



**RETURN BIDS TO:**

**RETOURNER LES SOUMISSIONS À:**

**Bid Receiving - PWGSC / Réception des soumissions  
- TPSGC**  
11 Laurier St. / 11, rue Laurier  
Place du Portage, Phase III  
Core 0B2 / Noyau 0B2  
Gatineau, Québec K1A 0S5  
Bid Fax: (819) 997-9776

**SOLICITATION AMENDMENT  
MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

**Comments - Commentaires**

**Vendor/Firm Name and Address  
Raison sociale et adresse du  
fournisseur/de l'entrepreneur**

**Issuing Office - Bureau de distribution**  
Vehicles & Industrial Products Division  
11 Laurier St./11, rue Laurier  
7A2, Place du Portage, Phase III  
Gatineau, Québec K1A 0S5

<b>Title - Sujet</b> Chilled Water Pump Replacement	
<b>Solicitation No. - N° de l'invitation</b> EP635-180603/A	<b>Amendment No. - N° modif.</b> 001
<b>Client Reference No. - N° de référence du client</b> 20180603	<b>Date</b> 2017-08-11
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$\$HP-404-73103	
<b>File No. - N° de dossier</b> hp404.EP635-180603	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2017-08-25</b>	
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Michele Mak	<b>Buyer Id - Id de l'acheteur</b> hp404
<b>Telephone No. - N° de téléphone</b> (873) 469-3338 ( )	<b>FAX No. - N° de FAX</b> ( ) -
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> PWGSC Cliff Central Heating and Cooling Plant (CHCP) 1 Fleet Street Ottawa, Ontario Canada	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

<b>Delivery Required - Livraison exigée</b>	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>(type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

This amendment 001 is raised to extend the closing date, answer bidder questions, issue Annex "A" – Mandatory Technical Specifications / Chilled Water Pump Replacement Units – Revision 1 and amend the solicitation as detailed herein.

1) At page 1 of the Request for Proposal:

Delete: SOLICITATION CLOSES:

On: 2017-08-21

Insert: SOLICITATION CLOSES:

On: 2017-08-25

2) Answer bidder questions:

Question #1:

The flow rates specified for the Pumps is stated as a range of flow conditions in the Tender Document.

Answer:

See Annex "A" – Mandatory Technical Specifications / Chilled Water Pump Replacement Units–Revision 1.

Question #2:

this indicate that the electric motors are controlled by Variable Frequency Drives?

Answer:

See Annex "A" – Mandatory Technical Specifications / Chilled Water Pump Replacement Units–Revision 1.

Question #3:

There is also reference to an electrical sketch that I could not locate in the package.

Answer:

See Sketch A0-1510789400-M-901 attached hereto.

3) Delete:

Annex "A" – Mandatory Technical Specifications / Chilled Water Pump Replacement Units  
in it's entirety.

Insert:

Annex "A" – Mandatory Technical Specifications / Chilled Water Pump Replacement Units  
– Revision 1

4) Add:

Sketch A0-1510789400-M-901

5) Amend the Solicitation:

At: **TABLE OF CONTENTS; Attachments:**

Delete: Annex "A" – Mandatory Technical Specifications / Chilled Water Pump  
Replacement Units

Insert: Annex "A" – Mandatory Technical Specifications / Chilled Water Pump  
Replacement Units – Revision 1

Add: Sketch A0-1510789400-M-901

ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME

Annex "A"

EP635-180603/A – Mandatory Specifications / Chilled Water Pump Replacement -  
Rev 1.  
Public Services and Procurement Canada

## 1. PART 1 – GENERAL INFORMATION

### 1.1 SUMMARY

- 1.1.1. Public Works Government Services of Canada have to replace two chilled water pumps in its Cliff cooling and heating plant in Ottawa. The pumps are part of the secondary chilled water loop in a district heating application and are running in parallel with three other pumps.
- 1.1.2. This document is a request for proposal for the supply of two split casing double inlet centrifugal pumps with required base frames and motors. The vendor must comply with the requirements of this section, in addition to any other requirements specified in the contract.

### 1.2 SUPPLIER AND FABRICATOR

- 1.2.1 The pumps and motors supplier, if a distributor, must verify that the manufacturer is recognized and competent to provide all labor, materials, equipment, accessories and anything else necessary to design, manufacture, deliver the pumps and motors on site.
- 1.2.2 The supplier is responsible for enforcing the requirements stipulated by the different manufacturers when assembling the complete package.

### 1.3 REFERENCES

- 1.3.1 AFBMA - Anti-Friction Bearing Manufacturers Association
- 1.3.2 ANSI - American National Standards Institute
- 1.3.3 ASME - American Society of Mechanical Engineers
- 1.3.4 ASTM - American Society for Testing and Materials
- 1.3.5 HI - Hydraulic Institute Standards
- 1.3.6 SSPC - Steel Structures Painting Council
- 1.3.7 CSA
- 1.3.8 Ontario Electrical Safety Code

### 1.4 SYSTEM DESCRIPTION

- 1.4.1 Two double suction split casing pumps complete with motors. The scope of supply of the Vendor shall include, but not be limited to, the following:
  - 1.4.1.1 Pump assembly;
  - 1.4.1.2 Coupling guards and couplings for motor;
  - 1.4.1.3 Seals;

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## **MANDATORY SPECIFICATION (Cont'd)**

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1.4.1.4 Base frames (sized for next size motor)

1.4.1.5 Spacer blocks

1.4.1.6 Welded brackets complete with adjusting set screws for alignment at site

1.4.1.7 Vendor shall include all special maintenance tools required

1.4.1.8 Motor mounting, coupling installation and alignment to be done at vendors shop

1.4.1.9 Motor;

1.4.2 The works not included in the Vendors scope include:

1.4.2.1 Installation;

1.4.2.2 Foundation work and supply of anchor bolts.

1.4.2.3 Electrical connection and variable frequency drive

### **1.5 DOCUMENTS TO BE SUBMITTED BY VENDOR**

The vendor shall provide the following for each pump:

1.5.1. Dimensional drawing of the pump and base plate assembly;

1.5.2. Cross sectional drawing showing details of pump construction;

1.5.3. Pump curves;

1.5.4. Completed pump, motor, drive data sheets;

1.5.5 Motors – assembly drawing of the housing, drive support and control unit.

1.5.6 Seal water requirements, if applicable;

1.5.7 Schematic of recommended seal water piping arrangement, if applicable;

1.5.8 Complete list of parts for the pump assembly and associated equipment;

1.5.9 Foundation loads for pump and motor assembly;

1.5.10 Motor and coupling details;

1.5.11 Recommended spare parts list;

1.5.12 Installation, operation and maintenance manuals;

1.5.13 Delivery Schedule;

1.5.14 Clear and complete list of any and all exclusions from the specification requirements

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Preliminary drawings and documentation shall be submitted within one week of the Purchase Order award date. Certified information shall be submitted within three weeks of the Purchase Order award date.

Certified test reports, inspection reports, and material records shall be submitted prior to shipment.

## 1.6 PERFORMANCE GUARANTEE

1.6.1. The vendor must stipulate that the Vendor will provide a performance guarantee of the equipment, all their components and accessories, and he must stipulate the time limit on the guarantee.

## 1.7 VENDOR DRAWINGS

1.7.1 Proposal shall include six (6) prints for all required preliminary drawings, six (6) copies of approval drawings and all final certified drawings. Drawings will be required as AutoCad 2010 files as a minimum, 3D-model may also be submitted.

## 2 DESIGN BASIS OF EQUIPMENT

### 2.1 PUMP

The two pumps must be of the double suction split casing pumps complete with base frames and motors

### 2.2 Equipment data is as per table below:

DATA SHEET		
Number of units required: 2		
Manufacturer and Model No.		
Service	Chilled Water Pumps	
Equipment No.	P2, P6	
Number of pumps	2	
Pump Type	Double Suction Horizontal Split Casing	
Minimum Flow rate per pump (@ 42 ft TDH)	340 / 1500	m <sup>3</sup> /h / US GPM
Maximum Flow Rate per pump (@ 265 ft TDH)	1953 / 8600	m <sup>3</sup> /h / US GPM

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Total dynamic head at maximum flow	81 / 265	m / ft
Type of fluid pumped	CHILLED WATER	
Pumping temperature	0.56 – 4.5 / 33 - 40	° C / ° F
Specific gravity	1.0	
Suction pressure (gauge)	95 ± 10 / 315 ± 35	m / ft
Suction diameter	(TBE by Vendor)	
Discharge diameter	(TBE by Vendor)	
Flange Rating (@ 10 °C)	285	psig
Maximum Casing Pressure / Test Pressure	250 / 375	psig
Impeller Diameter	(TBE by Vendor)	
NPSH required (measured at centerline of suction flange)	(TBE by Vendor)	m / ft
Material of Construction Casing	Cast Iron	
Shaft	Carbon Steel	
Impeller	Bronze	
Shaft Sleeve	(to be recommended by Vendor)	
Pump Total Weight		lbs
Brake horsepower		
Pump efficiency		
Speed		rpm
Impeller Diameter		
Pump driver		
Motor Hp		
Motor Frame		
Motor Type	Must be TEFC	

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Base Frame Size	(to accommodate next larger size motor)	
Voltage	Medium Voltage 4.16 kV	
Motor Weight		Lbs
Drive	AC drive on 4.16 kV	

- 2.2.1 Pumps must be of heavy duty design for industrial plants and of the double suction type.
- 2.2.2 The pumps must be built with horizontally split casing and designed for removal of impellers, shaft, bearings, etc. without disassembly of suction or discharge piping.
- 2.2.3 The pumps must be capable of operating at the design duty point at the operating conditions listed in the table below.
- 2.2.4 At design condition, pump impellers shall be sized for not more than 85% of full diameter.
- 2.2.5 Rotating elements must be designed for operation at not more than 70% of first critical speed.
- 2.2.6 The materials of construction shall be as specified in the table below unless better materials are offered in lieu of the materials specified herein.
- 2.2.7 Both pumps and motors shall be identical and all component parts for the same end function shall be interchangeable.
- 2.2.8 Pump casings must be foot mounting on base frames, and shall be self-venting with fully confined gasket. A casing drain tap shall be incorporated in the design. Discharge and suction flanges shall be drilled to ANSI rating dimensions unless otherwise noted.
- 2.2.9 Pump impeller must be one-piece cast. The impeller must be dynamically balanced with smooth contoured surfaces to permit free flow. Impeller must be positively secured to the shaft.
- 2.2.10 Pump shafts must be accurately machined, ground, and sized to withstand loads imposed by continuous operation at any point throughout the pump curve range, plus allowance for ample safety factors. Shaft sleeves, if supplied, must be positively secured to the shaft.
- 2.2.11 Bearing frames shall be heavy cast construction containing oil reservoir. The radial bearing shall be single row and inboard mounted. The thrust bearing shall be double row, shouldered, and mounted outboard.
- 2.2.12 A flexible spacer type coupling must be provided between pump shaft and motor shaft. The coupling halves must be shop fitted on the shafts. A safety guard must

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be provided around the rotating coupling. Guards must meet the requirements of all applicable safety standards, more specifically OHSA. Spacer coupling must be designed to allow for the removal of impeller without removing pump suction and discharge piping and without removing the motor.

- 2.2.13 The pump and motor must be mounted on a fabricated steel base frame sized for the next larger size of motor frame. Base frame must be complete with drip rim, drain connection, spacer blocks, and vent holes for grouting. Base frame must be designed to suit T-frame motors as well as to suit the U-frame motors.
- 2.2.14 The fabricated steel base frames must be of substantial construction and stress-relieved as to prevent any distortion during transit, installation, alignment and operation. Shimming under pump casing will not be allowed.
- 2.2.15 Generally, pumps offered will be sized so that operating point will be in the mid-range of characteristic curves and reasonably close to maximum efficiency. No impeller shall be sized larger than 85% of maximum.
- 2.2.16 The assembled rotor must be dynamically balanced. The unfiltered vibration measured on the shaft during the shop test at the rated speed and capacity  $\pm 1\%$  shall not exceed velocity of 0.25" per second peak, nor exceed a displacement of 2.5 mils peak to peak (including shaft run-out), or 1.25 mils peak to peak for speeds greater than 1,800 rpm. The supplier must demonstrate that the pumps can operate at the quoted minimum continuous flow without exceeding the vibration limit. Pumps must operate smoothly throughout their speed range in reaching rated speed.
- 2.2.17 The acceptable noise level must be less than 80 dBA measured as per OHSA under any operating conditions.
- 2.2.18 All pumps will have suitably drilled, tapped and plugged suction and discharge gauge taps.
- 2.2.19 Impeller wear rings must be available.
- 2.2.20 Vendor shall offer heaviest duty shafts, bearings and bearing frames, and minimum number of different bearing frame sizes in order to minimize spare part inventory. Pump shafts shall be properly filleted at all changes in diameter and at keyways. Provision for keeping the shaft dry is preferred. Shaft sleeves shall be 400 - 500 Brinnell hardness.
- 2.2.21 Pump Sealing Arrangements
- 2.2.21.1 Vendors shall supply optional pricing for two types of pump sealing arrangements:
- 2.2.21.2 Mechanical Seals: Preferred seals Manufacturers are John Crane and Durametallic.

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2.2.21.3 Dynamic Seals: Manufacturer's own design.

2.2.22 All pumps to be supplied with oil lubricated bearings. Constant level sight glass oilers shall be provided. Bearings shall be anti-friction type with a minimum operating life of 100,000 hours.

## 2.3. MOTOR (4 160 V)

### 2.3.1 General

2.3.1.1. All the equipment shall be designed, manufactured and tested in accordance with the latest revisions of NEMA Standard MG 1, CSA, and IEEE standards. CSA approval shall be attached to all equipment.

2.3.1.2. All motors shall be the manufacturer's highest efficiency design.

2.3.1.3. Motor cables shall be 3 copper conductors, TECK90, 5000 Volt rated with XLPE insulation, metal armor and overall PVC jacket.

2.3.1.4. All motors shall be suitable for connection and operation on the following electrical systems

Nominal System Voltage	4160 volts, +/- 10%. (Tenderer to indicate performance if voltage changes by +/- 12%) A sudden step change in voltage of 10% can occur any time due to motor starting
Phases	3
Frequency	60Hz, +/- 5%
Rated short circuit level	35 kA
Rated motor Voltage	4000 volts
Switching Surges	Up to 3 times the normal peak line to ground voltage ( ½ cycle or less duration)
System grounding	Direct grounded
Voltage Unbalance	Up to 2% continuously as defined in NEMA MG1 - 20.55
Service factor	1.15

### 2.3.2. Enclosures

2.3.2.1. All motor enclosures shall be TEFC (totally enclosed fan cooled).

2.3.2.2. All motors shall be provided with bronze automatic drain and breathers (QTY 2) at the lowest points in the motor frame

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- 2.3.2.3. The motor frames and end shields fan covers and conduit boxes shall be high cast iron construction. External cooling fans are non-sparking corrosion resistant material.

### **2.3.3. Performance**

- 2.3.3.1. The motors shall be designed for inverter duty as per NEMA MG1 Part 31 with service factor of 1.15 and shall be capable of full voltage starting, all in accordance with applicable EEMAC standards. Motors shall be premium efficiency.
- 2.3.3.2. Motors shall have the ability to endure the minimum voltage/frequency, and number of starts specified by EEMAC standards. The tender and the motor nameplate shall specify the manufacturer's starting limitations.
- 2.3.3.3. The motors shall be capable of operating in either direction without a loss in performance. All motors of common HP and speed shall be completely interchangeable.
- 2.3.3.4. Motors shall have minimum torque ratings specified by applicable EEMAC standards.

### **2.3.4. Insulation and Windings**

- 2.3.4.1. All motors shall have moisture and chemical resisting insulation systems suitable for operation indoors and outdoors.
- 2.3.4.2. The insulation systems shall be Class F, vacuum-pressure impregnated, sealed, with epoxy form-wound coils. All windings shall be made of copper. Temperature rises must not exceed EEMAC Class B values at rated values, I.0 P.U. (per unit) load.
- 2.3.4.3. Silicon steel laminations to be provided for both rotor and stator windings.

### **2.3.5. Bearings**

- 2.3.5.1. Except where specifically noted or if otherwise impractical, all motors are to utilize anti-friction bearings complete with INPRO seals on DE and ODE bearings.
- 2.3.5.2. Bearings shall be selected to provide a minimum L-10 life of 100,000 hours when connected direct to the driven load and a minimum of L-10 life of 50,000 with an external load per NEMA MG 1-14.
- 2.3.5.3. Bearings shall have inner bearing caps and regreasing instructions are labelled on the motors.
- 2.3.5.4. Special attention must be given to bearing design regarding operation in wet contaminated areas. The bearings shall be hose proof at standstill as well as running.

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- 2.3.5.5. Anti-friction bearings shall be "regreasable while running" type, fitted with hydraulic grease fittings and extension pipes as applicable.
- 2.3.5.6. Bearing housings shall be suitable for grease purging and the system shall be designed to allow for the positive displacement to the outside of the motor of all used grease from the bearings.
- 2.3.5.7. Bearings have a maximum of 45°C rise at rated horsepower (50°C on two-pole motors).
- 2.3.5.8. Bearings to be the same size at both ends.

### **2.3.6. Main Terminal Box and Grounding terminations**

- 2.3.6.1. All motors shall be supplied with oversized, diagonally split connection box. The box shall be made of cast iron or H.D fabricated steel and shall be complete with gasket of neoprene or equal as well as N.P.T. (National Pipe Tap) threaded entrance for Owner's cable terminators.
- 2.3.6.2. The internal motor leads shall be copper and shall numbered and shall be identified T1, T2, T3 with permanent makers such that phase sequence 1,2,3, produces CCW shaft rotation viewed from ODE. The leads shall be brought out into the terminal box through a position marked insulating gasket (seal) of neoprene or equal. Lugs to be provided. A 1/2" brass stud with two nuts shall be provided inside the terminal box for grounding of Purchaser's Teck 90, 5KV rated cables. The motor leads shall be copper, extend 18" in the motor terminal box, be rated for 155°C and shall be extra flexible. Terminal boxes shall be located on the right hand side, viewed from O.D.E. of motor.
- 2.3.6.3. An additional grounding lug shall be provided on the base of the motor frame

### **2.3.7. Resistance Temperature Detectors (R.T.D.'s)**

- 2.3.7.1. Motors shall be provided with six (6) resistance temperature detectors (RTD's) rated 100 ohms at zero (0) degree Celsius. RTD's shall be located in slots in the stator windings in six separate locations, two in each phase. RTD's shall be three-wire type, and each conductor shall be wired to a separate terminal. A common connection between RTD's is not acceptable. All leads shall be brought out to a terminal strip mounted in a separate accessory conduit box. This terminal box shall be furnished with a drilled and tapped, 1½ in. trade size conduit hole. Conduit hole threads shall be in accordance with ANSI Standard B2.1.
- 2.3.7.2. Motors shall be provided with resistance temperature detectors (RTD's) rated 100 ohms at zero (0) degree Celsius and the RTD's shall measure the bearing temperature (1 RTD per bearing). The RTD's shall be three-wire type, and each conductor shall be wired to the same terminal box as the winding RTD's. A common connection between RTD's is not acceptable. All leads shall be brought out to a terminal strip mounted in the RTD terminal box.

### **2.3.8. Torque and acceleration**

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2.3.8.1. Motors shall provide torque capabilities at least as high as those specified in NEMA MG1-20.41 for induction designs. Motors shall be capable of accelerating specified load torques when the voltage at the motor terminals is 85 percent of rated system voltage, due to system load regulation and motor starting voltage drops. Squirrel cage induction motors shall be capable of accelerating load inertia referred to the motor shaft which meet or exceed the values tabulated in NEMA MG1-20.42.

### 2.3.9. Others

2.3.9.1. Aluminum die cast rotor assemblies shall be provided, if available.

2.3.9.2. Where aluminum die-cast rotor assemblies are not provided, rotor bars and conducting end rings shall be made of copper or copper alloys with the bars welded or brazed to the rings. No phosphorous brazing materials may be used.

### 2.3.10. Nameplates

2.3.10.1. The motor nameplate shall be 304 stainless steel with raised letters and fastened to the motor frame with four stainless steel drive pins. Listed on the nameplate are the catalogue number, HP, Voltage, FLA, frequency, service factor, Frame size, speed, NEMA rating, weight, AFBMA bearing number, common bearing size, date of manufacturing, etc..... and compliance with IEEE 841 – 2001.

2.3.10.2. All nameplates shall be in English.

### 2.3.11. Painting and coating

2.3.11.1. All motors are protected with an epoxied polyester paint system. All internal machined and terminal box surfaces are given a protective coating.

### 2.3.12. Performance guarantee

2.3.12.1. Tenderer shall guarantee that the performance of each motor will meet those values stated in the tender. The values that shall be guaranteed include efficiency, power factor and torques.

## 2.4. PAINTING, AND SURFACE PREPARATION

2.4.1 Surface preparation and painting shall be in accordance with the attached Paint Standards 2C-03-0 and 2S-40.01.

## 2.5 TAGGING

2.5.1 All equipment furnished shall be tagged for field identification with the Owner's equipment number. The pump nameplate shall bear:

2.5.1.1 The pump model number

2.5.1.2 The maximum design flow

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2.5.1.3 The maximum head and corresponding speed

2.5.1.4 The impeller trim.

## 2.6 TESTING AND INSPECTION

2.6.1 Pumps shall be given hydrostatic (casing only) and mechanical running tests in the Vendor's shop. Test reports shall be submitted to the Purchaser.

## 3. EQUIPMENT INSTALLATION

### 3.1 OPERATION

3.1.1 The vendor shall indicate the "minimum continuous flow point" on the pump curves and guarantee no significant vibration or cavitation will occur at conditions equal to or greater than this flow.

### 3.2 LOCATION

3.2.1 The Pumps will be located on the Chiller side of the Cliff Plant and inside the building, the drive controls will be in the electrical room – refer to attached sketch A0-1510789400-M-901 RevP0.

### 3.3 INSULATION

3.3.1 The Vendor shall supply for the pumps pre-molded removable insulation suitable for anti-sweat and energy conservation for Chilled Water at 33 °F (0.56 °C).

### 3.4 PRODUCT HANDLING AND PACKAGING

3.4.1. Equipment shall be packaged for protection against damage during shipment and for on-site storage for at least a six-month period.

3.4.2. Heavy wood blanks shall be secured to nozzle flanges. Wood covers shall be one size larger than the flange diameter.

3.4.3. All machined surfaces shall be coated with a readily removable rust preventative coating and properly protected against damage during shipment.

3.4.4. All threaded openings shall be plugged or capped.

3.4.5. All submittals, correspondence, drawings, invoicing, and other communication shall bear this equipment number in addition to the purchase order number, the client name, the project name, and the project location.

### 3.5. ACCEPTANCE

3.5.1. The pumps will be installed by others. Once all the work is completed, the Vendor shall cooperate with the Purchaser to perform all tests deemed necessary to assess the functioning and overall performance of the various pieces of equipment, and will, at his expense, make the appropriate changes and adjustments required, until the

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installation is considered effective and fully functional. The Purchaser will not accept the equipment until this condition has been fulfilled.

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EP635-180603: Compliance Checklist / Liste de contrôle de conformité		
Specification Clause / Clause du Devis	Complies / Conforme	
	Yes / Oui	No / Non
1.2.1		
1.2.2		
1.4.1		
1.4.1.1		
1.4.1.2		
1.4.1.3		
1.4.1.4		
1.4.1.5		
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2.2.21.2		

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EP635-180603: Compliance Checklist / Liste de contrôle de conformité		
Specification Clause / Clause du Devis	Complies / Conforme	
	Yes / Oui	No / Non
2.2.21.3		
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2.3.5.3		
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2.3.5.5		
2.3.5.6		
2.3.5.7		
2.3.5.8		
2.3.6		
2.3.6.1		
2.3.6.2		
2.3.6.3		
2.3.7		
2.3.7.1		
2.3.7.2		
2.3.8		
2.3.8.1		

*All staff members are responsible for ensuring that they are using the correct revision of this document.*

**MANDATORY SPECIFICATION (Cont'd)**

DATE: 07 August 2016

EP635-180603: Compliance Checklist / Liste de contrôle de conformité		
Specification Clause / Clause du Devis	Complies / Conforme	
	Yes / Oui	No / Non
2.3.9		
2.3.9.1		
2.3.9.2		
2.3.10		
2.3.10.1		
2.3.10.2		
2.3.11		
2.3.11.1		
2.3.12		
2.3.12.1		
2.4		
2.4.1		
2.5		
2.5.1		
2.5.1.1		
2.5.1.2		
2.5.1.3		
2.5.1.4		
2.6		
2.6.1		
3.1		
3.1.1		
3.2		
3.2.1		
3.3		
3.3.1		
3.4		
3.4.1		
3.4.2		
3.4.3		
3.4.4		
3.4.5		
3.5		
3.5.1		

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Contractor to verify all dimensions on site and notify the engineer of all discrepancies.

NO.	DESCRIPTION	DATE
1	ISSUED FOR PERMIT	11/14/11
2	REVISED	11/14/11
3	REVISED	11/14/11
4	REVISED	11/14/11
5	REVISED	11/14/11
6	REVISED	11/14/11
7	REVISED	11/14/11
8	REVISED	11/14/11
9	REVISED	11/14/11
10	REVISED	11/14/11
11	REVISED	11/14/11
12	REVISED	11/14/11
13	REVISED	11/14/11
14	REVISED	11/14/11
15	REVISED	11/14/11
16	REVISED	11/14/11
17	REVISED	11/14/11
18	REVISED	11/14/11
19	REVISED	11/14/11
20	REVISED	11/14/11

**CHILLED WATER PUMPS  
 No. 2 & No. 6  
 REPLACEMENT**

1. Title Bk.  
 2. Date: 11/14/11

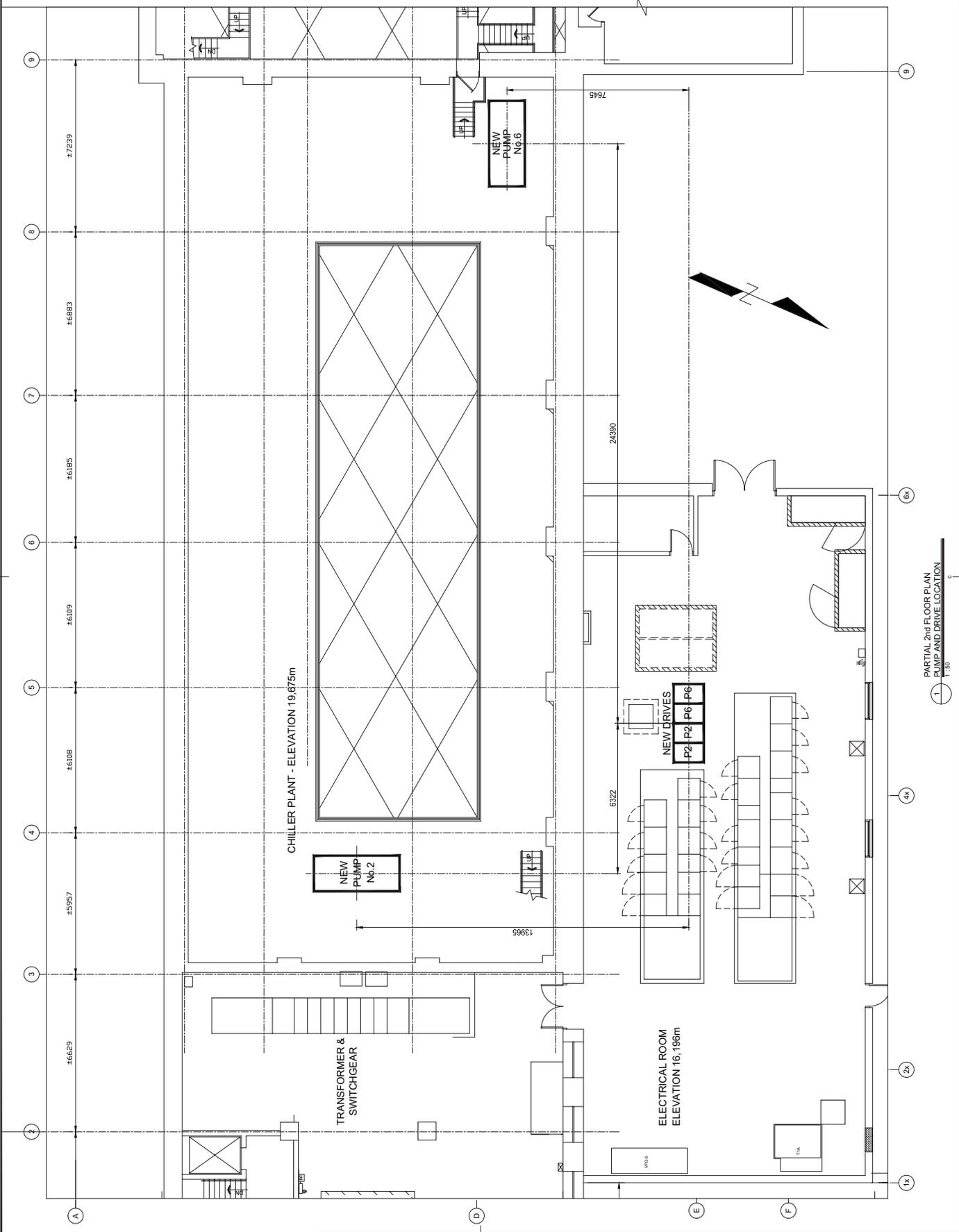
**PUMP AND DRIVE  
 LOCATION DRAWING**

Checked By: C. S. [Name]  
 Date: 11/14/11

Designed By: J. [Name]  
 Date: 11/14/11

Drawn By: [Name]  
 Date: 11/14/11

Project No.: 151-07894-00  
 Revision: 1



**PARTIAL 2nd FLOOR PLAN  
 PUMP AND DRIVE LOCATION**  
 1/30