Part 1 General

1.1 RELATED RE QUIREMENTS

.1 Section 01 33 00 Shop Drawings, Product Data and Samples

.2 Section 01 45 00 Quality Control

.3 Section 08 34 58.01 Vaults Doors and Frames

.4 Section 31 23 33.01 Excavating, Trenching and Backfilling

1.2 REFERENCES

.1 American Society for Testing and Materials International (ASTM)

.1 ASTM A82/A82M-05a, Standard Specification for Steel Wire, Plain, for Concrete Reinforcement.

.2 ASTM A185/A185M-05a, Standard Specification for Steel Welded Wire Reinforcement, Plain, for Concrete.

.3 ASTM C139-05, Standard Specification for Concrete Masonry Units for Construction of Catch Basins and Manholes.

.4 ASTM C 478/C478M-06, Standard Specification for Precast Reinforced Concrete Manhole Sections.

.5 ASTM D1056-00, Standard Specification for Flexible Cellular Materials - Sponge or Expanded Rubber.

.6 ASTM D3034, Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer and Pipe Fittings.

.2 Canadian Standards Association (CSA International)

.1 CSA B196.3-M.983, PVC Underground Telecommunication Cable Ducting and Fittings

.2 CAN/CSA-A3000-03(R2005), Cementitious Materials Compendium (Consists of A3001, A3002, A3003, A3004 and A3005).

.1 CSA-A3001-03, Cementitious Materials for Use in Concrete.

.3 CSA A23.1/A23.2-04, Concrete Materials and Methods of Concrete Construction/Methods of Test and Standard Practices for Concrete.

.4 CSA A23.4-09, Precast Concrete – Materials and Construction

.5 CAN/CSA-G30.18-M92(R2002), Billet-Steel Bars for Concrete Reinforcement.

.3 Health Canada/Workplace Hazardous Materials Information System (WHMIS)

.1 Material Safety Data Sheets (MSDS).

1.3 ACTION AND INFORMATIONAL SUBMITTALS

.1 Provide submittals in accordance with Section 01 33 00 – Shop Drawings, Product Data and Samples.

.2 Product Data:

.1 Submit manufacturer's printed product literature, specifications and datasheet and include product characteristics, performance criteria, physical size, finish and limitations.

.3 Shop Drawings:

.1 Submit shop drawings for precast vault.

.4 Quality assurance submittals: submit following in accordance with Section 01 45 00 Quality Control.

.1 Test reports: submit certified test reports for specified materials from approved independent testing laboratories, indicating compliance with specifications for specified performance characteristics and physical properties.

.2 Certificates: submit certificates signed by manufacturer certifying that materials comply with specified performance characteristics and physical properties.

.5 Manufacturer's Instructions: submit manufacturer's installation instructions and special handling criteria, installation sequence, cleaning procedures.

1.4 DELIVERY, STORAGE AND HANDLING

.1 Packing, shipping, handling and unloading:

.1 Deliver, store and handle materials in accordance with manufacturer's written instructions.

Part 2 Products

2.1 PRECAST CONCRETE VAULTS

.1 Precast Concrete, H20 Traffic Loading.

.2 Precast Concrete: to CSA A23.4-09.

.1 Precast concrete manholes, vaults and auxiliary sections to be fabricated in steel forms.

.3 Aggregates: to CSA A23.1/A23.2.

.4 Cement: CAN/CSA-A3001, Type GU.

.5 Steel welded wire fabric mesh reinforcing: to ASTM A82/A82M.ASTM A185/A185M

.6 Neoprene gasket seals between vault sections: to ASTM D1056.

.7 Top, walls, and bottom: reinforced concrete.

.8 Walls and bottom: monolithic concrete construction.

.9 Top: monolithic concrete construction

Part 3 Execution

3.1 MANUFACTURER'S INSTRUCTIONS

.1 Compliance: comply with manufacturer's written recommendations or specifications, including product technical bulletins, handling, storage and installation instructions, and datasheets.

3.2 EXCAVATION AND BACKFILL

.1 Excavate and backfill in accordance with Section 31 23 33.01 - Excavating Trenching and Backfilling and as indicated.

3.3 INSTALLATION

.1 Construct units in accordance with details indicated, plumb and true to alignment and grade.

3.4 FIELD QUALITY CONTROL

.1 N/A

3.5 CLEANING

.1 See Section 01 74 11 Cleaning.

END OF SECTION

Air - Cooled Chiller:

PROJECT :

DATE :

Instructions:

Step 1: Circle Yes or No and fill in with requested information.
Step 2: Explain all "No" responses at the bottom of the checklist.

Item	Task Description	Response	
1	**Delivery Book**		
A	**Model Verification**	Submitted	Delivered
1	Manufacturer		
2	Model		
3	Serial Number	N/A	
4	Capacity (tons)		
7	Chilled Fluid Type		
8	Chilled Fluid Flow Rate (gpm)		
9	Refrigerant Type		
10	Compressor Motor Power (kW)		
11	Compressor Motor Voltage / Phase / Frequency (V / - / Hz		
B	**Physical Check**		
1	Unit is free from physical damage	Yes	No
2	Openings are sealed with plastic	Yes	No
3	All components present (cooler, condenser, compressor, motor, etc.)	Yes	No
4	Motor bearings are double sealed and permanently lubricated	Yes	No
5	Electrical disconnect is provided	Yes	No
6	Installation and startup manual provided	Yes	No
7	Unit tags affixed	Yes	No
2	**Construction Checklist**		
A	**Installation of Chiller**		
1	Unit secured as required by manufacturer and specifications	Yes	No
2	There is a minimum of 36 inches of clearance around entire unit	Yes	No
3	There is a minimum of 48 inches of clearance in front of starter or VFD	Yes	No
4	There is a minimum clearance of one unit length for tube pull space	Yes	No
5	All components accessible for maintenance	Yes	No
6	Unit labeled and is easy to see	Yes	No
7	Chilled water piping leak tested	Yes	No