

February 2, 2022

Town of Kittery
Planning Board
200 Rogers Road
Kittery, ME 03904

SUBJECT: Kittery Car Wash – Proposed Sewer Force Main

Dear Members of the Kittery Planning Board:

The purpose of this application is to amend the approved site plan to show revised proposed utility connections to the proposed carwash and construction of a new sewer force main. This amendment is proposed as the owner/applicant wishes to connect to municipal sewer rather than the private holding tanks shown on the approved site plan.

As part of this proposed sewer force main extension, stubs will be provided to all properties on both sides of Dow Highway (Route 236) to allow the property owners to connect to the force main, should they wish to, at their own expense.

Sincerely,



David R. Jordan, P.E., LEED AP
Director of Site Engineering – Land Development

enclosure(s)

cc: Rob Christy, Waebak LLC.



April 1, 2022

Bart McDonough, Town Planner
Town of Kittery
200 Rogers Road
Kittery, Maine 03904

**RE: Town of Kittery, Planning Board Services
Major Modification to an Approved Site Plan Review #2
Kittery Car Wash (Route 236) Tax Map 28, Lot 25D
CMA #591.142**

Dear Bart:

CMA Engineers has reviewed the following information for Assignment #142 for a major modification to an approved site plan for the Kittery Car Wash at the intersection of Route 236 and MacKenzie Lane in Kittery (Tax Map 28, Lot 25D). The original site plan was approved in October 2020. This is our second review of the major modification to the site plan.

- 1) Peer review response letter by Greenman-Pedersen, Inc. dated March 23, 2022.
- 2) Site Plan Amendment Utility Plan, by GPI, dated January 18, 2022, last revision March 23, 2022 (five sheets).

As in our first review, we offer general comments regarding the design of the off-site force main, services, and appurtenances. We understand that the project has been proposed by the applicant, and an agreement has been reached with the Town for the extending the wastewater facilities at the applicant's expense to serve the car wash property and other lots along the 2,000-foot alignment of the force main. The existing sewer system does not extend north of gravity sewer at Stevenson Road. We note that this is not a final review of the design of the force main and appurtenances.

We reiterate that a detailed design review needs to be completed by the Kittery Sewer Department (or their agent), as well as the Maine DOT, the Kittery Water District and gas utility company (Unitil). It is noted that the entire force main is proposed to be located in the Maine DOT right-of-way (ROW) for Route 236.

In this review #2, comments raised in our previous review (dated March 31, 2022, 2022) that are resolved are indicated by "OK". Comments that still require a response are indicated by *italics*.

Site Plan Comments

The following comments are noted with respect to the applicant's response letter and revised plans.

- 1) The approved drawings show several items not included on the amended site plans, including the site sign and bollards over the gas service. Are these items intended to be included on the amended site plan? **These items have been added. OK.**
- 2) The 10,000-gallon retention tank and Purewater recovery system have been removed from the plans. We assume these items were part of the previously approved wastewater system and are not part of the amended design. **These items are no longer applicable. OK.**
- 3) The location above the former retention tank and water recovery system is labeled as "grassed area". When this area contained underground features, grass was an acceptable landscaping treatment. Now that there are no underground feature conflicts, the applicant might consider additional landscaping (trees, shrubs, etc.) for this location. *The applicant states that additional landscaping will be considered during construction. The applicant should show what is proposed and not defer to construction.*
- 4) The configuration of the proposed underground electric and gas service have been changed slightly from the approved drawings. The applicant should secure the proper approvals from the electric and gas utility companies for these changes. **The applicant states they will coordinate with utility providers prior to construction. OK.**

General questions and comments regarding the force main:

- 5) The location of all existing utilities including the water main and gas main should be shown on the profiles on Sheets 2 and 3 of the Site Plan Amendment Sewer Plan & Profile sheets. **The existing water and gas mains have been added to the Plan and Profile sheets. OK.**
- 6) The proposed sewer force main crosses a wetland at approximately Sta 16+50 to Sta 17+00. Is a wetlands alteration permit required? What are the details of this crossing? **The applicant has stated that this is classified as a drainage ditch per the Ordinance 16.3. The rationale is satisfactory. OK.**
- 7) There are cleanout manholes at Sta 5+50 and Sta 10+50. There are no cleanout manholes between the pump station at Sta 20+33 and Sta 10+50, we note that this run of force main includes the roughly 90-degree bend to cross Route 236. Cleanout manholes may be desirable on this section of force main, particularly at the Route 236 crossing. *The location of cleanout manholes is based on recommendations from the F.R. Mahoney & Associates, the E-One representative, and no new cleanout manholes have been added. Final design review by the Kittery Sewer Department is necessary to determine the appropriateness of this and other aspects of the wastewater design.*
- 8) There are seven proposed 1-1/4" SDR 11 PVC sewer force main stubs for future use that cross Route 236. Are these services all proposed to be directionally drilled? Will installation be concurrent with force main construction? In addition, please comment on whether the 1-1/4" services are sufficient at each location. *All services are proposed to be directionally drilled during force main installation and the applicant states that 1-1/4" services are adequate. Final design review by the Kittery Sewer Department is necessary to determine the appropriateness of this and other aspects of the wastewater design.*

- 9) The plans callout a 3" SDR 11 HDPE force main, however the Force Main Trench Section, Force Main Connection to Gravity Sewer, and Typical Concrete Backing details on Sheet 4 of 5 specify SDR 21 pipe. Please clarify. ***Most of the details noted above have been revised, however Note 5 for the Typical Concrete Backing detail references SDR21 pipe.***
- 10) The Force Main Trench Section on Sheet 4 of 5 shows installation in the street, this does not apply to this project and should be removed. **The street installation portion of the detail has been removed. OK.**
- 11) The profile on Sheet 3 of 5 calls out the pump station in SMH-1 as an "E-One DHR-159-93", but the details on Sheet 5 of 5 are for models DH152/DR152 and DH152-93/DR152-93. Please clarify. **This call out has been corrected. OK.**
- 12) The inverts, pipe sizes and pipe materials for the existing sewer manhole, at the intersection of Stevenson Road, that the proposed force main will tie into should be included on the plans. **The plans have been revised to include this information. OK.**
- 13) Both cleanout manholes are labeled as Sta 10+50 on the plan and the profile on Sheet 2 of 5. **The label has been corrected. OK.**
- 14) Note 8 on Sheet 2 of 5 references gravity sewer pipe; this reference does not apply to this project. **This note has been removed. OK.**
- 15) The leader for the "E-One model..." on the profile on Sheet 2 of 5 is not pointing to anything. **The leader has been moved (we note we incorrectly referenced Sheet 2 of 5 and should have referenced Sheet 3.) OK.**
- 16) The leader on Sheet 3 of 5 calls out "Proposed 1-1/4" SDR 11 PVC sewer force main to be directionally drilled under Route 236" but the force main is 3". The force main is shown as 3" on the profile in this location. Does the force main reduce at the crossing? If so, details of the reduction should be provided. ***The applicant states that the crossing is a typical 1-1/4" service, apparently based on the F.R. Mahoney & Associates design of the E-One system. Final design review by the Kittery Sewer Department, including evaluation of hydraulics, is necessary to determine the appropriateness of this and other aspects of the wastewater design.***

Questions/Comments for review by others

- 1) A full review of the force main design with respect to utility conflicts, location in the right-of-way, design criteria for hydraulic head and wastewater flow, proposed sediment tank, and tie-in to the existing sewer manhole, needs to be completed by the Kittery Sewer Department. Has that process started or been completed? ***The applicant states that the Kittery Sewer Department has confirmed capacity and will complete further review prior to construction. We recommend that Planning Board action be deferred, or conditioned upon, the Kittery Sewer Department's design review and approval of the project.***
- 2) The applicant is proposing to tie into the existing 16" water main via a 4" service. Has the Kittery Water District (KWD) reviewed this connection to the water main? In addition, the sewer force main is proposed to be directionally drilled under the water main and the gas service is proposed to be directionally drilled over the water main. KWD and Unutil should review the details of these crossings with respect to the water main. ***The applicant states that the Kittery Water Department is currently reviewing the plans and that plans will be submitted to Unutil for review. We recommend that Planning Board action be deferred, or conditioned upon, the Kittery Water District's and Unutil's design review and approval of the project.***

- 3) Has a full design review been completed for construction in the right-of-way by Maine Department of Transportation (MaineDOT), including the force main and the services? The applicant is proposing directional drilling for the gas and sewer crossings, how and where is this being staged in the right-of way and has MaineDOT reviewed these details? ***The applicant will submit applicable permit applications with MaineDOT (Utility Location Permit and Highway Opening Permit), and construction means and methods will be reviewed then. We recommend that Planning Board action be deferred, or conditioned upon, the MaineDOT's design review and approval of the project.***

- 4) Directional drilling is proposed for the gas service, has Unutil reviewed the details of this? In addition, the force main is proposed to be placed on the southwest side of Route 236 in close proximity to the existing 8" CS gas main. Has Unutil reviewed the details of construction of the sewer main with respect to proximity to the gas main? ***The applicant states that design plans will be submitted to Unutil for review. We recommend that Planning Board action be deferred, or conditioned upon, Unutil's design review and approval of the project.***

- 5) Who is constructing the utilities, and how will the Town accept them? Construction of the proposed force main will require oversight by multiple parties including Kittery Sewer Department, KWD, MaineDOT and Unutil. What party is proposed to be the lead? ***The applicant states that they will be responsible for construction and that the Kittery Sewer Department will assume control of the 3" force main upon completion, and that the other utilities will provide oversight for their respective connections to the car wash. We recommend that the Planning Board action be deferred, or conditioned upon, confirmation by the Town of Kittery and the Kittery Sewer Department that the proposed arrangements are appropriate and acceptable.***

Should you have any questions, please do not hesitate to call.

Very truly yours,
CMA ENGINEERS, INC.



Jodie Bray Strickland, P.E.
Senior Project Engineer

cc: David Jordan, P.E., GPI