section 174-13, Landscaping

A waiver to the Zoning Bylaw has been granted.

Acknowledged, per Section 174-13 I, Fuss & O'Neill reviewed proposed plant list to ensure invasive species were not proposed. Ligustrum species, Privet, is an invasive species prohibited from being planted; it appears the California Privet has been proposed. Its recommended the Applicant provide an alternative for the California Privet.

Rule and Regulations for Lower Impact Development (LID)

Review of the LID Regulations will be conducted when updated stormwater information has been submitted to the Conservation Commission with the NOI.

Acknowledged.



Mr. David Eagle
August 24, 2016
Page 10

Updated stormwater information has been provided with the submission of the NOI to the Conservation Commission. Refer to review comments provided to the Conservation Commission.

Stormwater Report & Project Narrative

54. Page 2, first paragraph of the provided Stormwater Management Summary indicates the site contains intermittent Streams. The streams are shown on the USGS Quad. Maps as perennial.

Resource areas have been reviewed by Lucas Environmental. Refer to comments prepared by Lucas Environmental and provided to the Conservation Commission.

55. It is difficult to tell were the limits of each hydrological soils type on the plans. In review of the Soil Mapping provided, the Existing and Proposed Hydrology Plans, and the NRCS Website, it appears there may be several hydrological soil types labeled incorrectly on the plans. Please clarify.

Further review of catchment areas, Tc, and calculations required.

A more extensive review of the Stormwater report and calculations will be completed when the NOI has been submitted to the Conservation Commission.

Updated stormwater information has been provided with the submission of the NOI to the Conservation Commission. Refer to review comments provided to the Conservation Commission.

Site Plans

4. 56. A construction phasing and sequencing plan should be included on the plans. Will the site be developed in one phase or in multiple phases?

The applicant should add notes to ensure concrete truck washout areas are not located within the resource areas and washout is not directed towards a resource area.

General Design Comments

57. Several town houses are proposed close to existing wetlands. There is concern for groundwater elevations and disturbance of wetlands within these areas. One example is located on Sheet C2.03, where several town houses are proposed within a few feet of an isolated vegetated wetland. It is recommend the applicant review the location of town houses with the



Mr. David Eagle

August 24, 2016

Page 11

proximity existing wetland and move them further from the wetlands to eliminate the disturbance of wetlands and groundwater.

Updated stormwater information has been provided with the submission of the NOI to the Conservation Commission. Refer to review comments provided to the Conservation Commission.

58. Club house dock disturbs BVW around pond, is there proposed mitigation?

Resource areas have been reviewed by Lucas Environmental. Refer to comments prepared by Lucas Environmental and provided to the Conservation Commission.

Additional Comments

1. Traffic circulation signage location and types should be reviewed. It does not appear adequate signage has been provided to indicate Weber Circle, Berry Circle, and Phaneuf Drive is one-way.
2. Per Section 6.2.1 of the Comprehensive Permit Regulations and Guidelines, the development shall avoid impacts to the extent possible on environmentally sensitive areas. A Notice of Intent has been submitted to the Conservation Commission and is currently in the review process. Zoning Board of Appeals shall coordinate with the Conservation Commission to ensure impacts to environmentally sensitive areas have been avoided to the extent possible.
3. Per Section 6.2.2 of the Comprehensive Permit Regulations and Guidelines, the development shall be designed to accommodate the natural features of the site and not alter the site in such a manner as to physically transform it dramatically, permanently altering and destroying natural features, drainage patterns, wildlife habitats, historic landscapes and biodiversity of the area.
 - a. Updated stormwater information has been provided with the submission of the NOI. Refer to review comments provided to the Conservation Commission.
 - b. A Notice of Intent with Stormwater Calculations has been submitted to the Conservation Commission and is currently in the review process. Zoning Board of Appeals shall coordinate with the Conservation Commission to ensure impacts to onsite wetlands and associated wildlife habitats will not be physically transformed from the development.
 - c. Resource areas have been reviewed by Lucas Environmental. Refer to comments prepared by Lucas Environmental and provided to the Conservation Commission.
4. Sheet C5.01 provides a detail of an electrical swing gate to be used at the Blackthorn Drive connect to the site. It's is Fuss & O'Neill's understanding the connection to Blackthorn Drive



Mr. David Eagle
August 24, 2016
Page 12

has been made an emergency connection per the Fire Department. There is concern the electrical swing gate will not provide adequate access to the site if there is a power outage in the area. Has the electrical swing gate been reviewed by the Fire Department?

Additional Recommendations

1. As of the time of this review letter, Fuss & O'Neill is still in the process of reviewing the stormwater design and technical aspects of the Notice of Intent with the Conservation Commission. Should the ZBA move to approve the project prior to the issuance of an Order of Conditions by the conservation commission, we recommend the ZBA include a condition that any design changes made to the project during the NOI review process be included in final plans. In addition, all conditions included in the Order of Conditions should be included in the final decision as a condition.
2. We also recommend all outstanding items included in this letter, as well as unresolved items in our May 12, 2016 and July 8, 2016 Stormwater and NOI review letter, be included as conditions in the ZBA's decision should they move to approve the project at their August 24, 2016 meeting.

The above comments are based on the plans and documentation received at the time of review. Any revisions to the plans, documentation and calculations will need further review. Please contact our office should you have any questions or require any additional information.

Sincerely,

Aimee Bell
Project Engineer

Reviewed by:

Dan DeLany, P.E.
Senior Project Manager

/JM



FUSS & O'NEILL

September 15, 2016

Ms. Jyothi Grama
Town Planner
17 Common Street
Southborough, MA 01772

RE: Park Central 40B
Planning Board Site Plan Review

Dear Ms. Grama:

Fuss & O'Neill has conducted a review of the documents submitted by Waterman Design Associates, Inc. regarding the Comprehensive Permit for the Park Central 40B project. The project site is approximately 101 acres located off Flagg Road. The development includes the combination of 40B rental units and townhouse unit.

Materials Reviewed

1. Report titled, "Addendum 1 Stormwater Management Summary," dated August 2016, prepared by Waterman Design Associates, Inc.
2. Plan Set titled, "Comprehensive Permit Plans, Pursuant to Notice of Decision on a use Variance, Town of Southborough Board of Appeals, for Park Central in Southborough, Massachusetts," prepared by Waterman Design Associates, Inc., revised through August 15, 2016.

A Comprehensive Permit has been submitted to the Zoning Board of Appeals, and approved during their August meeting. It's understood the Zoning Board of Appeals has issued a "Notice of Decision on a use Variance." Findings #3 of the "Notice" waives compliance with the Major Residential Subdivision Requirements of the Zoning Code. Condition 13 of the "Notice" states the project is subject to Residual Site Plan Approval. This review is based on requirements outlined within the Zoning Bylaws as they relate to Site Plan Approval and Zoning Bylaw requirements outlined in the Town Comprehensive Permit Regulations and Guidelines.

Comments submitted to the Zoning Board of Appeals (ZBA)

The following comments are outstanding comments as they relate to the Zoning. Below are the original comments from the Fuss & O'Neill (F&O) letters dated December 3, 2015 and August 24, 2016; the responses from Waterman Design Associates, Inc. (WDA) dated August 18, 2016 and August 24, 2016; and additional comments provided by F&O.

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Ms. Jyothi Grama
September 15, 2016
Page 2

1. Original #49. Proposed signs must follow regulations as outlined in Section 174-11. There appears to be a proposed sign located at the entrance off Flag Road. Details of the sign have not been provided. To ensure the regulations have been adequately met, please provide details of the proposed sign.

WDA dated August 18, 2016: The plans have been revised accordingly.

- a. **F&O dated August 24, 2016: Details of the proposed signs have not been provided, only the location. It is understood that the ZBA has waived the requirements of the Zoning Bylaw, however to ensure the signs do not inhibit site distances along Route 9 and Flagg Road, details with the size of each proposed sign should be provide.**

WDA dated August 24, 2016: The Site Plans will be revised accordingly.

- b. **Additional F&O: Fuss & O'Neill further reviewed the Notice of Decision on a use Variance. The Variance does not wave the requirements of Section 174-11 which is included within the requirements of the Site Plan Approval. The Applicant must provide documentation demonstrating they meet the requirements.**
2. Original #50. Per Section 174.12 C(2), parking spaces shall be at least 9 ½ feet wide by 18 feet long. Please provide dimension of the parking spaces.

WDA dated August 18, 2016: A waiver to the Zoning Bylaw has been granted.

- a. **F&O dated August 24, 2016: While acknowledging the ZBA has waived the requirements of the Zoning Bylaw, it is standard practice for a parking space to be at least 9 feet wide by 18 feet long. To ensure proper construction of the proposed parking spaces, including the visitor "green parking," please dimension each of the parking space areas.**

WDA dated August 24, 2016: The Site Plans will be revised accordingly. As disused with F&O, the Site Plans are fairly bush so rather than labelling all the spaces, the plans will be revised to include additional "typical" callouts on each Layout & Materials Sheets.

- a. **Additional F&O: Fuss & O'Neill further reviewed the Notice of Decision on a use Variance. The Variance does not wave the requirements of Section 174-12 which is included within the requirements of the Site Plan Approval. An exception is Section 6.8 of the Compressive Permit Regulations and Guidelines. Section 6.8 indicates**

the required parking for each unit and for the community center. A breakdown of parking for each the units has been provided however a breakdown of parking for the Community Center has not.

- b. **Additional F&O: Zoning:** See Zoning, Section 174-12, Parking and loading regulations in this review letter for additional comments.

3. Original Comment: Section 174-13, Landscaping

WDA dated August 18, 2016: A waiver to the Zoning Bylaw has been granted.

- a. **F&O dated August 24, 2016:** Acknowledged, per Section 174-13 I, Fuss & O'Neill reviewed proposed plant list to ensure invasive species were not proposed. Ligustrum species, Privet, is an invasive species prohibited from being planted; it appears the California Privet has been proposed. It's recommended the Applicant provide an alternative for the California Privet.

WDA dated August 24, 2016: The Site Plans will be revised accordingly.

- b. **Additional F&O:** Revised plans shall be provided to ensure the planting has been corrected.
- c. **Additional F&O:** See Zoning, Section 174-13, Landscaping, in this review letter for additional comments.

Site Plan Review – Section 174-8, District Zoning Requirements & Section 174-10 Site Plan Approval

- 4. Per Section 174-8.6 E, and 174-8.7 E, a minimum 50 foot side yard setback is required for both the Industrial Park and Industrial district. The proposed design provides a minimum 40 foot setback as outlined in the "Notice of Decision on Use Variance" issued by the ZBA.
- 5. Per Section 174-10 B(2)[1], driveway widths shall be provided. Please provide the driveway widths for the townhouses.
- 6. Per Section 174-10 B(2)[2], dimensions for parking facilities shall be provided. There are several "green" visitor parking spaces locations. These visitor spaces have not been dimensioned.
- 7. Per Section 174-10 B(2)[10], signs, including proposed sizes, mounting heights, types and design shall be provided. Detailed information has not been provided for the proposed signs.

Ms. Jyothi Grama
September 15, 2016
Page 4

8. Per Section 174-10 B(2)[11], lighting including detailed information, size, type and wattage. Lighting Plans have been provided. The plans include the location and pictures of the proposed lighting. There is no detailed information on type or wattage of the proposed lights.
9. Per Section 174-10 B(2)[13], existing trees on the site which are a caliper of six inches or larger shall be provided. This information does not appear to have been provided.
10. Per Section 174-10 B(2)[18], sewage disposal, including detailed design information. Detailed design information has not been provided to Fuss & O'Neill to review. The Planning Board shall ensure detailed information of the sewage disposal system has been provided to DPH and MassDEP for review.

Zoning, Section 174-12, Parking and loading regulations

11. Per Section 174-12 B, parking areas shall be paved with bituminous concrete. The visitor "green" parking spaces are proposed to be a grasspave system. With proper maintenance, Fuss & O'Neill believes this is adequate and appropriate for the visitor parking spaces. It's at the discretion of the Planning Board to allow the grasspave system.
12. Per Section 174-12 C(2), parking spaces shall be at least 9 ½ feet wide by 18 feet long. Parking spaces are proposed 9 feet wide by 18 feet long. As stated in the ZBA comments above, this is a standard size for parking spaces. It is at the discretion of the Planning Board to allow parking spaces to be 9 feet wide by 18 feet long.

Zoning, Section 174-21.1, Outdoor illumination

13. Per Section 174-12.1 D(2), luminaire manufacturer's specification data shall be provided for the proposed lighting. This information has not been provided.
14. Per Section 174-12.1 D(3), type of lamp, such as metal halide, compact fluorescent, high pressure sodium, must be provided. This information has not been provided.

Zoning, Section 174-13, Landscaping

15. Per Section 174-13 B(5), do not use staking materials unless absolutely necessary. Planting details showing requirements of planting have not been provided.

16. Per Section 174-13 B(9), a permanent water supply system, or other acceptable watering method, shall be provided for planting areas. Information regarding the requirements of watering planting areas has not been provided.

Stormwater Management Summary and Drainage System

17. Per Section 6.10 of the Town Comprehensive Permit Regulations and Guidelines, Stormwater management, the plans shall be prepared to conform to the requirements of the DEP Stormwater Management Guidelines and Policy, and the Town's Stormwater By-Law. A Notice of Intent with stormwater calculations has been submitted to the Conservation Commission. Fuss & O'Neill is working with the Commission to review of the stormwater management and design of the stormwater system(s). Please refer to the comment letter dated May 12, 2016 and any subsequent letters submitted to the Conservation Commission for comments on stormwater design as they relate to requirements of MassDEP Stormwater Standards, the Town of Southborough Stormwater and Erosion Control Regulations, and standard engineering practice.

Additional Comments

18. A Memorandum from Chief Joseph C. Mauro, of the Fire Department, requests Blackthorn Drive be returned to a width of 22 feet to accommodate access for emergency vehicles. Blackthorn was reduced to 18 feet as a request by the Conservation Commission to reduce wetland impacts. It's understood that the safety of the residents of the development governs. It's recommended Blackthorn Drive be returned to a width of 22'.
19. Per 4.1.8 of the Town Comprehensive Permit Regulations and Guidelines, a list of requested exceptions to local requirements and regulations, including local codes, ordinances, By-Laws or regulations shall be submitted with the Comprehensive Permit. In review of the "Notice" it appears the applicant has requested a waiver from 174-13.2, Major Residential Development, of the Zoning Code and from the requirements of the use regulations for the districts the project is located in. It does not appear the applicant has not requested a waiver from other regulations or By-Laws.

Ms. Jyothi Grama
September 15, 2016
Page 6

The above comments are based on plans and documentation received at the time of the review. Any revisions to the plans, documents and calculations will need further review. Please contact our office should have any questions or require any additional information.

Sincerely,

A handwritten signature in blue ink, appearing to read "Aimee Bell".

Aimee Bell
Project Engineer

Reviewed by:

A handwritten signature in blue ink, appearing to read "Daniel F. DeLany".

Daniel F. DeLany, P.E.
Senior Project Manager



FUSS & O'NEILL

September 22, 2016

Ms. Jyothi Grama
Town Planner
17 Common Street
Southborough, MA 01772

RE: Park Central 40B
Planning Board Site Plan Review

Dear Ms. Grama:

Fuss & O'Neill has conducted a review of the documents submitted by Waterman Design Associates, Inc. regarding the Comprehensive Permit for the Park Central 40B project. The project site is approximately 101 acres located off Flagg Road. The development includes the combination of 40B rental units and townhouse unit.

Materials Reviewed

1. Letter with attachments, provided by Capital Group Properties, dated September 19, 2016, to Ms. Grama, concerning response to Fuss & O'Neill, Inc. Planning Board review letter dated September 15, 2016.
2. Report titled, "Addendum 1 Stormwater Management Summary," dated August 2016, prepared by Waterman Design Associates, Inc.
3. Plan Set titled, "Comprehensive Permit Plans, Pursuant to Notice of Decision on a use Variance, Town of Southborough Board of Appeals, for Park Central in Southborough, Massachusetts," prepared by Waterman Design Associates, Inc., revised through August 15, 2016.

A Comprehensive Permit has been submitted to the Zoning Board of Appeals, and approved during their August meeting. It's understood the Zoning Board of Appeals has issued a "Notice of Decision on a use Variance." Findings #3 of the "Notice" waives compliance with the Major Residential Subdivision Requirements of the Zoning Code. Condition 13 of the "Notice" states the project is subject to Residual Site Plan Approval. This review is based on requirements outlined within the Zoning Bylaws as they relate to Site Plan Approval and Zoning Bylaw requirements outlined in the Town Comprehensive Permit Regulations and Guidelines.

Fuss & O'Neill believes the applicant has addressed the comments presented in our initial review letter dated September 15, 2016, with the exception of the following comments requiring further review from the Planning Board and the ongoing review of the stormwater through the Conservation Commission. For tracking and clarification purposes the original comment numbers

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Ms. Jyothi Grama
September 22, 2016
Page 2

are the same. Responses made by Capital Group Properties have been italicized and additional responses by Fuss & O'Neill are in bold letters.

Site Plan Review – Section 174-8, District Zoning Requirements & Section 174-10 Site Plan Approval

In the Meeting Minutes for the ZBA meeting on March 24, 2015, the ZBA voted 3-0 to grant the waiver request of section 174-8.2, section 174-8.6, section 174-8.7 of the use regulations and dimensional requirements set forth whiting each section 174-8 through 174-8.10.

In the Meeting Minutes for the ZBA meeting on March 24, 2015, the ZBA voted 3-0 to grant the waiver request of section 174-10 site plan approval subject to special condition that the waiver applies only to the affordable housing component of the project as residual site plan approval as set forth in the Use Variance is under the jurisdiction of the Planning Board.

Zoning, Section 174-9.1, Common Driveways

In the Meeting Minutes for the ZBA meeting on March 24, 2015, the ZBA voted 3-0 to grant the waiver request of section 174-9.1, section 174-9.A (1)-(2) to waive the requirements that each lot served by a common driveway must have its own full required frontage on a public way and to waive the requirement of a turnaround provision in all seasons.

Zoning, Section 174-12, Parking and loading regulations

In the Meeting Minutes for the ZBA meeting on March 24, 2015, the ZBA voted 3-0 to grant the waiver request of section 174-12, parking and loading regulations, waiving of the requirements of section 174-12C (2) and 174-12E (I).

- 11 Per Section 174-12 B, parking areas shall be paved with bituminous concrete. The visitor "green" parking spaces are proposed to be a grasspave system. With proper maintenance, Fuss & O'Neill believes this is adequate and appropriate for the visitor parking spaces. It's at the discretion of the Planning Board to allow the grasspave system.

It's at the discretion of the Planning Board to allow the grasspave system.

Zoning, Section 174-21.1, Outdoor illumination

In the Meeting Minutes for the ZBA meeting on March 24, 2015, the ZBA voted 3-0 to grant the waiver request of section 174-12.1 outdoor illumination.

Ms. Jyothi Grama
September 22, 2016
Page 3

Zoning, Section 174-13, Landscaping

In the Meeting Minutes for the ZBA meeting on March 24, 2015, the ZBA voted 3-0 to grant the waiver request of section 174-13, landscaping.

Stormwater Management Summary and Drainage System

17. Per Section 6.10 of the Town Comprehensive Permit Regulations and Guidelines, Stormwater management, the plans shall be prepared to conform to the requirements of the DEP Stormwater Management Guidelines and Policy, and the Town's Stormwater By-Law. A Notice of Intent with stormwater calculations has been submitted to the Conservation Commission. Fuss & O'Neill is working with the Commission to review of the stormwater management and design of the stormwater system(s). Please refer to the comment letter dated May 12, 2016 and any subsequent letters submitted to the Conservation Commission for comments on stormwater design as they relate to requirements of MassDEP Stormwater Standards, the Town of Southborough Stormwater and Erosion Control Regulations, and standard engineering practice.

Comprehensive Permit Regulation and Guidelines are inapplicable to this review. Section 174-13.5 Stormwater and Erosion Control was waived by the Zoning Board of Appeals. Please see attached letter "Waiver Request for Affordable Housing Integrated Development Project." And the "Southborough Zoning Board of Appeal Meeting Administrative Minutes." The project will comply with DEP Stormwater Management Guidelines and Policy, as per anticipated Order of Conditions from the Conservation Commission.

Stormwater Review is still on going with the Conservation Commission.

Additional Comments

18. A Memorandum from Chief Joseph C. Mauro, of the Fire Department, requests Blackthorn Drive be returned to a width of 22 feet to accommodate access for emergency vehicles. Blackthorn was reduced to 18 feet as a request by the Conservation Commission to reduce wetland impacts. It's understood that the safety of the residents of the development governs. It's recommended Blackthorn Drive be returned to a width of 22'.

Please see attachment "I" email from Chief Mauro, indicating that the reduced 18' width over the culvert and wall area is acceptable, the remainder of the Drive east of the culvert walls will be 22'.

The plans will need to be revised accordingly.

Ms. Jyothi Grama
September 22, 2016
Page 4

Chapter 244, Subdivision of Land

In the Meeting Minutes for the ZBA meeting on March 24, 2015, the ZBA voted 3-0 to grant the waiver request of section 244-13A (3), 244-13(5), 244-13(5), 244-13(7), 244-13(9), 244-13b (3), 244-13b (4), 244-21, 244-23, and 244-24b.

The above comments are based on plans and documentation received at the time of the review. Any revisions to the plans, documents and calculations will need further review. Please contact our office should have any questions or require any additional information.

Sincerely,



Aimee Bell
Project Engineer

Reviewed by:



Daniel F. DeLany, P.E.
Senior Project Manager



FUSS & O'NEILL

May 12, 2016

Ms. Beth Rosenblum
Conservation Administrator
17 Common Street
Southborough, MA 01772

RE: Park Central 40B
Stormwater Review

Dear Ms Rosenblum:

Fuss & O'Neill has conducted a review of the documents submitted by Waterman Design Associates, Inc., regarding the Comprehensive Permit for the Park Central 40B project. The project site is approximately 101 acres located off Flagg Road. The development includes the construction of two-building, 180-unit 40B rental project and 142 townhouses. We have conducted a review of the following materials as they relate to Massachusetts Stormwater Handbook, the Town of Southborough Stormwater and Erosion Control Regulations, and standard engineering practice.

Materials Reviewed

1. Report titled, "Stormwater Management Summary," dated April 2015, prepared by Waterman Design Associates, Inc.
2. Site Plans titled, "Comprehensive Permit Plans," revised through April 6, 2016, prepared by Waterman Design Associates, Inc.
3. Report titled, "Park Central Notice of Intent," dated April 11, 2016, prepared by Goddard Consulting, LLC.

Stormwater Management Summary and Stormwater Design

1. In the provided Stormwater Management Summary, under Project Site, the applicant has stated that Ridgebury fine sandy loams have a Hydrologic Soil Group C (HSG C). In review of the NRCS mapping from the website, Ridgebury fine sandy loams in the area of the project are classified as HSG D. This will affect CN values for the existing and proposed HydroCAD model for several watershed areas and the exfiltration rates for several proposed infiltration basins. Please review soil types and revise calculations as required.
2. Throughout the existing and proposed HydroCAD model the HSG soil types and CN values are in constant. One example includes watershed area EDA-404 and EDA 405. Both areas contain soils classified as 71B-HSG D, 307D-HSG C, 275B-HSG-B, 306C-HSG-C, and 102C-

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Ms. Beth Rosenblum

May 12, 2016

Page 2

HSG-B. EDA-404 was modeled with soils types A, B, and C were has EDA-405 was modeled with B, C, and D. Both areas contain the same soils and the classification should be consistent between the two. All soils types used in the existing and proposed HydroCAD model should be reviewed and for clarification HSG soil types should be included on the plans.

3. Per Massachusetts Stormwater Handbook, Standard 8 requires an erosion and sedimentation (E&S) control plan to be developed. It is understood that a SWPPP will be completed for this project, however:
 - a. An E&S Plan should be developed to ensure proper location and installation of erosion control structures and reduce the potential for erosion of the site affecting the existing wetlands and drainage system.
 - b. The SWPPP must be provided prior to the start of construction.
4. In the existing and proposed HydroCAD models, Area EDA-402 appears to model the existing wetland as a water body. The other wetlands on site have not been modeled as water; they have been modeled as woods. CN classification for the wetlands should be consistent. Please review and revise the HydroCAD models as required.
5. There is a discrepancy between the existing HyrdoCAD model and the Existing Hydrology Plan. For Area EDA-403 the land cover areas do not match between the model and the Plan. These should be consistent. Please review the land cover areas for each of the existing watershed areas and revise plans and model as required.
6. There is a discrepancy between the proposed HyrdoCAD model and the Proposed Hydrology Plan. For Area PDA-201 the land cover areas do not match between the model and the Plan. These should be consistent. Please review the land cover areas for each of the proposed watershed areas and revise plans and model as required.
7. Per the Volume 1 Chapter 1 of the Massachusetts Stormwater Handbook, infiltration basins must a minimum 2' from high seasonal groundwater. The applicant has stated that soil testing was performed for the stormwater recharge facilities, however the information has not been provided for review. To ensure proper separation from groundwater and soil types please provided test pit information.
8. Per Volume 1 Chapter 1 of the Massachusetts Stormwater Handbook, infiltration BMPs must be minimum 50 feet from surface water and 10 to 100 feet from building foundation depending on the type of BMP. There are several detention/infiltration basins that appear to be closer than the minimum to the existing wetlands, water surfaces, and proposed foundations. The applicant must insure that all infiltration structures meet these requirements.



Ms. Beth Rosenblum

May 12, 2016

Page 3

9. In review of the existing and proposed grading, it appears the watershed area contributing to Detention Basin 310 may be larger than modeled. The area modeled appears to only include areas is collected by the proposed stormwater collection system contributing to the basin. However there is a portion of overland flow behind units 35 to 40 that will contribute to the basin as well. The watershed area should be review and revised as required.
10. In the proposed HyrdoCAD model, the outlet structure for Ex. Pond A-2, DMH-S2, does not model the proposed grate. The detail for DMH-S2, provided on Sheet C6.02, proposed the structure with a grate at elevation 428. To properly model the pond, the grate should be included in the model.
11. The detail for DMH-S2 on Sheet C6.02, proposes a grate elevation of 428 however looking at the proposed grading on Sheet C3.03, the grades in the area of DMH-S2 appear to be approximately 430 to 433. The proposed grade is well above the proposed rim elevation. Please review.
12. The storage volume for Existing Pond Basin 1 (Western Wetland) in proposed conditions will be reduced due to the grading of the proposed basins located along the edge. The proposed HydroCAD model does not take into account the reduction in volume. Please review and revise.
13. The outlet pipe elevation for DMH-S1 does not match between the proposed HydroCAD model and the detail provided on Sheet C6.02. The model uses an outlet elevation of 403.63 however the detail indicates an elevation of 403. The two should be consistent. Please revise.
14. The outlet pipe elevation for DMH-N2 does not match between the proposed HydroCAD model and the detail provided on Sheet C6.02. The model uses an outlet elevation of 362.9 however the detail indicates an elevation of 361.20. The two should be consistent. Please revise.
15. Grate elevation for OCS-302 does not match between the Plans and the proposed HydroCAD model. Sheet C6.03 lists a grate elevation of 380 however the HydroCAD model use an elevation of 368.80. The two should be consistent. Please review and revise.
16. Basin 306 and Basin 409 were not designed with a spillway. Per Volume 2 Chapter 2 of the MassDEP Stormwater Handbook, detention basins must be designed with an emergency spillway to allow for bypassing of larger storm events.



Ms. Beth Rosenblum

May 12, 2016

Page 4

17. The pipe size for the culvert out of Basin 306 does not match between the Plans and the proposed HydroCAD model. The Plans list the pipe size as 18" however the HydroCAD model uses 6". The two should be consistent. Please review and revise.
18. In the proposed HydroCAD model, Basin 304, Basin 305, Basin 308, Basin 406, Basin 411, and Basin 413 the grates on the outlet structures for the basins were not modeled. To properly model the system the grates should be included for basins outlets structures. Please review and revise.
19. Infiltration System INF-301 has been modeled in the HydroCAD model with a 24" outlet, the detail provided on Sheet C6.03 indicates the outlet is a 15", however the structures table on Sheet C3.07 has an 18" pipe coming out of it. The pipe size should be consistent throughout. Please review and revise.
20. Infiltration System INF-307 has been modeled in the HydroCAD model with a 6" outlet culvert, however the structures table on Sheet C3.07 list the outlet pipe as an 18" pipe. In addition the outlet invert does not match the plans. The HydroCAD model and plans should be consistent. Please review and revise.
21. The applicant should review the proposed watershed areas. There appears to be several areas where stormwater will be collected by a closed stormwater system that outlets to a specific pond however the watershed area does not take into account the area collected by the overall system. A couple examples are watershed PDA-411A does not take into account the area collected by the catch basins located at the start of the system and PDA-406 which contributes to Basin 406 includes an area that will be collected by the a stormwater system that outlets to Basin 411. The applicant shall review all the proposed watershed areas as they relate the proposed stormwater collection systems.
22. The Proposed Hydrology Plan divides one of the apartment buildings into PDA-409A, PDA-409B and PDA-410. PDA-410 is included within the proposed HydroCAD model however PDA-409A and PDA-409B does not appear to have been included in the model. The model should be revised to include these areas.
23. Basin 409 appears to outlet to Ex Basin 1 however in the proposed HydroCAD model the Basin is modeled as outleting to the existing Small Pond. Please review and revised.
24. In review of the existing and proposed grading it appears a portion of the watershed Area PDA-412 will actually contribute to Ex Pond A-2 not Ex Basin 1 has modeled in the proposed HydroCAD model. Please review and revise as required.



Ms. Beth Rosenblum

May 12, 2016

Page 5

25. The outlet control structure detail provided on Sheet C6.03 proposes a 12" orifice at elevation 394 for OCS-407 however this orifice elevation is 2 feet below the proposed bottom of pond and would not function. In addition the orifice is not modeled in the proposed HydroCAD model. Please review if the orifice elevation and include the orifice in the proposed HydroCAD model.
26. Infiltration system INF-410 was modeled with a broad-crested rectangular weir as an outlet. It is unclear where the rectangular weir is proposed, the plans do not propose a weir for this infiltration system. Please clarify.
27. In the proposed HydroCAD model infiltration systems INF-408 and INF-410 was modeled with an exfiltration rate of 2.4 in/hr. Per MassDEP Stormwater Handbook, soils classified as HSG A have an exfiltration rate of 2.4 in/hr. The soils located in the area of INF-408 & INF-410 appear to be classified as HSG C, which has an exfiltration rate of 0.27 in/hr. Please review and revise the model as required.
28. The outlet information listed in the table for the Stormwater Infiltration Systems, located on Sheet C6.03 does not match the outlet information provided in the structures table located on Sheet C3.07. The pipe sizes and inverts should be consistent between the two. Please review and revise. This may affect the proposed HydroCAD model which uses the table on Sheet C6.03.
29. In review of the proposed grade in the location of INF-408 the system appears to be about 12 feet deep. The proposed grade is approximately 418 and the bottom elevation of the system is proposed at 405.4. The elevation of the system should be reviewed.
30. The recharge volume for INF-301 should be taken from the storage provided below the invert out at an elevation of 357.5. The volume used in the recharge calculations appears to have been taken at an elevation of 358.56. Please review and revise.
31. The required recharge volume for the southern portion of the site is not met. The provided recharge volume does not equal or exceed the required.
32. The required recharge volume calculated for the northern portion of the site was calculated incorrectly. The target depth factor for C soils is 0.35, not 0.40 has been used in the calculations. In addition the area contains D soils that do not appear to have been included in the required recharge volume calculations. Also, it is unclear how the amount of impervious within the B soils was determined; it does not match what was provided by the HydroCAD summary.



Ms. Beth Rosenblum

May 12, 2016

Page 6

33. The recharge volume for INF-408 should be taken from the storage provided below the invert out at an elevation of 407.07. The volume used in the recharge calculations appears to have been taken at an elevation of 408.16. Please review and revise.
34. The recharge volume for INF-410 should be taken from the storage provided below the invert out at an elevation of 413.37. The volume used in the recharge calculations appears to have been taken at an elevation of 413.50. Please review and revise.
35. Per Standard 3 of the Massachusetts Stormwater Handbook, infiltration BMPs must be designed to drawdown within 72 hours. Calculations have not been provided to demonstrating if the proposed infiltration BMPs meet the required 72 hour drawdown.
36. Effective October 15, 2013, manufactured proprietary stormwater treatment practices must be sized in accordance with the "Standard Method to Convert Required Water Quality Volume to a Discharge Rate for Sizing Flow Based Manufactured Proprietary Stormwater Treatment Practices." Calculations as outline in the Standard have not been provided.
37. In review of the pipe slopes in proposed for the stormwater management system, several pipes appear to be at proposed slopes less than 0.5% (0.005 ft/ft), with some a little as 0.2% slope (0.002 ft/ft). General engineering practice is a minimum of 0.5% slope for drainage pipes. Proposed slopes should be reviewed and revised.
38. In review of the Conduit FlexTable: WDA Report, several of the conduits do not have contributing areas associated with them. To ensure the pipes have been sized appropriately the contributing areas for each of the structures must be included in the calculations. Please update the calculations to include all contributing areas.
39. The applicant has listed the stormwater structure information by pipe, this will make it difficult for construction. Standard engineering practice is list the structure information by catch basins/drain manholes with rims and inverts for each pipe associated with the structure.
40. Per Volume 1 Chapter 1 of the MassDEP Stormwater Handbook, Standard 9 indicates the party responsible for the operation and maintenance of the site must maintain an operation and maintenance log. The provided Stormwater Operation & Maintenance Plan and Long Term Pollution Prevention Plan does not indicate the requirement for an operation and maintenance log. The requirement of a log form should be included and a recommended log form should be provided.
41. Massachusetts Stormwater Handbook Standard 4 requires 80% TSS removal for each treatment train provided within the project. It is difficult to determine if each of the



Ms. Beth Rosenblum

May 12, 2016

Page 7

stormwater management systems proposed provides 80% TSS removal. The applicant shall demonstrate each treatment train provides the required TSS removal.

42. Massachusetts Stormwater Handbook Standard 5, the project is a large development that may generate a large amount of vehicle trips per day; it appears the project may be considered an LUHPPL. The applicant must demonstrate they are not an LUHPPL or that requirements of Standard 5 have been met and the appropriate BMPs have been used on the site.
43. Massachusetts Stormwater Handbook Standard 6 requires 44% TSS preferment prior to discharge into an infiltration devise. It is difficult to determine if pretreatment for each infiltration devise has been provided. The applicant shall demonstrate each pretreatment has been provided.
44. In review of the existing grades there appears to be some off-site areas that may contribute to the project watershed area. There are areas to the north, south, and west of project appear to be up gradient and stormwater runoff from these areas will contribute to the site. These areas will not be change however the stormwater contributing from these areas do contribute to the existing and proposed stormwater management on site and should be accounted for to ensure the proposed system has been designed accordingly.

Town Stormwater and Erosions Control Regulations

45. Per Section 7.6.10.3, existing and proposed areas of impervious cover, open space, and undisturbed open space must be provided. This information has not been provided.
46. Per Section 7.6.10.7, test pits and test information must be provided for infiltration structures are proposed. The information must demonstrate at least 2 feet of separation from the bottom of the structures. Test pits locations have been provided on the Plans however test information has not been provided.
47. Per Section 7.6.10.8, location of existing and proposed areas with shortest distance between the surface and maximum groundwater elevations must be provided. This information does not appear to have been provided.
48. Per Section 7.6.10.9, reference of location of nearest public wells and known private wells on abutting properties must be provided. This information has not been included.
49. Per Section 7.6.10.11 and 7.6.16, erosion, sedimentation and siltation control devices to be utilized during construction and a Stormwater and Erosion Control Management Plan must be provided. Details appear to have provided however installation locations have not been



Ms. Beth Rosenblum

May 12, 2016

Page 8

provided on the plans. A detailed Stormwater and Erosion Control Management Plan has not been provided.

50. Per Section 7.6.13, cut and fill calculations must be provided. This information has not been provided.
51. Per Section 7.6.17.1 a), the name(s) of the owner(s) must be included in the O&M Plan. The provided Stormwater Operation and Maintenance Plan does not list an owner(s) name(s).
52. Per Section 7.6.17.1 b), the 24hr/7 day contact information for the person responsible for the site's O&M must be provided. The contact information has not been provided.
53. Per Section 7.6.17.1 d)(4) and 7.6.17.1 e), a list of easements with the purpose and location and stormwater management easements must be provided. If easements are required for the maintenance of the stormwater management components is required, they should be provided on the plans and a list provided.
54. Per Section 7.6.17.1 d)(6) and 11.2.3, an inspection and maintenance log (report) must be completed for the long term maintenance of the stormwater management systems. The Stormwater Operation and Maintenance Plan provided does not include the requirement of a log (report) or an example that may be used.
55. Per Section 8.1.6, 80% TSS, 40% TP and 30% TN must be provided. There is not enough documentation provided to show 80% TSS, 40% TP and 30% TN has been provided.
56. Per Section 10, construction inspections must be completed. The applicant has not provided documentation that shows construction inspection will be provided.
57. Per Section 11.2.2, maintenance inspection for the stormwater management facilities at a minimum must be inspected quarterly during the first year of operation and at least once a year after that. The Stormwater Operation and Maintenance Plan does not include the minimum quarterly inspections for the first year of operation.
58. Per Section 11.4, records of maintenance and repair of the stormwater management system must be retained for at least 10 years. This requirement has not been included in the Stormwater Operation and Maintenance Plan provided.



FUSS & O'NEILL

Ms. Beth Rosenblum

May 12, 2016

Page 9

General Comments

59. Proposed erosion control measure should be taken to ensure minimal erosion of the site during construction and protection of the wetlands and stormwater components from erosion caused by construction. Erosion control details have been provided within the Plans however installation notes, measures, and locations have not been included. To ensure proper erosion controls have been taken it is good engineering practice to provide an Erosion and Sedimentation Control Plan including details notes and locations for the proper installation of erosion control devices.
60. There are several units proposed in close proximity to the existing wetlands. There is concern for high groundwater and future disturbance of the existing wetlands. The applicant should review the location of these units and provide further separation from the wetlands where possible.

The above comments are based on plans, documentation and calculations received at the time of the review. Any revision to the plans, documentations and calculations will need further review. Please feel free to contact us with any questions.

Sincerely,

Aimée Bell
Project Engineer

Reviewed by:

Daniel F. Delany, P.E.
Senior Project Manager

/JM



FUSS & O'NEILL

July 12, 2016

Ms. Beth Rosenblum
Conservation Administrator
17 Common Street
Southborough, MA 01772

RE: Park Central 40B
Stormwater Review

Dear Ms Rosenblum:

Fuss & O'Neill has conducted a review of the Alternative Analysis submitted by Goddard Consulting, LLC., regarding the Comprehensive Permit for the Park Central 40B project. The project site is approximately 101 acres located off Flagg Road. The development includes the construction of two-building 180-unit 40B rental project and 142 townhouses.

Impact Area 1

1. The letter provided by DOT is dated 11/1/88 and appears to be a permit allowing for the development of the 66,000 SF office building and Red Roof Inn. It indicates the use of this driveway is limited to access for the Red Roof Inn Motel and new development of the 66,000 SF office building as it was proposed at the time of the permit. It further states an increase is not allowed without prior approval; it does not say an increase would present a significant traffic concern. An amendment to the permit can be requested. Has an amendment been requested for the current development to be accessed from Park Central?

Impact Area 2

2. There does not appear to be details for the walking trail. What material will the trail be made of? Will the trail require grading? Construction of the trail will result in impacts to the wetland buffer and this should be taken into account as part of the permitting process.
3. The applicant shall verify the wooden pedestrian bridge meets the criteria of the Stream Crossing Standards.
4. The applicant shall demonstrate the proposed pedestrian bridge will not be impacted by larger storm events. Water surface elevations should be modelled to review any impacts to the bridge.

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Ms. Beth Rosenblum

July 12, 2016

Page 2

Area Impact 3

5. It is understood that providing two cul-de-sacs on either side of the R and O series would create a significant safety hazard.
6. If permitted by the Town, the applicant should consider a reduction in the pavement width in the area of the crossing.

Impact Area 4

7. If the preferred alternative is to eliminate basin 310, revised stormwater calculations need to be provided. The calculations must demonstrate the project will still meet the Mass Stormwater Standards with the basin removed from the project.

Impact Area 5

8. If permitted by the Town, a reduction of the roadway width would be acceptable. The grading of the road would need to be reviewed to ensure it does not disturb the IVW.
9. It appears the elimination of unit 8 and unit 9 may allow for Webber Circle to be realigned. The realignment would potentially eliminate the disturbance to the IVW. The realignment may be feasible with the elimination of just unit 9. Has the applicant explored these options?
10. With the elimination of unit 9 and the realignment of Webber Circle, it appears unit 10 could also be eliminated. The drive to units 9 through 12 could be removed and unit 11 and unit 12 could be realigned along Webber Circle. This would result in the potential of the units to have further separation from the wetland. Has the applicant explored these options?

Impact Area 6

11. Has eliminating units 46, 47 and 48 been considered? These units are isolated between wetland series D and wetland series DA. The elimination of these units would eliminate the need for the wetland crossing and reduce impacts to the wetland buffers. In addition the units are proposed very close to the wetlands and may cause potential for wetland impacts during construction and post-construction.



Ms. Beth Rosenblum

July 12, 2016

Page 3

Impact Area 7

12. It appears the applicant's use of retaining walls and location of the roadway is proposed in a location that will minimize the impacts to each of the wetlands. This crossing is to allow for connection to Buckthorn as required by the Fire Department.

Impact Area 8

13. The NOI indicates series B delineates the bank and BVW of the pond. Will the BVW in the area of the dock be disturbed?
14. The existing condition shows the area of the dock is wooded. Will tree clearing be required? Tree clearing could potentially disturb the bank of the pond and the surrounding BVW.

All Impact Areas

15. The applicant indicates the proposed wetland crossings meet the Stream Crossing Standards. Has the project been submitted to MassDEP and US Army Corps for review of compliance with the Stream Crossing Standards?
16. Temporary Impacts for each of the culvert installations, roadway construction, and retaining installation should be reviewed and taken into consideration. These temporary impacts should be included within the NOI and shown on the plans.

Additional Comments

17. The applicant states an overall consideration was to reduce the proposed project density by 5%. What is the 5% reduction based on? Is there a plan depicting this reduction?
18. A reduction in the number of units has not been proposed as an alternative. There are several units that appear to be proposed in very close proximity to the existing wetlands. This results in development impacts and possible future impacts from the resident living in the units. No alternatives were proposed to accommodate this concern in the review performed by Fuss & O'Neill's on May 12, 2016.
19. Sheet C2.03 shows a proposed multi-age play structure located within basin 308.



Ms. Beth Rosenblum

July 12, 2016

Page 4

20. The alternatives provided in the Alternative Analysis included only written description of potential alternatives. No plans or design documents showing any potential alternative were provided for review. Please provide alternative plans that depict the alternatives.

Summary

Based on our review, Fuss & O'Neill believes that with the removal of several units, a substantial improvement could be made to the scope of the projects impacts to the on-site wetlands system. Several areas which were noted are as follows:

- Elimination of units 46, 47 and 48 would eliminate the need for the drive that crosses wetland series D and DA
- Elimination of unit 9 and possibly unit 8, may allow for the realigning Webber Circle and potentially eliminate the disturbance of the IVW along Webber Circle
- Elimination of unit 9, unit 10 and possible unit 8, may allow for the realigning of Webber Circle, the removal of the drive to units 9 through 12, and the realignment of unit 11 and unit 12 to be along Webber. Potentially eliminating the disturbance to the IVW and provided further separation from the units to the wetland.

We encourage the applicant to review these areas, as well as other impacts areas to reduce the overall scope of impacts where possible.

The above comments are based on the Alternative Analysis and design plans provided at the time of the stormwater review. Revised plans addressing the comments from Fuss & O'Neill's review dated May 12, 2016 have not been provided. Any revision to the plans, documentations and calculations will need further review. Please feel free to contact us with any questions.

Sincerely,

Aimee Bell
Project Engineer

Reviewed by:

Daniel F. DeLany, P.E.
Senior Project Manager



FUSS & O'NEILL

September 26, 2016

Ms. Beth Rosenblum
Conservation Administrator
17 Common Street
Southborough, MA 01772

RE: Park Central 40B
Follow-up Stormwater Review

Dear Ms. Rosenblum:

Fuss & O'Neill has conducted a review of the revised documents submitted by Waterman Design Associates, Inc., regarding the Comprehensive Permit for the Park Central 40B project. The project site is approximately 101 acres located off Flagg Road. The development includes the construction of two-building, 180-unit 40B rental project and 142 townhouses. We have conducted a review of the following materials as they relate to Massachusetts Stormwater Handbook, the Town of Southborough Stormwater and Erosion Control Regulations, and standard engineering practice.

Materials Reviewed

1. Report titled, "Addendum 1 Stormwater Management Summary," dated August 2016, prepared by Waterman Design Associates, Inc.
2. Plan Set titled, "Comprehensive Permit Plans, Pursuant to Notice of Decision on a use Variance, Town of Southborough Board of Appeals, for Park Central in Southborough, Massachusetts," prepared by Waterman Design Associates, Inc., revised through August 15, 2016.
3. Letter by Waterman Design Associates, Inc., dated August 18, 2016, to Mr. Eagle and Members of the Board, concerning response to Fuss & O'Neill, Inc. Stormwater Review dated May 12, 2016.
4. Letter with associated attachments, by Goddard Consulting, LLC., dated September 6, 2016, addressed to Southborough Conservation Commission, concerning Park Central Response Letter.

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Fuss & O'Neill has noted that the revised plans submitted by the applicant now show existing site wetlands areas being used for stormwater management. This practice is not allowed under the Wetlands Protection Act and/or the MassDEP Stormwater Handbook. Refer to comment 66 below for references to specific sections of the Stormwater Handbook, as well as the review by Lucas Environmental for reference to specific sections of the Wetlands Protection Act.

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Ms. Beth Rosenblum

September 26, 2016

Page 2

Fuss & O'Neill, Inc. has the following outstanding comments, concerns and additional comments based on our review of the documents listed above, the applicant's response and revised materials addressing Fuss & O'Neill's previous review comment letter dated May 12, 2016. The outstanding comments and concerns are detailed below. For tracking and clarification purposes the original comment numbers are the same. Responses made by Waterman Design Associates, Inc. have been italicized and new responses by Fuss & O'Neill are in bold lettering.

Stormwater Management Summary and Stormwater Design

7. Per the Volume 1 Chapter 1 of the Massachusetts Stormwater Handbook, infiltration basins must a minimum 2' from high seasonal groundwater. The applicant has stated that soil testing was performed for the stormwater recharge facilities, however the information has not been provided for review. To ensure proper separation from groundwater and soil types please provided test pit information.

Test pit information has been provided in the Appendix.

In review of the test pit information provided the groundwater in the location of INF-408 ranges from an elevation of 395 to 405. The bottom of the system is proposed at 405.4. In addition in the location of INF-410 the groundwater varies from an elevation of 404 to 418 and the bottom of the system is proposed at 413. The elevation of both systems should be reviewed to ensure proper separation from groundwater.

8. Per Volume 1 Chapter 1 of the Massachusetts Stormwater Handbook, infiltration BMPs must be minimum 50 feet from surface water and 10 to 100 feet from building foundation depending on the type of BMP. There are several detention/infiltration basins that appear to be closer than the minimum to the existing wetlands, water surfaces, and proposed foundations. The applicant must insure that all infiltration structures meet these requirements.

The plans have been revised accordingly.

The applicant is proposing underground infiltration for each of the townhouses. Several townhouses appear in close proximity to an existing wetland. For these units, it may be difficult to install an infiltration system that maintains the minimum setback as required by the MassDEP Stormwater Handbook.

10. In the proposed HyrdoCAD model, the outlet structure for Ex. Pond A-2, DMH-S2, does not model the proposed grate. The detail for DMH-S2, provided on Sheet C6.02, proposed



Ms. Beth Rosenblum
September 26, 2016
Page 3

the structure with a grate at elevation 428. To properly model the pond, the grate should be included in the model.

The calculations have been revised accordingly. Please note that the maximum water surface did/does not reach the top of the structure.

The calculations have not been revised.

11. The detail for DMH-S2 on Sheet C6.02, proposes a grate elevation of 428 however looking at the proposed grading on Sheet C3.03, the grades in the area of DMH-S2 appear to be approximately 430 to 433. The proposed grade is well above the proposed rim elevation. Please review.

The plan is correct, but the rim grade on the detail needs to be adjusted (missed this one). Please note that the maximum water surface did/does not reach the top of the structure

The detail has not been revised.

13. The outlet pipe elevation for DMH-S1 does not match between the proposed HydroCAD model and the detail provided on Sheet C6.02. The model uses an outlet elevation of 403.63 however the detail indicates an elevation of 403. The two should be consistent. Please revise.

The invert elevation within the four special DMH's reflects design conditions, that is, the elevation is correct for the position of each DMH relative to the existing culverts. The existing culvert inverts, length and slopes were used in the model to define the primary outlet and may differ from the elevation of the DMH manholes.

General design and modeling uses the outlet pipe/orifice of the proposed structure is the primary outlet for the basin.

14. The outlet pipe elevation for DMH-N2 does not match between the proposed HydroCAD model and the detail provided on Sheet C6.02. The model uses an outlet elevation of 362.9 however the detail indicates an elevation of 361.20. The two should be consistent. Please revise.

Comment 13 above

27. In the proposed HydroCAD model infiltration systems INF-408 and INF-410 was modeled with an exfiltration rate of 2.4 in/hr. Per MassDEP Stormwater Handbook, soils classified as HSG A have an exfiltration rate of 2.4 in/hr. The soils located in the area of INF-408 & INF-410 appear to be classified as HSG C, which has an exfiltration rate of 0.27 in/hr. Please review and revise the model as required.



Ms. Beth Rosenblum

September 26, 2016

Page 4

The area is mapped Udorthents, with no HSG per the latest WSS. We used the rate for HSG A soils as the area is immediately adjacent to HSG A soils and site specific soils testing found sandy loam with lenses of sand/gravel.

Field soil identified as sandy loam is typically classified with a HSG soil type of B. Regardless the applicant should use the a consistent soil classification throughout the HydroCAD model.

30. The recharge volume for INF-301 should be taken from the storage provided below the invert out at an elevation of 357.5. The volume used in the recharge calculations appears to have been taken at an elevation of 358.56. Please review and revise.

The calculations have been revised accordingly.

Infiltration 301 and Detention Basin 302 have been removed from the original design. Infiltration 302 has replaced these systems. Revised calculations for the recharge volume within the southern portion of the site have not been provided.

31. The required recharge volume for the southern portion of the site is not met. The provided recharge volume does not equal or exceed the required.

The southern portion of the site is comprised of solely HSG C and HSG D soils and stormwater recharge has been provided to the extent practicable, as required.

Infiltration 301 and Detention Basin 302 have been removed from the original design. Infiltration 302 has replaced these systems. The required recharge volume calculations for the southern portion of the site have not been provided.

35. Per Standard 3 of the Massachusetts Stormwater Handbook, infiltration BMPs must be designed to drawdown within 72 hours. Calculations have not been provided to demonstrating if the proposed infiltration BMPs meets the required 72 hour drawdown.

The calculations have been revised accordingly.

Per Volume 3, Chapter 1 of the MassDEP Stormwater Handbook, drawdown time for each BMP must be calculated using the formula provided. This formula have not been used to calculate the 72 hour drawdown.

Ms. Beth Rosenblum

September 26, 2016

Page 5

37. In review of the pipe slopes in proposed for the stormwater management system, several pipes appear to be at proposed slopes less than 0.5% (0.005 ft/ft), with some a little as 0.2% slope (0.002 ft/ft). General engineering practice is a minimum of 0.5% slope for drainage pipes. Proposed slopes should be reviewed and revised.

Pipes associated with infiltration systems are frequently set at very flat slopes or even level to allow for proper distribution of flow.

Yes this is general engineering practice for the outlet pipe of an infiltration system, however several of the pipes in question are not associated with an infiltration system. One example is the pipe D-150 and D151, these are both located between 2 drainage manholes. The piping should be reviewed to ensure relative pipes have the proper slope.

39. The applicant has listed the stormwater structure information by pipe, this will make it difficult for construction. Standard engineering practice is list the structure information by catch basins/drain manholes with rims and inverts for each pipe associated with the structure.

The plans have been revised accordingly.

The Plans have not been revised.

40. Per Volume 1 Chapter 1 of the MassDEP Stormwater Handbook, Standard 9 indicates the party responsible for the operation and maintenance of the site must maintain an operation and maintenance log. The provided Stormwater Operation & Maintenance Plan and Long Term Pollution Prevention Plan does not indicate the requirement for an operation and maintenance log. The requirement of a log form should be included and a recommended log form should be provided.

Maintenance manuals and logs have been added in the Appendix. The SWPPP also contains numerous reporting forms and inspection logs.

A Long Term Operation and Maintenance Log has not been provided for all BMPs proposed within the project. In addition a SWPPP does not normally include a Long Term Operation and Maintenance Plan or Log. A SWPPP is generally constructed related would include a construction inspection log. A Long Term Operation and Maintenance Log is required.

Ms. Beth Rosenblum
September 26, 2016
Page 6

41. Massachusetts Stormwater Handbook Standard 4 requires 80% TSS removal for each treatment train provided within the project. It is difficult to determine if each of the stormwater management systems proposed provides 80% TSS removal. The applicant shall demonstrate each treatment train provides the required TSS removal.

Each treatment train has been designed for a minimum of 80% TSS through the use of deep sump catch basins, proprietary units, infiltration systems or a combination of these tree BMP's.

Per Volume 3, Chapter 1 of the MassDEP Stormwater Handbook, to demonstrate the proposed treatment options will remove 80% TSS a completed version of the TSS removal Excel Spreadsheet for each treatment train must be submitted as part of the Stormwater Report. This documentation has not been provided.

43. Massachusetts Stormwater Handbook Standard 6 requires 44% TSS pretreatment prior to discharge into an infiltration device. It is difficult to determine if pretreatment for each infiltration device has been provided. The applicant shall demonstrate each pretreatment has been provided.

See 42 – response 42: The multi-family project is by definition not a LUHPPI. Regardless, 44% pretreatment and treatment of a one inch water quality volume has been provided.

Per Volume 3, Chapter 1 of the MassDEP Stormwater Handbook, a completed version of the TSS removal Excel Spreadsheet must be provided to demonstrate 44% TSS pretreatment has been achieved provided prior to discharge to an infiltration BMP. This documentation has not been provided.

Town Stormwater and Erosions Control Regulations

The ZBA has waived the requirements of the Town Regulations. For the record we note the following.

Per Section 6.10 of the Town Comprehensive Permit Regulations and Guidelines, Stormwater management, the plans shall be prepared to conform to the requirements of the DEP Stormwater Management Guidelines and Policy, and the Town's Stormwater By-Law. Per the Comprehensive Permit the Applicant must meet the requirements of the Town's "Stormwater and Erosion Control Regulations, Town of Southborough Conservation Commission." In review the Southborough Zoning Board of Appeals Meeting Administrative Minutes for March 24, 2015, provided by the applicant, a request to waive the Stormwater By-Law was made by the applicant however the document does not appear

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Ms. Beth Rosenblum

September 26, 2016

Page 7

to show a motion on the waiver and there does not appear to be any record on a vote for this particular waiver. Due to the confusion surrounding waivers for this project we would differ to the opinion of the Town Council as to the status of the waiver.

45. Per Section 7.6.10.3, existing and proposed areas of impervious cover, open space, and undisturbed open space must be provided. This information has not been provided.

A response was not provided.

Defer to Town Council on the states of the waiver.

46. Per Section 7.6.10.7, test pits and test information must be provided for infiltration structures are proposed. The information must demonstrate at least 2 feet of separation from the bottom of the structures. Test pits locations have been provided on the Plans however test information has not been provided.

Test pit information has been provided in the Appendix of the revised stormwater management calculations.

See response to comment 7.

47. Per Section 7.6.10.8, location of existing and proposed areas with shortest distance between the surface and maximum groundwater elevations must be provided. This information does not appear to have been provided.

A response was not provided

Defer to Town Council on the states of the waiver.

48. Per Section 7.6.10.9, reference of location of nearest public wells and known private wells on abutting properties must be provided. This information has not been included.

A response was not provided

Defer to Town Council on the states of the waiver.

49. Per Section 7.6.10.11 and 7.6.16, erosion, sedimentation and siltation control devices to be utilized during construction and a Stormwater and Erosion Control Management Plan must be provided. Details appear to have provided however installation locations have not been provided on the plans. A detailed Stormwater and Erosion Control Management Plan has not been provided.



Ms. Beth Rosenblum

September 26, 2016

Page 8

The requested information will be made part of the SWPPP, which will be provided under separate cover.

Once provided the SWPPP will need to be reviewed to ensure proper erosion controls are proposed and installed on the site.

50. Per Section 7.6.13, cut and fill calculations must be provided. This information has not been provided.

A response was not provided

Defer to Town Counsel on the states of the waiver.

51. Per Section 7.6.17.1 a), the name(s) of the owner(s) must be included in the O&M Plan. The provided Stormwater Operation and Maintenance Plan does not list an owner(s) name(s).

The requested information will be made part of the SWPPP, which will be provided under separate cover.

Once provided the SWPPP will need to be reviewed to ensure the O&M plan provides the owner information.

52. Per Section 7.6.17.1 b), the 24hr/7 day contact information for the person responsible for the site's O&M must be provided. The contact information has not been provided.

The requested information will be made part of the SWPPP, which will be provided under separate cover.

Once provided the SWPPP will need to be reviewed to ensure the O&M plan provides the information contact information for the responsible parties.

54. Per Section 7.6.17.1 d)(6) and 11.2.3, an inspection and maintenance log (report) must be completed for the long term maintenance of the stormwater management systems. The Stormwater Operation and Maintenance Plan provided does not include the requirement of a log (report) or an example that may be used.

The requested information will be made part of the SWPPP, which will be provided under separate cover.

A Long Term Operation and Maintenance Log has not been provided for all BMPs proposed within the project. In addition a SWPPP does not generally include a Long Term Operation and Maintenance Plan or Log. A SWPPP is generally constructed



Ms. Beth Rosenblum
September 26, 2016
Page 9

related would include a construction inspection log. A Long Term Operation and Maintenance Log is required.

55. Per Section 8.1.6, 80% TSS, 40% TP and 30% TN must be provided. There is not enough documentation provided to show 80% TSS, 40% TP and 30% TN has been provided.

A response was not provided

Defer to Town Counsel on the states of the waiver.

56. Per Section 10, construction inspections must be completed. The applicant has not provided documentation that shows construction inspection will be provided.

The requested information will be made part of the SWPPP, which will be provided under separate cover.

Once provided the SWPPP will need to be reviewed to ensure construction inspection schedules and inspection requirements are included.

57. Per Section 11.2.2, maintenance inspection for the stormwater management facilities at a minimum must be inspected quarterly during the first year of operation and at least once a year after that. The Stormwater Operation and Maintenance Plan does not include the minimum quarterly inspections for the first year of operation.

A response was not provided

Defer to Town Counsel on the states of the waiver.

58. Per Section 11.4, records of maintenance and repair of the stormwater management system must be retained for at least 10 years. This requirement has not been included in the Stormwater Operation and Maintenance Plan provided.

A response was not provided

Defer to Town Counsel on the states of the waiver.

General Comments

59. Proposed erosion control measure should be taken to ensure minimal erosion of the site during construction and protection of the wetlands and stormwater components from erosion caused by construction. Erosion control details have been provided within the Plans however



Ms. Beth Rosenblum

September 26, 2016

Page 10

installation notes, measures, and locations have not been include. To ensure proper erosion controls have been taken it is good engineering practice to provide an Erosion and Sedimentation Control Plan including details notes and locations for the proper installation of erosion control devices.

The requested information will be made part of the final SWPPP, which will be provided under separate cover.

Once provided the SWPPP will need to be reviewed to ensure proper erosion controls are proposed and installed on the site.

60. There are several units proposed in close proximity to the existing wetlands. There is concern for high groundwater and future disturbance of the existing wetlands. The applicant should review the location of these units and provide further separation from the wetlands where possible.

The plans have been revised accordingly.

There are still several units in close proximity to the existing wetlands.

Additional Stormwater Management Summary and Stormwater Design

61. Modeling within the Existing-Adjusted HyrdoCAD model is not consistent. Some of the existing basins and ponds which model an existing outlet structure where others do not model the outlet structure. The model should be consistent throughout.

62. Modeling of Pond A-2 does not match between the Existing-Adjusted HydroCAD model and the Proposed-South-Adjust HyrdoCAD model. In the Existing model Pond A-2 is modeled with volumes for elevations 426.2 and 428. In the Proposed model Pond A-2 is modeled with volumes for elevations 426.2, 428, and 430. The addition of the 430 provides additional volume to the basin and affects the peak flows. It is unclear why the proposed model increases the volume of Pond A-2, please clarify.

63. In the Proposed-South-Adjusted HyrdoCAD model, the outlet structure for Ex. Pond A-2, DMH-S2, does not match the Site Plans. The detail for DMH-S2, provided on Sheet C6.02, lists a culvert elevation of 423.3 whereas the HydroCAD models an elevation of 430.00. The two should be consistent.

64. In the Proposed-North-Adjusted HyrdoCAD model, the outlet structure for Ex. Pond 2, DMH-N2, does not match the Site Plans. The detail for DMH-N2, provided on Sheet C6.02,

Ms. Beth Rosenblum
September 26, 2016
Page 11

lists different elevation for the outlet controls then what has been modeled in HydroCAD. The two should be consistent.

65. Recharge chambers for each town house,

- a. Per Table 2.3 in Volume 2 Chapter 1 of the MassDEP Stormwater Handbook, infiltration structures must be installed a minimum 10 to 100 from building foundations. To ensure proper installation of recharge chambers offset dimensions shall be added to the plans or details.
- b. Will overflow be provided for the recharge chambers?
- c. A detail for stone drip strip, including how water will be conveyed to the recharge system, should be provided.

66. Per Volume 1 Chapter 2 of the MassDEP Stormwater Handbook, proponents are not allowed to alter wetland resource areas to comply with the Stormwater Management Standards.

- a. Existing grades of wetland resource Series A and Series D have been altered to increase the size of wetland areas for use as detention. This alteration changes the size of the wetlands and will have an effect on the existing hydrology.
- b. Outlet control structures have been added to the discharge culverts for wetland resource Series A, Series B, Series H, and Series I. The addition of outlet control structure may cause fluctuation in water elevations within each of these wetlands and wetlands they discharge to. The fluctuation in water elevations will affect the wetland.
- c. The proposed design changes the elevation of the existing weir for Pond A-2. The existing elevation of the weir is 427.8 and the proposed elevation is 430.0. This change in elevation will affect the hydrology and water elevation of the existing wetland.
- d. It appears the proposed design will cut existing grade approximately a foot within the area of the existing weir for Ex. Basin 1 (Wetland Series D), this change was not modeled within the proposed HydroCAD. In addition the change will affect the hydrology of the existing wetland.

67. The recharge chambers for the individual town house shall be included in the "Stormwater Operation and Maintenance Plan and Long Term Pollution Prevention Plan" prepared by the Applicant.

68. CN Values used in the Existing-Adjusted and Proposed-Adjusted are not consistent for Rte 495 area contributing to the project. The Existing uses a good woods/grass comb for the ground cover characteristics, whereas the Proposed uses a fair woods/grass comb. The CN values should be consistent between existing and proposed.



Ms. Beth Rosenblum

September 26, 2016

Page 12

69. In review of the Conduit FlexTable: WDA Report, several pipes have exceeded their capacity flow, which could make for a tailwater or surcharge condition within the stormwater network. The size of these pipes should be reviewed and revised accordingly.

70. Per Standard 4 of the MassDEP Stormwater Handbook, stormwater BMPs used as treatment must be sized to capture the required water quality volume. It appears the underground infiltration systems and infiltration basin is to be used as treatment. Calculations must be provided to demonstrate these structures have been sized to capture the water quality volume.

71. Per Standard 6 of the MassDEP Stormwater Handbook, 44% pretreatment is required prior to discharge to an infiltration BMP. It does not appear or is difficult to determine if pretreatment has been provided form INI-302, INF-307, BSN-407,

72. Per Standard 1 of the MassDEP Stormwater Handbook no new stormwater outfalls may discharge untreated stormwater directly to or cause erosion in wetlands or water of the Commonwealth. It appear pretreatment has not been provided for the outfalls FE-190 and FE-200 at Wetland Series G and FE-126 at Wetland Series B.

Additional General Comments

73. In review of the "Existing Land Cover Types" figure prepared by Goddard Consulting, there is a vernal pool located in the area of wetland Series D were the existing grading is to be modified to enlarge the wetland for detention purposes. There is concern this may affect the vernal pool.

74. Sheet C3.05 of the Plan Set shows some two areas of restoration for wetland Series D and refers to plans prepared by Goddard Consulting, LLC. There does not appear to be any restoration information within the documents provided by Goddard Consulting, LLC.

The above comments are based on plans, documentation and calculations received at the time of the review. Any revision to the plans, documentations and calculations will need further review. Please feel free to contact us with any questions.

Sincerely,

Reviewed by:

Aimee Bell
Project Engineer

Daniel F. DeLany, P.E.
Senior Project Manager



FUSS & O'NEILL

May 10, 2017

Ms. Beth Rosenblum
Conservation Administrator
17 Common Street
Southborough, MA 01772

Re: Park Central 40B - Notice of Intent
Review - Wetland Resource Evaluation & Stormwater Impact Analysis

Dear Beth:

Fuss & O'Neill has conducted a review of the Wetland Resource Evaluation & Stormwater Impact Analysis submitted by Goddard Consulting, LLC, regarding the Comprehensive Permit and Notice of Intent for the Park Central 40B project. The project site is approximately 101 acres located off Flagg Road. The development includes the construction of two-building, 180-unit 40B rental project and 138 townhouses. We have conducted a review of the following materials as they relate to the Massachusetts Stormwater Handbook and standard engineering practices. It is our understanding Lucas Environmental, LLC will be reviewing the content pertaining to the Wetlands Protection Act.

Materials Reviewed

1. Report titled, "Wetland Resource Evaluation & Stormwater Impact Analysis," prepared by Goddard Consulting, LLC, dated March 13, 2017.
2. Plan Set titled, "Comprehensive Permit Plans, Pursuant to Notice of Decision on a use Variance, Town of Southborough Board of Appeals, for Park Central in Southborough, Massachusetts," prepared by Waterman Design Associates, Inc., revised through August 15, 2016. (provided with revised materials for the previous review process)
3. Report titled, "Addendum 1 Stormwater Management Summary," dated August 15, 2016, prepared by Waterman Design Associates, Inc.
4. Plan set titled, "Comprehensive Permit Plans," revised through August 15, 2016, prepared by Waterman Design Associates, Inc.

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1. Fuss & O'Neill previously performed reviews of the Alternative Analysis report and stormwater design as it was submitted with the Notice of Intent (NOI), reviews dated July 12, 2016 and September 26, 2016 respectively. The NOI review included review of the stormwater report titled, "Addendum 1, Stormwater Management Summary," dated August 2016, which is

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Ms. Beth Rosenblum

May 10, 2017

Page 2

the report used for the Wetland Resource Evaluation & Stormwater Impact Analysis. In addition the Applicant has stated the Site Plans previously provided have not changed since the time of the review. Both reviews have outstanding comments and concerns that have not been addressed. Several of the review comments impact the stormwater calculations and the site plans. These comments need to be addressed and stormwater calculations need to be updated.

2. Fuss & O'Neill and Lucas Environmental have stated in previous review letters, the applicant proposes to alter existing site wetland areas to be used for stormwater management. This practice is not allowed under the MassDEP Stormwater Handbook and/or the Wetlands Protection Act. Several wetlands are proposed to be altered to provide additional stormwater storage. Listed are the section from the MassDEP Stormwater Handbook and the Wetland Protection Act.
 - Per Volume 1 Chapter 2 of the MassDEP Stormwater Handbook, *Proponents are not allowed to alter wetland resource areas to comply with the Stormwater Management Standards. Thus, the Wetland Regulations, 310 CMR 10.05(6)(k), expressly provide that stormwater best management practices may not be constructed in wetland resource area other than isolated land subject to flooding, bordering land subject to flooding, riverfront area, or land subject to coastal storm flowage.*
 - Per Volume 1, Chapter 2 of the MassDEP Stormwater Handbook, *...the Wetlands Regulations, 310 CMR 10.02(2)(d), have been modified to provide that the installation of stormwater management systems designed and construction on or after January 2, 2008 in accordance with the Stormwater Management Standards do not create any additional Wetland Resource Areas or Buffer Zone.*
 - Per 310 CMR 10.05(6)(k) of the Wetlands Protection Act, *No Areas Subject to Protection under M.G.L. c. 131, § 40 other than bordering land subject to flooding, isolated land subject to flooding, land subject to coastal storm flowage, or riverfront area may be altered or filled for the impoundment or detention of stormwater, the control of sedimentation or the attenuation of pollutants in the stormwater discharge, and the applicable performance standards shall apply to any such alteration or fill...*
3. In Section 2.2 of the provided Analysis,
 - a. The applicant states water quality measures for TSS removal have been provided; however there are several outlets that do not have treatment prior to discharge to the resource areas. In addition there are outstanding comments in previous review letters regarding TSS removal that have not been addressed. Please refer to the NOI review for specific outlets that do not have proper TSS removal and other outstanding comments that will effect TSS removal.
 - b. The applicant states pretreatment has been provided prior to stormwater entering infiltration systems. There are several infiltration systems that do not appear to have pretreatment. Please refer to the NOI review for specific infiltration systems.
 - c. The applicant states treatment of the 1 inch water quality volume is provided through proprietary stormwater treatment structures, open infiltration basin, and subsurface

Ms. Beth Rosenblum

May 10, 2017

Page 3

infiltration facilities. However calculations have not been provided to demonstrate the open and subsurface infiltration systems have been sized properly to meet the 1 inch water quality volume.

4. Section 4.1 of the provided Analysis, the Applicant has stated Standards 3 and 6 of the Stormwater Handbook have been addressed and there will be no adverse impact to the public water supply, the Sudbury River. Standard 6 requires pretreatment prior to discharge to an infiltration system, see comment 2b above. The applicant must also address Standard 4 for one inch water quality volume, refer to comment 2c above, and TSS removal must be addressed, refer to comment 2a above.
5. Section 4.2 of the provided Analysis, the applicant has stated because the stormwater systems complies with Standard 2 which is set to control flooding and prevent storm damage, they find that the proposed system will not have an adverse impact to the protected interests. Standard 2 evaluates peak discharge rates for the stormwater system as it discharges to design points located on the site or off-site. It does not evaluate peak runoff rates for flooding of individual components of the system, in this case the protected interests. Stating peak flow rates have been reduced or maintained is not sufficient to demonstrate flooding or stormwater damage will not occur to the protected interests.
6. Section 4.3 of the provided Analysis, the Applicant has stated Standards 1, 4, 8, and 10 have been addressed therefore pollution prevention has been provided through the proposed design. See comments about Standard 3, 4, and 6 above and in previous review letters, these comments need to be addressed to ensure the Standards have been met.
7. Section 4.4 of the provided Analysis, the Applicant states there is no proposed change to ponds B or H. In review of peak water elevations and drawdown time provided in Appendix F and G, for pond B and H there is an increase in peak water elevation and drawdown for the 2-, 10- and 100-year storms. The increase in peak water elevations may have an effect on the BVW surrounding the ponds.
8. The Applicant indicates that the proposed development will not have an adverse impact to the approved 1983 conditions and compares the 1983 design to the current existing conditions and the proposed design. However in review of the provided figures demonstrating the peak water elevations and drawdown times for each the 2-, 10-, and 100-year storm events, the alteration proposed will increase the peak water elevations and drawdown time for each storm event. These calculations show the alteration proposed by the Applicant will alter the Hydrology of the resource area thus altering the areas and having an adverse impact to the resource.



FUSS & O'NEILL

Ms. Beth Rosenblum

May 10, 2017

Page 4

9. In review of the comparison of peak water elevations and drawdown times for the 2-, 10-, and 100-year storm events Fuss & O'Neill found several inconsistencies with the HydroCAD calculations provided in the Stormwater Management Summary. A details list of inconsistencies can be provided to the Commission upon request.
10. Fuss & O'Neill's agrees with MassDEP's comments and assessments presented in their April 19, 2017 letter.

The above comments are based on plans, documentation and calculations received at the time of the review. Any revision to the plans, documentations and calculations will need further review. Please feel free to contact us with any questions.

Sincerely,

Aimee Bell

Project Engineer

Reviewed by:

Daniel F. DeLany, P.E.

Senior Project Manager

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