



PO # 3796 Original

TOWN OF ORLEANS  
PURCHASE ORDER  
\$ 25,000 AND GREATER

FY18 Change Order 5

THIS ORDER NUMBER MUST  
APPEAR ON ALL INVOICES,  
PACKING LISTS, AND PGKS.

ORDER NUMBER **3796**

SHIP PREPAID TO

TO: AECOM  
9. Jonathan Bourne Drive  
Pocasset, MA. 02559

ROUZZKVOHSHOHOCHSIZ-

1. INVOICE MUST BE SENT IN DUPLICATE AND MUST INCLUDE VENDOR'S S.S. OR F.I.D. NO.
2. ORDER NUMBER MUST APPEAR ON INVOICE.
3. OUR TAX EXEMPT NO. E 046 001 258.
4. ISSUE A BILL FOR EACH P.O. SEPERATELY.
5. INVOICES MUST SHOW NUMBER OF UNITS AND UNIT PRICE FOR EACH ITEM.
6. SHIP ALL GOODS PREPAD UNLESS OTHERWISE DIRECTED.
7. THIS P.O. EXPIRES 10 DAYS AFTER REQUIRED DELIVERY DATE.
8. TOWN OF ORLEANS WILL NOT BE LIABLE FOR ANY GOODS RECEIVED WITHOUT AN AUTHORIZED PURCHASE ORDER.

DATE OF ORDER	VENDOR	DEPARTMENT	REQUIRED DELIVERY DATE	ACCOUNT TO BE CHARGED
10/31/17	119	Town Admin.	6/30/18	35 175 068 589139

I CERTIFY THAT THIS PURCHASE ORDER COMPLIES FULLY WITH THE TOWN OF ORLEANS PURCHASING PROCEDURES AND CORRESPONDING STATE STATUTES THAT ADEQUATE FUNDS EXIST FOR THIS PURCHASE.

DEPT. HEAD SIGNATURE *[Signature]*

ITEM NO.	QUANTITY	UNIT	CATALOG NO.	DESCRIPTION	UNIT PRICE	REC'D	AMOUNT
				Change Order No. 5 to wastewater planning services contract, includes:  Decrease Task 11.1, B.2 in the amount of \$100,000.00  Increase Task 11.1, B.1, Shellfish Aquaculture, Lonic's Pond in the amount of \$93,950.00			(-6050.00)

THIS PURCHASE IS NOT VALID UNLESS SIGNED BY TOWN ADMINSTRATOR AND FINANCE DIRECTOR.

*[Signature]*  
DIRECTOR OF FINANCE  
DATE 11/2/17

*[Signature]*  
TOWN ADMINISTRATOR  
DATE 10/31/17



**EXHIBIT C**

**CHANGE ORDER FORM**

In accordance with the Purchase Order, dated October 20, 2015, and the Design Engineering Services Agreement dated October 15, 2015, between Town of Orleans, Massachusetts ("Client"), and AECOM Technical Services, Inc. a California corporation, ("AECOM"), this Change Order, with an effective date of \_\_\_\_\_, 2017, modifies that Agreement as follows:

**1. Changes to the Services:**

1.1 Attachment 1 – Scope of Services, EXHIBIT A – SERVICES, Page 14, Article 10. Task No. 11 - FY 18 Planning and Implementation; Task 11.1.A - Effluent Disposal - Downtown Area – delete the scope of work in its entirety and replace with the new scope of work as follows:

❖ **11.1.A Effluent Disposal - Downtown Area**

- ❖ Description: Activities to support performing detailed Hydrogeologic Evaluation for a potential WWTF groundwater discharge site at 32 Lots Hollow Road and 43 Lots Hollow Road for the proposed Downtown Area WWTF.
- ❖ Subtasks
  - Utilizing the previously identified site evaluation (based on site suitability, permitting, previous reports, impacts to the environmental, etc.) select the next best preferred site for further consideration with Site 1/1A and Exit 12 already under investigation.
  - Review of Existing Town Reports; Collect Town Site Data (BOH, DPW, etc.); Review of USGS and Other Hydrogeologic Data; Meetings with Town; Conduct Site Visits; and Prepare Health and Safety Plan.
  - Confirm with MassDEP the field investigation requirements for both traditional subsurface groundwater discharge and wick discharge
  - Prepare a Hydrogeologic Evaluation Proposal for both Subsurface and Wick Discharge; Prepare and Submit to MassDEP; Prepare Specifications and Subcontract Agreements; Prepare and Meet with MassDEP to discuss proposed Hydrogeologic Evaluation; Conduct a Site Visit with MassDEP.
  - Conduct Field Investigations (Oversee Drilling and Test Pit Excavation); Collect and Analyze Groundwater and Soil Samples; Perform Soils Conductivity Testing; and Analyze Field Data and Summary.
  - Conduct Groundwater Modeling: Modify the existing USGS Monomoy Lens Groundwater Model for site specific conditions (ie. reduce the grid size to 50 feet by 50 feet, adjust drain nodes, and adjust for geological/aquifer conditions) and Perform Groundwater Modeling Scenarios; Evaluate Groundwater Modeling Results; Evaluate Potential Impacts to Sensitive Receptors; Evaluate Nitrate Loading and Estuary Impacts; and Evaluate for Freshwater Loading.
  - Update Cost Estimate for Groundwater Discharge Infrastructure.

- ❖ Assumptions
  - Site Study - Two Trips to Town Hall and Site and One Meeting with Town.
  - Hydrogeologic Evaluation - Ten trips to Town Hall/Site; One meeting with MassDEP; Installation of Three to Four Monitoring Wells (Number of Wells Dependent on Depth to Groundwater); One Day of Test Pits; One Day Certified Soil Evaluator; and Use of USGS Monomoy Lens Groundwater Model without having to create a sub-model and no extensive redesign of model.
  - No fee and/or user charge for using the existing USGS Monomoy Lens Groundwater Model.
  - Town provides a backhoe and operator for test pits (2 days).
  - No Permitting Fees.
- 1.2 Attachment 1 – Scope of Services, EXHIBIT A – SERVICES, Page 14, Article 10. Task No. 11 - FY 18 Planning and Implementation, Task 11.1.B.1 - Shellfish/Aquaculture – delete the scope of work in its entirety and replace with the new scope of work as follows:
  - ❖ **11.1.B Demonstration Projects-Design and Implementation**
    - ❖ **11.1.B.1 Shellfish/Aquaculture**
      - ❖ Lonnie's Pond
        - Part A – July 2017 through December 2017
          - Perform O&M and monitoring at demonstration site.
          - Prepare Year 2 report.
        - Part B – January 2018 through June 2018
          - Perform overwintered oyster processing.
          - Perform seed flip, seed splitting, and seed deployment.
          - Conduct Year 3 oyster deployment in Spring 2018.
          - Conduct sampling and laboratory analyses.
          - Perform permitting and regulatory coordination.
          - Manage and maintain overwintering system.
          - Perform O&M and monitoring at demonstration site.
      - ❖ Kent's Point
        - No Budget Allocated.
      - ❖ Existing Grant Expansion
        - Prepare for and attend one Preliminary Coordination Meeting to identify future scope of work, schedule, and costs.
      - ❖ Town Cove Quahog Inventory
        - Prepare for and attend one Preliminary Coordination Meeting to identify future scope of work, schedule, and costs.
  - 1.3 Attachment 1 – Scope of Services, EXHIBIT A – SERVICES, Page 14, Article 10. Task No. 11 - FY 18 Planning and Implementation, Task 11.1.B.2 - Permeable Reactive Barriers (PRB) – Town Landfill Nitrogen Assessment - delete the 7th bullet (Implement Short Term Nitrogen Response Action Items, as funding allows) and associated costs in their entirety.

- 1.4 Attachment 1 – Scope of Services, EXHIBIT A – SERVICES, Page 14, Article 10. Task No. 11 - FY 18 Planning and Implementation, Task 11.1.C.2 - Downtown Area Impact Evaluation – delete the scope of work in its entirety and replace with the new scope of work as follows:

❖ **11.1.C.2 - Downtown Area Impact Evaluation**

- ❖ Description: Evaluate the impact on the Downtown Area collection system, wastewater treatment facility and effluent disposal systems from wastewater flows received from the Meetinghouse Pond Area.
- ❖ Subtasks:
  - Prepare for, attend and prepare summary of one Preliminary Coordination Meeting to identify future scope of work, schedule, and costs.
- ❖ Assumptions
  - Utilize the previously developed preliminary Meetinghouse Pond Area Collection System layout and associated wastewater flows and costs.
  - A single wastewater treatment facility is utilized for the wastewater flows from the Downtown Area and Meetinghouse Pond Area.
  - Utilize the previously developed preliminary Meetinghouse Pond Area Collection System layout and associated wastewater flows and costs.

- 1.5 Attachment 1 – Scope of Services, EXHIBIT A – SERVICES, Page 14, Article 10. Task No. 11 - FY 18 Planning and Implementation, Task 11.3.C - P3 Development and Financial Analysis – modify the scope of work to include the following:

❖ **Task 11.3.C - Financial Analysis – Part B**

- ❖ Description
  - Continued development of financial model and additional model runs to determine costs associated with various scenarios based on changes to the overall Program.
- ❖ Subtasks
  - Modify the financial model to be able to calculate the range of estimated Betterment from “Best” to “Worst” case scenarios.
  - Program the financial model to allow selection to include only Capital Costs (no annual operating costs) and be provided as follows:
    - BEST CASE – NPV of Traditional Technology and Non-Traditional Technology of Total Capital Costs;
    - NPV of Traditional Technology Total Capital Costs only; and
    - WORST CASE – Approved CWMP NPV of Total Capital Costs.
  - Run and Present up the “Best” to “Worst” case scenarios under the following funding formats:
    - 100% on Tax Rate;
    - 80% Betterment and 20% Tax Rate; and
    - 50% Betterment and 50% Tax Rate.
  - Prepare and present cost tables and visual to display the results with similar model runs compared on one graph.
  - Update the Financial Model User Manual.

2. **Change to Deliverables:**

Attachment 1 – Scope of Services, EXHIBIT A – SERVICES, Page 14, Article 10. Task No. 11 - FY 18 Planning and Implementation, delete in its entirety and revise the List of Deliverables for: (a) 11.1.B.1 - Shellfish/Aquaculture; (b) 11.1.C.2 - Downtown Area Impact Evaluation; and (c) 11.3.C - P3 Development and Financial Analysis as follows:

Number	Deliverable	Draft	Final
<b>Task No. 11 - FY 18 Planning and Implementation</b>			
<b>Task 11.1 - Continued Planning and Engineering</b>			
<b>11.1.A - Effluent Disposal – Downtown Area</b>			
	o Hydrogeologic Evaluation Proposal	---	100%
	o Hydrogeologic Evaluation	75%	25%
	o Hydrogeologic Evaluation Technical Memorandum	75%	25%
<b>11.1.B - Demonstration Projects-Design and Implementation</b>			
<b>11.1.B.1 - Shellfish/Aquaculture</b>			
	o Part A – July 2017 through December 2017		
	▪ Perform O&M and monitoring at Demonstration Site.	---	100%
	▪ Prepare Year 2 report	---	100%
	o Part B – January 2018 through June 2018		
	▪ Overwintered oyster processing; seed flip, seed splitting, and seed deployment; and 2017 oyster deployment in Lonnie's Pond.	---	100%
	▪ Perform O&M and monitoring at Demonstration Site.	---	100%
<b>Existing Grant Expansion</b>			
	o Preliminary Coordination Meeting	---	100%
<b>Town Cove Quahog Inventory</b>			
	o Preliminary Coordination Meeting	---	100%
<b>11.1.C - Facilities Engineering</b>			
<b>11.1.C.2 - Downtown Area Impact Evaluation</b>			
	o Preliminary Coordination Meeting	---	100%

Number	Deliverable	Draft	Final
<b>11.3.C - P3 Development and Financial Analysis</b>			
<b>Financial Analysis – Part B</b>			
	o Calculate the range of estimated Betterment from "Best" to "Worst" case scenarios by making programming changes	75%	25%
	o Prepare and Present the Cost Tables and Visual Graphics	75%	25%
	o Update the Financial Model User Manual	---	100%

3. **Change in Project Schedule (attach schedule if appropriate): N/A**

4. **Change in Consultant's Compensation:**

The Services set forth in this Change Order will be performed on the following basis:

- No change to Compensation
- Time & Material (See Exhibit B for the Hourly Labor Rate Schedule)
- Time and Materials with a Not-to-Exceed amount of (\$ *Numerical Amount*). The Hourly Labor Rate Schedule is set forth in EXHIBIT B (if applicable). Reimbursable expenses are included in the overall Not to Exceed cap.
- Lump Sum [- \$6,050]

Attachment 1 – Scope of Services, EXHIBIT A – SERVICES, Page 14, Article 10. Task No. 11 - FY 18 Planning and Implementation, delete in its entirety and revise the Payment Amounts for: (a) 11.1.B.1 - Shellfish/Aquaculture; (b) 11.1.C.2 - Downtown Area Impact Evaluation; and (c) 11.3.C - P3 Development and Financial Analysis as follows:

Number	Deliverable	Payment Amount
<b>Task No. 11 - FY 18 Planning and Implementation</b>		
<b>Task 11.1 - Continued Planning and Engineering</b>		
<b>11.1.A - Effluent Disposal – Downtown Area</b>		
	o Hydrogeologic Evaluation Proposal	\$25,000
	o Hydrogeologic Evaluation	\$165,300
	o Hydrogeologic Evaluation Technical Memorandum	\$65,000

Number	Deliverable	Payment Amount
<b>11.1.B - Demonstration Projects-Design and Implementation</b>		
<b>11.1.B.1 - Shellfish/Aquaculture</b>		
<b>Lonnie's Pond</b>		
o	Part A – July 2017 through December 2017	
▪	Perform O&M and monitoring at Demonstration Site.	\$101,500
▪	Prepare Year 2 report	\$18,000
o	Part B – January 2018 through June 2018	
▪	Overwintered oyster processing; seed flip, seed splitting, and seed deployment; and 2017 oyster deployment in Lonnie's Pond.	\$79,150
▪	Perform O&M and monitoring at Demonstration Site.	\$101,500
<b>Existing Grant Expansion</b>		
o	Preliminary Coordination Meeting	\$2,500
<b>Town Cove Quahog Inventory</b>		
o	Preliminary Coordination Meeting	\$2,500
<b>11.1.C - Facilities Engineering</b>		
<b>11.1.C.2 - Downtown Area Impact Evaluation</b>		
o	Preliminary Coordination Meeting	\$2,000
<b>11.3.C - P3 Development and Financial Analysis</b>		
<b>Financial Analysis – Part B</b>		
o	Calculate the range of estimated Betterment from "Best" to "Worst" case scenarios by making programming changes	\$24,000
o	Prepare and Present the Cost Tables and Visual Graphics	\$13,600
o	Update the Financial Model User Manual	\$5,400

[ ] Cost Plus Fixed Fee: [Cost \$ Numerical Amount and Fee \$ Numerical Amount]

Therefore, the total authorized Compensation, inclusive of the Change Order is \$6,558,470.

5. **Project Impact:** None
6. **Other Changes** (including terms and conditions): None
7. All other terms and conditions of the Agreement remain unchanged.
8. Each Party represents that the person executing this Change Order has the necessary legal authority to do so on behalf of the respective Party.



**AECOM Technical Services, Inc.**

**CLIENT: Town of Orleans, MA**

*Betsy Shreve-Gibb*

*John Kelly*

Signature

Signature

Betsy Shreve-Gibb

John Kelly

Printed Name

Printed Name

Vice President

Orleans Town Administrator

Title

Title

**Address**

**Address**

9 Jonathan Bourne Road  
Pocasset, MA 02559

19 School Road  
Orleans, MA 02653

**Town Accountant's Certificate**

I hereby certify that an appropriation in the amount of this contract is available therefore and that the undersigned official of the Town has been authorized to execute said contract and approve all requisitions and change orders.

*Cathy Doane*

Signature

Cathy Doane

Printed Name

Finance Director/Town Accountant

Title

*11/2/17*

Date

[End of Agreement]

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