The following changes in the tender documents are effective immediately. This addendum will form part of the Contract documents.

1. Clarifications:

The following are responses to queries submitted during the tendering period:

.1 None this addendum

.

2. Amend/revise the specifications as follows:

.1 Section 13 50 20 — Add specification attached. See SKM-003 P&ID attached.

.2 Section 13 50 40 — Delete Tender specification. Chemical feed system is now specified as part of the treatment skid in Section 135020.

.3 Section 22 36 00 — Add new treated water storage tank TK-1.4 spec (attached).

3. Amend/revise the drawings as follows:

1. Drawing M101, plan 1: Revise layout to accommodate RO treatment system skid and new tank TK-1.4 as shown on attached sketch SKM-001 including:
   a. Delete TK-1.4 and replace with new treated water storage tank TK-1.4 bolted to the floor
   b. Provide new RO Water Treatment Skid per specifications included herein
   c. Delete TK-1.5 and TK-1.6 installation, turn over to owner instead. Delete associated housekeeping pad.
   d. Delete new 1 and 10 micron filters.
   e. Replace TK-1.7 and CL-1 and CL-2 with chlorine tank and pumps included as part of the water treatment package per specifications.
   f. Relocate TK-1.1, 1.2, 1.3 to and provide associated housekeeping pad.
   g. Relocate emergency shower and associated floor drain to chlorine room and leave wall clear for electrical panel (South side of East-West wall dividing Water Treatment Room and Chlorine Room)
   h. Relocate hose bib to sink side of wall and leave wall clear for electrical panel (South side of East-West wall dividing Water Treatment Room and Chlorine Room)
   i. Revise floor drain adjacent to RO Water Treatment Skid to FD-2 and coordinate location with Skid.

2. Drawing M102, schematic 6: Revise per attached sketch SKM-002.

3. Drawing M102, schematic 6: Revise per attached sketch SKM-002.

4. Drawing M701, Plumbing Fixtures Schedule:
   a. Add FD-2; Description = Funnel Floor Drain, San diameter = 100mm.

5. Drawing M701, Tank Schedule:
    a. Delete TK-1.4 and provide new TK-1.4 Treated Water Storage Tank as per specifications.
    b. TK-1.5 and TK-1.6 to be turned over to owner
    c. Delete TK-1.7 (chlorine tank to be provided by Division 13 as part of RO Water Treatment package)

6. Drawing M701, Pump Schedule:
    a. Delete CL-1 and CL-2 (chlorine pumps to be provided by Division 13 as part of RO Water Treatment package)

4. Attachments:

1. Section 13 50 20 - Skid Mounted Water Treatment and Distribution System, 8 pages
2. Section 22 36 00 – Treated Water Storage Tanks, 2 pages
3. SKM-001 – Revised Site Services Building, Plumbing and Fire Protection Plan, 1 page
4. SKM-002 – Revised Water Service Schematic, 1 page
5. SKM-003 – Site Services Building WTP P&ID, 1 page

END OF ADDENDUM

1 General

1.1 SCOPE

.1 This section refers to supply, delivery, installation and on-site inspection of skid-mounted water treatment and distribution pumping system as indicated on the drawings and as specified herein.

1.2 INCLUDED ITEMS

.1 The following items shall be included in this section and shall be supplied by one manufacturer.

- .1 Nano filtration system c/w 5 micron pre-filter, booster pump, and pre/post conductivity meter. Product flow will be 16 l/s, flux at 54 l/day or less, feed water design temperature @ 5 ^{o}C.
- .2 CIP System with holding tank, circulation pump, heater, temperature switch mounted on NF skid
- .3 Antiscalant dosing pump with tank, multifunction valve, level switch
- .4 Chlorine dosing system with two dosing pumps, chlorine tank, multifunction valve, level switch, recirculation line with pressure regulating valve, check valve, solenoid valve and rotameter, on-line chlorine monitoring system. The chlorine tank and dosing pumps will be supplied loose and installed in separated chlorine room.
- .5 GF signet flowmeters
- .6 Two distribution pumps with VFD and pressure indicator control. Mounted on the skid;
- .7 PCL package for NF control with alarm modem
- .8 System mounted on powder coated aluminum skid
- .9 Raw water well pump motor starters (3 hp) and control shall be provide and mounted on the skid. The well pumps will be supplied by the contractor.

1.3 SUBMITTALS

.1 Shop drawings: submit shop drawings of equipment as specified herein and in accordance with the Section 01 33 00. Shop drawings shall include the following:

1. Fully dimensioned assembly and installation drawings for all major pieces of equipment. Include plan view, section views, physical dimensions and operating weights for all components.
2. Detailed catalog equipment cut sheets for all piping, valves, mechanical, electrical, and instrumentation equipment. Sizes, ratings, materials of construction, utility requirements, etc. shall be indicated on cut sheets.
3. Support/anchoring details.
4. Written confirmation from the manufacturer that the system will meet or exceed the specified design criteria specified herein. The written confirmation shall be on the manufacturer’s letterhead and signed by a registered professional engineer licensed to practice in British Columbia.
5. List of recommended spare parts.
6. Electrical data, including control and wiring diagrams.
7. Written system maintenance recommendations including individual component maintenance requirements.
8. Details, sizes and locations of all external termination points; electrical, water lines, drains, control devices.

9. Annual utility and chemical usage calculations.
10. Signed installation inspection certification.
11. Performance test results.
12. O & M Manuals: Prior to start-up the contractor shall furnish to the Departmental representative complete Operations and Maintenance manuals in accordance with the Contract Documents with Section 01 33 00.
13. Tools: Special tools necessary for maintenance and repair of the equipment shall be furnished as a part of the WORK hereunder; such tools shall be suitably stored in metal toolboxes, and identified with the equipment number by means of stainless steel or solid plastic name tags attached to the box.
14. Maintenance: Printed instructions relating to proper weekly, monthly and annual maintenance.
15. Field procedures: Instructions for field procedures for erection, adjustments, inspection, and performance testing shall be provided prior to equipment installation.
16. Training lesson plan.

1.4 SERVICE REPRESENTATIVE

.1 Erection and Start-up Assistance: Service and instruction assistance by the manufacturer's service representative shall be provided by the contractor during the following periods:
  .1 One (1) four days onsite for two people during startup and commissioning.

.2 The supplier shall provide quarterly on-site operation and maintenance services and provide regular technical services through phone or remotely during the first calendar year after commissioning.

2 Products

2.1 SYSTEM DESCRIPTION

.1 The skid mounted water treatment and distribution system consists of raw water supply through one existing well pump, flow monitoring, Nano filtration membrane system, CIP membrane cleaning system, treated water chlorine disinfection system, treated water storage tank, pressurized distribution system with two distribution pumps, the distribution water network to the users, and system monitoring system.

.2 The water treatment and distribution system process and instrumentation diagram can be found in Addendum 002 sketch SKM-003 dated April 15, 2015.

.3 System general layout is shown on Addendum 002 sketch SKM-001 dated April 15, 2015.

2.2 MANUFACTURER

.1 Design Standard : Canadian Water Technologies Ltd.

.2 Acceptable Product: Canadian Water Technologies Ltd, Napier-Reid or Approved Equal.

2.3 DESIGN CRITERIA

.1 System Capacity:
  .1 The NF System shall be designed with a net treatment capacity of 1.0 L/s;
  .2 The raw water feed system shall have a capacity of 1.26 L/s at 78.7 m TDH considering a 75% system recovery rate; the well pump will be supplied by the mechanical contractor;

.3 The distribution pumping system shall have a capacity of 2.5 L/s at 40 m TDH

.2 Water Quality

.1 The raw water source of the Pleasant Camp WTP is a recently constructed groundwater well at the site. The sample water analysis of the well is presented in Table 1. The Fluoride concentration with 1.98 mg/l exceeds the Canadian Drinking Water Quality Standard of 1.5 mg/l.

.2 The water quality parameters of the treated water after the nanofiltration process are summarized in Table 1 below.

Table 1 - Water Quality Data

	Concentration (ppm)	
Name	**Raw Water**	**Treated Water**
Ammonia	0	0
Potassium	0	0
Sodium	41.49	3.37
Magnesium	6.49	0.10
Calcium	16.36	0.25
Strontium	0.15	0
Barium	0.01	0
Carbonate	0.09	0
Bicarbonate	58.56	6.03
Nitrate	0.01	0
Chloride	8.98	0.9
Fluoride	1.98	0.22
Sulphate	88.15	1.58
Silicon	0	0
Boron	0	0
Carbon Dioxide	2.98	3.20
TDS	222.30	12.47
pH	7.6	6.65

2.4 SYSTEM COMPONENTS

.1 Nanofiltration System. (General)

The nanofiltration system shall be designed to remove fluoride, hardness, and organics from the raw water. The NF unit includes SCH 80 PVC feed system, a fibreglass side entry pressure vessel, spiral wound thin film composite NF membranes, SCH 80 PVC permeate piping, and a control panel. The water treatment system shall be assembled and wired, and hydrostatically tested at the manufacturing facility. The NF membranes are to be shipped separately for field installation.

.2 System Parameters

1. Feed Water Temperature: 5°C
2. Feed Water Pressure: Minimum 344 kPa
3. Feed Water SDI: <3
4. Feed Water Turbidity: Maximum 1 NTU

5. Feed Water Chlorine: Maximum .01ppm
6. Feed Water TDS: <1 000 mg/l
7. Product Capacity @ 5°C: 1 L/s
8. Nanofiltration System Skid: 3m x 1.8 m

.3 Nanofiltration Piping:

1. The NF unit's piping shall be neatly arranged and supported on the frame. The pressure of the nanofiltration system is such that SCH 80 PVC is adequate. All high-pressure valves, including the pump discharge/recycle valve, reject control valve, and reject/recycle valves are also SCH 80 PVC.
2. Feed, product, and reject piping shall be designed for removal during NF membrane loading and unloading.
3. Pipe materials:
    1. Low Pressure Feed SCH 80 PVC
    2. High Pressure Feed SCH 80 PVC
    3. Permeate SCH 80 PVC
    4. Concentrate SCH 80 PVC
    5. Recycle SCH 80 PVC

.4 Bypass Valves

.1 The system shall include two bypass valves each with electrical actuators. A bypass valve and piping shall be provided around the nanofiltration system with a one (1) micron cartridge filter installed upstream of the bypass valve, for the instance when the NF system is off line for cleaning or maintenance.

.2 The operator shall be able to push a button on the HMI to allow bypass of the NF system. When the button is pushed again, the bypass valves will revert to normal operating position.

.3 When the bypass valve is open, an isolation valve in front of the nanofiltration system closes so that water cannot go through the NF system.

.4 Anti-Scalant Dosing System

.1 An anti-scalant pre-treatment system shall be added upstream of the Nanofiltration process to prevent scaling materials from coming out of solution and fouling the membranes. There is one anti-scalant dosing pump and tank with accessories including injection quill and foot valve.

.2 System components.

1. Anti-Scalant Dosing Pump: Acceptable product: Prominent Diaphragm Pump
2. Anti-Scalant Day Tank shall have a capacity of 35 gal

.5 Pre-Filter

.1 A skid mounted pre-filtration system will be provided for the Nanofiltration system with pressure indicators installed to provide pressure drop indication across the filter. The pre-filter system shall meet the following requirements

1. Quantity: 1
2. Rating: 5 micron
3. Acceptable Product: Hydronix
4. Type: Multi-round cartridge style
5. Casing Material: 304 SS

.6 Booster Pump

.1 One (1) booster pump shall be provided to overcome the osmotic pressure of the water to push water through the membrane.

.1 The design parameters of the booster pump shall be:

1. Acceptable product: Grundfos
2. Quantity: one (1)
3. Acceptable product model number: Model CR5-12
4. Rating: 2.1 L/s @ 764 kPa
5. Horsepower: 5 HP
6. Power: 208 V, 3 Phase, 60 Hz

.7 Nanofiltration Membranes and Tubes

.1 Fiberglass side port pressure vessels to house the membrane elements shall be used to facilitate a simple, compact, and easy to service feed and reject piping arrangement.

.2 Pressure vessels shall be certified by Codeline and certified by the National Board of Boiler and Pressure Vessel Inspectors with an ASME stamp..

.3 Acceptable product: Dow™.

.4 Details:

1. Membrane Model \ Type: Four (4) Filmtec NF90-400
2. Diameter: 200mm
3. Length: 1016mm
4. Membrane Housings: Two (2) Fibreglass
5. Configuration: 1 x 1

.8 Process Valves

.1 The valves on the high pressure feed, recycle and concentrate lines shall be SCH 80 PVC. The valves located on the permeate lines shall be PVC.

.2 Three sample valves shall be provided including one for each of the unit's membrane housings product ports.

.3 An automatic valve shall be provided required to shut down the system when there is no water requirement.

.4 An automatic flushing valve shall be provided to routinely flush the concentrate side of the membranes.

.9 Instrumentation

1. All line pressures shall be monitored with pressure gauges located at all strategic monitoring locations including;
   1. the inlet feed,
   2. pump discharge/pre- membrane,
   3. inter-stages,
   4. post-membrane,
   5. recycle,
   6. the product pressures and
   7. two pressure switches upstream and downstream of the booster pump.
2. The feed and product conductivity of the nanofiltration system shall be monitored; high levels will trigger an alarm.
3. The conductivity shall be displayed on the system control panel.
4. A level transmitter shall be provided for the treated water tank.
5. The transmitter will be shipped loose for field installation on the tank (by contractor) and wired back to Nanofiltration master control panel.
6. Flows shall be monitored with GF Signet paddlewheel flowmeters located at all strategic monitoring locations including;

1. Raw water supply,
2. Treated Water,
3. concentrate/waste and
4. recycle flow.

.10 CIP System

.1 A CIP system shall be provided and consist of a conical bottom tank with a capacity of 227 l, a heater, high and low level switches, a CIP recirculation pump and isolation valves for the nanofiltration system maintenance.

.2 The operation of the CIP system shall be manually.

.3 The design parameters of the CIP recirculation pump are summarized below:

1. Acceptable Product: Grundfos
2. Quantity: one (1)
3. Model: CR5-9
4. Rating: 2.5 L/s @ 482 kPa
5. Horsepower: 3 HP
6. Power: 208 V, 3 Phase, 60 Hz

.11 Chlorine Disinfection and Recirculation System

1. The chlorine disinfection system shall consist of two positive displacement dosing pumps, a day tank, a tank level switch, injection quill, and foot valve. The liquid chlorine (sodium hypochlorite) shall be injected downstream of the nanofiltration system. An in-line chlorine analyzer shall be provided to measure the chlorine residual to the distribution system.
2. A recirculation line shall be provided to keep the treated water fresh and ensure the chlorine level is always topped up. This system shall include a pressure reducing valve, a check valve, a solenoid valve and a rotameter.
3. System design requirements:
   1. One (1) skid mounted 12% Sodium Hypochlorite Solution (NaOCl) dosing package complete with accessories listed in this specification and installed in the chlorine room. The pumps shall be NSF61 certified. The pumps shall be equal to Prominent Diaphragm Pumps with one-duty and one-standby and automatic switch-over control. The skid to mount the two pumps with accessories including flow indicator, 100 ml self-fill calibration column, isolating valve, check valve, pressure relief valve, pulsation damper, container basins and pressure gauge, pre-assembled, pre-piped, pre-tested and wired.
   2. One (1) Polyethylene (PE) 145-litre open-top with lid, storage tank for 12% sodium hypochlorite solution with level switch.
   3. One (1) inline static mixers of 316SS construction and one injection quill
   4. On-line Chlorine Analyzer: One (1). Acceptable product: Georg Fisher Signet

.12 Distribution Pumping System

.1 The distribution pumping system consists of a treated water storage tank (by div 22), two distribution pumps, a pressure indicator, expansion tanks (by div 22), a distribution flow meter and distribution networks.

.2 Design parameters for the distribution pumps

.1 Acceptable Product: Grundfos
.2 Quantity: 2
.3 Model: CR5-4
.4 Capacity: 2.5 l/s @40 m TDH

.5 VFD: Automation Direct
.6 Horsepower: 1.5 HP
.7 Power: 208 V, 3 Phase, 60 Hz

.13 Nanofiltration Skid
.1 The complete nanofiltration system, CIP system, distribution system, and power/control panel shall be mounted on a powder coated aluminum skid.

.14 Control Station
.1 The nanofiltration system shall be equipped with a control package that allows the operator to control and observe the water treatment system.
.2 The NF control system shall be design to be started and stopped manually, or automatically based on an external tank level.
.3 The system shall perform automatic concentrate flush operation at regularly set intervals.
.4 The design parameters of the control station should include:
.1 PLC acceptable product: Idec Micros mart Pentra w/ Ethernet
.2 HMI acceptable product: Maple Systems 12.1" (1024 x 768 – Ethernet)
.3 Alarm Manager/Auto-Dialer acceptable product: Scadadroid by Reonix

.15 Control Philosophy
.1 The entire water treatment and distribution system shall be operated and controlled by the master control panel mounted on the Skid. The system control is to be designed and constructed according to the P & ID as per the contract specification.
.2 The level sensor installed on top of the treated water storage tank will send signal to the master control panel to start and stop the nanofiltration and raw water supply system with pre-set points.
.3 The flow meter on the raw water inlet pipe shall be able to monitor the water current and total flow rate drawn from the aquafer and the data can be displayed on the control panel and can be able to pull out to report to regulators.
.4 The chlorine system will be automatically operated once the treatment system operation and the dosing can be adjusted based on the flow rate. The two chlorine dosing pumps will be one duty and one stand-by and be able to automatically switch.
.5 The chlorine analyzer shall be able to monitor the chlorine residual and record the data to report to government regulators.
.6 The distribution system will be a pressurized system with the signal from the pressure sensor to start and stop the two distribution pumps. The two distribution pumps will include one duty and one standby and the pumps shall be able to automatically switch once a week or in case of one pump failure.
.7 The system shall include a dial out system to send alarms to the remote operators and the system shall be able to remotely operated through internet.

3 Execution

3.1 INSTALLATION

.1 Due to the nature of this project involving construction and integration of components from different suppliers, the system manufacturer is responsible to ensure that components which they supply will integrate with other suppliers work to function.
.2 Erection and Start-up Assistance: Service and instruction assistance by the manufacturer's service representative shall be provided by the contractor during the following periods:

.1 One (1) four days onsite for two people during startup and commissioning.

3.2 TRAINING

.1 In addition to the above, the manufacturer shall provide the services for a period of not less than one (1) 4 hour man days for instructing the operating personnel, on site at the completed facility.

3.3 APPROVAL

.1 No form of energy shall be turned on to any part of the water treatment and distribution system prior to receipt by the Engineer of a certified statement of approval of the installation from the Contractor containing his supplier's authorization for turning on energy to the system.

3.4 CLEANUP

.1 Prior to start-up and field testing, all foreign matter shall be removed from the skid, channels, piping and pumps. Spillage of lubricants used in servicing the system shall be cleaned from all equipment and concrete surfaces.

3.5 DISINFECTION

.1 At the conclusion of system installation work, and as soon as water is available, the system shall be thoroughly disinfected by chlorination as per AWWA C653 standard.

END OF SECTION

1 General

1.1 REFERENCES

.1 CGSB 41-GP-22, Standard for Process Equipment: Reinforced - Polyester Chemical Resistant, Custom Contact Moulded.

.2 ASTM D1998, Standard Specification for Polyethylene Upright Storage Tanks

1.2 SUBMITTALS

.1 Submit shop drawings in accordance with Section 01 33 00 - Submittal Procedures

.2 Indicate dimensions, capacities, fabrication details, connection details, pressure ratings, finishes and mounting details.

.3 Factory Test Report: Upon completion of the tank the manufacturer's inspection report is to be supplied for each tank.

a. Hydrostatic test: fill tank to brim full capacity for a minimum of four hours and conduct a visual inspection of leaks.

.3 Shop drawings to be complete with Yukon registered Professional Engineer's seal affixed verifying design of tanks.

1.3 MAINTENANCE DATA

.1 Provide maintenance data for incorporation into manual specified in Section 01 33 00 - Submittals.

2 Products

2.1 TREATED WATER STORAGE TANK TK-1.4

.1 Design: Upright, cylindrical, flat bottom, single wall polyethylene storage tank molded in one- piece seamless construction by the rotational molding process.

.2 Volume: 7200 Litres

.3 Dimensions: 1850mm diameter x 3023 mm height

.4 Storage Content: potable water

.5 Standards: ASTM D1998

.6 Materials: HDLPE (High Density Linear Polyethylene)

1. Contain a minimum of a UV8 stabilizer as compounded by the resin manufacturer

.7 Certifications: ANSI/NSF 61 certified

.8 Minimum Specific Gravity: 1.5

.9 Tie-down / lifting lugs: Minimum of 4 integrally moulded on top head for seismic restraint tie-down to the floor

.10 Tank Colour: Natural resin for tanks to be installed indoors away from sunlight

.11 Lateral Restraint System:

1. Minimum of four L-shaped anchor clips secured to a restraint band
2. Anchor bolts to be provided by installing contractor

.12 Fittings and Tank Appurtenances

1. Vent: 125mm diameter U-Vent assembly shall be located on top head and sized to limit pressure or vacuum to a maximum of 12mm of water column. Minimum size shall be at least one nominal pipe size larger than inlet and outlet fittings. A wiremesh 13 x 13 bug screen insert shall be installed on the U-vent.
2. Overflow: Up-turned elbow inside tank, 100mm diameter
3. Top Access: Minimum 600mm wide flanged top access manhole extension with removable cover
4. 50mm diameter flanged connection on top for level sensor
5. 50mm diameter inlet on top

6. 100mm diameter flanged connection at bottom for drain and distribution pumps
7. Fittings located on the sidewall shall be PVC double- flanged bolted on fittings.
8. Fittings located on the sidewall shall be located a minimum of 150 mm from the bottom and top of tank. The exception is if a Unitized Molded Outlet fitting is used as a drain on flat-bottom tanks.
9. Fitting gasket shall be at least 38mm above or below the end of any knuckle radius on tanks smaller than 11,360 L (3,000 gallons), and 75 mm above or below the end of any knuckle radius on tanks 11,360 L (3,000 gallons) or larger. In addition, fittings shall be installed away from flange lines and moulded-in tank features such as litre markers, logos, ribs, edges of tank flats, etc.
10. Fittings must be located to avoid interference with tank tie-downs.
11. Level sensors and controls: See Division 13
12. All tank fitting attachments shall be equipped with flexible couplers or other movement provisions. The tank will deflect based upon tank loading, chemical temperature and storage time duration. Tank piping flexible couplers shall be designed to allow 4 percent design movement. Movement shall be considered to occur both outward in tank radius and downward in fitting elevation from the neutral tank fitting placement.

.13 Manufacturer Qualifications and Workmanship:
1. The tank manufacturer must have over 10 years of experience in the design and manufacture of rotationally molded chemical storage tanks using high density linear polyethylene.
2. Tank shall be manufactured in ANSI/NSF 61 approved facility
3. The finished tank shall be free, as commercially practical, of visual defects such as foreign inclusions, air bubbles, pinholes, pimples, crazing, cracking and delamination that will impair the serviceability of the tank.

.14 Markings: The tank shall be marked to identify the product, date (month and year) of manufacture, capacity and serial number.

.15 Warranty: Two years on material and workmanship.

3 Execution

3.1 INSTALLATION

.1 Install as per manufacturers recommendations on concrete anti float ballast pad.

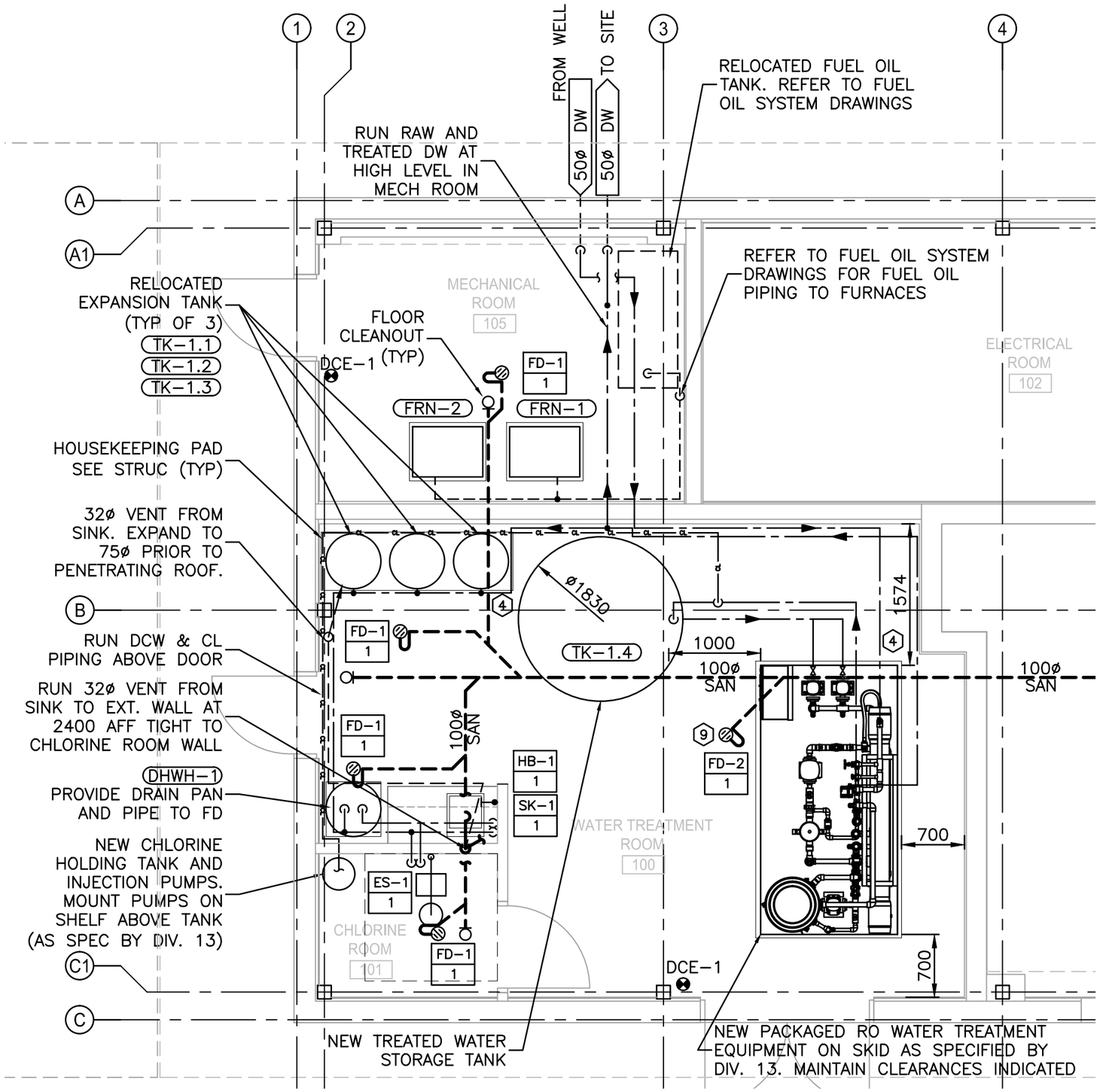
.2 Install level and secure and make all necessary connections.

.3 Install specified tiedown straps. Adjust tie down straps and make secure.

.4 Ensure surfaces of flange connection are clean and dry. Apply gasket, lower upper section and snug bolts in alternating pattern and as per manufacturer's recommendations.

.5 Confirm and match local vactor truck connection.

.6 Provide seismic restraint by Seismic Engineer licensed to practice in Yukon for all tanks specified.



1 / M101 SITE SERVICES BUILDING PLUMBING & FIRE PROTECTION PLAN
SCALE: 1:50

GENERAL NOTES

1. THIS IS A PARTIAL DRAWING. FOR CONTINUATION (GRIDS 5–8), SEE M101.

KEYNOTES

9 COORDINATE LOCATION OF FLOOR DRAIN WITH RO SKID.

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

Revision	Description	Date
0	ISSUED FOR TENDER ADDENDUM	15.04.15

Client
CANADA BORDER SERVICES AGENCY

Project title
PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES BUILDING

Drawn by: **T.Heal**
Designed by: **S. Birrell**
Approved by:
PWGSC Project Manager:

Drawing title
REVISED
SITE SERVICES BUILDING
PLUMBING & FIRE PROTECTION PLAN

Project no.	Sheet	Revision
R.071363.001	SKM-001	0

PWGSC – A1 – 841X594

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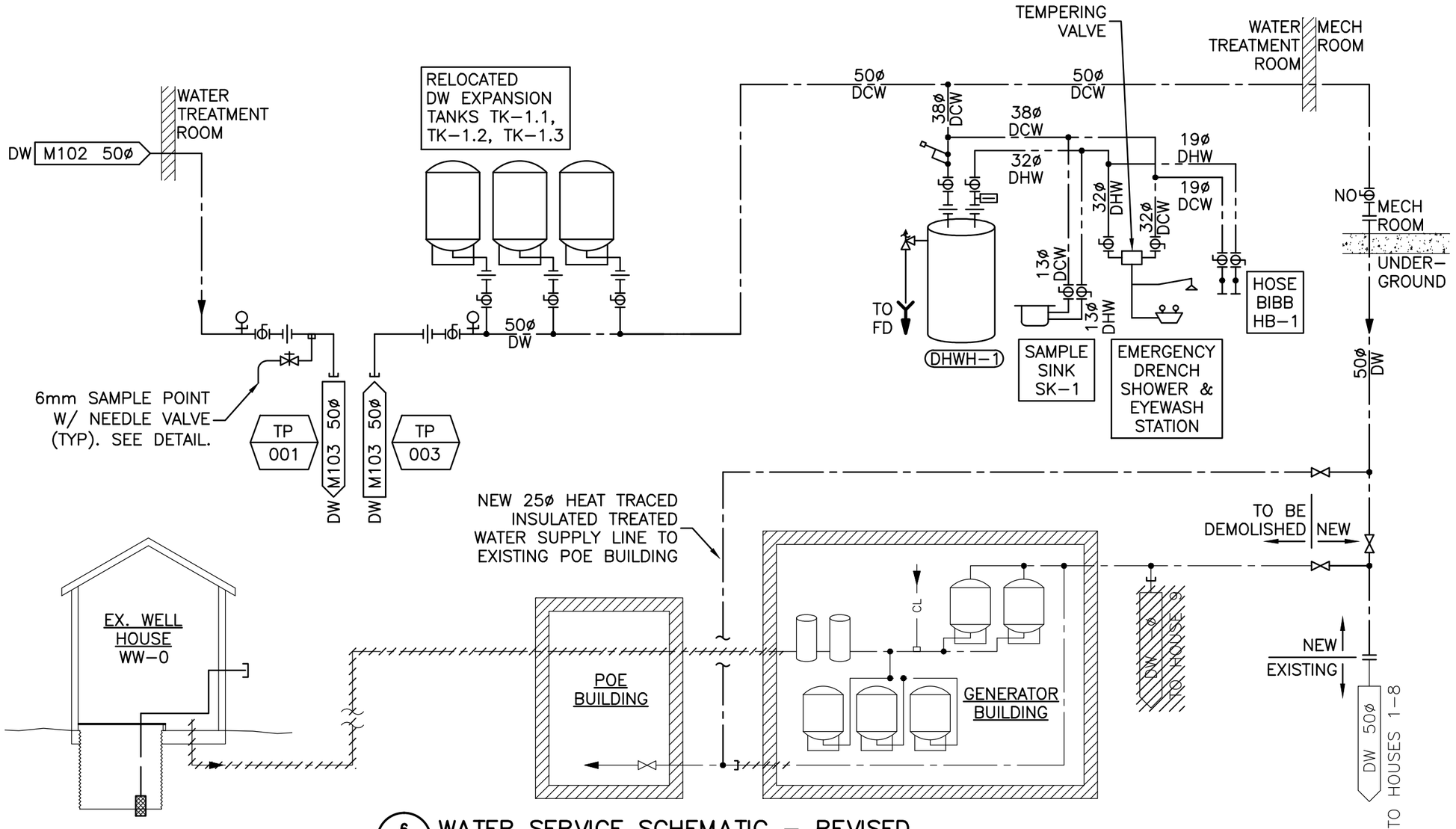

6 M102 WATER SERVICE SCHEMATIC – REVISED
SCALE: NTS

GENERAL NOTES

1. THIS IS A PARTIAL DRAWING. FOR CONTINUATION, SEE M102.

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

Revision	Description	Date
0	ISSUED FOR TENDER ADDENDUM	15.04.15

Client
CANADA BORDER SERVICES AGENCY

Project title
PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES BUILDING

Drawn by: **T.Heal**
Designed by: **S. Birrell**
Approved by:
PWGSC Project Manager:

Drawing title
REVISED WATER SERVICE SCHEMATIC

Project no.	Sheet	Revision
R.071363.001	SKM-002	0

PWGSC – A1 – 841X594

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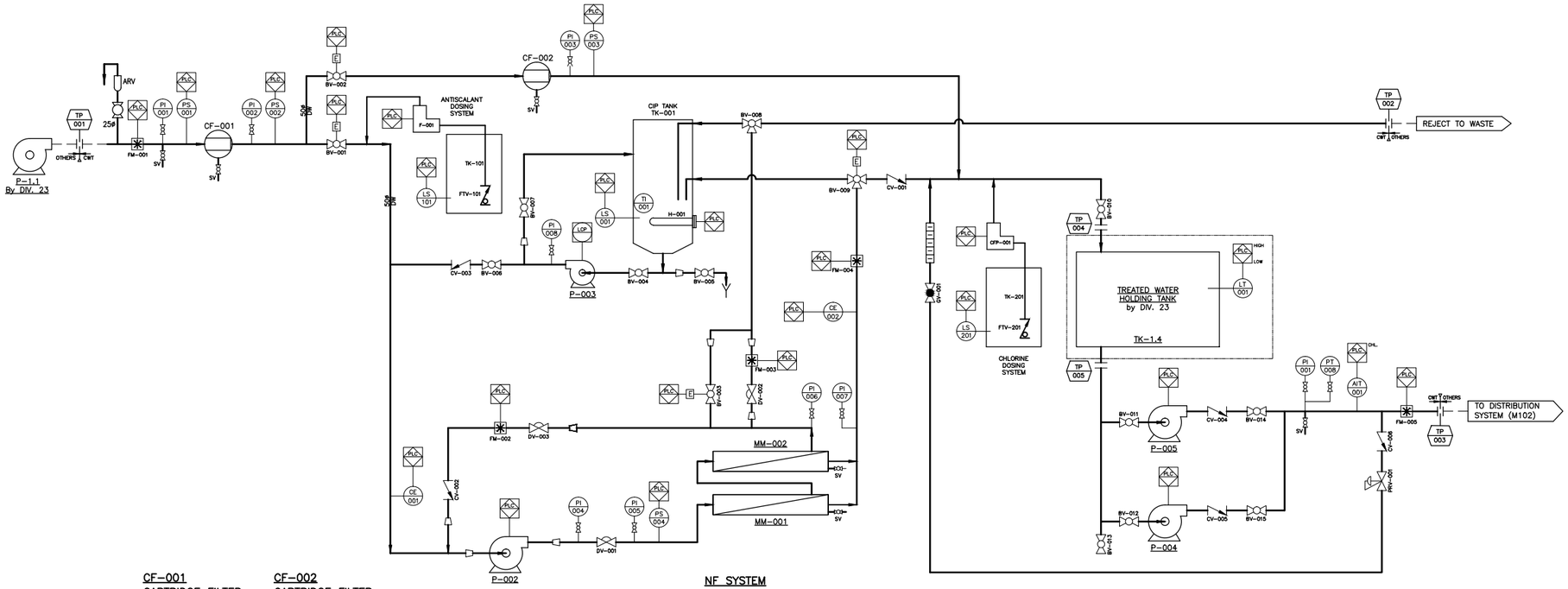

CF-001
CARTRIDGE FILTER
5 MICRON

CF-002
CARTRIDGE FILTER
1 MICRON

NF SYSTEM
PRODUCT CAPACITY @ 5°C: 1 L/s (16 gpm)

P-002
BOOSTER PUMP

CAPACITY:	2.1 L/s (32 gpm)
TDH:	764 kPa (111 psi)
HORSE POWER:	5 HP
POWER:	3 phase 208V

P-003
CIP PUMP

CAPACITY:	2.5 L/s (40 gpm)
TDH:	482 kPa (70 psi)
HORSE POWER:	3 HP
POWER:	3 phase 208V

P-004/P-005
DISTRIBUTION PUMPS

CAPACITY:	2.5 L/s (40 gpm)
TDH:	400 kPa
HORSE POWER:	1.5 HP
POWER:	3 phase 208V

GENERAL NOTES

1. ALL EQUIPMENT AND CONTROLS SPECIFIED IN DIVISION 13 UNLESS OTHERWISE NOTED.

Public Works and Government Services Canada
Travaux publics et Services gouvernementaux Canada

REAL PROPERTY SERVICES
Western Region
SERVICES IMMOBILIERS
Région de l'ouest

Revision	Description	Date
0	ISSUED FOR TENDER ADDENDUM	15.04.15

Client
CANADA BORDER SERVICES AGENCY

Project title
PLEASANT CAMP PORT OF ENTRY
TENDER A
SITE SERVICES BUILDING

Drawn by
T.Heal

Designed by
L.Liu

Approved by

PWGSC Project Manager

Drawing title
SITE SERVICES BUILDING
WTP P & ID

Project no.	Sheet	Revision
R.071363.001	**SKM-003**	**0**

PWGSC – A1 – 841X594

DM5XXXXXX