

The Corporation of the Township of Whitewater Region

By-law Number 18-02-1039

A by-law to amend By-law 15-09-817 to reflect changes to the Agreement with Jp2g Consultants Inc.

Whereas, Council authorized through By-law 15-09-817 the execution of a Client/Consultant Agreement for Municipal Works for the Cobden Wastewater Treatment Plant Upgrades with Jp2g Consultants Inc.; and

Whereas, Council approved Resolution #2016- 3633 at its meeting of December 21, 2018: "Be it resolved that the Council of the Township of Whitewater Region accepts the Revised Project Schedule and Reallocation of Engineering costs for the Cobden WWTP Upgrades as put forth in the Jp2G Consultants Inc. letter dated December 19, 2016"; and

Whereas, the Physical Services Committee considered a report from the Manager on January 24, 2018 recommending a further change to the project approach with redistribution of the previously approved engineering fees;

Whereas, the Council of the Township of Whitewater Region deems it expedient and necessary to amend the Agreement to append additional Schedules documenting project changes;

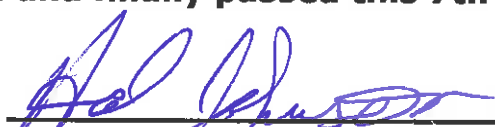
Now therefore Council of the Corporation of the Township of Whitewater Region enacts as follows:

1. That By-law 15-09-817 is hereby amended to add the following Schedules, which form part of this by-law:

Schedule D	Letter dated December 19, 2016
Schedule D1	Letter dated November 28, 2016
Schedule D2	Professional Engineers of Ontario Guideline for Engineering Services to Municipalities
Schedule E	Letter dated January 11, 2018

2. This by-law shall come into force and take effect upon the date of the final passing thereof.

Read a first, second and third time and finally passed this 7th day of February, 2018.



Hal Johnson, Mayor



Robert H.A. Tremblay, Clerk



December 19, 2016

Township of Whitewater Region
44 Main Street, PO Box 40
Cobden, Ontario
K0J 1K0

Attention: Steve Hodson
Environmental Services Manager

**RE: Reallocation of Engineering Costs
Cobden WWT Plant Upgrades
Township of Whitewater Region**

Dear Sir:

In accordance with Section 1.08 (entitled Changes and Alterations and Additional Services) of our Client/Consultant Agreement for the Cobden Wastewater Treatment Plant Upgrades, we are proposing to provide additional engineering services as outlined in our letter dated November 28, 2016 (copy attached as Enclosure 1).

The additional engineering services and associated Lump Sum Fee for the work is summarized as follows:

Description	Lump Sum Fee
1. Preliminary Design for Contract 1 – New Micro Bioreactor (MBR) Plant	\$122,640.00
2. Preliminary and Final Design and Contract Administration for Contract 2 – Alterations to Existing WWTP and Sanitary Sewermain Repairs	<u>\$259,200.00</u>
Total Additional Lump Sum Fee	\$381,840.00 + HST

As explained in our letter of November 28, 2016 the additional engineering services to be provided by Jp2g Consultants Inc. are a reallocation of engineering costs for the project work and comply with the terms of the Small Communities Fund Agreement between the Township and the Province which requires that the environmental assessment, design/engineering and project management costs as combined may not exceed 15% of the total project eligible costs.

The scope of services to be provided for the additional engineering work as described above are outlined in the relevant sections of the Professional Engineers of Ontario Guideline for Engineering Services to Municipalities document which is included as Enclosure 2.

In addition, the work performed by Jp2g will be subjected to Jp2g Quality Control Procedures. As part of this procedure, technical reviews will be completed through a check list and a Technical Review Report documenting deficiencies, action by action completed and will be coordinated by the Jp2g Project Manager.



We would also point out that the documents for Contract #1 and #2 will require the General Contractor to warrant his contract work for a period of 18 months from the date of Substantial Performance or Completion of his work (instead of 12 months). Under this provision, monies will be withheld due to known incomplete and/or deficient work. In addition to this, we propose to include a Maintenance Security Holdback in the contract document, amounting to approximately 4% of the contract value to cover the cost of repairing deficiencies which become apparent during the 18 month warranty period.

We trust the foregoing is satisfactory and, if you are in agreement, we propose that this letter, inclusive of Enclosures 1 and 2, be appended to our current Client/Consultant Agreement for the Cobden Wastewater Treatment Plant Upgrades as Addendum No. 1.

Yours very truly,
Jp2g Consultants Inc.
Engineers · Planners · Project Managers

A handwritten signature in black ink, appearing to read 'J. M. Janota', is written over the company name and services listed above.

J. M. Janota, M. Sc., P. Eng.
President

JMJ/lr

Enclosures:

1. Jp2g Consultants Inc. letter November 28, 2016
2. Professional Engineers of Ontario Guideline for Engineering Services to Municipalities



November 28, 2016

Township of Whitewater Region
44 Main Street
Cobden, Ontario
K0J 1K0

Attention: Marsha Hawthorne

RE: Revised Project Schedule and
Reallocation of Engineering Costs
Cobden WWTP Upgrades
Township of Whitewater Region

Dear Ms. Hawthorne:

Further to our Project Team Meeting Tuesday, November 15, 2016 we are writing to confirm our discussion re: Revisions to Project Schedule and Reallocation of Project Cost. As you know, we are nearing completion of the Class EA Study and, as a result, we have now defined the scope of work for the Project, which includes:

- Construction of new Micro-Bioreactor (MBR) Treatment Systems in parallel with the existing WWTP
- Alterations to Existing WWTP and Sanitary Sewermain Repairs

Proposed Revisions to Project Schedule

As discussed, we need to revise the Project Schedule in order to achieve the project completion deadline of March 31, 2020 as stipulated in the funding agreement between the Township and the Province. We therefore propose that the construction be undertaken in 2 Contracts:

Contract 1: New MBR Plant

This Contract will be performed as a Design Build Contract.

Contract 2: Alteration to Existing WWTP and Sanitary Sewermain Repairs

This will be undertaken as a Design Bid Build (traditional approach) Contract.

The 2 contracts and revised Project Schedule are explained in the ESR in Section 6.7 entitled "Project Schedule and Project Delivery" (copy of Section 6.7 is attached).

The Design-Build Contract approach to construction has a number of advantages and a key advantage is the ability to perform design and construction work in parallel, thereby "fast tracking" the construction, which results in significant time savings. The time savings is important because the new MBR plant has to be completed and placed into operation before the existing WWTP can be taken off-line to retrofit the existing extended aeration process unit.



Proposed Reallocation of Engineering Costs

In order to expedite Contract #1 and Contract #2 in accordance with the revised project schedule as explained above, we propose to provide engineering services as follows:

1. Prepare preliminary design drawings for Contract #1. These would be included in the Design Build tender document and would form the basis of the detailed design to be provided by the engineering firm selected by the Design-Build Contractor.
2. Prepare preliminary design drawings for Contract #2, which would identify interconnections between the new MBR plant and the existing WWTP so that provisions for these interconnections can be included in the Design-Build Contract.
3. The preliminary design drawings would form the basis for starting consultations with MOECC to obtain an Approval in Principle to start the Environmental Compliance Approval (ECA) process.
4. Prepare final design drawings and tender documents for Contract #2, which would be completed once a major portion of Contract #1 is complete. Should there be changes that have revised the Contract #1 cost, the scope of work for Contract #2 would be adjusted to maintain the total overall project on budget.

The proposed allocation of engineering costs is broken down as follows:

Total allocated engineering cost for Contract #1 and Contract #2 based on 12% of estimated construction cost:			\$960,000
Proposed engineering services to be provided by Jp2g:			
• Preliminary design for Contract #1	\$122,640		
• Preliminary and final design and construction Admin for Contract #2	<u>\$259,200</u>		
	\$381,840	\$381,840	
Detailed design and construction inspection services provided by Design-Build Contractor's Engineer:	\$578,160	<u>\$578,160</u>	
		\$960,000	
Total reallocated engineering cost for Contract #1 and Contract #2			\$960,000

In summary, for the reasons explained above, we are proposing that \$381,840 of the total project estimate for engineering services be reallocated to Jp2g. The total project estimate for engineering services remains the same at \$960,000.

We trust the foregoing is satisfactory, however, if you wish to discuss the matter further, we would be pleased to meet with you at your convenience.

Yours truly,
Jp2g Consultants Inc.
Engineers • Planners • Project Managers

T. M. Jarota, M. Sc., P. Eng.
President

c.c. - Steve Hodson
Environmental Services Manager

Schedule D2
Amending
By-law 15-09-817

ENCLOSURE 2

GUIDELINE

Engineering Services to Municipalities

1986

Published by
Association of Professional Engineers of Ontario

Revised 12/11/98

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PHASES OF SERVICE

Normally four phases of services are required from engineers during the design and construction of municipal services, as noted in phases 2-5 below. A fifth phase (advisory and special services) and a sixth phase (post-construction services) may be required.

Engineers having a regulatory capacity should also ensure that the services set out below for each phase of the work have been completed as appropriate.

The six phases are:

- Phase 1—Special Services
- Phase 2—Preliminary Design and Reports
- Phase 3—Detailed Design, Final Drawings and Specifications
- Phase 4—General Review During Construction
- Phase 5—Resident Staff Services During Construction
- Phase 6—Post-Construction Services

PHASE 1 - SPECIAL SERVICES

Most designs require feasibility or predesign investigations to determine which of several alternatives best meets the objectives. The following are examples of additional or special services, some of which may precede the preliminary design and detailed design services described in Phase 2 and Phase 3:

- ◆ Advisory services, including special consultations and advice, preparation of rate structures, research and soil investigations.
- ◆ Preparation of feasibility studies comparing alternative routes for services and alternative methods of construction or materials, which may be appropriate and advantageous in terms of capital cost, land requirements, operating efficiency, or for environmental or energy conservation reasons.
- ◆ Public hearings before the Environmental Assessment Board, the Ontario Municipal Board or other public authorities regarding the environmental impact of the project, the financial capability of the municipality, the method of charging for the works and property evaluation for easements and purchases.
- ◆ Appearance in litigation, arbitration proceedings and attendance at hearings on behalf of the municipality.
- ◆ Topographic plans or the obtaining of photogrammetric mapping.
- ◆ Negotiations for easements and purchases.
- ◆ Preparation of local improvement assessment sheets, attendance at the Court of Revision and similar services under The Municipal Act, The Public Utilities Act or The Drainage Act.
- ◆ The allocation of costs between the municipality and other municipalities, authorities or private interests, including the administration of extended financial arrangements, computation of principal and interest, and preparation of accounts.
- ◆ Additional services required by reason of contractor's insolvency.
- ◆ Changes in design made necessary or desirable by factors beyond the control of the engineer.
- ◆ Preparation of special progress certificates and final certificates for subsidy payments, grants or rebates.
- ◆ Carrying out prolonged negotiations with public authorities on behalf of the municipality.

PHASE 2- PRELIMINARY DESIGN AND REPORTS

2.1 Outline of Services

The engineer should prepare preliminary plans or reports in the form of drawings and text outlining the nature of the project, a summary of the principal design standards, an outline cost estimate and the extent of services and recommendations. This work is sometimes identified as the preliminary "Engineering Report" but is not to be confused with predesign and feasibility studies, which are included in Phase 1 -Special Services.

2.2 Services to be Provided

The engineer should provide the following preliminary services in connection with the functions shown:

2.2.1 Attend Meetings

Meet with the appropriate representatives of the municipality, including the municipal engineer, planning director, works committee or council, to:

- ◆ obtain full information on existing and proposed municipal services, roads and other facilities;
- ◆ determine the municipality's standard criteria for design;
- ◆ determine the extent of engineering services to be provided and the manner of presentation, and
- ◆ determine the municipality's practice for the sharing of costs with other public authorities, private developers and the public.

2.2.2 Familiarization

Conduct a physical reconnaissance and review topographical maps of the project area to ascertain the location, topography, drainage and existing municipal services.

2.2.3 Planning

Study existing plans and reports define zoning and land use and predict the rate and direction of probable community and traffic growth, and apply these factors to the design, as may be required.

2.2.4 Preliminary Design

a) Sewers and Watermains

Carry out preliminary design of sanitary sewers and water distribution systems in accordance with accepted engineering practice and, where applicable, with standards established by the local municipality and other regulatory authorities. In the design of each of these systems, take into consideration the present and future land use, the areas to be serviced, the pipe location, size, depth, material and bedding, suitable inlets and outlets, the design and location of catch-basins, maintenance holes, hydrants, building connections and other appurtenances.

b) Plants and Associated Works

Incorporate sound functional design into all structures, including equipment forming parts of pumping stations, water purification and pollution control plants. When required to design plants will be used for process operations, engineers should avail themselves of special processes may be used, including the nature of, and factors governing, the process.

They should evaluate the various processes, types of instrumentation, automation, etc., and should recommend the adoption of a specific process and type of control, while remaining aware of the required results, the economy of construction, operation and maintenance. Due consideration should be given to the planning and preliminary design of all energy consuming facilities to minimize the impact on future energy demands. This consideration should include energy conservation and utilization practices in the selection of machinery, the location and orientation of structures, and the insulation of buildings.

The engineer, where directed, should produce suitable procedures and documents for the pre-selection of machinery and equipment. A diagrammatic flow-sheet and hydraulic flowsheet should be pro-

vided for treatment plants. An original process design is not a part of this preliminary design service, but is considered to be a special service.

c) Road and Street Construction

Establish the design criteria essential for a proper design consistent with the municipality's long-range land-use and traffic plans. Traffic and land-use studies will assist in providing design criteria to establish the type of street, traffic density, design speed, sight distance, grade and curvature. A further study of the adjacent land use and proposed environmental considerations should provide design criteria for the best dimensional arrangement of the pavement, median, shoulders, right-of-way, intersecting roads, bus bay entrances and other cross section elements. The subsequent engineering design of the subgrade, pavement, sidewalks, curbs and gutters, drainage, utility relocations, minor structures and railway crossings should then be carried out in accordance with accepted practice. Due consideration should be given to such ancillary features as illumination, signs, signals, fences, landscaping and zone painting.

2.2.5 Environmental

Environmental parameters, which have been defined during the predesign studies, should be highlighted and identified, and included in the preliminary design process.

2.2.6 Soils

Existing soils data should be assembled and evaluated. On the basis of this evaluation, a preliminary soils investigation program shall be carried out to obtain sufficient data to permit appropriate decisions to be made during the preliminary design stage. This soils investigation program is part of Special Services.

PHASE 3 - DETAILED DESIGN, FINAL DRAWINGS & SPECIFICATIONS

3.1 General

The engineer should design all structures and facilities to serve the best interests of the public, with due regard for environmental concerns, capital cost and operating efficiency in accordance with current engineering practice and acceptable standards established by the municipality and regulatory authorities.

3.2 Services to be Provided

3.2.1 Surveys

The engineer should obtain detailed profiles and cross sections for the detailed design and computation of tender quantities, as necessary.

3.2.2 Soils

The engineer should prepare a soils investigation program that will subsequently provide all of the subsurface data required for the detailed design. Such a program should include location of boreholes, laboratory work and recommendations in respect to loads, and any special conditions that must be satisfied during construction of the work. The soils investigation is normally carried out as part of Special Services.

3.2.3 Drawings

Engineers should endeavour to standardize plan sizes and scales in the best interests of their clients. The drawings for municipal projects will be of two basic types: a) those relating to work within road allowances, either for roads or for services therein, and b) those relating to treatment plants, pumping stations, bridges and other structures:

a) Works within Road Allowances

These drawings should generally show plan and profile, augmented with cross sections and detailed drawings as required.

Plans and profiles should normally be drawn to a horizontal 1:500 scale and a vertical scale of 1: 100, subject to the requirements of the municipality. The north point should be shown on each plan, together with the names of the streets, lot numbers, property lines and frontage dimensions obtained from existing municipal plans.

Design details of standard units of construction, such as road sections, maintenance holes, catch-basins, valve chambers, hydrants, street light standards, guiderails and pipe bedding, should be presented on standard drawings at appropriate scales. Plans should show the location of all known existing utilities both underground and on the surface, all existing topographic features, including embankments, buildings, mature trees, entrances, signs, fences, etc., within the road allowance or in proximity to the work.

Profiles shall show the existing surface profile, the approximate location and elevation of known existing utilities that will be intersected by the new work, and any available soils information.

For roadwork, the profile should indicate the finished road surface, giving the length and grade of each tangent section of vertical curve.

For sewers and watermains, the profile should show an invert and obvert profile of the pipe. For sewers, invert and basement elevations should be shown and, for watermains, centreline elevation of depth of cover. For each section, the length, grade and class of pipe, and type of bedding or encasement for each section should be indicated.

b) Treatment Plants, Pumping Stations, Bridges and Other Structures

Design of pumping stations and plants shall be such that competitive bidding should be encouraged for the supply of equipment and structures, unless special conditions require the supply of specific equipment or structures.

These drawings should be grouped according to the type of work to which they relate and, where applicable, should comply with PEO guidelines in the structural, mechanical and electrical fields.

A general plan should show a summary of all proposed facilities and services at an appropriate scale. For large projects, a location plan at a convenient scale should be provided, showing the geographic location of the project in the municipality.

The manner of presentation of the work in the plan form, the rendering of detail in line diagrams, the dimensioning and lettering and all other drafting work should be carried out in a professional and skilled manner, to ensure that the work is presented in an orderly fashion, the facilities and structures are shown in a recognizable manner, and that the wording on the plans is simple, concise, grammatically correct and completely legible.

3.2.4 Specifications

The specifications should be for all works shown on the drawings or for which the engineer is responsible. They should be complete, clear and concise, with a statement setting forth the general scope of work, followed by an adequate description of the various classes of work, segregated by trade and under proper sections and headings. The quality of materials and standard of work required of the contractor should be described in detail. Each section and heading should be identified for easy reference. Where applicable, standard specifications related to the type of work to be carried out should be used, and the nomenclature should be the same as that used on the plans.

3.2.5 Other Contract Documents

As well as plans and specifications, the design function should include the provision of forms of bonds, a form of tender, schedule of quantities, articles of agreement, general conditions of the contract and special conditions that may be required by the client or other public agency.

3.2.6 Final Cost Estimate

The engineer should provide the client with a cost estimate based on the final design.

3.2.7 Approvals

Engineers should become familiar with all authorities having jurisdiction over any component of the works. They should submit plans, specifications, schedules, and applications for approval to clients and appropriate authorities, as required. They should attend meetings at the offices of these public authorities to discuss designs and provide explanations, for the purpose of furthering the applications towards approval.

In addition, engineers may be required to prepare special applications or reports, to assist the municipality in obtaining subsidy payments, grants or special financing from senior levels of government.

3.2.8 Tender Call

The engineer should provide advice to the client during tender call, including tender evaluations and recommendation for award.

PHASE 4 - GENERAL REVIEW DURING CONSTRUCTION

4.1 General Outline of Services

When, in the opinion of the engineer, a resident engineer and staff are required, the engineer should so advise the client. This service may be provided by an authorized representative of the engineer, or by a sub-consultant reporting to the engineer, or by a representative retained directly by the client.

These services are provided by the engineer to determine that materials used and results achieved by the contractor are in general conformity with the design. Contractors are responsible for discharging their obligations under the terms and conditions of the construction contract. The engineer, on behalf of the client, should carry out a review of the work during its execution.

Contractors are responsible for discharging their obligations under the terms and conditions of the construction contract. The performance of the contract is not the engineer's responsibility, nor are review services rendered for the contractor's benefit. The contractor is responsible for the quality of the work.

It is to be understood that only work that has actually been seen during examination of representative samples can be said to have been appraised, and comments on the balance of the work are assumptions based upon extrapolation.

The extent of the engineer's duties for general review during construction should be clearly defined in the engineer's agreement with the client.

4.2 Services to be Provided

The office and field services to be provided by the engineer during this phase are as follows:

- ◆ advise the contractor on the interpretation of the drawings and specifications and issue supplementary details and instructions during the construction period as required;
- ◆ review for approval the construction schedule proposed by the contractor and comment on the procedures, methods and sequence of work;
- ◆ review submitted shop drawings to the degree necessary to determine if the contractor's work is in general compliance with the design requirements;
- ◆ consider and advise on alternative methods, equipment and materials proposed by the contractor;
- ◆ advise on the validity of charges for additions or deletions and advise on the issue of change orders;
- ◆ process contractor's progress and final requisitions and issue progress certificates for the client's acceptance;
- ◆ maintain adequate records related to the contracts;

- ◆ make periodic visits to the site during construction, to ascertain that the work is being executed in reasonable conformity with plans and specifications;
- ◆ arrange for the testing and inspection of materials and work by an authorized inspection and testing company, where the construction calls for such testing;
- ◆ attend job meetings as deemed necessary, and
- ◆ report progress and deficiencies to the client.

PHASE 5 - RESIDENT STAFF SERVICES DURING CONSTRUCTION

Normally the resident staff services will be provided by the engineer on a full- or part-time basis. This service may be provided by an authorized representative of the engineer, or by a sub-consultant reporting to the engineer, or by a representative retained directly by the client.

Such services should include:

- ◆ provide reference line and elevation to the contractor and, where necessary, check the contractor's line and grade;
- ◆ determine if the contractor is carrying out the work in accordance with the contract documents and communicate with the contractor, the engineer's authorized representatives, and the client regarding deficiencies in the work, and other matters of direct interest or concern;
- ◆ arrange for, or carry out, all necessary field testing and inspection of materials and equipment installed;
- ◆ investigate, report and advise on unusual circumstances which may arise during construction;
- ◆ carry out final inspection at the conclusion of the construction contract, as part of the acceptance program of the client;
- ◆ obtain and record field information of construction details for the modification of contract drawings to show the work "as-built";
- ◆ maintain sufficient data to determine periodic progress of the work, and
- ◆ prepare recommendations to the client regarding payments to the contractor, taking into account progress of work, materials and equipment delivered to site, and contractual and statutory holdbacks.

PHASE 6 - POST-CONSTRUCTION SERVICES

The services in this category vary in scope and detail according to the needs of the client and should be described in the scope of the assignment.

They include but are not limited to:

1. Commissioning and start-up assistance.
2. Preparation of maintenance and operating manuals.
3. Preparation of "as-built" drawings.
4. Determination of deficiencies during the guarantee period and final acceptance documentation at its expiry.



**Professional Engineers
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**Schedule E
Amending
By-law 15-09-817**



Jp2g Consultants Inc.

ENGINEERS • PLANNERS • PROJECT MANAGERS

12 International Drive, Pembroke, ON K8A 6W4
T 613-735-2507, F 613-735-4513, www.jp2g.com

January 11, 2018

Township of Whitewater Region
44 Main Street
Cobden, Ontario
K0J 1K0

Attention: Janet Collins
Manager of Physical Services

RE: Cobden WWT Plant Upgrades

Dear Ms. Collins:

This is to confirm our meeting on January 10, 2018 at the municipal office with representatives from the Township (Mayor Hal Johnson, CAO R. Tremblay, Janet Collins and Steve Hodson) and representatives from Jp2g Consultants Inc. (Ed Schulz and Joe Janota) to discuss the following:

1. Status of the Part II Order Request
2. Adjustments to the project approach to allow construction to proceed as cost efficiently as possible.

Our discussion is summarized as follows.

1. Part II Order Request

It is important to note that the project cannot proceed to tender until the Part II Order Request is resolved and the project cannot be submitted to the MOEE for ECA Approval until Design Documents have been completed.

Action on a number of fronts is being undertaken with a target date being on or before March 31, 2018 to resolve the Part II Order Request.

2. Project Approach

The current approach to carry out the project work is based on constructing the works in 2 contracts as follows:

Contract 1: Construct a new MBR plant, which would be undertaken as a Design Build Contract.

Contract 2: Alterations to the existing WWTP. This work would be undertaken as a Design-Bid-Build (traditional approach) Contract and construction would start once Contract 1 was significantly completed.

Because of the project delay caused by the Part II Order Request (we are now into our second year of delays), project costs are increasing significantly based on the escalation costs of construction over time (ie: 3% to 5% per year).



During our meeting, various options to the project approach were discussed with the intent of adjusting the project approach in order to mitigate the escalation in construction costs over time.

As a result, it is proposed that the project approach be revised and that it proceed as follows:

- i) The project work should be tendered as 1 contract using the traditional Design-Bid-Build approach with 2 parts as follows:

Part A: Construction of the new MBR Plant.

Part B: Upgrades to the existing WWTP including the extended aeration process system and electrical equipment.

The contractor would provide separate prices for the Part B works so that all or some of the Part B works could be deleted depending on tender prices.

- ii) Jp2g Consultants would complete the design and tender documents for the Part A and Part B works so that

- the project can be tendered as soon as the Part II Order Request is removed; and
- Jp2g could submit the final Design Documents to MOECC and apply for the Environmental Certificate of Approval for the construction of the project.

Under the Design Build approach, the timeline to tender the project, review tenders received and award the tender would likely require 3 months or more and it would require 4 months or more for the Design Build Contractor Engineer to complete final design documents before the project design drawings could be submitted to MOECC for ECA approval.

It is felt that the Contract approach (based on the traditional Design-Bid-Build form of contract) would shorten the time to start construction by 6 months or more. Therefore, assuming the Part II Order Request is resolved by April 1, 2018, we can call tenders and be in a position to start construction in early Fall 2018. By comparison, under the Design Build approach, we wouldn't be able to start construction until next year. By shortening up the project time frame, it is felt that there will be significant savings in construction costs.

3. Engineering Costs

The engineering costs related to the revised Project Approach using 1 Contract with Parts A and B would remain the same as they currently are, as contained in our Engineering Agreement with the Municipality.

We have attached Table 1 which provides our engineering costs in 12 phases with a total contract amount of \$859,906.00. Based on the revised Project Approach using 1 Contract (including Parts A and B), our engineering costs would total the same and the only difference would be that Phase P010 and P011 would be included as 1 phase with a total of \$381,840.00 as indicated on Table 2. This approach allows the Municipality to pick up some construction costs associated with Phase 2 and place it towards Phase 1 to offset construction costs increase resulting in Part 2 Order delays.

We trust that the foregoing is satisfactory. Please call the undersigned if you have any questions.

Yours truly,
Jp2g Consultants Inc.
Engineers • Planners • Project Managers


for: J. M. Janota, M. Sc., P. Eng.
President
JMJ/r

TABLE 1
Present approach
showing two contracts, new plant and upgrades to existing

Description		Original Contract Amount
P001	EA Continuation Start-up	\$ 12,342.00
P002	Alternative Solutions	29,172.00
P003	Alternative Design Concepts	134,266.00
P004	Environmental Study Report	42,636.00
P005	Design Build Contract Administration	199,650.00
P006	Environmental Impact Study	12,000.00
P007	Archaeology Study – Stage 1	1,500.00
P008	Archaeology Study – Stage 2	5,000.00
P009	Soils Investigation – Phase 1	10,000.00
P010	Preliminary Design – New MBR Plant (Contract 1)	122,640.00
P011	Preliminary/Final Design – Existing WWTP (Contract 2)	259,200.00
P012	Request for Part II Order	31,500.00
TOTAL		\$859,906.00

TABLE 2
Proposed approach
showing one contract combining new plant and upgrades to existing

Description		Contract Amount
P001	EA Continuation Start-up	\$ 12,342.00
P002	Alternative Solutions	29,172.00
P003	Alternative Design Concepts	134,266.00
P004	Environmental Study Report	42,636.00
P005	Design Build Contract Administration	199,650.00
P006	Environmental Impact Study	12,000.00
P007	Archaeology Study – Stage 1	1,500.00
P008	Archaeology Study – Stage 2	5,000.00
P009	Soils Investigation – Phase 1	10,000.00
P010	Complete building design with New MBR Plant and complete Final Design of Existing WWTP into one Contract	122,640.00 (P010) plus 259,200.00 (P011) =381,840.00
P011	Request for Part II Order	31,500.00
TOTAL		\$859,906.00

NOTE: The approved total costs of the Engineering Agreement by Council remains the same, Table 2 approach allows for Spring 2018 construction to start should Part 2 Order be lifted.