



Civil Engineering  
Transportation/Traffic  
Water/Wastewater  
Geotechnical  
Land Surveying  
Environmental  
Planning

February 23, 2021

Newbury Planning Board  
Town Municipal Offices  
12 Kent Way  
Newbury, MA

RE: 2 Old Point Road  
Site Plan Review Comments

Dear Ms. Taylor and Planning Board Members:

We have updated the Site Plans and Drainage Calculations in response to the January 26<sup>th</sup> peer review letter and Planning Board Comments. Please see the responses below corresponding to the provided Comments. We have included the original peer review comments for ease of tracking the responses. DCI's responses are in italic font.

**Title Sheet, T1**

1. It should be noted that the parking calculations show that 55 spaces are required, while 54 spaces are provided.

*The discrepancy between the parking calculations has been addressed in that the number of restaurant seats has been decreased to 163, therefore requiring 49 seats, plus the additional 5 required employee spaces, resulting in 54 total required seats, which is the quantity originally provided.*

**Existing Conditions Plan, C100**

1. The general notes state that water and sewer information was added to the plan, but it appears incomplete. Typically, water and sewer services would be shown to all existing buildings on the site, especially those to be razed. The engineer should address whether sewer exists in the sewer easements that run through the site.

*We are currently have a request to the Newburyport DPS for detailed existing water and sewer information. All water and sewer work will be coordinated with the City of Newburyport Department of Public Services.*

2. It should be noted that the depiction of lot 153 on the assessor's website is different than depicted on the plan, and does not show any encroachments. The depiction of lot 153 on the plan has it running through two dwellings. The board may want the engineer/surveyor to address this difference.

*The layout depicted on the assessor's map is incorrect. Two separate surveyed have been completed by two separate Professional Land Surveyors confirming this encroachment. The project applicant is working with the land owner to provide an easement or possibly purchasing*

*this property. The lot line indicated on the plans is correct, A copy of the recorded survey plan can be provided upon request.*

3. The general notes state that dwelling #10's location is approximate only, and was apparently not field located. Given its proximity to the proposed driveway, the board may want its location accurately depicted based on a field survey.

*This issue has been remedied with the addition of survey information from Cammet Engineering via the Lot Line Adjustment Plan originally dated 12-9-15. All of the abutting building locations are now survey located and no longer approximate.*

4. The existing parking area for #8R appears to be on the south side of the dwelling. The development plans place a fence across the parking without addressing removal of the driveway. The development plans also label "maintain existing gravel parking" at #8R, which does not appear to currently exist. The engineer should address these inconsistencies.

*The proposed fence does not block or cut off the existing gravel driveway to #8R, it only curves around it. Therefore, the access via McLeod Ave is still provided to the 8R. The fence placement will necessitate a different parking orientation, but the parking area currently isn't specifically defined at the site, so it allows of the same amount of space but just slightly further east.*

5. Existing access to dwelling #11 appears to be off the bit. conc. driveway off Old Point Road, or the gravel area off McLeod Avenue, both of which are located on the existing sewer easement. The development plans remove both of these access points. The board may want the engineer how suitable access will be provided to dwelling #11.

*The Layout and Materials Plan denotes that we are maintaining access to #11. Currently the drive loops from the end of McLeod Ave. with the cars utilizing the access to the property from the existing the property. This circulation is maintained with cars exiting and turning right on the site drive to Old Point Road.*

6. McLeod Avenue should be labelled on the plan, as would be typical.

*McLeod Avenue has been labeled on the plan.*

7. Pipe sizes and invert information should be provided for both of the catchbasins depicted on the plan, as would be typical.

*We are not proposing any work of connections to these catch basins. If visible the drainage pipes will be added to the final plans.*

8. Existing contours are so light as to be impossible to read. Also, it would be helpful to depict contours or spot grades past the property lines to determine runoff flow direction. Spot grades should also be provided in Old Point Road and Plum Island Boulevard.

*The contour color has been made darker for better visibility. There is enough existing spot grade information to adequately tie into the surrounding area. We are proposing a plaining strip between the roadways and our project area easing any grading constraints.*

9. The board may want the engineer to provide a separate site demolition plan to address structure, pavement, and utility removal. As the site is bounded by three streets, the plan would also depict saw-cut lines to control the pavement removal limits.

*An erosion control plan has been provided that addresses demolition items such as utility, pavement, and structures. We have added sawcut lines to this plan.*

## **Layout & Material Plan, C101**

1. The plan depicts one-way traffic flow through the site from Plum Island Boulevard to Old Point Road. Adequate signs should be depicted and labelled on the plans as markings on the gravel surface are not feasible/practical.

*Signage addressing traffic flow and direction has been provided to remedy this issue. The proposed signage now includes “One Way” arrow signs, “Exit Only” signs and “One Way – Enter Only” signs which will assist in directing traffic through the area.*

2. The site access off Plum Island Boulevard is not adequately detailed. Driveway width should be provided along with spot grades where it meets existing grade. The board may want the engineer to address whether the entrance could be more clearly defined, much like curb radii would do on a conventional driveway.

*The 22’ wide driveway width has been shown on the plan and spot grades have been included to better delineate the small berm at the driveway entrance. This small berm will provide a highpoint and assist in maintaining the direction of all the stormwater runoff at the paved area to the bioretention area.*

3. The proximity of the first parking spaces off Plum Island Boulevard will require vehicles to back onto the travelled way and pedestrian zone. The board may want the engineer to address this issue.

*The parking orientation is common on many Plum Island commercial properties with cars backing directly into Plum Island Boulevard. The cars backing from these spots will only encroach slightly into the shoulder and remain on property.*

4. A “paved pedestrian zone” (i.e. sidewalk) is proposed along Plum Island Boulevard and Old Point Road, separated from traffic, it appears, by only a “4” white solid line”. The board may want the engineer to verify that town safety officials approve of this design. The board may also want to know whether it will connect to what appears to be a crosswalk about 70 feet east on Plum Island Boulevard.

*There are no sidewalk along either side of Plum Island Boulevard or Old Point Road. The provided 5’ minimum width stripped shoulder is an improvement to the adjacent conditions. This condition was viewed and discussed at the Planning Board site walk.*

5. Typically, snow storage areas are depicted on commercial sites. The engineer should whether they will be required on this site.

*Adequate snow storage areas have been provided according to the Town Bylaws. However, it should be noted that the snow storage area wasn’t calculated according to standard capacity, as this is an outdoor restaurant and will likely be at very little or no capacity in the winter season, requiring far less parking, and therefore free parking can be utilized for snow storage as now shown on the plan.*

6. It appears that a proposed 7 and 8 foot contour are drawn through the site, but they do not work with the proposed spot grades or sheet L1 which depicts a raised seating area and berms. The proposed 8 foot contour is also drawn through existing house #8R.

*The contour/grading discrepancy has been addressed on the plan.*

7. As noted previously, a proposed fence blocks the existing driveway to #8R, and a new gravel area is depicted off McLeod Avenue, although it is labelled as “existing” on the plan. The engineer should address this, and whether the existing paved driveway will be removed.

*The proposed fence does not block or cut off the existing gravel driveway to #8R it only curves around it, the access via McLeod Ave is still provided. The fence placement will only require a different parking orientation with access from McLeod Avenue. The fence is provided to separate the restaurant and residential use.*

8. The engineer should address whether a loading space should be depicted on the plan, per the bylaw.

*A loading space is not provided on the plan. Loading will be done at off hours, when it can be done using the gravel driveway area adjacent to the mobile kitchen and the renovated garage.*

9. Thirteen compact parking spaces are depicted on the plan. The engineer should verify that they comply with town requirements.

*Regarding the 13 compact spaces provided on the plan, many municipalities include provisions in their bylaws for quantities of compact spaces, the Town of Newbury does not. This proposed plan includes 25% of parking spaces as compact, which is customary in other communities. For example, as part of the Smart Growth code in Newburyport: Standard parking spaces shall be 9 feet x 18 feet and parallel spaces shall be at least 9 feet x 20 feet. Up to 35% of the parking spaces may be designated as compact spaces (at least 8 feet x 15 feet)." We will be asking the Planning Board to allow for this provision in their approval.*

10. The parking space striping and traffic flow arrows are primarily for permitting purposes as much of the site is gravel. The board may want the engineer to discuss how parking spaces and traffic flow will be clearly defined on the site.

*Similar to comment #1 above, appropriate signage is now included across the site to address direction and flow patterns through the gravel parking area.*

11. The plan should adequately depict whether a paved driveway apron will be provided at the Old Point Road egress point.

*A paved driveway apron has been added at the exit in the proposed design.*

12. The proposed spot grades appear to raise grades abutting McLeod Avenue. The engineer should discuss whether this will block any existing flow of runoff from McLeod Avenue.

*The proposed spot grades along McLeod Ave have been addressed to show that flow across that property line will be consistent and not obstructed, allowing it to ultimately flow across the parking area and follow the rest of the runoff from the property boundary.*

13. The project appears to assume that a majority of the site runoff will be directed to bioretention area 1. This will not happen for several reasons. The existing grade at the entrance appears to be 6.51 feet, while the bioretention area is at 6.8 feet. Pavement runoff will tend to flow onto Plum Island Boulevard rather than to the retention area. Also, the existing catchbasin along Old Point Road has a rim elevation of 6.3 feet. Again, runoff will tend to enter the catchbasin, rather than flowing to the retention area. Finally, a low spot is being created by the 7.00 spot grade adjacent to the handicap parking spaces. The proposed 2' wide by 30" high gabion walls will block any flow of runoff. The engineer should address these issues.

*The discrepancy between the proposed drainage patterns and the spot grades has been addressed so that the flow in the corner against the wall, where the handicapped spaces are located flows out and towards a stone swale that is now proposed to direct the runoff from that paved area towards the bioretention area at the south end of the property. The landscaped area will also be directed to bioretention area 1, as there is a berm around the edge of the landscaped area that will allow the runoff to flow downgrade toward the low point at the bioretention area. Please*

*note the site and landscaped area will consist of a sand surface that will absorb most if not all of the rainfall.*

14. Note 8 states that test pits shall be required to verify the adequacy of the proposed Stormwater BMP designs. Typically the test pits are conducted prior to designing the BMPs, and included to verify the BMP compliance with the Policy. The engineer should conduct the test pits, as required, to verify the BMP designs. This information should be submitted for review.

*We have provided boring information in the stormwater report. The subsoil consists of sand with groundwater found 2.5-3 feet below grade. This will allow the rain gardens to drain between rain events.*

15. The board may want the engineer to verify whether fire equipment access is required through the site, as would be typical. Turning templates should be provided as required.

*The fire department has reviewed and comments on the design and does not have issue with site access.*

16. The plan labels "24" tree to remain", but parking lot installation is depicted with a few feet of it. Typically, no disturbance should be proposed within the drip line of a tree if attempts will be made to keep it. If the applicant/engineer is intent on saving the tree, then the plan should be revised to show no disturbance within the drip line.

*The disturbance proposed around the existing 24" tree includes gravel parking surface area. This will be minimal as it is only proposed to be 12" down below grade. With the gravel surface there will be minimal impact to the root system. Nevertheless, tree protection has been included in the Erosion Control Plan for the purposes of protecting the tree during the construction phase.*

17. An existing driveway/parking for dwelling #10 appears to be located where the egress driveway is proposed. The engineer should address whether it will be relocated.

*The parking for #10 is on the pea stone surface in front of the building between the structure and Old Pont Road.*

### **Civil Details, C501**

1. The rain garden detail does not comply with Policy guidelines as designed. The engineer will need to provide pretreatment for runoff entering the area. Also, the soil media must be between 2 and 4 feet, not 12" as specified. An underdrain is typically required for an exfiltrating rain garden. The Policy specifies mulch in the basin bottom, not river stone as shown. The 6", 8" and 12" should be defined. Finally, soils and depth to groundwater are required to be analyzed beneath the garden.

*Pretreatment to the proposed rain gardens has been provided with the inclusion of stone sump - sediment forebays that all runoff from the parking areas, both gravel and paved, will be directed through prior to entering the rain gardens. These sediment forebays have been sized according to the Massachusetts Stormwater Handbook, where they are designed to hold 0.1"/impervious acre in order to properly pretreat, at a minimum. See the revised Stormwater Management Plan for calculations and further discussion. The detail has also been revised so that the basin bottom will be mulch and not river stone. The bottom of the rain garden is above groundwater and design to drain dry without any underdrain. DEP call for underdrains in poor undrained soils. We have sands under the gardens so infiltration is not an issue.*

2. The pavement detail should be revised to require 12" of gravel, which is typical for roadways/parking lots.

*The pavement detail has been revised to require 12" of gravel.*

3. A detail should be provided for the proposed gravel surface, as would be typical.

*A gravel surface detail has been provided.*

### **Materials, Planting and Lighting Plan, L1**

1. The plan contains a multitude of hardscape items (e.g. fences, walls, pavers, wood deck) that are not detailed on the plan. The board may want the landscape architect to provide adequate details for all hardscape items so that the board/town knows exactly what it will be getting when the project is built.

*Fencing has been called out, For Deck: "The deck will be laid on base on 1/2" gravel and graded to the slope. The understructure will be constructed on pressure treated 2" by 4" with a top cote of 1" by 4" cedar decking. In order to hold the structure down, a lag bolt will be installed in an underground support, both keeping it in place and not allowing it to shift. This will allow it to stay flat in order to walk on and roll a wheelchair/kitchen product."*

2. Planting details should be provided on the plan, as would be typical.

*Planting details are provided on the updated SPR plans.*

3. A 3' dune fence and dune grass are proposed at the site egress onto Old Point Road. The engineer should verify that adequate sight distance will be maintained at this driveway.

*The fence has been pulled back from the corner. A site distance graphic is provided.*

4. Portions of the site landscaping, fencing, wood piers and grading are shown off property, within the layout of Old Point Road. The board may want town counsel and/or DPW to comment on whether this is advisable.

*All work from the Old Point Road right-of-way has been removed from the plan.*

### **Photometric Plan, L2**

1. Several areas of the site have zero illumination based on the information provided, such as the driveway behind the barn, and the yard game zone. The board may want the landscape architect to address why these areas do not require any illumination.

*The lighting design has been updated looking to improve low lighting areas on site. The planning Board would like to maintain minimal lighting levels given the open area and surrounding residential buildings.*

### **Stormwater Management Report**

1. Section 4.0 states that "the existing pavement at the entrance along the south side of the property will remain", but sheet C201 this entire area being removed. It is advisable that all existing pavement be removed so that new pavement can be installed with an adequate gravel base and verified pavement thickness. The engineer should verify that this is the intent.

*The pavement to be maintained and is in good condition with less cracking than Plum Island Blvd. and we are looking to minimize the construction and environmental impacts of the project.*

2. Section 5.2, existing conditions hydrology, states that "the catchment area is bound by the edges of the property line". This may have been assumed for convenience, as it appears offsite runoff may enter the site from the north and perhaps the east. The engineer should address this, and take into account any offsite flow.

*We have added a portion of the upgradient area north of the property. Currently with the sand surfaces very little runoff runs down onto property. Our stormwater mitigation includes water quality treatment only and the small amount of any added flow from off property will not impact our stormwater design function.*

3. Relative to standard 4, section 5.4 states that the two bioretention areas “remove 90% of TSS from the site runoff”, but, as mentioned above, pretreatment is required for the retention areas, and the engineer still needs to demonstrate adequate soils and groundwater separation.

*We have refined our design to include a full 1” water quality volume even with the project qualifying as a redevelopment project. We have provided pretreatment and boring confirming separation to groundwater.*

4. Section 5.3 states that the project meets standard 3 relative to recharge, but no calculation has been provided. Given the assumed soils, about 366 CF of recharge would be required, along with 44% TSS pretreatment. The engineer should address these issues.

*With the removal of impervious surface, the project meets recharge requirement for a redevelopment project. The sumps in the rain gardens satisfies the recharge volume requirements. With the 24” of soil media in the bottom of the rain gardens, it is my understanding 44% TSS pretreatment removal is not required. It is required prior to discharging to infiltration BMP’s such as infiltration chambers or infiltration basins. In any event this being a redevelopment project it is not practical meeting this 44% pretreatment recruitment.*

5. Relative to standard 4, section 5.4 claims that WQV (water quality volume) has been met to the “maximum extent feasible”, but this claim cannot be backed up by the site conditions. Given the assumed type A soils (i.e. sand), there appears to be more than ample space to provide the required WQV in the bioretention areas. The board may want the engineer to provide the calculations for WQV based on the required 1” times the total impervious area.

*We have increased the size of the rain garden to accommodate the full 1” water quality volume.*

6. The drainage area plans are at such as to be unreadable. The engineer should provide larger plans, and account for any offsite flow into the site, as mentioned above.

*We have expanded our drainage area to include some upgradient area to the north of the site. Given the sandy nature of a barrier island we see very limited runoff onto the property. Also this, limited flow does not impact our rain garden performance.*

7. The proposed drainage area plan categorizes a large portion of the site as “landscape” when, in fact, it is a combination of softscape and hardscape elements. The engineer/landscape architect should verify, by way of details, that the hardscape (i.e. permeable pavers, concrete paving) elements are “permeable”, and do not need to be included in the impervious areas.

*We have provided a detail for the pervious pavers. The wood decking detail will be provided on the final drawings. There is a large open area that does not require any detail. The wood deck detail is described in L1 review comment #1 above.*

8. The Hydrocad calculations do not appear to contain the Tc (time of concentration) calculations, as would be typical. The engineer should provide this data.

*Given the small drainage area we have used a minimum Tc of 6 minutes for the site.*

9. The Hydrocad website states that a Cn value of 96 is recommended for gravel roadway surfaces alone, since they become highly compacted and have minimal absorption capability. The engineer should consider revising the pre and post development calculations to account for this.

*The calculations have been adjusted using a Cn value of 96 for all gravel drive areas.*

We look forward to presenting the plan changes to the Planning Board and discuss the project in greater detail. In the meantime, if you have any questions regarding this project, please feel free to contact me at 617-776-3350.

Sincerely,  
**Design Consultants Inc.**

*Stephen B Sawyer*

Stephen Sawyer, P.E.

Enclosures



## SITE DISTANCE FIGURE

