



State of Vermont
Department of Environmental Conservation

Agency of Natural Resources

Facilities Engineering Division
Laundry Building
103 South Main Street
Waterbury, VT 05671-0511

(802) 241-3737
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Charles Hafter, City Manager
Authorized Representative
City of South Burlington
575 Dorset Street
South Burlington, VT 05403

July 15, 2009

Corrected July 16, 2009. ARRA "Buy American" waiver contract award condition restored.

**Re: Approval of Contract Documents
Airport Parkway, Wastewater Treatment Facility, Upgrade and Expansion Project**

USEPA Special Grant Number : XP-97139601-0 (FFY 2005, Town of Colchester)
Vermont/ USEPA ARRA Clean Water Revolving Loan Number : AR1-067
Vermont/ USEPA Non-ARRA Clean Water Revolving Loan Number : RF1-084

Dear Mr Hafter:

We are forwarding one set of the following plans and contract documents, as received at our office on **June 9, 2009**, and as issued by **Hoyle, Tanner & Associates, Inc.**, of Burlington, Vermont:

- Plans titled "*City of South Burlington, Vermont; Airport Parkway Wastewater Treatment Facility Upgrade and Expansion*", and dated May 12, 2009.
- Contract documents and specifications titled "*Specifications for Construction of Airport Parkway Wastewater Treatment Facility Upgrade, Contract No. 1, Prepared for City of South Burlington, Vermont*", and dated May 12, 2009.

The Department has determined that the project meets the requirements of the clean water revolving loan fund (CWSRF) Operating Agreement between the Department and the United States Environmental Protection Agency (USEPA), dated August 2, 1989. The Department hereby **approves the plans and specifications** for those purposes.

The plans and specifications have been stamped as approved by this office. It is requested that the approved set of plans and specifications be available at the project site at all times.



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Any **revision** of the plans and contract documents must be accomplished by **addendum**, before bid opening, or by **change order**, after bid opening, and must be approved by this office.

You may **advertise** for bids, but the contract may not be **awarded** until authorization to do so has been given by this office. Such authorization cannot be given until **all** of the following items have been addressed and **all necessary funding** has been secured:

1. A copy of a Project Cost Summary.
2. Evidence of advertising for bids.
3. One copy of a tabulation of all bids that were received.
4. One copy of the Bid Proposal and Bid Bond of the bidder to whom you wish to award the Contract.
5. Engineer's letter of Contract Award Recommendation, including review of the DBE (disadvantaged business enterprises) solicitation efforts.
6. A letter signed by you, as the Authorized Representative of the Owner, indicating the name of the bidder to whom you wish to award the Contract.
7. Evidence that the Vermont Municipal Bond Bank has approved all necessary loan applications.
8. One copy of Attorney certificates of Rights-of-Way and Easements for construction of the Contract.
9. Letter from you requesting approval to award the Contract.
10. *Approval, by the U.S. Federal Aviation Administration, of the Contractor's "Notice of Proposed Construction", FAA Form 7460-1, for proposed structures and for use of a construction crane.*
11. *Approval, by the Vermont Department of Environmental Conservation, Water Quality Division, of the Contractor's application for project coverage under Vermont Construction General Permit 3-9020 (2006), for stormwater discharges from construction activities.*

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12. *Issuance of all applicable construction permits required by the City of South Burlington.*
13. *Final responses, from the U.S. Environmental Protection Agency, to all of the City of South Burlington's requests for waivers from the "Buy American" requirements of the American Recovery and Reinvestment Act of 2009 (ARRA 2009). This contract award condition will not apply if the City declines ARRA funding.*

Before you may issue the Notice of Award, this office must review and approve the **DBE solicitation efforts**. The DBE effort is required for state revolving fund projects that have federal (USEPA) monies as a share of the total fund.

Any spare parts that are called for by the specifications must be parts that the manufacturer of the equipment states (in the operations and maintenance manual) must be replaced within the first year of operation of the equipment. No other spare parts will be considered eligible for the grant or loan. The Department reserves the right to determine eligibility of any spare parts that are procured under the Contract.

These plans and specifications are approved subject to the following provisions:

- A. [The Owner] *must incorporate in the specification a clear and accurate description of the technical requirements for the material, product or service to be procured. Such description shall not, in competitive procurements, contain features which unduly restrict competition, unless the features are necessary to test or demonstrate a specific thing or to provide for necessary interchangeability of parts and equipment or to promote innovative technologies. The description shall include a statement of the qualitative nature of the material, product or service to be procured and, when necessary, shall set forth those minimum essential characteristics and standards to which it must conform if it is to satisfy its intended use.*
- B. [The Owner] *shall avoid the use of detailed product specifications if at all possible.*

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- C. *When in the judgment of [the Owner] it is impractical or uneconomical to make a clear and accurate description of the technical requirements, [the Owner] may use a "brand name or equal" description as a means to define the performance or other salient requirements of a procurement. [The Owner] need not establish the existence of any source other than the named brand. [The Owner] must clearly state in the specification the salient requirements of the named brand which must be met by offerors.*
- D. *ARRA – Buy American Provisions - None of the funds provided may be used for the construction, alteration, maintenance, or repair of a public building or public work unless 1.) all of the iron, steel, and manufactured goods used in the project are produced in the United States or 2.) a waiver has been granted by the US Environmental Protection Agency (EPA). EPA's "Implementation of Buy American Provisions of P.L. 111-5, the "American Recovery and Reinvestment Act of 2009"" (including waivers) is included in an April 28, 2009 Memorandum from program Directors, James A. Hanlon and Cynthia C. Dougherty.*

It is also the Engineer's responsibility on Vermont/ USEPA assisted projects to advise suppliers and subcontractors of the reasons for rejection of materials and equipment. Rejection, if based on reported field operational problems, must be supportable on the basis of significant findings as opposed to one or two isolated failures or problems that are likely to occur in even the most reliable equipment. More concisely, it is the Engineer's responsibility to advise suppliers or subcontractors of the reasons for rejection, and it is also the Engineer's responsibility to ensure that the reasons for rejection are technically supportable based on actual field statistics.

In addition, if the City accepts a clean water revolving loan funded through the American Recovery and Reinvestment Act of 2009 (ARRA 2009), then the **Davis-Bacon** federal wage rate and "**Buy American**" requirements of ARRA will apply to the **entire contract**, even if ARRA funding is used for only a portion of the contract.

The Engineer's **construction** cost estimate dated April 22, 2009, is **attached**, with a septage grant eligibility column added by the Vermont Department of Environmental Conservation, Facilities Engineering Division, on July 15, 2009.

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Non-ARRA Clean Water Revolving Loan Eligibility

The **entire** estimated **construction** cost, \$20,400,000 (rounded to nearest \$100,000), which includes contractor overhead and profit but excludes construction contingency, will be eligible for a **non-ARRA** clean water revolving loan, to the extent that construction occurs within Vermont or municipal rights-of-way, municipal land parcels or **permanent** municipal **easements**. Construction **contingency** will be eligible at the same percentages as construction cost before contingency.

The actual amount of a non-ARRA clean water revolving loan will be capped by South Burlington's \$21,800,000 Airport Parkway bond authorization, approved by South Burlington voters on March 4, 2008. The dollar amount in the approved bond article was based on total estimated project cost, less a \$2,000,000 commitment of South Burlington wastewater capital reserve funds, and less a committed (federal fiscal year 2005) special appropriation grant from USEPA to the Town of Colchester, which will be used by Colchester to pay South Burlington for its own share of the project capital cost.

In addition, the non-ARRA revolving loan may be further reduced by other grants and loans, or by actual audited project cost.

ARRA Clean Water Revolving Loan Eligibility

If South Burlington is determined to meet the "**Buy American**" requirements and all other applicable ARRA requirements, then the **entire** estimated **construction** cost will be eligible for an **ARRA** clean water revolving loan, to the extent that construction occurs within Vermont or municipal rights-of-way, municipal land parcels or **permanent** municipal **easements**.

The actual amount of any **ARRA** revolving loan to South Burlington will be **capped at \$2,000,000**, in accordance with the Vermont Clean Water Intended Use Plan, ARRA 2009 Funds, dated April 15, 2009. Any ARRA loan funds will be applied first to "**green**" **project elements**. Non-ARRA revolving loan funding will be reduced by the amount of any ARRA revolving loan funding.

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Vermont Septage Grant Eligibility

The Department has determined that a portion of the construction cost will be eligible for a state **septage grant**, in accordance with Vermont statute, 10 V.S.A. section 1626a. The Department estimates that a **construction** cost of \$7,600,000 (rounded to nearest \$100,000), or about **37.3 percent** of construction cost, will be eligible for a Vermont septage grant. Facilities "*to receive [underline added], store, treat, transfer and dispose of septage and sludge*" will be eligible, including septage receiving and storage, waste activated sludge (WAS) thickening, anaerobic sludge digestion, cogeneration and sludge dewatering. Waste primary sludge (WPS), return activated sludge (RAS) and waste activated sludge (WAS) pumps are considered to be part of the main treatment process and will **not** be treated as septage grant eligible.

To date, the Vermont legislature has appropriated **no funds** for a **septage grant** to South Burlington. The amount of any future septage grant will not exceed 50 percent of the eligible project cost, including eligible construction cost and associated construction contingency and non-construction costs. The City's non-ARRA revolving loan will be reduced by the amount of any future septage grant.

Vermont Phosphorus Grant Eligibility

Phosphorus grant eligibility for wastewater treatment facilities is addressed by Vermont statute, 10 V.S.A. section 1625(e) :

<http://www.leg.state.vt.us/statutes/fullsection.cfm?Title=10&Chapter=055&Section=01625>

The final sentence of the above citation states that "*This funding shall not be available for phosphorus removal projects where the effluent concentration must be reduced in order to maintain a previously permitted mass loading of phosphorus.*"

Airport Parkway's current NPDES discharge permit, which took effect in 2008 and will expire in 2013, establishes an effluent total phosphorus limit of 4,201 pounds per year. That limit is based on the current Lake Champlain Phosphorus TMDL, and was also written into Airport Parkway's previous discharge permit (2003-2008). Prior to 2003, the effluent total phosphorus limit had been 15.3 pounds per day, or about 5,584 pounds per year.

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Airport Parkway's current annual phosphorus limit is equivalent to an average phosphorus concentration of about 0.42 mg/l at the post-construction flow limit of 3.3 million gallons per day, and 0.6 mg/l at the pre-construction flow limit of 2.3 million gallons per day.

The Facilities Engineering Division recognizes 0.5 mg/l total phosphorus as a concentration value below which consistent and economical phosphorus removal becomes problematic without the addition of filtration to an activated sludge treatment plant. The proposed **filtration** facilities in the Airport Parkway project are considered to be necessary to make the transition from 0.6 mg/l to a lower 0.42 mg/l phosphorus concentration, at permitted flow capacity, and therefore **ineligible** for state **phosphorus grant** funding, but fully eligible for revolving loan funding.

Selector zones for biological phosphorus and nitrogen removal are also proposed as a part of the current plant expansion project. The selector zones are phosphorus grant ineligible to the extent that they are needed for plant expansion, and grant eligible to the extent that they are needed regardless of expansion.

The 2003-2008 discharge permit did lower Airport Parkway's effective phosphorus concentration limit from 0.8 mg/l to 0.6 mg/l, at full pre-construction flow capacity (2.3 million gallons per day), in accordance with the current Lake Champlain Phosphorus TMDL. Several wastewater phosphorus removal scenarios were studied during preparation of the TMDL. The adopted recommendation to lower the effective concentration limit from 0.8 mg/l to 0.6 mg/l, at selected plants, was based on the presumption that those plants already had facilities with which they could consistently meet the lower concentration limit without undertaking a capital project.

The Department considers the existing phosphorus removal facilities at the Airport Parkway plant to be adequate for meeting the existing (pre-construction) annual effluent phosphorus loading limit, based on an average effluent phosphorus concentration of 0.6 mg/l at the pre-construction flow limit of 2.3 million gallons per day. The proposed **selector zones** will therefore be considered **ineligible** for **phosphorus grant** funding, but fully eligible for revolving loan funding.

The proposed replacement **alum feed pumps**, alum storage tank modifications and alum feed line modifications are considered plant **refurbishment** items, and will be treated as **revolving loan eligible** only.

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The recent Airport Parkway phosphorus discharge agreement negotiated by South Burlington, Colchester and the Conservation Law Foundation (CLF) will have no effect on eligibility for state phosphorus grant funding, since it does not change the conditions of the current Airport Parkway discharge permit.

The Department recognizes the possibility that Vermont phosphorus law could change during the construction period of this project, and the Department will reevaluate phosphorus grant eligibility accordingly, as required.

If, at any point during further development of the project, the estimated or actual **construction** cost should exceed the above cost by more than ten percent, increased by the necessary amount of inflation, this office will reevaluate this eligibility determination to confirm that the project will still meet the requirements of **ARRA** and the clean water **revolving loan** program.

The eligibility of **pavement restoration** is defined by the Department's **current** "*Procedure for Determining the Eligibility of Pavement Restoration on Water and Sewer Projects*" (originally adopted on April 19, 1993).

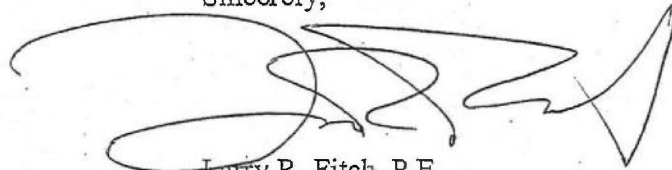
Engineering cost associated with **eligible** construction is covered by an engineering allowance established by the Department.

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Please call (802) 241-3740 if you have any questions regarding this approval of the contract documents.

Sincerely,



Larry R. Fitch, P.E.
Director
Facilities Engineering Division

LRF/TGJ/tgj

attachment: **Construction cost estimate, dated April 22, 2009 (by Hoyle, Tanner), with septage grant eligibility column added by VT-DEC, July 15, 2009.**

pc: **Bryan Osborne, Director of Public Works, Town of Colchester**
Josh Nemzer, U.S. Environmental Protection Agency, Region 1
Eugene Forbes, P.E., Hoyle, Tanner & Associates, Inc (Burlington, VT)
John Reilly, P.E., Hoyle, Tanner & Associates, Inc (Burlington, VT)
R. Allyn Lewis, P.E., Chief, Construction Section, VT-DEC, Facilities Engineering Division
Winslow Ladue, Chief, Financial Management Section, VT-DEC, Facilities Engineering Division
Dennis Bryer, P.E., Discharge Permits Section, VT-DEC, Wastewater Management Division

OPINION OF ESTIMATED COST SUMMARY

April 22, 2009

Summary of Cost Estimate - Final Submittal

Airport Parkway WWTF Upgrade and Expansion

CITY OF SOUTH BURLINGTON, VERMONT

Description	Total Construction Cost (HTA, 4/22/09)	Septage Grant Eligible (DEC, 7/15/09)
Headworks	\$1,540,000	\$0
Septage Receiving	\$500,000	\$500,000
Primary Clarification	\$730,000	\$0
Primary Sludge Pumping	\$100,000	\$0
BNR Process	\$1,390,000	\$0
Aeration Tanks	\$2,020,000	\$0
Secondary Clarification	\$1,340,000	\$0
RAS/WAS Pumping	\$440,000	\$0
Filtration/UV Disinfection	\$2,620,000	\$0
WAS Thickening	\$550,000	\$550,000
Anaerobic Sludge Digestion	\$3,580,000	\$3,580,000
Co-gen	\$400,000	\$400,000
Sludge Dewatering	\$2,570,000	\$2,570,000
Controls/Instrumentation	\$490,000	\$0
Operations Building	\$450,000	\$0
General Site Work/Miscellaneous	\$1,650,000	\$0
Subtotal of Construction Costs (includes Contractor 15% O&P)	\$20,400,000	\$7,600,000