



December 13, 2017
17471

Maureen O'Meara, Town Planner
Town of Cape Elizabeth
320 Ocean House Road
P.O. Box 6260
Cape Elizabeth, Maine 04107

Subject: 19 Wells Road Telecommunications Tower Site Plan

Dear Maureen:

We have received and reviewed a submission package dated December 4, 2017 for the subject project. The package included a December 1, 2017 cover letter addressed to you from Lucas Anthony of Gorrill Palmer of South Portland, Maine along with an 11-drawing plan set dated December 1, 2017. On December 11th, we received a supplemental package from the designer which included an October 27, 2006 Boundary Survey plan of the Jordan Farm property and a December 2017 Stormwater Management report with supporting calculations and a revised 14-drawing plan set dated December 8, 2017 from Gorrill Palmer.

Based on our review of the submitted material and the project's conformance to the technical requirements of Section 19-9, Site Plan Completeness, we offer the following comments:

1. In addition to providing three drainage related plans and a Stormwater Management report, the December 8th submission set includes additional information on the drawings in comparison to the December 1st submission set. The Stormwater Management report concludes that an additional 0.34 acres (approximately 14,800 square feet) of impervious surfaces will be created by the proposed project. The report further concludes that since this area drains into the large on-site manmade pond that this increase in impervious area will have a negligible effect onto the pond and that its discharge will remain unaffected. Given that the area draining into the pond covers an estimated 114 acres, we concur that the added impervious surfaces will have little effect in the context of the pond's overall function.
2. The designer has provided grading on and around the proposed tower pad, however, no proposed grading or key elevations to be held for the pond embankment crossing have been shown for the widening and reconstruction of the existing roadway. It appears that surface water currently flows across the existing gravel road. It would seem that in order to maintain the new access drive that ditches and perhaps culverts would need to be installed. In particular, Station 9+50 appears to be a localized low spot which may require a culvert. In addition, Drawing C201 noted that ditch turnouts will be provided as necessary. The grading should include locations where ditch turnouts, check dams, and perhaps level spreaders would be located so that the contractor can adhere to the design intent.
3. The designer has proposed a stone berm and wooded buffer to treat surface water from the tower pad and adjacent drive and turnaround area. Given the location of the access drive being

down gradient of the berm/buffer area and between the berm/buffer area and the receiving pond, the designer should consider the effect that the road's presence may have on the surface water characteristics before it reaches the on-site pond. While the stone berm is a benefit in slowing the surface water and promoting non-erosive sheet flow through the buffer area, there is the potential for the surface water from the berm/buffer to be reconstituted into concentrated flow through ditches and possibly a culvert.

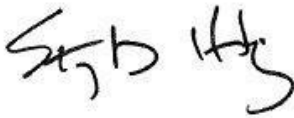
4. Drawings W1 and W2 indicate an off-site areas to the east of the tower site and roadway will discharge into the pond on the Jordan property. The roadway plans do not appear to account for that to occur and it would appear more likely that this water would be directly to the east once it reaches the roadway or require a culvert to enter the pond. The designer should review this area and determine whether a culvert or ditching is necessary to address this flow.
5. As a minor point, a north arrow should be added to Drawings W1 and W2.
6. The Compound Gravel detail for the tower pad areas indicates layers of crushed stone over a Mirafi 600X geotechnical fabric. Given the equipment to go into the compound, it would appear that the fabric would be subject to multiple penetrations. As the fabric essentially would make the pad area impermeable, the designer may wish to replace the fabric with a gravel layer which may allow for more readily dispersing and possible infiltrating of surface water.
7. The designer has indicated that erosion control berm mix material will be used to protect the road construction areas. The designer should revisit this item in the area of the pond berm crossing as the adjacent steep slopes may not be conducive for its use.
8. The plans also indicates that the erosion control berm will be placed on a constant offset from the edge of the new gravel access drive which will act to channelize flow along the berm as the drive goes through rising grade sections. The designer should indicate the berm will be tiered to follow contours and properly filter the runoff as sheet flow rather than encourage concentrated erosive prone flow.
9. The designer is requesting a waiver to the 14-foot width standard for the portion of the access road crossing the pond spillway to minimize impact to the Resource Protection Area. We visited the site with the Fire Chief to review the crossing area and based on the observations of that visit, we understand that the Fire Chief would like to maintain a 14-foot wide crossing with guardrails on both sides.
10. The crossing area now includes wooden guardrail with posts potentially on the slopes on both sides of the crossing. The designer should provide a statement indicating that the wooden guardrail has been evaluated for this situation and certifying that its use is appropriate.
11. The designer should also ensure that any expansion of the roadside slopes in steep areas is properly stabilized. The plans indicate that rip rap may be added in some areas. These areas should be clearly defined and a detail of a rip rap slope added to the plan so that the design intent can be followed during construction.
12. The submission materials references the proposed wetland filling of 1,240 square feet and an exhibit indicating 12,040 square feet of wetland fill. The information should be corrected to be

consistent and the areas of proposed fill with the amount of wetland fill added to the drawings. The amount of proposed wetland fill may not trigger a need to submit for a Natural Resource Protection Act (NRPA) permit from the Maine Department of Environmental Protection (DEP) depending on whether any previous wetland impacts for the pond embankment were permitted in the past by the DEP, however, a U.S. Army Corps of Engineers' permit will likely be needed.

We trust that these comments will assist the Board during their deliberations on this project. Should there be any questions or comments regarding our review, please do not hesitate to contact us.

Sincerely,

SEBAGO TECHNICS, INC.

A handwritten signature in black ink, appearing to read "SDH" followed by a stylized flourish.

Stephen D. Harding, P.E.
Town Engineer

SDH:sdh

cc: Peter Gleeson, Fire Chief
Caitlyn Abbott, Sebago Technics