

Maryjane Kenney

From: Corey York
Sent: Monday, May 24, 2010 2:42 PM
To: Manager Department
Cc: Planning Department; Robert Craig; Tom Tidman
Subject: RE: Great Road #107-115 - SPSP #417 - As-Built - 2010-05-21.doc
Attachments: Great Road #107-115 - SPSP #417 - As-Built - 2010-05-21.pdf

Attached are the revised Engineering Comments dated May 21, 2010 for the new submittal of information that submitted by Acton Survey & Engineering to the Town late on May 20, 2010.

Thank you
Corey

From: Corey York
Sent: Friday, May 21, 2010 5:06 PM
To: Corey York
Subject: Great Road #107-115 - SPSP #417 - As-Built - 2010-05-21.doc

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Engineering Department

INTERDEPARTMENTAL COMMUNICATION

To: Planning Department

Date: May 12, 2010

Revised: May 21, 2010

From: Engineering Department

Subject: Site Plan Special Permit #1/23/2009-417 - Wetherbee Plaza Extension -
107 – 115 Great Road

We reviewed the plan entitled "As-Built Plan, 107-115 Great Road Acton, Massachusetts" dated May 7, 2010 and last revised on May 11, 2010. This plan was submitted to our office on May 11, 2010. Based on our review we have the following comments: ***Our revised comments made on May 21, 2010 have been highlighted with text that is bold and italicized. These comments are based on the As-Built Plan dated May 7, 2010 with the latest revision date of May 20, 2010 and the packet of information submitted with the letter from Acton Survey & Engineering dated May 20, 2010.***

- The plan was not stamped by a Massachusetts Registered Land Surveyor to certify the information has been surveyed and accurately depicted on the plan. The engineer stated in his letter dated May 7, 2010 that the Land Surveyor is not available at this time to stamp the plans due to medical reasons.

Applicant Response (May 20, 2010)

The plan has now been endorsed by a Registered Professional Land Surveyor

Engineering Response

Done

- The as-built plans show additional fill was placed between the paved access for the windmill and the wetlands that was not shown on the proposed plans.

Applicant Response (May 20, 2010)

The presence of the additional fill resulted in an alteration within 100 feet of bordering vegetated wetlands and was presented to and approved by the Conservation Commission.

Engineering Response

We would defer comment to the Conservation Commission.

- The set-backs for the impervious areas (i.e. roads, parking areas, driveways, walks, etc) have not been labeled on the plan.

Applicant Response (May 20, 2010)

The offset distance between the property lines and paved areas that appear to be critical to this office have now been labeled. The drawings are to scale and offsets, in general, can be determined by scaling.

Engineering Response

Based on the setback for the Carriage House to the rear property line as shown on Plan 10 of 2010 (53.1 feet) and the setback labeled for the rear parking area (6.8 feet), the width of the rear parking area is only 46.3 feet. This width does not demonstrate there is sufficient pavement to allow for parking, the maneuvering aisle and the sidewalk.

- The set-backs for the existing structures are not labeled on the as-built plan. These setbacks have been labeled on the ANR plan that was recorded at the Registry of Deeds as plan #10 of 2010.

Applicant Response (May 20, 2010)

We have added the critical offsets contained on the ANR Plan dated December 23, 2009 which shows the buildings as being existing as does the Site Plan of July 21, 2009 subject to the Special Permit

Engineering Response

No Comment

- According to the as-built plan, there are No Parking signs that still need to be installed along the driveway and the rear parking area for the Carriage House.

Applicant Response (May 20, 2010)

Three additional No Parking Signs have been installed and are shown on the enclosed As-Built Plan.

Engineering Response

There are no "No Parking" signs shown along the rear parking area behind the Carriage House.

- The underground utilities (i.e. water, gas, and electric) match the locations as shown on the proposed plans.

Applicant Response (May 20, 2010)

The underground utilities were shown to be existing on the Site Plan subject to the Special Permit.

Engineering Response

No Comment

- The engineer needs to demonstrate compliance with the lighting that was installed on the site. The engineer stated in his letter dated May 7, 2010 that the exterior lights mounted on the

buildings have not been shown on the as-built plan.

Applicant Response (May 20, 2010)

The exterior lights have been added to the plan and denoted as to type within the interior of each building.

Engineering Response

Additional lighting information has been added to the plan. I would defer comment to Zoning Enforcement to ensure compliance with the Zoning Bylaw.

- There are no waste disposal facilities shown on the as-built plan

Applicant Response (May 20, 2010)

The sanitary waste disposal facilities are shown. There were no solid waste facilities shown on the Site Plan subject to the Special Permit.

Engineering Response

No Comment

- A note on the as-built plan states there are some additional landscape items that still need to be addressed. The Tree Warden has been inspecting the plantings on-site and I would defer any further comments in regards to any landscaping issues. Attached are copies of prior memos from the Tree Warden based on various inspections that he made on the premises.

Applicant Response (May 20, 2010)

The Town Planner's e-mail pertaining to this site states that the Tree Warden has indicated that the landscaping is satisfactory.

Engineering Response

No Comment

- The applicant will need to obtain written certification from the Fire Department stating that the fire hydrant(s), alarm system and the turnaround area is sufficient for their emergency equipment.

Applicant Response (May 20, 2010)

Both the buildings at 107 and 115 are occupied, having been approved for occupancy by the Fire Department. We expect that further inspections will be required after the front two units of 107 have been "built out" to meet the needs of tenants. The Building Permit for 113 containing the signatures necessary for occupancy are attached.

Engineering Response

We would defer comment to the Fire Chief

- The applicant should submit his written certification from the Acton Water District or Concord Water Department stating that the water supply system has been inspected and approved.

Applicant Response (May 20, 2010)

The plumbing inspector has approved the buildings for occupancy, signifying that the

connection to the Acton Water District distribution system was found acceptable. The water connection was shown on the Site Plan subject to the Special permit.

Engineering Response
No Comment

- The parking spaces at the Carriage House (#113) are not marked in accordance with the plan.

Applicant Response (May 20, 2010)

Due to changes in the configuration of the pavement at the rear of the Carriage House the required seven spaces cannot be placed as shown on the Site Plan subject to the Special Permit. We are enclosing an Alternative Carriage House Parking Plan showing how seven exterior parking spaces can be achieved. Another alternative would be for the Board to stipulate that parking space for two vehicles must be reserve inside the Carriage House.

Engineering Response

The engineer has submitted a proposed Carriage House Parking Proof Diagram dated May 19, 2010 to show that the applicant could layout their parking in a revised manner to maintain the minimum number of parking spaces. The parallel parking space shown on this diagram adjacent to the Carriage House is located in a paved area that was originally proposed as open space. The parking space is also shown to obstruct the walkway that was supposed to be located along this side of the driveway.

- There are two painted parking spaces at the paved access for the windmill that are not shown on the proposed plan. One of the spaces obstructs the access for the windmill. Both parking spaces obstruct the area that should be reserved for the emergency vehicle turnaround. The width of pavement on the opposite side of the Carriage House is not sufficient to provide the required 24 foot minimum width for the maneuvering aisle.

Applicant Response (May 20, 2010)

Vehicle access to the windmill was precluded by a decision made by the Planning Department. The Carriage House Proof Parking Diagram removes the spaces from the area of the sidewalk to the windmill.

Engineering Response

The engineer has submitted a proposed Carriage House Parking Proof Diagram dated May 19, 2010 to show that the applicant could layout their parking in a revised manner to maintain the minimum number of parking spaces. The parallel parking space shown on this diagram adjacent to the Carriage House is located in a paved area that was originally proposed as open space. The parking space is also shown to obstruct the walkway that was supposed to be located along this side of the driveway.

- The cross-hatching in the front parking area for #115 & #107 does not provide the required minimum 20 foot width in-between these pavement markings.

Applicant Response (May 20, 2010)

A 20 foot wide interior driveway is required by Section 6.7.4 of the Zoning Bylaw. The pavement markings along the side of the Raynor House [115] are spaced greater than 9

feet on center and as shown on the enclosed Interior Driveway Proof Diagram the required 20 foot interior driveway would exist if the pavement markings were altered. The required changes will be made when the pavement has aged sufficiently to allow the markings to become more permanent. The cross hatch area extending out from 113 is not required by the bylaw and was created to direct pedestrians to the parking lot instead of crossing over the narrow planting strip or passing between cars. The Zoning Bylaw does not restrict vehicle movements across the crosshatched area.

Engineering Response

~~**These pavement markings could be revised to provide a 20-foot wide driveway.**~~

- The centerline on the driveway access at Great Road was painted as a white line. The centerline is required to be yellow to designate traffic driving in opposite directions.

Applicant Response (May 20, 2010)

During our meeting with Board Members and Staff our client agreed to have the pavement markings painted even though he was advised that the markings would be required to be repainted in a short period of time as the pavement had not "aged". The centerline will be painted yellow when the pavement markings are redone prior to this winter and maybe the only yellow centerline stripe on a driveway in Acton.

Engineering Response

This center line will be re-painted yellow.

- The turnaround at the Carriage House was not constructed as shown on the plans. The applicant used crushed stone instead of pavers as proposed on the plan and the layout of the crushed stone area is different. The engineer stated in his letter dated May 7, 2010 that they substituted the pavers for crushed stone due to their limited timeframe to construct the turnaround and the potential for settlement. The No Parking sign was installed. However, there was construction equipment being stored on the crushed stone area that is obstructing the turnaround. The painted parking spaces along the Carriage House were painted in a manner that would also potentially obstruct the area for the fire truck to maneuver.



Applicant Response (May 20, 2010)

The enclosed Carriage House Pavement Diagram presents the difference between the pavement and grass pavers/trap rock areas at the Carriage House we believe that the small modifications do not inhibit vehicle turning movements. Given the time period in which the turnaround was to be constructed we believe that the use of trap rock is a better solution than grass pavers or bituminous concrete pavement. The trap rock enhances recharge. Equipment that is to be stored in the Carriage House has remained

out side and will be stored inside after occupancy.

Engineering Response

The engineer has submitted a Parking Proof Diagram showing the 2 parking spaces that are obstructing the turnaround for the emergency vehicles could be removed. The proposed Carriage House Parking Proof Diagram dated May 19, 2010 shows that the applicant could layout their parking in a revised manner to maintain the minimum number of parking spaces. The parallel parking space shown on this diagram adjacent to the Carriage House is located in a paved area that was originally proposed as open space. The parking space is also shown to obstruct the walkway that was supposed to be located along this side of the driveway. I would defer comment to the Fire Chief as to the adequacy of the turnaround that was constructed on the site. Based on our turning templates, it seems that the turnaround needs to be extended further along the walkway as shown on the previously submitted proposed plans to allow sufficient room for the fire truck to maneuver on the crushed stone surface.

- The paved parking area as shown on the as-built plan at the Carriage House does not conform to the proposed plans. The proposed plans required the pavement width to be about 48.5 feet. The as-built plan only indicates the pavement width to be about 46 feet wide at the Carriage House and about 37 feet wide by the access. These pavement widths are not sufficient to accommodate the parking spaces, a 24 foot wide maneuvering aisle, and a 5 foot wide sidewalk.

Applicant Response (May 20, 2010)

The pavement width behind the Carriage House was designed to be 47.5 feet to accommodate Acton's required 18.5 foot deep parking stall, the required 24.0 foot wide maneuvering aisle and a five foot wide sidewalk. A 47.5 foot wide pavement width was installed to provide a four foot wide sidewalk as required by the Architectural Access Board 521 CMR 22.3. The installation of a four foot wide sidewalk should be deemed acceptable. The parking space at the area in which the driveway is less than the required width can be eliminated as shown on the Carriage House parking Proof Diagram.

Engineering Response

Based on the setback for the Carriage House to the rear property line as shown on Plan 10 of 2010 (53.1 feet) and the setback labeled for the rear parking area (6.8 feet), the width of the rear parking area is only 46.3 feet. This width does not demonstrate there is sufficient pavement to allow for parking, the maneuvering aisle and the sidewalk.

- The sidewalk extension from the Carriage House parking area to Brabrook Road is only 4 feet wide. The sidewalk should be 5 feet wide.

Applicant Response (May 20, 2010)

The Site Plan subject to the Special Permit shows a four foot sidewalk along the driveway to the Carriage House and a five foot wide sidewalk behind the carriage house. A four foot walkway meets the requirements of the Architectural Access Board and should be deemed as being acceptable.

Engineering Response

The walkway is labeled on the As-Built Plan that it will be increased to five feet wide.

- The bituminous concrete surface of the sidewalk within the site is the same as the driveway and the parking areas. The Applicant still needs to differentiate the sidewalk surface as required by the Board. The engineer states in his letter dated May 7, 2010 that the sidewalks still need to be completed.

Applicant Response (May 20, 2010)

The required "tack coat" cannot be applied until the existing bituminous concrete pavement has "aged" and our client has offered a \$ 5,000 bond to cover the \$1,600 contract cost of installing the tack coat and stone surface.

Engineering Response

The applicant has offered to post a \$5,000 bond to cover the cost of completing the installation of the differing surface for the sidewalk.

- The applicant has constructed additional paved areas that were not shown on the proposed plans. The lawn area between the side of the Carriage house and the driveway has been paved. There is an additional paved area behind the Raynor House by the light pole and the Stormceptor. The paved access for the windmill has also been constructed wider than previously proposed.

Applicant Response (May 20, 2010)

The additional areas of pavement are shown on the As-Built Plan.

Engineering Response

No Comment

- Based on our site inspection there is a significantly steep slope at the edge of the pavement for the Carriage House next to the renovated dwelling that is used as an office on the abutting lot. This poses a serious hazard, especially during the winter months.

Applicant Response (May 20, 2010)

The slope does exist and we have recommended that 6X6" pressure treated post be placed on eight foot centers along the area described. The post should extend 2.5 feet above the edge of pavement and extend into the ground a minimum of 3 feet.

Engineering Response

We recommend that a standard guardrail be installed along this area.

- The bridge and stone dust trail were constructed in a different location than it was shown on the plans. The as-built plan indicates the existing wetland was also relocated to this new location as well.

Applicant Response (May 20, 2010)

The proposed changes have been found to be acceptable to the Conservation Commission. The statutory wetlands have been dramatically improved and increased in size.

Engineering Response

We would defer comment to the Conservation Commission.

- The timber stairs have not been installed on the trail at the access for the windmill.

Applicant Response (May 20, 2010)

During construction it was found that the landscape timbers were not required

Applicant Response (May 20, 2010)

No Comment

- Due to the overall increase in impervious areas, modifications made to the on-site drainage system and the reduction in the amount of runoff being recharged to groundwater, the engineer was asked by the Town Planner in his letter dated January 22, 2010 to submit new drainage calculations to demonstrate that the site is still in conformance with their stormwater management and water balance requirements. We noted the following changes from the site plan:

Applicant Response (May 20, 2010)

A copy of the previously submitted calculations are attached. The changes between the stormwater management system modeled and the system as constructed do not alter the peak rate and volumes of runoff to the extent that the requirements of the Zoning Bylaw are not complied with.

Engineering Response

We reviewed the as-built plan in regards to the drainage system and found the information and the responses to our comments listed below to be insufficient. The drainage calculations that were submitted with the as-built plan are based on the proposed conditions that were not constructed on the site. The engineer needs to assess the as-built conditions to determine the impacts of runoff discharging off-site, diminished storage capacities, etc...

- The engineer stated in his letter dated May 7, 2010 that some of the stone drip-line trenches adjacent to the buildings were eliminated.

Applicant Response (May 20, 2010)

There was no comment made by their engineer

Engineering Response

These changes will have an impact to the overall recharge capabilities for the site. The engineer needs to submit calculations to support this modification to the site plan.

- The applicant was required to construct a pond recharge trench in-between the wind mill and the reconstructed wetlands. It appears that the applicant constructed a stone wall at this location. It is unclear whether or not the recharge trench was constructed. There is no cleanout structure as shown on the proposed plans.

Applicant Response (May 20, 2010)

The Site Plan subject to the Special Permit shows the stonewall that also was constructed to extend two or more feet below the surface of the ground to serve as a recharge trench. The above ground extension served to incorporate excess boulders from site excavations.

Engineering Response

The proposed plans show a catch basin on the driveway for the Carriage House that outlets into the pond recharge trench. The catch basin was constructed downhill of the recharge trench and it outlets directly into the wetlands instead of the pond recharge trench. This change will have an impact to the overall recharge capabilities for the site. The engineer needs to submit calculations to support this modification to the site plan.

- The proposed plans show a catch basin on the driveway for the Carriage House that outlets into the pond recharge trench. The catch basin was constructed downhill of the recharge trench and it outlets directly into the wetlands instead of the pond recharge trench. The engineer states in his letter dated May 7, 2010 that he relocated the catch basin in order to collect additional runoff from the driveway.

Applicant Response (May 20, 2010)

As stated the catch basin was relocated so that additional runoff flowing down the driveway could be collected.

Engineering Response

We find this response unacceptable without supporting calculations.

- According to the As-Built Plan, the majority the drain pipes that extends behind #107 and across the front parking lot to the swale between Great Road and the Raynor House were sloped in the wrong direction.

Applicant Response (May 20, 2010)

The drainage system serving the area around 107 flows under pressure caused by a rise in the water level of uphill structures. In the case of the outlet from the "blast hole" in front of 107 this maximizes recharge.

Engineering Response

We find this response unacceptable without supporting calculations.

- The invert elevation for the flared end outlet in front of the Raynor house is not labeled on the as-built plan.

Applicant Response (May 20, 2010)

There was no comment made by their engineer

Engineering Response

The engineer needs to label the invert of the flared end outlet.

- The lawn area around the two clean-outs between Great Road and #107 was shown on the proposed plans to be graded with a depressed area at the clean-outs to contain the runoff. The as-built plan indicates this area is graded to drain toward Great Road. According to the engineer in his letter dated May 7, 2010, the pipe that connected these cleanouts is not shown on the plan that was approved for construction.

Applicant Response (May 20, 2010)

The “depressed area” is indicated by the enclosed 145 foot contour shown on the Site Plan. A depth is not indicated. The area tributary to the lawn in front of 107 is small and the absence of a depression in this relatively flat area would have no quantifiable impact on runoff and runoff has not been observed running across the sidewalk onto Great Road.

Engineering Response

We find this response unacceptable without supporting calculations.

- The as-built plan indicates there is a 4-inch PVC in the reconstructed swale between Great Road and the Raynor House. The proposed plans do not indicate a subdrain to be installed within this drainage swale.

Applicant Response (May 20, 2010)

A four inch pipe was extend from the drainage swale in font of the Raynor House [115] to insure runoff would not flow towards Great Road but rather would be directed to the wetlands.

Engineering Response

We find this response unacceptable without supporting calculations.

- The bee-hive grates and the outlet pipe under the stone dust trail for the reconstructed wetland were not installed in accordance with the plans. The outlet bee-hive grate should be about 0.5 foot lower than the inlet bee-hive grade. These bee-hive grates were installed almost at the same rim grades. The rim grade for the inlet bee-hive grate is about 0.9 feet higher than it was proposed. The pipe under the trail was proposed to be flat and the pipe was installed with about a one foot vertical change in elevation. The outlet pipe was also installed about 2 feet higher than it was proposed.

Applicant Response (May 20, 2010)

The outlet works for the restored wetland were constructed at different elevations then shown on the Site Plan and result in additional volumes of runoff being retained on site for recharge. During the periods of intense and long duration rainfall this spring runoff was observed flowing through the outlet works. We find that the operation of the system is acceptable.

Engineering Response

We find this response unacceptable without supporting calculations.

- The drainage calculations and the proposed plans show a secondary overflow weir for the reconstructed wetland at elevation 146 across the stone dust trail.

The as-built plan shows the trail was constructed above elevation 146. It appears that the low point in the trail was not constructed as it was proposed.

Applicant Response (May 20, 2010)

The submitted drainage calculations use an overflow weir as a convenience to the software model. The surface overflow from the wetland system was constructed at the location of the beehive grates and as constructed provides for additional storage during intense/long duration storm events. As a result of the changes in the wetland system outlet works the wetlands has expanded beyond the limits proposed by the design plan.

Engineering Response

We find this response unacceptable without supporting calculations.

- The engineer should determine if the apparent incorrect construction may be the cause for the following:
 - The as-built plan indicates the water level on May 4th to be just below elevation 146. The engineer has assumed in their drainage calculations that there will be available storage capacity to contain runoff from the site within the reconstructed wetlands at elevation 144. The reconstructed wetland does not maintain the storage capacity as determined in the storm water calculations.

Applicant Response (May 20, 2010)

The water level elevation of the wetland system/pond will fluctuate in response to groundwater and the storage capacity provided for storage of storm runoff will be between the water level established by groundwater and the elevation of the outlet works. As the elevation of the outlet works has been raised additional storage capacity has been provided.

Engineering Response

We find this response unacceptable without supporting calculations.

- Based on the as-built contours for the Carriage House driveway, the pavement appears to be graded such that the runoff drains towards the property line instead of to the reconstructed wetlands as it was proposed. The engineer stated in his letter dated March 8, 2010 that they wanted to grade the driveway to redirect the runoff away from the reconstructed wetlands due to the water levels being higher than they anticipated.

Applicant Response (May 20, 2010)

Site observations indicate that runoff from the Carriage House driveway flows to the catch basin and the wetland/pond system and towards the car wash driveway. The runoff to the car wash driveway is inconsequential and is collected by a catch basin. Our client owns both properties.

Engineering Response

We find this response unacceptable without supporting calculations for

this site as well as the receiving site.

- The paved access for the windmill and the driveway access to the Carriage House were not constructed in the locations as shown on the proposed plans. They were built closer to the wetland areas. The engineer stated in his letter dated March 8, 2010 that he presented these changes to the Conversation Commission.

Applicant Response (May 20, 2010)

A copy of our letter to the Conservation Commission and their response is attached.

Engineering Response

We would defer comment to the Conservation Commission.

- The as-built plan indicates the edge of wetlands surrounding the reconstructed pond area, but the remainder of the wetlands on the site has not been shown.

Applicant Response (May 20, 2010)

The data shown on the As-built Plan was limited to the area subject to construction.

Engineering Response

We would defer comment to the Conservation Commission.

- The stone groin above the wetland next to the Carriage house is not shown on the as-built plan.

Applicant Response (May 20, 2010)

The groin has not been installed as the need to provide stabilization in this area and dispersal of runoff is not required.

Engineering Response

We would defer comment to the Conservation Commission.

- The type of drainage pipes that were installed on the site are not labeled on the plan.

Applicant Response (May 20, 2010)

We have added the type and size of drainage pipes that are known from earlier plans and records. The type and size of pipes were not shown on the Site plan subject to the Special Permit.

Engineering Response

The engineer needs to certify that the drainage pipes that were installed on the site conform to their design.