

NO.2 PUMPING STATION  
1955

# Rossdale Power Plant Advanced Assessment and Priority Rehabilitation

## Pump House #2 Condition Assessment

**DFS | MBAC | Saucier + Perrotte Architectes**

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## 1.0 Executive Summary & Introduction

This report is broken up in sections as highlighted in the Table of Contents above. A thorough physical visual conditions assessment occurred in the autumn of 2020 and early winter 2021. This assessment was limited due to a variety of issues surrounding access, including hazardous confined spaces with standing water, limitations of owner supervision, and Covid-19 related broader site-access restrictions.

A glossary of deterioration conditions was created after initial assessment, which allowed for mapping via smart .pdf technology, in this case Bluebeam. Conditions were mapped using line drawings prepared for the Heritage Building Record. The advantage is that condition markups are spatially scaled providing quantities for future estimation, it also spatially locates them to help support future construction packages.

Generally speaking, all surfaces, interior and exterior, are dirty, soiled, coatings failing, and all exposed raw metal exhibiting passivated corrosion to one degree or another. As all exposed raw metal surfaces in interior and exterior, including mechanical systems and machinery, are exhibiting paint failure and passivated surficial corrosion these specific deterioration patterns are not called out in the attached conditions mapping, Section 4.0, because they are universal — and would only serve to confuse the eye in understanding more important conditions present. An exception includes calling out unique types of soiling, such as heavy river water sediment deposits in the lowest three levels of Pump House #2.

All included photographs were taken by DFS, often through the use of MiraCAD's proprietary cloud-based point-cloud and high-resolution photography software named Cloud360. Original building drawings originate from EPCOR, accessed through their RGS Drawing Database.

## 2.0 Conditions Assessment

### 2.1 Civil / Landscape

#### 2.1.1 Introduction

RJC has completed a Civil condition assessment on the Rossdale Power Plant site located in downtown Edmonton, Alberta. The following report includes a summary of the documentation available for review, the site conditions observed and what can be expected for the site going forward.

#### 2.1.2 Documentation Review

RJC reviewed both the available drawings and reports provided by the City of Edmonton.

Limited civil drawings were available for review. In general, they were partial sets for the buildings and did not always have the version noted so it is possible they may not reflect what got built. The drawings did contain some information regarding the Grading and utilities but, in general, the information was limited and incomplete. As well, some of the areas appeared different than the structure observed on site, which is likely the result of modifications to the Plant over time.

Furthermore, Design Loads and standards have changed considerably especially involving storm run off the need for treatment or flow suppression will need to be confirmed as part of reuse of the building.

Previous condition assessments and other related reports were also reviewed. In general, the reports noted the condition within the last 15 years and noted conditions similar what RJC observed.

- Asphalt settlement, and repairs over the site through the life cycle of the paved parking areas and on site roadways.
- Erosion of river bank around pump houses due to inherently unstable river bank conditions and storm water outlets not having effective energy dissipation.

#### 2.1.3 Site Assessment

RJC completed a visual condition assessment of the below noted buildings in late 2020 and early 2021. The condition of the site is consistent with the age and use as industrial buildings. The site has been modified over time to accommodate changes in surrounding site use. This has resulted in conditions that are varied, and modified, as is typical of industrial sites.

The reviews were limited to visual observations of accessible areas. No testing or dismantling of finishes occurred during our evaluation. A design review was not part of the scope of this project and the review is preliminary in nature. When the project proceeds into detailed design, detailed checks and further site investigations will likely be required to confirm the conditions and capacities of the systems, as well as repairs may be required to make areas useable for intended use.

The site, split into two areas (Surface works, and Utilities) reviewed are as follows:

#### 2.1.4 Surface Works

The surfaces works is comprised of two aspects, the site grading and overall storm water management, and the Asphalt and flat works. The following outlines the site reviews of those aspects:

#### 2.1.5 Site Grading and Storm Water Management

The site grading and storm water management was evaluated for the area inside of the fence line of the plant. Storm water leaders were evaluated based on observed conditions from the ground only.

In general, the conditions were observed to permit water to flow to designated catch basins and over land drainage paths. The site was sloped mostly away from the building, however, in some areas there was pooling water and obstructions to flow, localized low points exist where loading varied and around several structures.

Storm water leads from roof drains appear to join the underground system internal to the building and outlet to storm manholes on site. Several of the Roof drains exhibit signs of leaking as water damage can be seen along walls adjacent to some of the storm leads. We were unable to enter any manholes and evaluation of conditions of the underground system is excluded as part of the scope.

#### Condition

- There are several areas where ponding of water has occurred on the site, and negative drainage around the building caused by settlement of backfill material. The grading appears to be in okay to poor condition.
- Water ingress around foundations has been noted but not to significant effect.
- Storm water roof leaders appear to be in poor to very poor condition.

- Leaks and breakages of pipe have occurred and some sections of the leaders have been replaced with plastic pipe in recent renovations.

Therefore, in general, based on only visual observations, it appears the site grading and storm water systems are in ok to poor condition given its age. Overall the system appears to be performing as intended. No immediately critical structural damages were observed during the assessment, but it is expected some repairs will be required.

At this time, one site investigation is suggested. It is unknown what condition the underground storm system is in, given its age and there is some risk related to what the condition might be. It is recommended a site investigation scoping the underground lines internal to the building be considered to review the condition and determine if they are capable of continued use, or if they should be abandoned and reconstructed.

It is also important to note that the areas which exhibit poor conditions should be repaired as leaving water to sit against the base of walls can cause further deterioration of the surface but also can lead to additional structural issues in the building foundation systems.

### **2.1.6 Asphalt and Flatworks**

On site Asphalt was observed to have major cracking and deterioration indicative of weakened subgrade and extended service life. The asphalt has alligator cracking patterns as well as significant ravelling and patching associated with recent repairs. There is a public access path between the main building and the two pump houses, this asphalt path is showing signs of deterioration due to aging. There have been crack seals applied to the cracks in the path to prevent hazards to public safety.

The concrete landings around entrances and curbs are cracked and spalled, some areas had visible reinforcement that was corroding.

#### **Condition**

- Asphalt on the site is in okay to very poor condition. There are several areas that hold water due to reduced subgrade capacity causing cracking and more deterioration.
- Localized low areas around catch basins and settlement of soils around the building and cracking throughout the site.
- Concrete Curbs on the site are in good to poor condition.
- Several of the concrete curbs on site have broken missing pieces, and cracks exposing reinforcement.

Therefore, in general, based on only visual observations, it appears the Asphalt and concrete flatworks are in okay to poor condition. No immediately critical structural damages were observed during the assessment, but it is expected some repairs will be required.

### **2.1.7 Utilities**

The existing site utilities have been updated recently to provide water and sanitary services to the site. Water service from the new plant site and sanitary to join the existing system, these services appear to be operational, no visual inspection of the recent service installation was possible, however, for future design it is advisable to complete a line scoping assessment that will document the conditions and capacity of these utilities.

### **2.1.8 Conclusion**

RJC has completed a condition assessment of the Rosedale Power Plant site located in downtown Edmonton. In general, the condition of the structures varies from poor to okay.

If re-occupied, the systems will need to be evaluated for capacity and condition. Based on the results of those evaluations, repairs and reinforcement of the systems can reasonably be expected in some areas. Those could include, but are not limited to, evaluations and repairs such as:

- Regrading and slope stabilization
- Asphalt replacement including base gravel and possibly subgrade work
- Storm water system upgrades including roof drain repairs and underground system repairs
- General concrete repair or reconstruction and patching, including repair of cracked and spalled concrete
- Utilities expansion for increased service level to match new use cases.

These upgrades are dependent on the future use of the building. Those recommendations are beyond the scope of this report and unknown given the intended use is still an unknown. However, it can reasonably be expected that some changes to the civil systems will be part of the work required.

### 2.1.9 Limits of Liability

This report is intended to provide a general description of the site and its condition, which may have been apparent at the time of our review. Read Jones Christoffersen Ltd. did not perform any design checks to confirm the adequacy of the systems. They will however be required in some instances during design to confirm the capacity of the systems for the intended uses. This is because only limited drawings were available for review.

The review was limited to visual observations of accessible areas. No testing or dismantling of any coverings was performed. Reviews were made on a random basis with no attempt to review or inspect every element or portion of the building. The intent of the review was to determine areas of visually obvious deterioration and need for repair, and to determine, in a general way, the overall quality and sufficiency of the systems, but not to ascertain the quality or sufficiency of any specific aspect of the systems.

Our comments are not a guarantee nor warranty of any aspect of the condition of the building whatsoever, nor that the building has been built in accordance with the drawings and specifications. Any opinions of probable cost presented by the Consultant are based on incomplete or preliminary information and on factors over which the Consultant has no control. The Consultant does not guarantee the accuracy of these probable costs and shall have no liability where the probable costs are exceeded.

Reports prepared by the Consultant are exclusively for the use and benefit of the Client. They are not for the use or benefit of, nor may they be relied upon by, any other person or entity without written permission of the Consultant.



Above: Outfalls possibly from building storm leaders west of Pump House 2



## 2.2 Exterior Architectural

The following section is a description of general conditions noted through the condition assessment of architectural fabric on the exterior of the building. The exterior is generally in good condition with some areas requiring repair to keep the elements out, most notably the roof and access hatch. The deteriorating wrapping staircase along the east elevation also requires repair.

### 2.2.1 Building Entrance

**MN 104, Entrance Stairs and Threshold:** Concrete threshold and entrance staircase scaling, likely due to de-icing salts. Various soiling is also present.



**Hand Rails:** Railings have deformed and fractured, likely due to mechanical impact damage.





**Door:** Modifications have led to the original double swinging doors to become a sliding door. Modifications include steel strengthening, likely for security purposes, lock modifications, and rail installation. Vibrant Prussian-blue door paint colour is associated with Edmonton Power Company colours - circa 1980-1990 era, and has had multiple campaigns. The most recent coating layer is likely failing in areas because of an improperly prepared substrate. Basal fungal deterioration is evident at door jambs. Older seafoam green colour is visible in areas of higher wear.



**Light Fixtures:** Not original, polymer shade appears to be yellowing, likely due to UV deterioration. Paint failure and minor corrosion on the fixture hood.

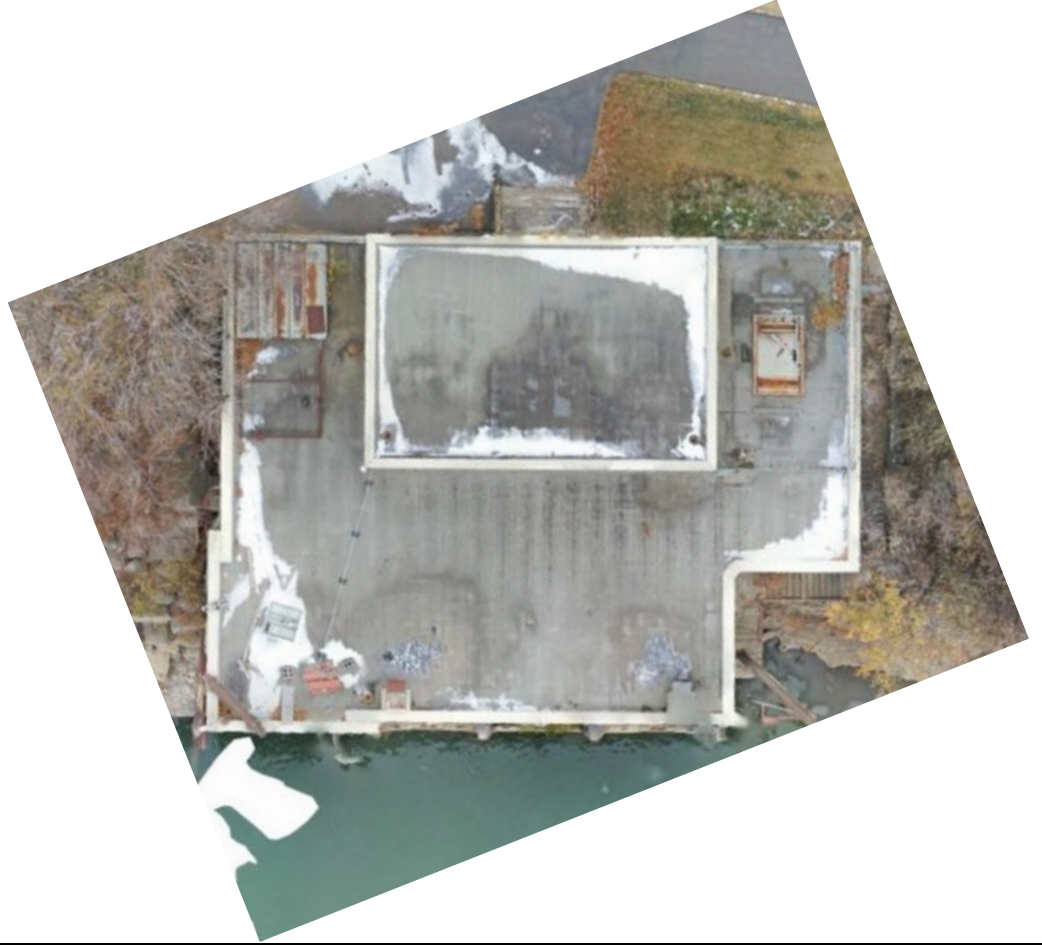


**Lettering:** Identified as painted aluminum in the original specifications, lettering appears to have passivated corrosion, of what appears to be cupric corrosion products. This suggesting that the letters are copper or some sort of copper/aluminum alloy.



### 2.2.2 RF-101 & RF 102, Pump House Main Roof & Pent House Roof

**Roofing Membrane:** Membrane has exceeded its serviceable life and requires replacement. RF-101 in particular has various holes and tree growth through the membrane.



**Roof-Access Hatch:** Sliding metal access roof-hatch leaks, evidences advanced corrosion, and generally does not meet performance requirements of an exterior hatch in terms of weather proofing, safety, and ease of use.



### 2.2.3 Penthouse Exterior Walls

**Exterior Surfaces:** Graffiti and EPCOR overpaint are scattered across elevations. The photo illustrates the north elevation.



**Bio-growth/Soiling:** Concrete door surround exhibits darkening likely due to accumulation of rain-water and snow causing biogrowth and aiding associated atmospheric soiling.



**Concrete Masonry Units (CMUs):**

A small number of cracks on the north-west corner and on the west and east elevations are the result of displaced units, likely ferrous reinforcement that is moving. Further investigation would be required to determine cause and effect.



**2.2.4 Pump House Exterior Walls**

**Exterior Surfaces:**

Graffiti and EPCOR overpaint are evident across elevations. Photograph to the right illustrates the south elevation.





**Relict  
Mechanical  
Services:**

Various pipes, pipe-ends, and water drainage chutes remain from historic mechanical services, some of these have been patched with cementitious materials. The smallest pipe in the lower photo is currently open to the main operating floor space, and should be filled to seal out animal intrusion and slow some deleterious effects of the elements. This pipe is located on the east elevation.





**Relict Catwalk:**  
Corroding remnant metal catwalk supports is causing weeping ferrous stains.



**MN-105,  
Wrapping**

**Staircase:** East elevation wrapping and descending staircase/railing is severely deteriorating near the water's edge. Deterioration patterns include corrosion packing of railing post fixtures and ferrous reinforcement and disaggregation of concrete.







**Foundation Waterproofing:**  
Soiled bituminous foundation waterproof material is failing on lower sections where it is likely exposed to more cyclical river-level rise and fall events. Waterproofing terminates in extents just underneath the exterior wrap-around staircase.







**High-Level Water In-Takes & Sluice Gates:** Relict sluice gates exhibit metal corrosion, wood decay, and active biogrowth.



## 2.3 Interior Architectural

The following section is a description of general conditions noted through the condition assessment of architectural fabric of the building interior. The interior of Pump House #2 interior has had almost all of its original machinery and mechanical systems removed. It is in generally good condition, with the one significant exception being the free-flowing water ingress in the basement that is rising to impressive heights and depositing soil on multiple levels.

### 2.3.1 MN-101, Penthouse Operating Floor

**Dry Wall:** Isolated areas of dry wall openings/Fan units, or ventilation, has been removed and sealed on the building exterior.



**Plywood Covered Door:** South Penthouse door leading to RF-101, is sealed with plywood on the building interior.



**Floor:** Floor coating, or red floor paint, is failing from mechanical damage/abrasion, and/or use. Relict fixtures remain that once serviced electrical equipment. There is an isolated minor settlement crack in the slab, of no structural concern.



### 2.3.2 MN-102, Penthouse Battery Room

Overall the Battery Room in good condition. Relict battery racks and electrical equipment remain. The sea-foam colour painted wood table was likely built by the in-house Edmonton Power carpenters/craftspeople. Finishes are all soiled, but are largely stable other than a few rough patches.

**Floor:** Overall in good condition other than soiling, including a battery related acid leak and stain.



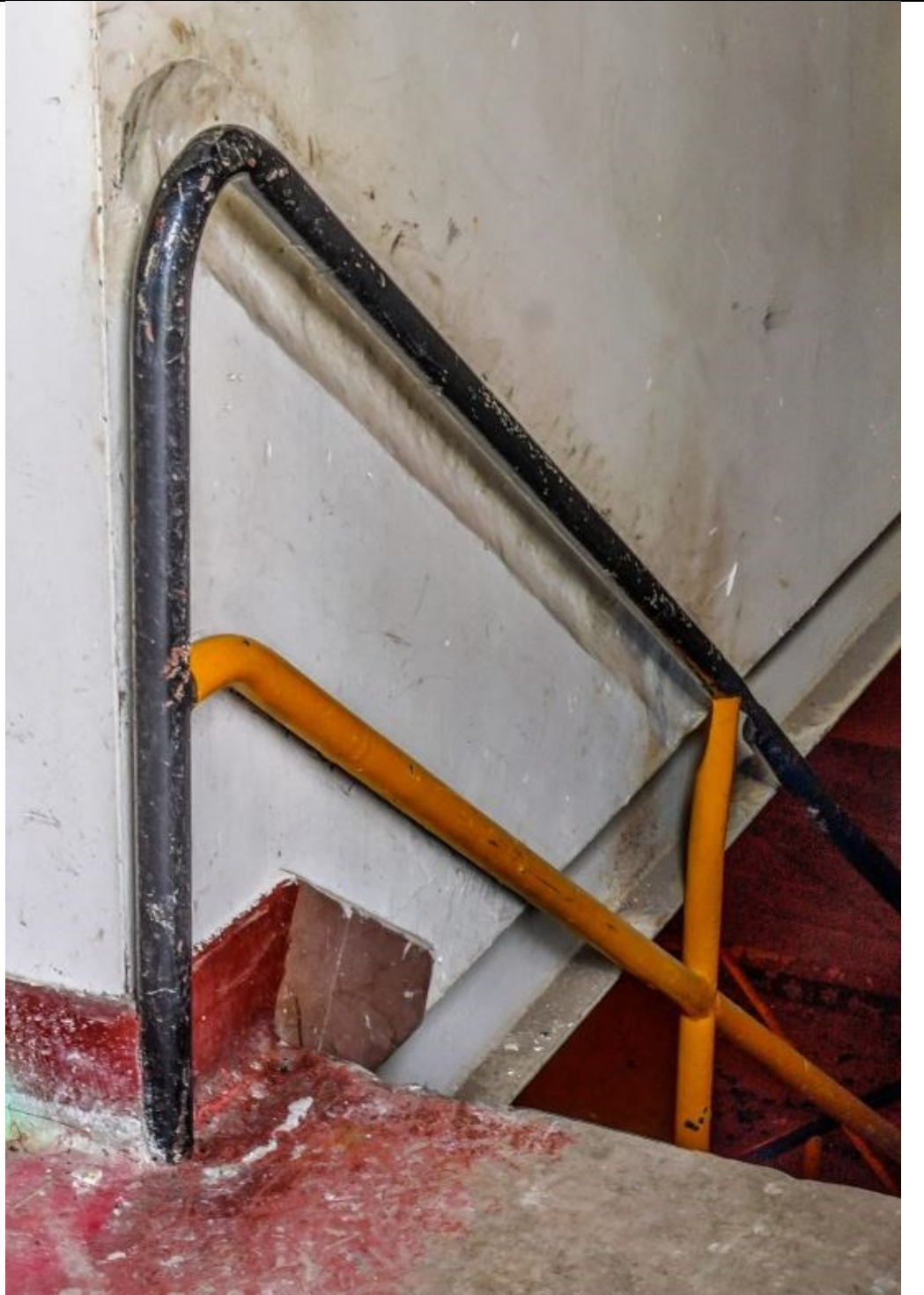
**Walls:** Overall in good condition, with exceptions being surficial soiling, isolated patches, and oily dripping from a now removed and sealed ventilation unit.





### 2.3.3 MN-103, Main Floor Stairs

**Hand Rail:** An idiosyncratic space was carved out of a wall section to allow for hands to pass along the hand rail.



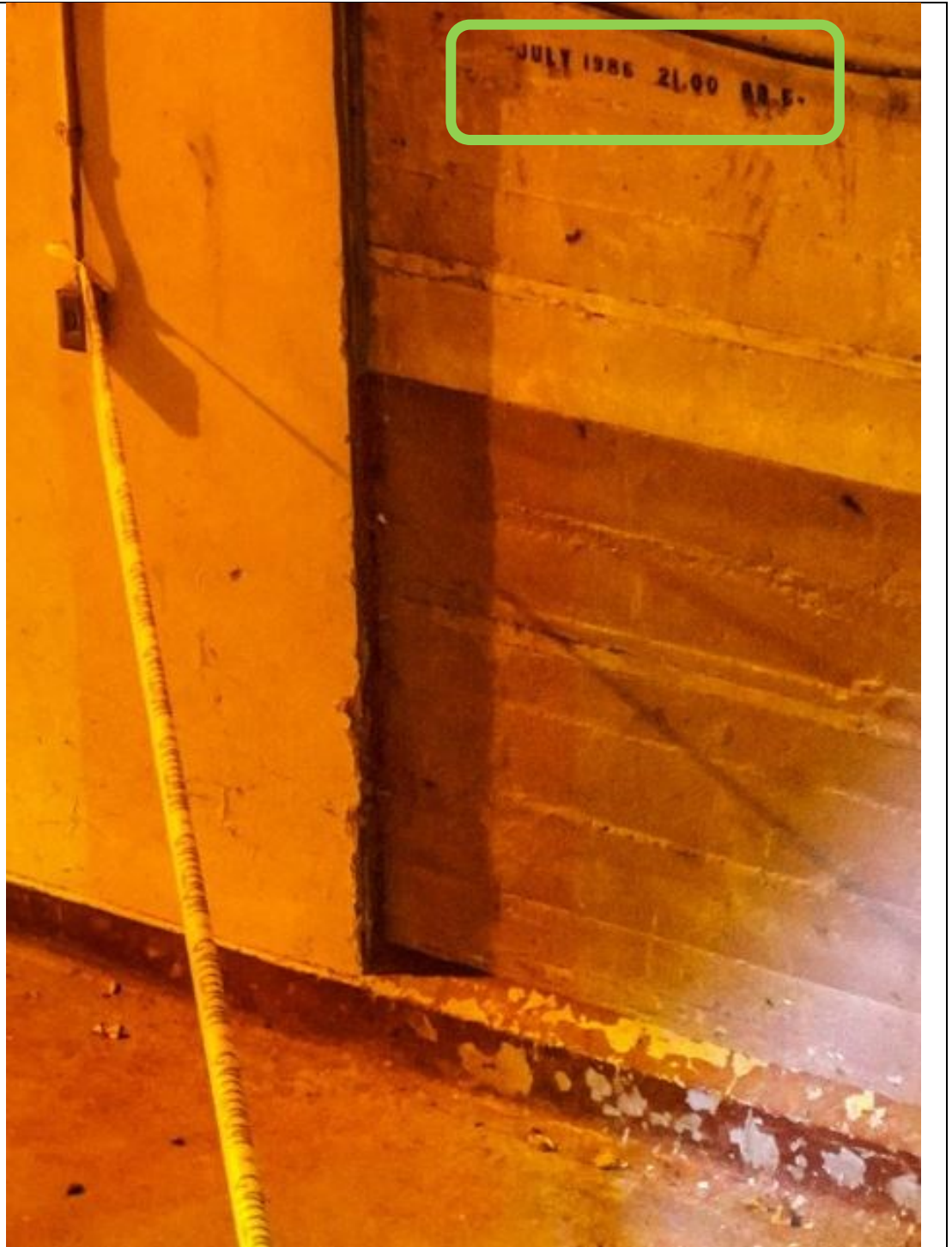


**Staircase:** In good condition despite wear of painted surfaces.

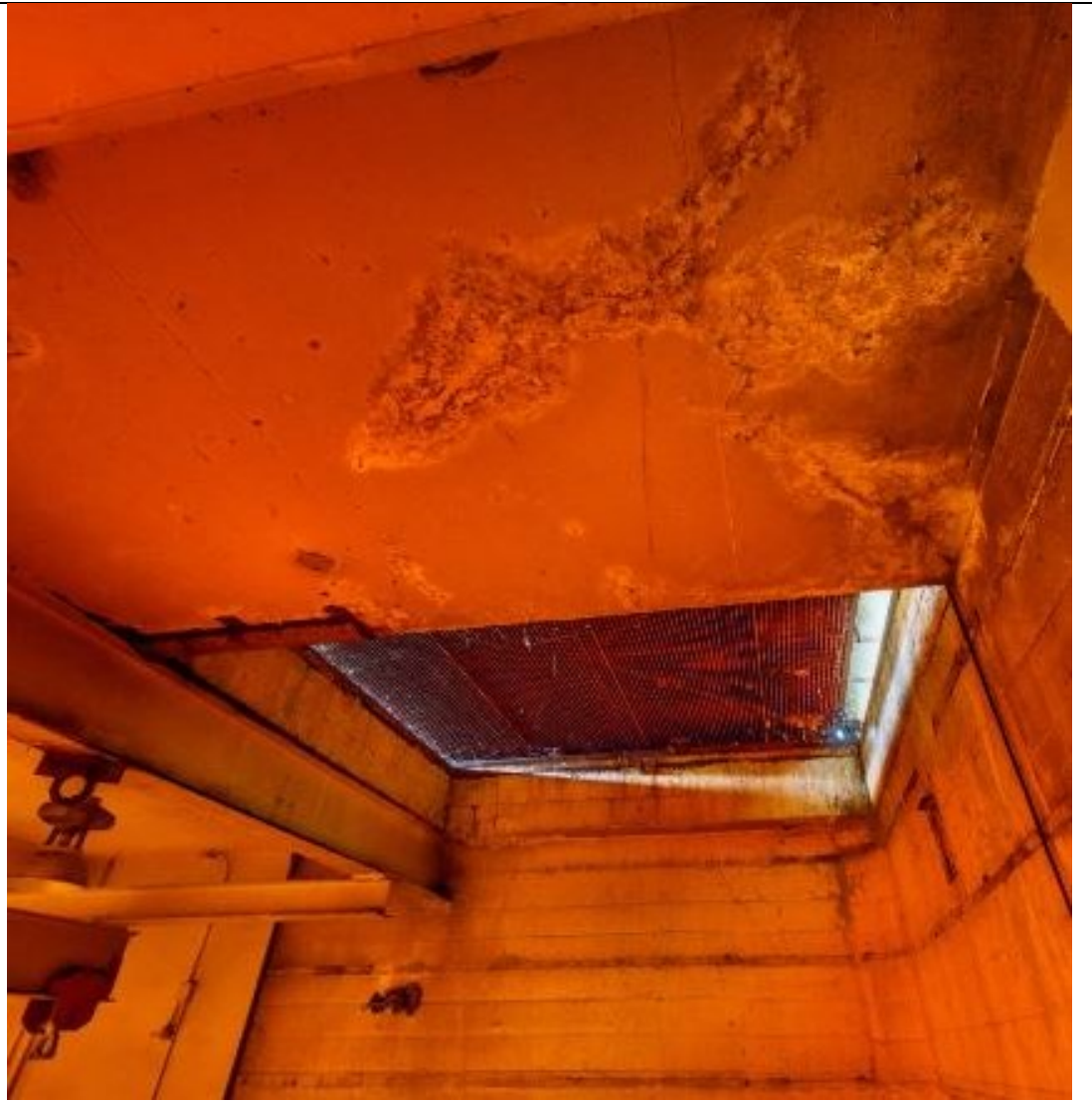


### 2.3.4 L1-101, Main Operating Floor

**Historic Marker:** High-water level recorded in July 1986 as reaching around 5' above the Main Operating floor — a poignant reminder of the strength and force of the surrounding river and importance of preparing this building for large flood events.



**Interior Access Hatch:**  
Poor weather sealing of the roof access hatch is evidenced by intruding daylight and ceiling efflorescence relating to free water ingress.



**Walls:** All walls are soiled, exhibiting paint failure, and plaster walls evidence different eras of decorative schemes over time: greens/pinks/off-whites/red dados and bare concrete variously abound from different campaigns. The metal panel in photo centre seals the tunnel that provided access to the now demolished High Pressure Plant (HPP) Control Room.



**Floors:** Paint failure and soiling abounds as through the rest of the building, and site generally.



### 2.3.5 L2-101 to L5-101, Access Floors & Basement Operating Floor

**Soil Deposition:** Soil deposition on all horizontal surfaces begins with finer grain/thinner amounts of sediment at level L3-101 and progressively becomes thicker and heavier on levels 4 and 5 below where it exhibits mud-flat or clay pan-like cracking. This is due to river water ingress, likely specifically from the high-level water in-take. During on-site inspections the basement floor was still saturated with water and there was heavy scum or bio-growth films on top.

**L3: Fine Sediment**



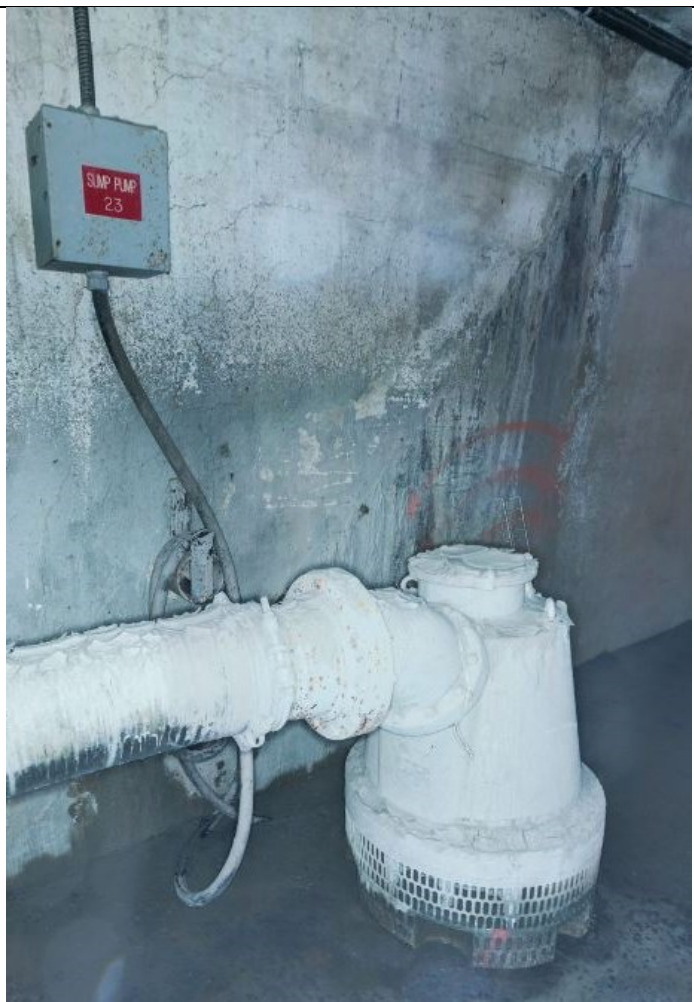
**L4: Thicker Sediment Deposits**



**L5: Basement Floor Thick Deposits**



**Sump Pump:** Basement operating floor sump pumps will require maintenance to keep sediment deposit from clogging their operation.





### 2.3.6 L1-102 to L4-102, Lower Level Stairs

**Stairs:** All stairs are in generally good condition except for paint failure and the rare instance of passivated corrosion. Stairs do not meet contemporary building code requirements.





**2.3.7 L5-102 to L5-105, Wet-Well Units #1 - #4**

**Corrosion & Water Intrusion:**

In this photo the viewer is looking into through the basement operating floor into one of the open valve heads leading into the wet well. Beyond, sealed metal valves are seen to be actively corroding as water from above, presumably from the high water level in take, is running over it. In the lower photo, more details of the corroding travelling water screen is visible. Further corrosion and water intrusion is evidenced by extensive soil deposition and flooding in the dry-wells. Based on visual assessment, it appears that the high water level intake, among potential other intake valves, are the source of water ingress. Metal water in-take seals, travelling water screens, access ladders and landings are exhibiting corrosion. Concrete is also exhibiting areas of spalling due to corroding reinforcement.





**Fine Dusting:**

The water entering from high water intake is depositing soil in the building. Differential particle sedimentation has led to finer soil sediment deposit at the highest water levels, at Lower Level 3.



**Mud Flat Cracking:**

A larger volume of water ingress on Lower Level 4 is depositing increased quantities of soil. Differential particle sedimentation has led to mud flat cracking.

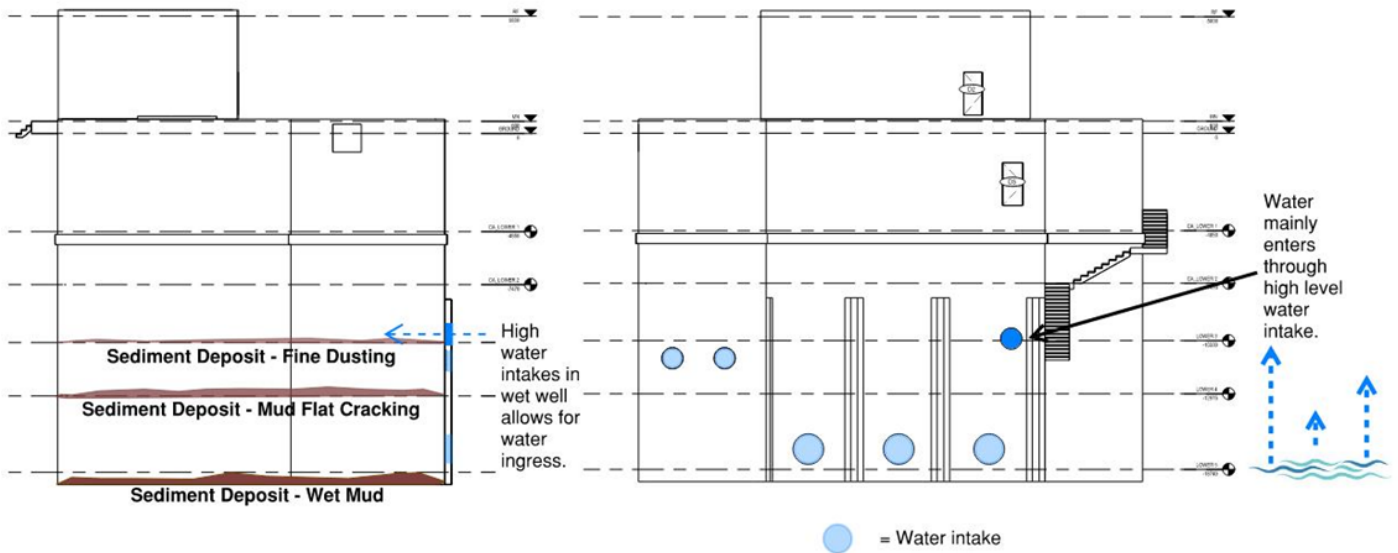


**Wet Mud:**

An advanced volume of water ingress on Lower Level 5 is depositing increased quantities/ degrees of soil. Differential particle sedimentation has led to wet mud deposits.



Pump House #2 Principal Deterioration Schematic



Water ingress in Pump House #2 will lead to similar deterioration patterns as in Pump House #1 if the water intake is unaddressed. Water entering through the high level intake is depositing varied amounts of sediment on Lower Levels 3 to 5. The lowermost level of the Pump House is subject to the most advanced sedimentation due to large quantities of water ingress.

## 2.4 Mechanical Systems

### 2.4.1 Introduction

The following is a description of the existing mechanical systems and services in the Rossdale Power plant Pumphouse No. 2.

Through the efforts of EPCOR the buildings are being preserved to prevent damage to the structure, building systems, finishes and existing equipment housed within. Some temporary systems and measures are currently in place to slow degradation of the buildings and maintain secure, if unoccupied spaces. The assessment is intended to provide an overview of the mechanical systems in each building while also providing recommendations for measures to implement or maintain which will continue to preserve the integrity of the building and their historically significant elements. Mechanical recommendations will focus on the immediate and urgent elements which threaten the building condition while also addressing possible services and systems which will be key to the redevelopment and renewal of this significant Edmonton landmark. Consideration will be given to initial capital costs, and operating costs of any temporary systems with reliability being the vital trait.

The assessment was accomplished by a walk-through of the building and discussions with the engineer who led the de-commissioning effort when the power plant stopped generating activity. Our evaluations did not involve disassembly or specialized testing of components. However, the information obtained from the building operator with respect to heating, ventilation, and plumbing system components provides a reasonable base of information upon which to estimate the condition of the mechanical systems.

### 2.4.2 Standards and Codes

Assessment of the mechanical systems and any recommendations have been formulated under the assumption the any urgent rehabilitation work as well as future development work will occur under the following codes, or the version that is in force once the redevelopment phase is underway.

- National Building Code — 2019 Alberta Edition (NBC-AE)
- National Plumbing Code of Canada (NPCC), 2015
- Alberta Occupational Health and Safety Act

### 2.4.3 Pumphouse No. 2 Plumbing Systems

#### Natural Gas

There is no natural gas service to this pumphouse, and none is required for heating or ventilation systems.

#### Domestic Water and Sanitary Drainage Systems

The pumphouse has no domestic water nor sanitary services. No addition of services is required for its preservation.

### Storm Water Drainage and Collection

The pumphouse No. 2 roof and its drains have not been recently repaired or upgraded. The roof drains have considerable accumulation of leaves around them. In the interior there are signs of degradation of the roof drain bodies. Rainwater leaders inside the building are cast iron and appear to be in good condition on the upper levels.

As described in the Interior Architectural section the basement levels are subject to regular flooding and significant sediment deposits from the incoming water. Two sump pumps on the lowest level de-water the building, collect the roof drain water and pump the water out to a manhole near the bike path adjacent. From there it is highly likely the water outfalls directly to the river. Only one pump is installed in a permanent sump and it is unclear what condition the pumps are in although they were able to lower the water level during the spring last year.



Above: Sediment deposits at the highwater mark



Above: Basement level sump and pump





Above: Basement level dewatering pump

### **Condition and Recommendations**

Clean around and maintain roof drain grilles. Replace the roof drain bodies when roofing repairs and upgrades occur to prevent further damage to membrane and ceiling surrounding the drains.

The basement level sumps should be cleaned, and solidified sediment removed. Verify that both pumps are functioning, replace both pumps if they are no longer functioning. It is critical that dewatering capacity remain in place and functional until the source of infiltration has been repaired.

**Miscellaneous Piping**

Existing small diameter (150mm or less) piping penetrations on the exterior walls have deteriorated and provide paths into the building for vermin and air or water infiltration. All of the associated systems have been de-commissioned and most if not all of the piping on the interior side of the wall has been removed.



Above: Abandoned piping penetration

**Condition and Recommendations**

The exterior piping and penetration should also be removed as it does not appear to have any historical significance or value. All of the penetrations should be patched with appropriate materials and methods.

**2.4.4 Fire Protection**

Some handheld fire extinguishers are present within the building and appear to have been recently inspected.

**2.4.5 Heating**

Heat for the pumphouse is provide by electric unit heaters on the main floor and first basement. The heaters appeared to be in operable condition and were not visibly affected by water infiltration in the lower basement.

**2.4.6 Cooling**

No mechanical cooling systems are present, nor required, within this structure.

**2.4.7 Ventilation**

There is no mechanical ventilation system serving any area of the pumphouse. Existing through wall exhaust fans have been either mostly or completely removed and are no longer functional. The openings have been temporarily closed with plywood and timber.

No ventilation requirements for preserving the building have been noted.

**2.4.8 Controls**

No automation or controls systems are operational within the building, with the exception of standalone controls serving the building heating.

**Condition and Recommendations**

Since the building is mostly unoccupied for long periods of time the installation of low temperature alarms may be useful to monitor the building throughout the winter to ensure that building operators are notified of any disruption or failure of the heating systems.

Again, mechanical instrumentation from the process systems previously within the space illustrate very clearly the character and history of the building.

## **2.5 Electrical Systems**

### **2.5.1 Overview**

The electrical systems were reviewed to establish general configuration and condition. This was accomplished by a walk-through of the building and discussions with the building operator.

Our assessment did not involve disassembly or specialized testing of components. The review was made during prevailing weather conditions and did not test the capabilities of the heating and ventilating equipment during winter or summer temperature extremes.

Specific equipment model or serial numbers have not been investigated with respect to equipment recall, operating requirements, or other matters affecting the safe performance of the equipment identified by the manufacturer or the authority having jurisdiction.

The electrical systems in the building are in generally poor condition and in order for the building to be occupiable will require significant renovations.

### **2.5.2 Site Services**

Electrical site services include underground connection to the main turbine building.

#### **Condition and Recommendations**

Site services are adequate for the current use. No recommendations for repair or upgrades are suggested.

### **2.5.3 Main Service and Distribution systems**

The majority of the distribution is abandoned in the facility. There are two sources of distribution in the building an MCC and a small 12 circuit branch circuit panel. Both appear to be original to the building. The MCC appears to have most of the equipment turned off with a few pumps and heaters still connected. The distribution panel feeds the lighting for the space. Several large control panels and standalone breakers have been disconnected and abandoned due to the equipment no longer being in service.

#### **Condition and Recommendations**

The majority of the distribution equipment is in poor condition and has reached the end of its service life. It is our recommendation that the distribution equipment be sized and replaced to match the function of what the space will be used for in the future. The existing equipment should be removed and replaced.

### **2.5.4 Branch Circuit Wiring**

The majority of the branch circuit wiring was concealed in conduit and cable at the time of the review. The conduit appeared original to the facility.

#### **Condition and Recommendations**

As the conduit and wiring has been for the most part been abandoned as has most of the equipment, it would be recommended that new wiring and conduit be run for the space once a new use is determined.

### **2.5.5 Lighting and Lighting Control**

The lighting in the facility is comprised of high bay fixtures for the first two levels and then fluorescent striplights on the levels below. The fixtures appear to have reached the end of their life and many of the lamps appear to be yellowed and failing. Control is via line voltage switching only.

Exterior lighting is comprised of one wall pack-type high intensity discharge (HID) light fixture located at entrance.

#### **Condition and Recommendations**

Given the fixtures age and condition it is recommended that the high bay fixtures be replaced with new LED energy efficient fixtures. As the building is currently not used frequently, the lighting should be designed for the new space use. At that time, it would be recommended to add a low voltage lighting control system complete with switches and sensors per the space layout.

### **2.5.6 Low Voltage Systems**

There was no observed telephone, data or security systems in the facility.

### **Condition and Recommendations**

It is assumed that for most new uses new telephone/fiber lines will need to be installed to allow for internet and telephone access for the building. A separate LAN room will likely be required for the space. The City of Edmonton will also likely want to add CCTV and card access systems to the building for both interior and exterior security.

#### **2.5.7 Life Safety Systems**

The only life safety devices observed in the facility was one emergency lighting battery pack and two sets of emergency lighting remote heads. Functionality of these devices was not able to be determined at the time of the review.

### **Condition and Recommendations**

It is recommended that full building life safety systems be added to the facility. This would include the addition of new green running man type exit signs, as well as new battery packs and remote heads for emergency lighting. Depending on the intended future use and occupancy a fully addressable fire alarm system capable of meeting all code requirements as well as providing the capability of expansion if or when required may also be required. As this building is connected to the main turbine hall the fire alarm system could be shared or linked between the two facilities if one were added.

## 2.6 Structural Systems

### 2.6.1 Introduction

RJC completed structural condition assessments for each of the six buildings located on the Rosedale Power Plant site located in downtown Edmonton, Alberta. The six buildings are as follows: Low Pressure Plant (which includes the Boiler Hall, the Turbine Hall & Switch House), Pumphouse 1, Pumphouse 2, and ATCO Gas Metering Building.

The following report is for Pumphouse 2. It includes a summary of the documentation available for review, the site conditions observed and what can be expected for the structure going forward.

### 2.6.2 Documentation Review

RJC reviewed both the available drawings and reports provided by the City of Edmonton.

Structural drawings were available for review. In general, they were partial sets for the buildings and did not always have the version noted so it is possible they may not reflect what got built. The drawings did contain some information regarding the type and configuration of the structure but, in general, the information was limited and incomplete. As well, some of the areas appeared different than the structure observed on site, which is likely the result of modifications to the Plant over time.

Furthermore, little to no design load information in general was shown on the drawings. Without this information, the capacity of the structure is not known and will need to be confirmed as part of reuse of the building.

The other information, including condition assessments and other related reports, were also reviewed. In general, there was limited information regarding the Pumphouse 2 available.

### 2.6.3 Site Assessment

RJC completed a visual condition assessment of the below noted buildings in late 2020 and early 2021. The condition of the structures is consistent with the age and use as industrial buildings. The structures are uniquely configured to support plant operation and have been modified over time to accommodate changes in equipment. This has resulted in structures that are varied, interdependent, and modified, as is typical of industrial sites where focus is on Plant performance and function.

The reviews were limited to visual observations of accessible areas. No testing or dismantling of finishes occurred during our evaluation. A design review was not part of the scope of this project and the review is preliminary in nature. When the project proceeds into detailed design, detailed checks and further site investigations will likely be required to confirm the conditions and capacities of the structures, as well as repairs may be required to make areas useable for intended use.

Pumphouse 2 is located south of the LP Plant buildings and was integral to the operation of the LP Plant. The following outlines the review of Pumphouse 2:

### 2.6.4 PH2 Structural Description

PH2 is the southwestern-most building as part of the review. It is located along the river and is one-storey above-grade with several storeys below grade, and is a stand-alone structure built in 1955.

The roof structure appears to consist of concrete precast structure on steel beams for the penthouse roof and concrete structure on steel beams for the lower main roof, with steel crane rails. The main floor and lower level structures consist of concrete slab on concrete beams with concrete foundation walls. There are steel stairs and platforms on the lower levels. There were also some steel columns from the main floor to the first basement level.

The foundation is unknown and was not visible during our review, but appears to be a large raft-style slab footing based on the drawings. The foundation walls consisted of concrete walls. The exterior walls are concrete and/or concrete block for the penthouse.

The former use for the building was equipment on the main/first lower floor, as well as equipment/access for the lower floors. At time of review, most of the equipment had been removed.

### 2.6.5 Condition of PH2 Structure

- There are several cracks in the upper masonry walls, generally concentrated on the corners of the building. The cracking is visible in the exterior finish and follows the mortar lines. It is unknown their cause, but it could be stress/temperature cracks or due to water infiltration. Based on a visual review, they do not appear to be foundation related.
- There appears to have been significant flooding of lower levels given the amount of sediment on the structure. This made visually observing the lower floor structures unfeasible, even from afar.
- Access handrails may need to be modified in some areas and would need to be reviewed if areas are opened, as they have been cut and appear low.

- There is some minor deterioration in the precast structure roof.
- There is some minor surface damage to the floors, including minor spalling and wear.
- Access to the exterior of the building on the south side was not feasible at time of review.

Therefore, in general, based on only visual observations, it appears the structure is in fair condition given its age. Overall, the structure appears to be performing as intended (but is seeing significant lower loading currently). No immediately critical structural damages were observed during the assessment, but it is expected some repairs will be required.

At this time, no additional investigations are suggested, unless the City of Edmonton wants a better idea of the condition of lower levels of the structure, given it is generally not reviewed.

The one area of concern to monitor is the cracking in the upper penthouse walls. Additional reviews should be completed during detailed design to ensure that water is not infiltrating the envelope and causing the observed cracking.

Overall, it is important to note parts of the structure could be at or near the end of the life cycle. While this does not mean replacement is required, repairs can be expected to make the building re-usable. It also means the on-going maintenance costs for the structure might be higher as the members/materials/finishes might need more upkeep (than what might be expected in newer buildings). Additionally condition reviews might need to be more frequent to ensure the structure remains in an adequate condition.

In general, the building structure has been constructed for plant operation and was built prior to major building codes. It is not known what codes the design was to, based on the drawings reviewed. Therefore, depending on the re-occupancy plan and intended use, assessment (and potentially reinforcement) may be required structurally.

### **2.6.6 Conclusion**

In general, the condition of structure for the Pumphouse 2 is fair. If re-occupied, the structure will need to be evaluated for capacity and some of the conditions repaired. Based on the results of those evaluations, repairs and reinforcement of the structure can reasonably be expected in some areas. Those could include, but are not limited to, evaluations and repairs such as:

- Reinforcement or upgrade of roof structure for current snow loads or changes to roofing
- General concrete repair and patching, including repair of spalled concrete
- Upgrading roof structure if used as patio areas (i.e. Pumphouse 2)
- Repair of stairs between floors
- Review of existing building under requirements for existing buildings (in commentary of National Building Code 2015) and National Building Code - 2019 Alberta Edition

These upgrades are dependent on the future use of the building. Those recommendations are beyond the scope of this report and unknown given the intended use is still an unknown. However, it can reasonably be expected that some changes to the structure will be part of the work required.

### **2.6.7 Limits of Liability**

This report is intended to provide a general description of the structure and its condition, which may have been apparent at the time of our review. Read Jones Christoffersen Ltd. did not perform any design checks to confirm the adequacy of the structure. They will however be required in some instances during design to confirm the capacity of the structure for the intended uses. This is because only limited structural drawings were available for review.

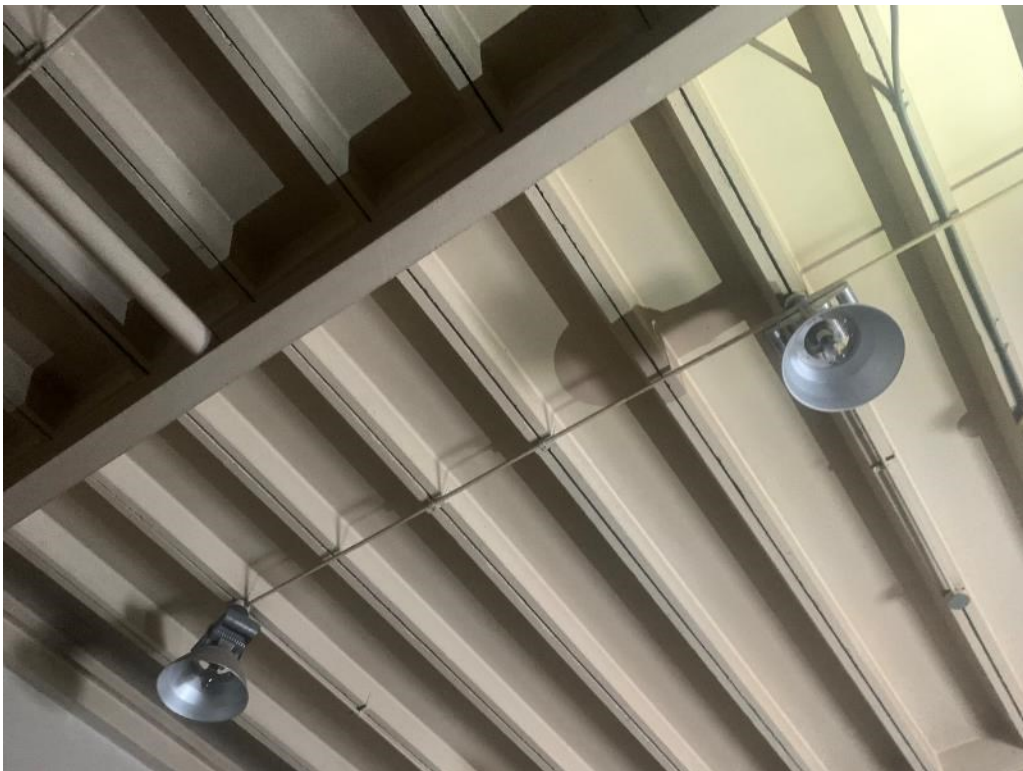
The review was limited to visual observations of accessible areas. No testing or dismantling of any coverings was performed. Reviews were made on a random basis with no attempt to review or inspect every element or portion of the building. The intent of the review was to determine areas of visually obvious deterioration and need for repair, and to determine, in a general way, the overall quality and sufficiency of the structure, but not to ascertain the quality or sufficiency of any specific aspect of the structure.

Our comments are not a guarantee nor warranty of any aspect of the condition of the building whatsoever, nor that the building has been built in accordance with the drawings and specifications. Any opinions of probable cost presented by the Consultant are based on incomplete or preliminary information and on factors over which the Consultant has no control. The Consultant does not guarantee the accuracy of these probable costs and shall have no liability where the probable costs are exceeded.

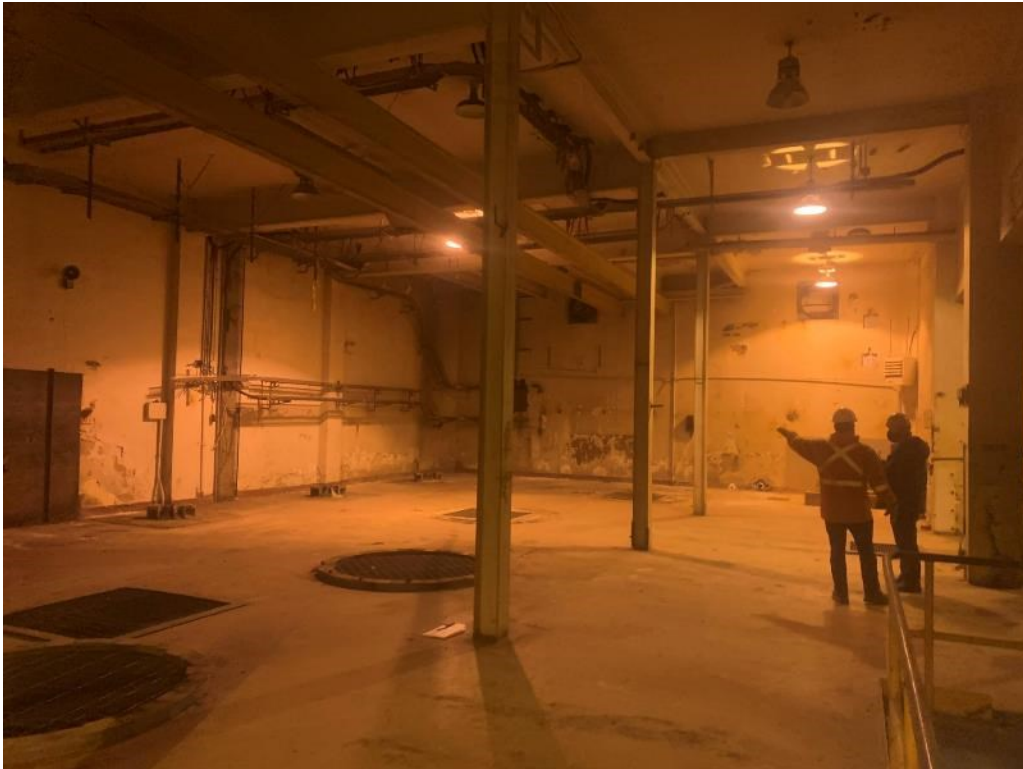
Reports prepared by the Consultant are exclusively for the use and benefit of the Client. They are not for the use or benefit of, nor may they be relied upon by, any other person or entity without written permission of the Consultant.



Above: PH2



Above: PH2 – Roof Structure



Above: PH2 -1<sup>st</sup> Level Down Structure

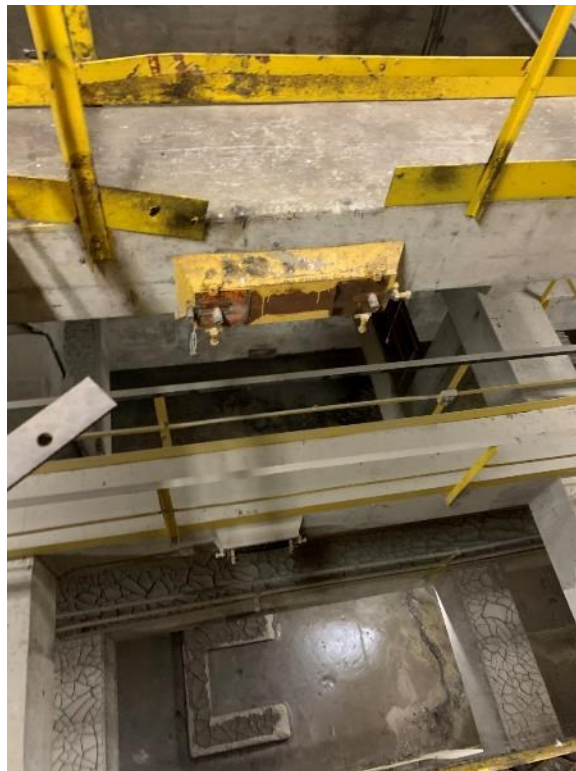


Above: PH2 - Exterior Cracking





Above: PH2 – Exterior Cracking



Above: PH2 – Lower Level Structures



Above: PH2 – Lower Level Structures (Sediment on Structure)



Above: PH2 – Main Roof Structure from Exterior

## 2.7 Building Code

Please refer to the *Building and Fire Code Assessment* for a detailed overview of Building Code and Accessibility compliance challenges and opportunities

## 2.8 Designated Substances

While hazardous materials assessment was not within the scope of this project, the consultant team did consult the following documents in the preparation of this condition assessment report. Further examination by a qualified hazardous materials consultant is recommended prior to the implementation of any conservation planning or rehabilitation measures.

<b>Title<sup>1</sup></b>	<b>Author</b>	<b>Date</b>
Hazardous Building Material Survey Report	PHH ARC Environmental Ltd.	2008-12-24
Oil Samples MP01-9312	Meridian Power Systems Inc.	2009-01-26
PCB G10	Meridian Power Systems Inc.	2009-01-27
PCB GT10	Meridian Power Systems Inc.	2009-01-27
EPCOR Rossdale MP01-9312 PCB Results	Meridian Power Systems Inc.	2009-01-29
Asbestos Bulk Samples and Air Monitoring	PHH ARC Environmental Ltd.	2009-02-11
Asphalt Asbestos Bulk Samples	PHH ARC Environmental Ltd.	2009-03-13
6304BRr01 "Rossdale EPCOR Refractory Bulk Sampling Report"	PHH ARC Environmental Ltd.	2009-07-07
Additional ACM Testing "Pinchin Environmental Asbestos Laboratory - Certificate of Analysis"	Pinchin Environmental Testing	2010-04-23
Haz-Mat Testing Rossdale Generating Project "Bulk Material Identification"	RH Services Inc	2015-04-23
Asbestos Report Roof Access Hatch	Pinchin Environmental Testing	2016-05-09

<sup>1</sup> See Works Cited for specific references.



### 3.0 Conclusions & Recommendations

Areas or subject matter of the building that might require further investigation, including limitations of the current assessment, include:

- 1) Unknown thorough conditions of wet-well due to lack of access suggests that the wet-well and all associated machinery and mechanical systems require further investigation. This could correspond to efforts to seal water leaks.
- 2) Depth of concrete carbonation and depth of concrete reinforcement in relation to its surfaces may help inform sustainable preventative conservation, for instance, perhaps a cathodic protection systems could help reduced future maintenance due to the inherent vice of reinforced concrete assemblies that inevitably exhibit corrosion packing of ferrous reinforcements.
- 3) Material properties necessary to specify a repair or replacement of materials in unit or section.

Specific recommendations that have follow from understanding of building conditions are included in the subsequent AARP document, *Priority Rehabilitation Scope Definition and Class 5 Budget*.

# 4.0 Appendices – Conditions Mapping

## Consultant Responses to CP-9673 RPP AAPR PD01 - Architectural Review

2020-06-30

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
01	Building and Fire Code Assessment	N/A	Lot of information is included in terms of Code requirements. But it is not always clear on how the existing conditions fare against those requirements. If existing items are determined to be non compliant, adding a sentence pointing out the non-compliance would suffice. [Comment do not apply to accessibility section]	We can endeavor to identify the applicable code nonconformance(s) where they occur and additionally where they could be applied to the range of [future] occupancies proposed. In some areas it is difficult to identify a noncompliance for a certain occupancy type as this could differ slightly from another occupancy type (where that noncompliance is not appropriate or deemed as such).
02	Building and Fire Code Assessment	N/A	Would it be possible to add an executive summary to sum up the level of impact that each major occupancy will have on the buildings?	Yes, we can identify this at a "high-level" in executive summary form at the beginning of the report.
03	Building and Fire Code Assessment	p. 9	Table 3.2 and 3.3: Is D occupancy an anticipated occupancy for Pumphouse # 1 and 2 due to the layout of these two buildings?	The occupancy types for each building are set, although an occupancy might not be proposed for a specific building, we have provided the information to each building, not knowing at this time what the future occupancy could/would be.
04	Building and Fire Code Assessment	p. 11	Table 3.5: It would be helpful to include the minimum rating required for loadbearing walls, columns and arches. At least in brackets? [Comment also applies to Table 3.6].	Noted, we will apply the minimum fire resistance rating(s) required for loadbearing walls, columns and arches [where applicable].
05	Building and Fire Code Assessment	p. 34	Tables showing 'Occupant Load Analysis vs. Exiting Provisions': Would it be possible to add existing conditions to this table or is that still being determined?	During the site visit, many existing exiting doors were locked shut, we can take the measurement from the Architectural drawings to establish the existing exiting width provisions and add this into the relevant table.
06	Building and Fire Code Assessment	p. 40	12.0 Vertical transportation: Which buildings does this section apply to?	We will update and provide further details within the report to where this is required and where this would be triggered.
07	Building and Fire Code Assessment	p. 41	13.0 Washroom requirements: Can a column be added to indicate the number of washrooms required, if we go with all universal (gender-inclusive) washrooms?	Yes, this information can be added. Generally, the number of washrooms required for gender-inclusive purposes would be the sum of those required for both male and female washrooms. This value may change if the occupant load changes throughout the life of the project / design progression. In addition, barrier-free requirements for those washrooms will be revised in the final report to indicate that only 2 barrier-free washrooms are required to be provided for each floor area proposed to contain a barrier-free path of travel, per the Edmonton Access Design Guide.
08	Building and Fire Code Assessment	p. 42	Section 14.0 is titled INTRODUCTION without an indication that this is an introduction to a new section, accessibility. Please revise the title for clarity.	Yes, the final report will be provided with a proper introduction to the Accessibility portion of the report for clarity.



COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
09	Building Condition Assessments		2.1 Civil/Landscape: Same information is included for condition assessments of all buildings. Some of the information included for the Low Pressure Plant is not relevant for the pump houses or ATCO Gas building. Can this section be customized for the pumphouses and ATCO Gas building by removing non-applicable items?	Yes, this will be updated in the final version of the assessment reports.
10	Conservation Plan	p. 20	The City Plan was approved by Council in December 2020.	Noted, thanks. This will be updated in the final report.
11	Conservation Plan	p. 42	Criteria table: Does Building Code requirements fall under 'Health and Safety/Security'?	Yes.

## Consultant Responses to CP-9673 RPP AAPR PD01 - City Planning Review

2020-06-30

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
01	Photographic Record Documents	p.3	P. 3 of each Photographic Record document says that all photographic data is from MiraCAD or drone footage "with the exception of photograph #8, which was taken by a Pixel 3a Smartphone Camera." Each document has its own numbering so I'm assuming that this photograph #8 taken by the Pixel 3a is only in one of the Photographic Record documents and not them all.	Noted and corrected, thanks.
02	Switch House Condition Assessment	p. 35	Looks like a word is missing in the final paragraph. Was it intended to read "...there is a notable lack of trolley stops"?	Noted and corrected, thanks.
03	Switch House Condition Assessment	p. 45	Should read "its" rather than "it's" in second sentence of Natural Gas paragraph.	Noted and corrected, thanks.
04	Switch House Condition Assessment	p.48	This states that the temporary glycol heating system is "adequate for heating to preserve the foundation and no changes are recommended unless maintaining the system in place is cost prohibitive." I would like one or two more sentences recommending what we should do if the system in place is deemed to be cost prohibitive.	We will update the recommendation accordingly.
05	Switch House Condition Assessment	p. 53	The first sentence under heading 2.6.6 refers to the Turbine Hall which appears to be a boilerplate error, since this document pertains not to the Turbine Hall but to the Switch House.	Noted and corrected, thanks.
06	Turbine Hall Condition Assessment	p. 44	Should read "its" rather than "it's" in second sentence of Natural Gas paragraph.	Noted and corrected, thanks.
07	Turbine Hall Condition Assessment	p. 47	This states that the temporary glycol heating system is "adequate for heating to preserve the foundation and no changes are recommended unless maintaining the system in place is cost prohibitive." I would like one or two more sentences recommending what we should do if the system in place is deemed to be cost prohibitive.	We will update the recommendation accordingly.
08	Turbine Hall Condition Assessment	p. 52	"It is important to note that there are structural members which are at or could be near the end of their life-cycle." I thought part of the purpose of this report is to identify what's good and what isn't. Does a "things could be bad" statement impugn the structural integrity of the building, or is that intended to just be a flag for future detailed design in adaptive reuse work?	Statement is intended to note structure cost can be expected to upgrade and maintain structure. It is not intended to indicate the structure is no longer usable, and we will update comments to better reflect it.

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
09	Boiler Hall Condition Assessment	p. 14	Second sentence refers to Turbine Hall, which looks to be a boilerplate error.	Noted and corrected, thanks.
10	Boiler Hall Condition Assessment	p. 51	Should be "its" rather than "it's" in second sentence of Natural Gas paragraph.	Noted and corrected, thanks.
11	Boiler Hall Condition Assessment	p. 54	This states that the temporary glycol heating system is "adequate for heating to preserve the foundation and no changes are recommended unless maintaining the system in place is cost prohibitive." I would like one or two more sentences recommending what we should do if the system in place is deemed to be cost prohibitive.	We will update the recommendation accordingly.
12	Boiler Hall Condition Assessment	p. 60	"It is important to note that there are structural members which are at or could be near the end of their life-cycle." I thought part of the purpose of this report is to identify what's good and what isn't. Does a "things could be bad" statement impugn the structural integrity of the building, or is that intended to just be a flag for future detailed design in adaptive reuse work?	Statement is intended to note structure cost can be expected to upgrade and maintain structure. It is not intended to indicate the structure is no longer usable, and we will update comments to better reflect it.
13	Pump House 1 Condition Assessment	-	Page numbers missing throughout.	Noted and corrected, thanks.
14	Pump House 2 Condition Assessment	-	Page numbers missing throughout.	Noted and corrected, thanks.
15	Pump House 2 Condition Assessment	Wet Mud page	"wed mud deposits" is a typo. Great schematic explaining the water ingress issue, though!	Noted and corrected, thanks.
16	Building and Fire Code Assessment	p. 3	In the paragraph after the bullets, remove the apostrophe after "buildings."	Noted and corrected, thanks.
17	Building and Fire Code Assessment	p. 31	The total calculated occupant loads seem really high. 1425 people on the main floor of the Turbine Hall? 1065 people on the mezzanine level of the Boiler Hall? 424 people in Pumphouse #1? 1481 people in Pumphouse #2? I just want to ensure that how we're calculating the area is accurate. These numbers are the basis of other calculations so they have to be realistic. For example, on page 41, the occupancy numbers total up to 11,380 people needing 124 water closets plus 14 barrier-free washrooms (p. 68) for a total of 128. Eleven thousand people in the Low Pressure Plant seems impossible and the washroom numbers seem astronomical to me.	The occupancy calculations identified in the assessment are a product of applying the Code-defined ratios of area per person. In practice the final determination of occupancy type, likely coupled with a design occupant load (which limits the number of people permitted to occupy portions of each of the buildings at any one time) would be used to limit the number of (amongst other things) washroom fixtures required. We will add a clarifying note to this effect.

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
18	Conservation Plan part 1	p. 22	Section 4.5 of the River Crossing Business Plan actually doesn't have any text about the power plant, but the map in this section shows the power plant as being intended for Institutional / Cultural uses. This wouldn't preclude commercial uses, but the reference to at-grade commercial in section 4.5 of the business plan is to streetfronts on 96 Ave and 104 St north of the power plant. Please combine the two (A) sections under the section 4.5 heading on p. 22 and correct them accordingly.	Noted and corrected, thanks.
19	Conservation Plan part 1	p. 23	The sentence "The Rivers Crossing Business Plan is legally supported through zoning by the Rosssdale Area Redevelopment "Bylaw 8139..." is not exactly correct. The Rosssdale Area Redevelopment Plan was adopted in 1986 and we are now in the process of updating the ARP on the basis of the Business Plan. Replace this with something like the following: "The City is now in the process of updating the Rosssdale Area Redevelopment Plan on the basis of the River Crossing Business Plan. The boundary of the ARP is shown on the following map. The City is also in the process of updating the zoning that applies to the power plant complex to reflect the scope of possible future uses."	Noted and corrected, thanks.
20	Conservation Plan part 1	p. 36	Should read "Stone masons" instead of "Stone mason's".	Noted and corrected, thanks.
21	Conservation Plan part 1	p. 36	Footnote 28 appears to be misplaced.	Noted and corrected, thanks.
22	Conservation Plan part 1	p. 72	John Poole was the son of PCL founder Ernest Poole. Perhaps write "(who later became co-owner of construction firm known as PCL, formerly Poole Construction Limited, and a prominent Edmonton philanthropist)".	Noted and corrected, thanks.
23	Conservation Plan part 1	p. 84	p. 84 The first sentence is missing a period.	Noted and corrected, thanks.
24	Conservation Plan part 1	p. 93	The final sentence on the page -- "It is the drainage of the glacial melt Lake Edmonton that led to a rapid down cutting of what we now call the North Saskatchewan River" -- is technically correct but it makes the reader think that the drainage of Lake Edmonton happened through the North Saskatchewan River, when in fact the drainage was the Gwynne Channel (Godfrey, 1993, p. 26-29). It would be clearer to write: "After the glacial-melt Lake Edmonton drained to the southeast, what we now call the North Saskatchewan River rapidly began cutting down its valley."	Noted and corrected, thanks.
25	Conservation Plan part 1	p. 94	Impressive re-drawing / updating of the river valley geological cross-section!	Thanks!

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
26	Conservation Plan part 1	p. 96	Given footnote 44, I think you mean "World Wildlife Fund" (capitalized) rather than the World Wildlife Foundation, which is a different, much smaller, organization.	Noted and corrected, thanks.
27	Conservation Plan part 1	p. 97	I think there should be a comma between the two sentences on this page.	Noted and corrected, thanks.
28	Conservation Plan part 1	p. 113, 115	What is the evidence supporting the statement that Cree called Rosssdale pehonan? The Executive Summary of the 2004 Rosssdale Flats Aboriginal Oral Histories Project said that Rosssdale was a pehonan, or gathering place, long before the fur trading era. All subsequent references to pehonan in the Oral Histories Project report, however, come from Louis "Buff" Parry, a non-Indigenous person with an exceptionally curious background that includes writing a book and making documentary about secret societies and years of research about the Holy Grail. Since the Oral Histories Project report was issued, other people locally have applied the term pehonan to Rosssdale, but no archival evidence of the name has been demonstrated, and the River Crossing project's extensive Indigenous engagement with First Nation elders and others never connected the term to Rosssdale. In the book Castles to Forts: A True History of Edmonton, Metis researcher Phillip Coutu, one of the most involved Indigenous activists associated with the Rosssdale burial ground, uses the term pehonan a number of times, but only in connection with the area near the forks, or confluence, of the North and South Saskatchewan Rivers over 500 km to the east of Edmonton. Archaeological evidence indicates that the Rosssdale flat had human activity as long as 10,000 years ago, but there is also evidence of similarly old human activity on other river flats in the area. In the words of provincial archaeologist Caroline Hudecek-Cuffe, "There is increasing evidence showing a very long and consistent pattern of Indigenous hunting, camping, and utilization of the diverse resources offered by the river valley and its tributaries in the Edmonton region." On our River Crossing web page, we celebrate the river valley being "a sustaining force, giving people water, food, shelter, and medicine." It is also accurate to say that the Rosssdale flat has been a place of human activity for 10,000 years. To suggest that this one river flat, however, was more special, or more sacred, than other, nearby river flats prior to the arrival of the fur trading forts feeds into a narrative with more political purpose than evidentiary support.	"pehonan" here isn't being used as a noun, but as a verb. It is in line as an accepted convention, from Chief Bruno to Edmonton Historical Board website. However, we have now referred to it as Gathering Place instead, to be more inclusive of a multitude of indigenous groups rather than Cree-centric.

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
29	Conservation Plan part 1	p. 124	The label for the map on this page should read "The green line depicts the possible route of Anthony Henday's expedition..." There are four different versions of Henday's journals with so much variation between them that historians today are loath to follow earlier generations of historians who claimed to have determined with certainty Henday's route. For more information, see Henday, Anthony. A Year Inland, ed. Barbara Belyea. Waterloo: Wilfrid Laurier University Press, 2000.	Noted and corrected, thanks.
30	Conservation Plan part 1	p. 124-125	The write-up about Fort Augustus / Edmonton House I needs to be rewritten as it is based on an incorrect reading of Dylan Reade's 2018 article. Dylan confirmed with me in an 8 Apr 2021 email that he has no contention with the accepted location of Fort Augustus / Edmonton House I "as it seems to be amply documented both archivally and by archaeology" in Dylan's words. It's Fort Augustus II that he thinks was located on the Victoria flat. While we don't yet have concrete archaeological evidence of the fort being in this location, Dylan's article provides the archival evidence supporting his claim, which is consistent with the fact that archaeologist Nancy Saxberg has never found any 1800-1815 artifacts in Rosssdale and herself believes that Fort Augustus / Edmonton House II were on the Victoria flat. In other words, the current evidence points to the Rosssdale flat as being home only to Fort August / Edmonton House IV between 1813 and 1830, when Edmonton House V was built on what is now the Legislature grounds. This report should reflect this current thinking.	Noted and corrected, thanks.
31	Conservation Plan part 1	p. 125	This sentence at the bottom of the page also needs to be changed in light of my previous comment: "European settlement on the Rosssdale flats did not occur until the early 19th century, with Fort Edmonton II & Fort Augustus II (1802- 1810)." As mentioned, evidence points to European settlement on the Rosssdale flat beginning in 1813.	Noted and corrected, thanks.

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
32	Conservation Plan part 1	p. 125	I would also encourage you to consider revising this sentence: "...likely for the same reasons Indigenous Peoples chose Rosssdale Flats as a place for encampment for the preceding 10,000 years as land with good river access, flat relatively high land, and largely flood free." Today's high-banked Rosssdale flat reflects significant fill added in the 20th century. Binnema and Ens, in the introduction to their 2016 publication of the 1821-1826 Edmonton House Journals, note on p. lxxxv that frequent flooding on the Rosssdale flat was the reason for the move to the Legislature grounds site, so Rosssdale clearly was flood prone. The fur traders choosing to return in 1813 to what is now the Edmonton area after a failed venture 100 km downstream (Fort Augustus / Edmonton House III, 1810-1812) was obviously done in recognition that the Edmonton area better met their needs, but the specific choice of the Rosssdale flat at that time may have been as simple as that it was the next "virgin" flat over from where they had been before 1810. It was probably more nuanced a choice than that -- the Rosssdale flat was on the inside of the river's turn and hence away from the strongest flow whereas the Victoria Flat was on the outside of the turn -- but what I think needs to be emphasized in this part of the report is not one flat's superiority over all the others in the vicinity but the general desirability of the Edmonton area. On 9 Apr 2021, I spoke with Alwynne Beaudoin, Director of Natural History at the Royal Alberta Museum and an expert paleoecologist. When I asked her what originally made the Edmonton area attractive to Indigenous peoples, she said that it was "the variety of the landscape." The Edmonton area has a protective valley, is on the margin of the forest, is close to the grassland, is near the Beaver Hills, is a good spot to get across the river, and is convenient to the mountains. "Where you get a lot of ecological complexity," she said, "is where you get a lot of resources."	Noted and corrected, thanks.
33	Conservation Plan part 1	p. 126	Revise the piece about the locations of Edmonton II and IV based on my comments above. Nancy Saxberg and Dylan Reade both think that Edmonton II was on the Victoria flat, though they focus on different edges of that flat. Nancy's work (e.g. image on p. 112 of the Conservation Plan) along with documentary evidence (e.g. the James Bird map on p. 107) strongly connect Edmonton IV with Rosssdale.	Noted and corrected, thanks. I circled back with Nancy Saxberg as well [EO].
34	Conservation Plan part 1	p. 128	Is the red box lower on the image than intended?	Yes, noted and corrected, thanks.
35	Conservation Plan part 1	p. 130	Dylan Reade (reade.dylan@gmail.com) has information on how Donald Ross got River Lot 4 in case you want to follow that lead.	Finally made contact, thanks Erik! [EO].

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
36	Conservation Plan part 1	p. 130	Donald Ross's hotel was called the Edmonton Hotel. And the "the land underneath the Power Plant" is not "likely," but certainly, "outside of the bounds of the River Lot."	Edited. I found a reference to Ross Hotel at one point and I think that stuck in my head [EO].
37	Conservation Plan part 1	p. 135	Photo caption and footnote should read "Power Plant in Danger."	Noted and corrected, thanks.
38	Conservation Plan part 1	p. 136	Should read "Jasper Avenue's"	Noted and corrected, thanks.
39	Conservation Plan part 1	p. 141	I would recast the final sentence to indicate that the Rosssdale Power Plant was the only electrical generating station in Edmonton until Clover Bar opened in 1970.	Noted and corrected, thanks.
40	Conservation Plan part 1	p. 147	Should read "street railway cars"	Noted and corrected, thanks.
41	Conservation Plan part 1	p. 154	Final sentence appears to be a note to the writer.	Noted and corrected, thanks.
42	Conservation Plan part 1	p. 157	The caption for Figure 127 appears garbled: "up to 16 of the plant's boiler technology was..."	Noted and corrected, thanks.
43	Conservation Plan part 1	p. 171	Should read "Mayor Hawrelak"	Noted and corrected, thanks.
44	Conservation Plan part 1	p. 175 - 176	All references to the "City" should be capitalized.	Noted and corrected, thanks.
45	Conservation Plan part 1	p. 183	Be consistent regarding whether to fully capitalize "Whiting." Also, "Whiting" is spelled incorrectly in one place.	Thanks, some confusion based on a report presentation of the name.
46	Conservation Plan part 2	p. 7	Should read "Pump House #2 and the Switch House are included in this draft."	
47	Conservation Plan part 2	p. 7	I'm pleased to see the discussion of deep Indigenous connection to the site but would like to see it called something other than pehonan. As indicated in comments above, no one including you has presented evidence that this one river flat had especial importance before fur trading forts were established on it. What the evidence instead indicates is the importance of the river valley as a whole to Indigenous peoples. I propose replacing the pehonan heading and first two sentences with something like the following: "Indigenous significance: The river valley of which Rosssdale is a part has deep Indigenous significance. There is evidence of campsites in Rosssdale and other river flats going back 10,000 years. European fur traders were drawn to what is now the Edmonton region because of the number of Indigenous peoples who lived on this land. The establishment of trading forts in Rosssdale made it an important gathering space for many First Nations and Metis people -- a place of ceremonies, celebrations, meetings, trade, dance, and games."	Noted and amended. Please refer to response to comment #28.



COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
48	Conservation Plan part 2	p. 7	Surely the phrase "arbitrary Eurocentric deli" is an error?	Yes, noted and corrected, thanks.
49	Conservation Plan part 2	p. 7	Should read "(specifically Forts Edmonton & Fort Augustus IV)"	Noted and corrected, thanks.
50	Conservation Plan part 2	p. 8	In heading B, paragraph 1, capitalize "City."	Noted and corrected, thanks.
51	Conservation Plan part 2	p. 9	Should read "Mayors" not "Majors."	Noted and corrected, thanks.
52	Conservation Plan part 2	p. 18	Should read "including Fort Edmonton IV and Fort Augustus IV" and, lower on the page, "Fort Edmonton IV's location at this site..."	Noted and corrected, thanks.
53	Conservation Plan part 2	p. 18	Regarding the text in highlighting, once the Rossdale subdivision is registered, the Rossdale Power Plant will occupy a portion of a 3.72 ha parcel.	Noted and corrected, thanks.
54	Conservation Plan part 2	p. 19	Should read "co-owner of PCL."	Noted and corrected, thanks.
55	Conservation Plan part 2	p. 20	"[This point split as below]" -- is this a note to the writer?	Yes, noted and corrected, thanks.
56	Conservation Plan part 2	p. 27	There are two copies of the same image.	Noted and corrected, thanks.
57	Conservation Plan part 2	p. 48	Should read "...of Fort Edmonton IV."	Noted and corrected, thanks.
58	Conservation Plan part 2	p. 49	In point 5, it should read "...similar to the heritage pattern."	Noted and corrected, thanks.
59	Conservation Plan part 2	p. 50	Is the paragraph that begins "New additions should not attempt..." intended to be part of the Mechanical and Electrical Systems row? It feels like its own Additions row.	Noted and corrected, thanks.
60	Conservation Plan part 2	p. 50	The sentence "While reversibility was once a mantra of the heritage profession re-treatability is recognised as" appears to be unfinished.	Noted and corrected, thanks.
61	Conservation Plan part 2	p. 52	It looks like there is a writer's note at the top of the page.	Noted and corrected, thanks.
62	Conservation Plan part 2	p. 56	The text of the top of the page appears incorrect or missing something.	Noted and corrected, thanks.
63	Conservation Plan part 2	p. 64	What does the Distillery District image have to do with the notion of relocating machinery?	Machinery bit was supposed to be deleted, good catch. Distillery example is about turning windows into doors. I actually physically changed a few when I was a mason myself [EO].

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
64	Conservation Plan part 2	p. 70 - 76	I will need to discuss this proposed process with the City's Indigenous Relations Office. My observation is that this looks to be a very resource-intensive process. There is nothing in this write up about how it would relate to engagement with non Indigenous stakeholders and the general public other than saying that "meaningful and clear roles for non-Indigenous collaborators will be critical to the success of the engagement process." Also, unless I'm missing it, there is nothing in this text that explains how the proposed engagement process relates to the conservation phases listed on p. 43. For example, is all of the process indicated recommended to happened as part of the limited, strategic renovations being done as part of the Advanced Assessment and Priority Rehabilitation project in 2021 - 2023, or would all of this process apply to short term work in 2023 - 2028? Or medium term work after 2029? I suggest adding a Staging or Timing subsection to this section of the report.	This will be updated. Not part of AAPR process, because this is a bit more hard nose stabilisation/enabling rather than permanent space-making. There could also be opportunities to run this engagement alongside other area re-development such as the indigenous park to the north. City Framework will be referenced.
65	Conservation Plan part 2	p. 86	The second sentence in bullet (1) should read "Do salient archival records survive..."	Noted and corrected, thanks.
66	Conservation Plan part 2	p. 86	The second sentence in bullet (2) should read "The authors attempted to make contact but were unsuccessful."	Noted and corrected, thanks.

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
67	Conservation Plan part 2	p. 87	As noted on p. 126 of the Conservation Plan part 1, there already is a National Historic Site in the vicinity of the Rossdale Power Plant: the misnamed "Fort Edmonton III National Historic Site" that commemorates the location of the final fur trading fort in the Edmonton area, on what is now the grounds of the Alberta Legislature. This NHS, designated in 1959, is embarrassingly documented (e.g. a photo of Fort Edmonton V on the NHS web page is labelled as being Fort Edmonton III) and celebrates an incredibly narrow band of the history of the area. Designating the Rossdale Power Plant as a National Historic Site as suggested on p. 87 would leave the historical error of the existing designation unaddressed and could contribute to a sense of historical designation fragmentation. Please consider revising this text to recommend that the existing NHS designation be amended both in terms of the geography it pertains to and its period of significance. Similar to The Forks National Historic Site, an amended NHS designation could comprehend thousands of years of human history in this central portion of Edmonton's river valley -- from ancient Indigenous use to the fur trade to the settlement period to the present. The City has already had preliminary discussions with the Historic Sites and Monuments Board about this approach. In an 9 Jul 2019 email, Board staff admitted that "the Board's interest in the 1950s was typical of that era, a Eurocentric focus on the fur trade story and, today, many of these traditional stories are being told in a broader, richer fashion. The Historic Sites and Monuments Board of Canada (HSMBC) has updated and expanded other older designations to provide more inclusive histories. On several occasions, these updates have also included a name change." The email encouraged us to submit an amendment application which we have not done yet. If your report were to call for an amendment to the existing designation, it would strengthen the case that the City makes to the Board.	Good strategy about the specific recommendation to incorporate along with Fort Edmonton III (albeit a revision) have incorporated!
68	Conservation Plan part 2	p. 88	Should read "including an isolated area of blue stain."	Noted and corrected, thanks.

## Consultant Responses to CP-9673 RPP AAPR PD01 - FPD (AS) Review

2020-06-30

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
01	Historic Building Record Drawings (for all buildings)		Text/font size should be the same on each sheet for consistency. (eg. Drawing List, Hatch Legend, Symbols Legend, Dimensions, are too small and not legible etc.)	Noted, thanks.
02	Historic Building Record Drawings (for all buildings)		ROS111, Rossdale EPCOR Administration Building is noted on the "Site Plan Building List", please indicate that this building is not a part of this project.	Noted, this will be adjusted on the final set of Historic Building Record Drawings.
03	Boiler Hall Archival Photo Record		Boiler Hall-Photo Record. 'Company' is misspelled	Noted, thanks. To be corrected in final version.
04	Condition Mapping Drawings (for all buildings)		Text/font size should be the same on each sheet for consistency. Some text/notes are too small and not legible etc.)	Noted, thanks.
05	Condition Mapping Drawings (for all buildings)		*Spelling errors, please do a spell check on all drawings	Noted, thanks.
06	Condition Mapping Drawings (for all buildings)		Some Room Numbers should be moved to be legible. Some walls run right through the room numbers.	Noted, thanks. To be corrected in final version.
07	Drawings: H260, H261, H263, H557, H558  Boiler Hall		Text and Room numbers difficult to read in hatched areas.	Noted, thanks. To be corrected in final version.
08	Drawings: H251, H551 Pump House #2		Text and Room numbers difficult to read in hatched areas.	Noted, thanks. To be corrected in final version.
09	Condition Assessment-Switch House	p. 52	First sentence to be reworded	Noted, thanks.

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
10	Condition Assessment-Turbine Hall First paragraph, 2nd sentence	p. 23 (and page 32)	Confirm if a Gantry crane, it may be an overhead or bridge crane.	Confirmed, this is a gantry crane.
11	Condition Assessment-Turbine Hal 2.6.1 Introduction: First paragraph	p. 51	First sentence to be reworded	Noted, thanks.
12	Condition Assessment-Boiler Hall 2.6.1 Introduction: First paragraph	p. 58	First sentence to be reworded	Noted, thanks.
13	Condition Assessment-Pump House #1		Page numbers missing	Noted, thanks. To be corrected in final version.
14	Condition Assessment-Pump House #1	2.1	The Civil/Landscape section (description and photos) is focused on the LPP and not Pump House #1	Noted, thanks. To be corrected in final version.
15	Condition Assessment-Pump House #1 2.6.1 Introduction: First paragraph	p. 39	First sentence to be reworded	Noted, thanks.
16	Condition Assessment-Pump House #2		Page numbers missing	Noted, thanks. To be corrected in final version.
17	Condition Assessment-Pump House #2	2.1	The Civil/Landscape section (description and photos) is focused on the LPP and not Pump House #2	Noted, thanks. To be corrected in final version.

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
18	Condition Assessment- Pump House #2  2.6.1 Introduction: First paragraph		First sentence to be reworded	Noted, thanks.
19	Condition Assessment- Pump House #2  2.6.5 third paragraph, first sentence & 2.6.6. first sentence		The structure is noted as in okay condition given its age. in 2.6.6, it is noted that the structure condition is poor to fair, should both sentences reflect the same structural condition?	Yes, this will updated in the final version.
20	Condition Assessment- ATCO Gas Building		Page numbers missing	Noted, thanks. To be corrected in final version.
21	Condition Assessment- ATCO Gas Building	2.1  p. 5-13	The Civil/Landscape section (description and photos) is focused on the LPP and not the ATCO Gas Building	Noted, thanks. To be corrected in final version.
22	Conservation Plan-Part 1	p. 22	Phase 3: Power Plant Rehabilitation- line up points A), B) & C) to the left	Noted, thanks. To be corrected in final version.
23	Conservation Plan-Part 1	Blank page	Blank page.	Noted, thanks. To be corrected in final version.
24	Conservation Plan-Part 1	p. 22	Phase 3: Power Plant Rehabilitation- line up points A), B) & C) to the left	Noted, thanks. To be corrected in final version.
25	Conservation Plan-Part 1	p. 32-33 Table	For Low Pressure Plant, maybe indicate it's a total of all three buildings	Noted, thanks. To be corrected in final version.
26	Conservation Plan-Part 1  First paragraph, 3rd sentence	p. 60	Confirm if a Gantry crane, it may be an overhead or bridge crane. (reference to Gantry also on pages 62, 63 & 74 )	Confirmed, this is a gantry crane.

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
27	Conservation Plan-Part 1	p. 151	Dates 1912-13 & 1908-09 need to be moved to the following page (152)	Cannot determine what this is referring to.
28	Conservation Plan-Part 2	p. 19 4.4.3.1	Reference to voids (for equipment & movement) mentioned twice.	Noted, thanks. To be corrected in final version.
29	Conservation Plan-Part 2	p. 20 4.4.3.4	ATCO Gas building - not to be included in Conservation Plan	Noted, thanks. To be corrected in final version.
30	Conservation Plan-Part 2	p. 26 4.5.1	Both Floor Plans are identical	Noted, thanks. To be corrected in final version.
31	Conservation Plan-Part 2	p. 27 4.5.1	Which floor is this plan for?	Title says BM/MN/02 as per Heritage Record.
32	Conservation Plan-Part 2	p. 28 4.5.1	Floor Plan section missing on Key BM-LLP Area, top section between Boiler and Turbine Halls	Do you mean the mezzanine? Yes, this has been purposefully excluded from illustration for legibility, covered in tables above.
33	Conservation Plan-Part 2	p. 30-33 4.5.2	Revise top Elevation Symbol	Noted, thanks. To be corrected in final version.
34	Conservation Plan-Part 2	p. 40 4.5.4	ATCO Gas building - not to be included in Conservation Plan	Noted, thanks. To be corrected in final version.
35	Conservation Plan-Part 2	p. 51 5.2.1	Note above table (@Bianca D. Water Treatment Plant... (what is this in reference to?)	This is an internal note. To be removed in final version.
36	Conservation Plan-Part 2	p. 53, 64	In the Conservation Plan Part 2, I noted that page 64 photo is a duplicate of the photo on page 53. (Michael's Comment)	Yes, same idea, implemented in different building
37	Conservation Plan-Part 2	p. 67 5.2.4	ATCO Gas building - not to be included in Conservation Plan	Noted, thanks. To be corrected in final version.
38	Conservation Plan-Part 2	p. 87	...including an isolated are...should be 'area', of blue stain	Noted, thanks. To be corrected in final version.

## Consultant Responses to CP-9673 RPP AAPR PD01 - Mechanical PRT Review

2020-06-30

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
01			Atco Building, Will old cast iron drains be scoped with a camera, inside and outside to assess condition?	Further investigation of the sub-surface drainage will be recommended. It is highly likely this piping will be replaced when any further re-purposing is ready to move ahead since it is currently connected to an outfall to the river.
02			Pumphouse #2 - How will existing water intakes and wall penetrations be permanently sealed to prevent leakage?	We believe this scope will be largely civil and structural work, not mechanical. This will be developed further at the design stage.
03			Pumphouse #2 - Sump pumps and the lines they are tied into should be scoped with a camera to assess condition.	Further investigation of the sub-surface drainage will be recommended.
04			Pumphouse #1 - Will river water Intakes be permanently sealed to prevent water leakage?	We believe this scope will be largely civil and structural work, not mechanical. This will be developed further at the design stage.
05			Pumphouse #1 - Will an exhaust system be Installed to remove potentially contaminated air from lower levels and provide fresh air?	No consideration has been given to providing ventilation systems as part of the preservation of the building. We understand that maintaining these pumps will require access and may or may not be considered a enclosed space due to their location. That evaluation will need to be completed by the City's forces based on their work practices. We can recommend temporary ventilation be part of the work procedure for accessing and maintaining the pumps.
06			Low Pressure Plant - Who is currently paying for and maintaining the temporary propane/glycol boiler system?	I believe that EPCOR is currently paying for and maintaining the system through a contractor or rental company.
07			- Is there any consideration to tie the boiler into existing Natural gas on site?	None was given for short term preservation of the buildings, since a new gas service would be required on the site. Adding a service would be ideal however budget constraints will likely not allow for it.
08			- Who is currently maintaining existing sump pumps as they appear to be confined entry?	I believe that EPCOR is currently paying for and maintaining the system through a contractor or rental company.