

February 26, 2019

Norfolk Zoning Board of Appeals  
Mr. Christopher Wider, Chairman  
1 Liberty Lane  
Norfolk, MA 02056

**Re: 40B – Civil Peer Review  
The Enclave at Norfolk  
Village Green  
Norfolk, Massachusetts**

Dear Chairman Wider:

We have received responses to comments listed in our February 14, 2019 review letter. The responses are included in the attached letter from the Project civil engineer Bohler Engineering dated February 21, 2019 and those responses are summarized below along with a statement as to the status of the comment and any applicable recommendations.

## Comments

### Project Plans

1. We request the applicant clarify if Road A is proposed as a subdivision road intended to eventually be accepted by the Town as a public way. If so we recommend the pavement section be modified to include at least a 3-inch binder course.

*Update: The Bohler response letter indicates Road A is proposed as a subdivision road intended to be accepted by the Town and will include details of roadway construction on the Final Plans but has only committed to meeting minimum standards for binder course (2.5"). Given the project proposes a significantly higher density than would otherwise be allowed under zoning we suggest the Board include a condition requiring a slightly more robust binder course thickness of (3"). The additional binder course will also provide a more durable working surface during construction of the units. This comment is resolved pending a decision from the Board on required binder course thickness.*

2. We understand the intent of providing a 30-foot wide main entry road is to provide adequate space for emergency vehicles and larger trucks. Based on the roadway geometry and the turning plans provided it appears a consistent 24-foot wide travel way may be wide enough to accommodate the intended movements. We recommend the applicant consider reducing the roadway width to a standard 24-foot dimension if allowed by the Fire Chief. If the 30-foot width is maintained, we recommend extending the transition zone to 50 feet.

*Update: The Bohler response letter indicates the entry will be revised as suggested and shown as such on the Final Plans. This comment is resolved.*

3. We recommend relocating the proposed paver speed table to Sta. 2+90 to provide better visibility for entering traffic and providing detectable warning panels at the curb line.

*Update: The Bohler response letter indicates the speed table will be revised as suggested and shown on the Final Plans. This comment is resolved.*

4. The plans indicate several proposed walls with "design by others" and it is unclear how the wall proposed along the west side of the entry road can be constructed in the location shown without impacting the abutting parcel. We recommend wall designs be provided on the Final Plans.

*Update: The Bohler response letter indicates the requested detail and suggested clarifications will be included on the Final Plans. This comment is resolved.*

5. A photometric plan has not been provided but the only street lighting proposed consists of single lamp posts at each building (20 total) which are not expected to be a significant source of light and as such we do not require additional information.

*Update: No response required. This comment is resolved.*

6. Individual septic systems are proposed for each unit and will require a permit from the Norfolk Board of Health pursuant to requirements of 310 CMR 15.00 (Title 5). The conceptual locations shown on the plans appear to consider applicable design requirements and are suitable for the purposes of preliminary plan review under the comprehensive permit. The required Board of Health review under 310 CMR 15 will ensure systems are constructed per applicable requirements.

*Update: No response required. This comment is resolved.*

7. We recommend the hydrant located opposite Unit #1 be located at least five feet from the edge of travel way and that hydrant locations be approved by the Fire Chief.

*Update: The Bohler response letter indicates hydrant locations will be coordinated with the Fire Chief and requested changes will be included on the Final Plans. This comment is resolved.*

8. We recommend the applicant confirm that underground storage of propane is acceptable to the Fire Chief and consider options for surface markers noting location of tanks.

*Update: The Bohler response letter indicates they will confirm the underground tanks are acceptable to the Fire Chief. We recommend the Board include a condition requiring a permanent marker be included indicating the existence and location of any below grade fuel storage tank. This comment is resolved.*

9. The Landscape Plans and details are very detailed and indicate appropriate levels of landscaping. However, we recommend the applicant propose plantings or other improvements acceptable to homeowners opposite the site entrance to reduce impact of headlight glare from exiting traffic and to show those improvements on the Final Plans.

*Update: The Bohler response letter indicates supplemental plantings will be included on the Final Plans. This comment is resolved.*

10. We recommend the Planning Board endorsement block be removed from the plans.

*Update: The Bohler response letter indicates the Planning Board endorsement block will be removed on the Final Plans. This comment is resolved.*

#### Stormwater Report/Drainage Design

11. Final Plans should include defined drainage easements providing access for maintenance of all stormwater basins and associated drainage infrastructure.

*Update: The Bohler response letter indicates drainage easements will be shown on the Final Plans. This comment is resolved.*

12. Temporary sedimentation basins used during construction should not be proposed in locations of future infiltration systems.

*Update: The Bohler response letter indicates location of temporary basins will be modified as requested on the Final Plans. This comment is resolved.*

13. We request test pit data be provided in the Final Plans for Infiltration Basin 2. A test pit has been completed approximately 130 feet northeast of the basin, however a test pit is required within the basin location to confirm soil conditions per Massachusetts Stormwater Handbook, Volume 2, Chapter 2, page 88.

*Update: The Bohler response letter indicates test pit data will be included on the Final Plans. This comment is resolved.*

14. Test pit data from Appendix 3B show DT-12 did not provide enough information to confirm ground water elevation or soil conditions at the proposed location of subsurface infiltration basin (UG1). The test pit reaches an approximate elevation of 188, and the bottom of stone is proposed at elevation 187. We request additional test pit data be provided on the Final Plans to confirm ground water separation and soil conditions.

*Update: The Bohler response letter indicates additional test pit data will be included on the Final Plans. This comment is resolved.*

15. It is imperative proposed driveways for Units 36-40 are constructed with a lip and berm to prevent flow from the roadway from entering the driveways and discharging to incorrect subcatchment areas.

*Update: The Bohler response letter indicates additional detail addressing this comment will be included on the Final Plans. This comment is resolved.*

16. HydroCAD analysis includes a 24-inch x 24-inch horizontal grate at elevation 194.03 for Underground Basin 1 (UG1) suggesting CB1 is used as the proposed system overflow. This is a reasonable approach given the lack of available discharge options however we recommend the applicant confirm the location and condition of downstream drainage infrastructure that will be used in the case of an overflow of UG1.

*Update: The Bohler response identifies the downstream infrastructure and notes requiring confirmation of condition and completion of any required cleaning will be included on the Final Plans. This comment is resolved.*

17. We recommend the applicant provide one-foot of freeboard in the proposed UG1 infiltration basin.

*Update: The Bohler response letter indicates the requested modifications will be included supplemental plantings will be included on the Final Plans. This comment is resolved.*

18. Applicant has used 8.27 inches/hour for exfiltration rates in the HydroCAD analysis for all three infiltration basins (PD1, PD2, and UG1). However, test pits DT-13 and DT-14 show sandy loam at the proposed bottom of Infiltration Basin 1 (PD1), and test pit DT-18 shows sandy loam at the proposed bottom of Infiltration Basin 2 (PD2). Exfiltration rates for PD1 and PD2 should be changed to 2.41 inches/hour in the HydroCAD analysis, and recharge volume calculations should be updated accordingly. Drawdown calculations will also need to be updated in the Drainage Analysis due to the changes in the recharge volume calculations.

*Update: The Bohler response letter indicates exfiltration rates will be modified as requested and revised submittals will be included with the Final Plans. This comment is resolved.*

19. Channel flow should be considered in time of concentration ( $T_c$ ) calculations for Subcatchment P1A since runoff is entering a defined swale. Similarly, sheet flow is considered in the analysis after discharge from check dams for Subcatchment P1B, we would consider this flow to remain as shallow concentrated/channelized flow after overtopping the check dams in the proposed defined swale section.

*Update: The Bohler response letter indicates the information will be updated and shown on the Final Plans. This comment is resolved.*

20. Project is located within priority habitat as mapped in MassGIS. The applicant should confirm if they are actively working with Massachusetts Division of Fisheries and Wildlife regarding the proposed development.

*Update: The Bohler response letter indicates the applicant is coordinating with the Natural Heritage and Endangered Species Program and the Project has been assigned NHESP Tracking #06-20743. This issue will necessarily be addressed as part of the expected Project review by the Norfolk Conservation Commission. We recommend the Board include a condition requiring documentation be submitted to the Board confirming NHESP approval prior to the release of any building permits. This comment is resolved.*

21. Drawdown calculations for Infiltration Basin 2 (PD2) are labeled as PD1 in Appendix 6A.

Update: The Bohler response letter indicates requested changes will be addressed on the Final Plans. This comment is resolved.

22. We recommend the Applicant include a MADEP Stormwater Report checklist in the Stormwater Report.

Update: The Bohler response letter indicates this information will be included with the Final Plans. This comment is resolved.

23. The Project will require coverage under the NPDES General Permit for Discharges from Construction Activities (CGP) which requires preparation of a site-specific Stormwater Pollution Prevention Plan (SWPPP). The Applicant should provide proof of coverage under the CGP prior to starting any land clearing activities.

Update: The Bohler response letter indicates acceptance of this condition. This comment is resolved.

24. The checklist provided states the site is covered by National Pollutant Discharge Elimination System (NPDES) Multi-Sector General Permit (MSGP), however, we do not believe the NPDES MSGP applies, please confirm.

Update: The Bohler response letter indicates the checklist will be updated with the Final Plans. This comment is resolved.

25. Temporary sedimentation basins used during construction should not be proposed in locations of future infiltration systems.

Update: This comment is a duplicate of Comment 12. This comment is resolved.

#### Septic System

26. We request the Applicant provide available test pit data and assumptions used for system sizing as part of the Final Plan submittal.

Update: The Bohler response letter indicates the requested information will be included on the Final Plans. This comment is resolved.

#### Water System

27. Information documenting available pressure and capacity in the water system to serve the Project. The proposed density is similar to that evaluated earlier and no additional information is required unless otherwise requested by the Fire Chief.

Update: No response necessary. This comment is resolved.

28. We recommend all curb stops be located outside the travel way and set at a consistent offset from the road.

Update: The Bohler response letter indicates the requested changes will be included on the Final Plans. This comment is resolved.

29. We recommend installation of a three-way gate valve assembly at new valve cut-in at Village Green Street.

Update: The Bohler response letter indicates the requested changes will be included on the Final Plans. This comment is resolved.

#### Roadway/Traffic Comments

30. We recommend the Applicant conduct a conditions summary of Cleveland Street and Village Green Street prior to commencement of construction activities and repair any damage or degradation of roadway surfaces resulting from access during construction.

Update: The Bohler response letter agrees to provide a conditions summary of Cleveland Street and Village Green Street prior to the start of construction and repair any damage resulting from

*construction of the Project. We recommend the Board consider requiring a reasonable bond in anticipation of repairs likely to be needed at the close of construction. This comment is resolved.*

Based on the responses provided, we believe the February Preliminary Plan (Rev 11) dated January 25, 2019 represents a scope of development that can be constructed in a manner that meets applicable performance standards and good engineering practice.

We are pleased to discuss any of our comments at your request. Please don't hesitate to contact us with any questions, or if you require additional information.

Very truly yours,



Sean P. Reardon, P.E.,  
Vice President

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February 21, 2019

Via Email

Town of Norfolk Zoning Board of Appeals  
Town Hall  
One Liberty Lane  
Norfolk, MA 02056

Attention: Christopher Wider, Chairman

**RE:** The Enclave at Norfolk  
Response to Civil Peer Review  
Village Green  
Norfolk, Massachusetts

Dear Chairman Wider:

Please accept this letter in response to the comments received as part of the Civil Peer Review letter dated February 14, 2019 received from Tetra Tech. Provided the Board is comfortable with the following responses, the below information can be incorporated into the Final Plans for review and consideration. Please see the below comments followed by our responses to same.

**Project Plan Comments**

1. **Comment:** *We request the applicant clarify if Road A is proposed as a subdivision road intended to eventually be accepted by the Town as a public way. If so we recommend the pavement section be modified to include at least a 3-inch binder course.*

**Response:** Road A is proposed as a subdivision road intended to be accepted by the Town as a public way. Note that the Subdivision Rules & Regulations indicate that residential streets shall have a 1.5" finish course and a 2.5" binder course, and the Final Plans will be updated to reflect these minimum standards.

2. **Comment:** *We understand the intent of providing a 30-foot wide main entry road is to provide adequate space for emergency vehicles and larger trucks. Based on the roadway geometry and the turning plans provided it appears a consistent 24-foot wide travel way may be wide enough to accommodate the intended movements. We recommend the applicant consider reducing the roadway width to a standard 24-foot dimension if allowed by the Fire Chief. If the 30-foot width is maintained, we recommend extending the transition zone to 50 feet.*

**Response:** The Final Plans will be revised to show a 24ft wide travel way along the main entry road. Note that the 24ft width will not impact a Fire Truck's ability to access and maneuver within the site.

3. **Comment:** *We recommend relocating the proposed paver speed table to Sta. 2+90 to provide better visibility for entering traffic and providing detectable warning panels at the curb line.*

**Response:** The proposed speed table will be relocated on the Final Plans.

4. **Comment:** *The plans indicate several proposed walls with "design by others" and it is unclear how the wall proposed along the west side of the entry road can be constructed in the location shown without impacting the abutting parcel. We recommend wall designs be provided on the Final Plans.*



**Response:** The proposed wall along the west side of the entry road will be relocated away from the property line on the Final Plans. Additionally, construction details of the wall will be provided.

5. **Comment:** *A photometric plan has not been provided but the only street lighting proposed consists of single lamp posts at each building (20 total) which are not expected to be a significant source of light and as such we do not require additional information.*

**Response:** Comment acknowledged.

6. **Comment:** *Individual septic systems are proposed for each unit and will require a permit from the Norfolk Board of Health pursuant to requirements of 310 CMR 15.00 (Title 5). The conceptual locations shown on the plans appear to consider applicable design requirements and are suitable for the purposes of preliminary plan review under the comprehensive permit. The required Board of Health review under 310 CMR 15 will ensure systems are constructed per applicable requirements.*

**Response:** Comment acknowledged. Please note that witnessed soil testing was performed with the Norfolk Board of Health and the locations of these perc tests and testpits are shown on the Utility Plans.

7. **Comment:** *We recommend the hydrant located opposite Unit #1 be located at least five feet from the edge of travel way and that hydrant locations be approved by the Fire Chief.*

**Response:** The hydrant opposite Unit #1 will be relocated on the Final Plans.

8. **Comment:** *We recommend the applicant confirm that underground storage of propane is acceptable to the Fire Chief and consider options for surface markers noting location of tanks.*

**Response:** The applicant will confirm that the Fire Chief is ok with the underground propane tanks. Note that the Fire Chief appears to be ok with them based on his letter dated January 29, 2019 and only mentions that a license must be obtained for the storage of more than 10,000g.

9. **Comment:** *The Landscape Plans and details are very detailed and indicate appropriate levels of landscaping. However, we recommend the applicant propose plantings or other improvements acceptable to homeowners opposite the site entrance to reduce impact of headlight glare from exiting traffic and to show those improvements on the Final Plans.*

**Response:** Extensive plantings already exist within the area opposite the main entrance, however the applicant will supplement this area with some additional plantings on the Final Plans.

10. **Comment:** *We recommend the Planning Board endorsement block be removed from the plans.*

**Response:** This will be removed from the Final Plans.

### **Stormwater Report/Drainage Design Comments**

11. **Comment:** *Final Plans should include defined drainage easements providing access for maintenance of all stormwater basins and associated drainage infrastructure.*

**Response:** Defined drainage easements will be included within the Final Plans.

12. **Comment:** *Temporary sedimentation basins used during construction should not be proposed in locations of future infiltration systems.*



**Response:** Locations of temporary sediment basins will be modified within the Final Plans.

13. **Comment:** *We request test pit data be provided in the Final Plans for Infiltration Basin 2. A test pit has been completed approximately 130 feet northeast of the basin, however a test pit is required within the basin location to confirm soil conditions per Massachusetts Stormwater Handbook, Volume 2, Chapter 2, page 88.*

**Response:** Testpit data will be provided in the Final Plans for Basin 2.

14. **Comment:** *Test pit data from Appendix 3B show DT-12 did not provide enough information to confirm ground water elevation or soil conditions at the proposed location of subsurface infiltration basin (UG1). The test pit reaches an approximate elevation of 188, and the bottom of stone is proposed at elevation 187. We request additional test pit data be provided on the Final Plans to confirm ground water separation and soil conditions.*

**Response:** Additional testpit data will be provided within the Final Plans to verify the separation to groundwater as well as the soil conditions.

15. **Comment:** *It is imperative proposed driveways for Units 36-40 are constructed with a lip and berm to prevent flow from the roadway from entering the driveways and discharging to incorrect subcatchment areas.*

**Response:** A note will be added to the Final Plans indicating that a gutter line shall be maintained at these driveways and to grade the driveway aprons toward the road. Additionally, spot grades will be added in this area.

16. **Comment:** *HydroCAD analysis includes a 24-inch x 24-inch horizontal grate at elevation 194.03 for Underground Basin 1 (UG1) suggesting CBI is used as the proposed system overflow. This is a reasonable approach given the lack of available discharge options however we recommend the applicant confirm the location and condition of downstream drainage infrastructure that will be used in the case of an overflow of UG1.*

**Response:** Two existing catch basins are located within the limits of Village Green adjacent to the main entrance to the site. Notes will be added to the Final Plans indicating that the condition of these catch basins shall be inspected prior to construction, and if necessary, the basins shall be cleaned and/or repaired.

17. **Comment:** *We recommend the applicant provide one-foot of freeboard in the proposed UG1 infiltration basin.*

**Response:** One-foot of freeboard will be provided on the Final Plans.

18. **Comment:** *Applicant has used 8.27 inches/hour for exfiltration rates in the HydroCAD analysis for all three infiltration basins (PD1, PD2, and UG1). However, test pits DT-13 and DT-14 show sandy loam at the proposed bottom of Infiltration Basin 1 (PD1), and test pit DT-18 shows sandy loam at the proposed bottom of Infiltration Basin 2 (PD2). Exfiltration rates for PD1 and PD2 should be changed to 2.41 inches/hour in the HydroCAD analysis, and recharge volume calculations should be updated accordingly. Drawdown calculations will also need to be updated in the Drainage Analysis due to the changes in the recharge volume calculations.*

**Response:** Exfiltration rates will be modified on the Final Plans, as well as associated recharge volume calculations and drawdown volume calculations within the Drainage Analysis.



19. **Comment:** *Channel flow should be considered in time of concentration (Tc) calculations for Subcatchment P1A since runoff is entering a defined swale. Similarly, sheet flow is considered in the analysis after discharge from check dams for Subcatchment P1B, we would consider this flow to remain as shallow concentrated/channelized flow after overtopping the check dams in the proposed defined swale section.*

**Response:** This information will be updated and reflected in the Final Plans.

20. **Comment:** *Project is located within priority habitat as mapped in MassGIS. The applicant should confirm if they are actively working with Massachusetts Division of Fisheries and Wildlife regarding the proposed development.*

**Response:** The applicant is actively working with Natural Heritage and Endangered Species Program (NHESP) and has been assigned NHESP Tracking #06-20743 as part of their review.

21. **Comment:** *Drawdown calculations for Infiltration Basin 2 (PD2) are labeled as PD1 in Appendix 6A.*

**Response:** This information will be modified in the Final Plans.

22. **Comment:** *We recommend the Applicant include a MADEP Stormwater Report checklist in the Stormwater Report.*

**Response:** A Mass DEP Stormwater Report Checklist will be included in the Final Plans/Drainage Analysis.

23. **Comment:** *The Project will require coverage under the NPDES General Permit for Discharges from Construction Activities (CGP) which requires preparation of a site-specific Stormwater Pollution Prevention Plan (SWPPP). The Applicant should provide proof of coverage under the CGP prior to starting any land clearing activities.*

**Response:** Comment acknowledged. The applicant will provide proof of coverage under the CGP prior to construction.

24. **Comment:** *The checklist provided states the site is covered by National Pollutant Discharge Elimination System (NPDES) Multi-Sector General Permit (MSGP), however, we do not believe the NPDES MSGP applies, please confirm.*

**Response:** Correct. The Checklist will be updated within the Final Plans/Drainage Analysis.

25. **Comment:** *Temporary sedimentation basins used during construction should not be proposed in locations of future infiltration systems.*

**Response:** Refer to response to comment #12.

### **Septic System Comments**

26. **Comment:** *We request the Applicant provide available test pit data and assumptions used for system sizing as part of the Final Plan submittal.*

**Response:** Available testpit data and assumptions used for septic system sizing will be provided on the Final Plans.



**Water System Comments**

27. **Comment:** *Information documenting available pressure and capacity in the water system to serve the Project. The proposed density is similar to that evaluated earlier and no additional information is required unless otherwise requested by the Fire Chief.*

**Response:** Comment acknowledged.

28. **Comment:** *We recommend all curb stops be located outside the travel way and set at a consistent offset from the road.*

**Response:** Curb stop locations will be modified on the Final Plans.

29. **Comment:** *We recommend installation of a three-way gate valve assembly at new valve cut-in at Village Green Street.*

**Response:** A three-way gate valve assembly will be shown on the Final Plans at the connection to the Village Green water main.

**Roadway/Traffic Comments**

30. **Comment:** *We recommend the Applicant conduct a conditions summary of Cleveland Street and Village Green Street prior to commencement of construction activities and repair any damage or degradation of roadway surfaces resulting from access during construction.*

**Response:** The applicant will provide a conditions summary of Cleveland Street and Village Green prior to commencement of construction activities as well as repair and/or overlay of any damage that is caused due to construction traffic.

We look forward to discussing these items with the Board during the upcoming hearing on February 27<sup>th</sup>, 2019. Please do not hesitate to contact us at 508-480-9900 should you have any questions or require any additional information regarding our responses.

Very truly yours,

**BOHLER ENGINEERING**

Randy M. Miron

Cc: Tom DiPlacido, Norfolk Holdings, LLC (via email)  
John Smolak, Esq., Smolak & Vaughan LLP (via email)  
Sean Reardon, Tetra Tech (via email)