PROJECT NO. 04830-0102
GATEWAY PROGRAM
SOUTH FRASER PERIMETER ROAD
HIGHWAY 99 to 80th Street
PRELOAD, DRAINAGE, AND UTILITY CONSTRUCTION

ADDENDUM NO. 1

NOTICE OF EXTENSION

1. SCT2.2 - TENDER OPENING /CLOSING DATE

Tender **Opening/Closing Date is Extended** to January 23, 2009.
Time and place remain unchanged.

2. Schedule T3 – Contract Specific Reference Documents

Add the following

Document Number	Document Description *(and date, if available)*	Check ( ) the Appropriate Column(s)	
		Electronic Copy	Hardcopy only
15.	Preliminary Lot Grading, Surrey Pit,, Option 2	✓	
16.	Campbell Heights Sanitary Sewer	✓	
17.	Surrey Pit Gravel Extraction Plan (Revised)	✓	

Available for electronic viewing at:
http://www.th.gov.bc.ca/bchighways/contracts/suppdoc.htm

3. SCHEDULE 3 – SCHEDULE OF SPECIAL PROVISIONS AND APPENDICES

1.06 Insurance

Add the following item to the list following the second (2nd) paragraph:

- The City of Surrey

1.14 b) Surrey Pit

Delete section and replace with the following:

If the Highway 17 to Highway 99 Contractor chooses to utilize this available source, then the Highway 17 to Highway 99 Contractor shall be the Designated Prime Contractor, as detailed in SS 135, for this Specified Area for the duration of the Highway 17 to Highway 99 Contract, after which the Highway 99 to 80th Street Contractor shall assume that role.

1.16 Work by Others in Project Area

Add the following item to the list following the first (1st) paragraph:

- City of Surrey …….Sanitary Sewer Upgrades
- City of Surrey…….Road work on 32nd Ave between 160th St and 168th St

Insert the following paragraphs after the bullets:

Sanitary Sewer upgrades by the City of Surrey are expected to take place on 32nd Avenue between 188th and 192nd Streets in March 2009. Work in Surrey Pit between 32nd and 40th Avenues are expected to occur in summer 2009.

Roadwork by the City of Surrey on 32nd Avenue between 160th and 168th Street are expected to occur in summer 2009. The Contractor should anticipate single alternating traffic to be in effect during the work.

1.19 g) vi) Construction Truck Traffic

Delete:

Paragraph 3, sentence 1 and 2

Replace with:

Access to the Project Site from Highway 99 northbound main line will be permitted. The Ministry will construct an access off Highway 99 northbound in the vicinity of 72nd Street. This access will be made available to the Contractor from March 31, 2009. The Contractor will provide traffic control personal to control this access.

Delete:

Paragraph 3, line 11, "…supply, placement…"

1.19 (g) (viii) Permissible Delays

The first paragraph of this Section is amended to:

Permissible delays shall be approved by the Ministry Representative and are categorized as follows:

(a) Random Delays: Less than 30 seconds in duration; for occasional minor interruptions due to construction activities. These delays shall be coordinated with available breaks in the traffic flow and will be permitted during Peak Periods.

(b) Minor Delays: Less than two (2) minutes in duration; for occasional interruption due to construction activities. These delays shall be only be permitted outside of Peak Periods.

(c) Major Delays: Maximum ten (10) minutes in duration; for occasional interruption of traffic for construction activities. Activities that are anticipated to cause Major Delays shall be indicated in the Traffic Control Plan along with the traffic control measures to be deployed for these activities. These delays shall only be permitted outside of Peak Periods

1.21 Available Ministry Sources

Add the following after the last paragraph

The Contractor shall be responsible for all maintenance of the City streets used as haul routes for its operations into and out of the Surrey Pit. This work shall include, but not necessarily be limited to, regular street cleaning and any required dust control to the satisfaction of the Ministry Representative. No separate payment will be made for these works

Haul roads within the Surrey Pit that are associated with the works under this contract, shall be maintained by the Contractor. Maintenance shall include, but not necessarily be limited to, dust control and regular grading/compacting. No separate payment will be made for this work.

No processing of granular material removed from Surrey Pit is required prior to use unless directed by the Ministry Representative.

Stripping of the pit, berm construction, vegetation clearing, material processing directed by the Ministry Representative and any additional access requirements that may be required will be at the cost of the Ministry and when carried out by the contractor will be paid for at force account or negotiated rates from the appropriate Provisional Sum Item.

1.22 Protection of the Environment

Delete section and replace with the following:

a) General

The Contractor is responsible to abide by the terms, conditions and responsibilities as set out in the following documents:

- the Project's Environmental Assessment Certificate (EAC) and Table of Commitments and Assurances (ToCA);
- all related environmental permits and approvals that will be required for the Project;

- the SFPR Environmental Management Plan for Phase 1 Works (November 2008), and its supporting component plans and reference documents, and
- SS 165, Protection of the Environment of B.C. Ministry of Transportation 2006 Standard Specifications for Highway Construction.

Environmentally Sensitive Areas, as classified in accordance with SS 165.01.02, and located within and/or in proximity to the Site, are presented with Contractor responsibilities in SP 1.22 f) to i) and k). Contractor responsibilities include fish salvage, Pacific water shrew (PWS) salvage and relocation (including relocation of any incidental capture of small mammals, native amphibians, and reptiles), and nest surveys if any clearing of vegetation is to occur during the critical bird breeding period of March 15 to July 31. Except as modified within this SP 1.22, these designated sensitive areas are subject to all the restrictions described and as set out in SS 165.

b) Environmental Management Plan

The SFPR Environmental Management Plan for Phase 1 Works (November, 2008), must be implemented in order to avoid, mitigate, or respond to potential environmental effects related to Project Works. This environmental management plan (EMP) includes the following Component Plans, which all require proper implementation.

- Agriculture Mitigation Plan
- Air Quality and Dust Control Plan
- Archaeological Mitigation/Monitoring Plan
- Construction and Hazardous Waste Management Plan
- Contaminated Sites Management Plan
- Contractor Awareness and Education Plan
- Environmental Monitoring Plan
- Fisheries Habitat Mitigation and Compensation Plan
- Invasive Species Management Plan
- Noise and Vibration Management Plan
- Spill Management and Emergency Response Plan
- Surface Water Quality and Sediment Control Plan
- Wildlife and Habitat Management Plan

The Contractor is responsible for developing, implementing, and revising as required for environmental compliance, site-specific Environmental Work Plans (EWPs), in accordance with the EMP and SP 1.22 a). The Contractor shall provide final and complete EWPs to the Ministry Representative at least 10 (ten) days in advance of any work being undertaken in the area covered by the EWP.

Note that these workplans will be provided to the SFPR Inter-Agency Environmental Review Committee (IAERC) that has been established for the

SFPR Project. The Contractor will be required to attend the scheduled (generally monthly) IAERC meetings to provide Project updates for their portion of the Work.

c) Burns Bog Mitigation Berm Environmental Work Plan

The Contractor shall develop, implement and revise as required a site-specific Environmental Work Plan (EWP) for Works conducted in the area relating to the Burns Bog Mitigation Berm. Responsibilities to be included in the Burns Bog Berm Environmental Work Plan are:

- All clearing and removal of vegetation from areas of peat soils shall be completed by hand where possible or by heavy equipment from the leading edge of the berm if heavy equipment is necessary;
- Equipment and vehicles shall not drive in areas of peat soils unless on approved flotation mats, or equipment meets criteria described in SP 2.05 a);
- Clearing of vegetation shall be limited to above ground material in areas of peat soils in order to not disturb the peat surface;
- After clearing, an approved liner shall be placed in the in the area of the preload to ensure that any preload material does not interact directly with the peat surface;
- After the preload has been placed, a windscreen shall be installed to minimize the generation of dust and migration of particulate matter into the adjacent areas;
- Preload fill may require dust suppression procedures (e.g. spraying with water) in order to minimize dust generation during placement of fill;
- Appropriate erosion and siltation control techniques are to be applied, such as installation of silt fencing, during placement of Preload in order to minimize leaching of material into the adjacent areas during times of rainfall or application of water for dust suppression;
- Erosion and siltation control techniques, and windscreening techniques, shall be maintained and monitored for the duration of the Contract;
- Placement of preload must be performed in a manner that does not lead to failure in the adjacent peat surface and the amount of preload deposited at any time may be limited or halted if failure is suspected;
- Machinery and equipment shall not be refuelled in proximity to peat soils. Machinery and equipment should be moved to a mineral soil staging area for refueling;
- Mineral soils shall not be tracked into the peat soils via tracked vehicles, in tires, or in undercarriage of vehicles. Vehicles should be clean and clear of mineral soil materials before going into peat soils or associated wet peat soil waters. It is imperative that the introduction of mineral soil materials into the Burns Bog environment be avoided.

d) Contractor's Environmental Management Team

The Contractor's Environmental Management Team (EMT) shall include an Environmental Manager, an Environmental Coordinator, Environmental Monitors, and environmental specialists as appropriate. This multi-disciplinary team of qualified environmental specialists shall be responsible for managing all environmental issues associated with the Work and must be available as needed for the duration of the Contract.

A general description of the expected responsibilities for each role is presented in the EMP. A summary of the primary responsibilities for each role is presented below:

Environmental Manager

The Environmental Manager shall be responsible for delegating individuals to various roles of the EMT and overall management of environmental aspects of the Project. A summary of the Environmental Manager's primary responsibilities includes:

- liaise with regulatory officials and the EMT to coordinate the quality initiatives identified in the Environmental Assessment Application, ToCA, EMP, and permits and approvals;
- complete final review and sign-off of the Project's environmental goals and objectives, such as EWPs, environmental monitoring reports, correspondence to Regulatory Agencies; and work performed by other members of the EMT;
- direct the Project team to stop work if activities are not being performed to the Project's environmental commitments, and/or if there is a potential for additional environmental impacts; and
- attend Inter-Agency Environmental Review Committee (IAERC) meetings, liaise with members of the Project management team as required, and provide updates on environmental activities.

Environmental Coordinator

The Environmental Coordinator shall be a Registered Professional Biologist, and suitably experienced in grading and drainage construction, and in the prevention and control of slope erosion and drainage sedimentation. The Environmental Coordinator's primary responsibility will include assisting the Contractor's Environmental Manager in Project related activities, and maintain that environmental monitoring obligations are performed to the requirements set by Regulatory Agencies and outlined in the ToCA. The Environmental Coordinator must be available throughout the duration of the Contract to represent the Contractor in all matters related to the protection of the Environment and, in particular, will attend all key meetings at which environmental protection measures are to be discussed. A summary of the Environmental Coordinator's primary responsibilities includes:

- investigate environmental incidents and non-conformities, and coordinate the implementation of corrective actions;

- coordinate the internal and external quality auditing requirements associated with the environmental monitoring activities.
- coordinate the application process for acquiring necessary environmental permits; and
- be actively involved with the Project design and construction teams so that environmental considerations committed to during the Application are implemented during construction.

Environmental Monitor(s)

The Environmental Monitor(s) must be appropriately qualified professionals, preferably Registered Professional Biologists, and shall be responsible for performing the monitoring requirements and identifying potential Project Works that do not comply with regulatory environmental commitments and assurances. The Environmental Monitors shall be required to perform activities outlined in the Component Plans of the EMP. The Monitors' duties will include:

- ensuring that construction activities are performed in an environmentally responsible manner as described in the appropriate Project EMP Component Plan and/or EWP;
- reporting instances of environmental non-compliance and negligence to the EMT;
- maintaining a record of construction activities by field notes and photo documentation; and
- having the authority to temporarily stop construction activities until the appropriate mitigation measure can be implemented.

e) Environmental Permitting

The Ministry will be responsible for obtaining the following permits:

- Ministry of Environment, *Water Act* Notifications for watercourses included, but not limited, to those identified in 1.22-1 (SP 1.22 f)); and
- Fisheries and Oceans Canada, *Fisheries Act* Authorization.

The Contractor shall be responsible for obtaining any other necessary approvals or permits including, but not limited to:

- Fisheries and Oceans Canada, Fish Salvage Permit;
- applicable fish and wildlife salvage, and any additionally required nest removal permits from the Ministry of Environment (*Wildlife Act*); and
- supplemental Corporation of Delta environmental bylaw permits.

The Contractor shall be responsible for notifying the Ministry Representative and SFPR Environmental Manager at least 10 (ten) working days prior to the commencement of any activity within fish habitat sensitive area(s) of any designated streams, as defined in SP 1.22 f).

The following are regulatory agency contacts:

MINISTRY OF ENVIRONMENT, ENVIRONMENTAL STEWARDSHIP DIVISION

Joanna Hirner, Ecosystems Biologist
2nd Floor, 10470 – 152nd Street
Surrey, BC V3R 0Y3
604-582-5283

FEDERAL FISHERIES AND OCEANS CANADA

Michael Englesjord, Habitat Biologist
Unit 3, 100 Annacis Parkway
Delta, BC V3M 6A2
(604) 666-2365

f) Designated Fisheries Sensitive Areas and Fishery Timing Windows

'Designated' watercourses, as classified in accordance with SS 165.01.02, and located within and/or in proximity to the Project, are presented below in Table 1.22-1Table 1.22-1. These watercourses are subject to all the restrictions set out in SS 165 except as modified herein.

Further to the definition of "Fishery Timing Window" as set out in SS 165.01.02, the Fishery Timing Window is that period of any given year designated by the Environmental Agencies for Project Works within the Fisheries Sensitive Zone (instream aquatic habitat, as well as out-of-stream supporting habitat features such as side channels, wetlands, and vegetated riparian areas adjacent to these features). The distance between a watercourse high water mark and the extent of the supporting vegetative habitat for which the Fishery Timing Window applies, is referred to as the Riparian Leave Strip (Table 1.22-1) and unless specified, is considered to be identical for both watercourse banks. Permitted Project Works conducted within the aquatic portion of the Fisheries Sensitive Zone and during the appropriate Fishery Timing Window, must be conducted in the dry or in isolation of flows. Any activity within the Fisheries Sensitive Zone shall be carried out only within the Fishery Timing Window, except where the Contractor has received written notification from the Ministry Representative of any relaxation to this requirement that may have been permitted by the Ministry of Environment and/or Fisheries and Oceans Canada.

Table 1.22-1
Designated fish habitat sensitive areas and associated fishery timing windows within the Delta - Hwy 99 to 80th Street Preload Project area

Location		Watercourse	Colour Code	Fishery Timing Window+		Riparian Leave Strip Width (m)*
Centreline	Approx. Station			Start	Finish	
L2000	134+55	Crescent Slough Tributary – N of Burns Drive	Yellow	Aug 16	Apr 30	5
L2000	138+00 to 150+85	Crescent Slough	Yellow	Aug 16	Apr 30	15
L2000	139+25	Unnamed Tributary to Crescent Slough	Yellow	Aug 16	Apr 30	6
L2000	142+85	Crescent Slough Tributary Ditch from Burns Bog	Yellow	Aug 16	Apr 30	5
L2000	151+43 to 157+10	Hammings Ditch	Yellow	Aug 16	Apr 30	5
L2000	159+60	Unnamed tributary to Hammings Ditch	Yellow	Aug 16	Apr 30	5 (L); 6 (R)
L2000	163+60 to 164+60	Unnamed tributary to Hammings Ditch	Yellow	Aug 16	Apr 30	5
L2000	171+65 to 175+45	Wilson Avenue/Brown Street Canal	Yellow	Aug 16	Feb 28	5 (L); 15 (R)
L2000	180+95 to 181+70	Progress Way Ditch	Yellow	Aug 16	Feb 28	15
L2000	184+00 to 185+30	80th Street Ditch West, S of access road gate	Yellow	Aug 16	Feb 28	15

Table 1.22-1
Designated fish habitat sensitive areas and associated fishery timing windows within the Delta - Hwy 99 to 80th Street Preload Project area

Location		Watercourse	Colour Code	Fishery Timing Window+		Riparian Leave Strip Width (m)*
Centreline	Approx. Station			Start	Finish	
L2000	188+15 to 189+55	80th Street Ditch West, S of Progress Way	Yellow	Aug 16	Feb 28	15 (L); 5 (R)
L2000	190+60	80th Street East, at Progress Way	Yellow	Aug 16	Apr 30	5 (L); 8 (R)
L2000	201+50	Bog Ditch East of Alexander Road	Yellow	Aug 16	Apr 30	5 (L); 6 (R)

+ DFO may extend work window, and/or reduce Riparian Leave Strip, based on condition of fish habitat present prior to Works.
* Width is considered to be identical to both watercourse banks, unless indicated as left (L) or right (R) bank looking downstream

g) Designated Vegetation Sensitive Areas

Sensitive vegetative areas are subject to all the restrictions set out in SS 165 except as modified herein. Red-listed polygon #86, located between Stations 186+00 to 188+00 on the L2000 centre line, is the only sensitive vegetation area associated with this portion of the Project alignment. The Ministry will be responsible for demarcation of the Project Works area from portions of this sensitive vegetation area that is to be retained. The Contractor shall maintain Ministry flagging tape that demarcates this Red-listed polygon and ensure that encroachment impacts are avoided during the Contract.

h) Designated Wildlife Sensitive Areas

Pacific Water Shrew (PWS) salvage and relocation operations shall be conducted by the Contractor prior to Project Works to avoid incidental mortality. Anticipated areas where salvage operations need to be conducted for PWS within the Project area are identified in Table 1.22-2. These proposed salvage areas are currently under review, and have yet to be finalized through consultation with the BC Ministry of Environment.

The Contractor is required to obtain a permit from the Ministry of the Environment (Ancillary Wildlife Permit) for wildlife salvage operations. PWS salvage shall be undertaken following the same protocols that apply to PWS sampling as outlined in MoE's BMPs for PWS (Craig and Vennesland, 2008):

- PWS trapping shall be done using pitfall or alternative traps which address site-specific conditions and are agreed to by MoE, along with

drift fences (or equivalent barrier fencing) for a minimum of eight consecutive days;

- Trapping shall not occur if cool temperatures (i.e., < 3^{o}C) or heavy rainfall are anticipated; and
- Pitfall traps shall be open for 24 hours per day, with the total trapping effort to include a minimum of 192 total trap hours (including a minimum of eight over-night trapping sessions).

Other aspects of these protocols (i.e., recommended trap checking frequency based on the time of year) shall be followed as well. Any salvaged PWS shall be quickly and safely relocated into an appropriate location outside of the proposed construction zone.

Other small mammals, native amphibians and reptiles shall also be salvaged when incidental captures result from PWS salvage operations.

Table 1.22-2

Location		**Wildlife Sensitive Area / Feature**	**Contractor Responsibilities**
Centreline	**Approx. Station**		
L2000	134+40 to 137+00	Crescent Slough tributary ditch – N of Burns Drive which is a potential pacific water shrew (PWS) habitat/connectivity link from high rated potential PWS habitat to Crescent Slough)	PWS salvage and relocation
L2000	142+50 to 143+30	Crescent Slough, a potential PWS habitat/connectivity link located W of extensive areas of medium and high rated potential PWS habitats)	PWS salvage and relocation
L2000	145+30 to 150+90	Crescent Slough (potential PWS habitat/connectivity link that is located W of extensive areas of medium and high rated potential PWS habitats), this portion of slough to be re-established in a new channel and upgraded with riparian vegetation as an enhanced linkage corridor	PWS salvage and relocation
L2000	152+80 to 153+20	Hammings Ditch (potential PWS habitat/connectivity link, located W of extensive areas of moderate and high rated potential Pacific water shrew habitat)	PWS salvage and relocation

Table 1.22-2

Location		Wildlife Sensitive Area / Feature	Contractor Responsibilities
Centreline	**Approx. Station**		
L2000	155+90 to 157+20	Hammings Ditch (potential PWS habitat/connectivity link, located W of extensive areas of moderate and high rated potential Pacific water shrew habitat)	PWS salvage and relocation
L2000	159+40 to 159+80	Unnamed ditch on northern side of cranberry fields with potential PWS connectivity linkage values	PWS salvage and relocation
L2000	172+00 to 175+00	68A Avenue/Wilson Avenue stormwater detention pond (high rate potential Pacific water shrew habitat)	PWS salvage and relocation
L2000	184+30 to 189+45	80th Street stormwater detention pond (high rate potential Pacific water shrew habitat)	PWS salvage and relocation

i) Designated Archaeologically Sensitive Areas

Archaeological sites that are protected under the *BC Heritage Conservation Act* (Archaeology Branch, Ministry of Tourism, Culture and the Arts) are subject to all the restrictions set out in SS165 except as modified herein. The Ministry will apply for any required site alteration permits for Project Works proposed to be undertaken within designated archaeological sites. Works cannot proceed within designated archaeological sites until site alteration permits have been obtained and all applicable permit conditions have been applied. The Ministry will be responsible for demarcation of any Project work areas from portions of designated archaeological sites that are to be retained. The Contractor shall maintain the Ministry flagging that demarcates the designated archaeological sites, ensuring that encroachment impacts are avoided, and that applicable conditions of permits are upheld for the duration of the Contract.

The following two registered archaeological sites are located on, or near, the Project alignment:

- DgRs-56 located between Stations 136+00 and 151+00; and
- DgRs-82 located between Stations 169+00 and 170+00.

j) Interim Wildlife Crossings

Some of the temporary drainage culverts proposed for installation are intended to provide interim wildlife crossing values, in particular to facilitate the potential movement of Pacific water shrew and other small mammals. These interim wildlife crossings are identified below in Table 1.22-3.

These culverts have been sized in order to facilitate potential wildlife movement under the preload and may require adjustments to provide for continued drainage function and potential wildlife movement.

Table 1.22-3

Location		Water Feature/Culvert Diameter	Contractor Responsibilities
Centreline	Approx. Station		
L2000	155+67	Hammings Ditch (1500 mm diameter)	Ensure proper culvert function, both for the purposes of drainage and wildlife passage
L2000	174+70	Wilson Avenue/Brown Street Canal (2000 mm diameter)	Ensure proper culvert function, both for the purposes of drainage and wildlife passage
L2000	185+65	80th Street Ditch West, South of gate on 80th Street Access Road (2000 mm diameter)	Ensure proper culvert function, both for the purposes of drainage and wildlife passage
L2000	189+45	80th Street Ditch West, South of Progress Way (1500 mm diameter)	Ensure proper culvert function, both for the purposes of drainage and wildlife passage

k) Bird Nests

As outlined in the EMP's Wildlife and Habitat Management Plan document, the clearing of vegetation should be restricted during the critical bird breeding period (March 15 to July 31). For Project Works to be undertaken during this period, the Contractor is required to conduct nest surveys to identify active bird nests, and apply the appropriate site- and species-specific buffers and/or timing windows. If a nest is active, a site-specific management plan will be determined by the Ministry Environmental Manager through consultation with Ministry of Environment or Canadian Wildlife Service (i.e. protection through buffers and/or by instituting appropriate exclusion windows during Project Works).

Based on the results of raptor nest survey work conducted by the Ministry during in the spring/summer of 2008, four raptor nests are located in proximity to the proposed Project Works.

The following list summarizes the locations of these four raptor nests:

- Station 138+00 (red-tailed hawk nest RTHA-7), located approximately 80 m east of the edge of the preload footprint in a spruce tree

- Station 137+60 (red-tailed hawk nest RTHA-6), located approximately 105 m east of the edge of the preload footprint in a red alder tree
- Station 146+60 (bald eagle nest BAEA-6, originally referenced as nest G in the Vegetation and Wildlife Impact Assessment, Technical Volume 12 of the Project Environmental Assessment Application), located approximately 80 m east of the edge of the preload footprint (60 m from edge of relocated Crescent Slough) in a cottonwood tree
- Station 151+40 (bald eagle nest BAEA-5), located approximately 60 m east of the edge of the preload footprint in a Douglas fir tree

The Contractor shall adhere to standard mitigation measures for raptors in rural settings, as described in the Ministry of Water, Land and Air Protection's "Best Management Practices for Raptor Conservation during Rural and Urban Land Development in B.C." (2005). Bald eagle nests are afforded year-round protection by the Wildlife Act, regardless of activity status. In accordance with the aforementioned raptor BMP guidance document, retention of a 100 m vegetated buffer is to be applied to the bald eagle nests. If active, a 200 m vegetated buffer is to be applied to the red-tailed hawk nests. During periods of the year when these nests are active, loud noises and other notable human disturbances (i.e., construction activities) are not to occur within either the aforementioned vegetated buffers or an additional 100 m quiet zone buffer. Restrictions on construction activities within these buffer zones continue to apply to active nests until nesting activities are complete (i.e., young have fledged and are no longer dependent upon the nest).

Any additional raptor nests that might be identified by the Contractor or MoT will require appropriate vegetated buffers and breeding season quiet buffers, in accordance with the aforementioned raptor BMP guidance document. If a passerine nest is determined to be active during the critical breeding season, a 30 m buffer shall be applied until the young become independent of the nest.

It is recognized that bird nests within and/or in proximity to the Project area may be close to existing disturbances that reduce the applicability of standard mitigation measures, including the proposed quiet buffers. In these cases, the quiet buffers should remain free from any additional human disturbances associated with construction activities. The Contractor also has the option to retain a qualified professional (i.e., Registered Professional Biologist, with experience in raptor management) to review the application of these standard mitigation measures and propose alternative quiet zone buffers for the Ministry's consideration and signoff. Any proposed application of alternative quiet zone buffers will require the development and implementation of a nest monitoring program.

l) Surface Water Quality and Sediment Control Plan

The Contractor shall ensure that EWPs provide for proper implementation of the Surface Water Quality and Sediment Control Plan (SWQ/SCP) from the EMP. If required to address surface water quality and sediment control objectives, the Ministry may require the Contractor to revise EWPs accordingly. The Contractor shall take precautions to satisfy the requirements herein with

respect to the commencement and continuance of the Work in accordance with the SWQ/SCP.

Pursuant to SS 165.04.02, the Surface Water Quality and Sediment Control Plan shall also conform to the following criteria:

- Department of Fisheries and Ocean's Land Development Guidelines for the Protection of Fish and Fish Habitat; and
- Corporation of Delta's Soil Removal and Deposit Regulation Bylaw 5532.

SWQ/SCP is required to address the whole site but there are some areas that are more sensitive and required to be addressed specifically in the SWQ/SCP. In order to provide for proper implementation of the SWQ/SCP, the Contractor shall provide specific focus on erosion and sediment control measures for preload ditches that drain into any fish habitat sensitive area(s) of any designated streams, as defined in SP 1.22 f). Dependent upon the environmental sensitivity of these fish habitat sensitive areas, these measures may include (but not necessarily be limited to) the following: ditch lining (i.e., straw matting); check dams (i.e., gravel, straw bales, plastic); settling ponds; and silt fencing. It should be noted that additional erosion and sediment control measures may also be required for non-designated streams and/or other watercourses as well.

m) Water Detention and Treatment Facilities

The extent of water detention and treatment facilities required by the Contractor to meet its responsibilities for protection of the aquatic environment while carrying out the Work will depend on a number of factors, including but not limited to the methods and schedule chosen by the Contractor for performing the Work, and the weather or other Site conditions encountered during the Work.

Where facilities for water detention or treatment are shown on the Drawings, or otherwise required as part of the Work, they have been designed only for conditions which will apply after completion of the Work. Unless otherwise stated elsewhere in the Special Provisions or on the Drawings, such facilities may be used by the Contractor for runoff detention and treatment while carrying out the Work, subject to the Ministry Representative's approval and subject to the Contractor's discretion as to its effectiveness for this purpose. Whether intentionally so used or not, these facilities shall be restored by the Contractor, prior to completion of the Work, to the lines and grades specified in the Contract Documents Package.

Whatever further water treatment facilities may be necessary shall be provided, maintained and removed by the Contractor.

n) Maintaining Water Quality

Erosion and sedimentation are major concerns with respect to their potential impact on water quality. All roadside ditches along the Project areas drain directly or by way of other connecting conveyances to the Fraser River and/or its estuary. The Contractor is responsible for planning, scheduling and performing the Work in such a manner that the quality of water flowing from the

Site is at all times acceptable to the Environmental Agencies, and shall take immediate action to correct any deficiency in water quality. The Contractor is responsible for maintaining conditions that protect the environment not only during active construction on the Site but also during periods when the Contractor has suspended construction activity for any reason.

o) Idle Reduction

The Ministry is taking initiatives to reduce greenhouse gas emissions from the Project and has identified reduced idling of construction vehicles and equipment as a reduction strategy. Further to SS 165.02 and in accordance with the SFPR Environmental Management Plan for Phase 1 Works (November 2008), the Contractor is encouraged to develop innovative and practical methods to influence workers to participate in idle reduction strategies.

The following are sample idle reduction strategies grouped within four areas of opportunity which may be applicable to the Project and that can be used as a basis for the Contractor to develop the Idle Reduction Plan:

Location of staging areas to minimize impact of emissions:

- Locate combustion engines away from sensitive receptors such as fresh air intakes, air conditioners, and windows.
- Establish a staging zone for trucks that are waiting to load or unload material in the Contract area, away from sensitive receptors.

Idling time restrictions:

During periods of inactivity and while stopped within a queue formed under the direction of a traffic control person or device, idling of Contractor and Sub-Contractor off-road equipment shall be minimized and are not to exceed the following:

- Motor vehicles and light diesel trucks - 1 minute;
- Heavy duty diesel vehicles - 5 minutes;
- Diesel Vehicles involved in Construction Site passenger transportation - 10 minutes; and
- Construction Equipment - exempt when actually employed at the Site for work intended.

Idling for more than the above times is permitted only under the following circumstances:

- When the vehicle or equipment is forced to remain motionless because of other traffic conditions or mechanical difficulties over which the operator has no control;
- To bring the vehicle or equipment to the manufacturer’s recommended operating temperature;
- When the outdoor temperature is below 0°C or above +30°C and the operator or passengers are inside the vehicle, and there are no auxiliary power sources available to provide temperature control;

- When it is necessary to operate auxiliary equipment that is located in or on the vehicle or equipment to accomplish the intended use of the vehicle or equipment (for example, cranes and cement mixers);
- When the vehicle is detaching or exchanging a trailer;
- When the vehicle or equipment is being repaired or engaged in repairing another vehicle, if idling is necessary for such repair;
- When the vehicle or equipment is queued for inspection, if idling is necessary for such inspection;
- For designated emergency vehicles or any vehicle or equipment assisting in police, fire or ambulance services; and/or
- When defrosting or defogging windows. Idling shall end when fog, frost, or ice conditions have been eliminated.

Outreach and Communications:

- The Contractor shall implement a system of education and training as part of Site orientation for all on-site staff and Sub-contractors.
- The Contractor shall reinforce the idle reduction initiative via signage and during toolbox, health and safety, and Ministry meetings.

Idle Reduction Technologies:

The Contractor is encouraged to utilize idle reduction technologies where appropriate and applicable. Some examples are available at: www.epa.gov/otaq/retrofit/verif-list.htm.

p) Payment

Payment for ***Pacific Water Shrew Salvage*** will be made at the Unit Price bid per hectare and shall be accepted as full compensation for all Work performed including, but not limited to, exclusion fencing installation, trap installation, trap checking and demobilization.

Payment for ***Environmental Management*** will be made at the Lump Sum Price bid and shall be full compensation for all costs, other than Pacific water shrew salvage costs, resulting from the Protection of the Environment requirements set out in the Contract.

Payment of the Lump Sum Price bid for Environmental Management will be made as follows:

- **80% of the Lump Sum** paid prorated on a monthly basis based on the percentage of the Contract completed. The prorated amount will be adjusted as and when the Contractor revises their Construction Schedule.
- **20% of the Lump Sum** when the Contractor has completed all Work and has left the Site in a condition acceptable to the Ministry Representative.

The Ministry Representative may deduct an amount from any monthly payment so computed for any Environmental Management Work required but not satisfactorily undertaken during that month. The Ministry Representative may

also reduce the total Lump Sum payable by the value of any Environmental Management Work required but not satisfactorily undertaken during the Term of the Contract. The foregoing determinations will be made in the sole discretion of the Ministry Representative.

1.33 Site Modifications

Add the following after the last bullet

- Supply, installation and maintenance of Security Fencing and Gates

Add the following

1.36 Security Fencing and Gates

The Contractor shall install chain link fencing and security gates at all access points to the project site adjacent to public right of ways in accordance with SS 316. Fencing to extend across the right of way with gates provided as required by the Contractor. The security fencing and gates will prevent the entrance of vehicles, including motorcycles and all terrain vehicles to the project site during non-working hours. Security gates will be subject to inspection by the Ministry Representative to ensure compliance.

Payment for supply, installation and maintenance of the fences and gates will be made from the Provisional Sum for Site Modifications.

1.37 Wind Fencing

The Contractor shall install wind fencing on the east and south berms of the 80th Street Preload Stockpile Site or as directed by the Ministry Representative. The wind fencing shall be 2 meters high and have 50 per cent porosity. Wind fencing installation will be subject to inspection by the Ministry Representative to ensure compliance.

2 - .04-d-iii) Crescent Slough Excavation

Insert the following paragraph after the 3rd paragraph

After construction the west bank of Crescent Slough is to be reseeded and protected with a single net straw blanket installed as per the manufacturer's guidelines.

2.04 f) Slope Protection of Crescent Slough

Delete this section and replace with the following:

The Contractor shall protect the East bank of the new Crescent Slough with a continuous slope protection product selected from the list below. The slope protection lining must go from the top of the bank to the bottom of the bank along the new Crescent Slough as shown in the Drawings. Installation of the slope protection product, including temporary and/or permanent anchorage, must be carried out completely outside of the existing Sanitary Easement footprint.

Slope protection shall be immediately applied to the East bank of the new Crescent Slough upon completion of final excavation and grading. The slope protection must be applied to the entire finished excavation along the East Bank of the new Crescent Slough before the end of each work day. Alternatively, the finished excavation side slopes must be temporarily supported by other means, subject to approval by the Ministry Representative. No payment will be made for temporary support of excavation side slopes.

Approved slope protection products for this Project are:

- Tensar Gabion Mat (minimum 200 mm thickness measured perpendicular to the slope face);
- Layfield Geoweb (minimum 200 mm thickness measured perpendicular to the slope face).
- Turf reinforcement system complete with rigid reinforcing anchors possessing the following properties:
    - Min. 10.2 mm thickness,
    - Min. grab tensile strength of 58.4 X 43.8 kN/m (ASTM D-6818) at 25% elongation,
    - Minimum resiliency of 80% (ASTM D-6524),
    - Min. UV resistance at 6000 hours of 90% (ASTM D-4355), and
    - Min. 50 year design life.

Slope protection shall be installed such that it remains in intimate contact with the slope face. Individual slope protection panels shall be interconnected such that a continuous slope facing is produced. The materials used within the Slope Protection system shall provide sufficient filter characteristics such that significant loss of natural soils is prevented or, alternatively, a suitable geotextile separator shall be provided between the Slope Protection and slope face for filter purposes. Seeding of the slope, suitable to the slope protection method, should also be included.

The Contractor shall supply a Slope Protection design that satisfies the requirements above that is produced by a Professional Engineer registered in the Province of British Columbia to the Ministry Representative for approval prior to construction.

Payment for ***Slope Protection of Crescent Slough*** will be made at the Unit Price bid per square metre and shall be accepted as full compensation for everything furnished and done, slope preparation, supply, seeding, dewatering and temporary support.

Add the following

2.04 g) Reservoir Material Excavation

Through the cranberry farms between approximately STA 157+00 and 184+00 there are several decommissioned reservoirs that the alignment passes through. In these locations additional excavation is required to remove the saturated silty material which has settled in the reservoirs. This material is to be excavated and removed to an offsite location provided by the Ministry at the junction of 76th Street and Progress Way where it will be stockpiled as directed by the Ministry Representative. The Ministry will be responsible for disposal of this material from the stockpile.

Payment for Reservoir Material Excavation will be made at the Unit Price Bid per cubic metre of excavation and shall be accepted as full compensation for everything furnished and done, including excavation, haulage, placement in stockpile, and management of the stockpile.

2.07 d) Box Culvert Pipe

Delete this section and replace with the following

The Contractor shall supply and install a 3000 mm X 3000 mm concrete box culvert as shown on the Drawings. The Contractor shall be responsible for design, supply, and installation of the box culvert.

The contractor is responsible for carrying out geotechnical investigations needed to complete the design of the box culvert installation. Design shall include but not be limited to excavation limits, bedding design, backfill requirement, surface restoration requirements, box culvert structural design, and connection methods. Design may not alter box culvert size and inverts without prior written approval from the Ministry Representative. Surface loading to be Highway Loading (CL-625). Box culvert pipe shall conform to MMCD 0223 except as modified herein, on the Drawings or in the design.

Part of the design process shall include preparation of shop drawings and their submission for review and approval by the Ministry Representative. The drawings must be signed and sealed by a B.C. Professional Engineer and submitted at least four weeks in advance of construction. The contractor will provide a copy of the geotechnical report to the Ministry Representative.

Payment for *Supply & Install Box Culvert Pipe* will be made at the Unit Price bid per metre for each size and type of culvert incorporated into the Work, and shall be accepted as full compensation for everything furnished and done including but not limited to geotechnical investigations, bedding and backfill design, culvert, sandbags where applicable, bends, wyes, fittings and couplers, trench excavation, foundation excavation, installation, connecting to existing culvert pipes where applicable, geotextile, supply and installation of bedding material, backfill, cutting of pipes, disposal of unsuitable material, reinstatement of existing surfaces and all other things necessary to complete the Work.

3.03 Sewage Forcemain

3.03 g) i) (a) – 1st paragraph line 5
Insert: “The Contractor shall provide to the Ministry Representative for approval shop drawings for means of supporting line stop.”
After: “… approved supplier.”

3.03 g) i) (a) – 1st paragraph line 5
Insert: “shall be as specified on the drawings and”
After: “Tapping saddle, tapping valve and blind flange”

3.03 g) i) (a) – 2nd paragraph line 4
Delete specification: “line stop removal“

3.03 g) i) (e) – Title
Add: “and Asbestos Cement Piping.”
After: “… on Fittings”

3.03 g) i) (e) after 3rd paragraph
Insert paragraph: “The Contractor shall provide to the Ministry Representative for approval shop drawings detailing means of securing thrust restraint to existing AC pipe where shown on the drawings.”

3.03 g) i) (e) 4th paragraph line 2
Replace specification: ” precast construction of reinforced concrete blocks”
With: “supply, fabrication and assembly of treated timber thrust panels”

3.03 g) i) (f) – line 5
Replace specification: “tapping valve and blind flange”
With: “and tapping valve shall be as specified on the drawings and”

3.03 g) ii) (a) – 1st paragraph line 5
Insert: “The Contractor shall provide to the Ministry Representative for approval shop drawings for means of supporting line stop.”
After: “… bell type (BBT) joints.”

3.03 g) ii) (a) – 1st paragraph line 6 & 7
Insert: “shall be as specified on the drawings and”
After: “Tapping saddle, tapping valve and blind flange”

3.03 g) ii) (a) – 2nd paragraph line 3
Insert: “installation, wet tapping of the forcemain, line stop insertion,”
After: “…supply of hardware to be left in place,”

3.03 g) ii (e)
-3rd paragraph line 1 & 3
- 4th paragraph line 1

- 5th paragraph line 6
Replace specification: " arc"
With: "mitre"

3.03 g) ii (e) -5th paragraph line 3
Replace specification: "precast construction of reinforced concrete Thrust Panels "
With: "supply, fabrication and assembly of treated timber thrust panels"

3.03 g) ii) (f) – Title
Add: "and Steel Cylinder Piping."
After: "… on Fittings"

3.03 g) ii) (f) after 3rd paragraph
Insert paragraph: "The Contractor shall provide to the Ministry Representative for approval shop drawings detailing means of securing thrust restraint to existing steel cylinder pipe where shown on the drawings."

3.03 g) ii) (f) – 4th paragraph line 2 & 3
Replace specification: "precast construction of reinforced concrete blocks"
With: "supply, fabrication and assembly of treated timber"

3.03 g) ii) (g) – 1st paragraph line 5
Replace specification: ", tapping valve and blind flange"
With: "and tapping valve shall be as specified on the drawings and"

3.03 g) iii) after the 1st paragraph
Add: "The Contractor shall provide to the Ministry Representative for approval shop drawings for means of providing lateral restraint and protection to the HDPE forcemain where it is to be located on the surface of the proposed fill (approximately from 1+57 to 4+82)."

3.03 g) iv) after 1st paragraph
Add : "The Contractor shall provide to the Ministry Representative for approval shop drawings for the thickness, type and application of insulation to prevent piping within the valve chamber from freezing."

3.03 h) – 7th paragraph
Replace entire paragraph with: "Measurement for payment of steel spool pieces shall be per item installed."

Appendices

Delete Appendix - Availability of Site and Right-of-Way and replace as per attached.

4. SCHEDULE 4 - DRAWINGS (Not to be Re-Issued)

R1-552-102 to 103
The existing ditches that fall near/under the preload should be shown as Fill with Type D material where no culvert is in place. This includes ditches at the following approximate locations: 139+00 - 30m left (not under preload), 140+00, 140+80, 144+40, 147+05, and 149+00

R1-552-103
The north end of Major Ditch A south of 60th Avenue will be extended east to connect with the outlet of an existing culvert under 60th Avenue which is not shown on the drawings. This will result in the addition of 20 meters linear meter of ditch and an additional 115 cubic meters of volume.

R1-552-351
Culvert Detail C/W Bedding
Width of granular base to be D +600mm maximum to D+450mm minimum.

Typical Box Culvert Cross Section
Revise note 1 to read: Conceptual box culvert diagram only. Contractor to complete the design as outlined in the special provisions.

All Drawings:
The concrete box culvert size of 3000 mm X 2400 mm has been changed to 3000 mm X 3000 mm, as per the Schedule 3, 2.07 d) in this Addendum.

5. SCHEDULE 7 - SCHEDULE OF APPROXIMATE QUANTITIES AND UNIT PRICES

Item# 02.03.01 replace Approx Quantity of 25690.20 with 11690.2

Item# 02.03.05 replace Approx Quantity of 16809.50 with 16924.50

Item# 02.04.02 replace Approx Quantity of 555,000 with 515,000

Item# 02.06.05 replace Description of Work 3000X2400 Box Culvert with 3000X3000 Box Culvert

Item# 02.06.06 replace Approx Quantity of 2 with 1

Item# 02.06.07 replace Approx Quantity of 2 with 1

Add the following items

Item#	Description of Work	Unit of Measure	Approx Quantity	Unit Price	Extended Amount
02.03.08	Reservoir Material Excavation	Cubic Metres	2900	$	$
02.08	Wind Fence				
02.08.01	Wind Fence	Metre	1500	$	$

A REVISED SCHEDULE 7, DATED January 16, 2009, AND MARKED **'REVISION A'** IS ATTACHED AND **MUST BE USED FOR TENDER PURPOSES.**

6. Questions raised by Bidders during Tender Period

Where we have determined that multiple questions have been received on the same topic only the first question received will be responded to.

Question 1:

Drwg #R1-552-404 - Detail B – List of Components Item #B17 description refers to item A10; is this correct? (Also, B17 is not shown on Detail B plan view.)

Answer 1:

Response: Drwg #R1-552-404 - Detail B – List of Components Item #B17 – should refer to “ITEM B13”, and not “ITEM A10”. On the figure, the pipe extending south-west from item B13 should be labelled as “B17”.

Question 2:

Drwg #R1-522-405 – Detail C – List of Components Item #C2 description refers to Item A10; is this correct?

Answer 2:

Drwg #R1-522-405 – Detail C – List of Components Item #C2 should refer to “ITEM C1” and not to “ITEM A10”

Question 3:

My interpretation of this tender is that the 555,000mt of preload granular fill will access the site near Hwy 99, 72nd St and Burns Road. Although there is a significant volume required in the triangular area bounded by Burns Road and 72nd Street, the bulk of the volume lies between Sta. 139+42 and Sta. 156+50.

a) Is it the Ministries’ intention to have the contractor build an access point across the Crescent Slough tributary/ditch at Sta. 139+00?

b) It appears that all of the topsoil is to be stockpiled in the area designated on the drawings between Sta. 135+00 and 138+00. Would the contractor be expected to build temporary access across the existing ditch at Sta. 134+60 and the Crescent Slough Ditch?

c) There also appears to be access at the intersection of 60th Ave and 68th St. would the contractor be able to use this?

d) In the schedule of quantities item#‘s 02.06.06 & 02.06.07 junction structures A & B the quantities shown for each item is 2 each. Should this be 1 each?

e) Is it safe to assume that item# 02.01.04 preload area woven geotextile – 156009m2 is for the areas covered by river sand only?

Answer 3:

a) The Contractor has the option to construct access points as they see fit and that are acceptable to the Ministry Representative. Access suggestions in the vicinity of Crescent Slough is shown on Drawing R1-552-601

b) Please see the answer to question 1a) and note that an existing farm access runs from 72nd Street and approximately STA 135+00 running parallel to the unnamed Crescent Slough Tributary Ditch.

c) This private access will be unavailable to the Contractor.

d) Please see Schedule 7 section of this addendum.

e) Your assumption is incorrect. Geotextile to be installed as shown on the drawings. Generally from STA 157+00 to STA 188+00

Question 4:

In order to do the hot tap operation into the existing AC sewer main, and estimate the number of VAC trucks required at the two proposed tie-in locations during the tie-in operations, we need the sewer flow chart for this line.

Answer 4:

Please base your bids on a winter flow of 5000 to 7000 gallons per minute.

Question 5:

a) ITEM # 02.03.04 and 02.03.05 - Will disposal of the excavated material for both items be on site or off site disposal?

b) ITEM # 02.03.04 – Major Ditch Excavation calls for “seeding”. Will this be done by means of Hydroseeding or Handseeding?

Answer 5:

a) Please see Schedule 3 section 2.04 d) and SS 201

b) Please see SS 757

Question 6:

Special Provision 2.05 Granular Materials b) Preload iii) Preload Granular Fill states the fill must meet the gradation requirements defined in the table.

a) Does this requirement apply to the material available at the Ministry Source listed in SP 1.21?

b) If so, does the material available at the Ministry Source listed in SP 1.21 already meet this requirement or is screening/processing/testing of this material required?

Answer 6:

a) Please see Schedule 3 section 1.21 of this addendum

b) N/A

Question 7:

a) The quantities for preload granular fill and preload sand fill shown on profile drawings 201 to 206 are in m3, is this correct? (NOTE: Total quantity on profile drawings shows 394,299m3 for Granular @ 1.85mt/m3 = 729,453mt and the tender quantity is 555,000mt)
(Total quantity on profile drawings shows 545,274m3 for Sand @ 1.75mt/m3 = 954,229mt and the tender quantity is 525,000mt.)

b) What are the allowable access points/routes to each preload area?

c) How are access roads, temporary bridges/xings, culverts, etc. paid for, if required?

d) Profile drawing 206 shows a quantity of 4,512m3 for granular fill between stations 197+17.597 and 198+50.755, is this correct? If so, why are two types of material required? What are the criteria for using each material (ie alternate layers, etc.)?

Answer 7:

a) The Contractor shall place Preload Fill to the limits and thickness shown on the Drawings, or as directed by the Ministry Representative, in accordance with the Contract Specifications. The preload lines, grades and quantities shown on the Drawings and Design Cross-Sections reflect the ultimate recommended preload design. It is anticipated that some of the final Stages of preload shown on the Drawings will not be achieved in the timeframe available for this Contract and the tender quantities have been adjusted accordingly.

b) Please see Schedule 3 section 1.19 g) vi) and questions answered in this addendum

c) Please see schedule 3 section 1.19 k)

d) The quantity of 4,512 m3 for granular fill shown on profile drawing 206 is the quantity required for the Burns Bog Mitigation Berm. In accordance with SP

2.05 b) i) the material placed in the Burns Bog Mitigation Berm must be Preload Granular Fill

Question 8:

a) On drawing # R1-552-105 the Culvert at 163+40 is shown as a 900mm pipe, while on R1-552-203 the same pipe is shown as 1500mm.

b) In the Special Provisions 2.07c paragraph 1, the wording is slightly ambiguous. Is the intent to have all of the HDPE pipe thermally fused? 0r is it just the Weholite piping, which I'm assuming is everything over 900mm?

c) Are we allowed to construct a haul road between Sta 189+60 to Sta 192+00, and if so, is the sand from the owner supplied stockpile available for this purpose?

Answer 8:

a) 900 mm is the correct size. 1500mm is an error to be corrected on the issued for construction drawings. The quantities do not need to be revised.

b) HDPE over 900mm is to be thermally fused. 900mm and below can thermally fused or be soil tight connection as per Ministry Standard Spec 317

c) This property is not available as part of this contract.

Question 9:

Item 03.02.07.04 HDPE Manhole;

What is the height of the Manhole? The Drawings state "Pipe length to suit"

Answer 9:

The Contractor will determine the exact dimensions once the valve dimensions have been constructed and installed.

Question 10:

a) I like to ask if the access road from Highway 99 is paid under traffic management item?

b) Also regarding fill items, can we assume that all the materials needed for sand and granular fill will be on the 80thstreet and Sunbury stockpile?

c) Can hauling of the materials be done by off road trucks? This way the access road from highway 99 will not be needed.

Answer 10:

a) Please see Schedule 3 section 1.19 g) vi) of this addendum

b) Please see Schedule 3 section 1.20, 1.21 and 2.05. Sunbury stockpile does not form part of this contract

c) Please see the response to Question 10 a) of this Addendum.

Question 11:

Sheet R1-551-104 there is a 900mm HDPE culvert (10m long) that calls for a “gate”. ISsthis a flap gate, sluice gate or other? Please provide specifications as required.

Answer 11:

A sluice gate shall be installed.

Question 12:

At Sta 155+60 there is an existing culvert to be plugged. Could you please provide details of the type of plug or fill to be installed?

Answer 12:

The type of plug to be installed will be decided by the Contractor on site, and approved by the Ministry Representative.

Availability of Site or RoW – Delta Preload Highway 99 to 80th Street

PID	Address	Lot	Plan	Anticipated Possession Date
012-907-561	-	DL 103	21448	April 30 2009
013-218-557	6620 68 Street	Rem SE 1/4 of Sec.12	BCP 16333	April 30 2009
008-198-128	6356 68 Street	Rem NE 1/4 Sec.12	-	April 30 2009
007-108-125	Corporation of Delta	Rem 64 ac	NE4 Sec.12	April 30 2009
001-486-616	6688 68 Street	5	43872	April 30 2009
019-052-545	6770 72 Street	A	LMP19943	April 30 2009
002-812-681	7350 Wilson Avenue	154	61530	April 30 2009
002-812-533	7480 Wilson Avenue	130	61530	April 30 2009
025-595-121	7225 80 Street	B	BCP2321	April 30 2009
009-258-434	7255 80 Street	A	22845	April 30 2009
005-179-301	-	25	53901	April 30 2009
005-527-783	7722 Progress Way	83	56884	April 30 2009
013-785-125	7450 80 Street	A	2546	April 30 2009
025-001-531	7664 80 Street	A	LMP49577	April 30 2009
018-617-221	8348 River Way	A	LMP14349	April 30 2009
006-546-757	5101 72 Street	3	30967	April 1 2009
012-907-558	-	A	3137	April 1 2009

Revision: A **Revision Date:** 2009/01/16

SCHEDULE OF APPROXIMATE QUANTITIES AND UNIT PRICES

Project No: 04830-0102
Project Name: GATEWAY PROGRAM – SOUTH FRASER PERIMETER ROAD: HIGHWAY 99 TO 80TH STREET, PRELOAD, DRAINAGE AND UTILITY CONSTRUCTION

Item#	Description of Work	Unit of Measure	Approx Quantity	Unit Price	Extended Amount
01	**SECTION 1 - GENERAL**				
01.01	Mobilization	L.S.	100%	L.S.	$_____
01.02	Quality Management	L.S.	100%	L.S.	$_____
01.03	Traffic Management	L.S.	100%	L.S.	$_____
01.04	Environmental Management	L.S.	100%	L.S.	$_____
01.05	Pacific Water Shrew Salvage	Hectare	23	$_____	$_____
01.06	Site Modifications SP 1.33	P.S.	$325,000.00	P.S.	$325,000.00
01.07	Type C Site Office	L.S.	100%	L.S.	$_____
01.08	Precondition Surveys SP 1.34 f)	P.S.	$5,500.00	P.S.	$5,500.00
02	**SECTION 2 - EARTHWORKS, GRADING AND DRAINAGE**				
02.01	**Clearing & Grubbing and Close-cut Clearing**				
02.01.01	Clearing & Grubbing	Hectare	21	$_____	$_____
02.01.02	Close-cut Clearing	Hectare	23.10	$_____	$_____
02.01.03	Burns Bog Mitigation Berm Close-cut Clearing Handwork	Hectare	0.40	$_____	$_____
02.01.04	Preload Area Woven Geotextile	Square Metre	156,009	$_____	$_____
02.02	**Burns Bog Mitigation Berm Geosynthetic Materials**				
02.02.01	Geomembrane	Square Metre	1,561.20	$_____	$_____
02.02.02	Woven Geotextile	Square Metre	2,722.80	$_____	$_____

SCHEDULE OF APPROXIMATE QUANTITIES AND UNIT PRICES

Project No: 04830-0102
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Item#	Description of Work	Unit of Measure	Approx Quantity	Unit Price	Extended Amount
02.03	**Roadway & Drainage Excavation**				
02.03.01	Topsoil Stripping	Cubic Metre	11,690.20	$_____	$_____
02.03.02	Revegetation Seeding	Square Metre	14,805	$_____	$_____
02.03.03	Peat Dyke Excavation	Cubic Metre	8,550.20	$_____	$_____
02.03.04	Perimeter Ditch Excavation	Metre	8,042	$_____	$_____
02.03.05	Major Ditch Excavation	Cubic Metre	16,924.50	$_____	$_____
02.03.06	Crescent Slough Excavation	Cubic Metre	4,214.70	$_____	$_____
02.03.07	Slope Protection of Crescent Slough	Square Metre	1,785	$_____	$_____
02.03.08	Reservoir Material Excavation	Cubic Metre	2,900	$_____	$_____
02.04	**Granular Materials**				
02.04.01	Preload Sand Fill	Tonne	525,000	$_____	$_____
02.04.02	Preload Granular Fill	Tonne	515,000	$_____	$_____
02.05	**Geotechnical Monitoring Instrumentation**				
02.05.01	**Supply, Installation and Initial Survey of Geotechnical Instrumentation**				
02.05.01.01	Settlement Gauge	Each	85	$_____	$_____
02.05.01.02	Standpipe Piezometer	Each	35	$_____	$_____
02.05.01.03	Pneumatic Piezometer	Each	35	$_____	$_____
02.05.01.04	Inclinometer	Each	20	$_____	$_____
02.05.01.05	Deep Settlement Gauge	Each	2	$_____	$_____

SCHEDULE OF APPROXIMATE QUANTITIES AND UNIT PRICES

Project No: 04830-0102
Project Name: GATEWAY PROGRAM – SOUTH FRASER PERIMETER ROAD: HIGHWAY 99 TO 80TH STREET, PRELOAD, DRAINAGE AND UTILITY CONSTRUCTION

Item#	Description of Work	Unit of Measure	Approx Quantity	Unit Price	Extended Amount
02.05.01.06	Rail and Other Structure Monitoring Movement Hub	Each	20	$_____	$_____
02.05.01.07	Utility Monitoring Movement Hub	Each	20	$_____	$_____
02.05.02	Vibration Monitoring	Each	30	$_____	$_____
02.06	**Supply & Install Culvert Pipe**				
02.06.01	750 dia. HDPE	Metre	534	$_____	$_____
02.06.02	900 dia. HDPE	Metre	124	$_____	$_____
02.06.03	1500 dia. HDPE	Metre	405	$_____	$_____
02.06.04	2000 dia. HDPE	Metre	122	$_____	$_____
02.06.05	3000X3000 Box Culvert	Metre	63	$_____	$_____
02.06.06	Junction Structure A	Each	1	$_____	$_____
02.06.07	Junction Structure B	Each	1	$_____	$_____
02.07	**Wick Drain**				
02.07.01	Wick Drain	Metre	52,270	$_____	$_____
02.08	**Wind Fence**				
02.08.01	Wind Fence	Metre	1,500	$_____	$_____
03	**SECTION 3 - UTILITIES**				
03.01	**Preliminary Investigations**				
03.01.01	Exploratory Excavations & Backfill	Each	5	$_____	$_____
03.02	**Sewage Forcemains**				
03.02.01	Removal & Transport of 762mm AC Piping	Metre	3	$_____	$_____

SCHEDULE OF APPROXIMATE QUANTITIES AND UNIT PRICES

Project No: 04830-0102
Project Name: GATEWAY PROGRAM – SOUTH FRASER PERIMETER ROAD: HIGHWAY 99 TO 80TH STREET, PRELOAD, DRAINAGE AND UTILITY CONSTRUCTION

Item#	Description of Work	Unit of Measure	Approx Quantity	Unit Price	Extended Amount
03.02.02	Trench Rock Removal	Cubic Metre	2	$_____	$_____
03.02.03	Over-excavation (including Backfill)	Cubic Metre	6	$_____	$_____
03.02.04	150mm Concrete Encasement	Cubic Metre	12	$_____	$_____
03.02.05	Concrete Bedding	Cubic Metre	3	$_____	$_____
03.02.06	Extra Backfill	Cubic Metre	12	$_____	$_____
03.02.07	**Relocation, Ladner Trunk (LT) Forcemain, Opposite SFPR Sta. 155+80 to SFPR Sta. 159+65 (Forcemain Sta. 1+00 to 5+01)**				
03.02.07.01	**Diversion Works (A Detail):**				
03.02.07.01.01	Line Stop, Supply & Install	Each	1	$_____	$_____
03.02.07.01.02	Steel Pipe Fittings, Supply & Install	Kilogram	1,965	$_____	$_____
03.02.07.01.03	Plug Valve, Supply & Install	Each	1	$_____	$_____
03.02.07.01.04	Coupling, Bolted Sleeve, Supply & Install	Each	1	$_____	$_____
03.02.07.01.05	Timber Thrust Panels, Supply & Install	Each	3	$_____	$_____
03.02.07.01.06	Tapping Tee, Tapping Valve, Supply & Install	Each	1	$_____	$_____
03.02.07.01.07	Pipe Cap	Each	1	$_____	$_____
03.02.07.02	**Diversion Works (B Detail):**				

SCHEDULE OF APPROXIMATE QUANTITIES AND UNIT PRICES

Project No: 04830-0102
Project Name: GATEWAY PROGRAM – SOUTH FRASER PERIMETER ROAD: HIGHWAY 99 TO 80TH STREET, PRELOAD, DRAINAGE AND UTILITY CONSTRUCTION

Item#	Description of Work	Unit of Measure	Approx Quantity	Unit Price	Extended Amount
03.02.07.02.01	Line Stop, Supply & Install	Each	1	$_____	$_____
03.02.07.02.02	Steel Pipe Fittings, Supply & Install	Kilogram	781	$_____	$_____
03.02.07.02.03	Plug Valve, Supply & Install	Each	1	$_____	$_____
03.02.07.02.04	Coupling, Bolted Sleeve, Supply & Install	Each	1	$_____	$_____
03.02.07.02.05	Timber Thrust Panels, Supply & Install on HDPE Arc Bend	Each	1	$_____	$_____
03.02.07.02.06	Timber Thrust Panels, Supply & Install	Each	2	$_____	$_____
03.02.07.02.07	Tapping Tee, Tapping Valve, Supply & Install	Each	1	$_____	$_____
03.02.07.02.08	Pipe Cap	Each	1	$_____	$_____
03.02.07.03	Forcemain Piping, 800mm dia. HDPE, Supply & Install	Metre	423	$_____	$_____
03.02.07.04	Valve, Air Vent & Vacuum, & HDPE Manhole	Each	3	$_____	$_____
03.02.07.05	**Extension/Articulation Joints Assemblies**				
03.02.07.05.01	Expansion Joint	Each	2	$_____	$_____
03.02.07.05.02	Articulation Joints, single ball	Each	2	$_____	$_____
03.02.07.05.03	Articulation Joints, double ball	Each	2	$_____	$_____
03.02.07.06	Miscellaneous Fabricated Steel Fittings	Kilogram	2,181	$_____	$_____

SCHEDULE OF APPROXIMATE QUANTITIES AND UNIT PRICES

Project No: 04830-0102
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Item#	Description of Work	Unit of Measure	Approx Quantity	Unit Price	Extended Amount
03.02.08	**Emergency Repairs to Existing 750mm Asbestos Cement Forcemain**				
03.02.08.01	Repair Clamps, Supply and Install on existing AC pipe	Each	2	$_____	$_____
03.02.08.02	Transition Couplings	Each	2	$_____	$_____
03.02.08.03	Steel Spool Pieces, Supply & Install	Each	4	$_____	$_____
03.02.08.04	Bulkhead Type Thrust Blocks	Each	3	$_____	$_____
03.02.08.05	Coupling, Bolted Sleeve, Supply & Install	Each	2	$_____	$_____
	TENDER PRICE				**$**_____
	TOTAL TENDER COST (Tender Price plus Site Occupancy (if applicable))				**$**_____

Contractors

Name: _____

Address: _____

_____

City: _____

Postal Code: _____

Phone: _____

SCHEDULE OF APPROXIMATE QUANTITIES AND UNIT PRICES

Project No: 04830-0102
Project Name: GATEWAY PROGRAM – SOUTH FRASER PERIMETER ROAD: HIGHWAY 99 TO 80TH STREET, PRELOAD, DRAINAGE AND UTILITY CONSTRUCTION

Fax: _____

Date: _____