

AMENDMENT NO. 1

To the

ENGINEERING SERVICES AGREEMENT

By and between the

TOWN OF LEDYARD, CONNECTICUT

And

MAGUIRE GROUP INC.

For

**THE PREPARTION OF
A MULTI-PHASED FACILITIES PLAN
(PHASE II)**

WHEREAS, on January 22, 2009, the TOWN OF LEDYARD, CONNECTICUT, (hereinafter referred to as the "Town") and MAGUIRE GROUP INC. (hereinafter referred to as the "Engineer") entered into an Agreement for engineering services related to performing Phase I of a multi-phased study to prepare a Wastewater Facilities Management Plan (hereinafter referred to as the "Project"), as more particularly described in said Agreement, and

WHEREAS, the Town desires to retain the services of the Engineer to continue with Phase II of the Project, and

WITNESSETH, that the Town and Engineer desire to amend said Agreement to extend the Engineer's services to perform Phase II of the Project, and

NOW THEREFORE, in consideration of the mutual covenants and agreements herein contained, the Town and the Engineer agree as follows:

1. Engineer shall provide the various engineering services described in "Appendix A – Scope of Work" of this Amendment No. 1. Engineer shall also provide other engineering services related to the Project, as described in future Amendments to the Agreement and to the extent authorized by the Town.
2. Town shall compensate the Engineer according to the methods and terms of payment described in "Appendix B – Compensation" of this Amendment No. 1.
3. Engineer shall complete its services according to the schedule described in "Appendix C – Schedule and Deliverables" of this Amendment No. 1.

IN WITNESS WHEREOF, the Town and the Engineer have made and executed this Amendment No. 1 to the Agreement, this 17 day of JUNE, 2011.

Signed in the presence of:

Elaine G. Henschel
Charan K. Mitta

TOWN OF LEDYARD

By: [Signature]
 Fred B. Allyn, Jr.
 Mayor, Town of Ledyard

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Signed in the presence of:

Royce H. Maher
CEK

LEDYARD WPCA

By: Terry Jones
Terry Jones
Chairman, WPCA

Signed in the presence of:

Charles Clark
Leticia N. Bertels

MAGUIRE GROUP INC.

By: James B. Fritz
James B. Fritz, P.E.
Senior Vice President

APPENDIX A – SCOPE OF WORK

Background

The Town of Ledyard was asked by the Connecticut Department of Environmental Protection (CT DEP) to prepare a Wastewater Facilities Management Plan in a multi-phased approach. It was understood that the outlying areas of the Town may have the need for alternative sewage collection/treatment than currently in use.

Under Phase I, the Engineer studied the extent of that need and identified potential alternative treatment and/or conveyance systems for further detailed study in Phase II. A September 29, 2010 report of the Engineer's findings and recommendations for Phase I was approved by the CT DEP on November 24, 2010. The CT DEP also made recommendations for the Town to investigate additional sewage disposal alternatives during Phase II.

Phase II will utilize the information gathered from Phase I and integrate it into the Town-wide Facilities Plan. The scope for the Phase II work follows the CT DEP's Clean Water Fund (CWF) Checklist for Plans of Study and Scopes of Services Regarding General Planning.

PAST WORK NOT IN THE SCOPE OF THIS AMENDMENT

Phase I – Needs Analysis

The Engineer completed Phase I under the original January 22, 2009 Agreement.

WORK INCLUDED IN THE SCOPE OF THIS AMENDMENT NO. 1

Phase II – Facilities Plan

Specific tasks in preparing the Town-wide Wastewater Facilities Management Plan will include the following:

1. **Planning Area** – The planning area to be evaluated and defined shall be the entire Town of Ledyard. All feasible alternatives, including regional solutions and those suggested by the CT DEP in the November 24, 2010 approval letter for Phase I, will be investigated.
2. **Definition of Existing Facilities** – The existing wastewater facilities within the Town will be identified with flows, loadings, and service population.
3. **Definition of Performance Deficiencies or Problems** – Deficiencies with existing individual onlot disposal systems previously identified during Phase I (Aljen Heights, Avery Hill Trailer Park, Gales Ferry, and Christy Hill study areas) will be discussed in the Facilities Plan. The existing wastewater collection and treatment systems will also be investigated.

The superintendent of the Town's Highlands wastewater treatment facility has previously informed the Engineer of numerous facility components that are in need of attention and upgrade or replacement.

4. Estimation of Future Flows and Loadings – The service area population projections for the next 20 years will be made using the most recent data and information available to derive the future flows and loadings to the wastewater facilities.
5. Estimation of Existing and Future Needs – Wastewater needs within the existing sewer service area and unsewered areas will be reviewed. A build-out analysis for the next 20 years (including Ledyard Town Center) will identify possible extensions to the existing sewer service area, and corresponding additional wastewater flow projections will be quantified.
6. Evaluation of Alternatives to Address Needs – Potential wastewater alternatives identified for each of the problem areas in Phase I and additional alternatives as suggested by CT DEP will be investigated:
 - a) Onlot sewage management program
 - b) Connection to Town of Ledyard Highlands wastewater treatment facility service area
 - c) Connection to Town of Groton sewer system (for Christy Hill)
 - d) New community collection and treatment system
 - i. Biological or physical/chemical treatment
 - ii. Conventional onsite and alternative technologies
 - iii. Treatment and reuse vs. stream discharge
 - e) Extension of public water supply system
 - f) Wastewater reuse at nursery on Route 2A to serve Avery Hill and Aljen Heights (CT DEP suggested alternative)
 - g) Small flow treatment facility with discharge to the Thames River to serve Avery Hill and Aljen Heights (CT DEP suggested alternative)
 - h) Connection to the Town of Preston at the former Norwich State Hospital site to serve Avery Hill and Aljen Heights (CT DEP suggested alternative)
 - i) Pumping to Town of Norwich wastewater facilities to serve Avery Hill and Aljen Heights (CT DEP suggested alternative)
 - j) Wastewater alternatives analysis for Ledyard Town Center and remaining areas of Town. The alternatives analysis for the Town Center will consider the previous planning reports/studies by the Ledyard Town Center Committee and others for that area. The

previous recommendations will be evaluated and incorporated into the Phase II study to develop a plan and recommendations to serve the specific wastewater needs of the Town Center area.

7. Delineation of Future Service Area & Sewer Avoidance Area - A Town-wide Sewer Service Area (SSA) map will be prepared that delineates all of the existing service area and any future projected areas to be served. A summary tabulation of existing and future projected wastewater flows will accompany the SSA map. Areas for sewer avoidance will also be identified. The SSA map shall be consistent with the State Conservation & Development (C&D) Plan and the Town Plan of Conservation & Development (POCD).
8. Development of an Onsite Management Plan – A general plan for management of onsite disposal of wastewater will be prepared for the areas of Town outside the designated sewer service area.
9. Evaluation of Infiltration/Inflow Impacts and Need for SSES – The Facilities Plan will include a brief discussion of infiltration/inflow (I/I). A qualitative review of the Highlands wastewater treatment facility influent flow records will be done to determine if any wet-weather problems exist with I/I. The Engineer will prepare a separate scope of work, should further analysis and a sewer system evaluation survey be required.
10. Evaluation of Ultimate Sludge Disposal – An evaluation of the sludge and septage management practices will be made.
11. Identification of Effluent Discharge Limits and TMDL – The effluent discharge limits and total maximum daily loads from existing and proposed wastewater treatment facilities will be evaluated.
12. State and Local Planning Documents Consistency Determination – The Engineer will coordinate with the Town and the State Office of Policy and Management (OPM) to resolve issues with consistency between the State C&D Plan and the Town POCD. The Engineer will petition OPM on behalf of the Town to modify the State C&D Plan to reflect the Town's planned development of the Ledyard Town Center.
13. Relationship to Approved Water Supply Plans – The Engineer will coordinate with the Town and/or Groton Utilities for the content of the Facilities Plan with regard to the latest approved water supply plan.
14. Evaluation of O&M Costs – An evaluation of operation and maintenance costs, including energy and staffing levels, will be included in the Facilities Plan.
15. Environmental Assessment of Recommendations Consistent with CEPA – Identify potential environmental impacts from the recommended wastewater alternative(s) relative to the Connecticut Environmental Policy Act. The Facilities Plan will include an evaluation and discussion of the following:
 - a) Direct impacts: Air and water quality

- b) Direct impacts: Floodplains, coastal zone, wetlands
- c) Direct impacts: Farmlands and aquifer protection zones
- d) Direct impacts: Historical, archaeological, endangered species
- e) Indirect impacts (induced growth, water supply, etc.)
- f) Mitigation of adverse impacts
- g) Socio-economic impacts

The Environmental Assessment (EA) will be prepared as a chapter in the Facilities Plan. The EA scope includes an evaluation of any expansion of or upgrade to the existing wastewater facilities needed to meet future CT DEP requirements. The following tasks will be undertaken to document the environmental impacts of the recommended alternative(s):

Task I - Scoping: Meet with appropriate CT DEP, CT OPM, and the CT Historic Preservation Office to identify key issues concerning the recommended alternative(s) and the existing setting. The “scoping” process will include contacting involved special interest groups, organizations and local agencies to introduce the alternative(s) and seek input on key issues to be studied.

Task II - Data Collection: Collect all relevant reports, maps and other information on the vicinity of the alternative(s). Data collection will also consist of site walkovers to assess the existing conditions of the natural and built environment. Collected data and photo identification will be documented.

Task III - Purpose and Need: Document the purpose of the recommended alternative(s) and describe in sufficient detail to allow for an understanding of the size, scale and parameters of the construction and operations of the alternative(s).

Task IV - Alternatives to the Proposed Action: Document the exploration of reasonable wastewater conveyance alternatives that could satisfy and are consistent with the purpose and needs for the Project. These alternatives include optional siting of the treatment plant and optional routing of the proposed sanitary sewers. A “no-action/do-nothing” alternative will also be evaluated.

Task V - Existing Setting/Environmental Consequences: Document the natural and built environment in the Project vicinity as well as the impacts of building and operating the proposed sewer extension in this area.

“Natural” environmental parameters to be evaluated are:

- Water quality
- Wetlands
- Floodplains
- Vegetation
- Topography
- Water resources
- Threatened & endangered species
- Fisheries
- Wildlife
- Soils/geology

“Built” environment parameters that will be described are:

- Land use
- Traffic/transportation
- Air quality
- Cultural resources (archaeological field work not contained in this Scope of Work)
- Socio-economic
- Utilities
- Noise

A description and general mapping of each environmental parameter within the Project vicinity will be prepared. The environmental consequences of each of the affected resources will be addressed.

This section will also establish and discuss any mitigation measures that will be necessary to avoid or minimize any adverse impacts to a specific environmental resource. This section will only evaluate alternatives that are deemed reasonable.

Direct, indirect and, if applicable, cumulative effects will be identified. Beneficial as well as adverse consequences will be identified.

Task VI - Draft and Final Environmental Assessment: Prepare a draft chapter on the Environmental Assessment. Following receipt of comments from regulatory agencies and others, prepare the final version of the Environmental Assessment.

Task VII - Meetings: Prepare for and attend meetings related to the preparation of the Environmental Assessment, and a public hearing on the proposed plan as appropriate. For budgeting purposes, it is assumed that there will be two (2) public meetings for this Project not including the meetings with the various Town Departments, Boards Commissions, Committees, etc. (Refer to Task 21, Public Participation, below.)

16. Identify Other Agencies to be Contacted – The Facilities Plan will include a listing of other agencies to be contacted during the facilities planning process.
17. Identify Need for Intermunicipal Agreements – It is anticipated that intermunicipal agreements will be required for wastewater alternatives that involve neighboring or nearby Towns (i.e. Preston, Groton, Norwich). It is also anticipated that an agreement might be necessary to implement the DEP suggested alternative of wastewater reuse at the nursery. The level of effort to be provided under this task will be limited to review, recommendations, and concurrence with acceptable policies of the entities party to the agreement and the CT DEP. Legal assistance is not included in this Scope of Work.
18. Identify Necessary Permits, Licenses, and Certificates – The Facilities Plan will include a listing of all anticipated approvals needed to implement the recommended alternative(s). Preparation of permit applications is not included in this Scope of Work.
19. Wastewater Treatment Facility Classification – The impact of any proposed upgrades and/or expansion of the Highlands facility will be evaluated with regard to the classification and the required level of operator certification per the CT DEP regulations.
20. Recommendations and Conclusions – A draft and final report of the Facilities Plan will be

prepared and will generally be divided into the chapters listed below. The report will provide a detailed cost estimate, a discussion of financing, and schedule of implementation for the selected alternative(s).

- a) Chapter I: Executive Summary
- b) Chapter II: Introduction
- c) Chapter III: Planning Objectives
- d) Chapter IV: Existing Planning Area Conditions
- e) Chapter V: Existing Collection and Treatment Systems
- f) Chapter VI: Future Conditions
- g) Chapter VII: Evaluation of Alternatives
- h) Chapter VIII: Plan Selection
- i) Chapter IX: Detailed Plan Description and Implementation
- j) Chapter X: Environmental Assessment

21. Public Participation – Preparation for and participation in required public meetings during the planning process will be provided. Services for public participation will include:

- a) Conducting a public information meeting at the Town to obtain input from the general public
- b) Meetings with the Town (WPCA, Planning & Department, Finance, Zoning & Wetlands, Facility Plan Committee, etc.) to give progress reports and obtain input on the study
- c) One or more public hearings, as may required by law, and to the extent deemed necessary

22. Biological Nutrient Removal (BNR) – Nitrogen removal at the existing Highlands facility required under the State General Permit for Nitrogen Discharges. The CT DEP does not require phosphorus removal at the facility at this time. If upgrade/expansion of the existing facility is needed to increase capacity and serve additional and future planned service areas, an analysis of a conventional upgrade to the current sequencing batch reactor system will be made, as well as other technology options for higher nitrogen removal capabilities (pursuant to CT DEP CWF Checklist for Plans of Study and Scopes of Services regarding BNR). Up to three technology alternatives will be evaluated, including conceptual layouts and preliminary cost estimates. An evaluation of the cost of purchasing nitrogen credits under the State Nitrogen Credit Exchange Program versus the cost of improvements and upgrades to the treatment processes to achieve greater nitrogen removal will also be made.

ADDITIONAL SERVICES AND FUTURE WORK

Any work not specifically described above will be considered “Additional Services” and will be added by subsequent Amendment to this Amendment No. 1. Article A1 generally identifies work efforts the Engineer realizes may be required during the Phase II work. The actual need to perform such work will be determined during the ongoing work of Tasks 1 through 22 above. Article A2 generally describes future engineering services after completion of the Facilities Plan.

Article A1: Additional Data Gathering

- A1.1 Surface and/or ground water sampling and testing
- A1.2 Test Pits
- A1.3 Surveys
- A1.4 Detailed Site Investigations and Analysis

Article A2: Design, Bidding and Construction Phase Services (To Be Determined)

END OF APPENDIX A

APPENDIX B – COMPENSATION

GENERAL:

Basis of Compensation and Definitions

Compensation under this Engineering Services Agreement shall be either "Lump Sum" or "Incurred Cost" and shall be established as part of each Assignment under the Agreement.

1. "Lump Sum" work shall include all assignment-related costs including direct labor costs, indirect labor costs, outside service costs, reimbursable expenses, and profit for which the Engineer shall be entitled proportional compensation, in full, for lump sum services rendered within an invoice period.
2. "Incurred Cost" work shall include direct labor cost, plus indirect labor cost, plus direct reimbursable expense, plus outside service costs for which the Engineer shall be entitled full compensation for incurred cost, plus a fixed fee services rendered within an invoiced period. The term "fixed fee" shall mean the fixed profit for which the Engineer shall be entitled full compensation at the rates set forth herein for Incurred Cost plus fixed fee services rendered within an invoice period.
 - 2.1 Direct Labor Cost (Direct Payroll Cost):
Direct labor costs shall include payroll of professional, clerical and technical personnel including partners and principals directly engaged in the service to be rendered under the Contract.
 - 2.2 Indirect Labor Cost Factor
Indirect expenses of the ENGINEER which comprise the Engineer's Burden, Fringe and overhead costs prepared on the basis of accounting practices presented by Part 31 of the Federal Acquisition Regulations.
 - 2.3 For the purpose of this Agreement, the indirect labor cost factor shall be 165.00% (in force for Calendar Year 2011).
 - 2.4 Profit and incurred cost: For the purpose of this Agreement, a fixed profit (Fixed Fee) shall be established for each phase of the work. The Fixed Fee shall be 17.50% of the sum of Direct Labor and Indirect Labor Cost Factor and 5.00% of the Direct Reimbursable Costs.
 - 2.5 Reimbursable Expenses
Reimbursable expenses, including outside services and Contracted Professional Services, are in addition to the fees for Basic and Additional Services. The Engineer will be compensated for such project related reimbursable expenses on an incurred-cost basis

(actual plus 5.00%) for administration and processing costs. "Reimbursables" include actual expenditures made by the Engineer, the Engineer's employees, or the Engineer's consultants in the interest of the Project and are the expenses listed in the following subparagraphs:

- 2.5.1 Expenses of transportation and subsistence when traveling in connection with the Project.
- 2.5.2 Expense of printing and reproduction, both internal to the Engineer's operation as well as to outside printing/reproduction services.
- 2.5.3 Expenses of long distance telephone calls, telegrams, advertising for bidding purposes and field office expenses, related to the Project.
- 2.5.4 Expenses of priority mailings (e.g. UPS, Federal Express, etc.)
- 2.5.5 Outside services and Contracted Professional Services required for project development.

Schedule of Fees

PHASE II – Facilities Plan

Compensation for the Engineering Services related to performing the Phase II of the Facilities Plan, as described in "Appendix A – Scope of Work," shall be as follows:

<u>Phase of the Project</u>	<u>Method of Compensation</u>	<u>Authorized Budgetary Fee</u>
Facilities Plan Phase II	Lump Sum	\$100,000

To the date of this Amendment No. 1, the total Engineering Services fees authorized under the Engineering Services Agreement and this Amendment No. 1 is **ONE HUNDRED TWENTY-FIVE THOUSAND DOLLARS AND NO CENTS (\$125,000.00)**. The contract history is as follows:

Agreement.....	\$25,000.00
Phase I – Needs Analysis	
Amendment No. 1.....	<u>\$100,000.00</u>
Phase II – Facilities Plan	
TOTAL FEE INCLUDING AMENDMENT NO. 1	\$125,000.00

Fees for Future Additional Services Not Included in this Amendment

Sewer System Evaluation Survey (SSES)	To Be Determined
Biological Nutrient Removal Evaluation for Phosphorus	To Be Determined
Additional Data Gathering	To Be Determined

Design, Bidding and Construction Phase Services

To Be Determined

Limitations

1. If any of the Additional Services is deemed necessary during this Phase II work, an Amendment will be written to incorporate such tasks.
2. The Engineer shall not exceed the total fees stated immediately above without the prior written authorization of the Town.

END OF APPENDIX B

APPENDIX C – SCHEDULE AND DELIVERABLES

GENERAL:

The Engineer shall promptly begin the Phase II – Facilities Plan work upon execution of this Amendment No. 1 or upon a written notice to proceed by the Town. The number of calendar days listed under each phase of the project starts from the date of execution or notice to proceed as described immediately above.

PHASE II – Facilities Plan

Draft Report to Town and CT DEP
(Six copies: 3 to Town, 2 to MGI, 1 to CT DEP)

365 Calendar Days

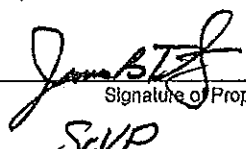
Final Report
(same distribution)

30 Calendar Days (after receipt of all comments)

END OF APPENDIX C

PART I - GENERAL						
1. Project Name: Ledyard Facilities Plan - Phase II			2. Project No. 18757.01			
3. Name of Contractor or Subcontractor Maguire Group, Inc.			4. Date of Proposal 1-Jun-11			
5. Address of Contractor or Subcontractor (include ZIP code) Maguire Group, Inc. One Court Street New Britain, Connecticut 06051			6. Type of Service Furnished Phase II Facilities Planning			
PART II - COST SUMMARY						
7. Direct Labor (Specify labor categories)	Esti- mated Hours	Hourly Rate	Estimated Cost	Totals		
Chief Engineer	92	\$64.68	\$5,951			
Project Manager	336	\$48.08	\$16,155			
Principal Engineer I		\$42.00	\$0			
Senior Engineer		\$38.00	\$0			
Principal Planner	192	\$35.56	\$6,828			
Senior Technician		\$32.00	\$0			
CADD Designer		\$22.00	\$0			
Administrative Assistant		\$22.00	\$0			
Direct Labor Total:	620				\$28,934.00	
8. Indirect Costs (Specify indirect cost pools)	Rate	x Base =	Estimated Cost			
Overhead Rate as a Percent of Payroll =	165.00%	\$28,934				
Indirect Costs Total:				\$47,741.00		
9. Other Direct Costs						
a. Travel			Estimated Cost			
(1) Transportation (16 round trips @ 122 mi ea.)	1952	\$0.536	\$1,045			
(2) Per Diem			\$0			
Travel Subtotal:			\$1,045			
b. Equipment, Materials, Supplies (Specify categories)			Estimated Cost			
Printing & misc			\$390			
Equipment Subtotal:			\$390			
c. Subcontracts			Estimated Cost			
Minority Business Enterprise		3.0%	\$3,000			
Women's Business Enterprise		5.0%	\$5,000			
Process Consultant			\$0			
Subcontracts Subtotal:			\$8,000			
d. Other (Specify Categories)			Estimated Cost			
Other Subtotal:			\$0			
Other Direct Costs Total:				\$9,435.00		
10. Total Estimated Cost				\$86,110.00		
11. Profit @ a Rate of		Other Direct	5.00%	Labor	17.50%	\$13,890.00
12. Total Price					\$100,000.00	

L.S.

PART III - PRICE SUMMARY		
13. Competitor's catalog listings, In-House estimates, prior quotes (Indicate basis for price comparison)	Market Prices	Proposed Price
		\$0
PART IV - CERTIFICATIONS		
14. Contractor		
14a. Has a Federal Agency or a Federal Certified State or Local Agency performed any review of your accounts or records in connection with any other Federal Grant or Contract within the past twelve months? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No (If "Yes" give name and telephone number of reviewing office) Department of Defense Contract Audit Agency 424 Trapelo Road Waltham, Ma. 02154-6397 (L. Kaplan)		
14b. This summary conforms with the following cost principles		
14c. This proposal is submitted for use in connection with and in response to (1) <u>Ledyard Facilities Plan - Phase II</u> and belief that the cost and pricing data summarized herein are complete, current, and accurate as of _____ This is to certify to the best of my knowledge (2) _____ and that a financial management capability exists to fully and accurately account for the financial transactions under this project. I further certify that I understand that the subagreement price may be subject to downward renegotiation and/or recoupment where the above cost and pricing data have been determined, as a result of audit, not to have been complete, current and accurate as of the above date. (3) _____ <div style="display: flex; justify-content: space-between;"> Date of Execution <div style="text-align: center;">  Signature of Proposer SVP Title of Proposer </div> </div>		
15. Grantee Reviewer		
I certify that I have reviewed the cost/price summary set forth herein and the proposed costs/price appear acceptable for subagreement award. <div style="display: flex; justify-content: space-between;"> _____ _____ </div> <div style="display: flex; justify-content: space-between;"> Date of Execution Signature of Reviewer </div>		
16. EPA Reviewer (If applicable)		

<div style="display: flex; justify-content: space-between;"> Date of Execution Signature of Reviewer </div> <div style="display: flex; justify-content: center; margin-top: 10px;"> _____ </div> <div style="display: flex; justify-content: center; margin-top: 10px;"> Title of Reviewer </div>		