

PROJECT BACKGROUND, SCOPE OF SERVICES, SCHEDULE AND BUDGET

EXCLUDES TASK 3

Wastewater Management Plan Project Town of Old Lyme, Connecticut

March 14, 2013



PROJECT BACKGROUND:

The Project Area consists of the following three neighborhoods in Old Lyme south of Route 156:

- East to West from Billow Road to Corsino Avenue and Cross Lane, north to south from the railroad tracks to the beachfront on Long Island Sound.
- East to West from Biscayne Blvd. to Robbins Avenue, Prospect Street and West End Drive and North to South from Route 156 to the beachfront on Long Island Sound.
- The White Sands Beach area east to west from Brighton Road to Springfield Road and north to south from Old Shore Road and to the beachfront on Long Island Sound including Seaside Lane.

The areas, which are densely developed with both permanent and seasonal residences, include the Old Colony Beach Club Association (OCBCA) and the Old Lyme Shores Beach Club Association (OLSBCA). Wastewater systems consist of individual on-lot disposal systems, many of which do not meet current health code standards. System failures in the study area are common. In response to these failures, CT-DEEP issued a Consent Order to the OCBCA on August 14, 2012. A subsequent Consent Order for the OLSBCA is anticipated. The current Consent Order requires compliance by June 30, 2016 to alleviate on-site disposal system challenges by reviewing alternatives and complying with appropriate regulatory wastewater standards.

There are two previous reports related to wastewater management in the Project Area. A Wastewater Management Plan, prepared by RFP Engineering and amended by Fuss & O'Neill in June 2012, outlined the disposal issues for both associations and recommended that a conventional collection system with conveyance of wastewater to the New London WPCF through intermunicipal agreements with the Town of East Lyme, Town of Waterford, and the City of New London. CT-DEEP approved the Wastewater Management Plan and required completion of the bidding documents within 850 days of the Order (October 30, 2014).

Lombardo Associates, Inc. (LAI) more recently performed an alternatives analysis for the collection, treatment and dispersal of wastewater for the OCBCA and OLSBCA. In the Report dated October 2, 2012, LAI summarized two alternatives: (1) installation of a collection system within OCBCA/OLSBCA and conveyance of wastewater to the New London WPCF for treatment and surface water disposal; and (2) on-site collection and local treatment/disposal. The second alternative was sub-divided into: (A) nearby off-site sub-surface disposal or reuse; (B) treatment and disposal within the OCBCA confines; and (C) treatment through multiple cluster systems. This report concluded that the second alternative is less costly.

Based on discussions with the Town and its Wastewater Task Force, there is community support for the local treatment and disposal alternative. Based on the preliminary alternatives analysis, the Town now intends to move forward with a more detailed evaluation of the local alternative, including physical soil testing and analyses at the potential effluent disposal and reuse locations. In addition, we will work closely with the Town to develop sustainable recommendations, both structural and administrative, for a long-term community wastewater management system and program.

SCOPE OF SERVICES:

Task 1 – Grant Funding & Finance Assistance (CWF Ineligible)

- 1.1. CWF Pre-Application – Submit proposed scope of work and fee to CT-DEEP for Pre-Approval. CT-DEEP's Pre-Approval letter will allow the Town to commence initial planning tasks, which are weather-dependent, in parallel with preparation, review, and subsequent formal Approval of the CWF Application by CT-DEEP.
- 1.2. CWF Funding Application – Upon execution of the Agreement with the Town, prepare and submit the CWF Application for the Project to CT-DEEP. Planning phase costs, excluding Task 1, are eligible for a 55% grant, pending Approval by CT-DEEP. The planning phase funds are eligible on a first-come-first-served basis.
- 1.3. Consent Order Assistance – Assist the Town with review of Consent Order(s), discussions with CT-DEEP, alignment with planning phase recommendations, and schedule integration.
- 1.4. Initial Financing and Funding Workshop – As one of the first key steps in the Project, meet with Town officials and Wastewater Task Force members to collect background information and current information on Project Area finances. The goal of this Workshop is to discuss options, opportunities, past successes by the Town, and other creative team solutions to help minimize the impact of project costs on the residents.
- 1.5. Preliminary Financing Evaluation – Review and analyze preliminary project costs on system users, including unit costs, debt schedule, and possible phasing solutions that may lessen the financial impact on system users. The preliminary financial model will foster a proactive understanding of the impact of the project costs on residents as the Project progresses, and different alternatives and phasing options are considered.
- 1.6. Preliminary Funding Opportunities – Identify funding opportunities, particularly grants, that may apply to the Project, including CWF funds, renewable energy subsidies, and other funding solutions. Prioritize these opportunities, and contact agencies that administer these funds to determine eligibility guidelines and applicability to the Project.
- 1.7. Preliminary Financing and Funding Memorandum – Prepare a memo summarizing the observations and preliminary conclusions for Tasks 1-4, 1-5 and 1-6.
- 1.8. CWF Grant Reimbursement Requests – Following Approval by CT-DEEP, assist the Town by drafting monthly grant reimbursement requests for submittal by the Town to CT-DEEP.

Task 2 – Project Initiation and Key Meetings

- 2.1. Kick-Off Meeting – Conduct Project kick-off meeting with Town, Wastewater Task Force, neighborhood associations, CT-DEEP and other project stakeholders to review scope of work, responsibilities, project goals and expectations, and schedule.
- 2.2. Public Informational Meeting #1 – Conduct an initial public informational meeting to review the purpose of the project, overview of scope of work and schedule. The intent of this meeting is to initiate the process of building project awareness with the residents of the Project Area.
- 2.3. Project Implementation Plan – Based on the input received during Tasks 2-1 and 2-2, refine and prioritize the Project sub-tasks, key schedule milestones, and Consent Order milestones, to update the Project Implementation Plan.
- 2.4. Board of Selectmen/Wastewater Management Task Force Meetings – Attend approximately seven monthly meetings with Project Team to review project status, action items, and the results of individual sub-tasks.



Task 3 – Evaluation of Sub-Surface Disposal and Reuse Alternatives

Based on discussions with CT-DEEP staff, we are anticipating receipt of planning phase guidelines for potential disposal site field testing. We will develop our proposed scope of work and fee for this Task upon receipt of CT-DEEP's guidelines memo.



Task 4 – Prioritization of Wastewater Needs in Project Areas

- 4.1. Wastewater Needs Analysis – Evaluate the extent and severity of wastewater needs within the neighborhoods that comprise the project area. Utilize past planning documents, available Health District Records, observations from residents, and on-site observations to summarize quantitative and qualitative wastewater needs.
- 4.2. Current and Future Flows – Estimate current and future flows, based on current uses, future development and zoning regulations. It is important to maintain adherence with the State Office of Policy and Management (OPM) Plans of Conservation & Development as future flows are estimated.
- 4.3. Wastewater Needs Workshop – Based on the results of Task 3 and available effluent disposal capacities, together with current and future flow projections, conduct a workshop with Town and Wastewater Task Force staff to prioritize evaluation criteria and needs. The result of the workshop will be to objectively prioritize system flows and weighting of needs needs, based on available effluent disposal capacities.
- 4.4. Prioritization of Wastewater Needs Summary Memorandum – Prepare a memorandum summarizing the efforts of Task 4, including the recommended prioritization of study area flows, based on available effluent disposal capacity. This memorandum will be the basis for the work associated with Tasks 5 and 6.
- 4.5. Public Informational Meeting #2 – Conduct a second public informational meeting to review the initial project findings and observations, including the prioritization of wastewater needs, and available disposal capacities at the four identified sites.

Task 5 – Evaluation of Local Wastewater Treatment Alternatives

- 5.1. Initial Wastewater Treatment Workshop – Conduct an initial workshop with Town and Wastewater Task Force staff to discuss the Town's current wastewater treatment system(s), lessons learned, and system preferences for the future local wastewater treatment system.
- 5.2. Current and Future Flows and Loads – Based on the prioritization of Project Area flows developed during Task 4, develop corresponding current and projected future loads, to serve as the basis for the wastewater treatment alternatives analysis.
- 5.3. Preliminary Basis of Design Memorandum – Prepare a preliminary basis of design memorandum, including influent flows and loads, project phasing, anticipated effluent permit requirements (including secondary treatment, disinfection and nutrient removal), as well as quantified reuse opportunities, to facilitate preparation of the alternatives analysis. This memorandum will be reviewed with Town and Wastewater Task Force staff, so formulate a common vision for the level of treatment needs anticipated, and will serve as the basis for the wastewater treatment alternatives analysis.
- 5.4. Wastewater Treatment Alternatives Analysis – Develop and evaluate three wastewater treatment alternatives to serve the Project Area. The discussion of each alternative will include system overviews, performance and reliability expectations, life cycle costs including design, construction, financing, land acquisition, anticipated annual operations and maintenance needs, as well as references for comparable wastewater system facilities in other communities.
- 5.5. Dynamic Treatment Process Model – Construct a dynamic, electronic treatment process model of each of the three alternatives using GPS-X software developed by Hydromantis. The model will be calibrated to the extent possible using projected flows and loads data.



- 5.6. Site Visits – Upon development of the alternatives, but prior to selection of the preferred alternative, we will arrange site visits for Woodard & Curran and Town/Task Force staff to visit potential treatment system configuration in southern New England. Three site visits will be conducted over a two-day period.
- 5.7. Follow-Up Wastewater Treatment Workshop – Conduct a follow-up workshop with Town and Wastewater Task Force staff to prioritize wastewater treatment evaluation criteria. The result of the workshop will be to objectively prioritize treatment needs and preferences, based on the applicability of each alternative to the Old Lyme Project Area.
- 5.8. Local Wastewater Treatment Alternatives Summary Memorandum – Prepare a memorandum summarizing the efforts of Task 5, including a summary of the three alternatives evaluated, lifecycle costs, and the recommended local wastewater treatment alternative.

Task 6 – Evaluation of Local Wastewater Collection Alternatives

- 6.1. Mapping Management System – Develop a geodatabase to organize and store the spatial data collected and developed for this project. The geodatabase will be initially populated with the survey data and available electronic mapping layers. Assuming scanned images of existing Assessor’s maps are available, georeference the Town’s existing paper tax maps to use as a base for the Project Area development.
- 6.2. Limited Project Area Surveys – Conduct limited surveys of each of the three neighborhoods in the Project Area to pick-up key surface features, pump station locations, key culverts and, and other pertinent surface data needed for the collection system alternatives analysis. The work will be performed using an MBE surveyor sub-consultant to meet the requirements of the CT-DEEP’s CWF Program.

Collection System Alternatives Analysis – Develop and evaluate four collection system alternatives to serve the Project Area: (1) conventional gravity; (2) low pressure; (3) STEP/STEG; and (4) vacuum sewers. The discussion of each alternative will include system overviews, performance and reliability expectations, and life cycle costs including design, construction, financing, land acquisition, anticipated annual operations and maintenance needs, as well as references for comparable collection systems in other communities.

- 6.4. Site Visits – Upon development of the collection system alternatives, but prior to selection of the preferred alternative, we will arrange site visits for Woodard & Curran and Town/Task Force staff to visit potential collection system configurations (non-gravity sewer options) in southern New England. Three site visits will be conducted over a two-day period.
- 6.5. Follow-Up Collection System Workshop – Conduct a follow-up workshop with Town and Wastewater Task Force staff to prioritize collection system evaluation criteria. The result of the workshop will be to objectively prioritize sewer needs and preferences, based on the applicability of each alternative to the Old Lyme Project Area.
- 6.6. Local Collection Systems Alternatives Summary Memorandum – Prepare a memorandum summarizing the efforts of Task 6, including a summary of the four collection system alternatives evaluated, lifecycle costs, and the preferred sewer alternative.

Task 7 – Confirmation of Regional Wastewater Management Alternative

- 7.1. Meetings with Downstream Communities – As directed by the Town, arrange and attend meetings with Old Lyme staff, and representatives of East Lyme, Waterford and New London to confirm downstream infrastructure needs and viability of regional alternative.



- 7.2. Intermunicipal Alternative Analysis – Confirm and evaluate the intermunicipal alternative to convey wastewater from Old Lyme through East Lyme and Waterford to New London. The discussion of this alternative will include conveyance infrastructure overviews, potential intermunicipal agreement requirements, sewer user rates, upgrades to downstream infrastructure, life cycle costs including design, construction, financing, land acquisition, and anticipated annual operations and maintenance needs.
- 7.3. Regional Alternative Summary Memorandum – Prepare a memorandum summarizing the efforts of Task 7, including a summary of the four collection system alternatives evaluated, lifecycle costs, and the preferred sewer alternative.

Task 8 – Development of Recommended Plan and Implementation Schedule

- 8.1. Integration of Wastewater Collection, Treatment, Disposal and Reuse Recommendations – Integrate the observations and recommendations of Tasks 3, 5 and 6 into a consolidated Wastewater Management Recommended Plan.
- 8.2. Staffing Plan – Evaluate and summarize wastewater collection, treatment, disposal and reuse staffing needs.
- 8.3. Follow-Up Financial Workshop – Upon preliminary selection of the recommended plan, meet with Town officials and Wastewater Task Force members to review the detailed financial options, rate structures and their respective unit costs, for each of the alternatives, as well as the net cost impacts on the project area residents. The goal of this Workshop is understand the financial impacts of each alternative on the residents prior to selection of the preferred alternative and development of the recommended plan.
- 8.4. Public Informational Meeting #3 – Conduct a third public meeting to update the public on the recommended plan, and solicit input on any updates from the prior Public Informational Meeting #2. This final public meeting will include both the technical and financial aspects of the recommended project and the implementation plan.
- 8.5. Draft Report – Prepare the Draft Report, obtain Town review comments, and submit to CT-DEEP for review.
- 8.6. Final Report – Meet with CT-DEEP staff to review comments and address questions. Incorporate review comments, and confirm updates with Town and Wastewater Task Force. Finalize the Report.

SCHEDULE:

Following is the anticipated Project Schedule, by Task, with estimated state and completion dates. Upon finalization of the Scope of Services, a detailed Project Plan, including the inter-relationship of sub-tasks, sub-task dates, and other key milestones, will be developed and reviewed with the Town.



Task	Task Description	Anticipated Start Date	Anticipated Completion Date
1	Grant Funding & Finance Assistance	March 2013	September 2013
2	Project Initiation	April 2013	April 2013
3	Evaluation of Sub-Surface Disposal and Reuse Alternatives	April 2013	May 2013
4	Prioritization of Wastewater Needs in Project Areas	May 2013	June 2013
5	Evaluation of Local Wastewater Treatment Alternatives	June 2013	July 2013
6	Evaluation of Local Wastewater Collection Alternatives	April 2013	July 2013
7	Confirmation of Regional Wastewater Management Alternative	April 2013	May 2013
8	Development of Recommended Plan and Implementation Schedule	July 2013	September 2013

BUDGET:

The following table summarizes project costs by task (excluding Task 3), including CWF eligibility and grant/local share for eligible costs.



Task	Task Description	Total Cost by Task	CWF Ineligible Cost	CWF Eligible Local Share (45%)	CWF Eligible Grant Share (55%)
1	Grant Funding & Finance Assistance (CWF Ineligible)	\$17,971.80	17,971.80	\$0.00	\$0.00
2	Project Initiation	\$10,148.60	\$0.00	4,566.87	\$5,581.73
3	Evaluation of Sub-Surface Disposal and Reuse Alternatives	TBD	TBD	TBD	TBD
4	Prioritization of Wastewater Needs in Project Areas	\$12,104.40	\$0.00	5,446.98	\$6,657.42
5	Evaluation of Local Wastewater Treatment Alternatives	\$19,280.80	\$0.00	8,676.36	\$10,604.44
6	Evaluation of Local Wastewater Collection Alternatives	\$19,451.60	\$0.00	8,753.22	\$10,698.38
7	Confirmation of Regional Wastewater Management Alternative	\$8,870.40	\$0.00	\$3,991.68	\$4,878.72
8	Development of Recommended Plan and Implementation Schedule	\$45,909.60	\$0.00	\$20,659.32	\$25,250.28
	Sub-Totals (Excluding Task 3)	\$133,737.20	\$17,971.80	\$52,094.43	\$63,670.97

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