

VILLAGE OF FRUITVALE

Kootenay Avenue Storm Main Replacement – Phase 2

Contract Reference No. 961-072

CONTRACT DOCUMENTS

SET NO. _____

Owner:



Village of Fruitvale
1947 Beaver Street
Fruitvale, BC V0G 1L0

Contract Administrator:



TRUE Consulting
#2 – 860 Eldorado Street
Trail, BC V1R 3V4

September 2022
TRUE Ref #961-072

Owner: **Village of Fruitvale**

Contract: **Kootenay Avenue Storm Main Replacement – Phase 2**

Reference No.: **961-072**

- 1.0 Introduction**
- 1.1 These Instructions apply to and govern the preparation of tenders for this *Contract*. The *Contract* is generally for the following work:
- Removal of 25m existing CSP storm main and replacement with 21m of 450mm dia. PVC Profile storm main.
 - Removal of existing concrete manhole structure and replacement with standard 1050mm dia manhole.
 - 26sqm of surface armoring riprap.
 - Surface restorations to existing condition (asphalt path, slope vegetation).
- 1.2 Direct all inquiries regarding the *Contract*, to:
- Scott Wallace, P.Eng.**
- TRUE Consulting**
- Address:** #2 – 860 Eldorado Street, Trail, BC V1R 3V4
- Phone:** 250-368-8707
- Fax:** 250-368-8708
- Email:** swallace@true.bc.ca
- 2.0 Tender Documents**
- 2.1 The Village of Fruitvale is inviting tenders for the siteworks associated with a storm main replacement. Contract documents pertaining to this tender are attached as follows:
- Tender Form - Schedule of Quantities
 - Tender Appendices:
 - Construction Schedule
 - Subcontractors
 - Force Account Rate Schedule
 - Contract Provisions
 - Measurement for Payment
 - Design Drawings

3.0 Submission of Tenders

- 3.1 Tenders and tender amendments may be submitted by email to the Village of Fruitvale, including:
- Subject line noting *Contract Title* and Reference No.,
 - Attachments in PDF format (multiple PDFs are acceptable) including the Tender Form with Appendices,
 - Maximum email size – 10Mb. Larger files can be split into multiple emails

Submissions by email are to be received by the Village of Fruitvale at:

Email: jstartup@village.fruitvale.bc.ca

- 3.2 Tenders and tender amendments are to be received on or before:

Tender Closing Time: 2:00 pm local time

Tender Closing Date: Thursday October 6, 2022

- 3.3 Late tenders will not be accepted or considered, and will be returned unopened.

4.0 Additional Instructions to Tenderers

4.1 Pre-Tender Meeting

An optional pre-tender meeting will be held on **Tuesday September 27, 2022 at 10:00 am** at the project site. Design team members and Village staff will be available to answer questions regarding the tender. Any new information that is requested or generated will be included in an Addendum that will be issued at least three days prior to the Tender Close.

4.2 Construction Intent and Ministry Notification

This project will involve replacement of an existing storm outfall, including works around Beaver Creek. As such, the Village has submitted Notification to the Ministry of Environment for the storm outfall replacement. The 45 day Notification period will expire on October 24, 2022. All work below the Beaver Creek high water mark is to be completed after that date, in accordance with the Contract Provisions and the Provincial Water Sustainability Regulation.

4.3 Inspection of the Place of Work

All tenderers are responsible to examine the project site before submitting a tender. A tenderer has the full responsibility to be familiar with and make allowance in the tender for all conditions at the project site that might affect the tender, including the location of the work, local conditions, topographical soil conditions, weather and access. Unless otherwise specified in the Contract Provisions, a tenderer is not required to do subsurface investigations. By submitting a tender, a tenderer represents that the tenderer has examined the project site, or specifically elected not to. No additional payments or time extensions shall be claimable or due because of difficulties relating to conditions at the project site which were reasonably foreseeable by a Contractor qualified to undertake the work.



Tender Form - Schedule of Quantities

Owner Village of New Denver

Contract Title: Kootenay Avenue Storm Main Replacement - Phase 2

Reference Number: 961-072

The Village of Fruitvale is requesting pricing for the work shown on the attached drawings. A schedule of quantities is provided below for reference; additional quantity information is included in the attached Measurement for Payment section.

ITEM & DESCRIPTION	UNIT	ESTIMATED QUANTITY	TOTAL PRICE
1.0 Environmental protections and mitigation measures.	LS	1	
2.0 Earthworks and removals.	LS	1	
3.0 Construct 21m of 450mm dia. PVC Profile storm main.	LS	1	
4.0 Surface armouring: rip rap around outlet pipe.	LS	1	
5.0 Surface restorations: topsoil, hydroseed and general reinstatement of site.	LS	1	
6.0 Remove and reinstate asphalt path.	LS	1	
Tender Price:			
GST (5%):			
Tender Price plus GST:			

Notes:

1. Works to be completed in accordance with attached Contract Provisions, Measurement for Payment, and the Contract Drawings.
2. This tender will be valid and open for acceptance by the Owner for 30 calendar days after the tender close.

Submitted by: Contractor

Date (DD / MM / YYYY)

Agreement by: Owner (Village of Fruitvale)

Date (DD / MM / YYYY)

Village of Fruitvale

Kootenay Avenue Storm Main Replacement – Phase 2

Indicate Schedule for Part 1 work with bar chart for major item descriptions and time.

MILESTONE COMPLETION DATES:

Milestone 1 (Substantial Performance): December 15, 2022

- Storm main, outfall, rough grading complete (Schedule of Prices Items 1.0 to 4.0)

Milestone 2 (Total Performance): April 30, 2023

- Surface restorations, asphalt path, site cleanup complete (Schedule of Prices Items 5.0 to 6.0)

ACTIVITY Week Beginning:	CONSTRUCTION SCHEDULE						
	Oct '22	Nov '22	Dec '22	Jan '23	Feb '23	Mar '23	Apr '23
Preconstruction documentation (insurance)							
Mobilize							
Storm outfall installation (work in riparian area – to be completed after October 24, 2022)							
Storm main installation							
Surface restorations							

Note: In the case of a discrepancy between the Construction Schedule prepared by the Tenderer and the Milestone Dates prescribed by the Owner above, the Milestone Dates will govern.

Tenderer's Initials _____

Village of Fruitvale

Kootenay Avenue Storm Main Replacement – Phase 2

TENDER ITEM	TRADE	SUBCONTRACTOR NAME	PHONE NUMBER
1.0	Environmental protection and planning		
5.0	Asphalt paving		

Tenderer's Initials _____

Village of Fruitvale**Kootenay Avenue Storm Main Replacement**

The Contractor shall provide hourly rates for all Labour and Equipment intended to be used in completion of the works. These Hourly Rates are to be 'all-inclusive', or 'all-found'. Labour rates are to be inclusive of wages, insurance, holiday pay, benefits, small tools, overhead, and profit. Equipment rates are to be inclusive of operator, overhead, and profit.

LABOUR	
<i>CLASSIFICATION BY TRADE</i>	<i>ALL-INCLUSIVE HOURLY RATE</i>
Superintendent	
Foreman	
Labourer	

EQUIPMENT		
<i>TYPE</i>	<i>UNIT AND MODEL DESCRIPTION</i>	<i>ALL-INCLUSIVE HOURLY RATE</i>
Backhoe		
Excavator		
Loader		
Tandem Truck		
Truck and Pup		
Skid Steer		

Tenderer's Initials _____

Village of Fruitvale
Kootenay Avenue Storm Main Replacement – Phase 2

CP-1 Scope of Work

The Contractor shall supply all labour, equipment and materials necessary to construct the works as described in the Tender or shown on the design drawings.

The work is intended to be a complete project; any items required to complete the work as described in the Tender or shown on the design drawings, but not specifically listed in the Schedule of Prices are to be considered incidental to the work.

CP-2 Contacts

1. Owner's Representative:

Jason Startup
Village of Fruitvale

Phone: 250-367-6162
Email: jstartup@village.fruitvale.bc.ca

2. Contract Administrator:

Scott Wallace, P.Eng.
TRUE Consulting

Phone: 250-368-8707
Email: swallace@true.bc.ca

CP-3 Award

The Owner reserves the full right, in its sole discretion and according to its own judgement of its best interest to:

- Reject any or all tenders;
- Waive any defect of deficiency in a tender which does not materially affect the tender or the Tender Price relative to other tenders and accept that tender;
- Accept any tender.

In exercising its discretion, the Owner will have regard to the information provided in the Appendices to the Tender Form including the schedule to complete the work, the proven experience of the tenderer and any listed subcontractors to do the work. In no event shall the Owner be liable for a tenderer's costs of preparing a tender.

CP-4 Errors, Inconsistencies or Omissions in the Contract Documents

The Contractor shall, as a competent contractor, reasonably experienced in the work, review the Contract Documents and promptly report to the Contract Administrator any discovered error, inconsistency or omission. In making such review the Contractor does not assume any

responsibility or liability to the Owner or the Contract Administrator to discover all errors, inconsistencies or omissions.

If the Contractor does discover any error, inconsistency or omission in the Contract Documents the Contractor shall not proceed with affected work without receiving directions or clarifications from the Contract Administrator. If the Contractor proceeds with work in the face of an error, inconsistency or omission that the Contractor discover, or that a competent contractor, reasonably experienced in the work, would have discovered, without additional instructions from the Contract Administrator, then the Contractor shall at the Contractor's cost remove or replace any incorrectly constructed work.

If the Contractor determines that additional instructions are required for the performance of the work the Contractor shall give the Contract Administrator timely notice of such requirement, and if it becomes apparent that a number of additional instructions will be required, the Contractor shall co-operate with the Contract Administrator to establish a schedule for the issuance of additional instructions.

CP-5 General Requirements

Work shall be performed in accordance with the Occupational Health and Safety Regulation of BC. All workers shall be covered under the WorkSafeBC compensation program. The Contractor must provide a clearance letter from WorkSafeBC showing their account is in good standing prior to the start of construction.

The construction zone and machinery must be sufficiently protected to ensure a safe working area, and to limit access by the public.

These Contract Provisions are created as a stand-alone document. If an issue arises which is not described by these Contract Provisions, then MMCD 2019 Edition General Conditions and Specifications may be referenced to assist in resolving such issues. However, where Contract Provisions or specifications are provided herein or on the Drawings, these take precedence over MMCD.

CP-6 Contractor's Comprehensive General Liability Insurance

The Contractor shall protect themselves and indemnify and save the Owner and the Contract Administrator harmless from any and all claims which may arise from the Contractor's operations under the contract where bodily injury, death or property damage is caused and for their purpose shall, without restricting the generality of the foregoing, provide and maintain insurance acceptable to the Owner, either by way of a separate policy or by an endorsement to their existing policy, and subject to limits of not less than \$5,000,000 (Five Million Dollars) inclusive per

occurrence for bodily injury, death and damage to property including loss or use thereof. Proof of insurance must be provided to the Owner prior to starting construction onsite.

CP-7 Automobile Liability Insurance

The Contractor shall maintain liability insurance in respect of owned, licensed vehicles subject to limits of not less than \$3,000,000 (Three Million Dollars) inclusive. Proof of insurance must be provided to the Owner prior to starting construction onsite.

CP-8 Indemnity

The Contractor shall indemnify and save harmless the Owner and the Contract Administrator from and against all losses and claim, demands, payments, suits, actions, recoveries and judgements of every nature and description brought or recovered against the same and/or the Owner and Contract Administrator by reason or any act or omission of the said Contractor, their agents, or their employees, in the execution of the work or in the guarding of it.

The Contractor shall indemnify the Owner from third party liability with respect to health care costs recoverable under the Health Care Costs Recovery Act arising out of the Contractor's performance of the Contract Work.

CP-9 Prime Contractor

Prior to starting construction onsite, the Contractor shall sign and submit a Prime Contractor Agreement form (to be provided by Contract Administrator), acknowledging acceptance and understanding of the requirements and obligations of the Prime Contractor role associated with construction of the Siteworks. If at any time the Contractor believes they are no longer acting as the Prime Contractor, due to multiple contractors or other factors, written notification must be provided by the Contractor to the Contract Administrator. An investigation will then be completed and the Prime Contractor status will be confirmed or amended as warranted.

CP-10 Notifications

The Village will be responsible for providing general public notice of the project.

The Contractor shall be responsible for notifying, in writing, all residents and businesses directly affected by the proposed construction within the project limits and affected area. Each impacted parcel shall be contacted 7 days in advance of construction in the particular area or block. The content and form of the written notification shall be reviewed by the Contract Administrator and the Contractor shall incorporate any modifications or comments made into notification prior to issuance.

CP-11 Site Access and Site Security

Creekside Park (or portions of it) and the pedestrian bridge crossing Beaver Creek can be closed to the general public to facilitate construction of the storm main replacement.

The Contractor is responsible for site security. The Contractor shall make provision at all times for adequate separation between public and work area hazards, active and inactive, such as construction equipment, excavations and equipment by means of delineation, barricades and fencing

The Site Inspector is to approve any trenches left open overnight. These trenches shall be fenced with 1.8m high metal fencing, in conjunction with reflectorized signs, barricades and flashers. Any trenches left open overnight shall not disrupt access to or cause any other service inconvenience to any dwelling or business.

CP-12 Traffic Control

All construction signage and traffic control must be in compliance with the Contract Documents, local bylaws, MOTI Manual and as directed by the Contract Administrator. All signage, barricades, delineators and garments must comply with MoTI Technical Circular T09-05 for Retro-Reflectivity.

Emergency access and pedestrian access to all businesses and residences shall be maintained at all times.

Vehicle access for local properties adjacent to the project site shall be maintained at all times.

CP-13 Quality Control

The Contractor is responsible for Quality Control. The Contractor shall conduct and pay for sufficient testing to demonstrate that specific materials, products and workmanship are in strict conformance with the Contract Documents. For this project, expected materials testing shall include but not be limited to the following:

- Sieve analysis and proctors for all imported granular materials.
- Density testing of placed gravels, pipe bedding and trenching backfill to confirm that the techniques and level of compaction effort is sufficient to meet the required specifications.

The Contractor shall provide the results of all Quality Control tests to the Owner.

The Owner and/or its appointed representative will have the right of access to the works for purposes of inspecting the Contractor's work to determine compliance with these Contract Documents.

The Owner may retain the services of an independent testing agency and pay for additional Quality Assurance testing. The cost of failed Quality Assurance tests because of non-compliance of the work with the minimum requirements of materials and workmanship shall be paid for by the Contractor. The costs of these extra tests will be calculated by the Contract Administrator, based on invoices for the testing, and will be subtracted from payment to the Contractor.

CP-14 Oral Agreements

No oral instruction, objection, claim, or notice by any party to the others shall affect or modify any of the terms or obligations contained in any of the Contract Documents, and none of the provisions of the Contract Documents shall be held to be waived or modified by reason of any act whatsoever, other than by agreed waiver or modification thereof in writing.

CP-15 Location of Existing Utilities

Existing utilities are present in the vicinity of the work. The design drawings show the approximate location of known existing utilities, however other services may exist and the Contractor shall use care and caution in their excavation operation so as not to break any existing services. The Contractor will be responsible for locating and protecting these utilities. This locating and protection will be at the Contractor's expense. The Contractor will be responsible for any damage that may arise, as a result of the Contractor's negligence in failing to locate and protect these utilities.

The Contractor is responsible for the co-ordination of their work with all utility companies as well as the Owner.

CP-16 Dust Control

The Contractor is responsible for dust control. The Contractor must maintain adequate dampness on all "disturbed" areas so as to prevent unacceptable dust levels. Dust levels will be deemed unacceptable if the Contract Administrator deems them unacceptable.

Water for dust control and materials compaction can be made available at no cost to the Contractor from the Village's water filling station, located at the Public Works Yard (south of the Hillcrest Avenue and Highway 3B intersection). The Contractor shall supply all fittings, and hoses as required to connect to the filling station.

CP-17 Environmental Protection

The Contractor is responsible for the following pollution control measures:

1. Ensure proper containment and disposal of concrete and concrete wash water to prevent these substances from directly or indirectly entering a waterbody or storm drain.
2. Ensure a written Spill Contingency Plan is in place prior to commencement of construction activities. Spill Contingency Plan shall include the following:
 - a) Vehicles and heavy equipment must be clean and leak free while on site.
 - b) Provisions for secondary containment for all stationary bulk fuelling tanks, equipment washing and maintenance areas. Secondary containment for fuelling tanks must be a minimum 110% of the volume of the tank or 40% of the volume of all the containers stored, whichever is the greater volume.
 - c) Spill Kits and protective equipment that include adsorbent pads, booms, etc. for containing and mopping up small spills, and gloves, coveralls, shovels, containers, etc. to use to mop up spilled substances.
 - d) Segregation and disposal procedure (or contingency plan) for contaminated soils and/or contaminated groundwater.
 - e) Reporting procedure that includes “reportable volumes” and numbers to call in the event of a spill. For example, spills of oil or diesel fuel equal to or in excess of 100 L must be reported to the Provincial Emergency Program (PEP) at 1.800.663.3456.
 - f) Small spills below Provincial reporting thresholds may be dealt with by the Contractor provided equipment is available to contain and clean-up the spilled substances and all soils affected by the soil. Any spill to a surface water or sewer utility must be reported to the Village at 250-367-6162, or use 911 in any emergency situations where response times are critical.

The Contractor is responsible for the following environmental planning and protection measures while working near a fish bearing stream:

1. The Contractor shall prepare an Environmental Protection Plan (EPP) for the management of all construction activities within the designated risk area. The EPP shall be prepared or reviewed and approved by a Environmental Professional. The EPP must be submitted to the Contract Administrator for review prior to commencement of work in each area where sensitive habitats may be at risk.
2. The EPP shall incorporate sufficient detail to ensure that no silt or contamination of any kind will be released to watercourses, ditches or storm sewers during the construction and post construction phases. The EPP must provide for management of excavations, stockpiles, embankments, storm water, trench water, wet soil and contingency planning to ensure that all environmental objectives, policies and regulations are met.
3. The Contractor shall be responsible for ensuring that they have copies at the work site and are familiar with the requirements of the Provincial *Water Sustainability Act* authorization for works proposed near a waterbody or for works in or near streams.
4. The Contractor shall be responsible for employing an appropriately qualified Environmental Professional to monitor requirements of the EPP and any applicable permits, and to report as required by the Village and Ministry of Environment. The Environmental Professional should be present for high risk activities and instream work.

5. Wet soil that could leak or spill from hauling trucks shall not be removed from the site. Temporary containment areas with water control provisions or other approved methods shall be provided by the Contractor as required. Soil can be removed once it is sufficiently dry to haul. Dewatering provisions shall be adjusted as required to minimize the amount of wet soil to be excavated.
6. Mitigation measures and best management practices must be employed for work in or near Beaver Creek to avoid causing a harmful alteration, disruption or destruction (HADD) of fish habitat.
7. Any work associated with the proposed changes in and about a stream must not cause stream channel instability or increase the risk of sedimentation into the stream. The Contractor shall ensure that water meets turbidity requirements prior entering a waterbody. Turbidity within Beaver Creek cannot exceed 8 NTU above background readings at any one time for a duration of 24 hours, and changes in Total Suspended Solids (TSS) readings must not exceed 25 mg/L above background at any given time for a duration of 24 hours.
8. During work onsite, erosion and sediment control materials must be available onsite at all times and must be installed if sedimentation is likely to occur into the stream. A contingency plan must be developed outlining the measures to be taken by workers when carrying out any work to control erosion and sediment.
9. Soil disturbance must not occur in heavy rain conditions and any soil removed must be placed in a location that ensures that sediment or debris does not enter the stream.
10. Within a work area, water that contains sediment must be pumped to a vegetated area away from the stream where it can seep into the ground, or to a settling pond that is sufficiently far from the stream to allow sediment to settle out before the water returns to the stream. Dewatering (if needed) to the sanitary sewer is prohibited. If sedimentation levels are unsuitable, the Contractor's operation will be stopped until additional treatment measures are put in place to address the problem.
11. The disturbance of stream bank vegetation must be minimized as much as possible.
12. Any areas that are disturbed during the work (such as exposed soil) must be promptly restored at a minimum to the pre-disturbance condition. Note: Guidance is provided in the Enhancement Section of the BC Best Management Practices Instream Works.
13. If possible, work must be conducted on, and equipment located and operated from, dry land (no water present).
14. Any equipment used in conducting work in the vicinity of a waterbody must be in good mechanical condition and use readily biodegradable hydraulic fluids. When operating in close proximity to the wetted perimeter of a stream, the operator must prevent entry of any substance, sediment, debris or material (e.g., hydrocarbons, silt) into the stream so as to prevent harm to fish, wildlife or the aquatic ecosystem of a stream. Note that Section 46 of the *Water Sustainability Act* prohibits the introduction of foreign matter into a stream. Failure to comply may result in a remediation order and it is also an offence to do so.
15. The original rate of water flow in the stream (existing prior to commencing work) must be maintained upstream and downstream of the worksite during all phases of instream activity associated with the work.
16. The stream channel width must not change as a result of the work.

17. Any materials, such as riprap or gabion rock, placed within the stream must be clean and not contain substances that could be harmful to fish, wildlife or the aquatic ecosystem of the stream.
18. Any areas disturbed as part of the work must be restored as close as possible to their pre-disturbance condition. Any soil exposed at the worksite must be promptly re-vegetated.

Masse Environmental Consultants has provided input to the project design, specifications, and Notification to the Province. If the Contractor would like to engage Masse to assist with their environmental protection and planning work, Masse's contact information is:

Renae Mackas, B.Sc., RPBio.
Masse Environmental Consultants Ltd.
812 Vernon Street, Nelson BC, V1L 4G4
Tel: 250-352-1147
Email: renae@masseenvironmental.com

CP-18 Schedule and Payment

The construction schedule shall be in accordance with the submitted Tender Appendix 1.

Working hours will be restricted to 7am – 7pm, Monday to Friday, and not occur on statutory holidays unless otherwise approved by the Owner.

Payment will be made in accordance with the Tender Form – Schedule of Quantities for completed work. The Owner will issue payment on approved invoices prepared by the Contractor. Payment in the amount of 100% of the completed work (less a 10% Builders' Lien holdback) will be made once the construction Milestones are achieved (ie. one payment within thirty days of Substantial Performance, and one payment with thirty days of total performance including rectification of any deficiencies). The 10% Builder's Lien holdback payment shall be made once the requirements of the Builders' Lien Act have been met.

CP-19 Claims for Extra Work

If the Contractor claims that any instruction by drawings or otherwise involve extra cost under this Contract, they shall give notice to the Contract Administrator in writing immediately. All claims for extra work must be approved by the Owner. Once approved, the Contractor shall then follow the Contract Administrator's instructions for proceeding with the work in question. No Claim for Extra Work shall be valid unless so made.

CP-20 Substantial Performance

Substantial Performance will be achieved once items 1.0 to 4.0 of the Schedule of Prices are complete and ready to be used by the Owner for the purposes intended (storm main, outfall, and rough site grading). The Contractor may apply to the Contract Administrator for a certificate of substantial performance once that work is complete.

Total performance of the contract will be deemed to have been achieved once 100% of the contract work is completed and all deficiencies remedied.

CP-21 Maintenance Period

The Contractor will be responsible to correct, at their own expense, any defects in the work due to faulty products or workmanship appearing within a one (1) year maintenance period, commencing on the date of substantial performance. Any works completed after the date of substantial performance will have their own one (1) year maintenance period, commencing on the date those works are completed. The Contractor will also be responsible for all costs, including the cost of Contract Administration, required for investigation of any repair of defects in their work.

Village of Fruitvale
Kootenay Avenue Storm Main Replacement – Phase 2

This section provides “Measurement for Payment” details for each of the items listed in the Schedule of Prices.

Note that the work is intended to be a complete project; any minor items not listed in the Schedule of Prices but typical of this type of work, such as but not limited to utility locates, exploratory digging, protection of utilities, temporary construction fencing, disposal of waste trenching materials, adjustment of existing surface features or appurtenances, public relations, miscellaneous fittings, connections or removals shall be considered incidental to the work and no separate payment will be made.

All prices shall include supply, installation, overhead and profit. All materials supplied are to be in new condition.

1.0 Environmental protections and mitigation measures.

This item is intended to include the following scope of work:

- Preparation of an Environmental Protection Plan (prepared or reviewed/approved by an Environmental Professional) as well as associated construction monitoring and reporting by an Environmental Professional.
- Implementation of pollution control and environmental protection and mitigation measures as described in the Contract Provisions and on the Drawing.

2.0 Earthworks and removals.

This item is intended to include the following scope of work:

- Brush and topsoil removal within the work area.
- Removal and disposal of existing CSP storm main (25m of 450mm dia.) and concrete manhole EX1.
- Remove asphalt path as needed for construction of the works.

3.0 Construct 21m of 450mm dia. PVC Profile storm main.

This item is intended to include the following scope of work:

- Supply and installation of 21m of 450mm dia. PVC Profile storm main (Ultra Rib, Kor Flo, or equal), including fittings and flushing and bypass pumping as needed to install the new storm main.
- Connection to existing manhole EX2 including grouting and sealing.
- Supply and installation of 1050mm dia. x 1.5m deep manhole as per MMCD standard drawing S1.
- Concrete retaining wall cutting and grouting as need to install new storm pipe through the existing concrete retaining wall.
- Supply and installation of fabricated stainless steel pipe grate on outfall pipe.

4.0 Surface armouring: rip rap around outlet pipe.

This item is intended to include the following scope of work:

- Supply and install Nilex 4551 fabric underlay.
- Supply and place approximately 62sqm of 250mm minus rip rap.

5.0 Surface restorations: topsoil, hydroseed and general reinstatement of site.

This item is intended to include the following scope of work:

- Replace disturbed ground to existing or better condition.
- Supply and install topsoil and hydroseed on hill slope.
- Restore gravel lane where disturbed by construction.
- Restore Creekside Park where disturbed by construction (including repair of any damaged irrigation components, and replacement of grass with 75mm topsoil and sod).

6.0 Reinstatement Asphalt Path.

This item is intended to include the following scope of work:

- Subgrade preparation.
- Supply and install 150mm thick 19mm minus crushed granular base compacted to 100% SPD.
- Supply and install 50mm thick compacted class 1 medium mix asphalt.