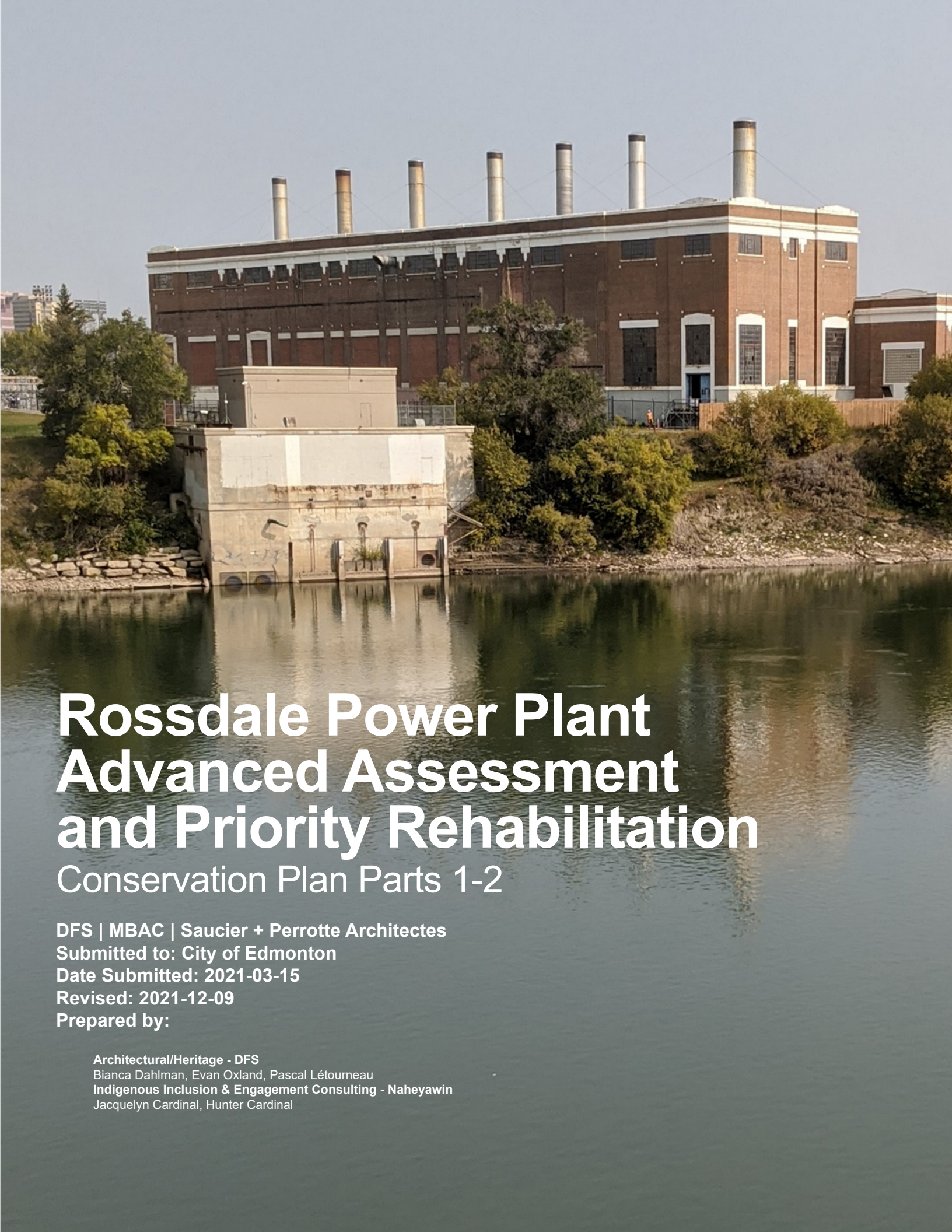


A large, multi-story brick industrial building with several tall smokestacks on the roof, situated behind a line of trees and a concrete structure that meets a body of water. The building is reflected in the calm water in the foreground.

Rosssdale Power Plant Advanced Assessment and Priority Rehabilitation

Conservation Plan Parts 1-2

DFS | MBAC | Saucier + Perrotte Architectes

Submitted to: City of Edmonton

Date Submitted: 2021-03-15

Revised: 2021-12-09

Prepared by:

Architectural/Heritage - DFS

Bianca Dahlman, Evan Oxland, Pascal Létourneau

Indigenous Inclusion & Engagement Consulting - Naheyawin

Jacquelyn Cardinal, Hunter Cardinal

Traditional Land Acknowledgement

We respectfully acknowledge that Edmonton is known by the nêhiyawak (the Cree people) as ᐃᓂᑦᕈᖅᔨᗴᑎᑲᓱᒃᕿᑏᑎ (amiskwacîwâskahikan). It is a traditional gathering place for a diverse group of Indigenous peoples, including the nêhiyaw (Cree), Tsut'ina, Niitsitapi (Blackfoot), Métis, Nakota Sioux, Haudenosaunee (Iroquois), Dene, Suliné, Anishinaabe/Ojibway/Saulteaux, Inuit, and many others who continue to make this place their home and whose histories, languages, and cultures continue to influence our vibrant community today. The Rosedale Power Plant lies on lands governed by Treaty 6, which encompasses 17 First Nations. In addition, it is acknowledged that the Rosedale site has been a gathering place of Indigenous peoples for thousands of years, and that it has special association with the Traditional Burial Ground and Fort Edmonton Cemetery nearby. The city of Edmonton owes its strength and vibrancy to these lands and the diverse Indigenous peoples whose ancestors' footsteps have marked this territory.

Settlers from around the world who continue to be welcomed here and call Edmonton home, further contribute to the City's resilience and diversity. Together we call upon all our collective honoured traditions and spirits to work in building a great city for today and future generations. We would like to thank the Indigenous communities who participated in The Rivers Crossing Business Plan & Heritage Interpretation Plan engagement sessions. The contributions provided were greatly appreciated and it is hoped that the knowledges and stories shared are reflected here.

Project Team

**Owner/Client**

The City of Edmonton



Past Owner

EPCOR



Heritage Authority

Alberta Culture, Multiculturalism and Status of Women



Prime Consultant/Architectural

the marc boutin architectural collaborative inc.



Heritage Conservation

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Architectes

Architectural/Adaptive Reuse Planning

Saucier + Perrotte Architectes



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Read Jones Christoffersen Ltd. Engineers



Mechanical & Electrical Engineering

Williams Engineering Canada



JENSEN HUGHES

Code Consulting

Jensen Hughes

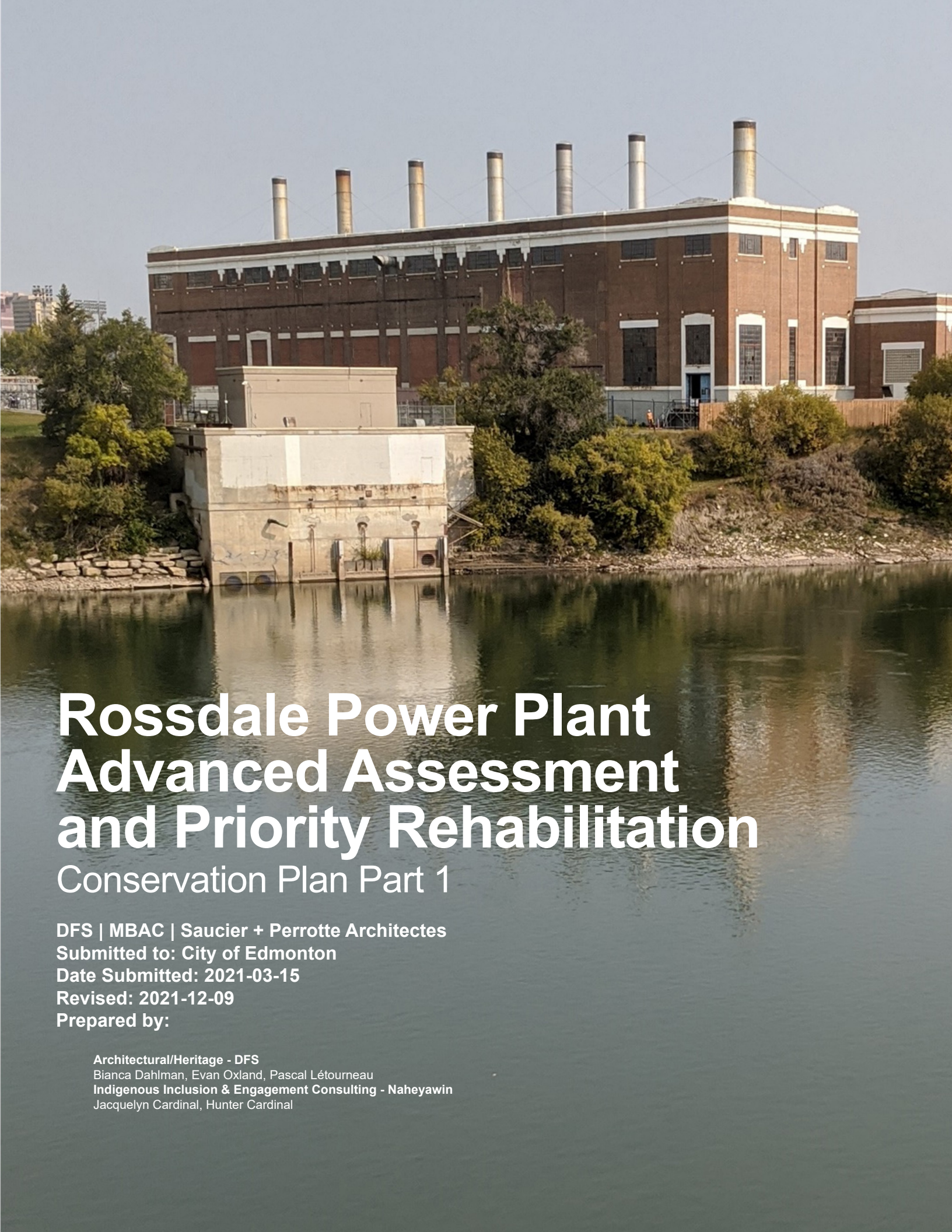


Indigenous Inclusion & Engagement Consulting

Naheyawin

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A large, multi-story brick industrial building with several tall smokestacks on the roof, situated behind a body of water. In the foreground, there is a concrete structure with mechanical components partially submerged in the water. The scene is surrounded by green trees and shrubs.

Rossdale Power Plant Advanced Assessment and Priority Rehabilitation Conservation Plan Part 1

DFS | MBAC | Saucier + Perrotte Architectes

Submitted to: City of Edmonton

Date Submitted: 2021-03-15

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Prepared by:

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1.0 Executive Summary

The *Rossdale Power Plant: Conservation Plan*, has been prepared for the City of Edmonton. It is submitted by a team led by MBAC, DFS, and Saucier + Perrotte as part of a project named the Advanced Assessment & Priority Rehabilitation (AAPR). The AAPR is built upon a robust foundation of heritage assessment and planning in Phase 1, whose research aims are mutually reinforcing, consisting of:

Phase 1: AAPR Planning Reports
Historic Building Record
Historic Building Conditions Assessment
Conservation Plan
Priority Rehabilitation Scheme & Class 5 Budget

The project team's planning phase began in August 2020 and will end in Spring 2021, before moving into Phase 2, which will be the design phase to put the first priorities of conservation work into action. The design team is composed of the following consultants, hierarchically organised in terms of level of effort and responsibility during this current phase of work:

Consultant Design Team	Design Discipline
The Marc Boutin Architectural Collaborative	Prime Consultant
DFS Architecture & Design	Heritage Consultant
Saucier + Perrotte	Design Consultants
Jensen Hughes	Fire & Building Code Consultants
RJC Engineering	Structural Engineering Consultants
Williams Engineering	Mechanical & Electrical Engineering Consultants
Naheyawin	Indigenous Consultants

The overarching objective of this project is to develop the conservation planning necessary to guide the future adaptive re-use of the historic landmark Rossdale Power Plant site and buildings (the Low Pressure Power Plant, Pump House #1, Pump House #2, and ATCO Gas Building) in a manner that protects and [rehabilitates](#) the character defining elements of these buildings while ensuring that the site continues to contribute in a meaningful and substantive way to Edmonton's civic life.

In addition to the assessment and rehabilitation scope definition efforts (described in more detail in the latter sections of this document), this project may include a modest amount of construction work to address life safety concerns that currently prevent the buildings from supporting occupancy, at the discretion of the client.

Through research conducted in Phase 1, a new historical finding was unearthed. A 1912-1913 addition to the 1902 power plant was confirmed through document analysis at the City of Edmonton Archives. This addition has been added to the 1906 and 1908-09 additions recorded and discussed by Dorothy Field. Designs for the 1912-1913 addition are credited to City Architect Allan M. Jeffers. More information about this finding is described in section 3.3.5.

Our project team acknowledges that the Rossdale Power Plant, as a historic resource, represents all of the complexities of industrial heritage that required a widespread network and system of production ranging from material extraction, a myriad of transportation systems, and the marshalling and enabling of labour, social, economic, and political forces. Industrial heritage, like the archaeological site, is not limited to the bounds of a geographical site, but is part of a much wider and complex network of historical interactions that play out across a wider cultural landscape.¹ The value of the buildings and site, one powerful node amongst this network, cannot be separated from the land, and other earlier histories seen in the intricacies of earlier power plants, fur trading history, Indigenous lands, and the Rossdale community are also considered in light of this site's consideration as part of a wider cultural landscape.

The Low Pressure Plant represents a unique architectural and industrial achievement in Canadian history. A cross-jurisdictional scan of power plants, section 4.3, revealed that the Rossdale Low Pressure Plant serves as an exclusive national example of an inter-war period stripped classical transitional art-deco building of this typology, at this scale, and of this power generation type (coal/natural gas thermal generation). In combination with its rich palimpsest of histories, including fur trading posts, 10,000+ years of human use, indigenous heritage, settler colonial histories including the inauguration of Alberta as a province. For this reason, it is recommended that the Rossdale site apply for designation as National Historic Site.

¹ Stuart, 2013.

1.1 Declaration of the Rossdale Power Plant Conservation Objectives

As determined throughout the preparation of the Heritage Building Record, Conditions Assessment, and Conservation Plan, the project team's goals for site conservation are as follows:

1. Adaptively re-use site buildings to give a new lease of life for these structures and to bring Edmontonians to this compelling site.
2. Protect and reinforce the historic relationships of industrial processes and networks of systems between and within buildings and spaces, including the landscape.
3. Conserve and interpret the relict evidence of site-development, obsolescence, and change of use over time. From cradle to grave, each episode in Rossdale's heritage contributes to a rich industrial narrative. The histories of coal power generation, natural gas power generation, designated substance abatement works, and demolition are respected equally.
4. Conserve the Low Pressure Plant's architecture and decorative program of architect Maxwell Dewar
5. Conserve the architecture, industrial equipment and relationships, and decorative program of engineer John Poole's design of Pump House #1.
6. Conserve the design of Pump House #2 by engineers Kasten & Longworth and Prof. I.F. Morrison.
7. Foster ongoing development of interpretative programs to help convey earlier site histories that establish the site as a locus of deep and powerful historic connections, a network beyond the notion of site, to help convey contemporary Indigenous, local, and regional heritage values.
8. Elevate and protect Indigenous histories and spaces in a manner that meets or exceeds the way settler histories and spatial understandings have dominated.² Celebrate stories from the land that are not expressed by existing structures. This includes past and present Indigenous land use, fur trade land use, the demolished historic 1906 power plant, the demolished High Pressure Plant, etc.

² Paraphrased from Personal Correspondence with James Haney, Principal City Planner, via email, on 2021-02-08.

1.2 Land Acknowledgement

We respectfully acknowledge that Edmonton is known by the *nêhiyawak* (the Cree people) as *amiskwaciwâskahikan*. It is a gathering place for a diverse group of Indigenous peoples, including the *nêhiyaw* (Cree), *Tsuut'ina*, *Niitsitapi* (Blackfoot), *Métis*, *Nakota Sioux*, *Haudenosaunee* (Iroquois), *Dene*, *Suliné*, *Anishinaabe/Ojibway/Saulteaux*, and *Inuit* and many others who continue to make this place their home and whose histories, languages, and cultures continue to influence our vibrant community today. The Rosssdale Power Plant lies on lands governed by Treaty 6 territory, which encompasses 17 First Nations. In addition, it is acknowledged that the Rosssdale site has been a gathering place of Indigenous peoples for thousands of years, and that it has special association with the Traditional Burial Ground and Fort Edmonton Cemetery nearby.

The city of Edmonton owes its strength and vibrancy to these lands and the diverse Indigenous peoples whose ancestors' footsteps have marked this territory.

Settlers from around the world who continue to be welcomed here and call Edmonton home, further contribute to the City's resilience and diversity. Together we call upon all our collective honoured traditions and spirits to work in building a great city for today and future generations. We would like to thank the Indigenous communities who participated in The *Rivers Crossing Business Plan & Heritage Interpretation Plan* engagement sessions. The contributions provided were greatly appreciated and it is hoped that the knowledges and stories shared are reflected here.

2.0 Introduction

2.1 Understanding of Project Need & the Role of a Conservation Plan

The *Rossdale Power Plant: Conservation Plan* is intended to address requirements surrounding partial site designation as a Provincial Historic Resource (PHR), as part of comprehensive planning needed in anticipation of future site rehabilitation. As a planning document, it elucidates a way forward in regards to conservation of the site's significance through understanding site history and values, planning, and management recommendations highlighting the opportunities and limitations of future development, and sets a prioritisation of conservation needs. The Conservation Plan, including the Statements of Significance, are intended to support designation of the buildings as Municipal Historic Resources, with an emphasis on local significance.

Using the documentation from the Historic Building Record and Building Conditions Assessment as a guide, the Conservation Plan for the Low Pressure Plant, Pump House #1, and Pump House #2, applies conservation standards and guidelines from landmark Heritage Conservation Charters and Doctrines. It has been noted that the heritage discipline is a "very chartered profession."³ Some of the most salient of these international, national, provincial, and municipal charters and policy documents for this project type include:

Title of Standard/Charter/Declaration/Report	Author	Date
<i>Venice Charter</i>	International Council on Monument and Sites (ICOMOS)	1964
<i>Nara Document of Authenticity</i>	ICOMOS	1994
<i>Nizhny Tagil Charter</i>	The International Committee for the Conservation of Industrial Heritage (TICCIH) / ICOMOS	2003
<i>United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP)</i>	United Nations (UN)	2007
<i>Developing an Historic Thematic Framework to Assess the Significance of Twentieth-Century Cultural Heritage: An Initiative of the ICOMOS International Scientific Committee on 20th Century Heritage</i>	Getty Conservation Institute	2011
<i>The Dublin Principles</i>	TICCIH / ICOMOS	2011
<i>The Burra Charter</i>	ICOMOS Australia / ICOMOS	2013
<i>The Conservation Plan</i>	ICOMOS Australia / ICOMOS	2013
<i>Truth and Reconciliation Commission of Canada: Calls to Action</i>	Truth and Reconciliation Commission of Canada	2015
<i>Final Report of the National Inquiry into Missing and Murdered Indigenous Women and Girls: Calls for Justice</i>	National Inquiry into Missing and Murdered Indigenous Women and Girls (Canada)	2019
<i>Guidelines for Historical Reports</i>	Historic American Engineering Record (HAER) / National Parks Service (NPS)	2020
<i>The Heritage of the Oil Industry: Thematic Study</i>	TICCIH / ICOMOS	2020

³ Avrami, 2020.

The Twentieth-Century Historic Thematic Framework: A Tool for Assessing Heritage Places	Getty Conservation Institute	2021
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This report has been considered with an understanding of the above documents, which are used as the rationale behind the identification of significant character-defining elements of the historic resource. A Statement of Significance for Pump House #1 and the Low Pressure Power Plant was accepted by Alberta Culture, Multiculturalism and Status of Women⁴ based upon Dorothy Field's 1992 site assessment for the City of Edmonton at that time. However, at the request of the city this Conservation Plan will provide updated draft Statements of Significance that will focus both on the local significance the buildings had to Edmonton, including Pumphouse #2, and will consider overlooked themes. The Conservation Plan will further outline opportunities for restoration work to character-defining elements of the building, and circumstances where new materials may be introduced in accordance with the *Standards and Guidelines for the Conservation of Historic Places in Canada*.

The heritage profession and discourse are relatively young, and as the heritage field both matures and responds to wider societal changes so too does our understanding and appreciation of historic resources. For instance, how does our understanding of the Rosedale Power Plant as a Historic Resource change when we view it through a lens of inclusion, cultural landscapes, or from an Indigenous worldview? Societal values change over time, and reappraisal of a resource's significance may too.

The project team for the conservation plan includes:

Individual	Company	Discipline
Karen Cyr	DFS	Heritage
Bianca Dahlman	DFS	Heritage
Daniel Durand	DFS	Heritage
Bianca Hacker	DFS	Heritage
Pascal Letourneau	DFS	Heritage
Evan Oxland	DFS	Heritage
Richard Cotter	MBAC	Architecture
Andre Perrotte	S+P	Architecture
Anne-Marie Saucier	S+P	Architecture

⁴ In correspondence and conversation with a number of Government of Alberta (GoA) Heritage Division and City of Edmonton Heritage employees it was suggested that the Statement of Significance could benefit from updating.

2.2 Methodology

In preparation of the Conservation Plan, initial information gathering was conducted as per the general structure recommended in James Simple Kerr's landmark text on the eponymously named *The Conservation Plan* (2013).

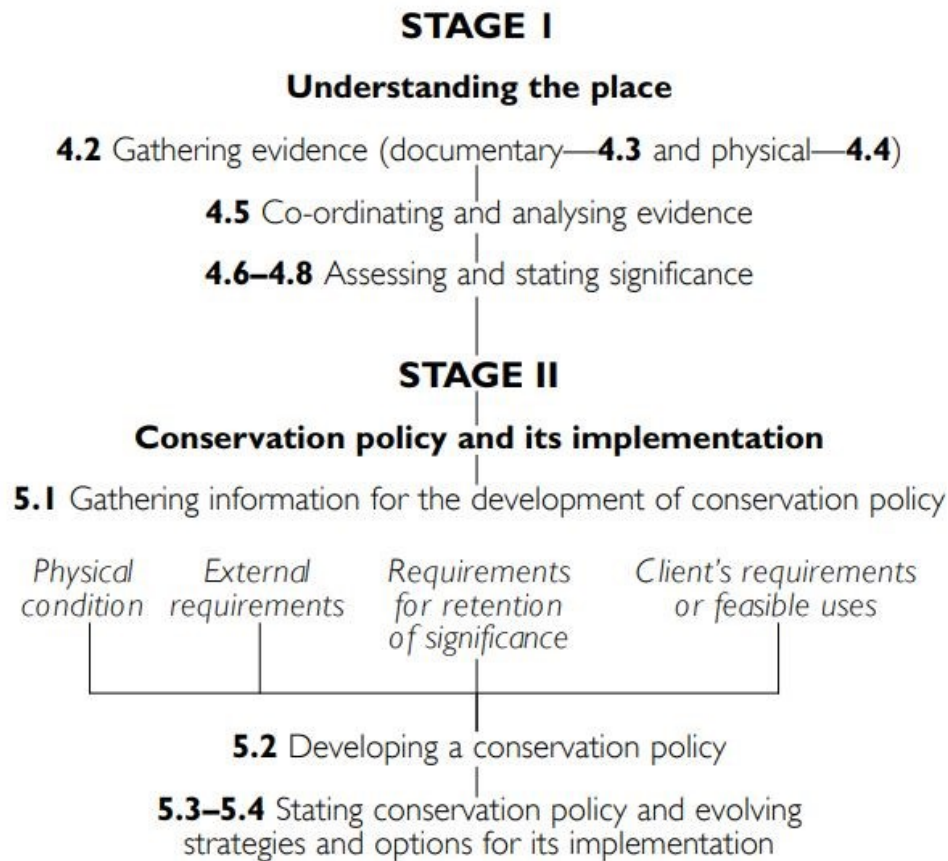


Figure 1: Documentation & Identification of Significance through Research (Source: Kerr - The Conservation Plan, 2013 - p7)

Stage I, "Understanding the place," included gathering evidence. This consisted of all known extant drawings from Edmonton's electrical provider EPCOR⁵ (the "*RGS Drawing Database*"⁶ provided 4136 drawings from 1930s-2010s), and research trips to the Government of Alberta's Heritage Division to access their historic site preservation files and archaeological resources that were gathered after approval from the Province of Alberta's Archaeological Survey. Site visits, particularly with EPCOR's knowledgeable Senior Manager Geoff Wagner, were of course of primary interest. Oral history included discussions with retired engineer Bill Eadie, who joined engineers Kasten, Longworth, & Smith in 1969, becoming a firm partner a few years later.⁷ Other

⁵ Formerly a City owned utility division - the City remains the primary shareholder.

⁶ Provided by Geoff Wagner from EPCOR. It includes an excel sheet cataloging the myriad number of .DGN & .PDF files available. Many original drawings are notably absent - as confirmed by the drawing list catalogue from the 1930s-1950s located at the Edmonton City Archives.

⁷Eadie, 2011.

relevant resources included planning material from the City of Edmonton, and primary research for correspondence, photographs, drawings, specifications, contracts, and maps at the City of Edmonton, Province of Alberta Archives, and Glenbow Archives.

Secondary source reports such as Commonwealth Historic Resource Management Limited's *Rossdale Historical Land-Use Study* (2004), the Edmonton Power Historical Foundation's *Candles to Kilowatts* (2002), and Dorothy Field's municipal *Evaluation of Historical and Architectural Merit of the Rossdale Power Plant* (1992), which served as the basis of the Provincial Statement of Significance, have served as invaluable launching points in understanding accepted historical values and significance at the Rossdale Power Plant.

Stage II of the conservation plan, "Conservation Policy and its Implementation," has been reinforced and informed by the simultaneous preparation of the Historic Building Records and Conditions Assessments. The latter half of this conservation plan, such as "Client's Requirement or Feasible Uses," and "Developing a conservation policy," have been considered at the end of this process, and developed hand-in-hand with the separate document, the Priority Rehabilitation Scheme & Class 5 Budget.

Finally, as illustrated below, Heritage Planning documents, such as the Conservation Plan and Statements of Significance, should not be considered static. They are conceived to be one part of a dynamic system, and, as a result of continual consultation and re-evaluation should be periodically updated. The notion of this Conservation Plan's iterative design-process is largely due to a reflection of the realities of ever-changing societal values, and the progress of new research and knowledge over time. This extends the need to revisiting Statements of Significance, identification of areas where there are opportunities and limitations for development, and the detailing of long-term maintenance programs.



Figure 2: Feedback loop inserted to Burra Charter process by the AARP project team. (Source: The Burra Charter, 2013. p.10.)

2.3 Terminology

Heritage discourse, like all other professions, can be filled with jargon and has plenty of loaded terms, both valorised and derided for a given situation. To avoid misinterpretation and to create a common language of understanding the following terms have been defined in two separate tables, one tailored to the heritage profession, and the other specific to the site and project at hand, as below:

Heritage Terms	Definition
BP	Before Present, a term commonly used by archaeologists. Attention to publication date is essential as dating becomes relative to the time written.
Restoration	A project approach to a historic place that is marked by a period specific valorisation of extant historic fabric. It usually entails stripping away of earlier or later periods of history in favour of the period of significance. This also includes reinstatement where known assemblies or details can be reproduced accurately via research or documentation.
Preservation	A project approach to a historic resource where maximum retention of historic fabric, and minimal intervention, is taken.
Rehabilitation	A project approach to a historic resource whereby interventions bring a historic resource up to modern day codes – such as health and safety or energy consumption.
Reconstruction	A project approach to a historic resource whereby missing structures/elements/forms are rebuilt conjecturally, usually without adequate evidence or knowledge.
Significance / Statement of Significance	Significance is defined by the heritage values of a given historic resource, the reasons why a place is worth protecting and retaining. The statement of significance is a summary which enshrines what is valuable about that resource and why it is significant, and becomes an important policy document to justify and define the particularities as to what should be conserved and why.
Integrity	The physical condition of a site specifically in terms of its ability to convey site-values or significance.
Character Defining Elements	The “materials, forms, location, spatial configurations, uses and cultural associations or meanings that contribute to the heritage value of an historic place, which must be retained to preserve its heritage value.” ⁸
Adaptive Reuse	The type of land and structural use of a historic resource is part of its heritage value, but this can change over time or even become obsolete. Adaptive re-use is a term that proposes a change of spatial use of a resource with the broad goal of heritage conservation.
Intangible Heritage	Heritage value that is not physical, it can be associated with, but not limited to, oral traditions, performing arts, social practices, rituals, festive events, knowledge and practices concerning nature and the universe or the knowledge and skills to produce traditional crafts.
Cultural Landscape	Cultural properties representing the combined works of nature and humanity, broken down into three categories: designed landscape, organically evolved/relict landscape, and associative landscapes.
Standards and Guidelines (S&G)	Standards and Guidelines for the Conservation of Historic Places in Canada
UNDRIP	United Nations Declaration of the Rights of Indigenous Peoples.
Value(s)	The reason(s) why people value a historic place or consider it significant. These are relative and are defined differently between diverse stakeholders.

⁸ *The Standards & Guidelines for the Conservation of Historic Places in Canada*, Second Edition, 2010.

Table 1: Heritage Terms

Project Specific Terms	Definition
AAPR	Advanced Assessment and Priority Rehabilitation, this current project phase (2020-2022) of the Rossdale Power Site that this report, and others, are being prepared under - along with the design of a modest amount of rehabilitation & conservation works.
ACM	Asbestos Containing Material
ARP	Area Redevelopment Plan, prepared by the city of Edmonton.
CEA	City of Edmonton Archives
CoE	City of Edmonton, the client commissioning this report.
GMB	ATCO Gas Metering Building
HBC	Hudson Bay Company (English ownership based in London)
HPP	High Pressure Power Plant (later 1960s plant appended to the west side of the LPP Boiler Hall – demolished in 2011).
LPP	Low Pressure Power Plant (Including the Boiler Hall, Turbine Hall, and Switch House).
MHR	Municipal Historic Resource, a place designated by a municipal government province as a historic resource through by-law, as empowered via the Province of Alberta's Historical Resources Act.
NWC	North-West Company (French ownership based in Montreal).
PAA	Provincial Archives of Alberta
PHR	Provincial Historic Resource, a place designated by the province as a historic resource, as per the Province of Alberta's Historical Resources Act.
SoS	Statement of Significance

Table 2: Project Specific Terms

In addition, the reader may come across the following City of Edmonton building codes. This nomenclature for the Rossdale site moving forward was agreed upon by the project team and the City of Edmonton.

Building Name	CoE Code
Boiler Hall	107
Turbine Hall	106
Switch House	105
Low Pressure Plant	N/A
Pump House #1	108
Pump House #2	109
ATCO Gas Metering Building	112

2.4 Planning Context

From 2010 until the present-day, the City of Edmonton has prepared numerous studies for the redevelopment of the Rossdale area. They consider the Rossdale Power Plant Site a key asset in leveraging cultural heritage as a central positive theme in the area's urban design. These studies were also backed by numerous technical analyses of the site's buildings themselves, which will be covered later in Sections 5 & 6. Below is a table which lists planning documents produced by municipal authorities that are influential to the Rossdale Power Plant site's rehabilitation, with a brief description of their relevancy:

Title	Author	Date	Relevancy
<u>West Rossdale Urban Design Plan</u>	City of Edmonton	2010	Early visioning of what new urban planning could bring to Rossdale.
<i>Repurposing Rossdale Power Plant</i>	City of Edmonton	2011	City's early visioning of site potential.
<i>River Crossing Vision</i>	City of Edmonton	2015	City's early visioning of urban design around the area of the Rossdale power plant.
<i>Numerous River Crossing Heritage & Business Plan Workshops/Consultations/Open House Boards</i>	City of Edmonton	2016-2018	Public Community and Indigenous Consultations in regards to Rossdale Area Identity and Redevelopment
<u>River Crossing Heritage Interpretive Plan</u>	City of Edmonton	2017	Early heritage planning document that suggests holistic interpretation of the heritage sites surrounding Rossdale.
<u>Rivers Crossing Business Plan</u>	City of Edmonton	2019	The most up to date/relevant planning document for future design-work specific to the Rossdale Power Plant Site.
<u>Rossdale Area Redevelopment (ARP) "Bylaw 8139"</u>	City of Edmonton	2020 Amendment of 1986 Document	City planning understanding and concept of the area, including regulations as per the bylaw. It will likely remain the bylaw for the next few years, until further development of Central District planning has occurred as per <i>The City Plan</i> below.
<u>The City Plan</u>	City of Edmonton	2020	Updated Municipal Development Plan for the City was approved. Significant effects include the repealing of the numerous area plans in favour of district plan. The Rossdale area will be considered part of the Central District.

What is important about these planning documents is that they begin to align area redevelopment goals from the macro to the micro, considering site specific details of an adaptive re-use of the Rossdale site as a unique place to help leverage wider development and connecting citizens to their land, history, and local cultural heritage in the Rossdale area and as a boon to the wider city. These notions are crystallised in the *River Crossing Business Plan* which was supported by the heritage specific *River Crossing Heritage Interpretive Plan*. It uniquely puts the focus on understanding place, history, and the interconnection of various cultural heritage sites in the area as keys to redevelopment, or "integration of heritage interpretation into the detailed

planning and design of programming and the built environment in the River Crossing area. This includes planning for the entire areas, as well as planning for individual sites and interpretive tactics.”⁹

The process of creating this Heritage Interpretive Plan and Business Plan necessitated many lengthy public consultations ranging from local stakeholders to Indigenous consultations:

Because Treaty rights are communally held, engagement focused on meaningful conversation with rights-based groups representing Nations from Treaties No. 6, 7, and 8, as well as local zones of the Metis Nation of Alberta. Some 29 Indigenous Nations, communities and related organizations were invited to participate, with 15 Nations actively contributing input to the process.”¹⁰

Due diligence and responsible government necessitates community engagement to establish normative goals for any redevelopment. The result of these consultations in the thematic framework of the Heritage Interpretive Plan are listed as:

- 1) Territory & Land
- 2) Lived Experience
- 3) Making and Trading
- 4) Connecting & Understanding

The *River Crossing Business Plan* calls for those heritage themes to be realised in Rossdale in retention of historic resources to be “reused in ways that engage the public imagination, support placemaking, generate foot traffic, and contribute to economic development.”¹¹, and the most relevant to the Rossdale Power Plant Site are as below:

Salient Sections	Specific Relevance to Rossdale Power Plant Site
4.2 Open Space	A) Open Space Network Increased interconnectivity for pedestrians and bicyclists – and new vehicular connection between the Power Plant Site and Rossdale Road. B) Touch the Water A re-designed river front landscape promenade with better river access and viewpoints to encourage enjoyment and use. It may also offer potentials for future river transportation.
4.3 Historic Buildings	Rossdale Power Plant Site The relevancy is obvious in the name, but it succinctly calls for incremental development in 2019-2022 with the long-term view of a “variety of cultural, institutional, commercial, and entertainment uses.”¹² This is strategically intended to create “excitement about the project,”¹³ and “regular occupancy of the Low Pressure Power Plant or portions thereof.”¹⁴
4.4 Cultural Sites	A) Traditional Burial Grounds / Fort Edmonton Cemetery

⁹ *River Crossing Heritage Interpretive Plan*, 2017, p.71.

¹⁰ *River Crossing Business Plan*, 2019, p.12.

¹¹ *Ibid.*, p.44.

¹² *Ibid.*

¹³ *River Crossing Heritage Interpretive Plan*, 2017, p.69.

¹⁴ *River Crossing Business Plan*, 2019, p.44.

	The possibility of discovery of human remains associated with the cemetery and burial grounds on the Rosedale site would trigger notification of the province and a host of other protocol.
4.5 Development	A) Institutional Commercial / At Grade Commercial The Low Pressure Power Plant is called out for institutional or cultural activities. Commercial development to activate these spaces are also allowed for on street fronts on 96 Ave and 104 St north of the power plant in support of redevelopment goals. B) Open Space The large area west of the Low Pressure Power Plant is earmarked for open park-like space.
Phase 3: Power Plant Rehabilitation	A) Governance City to take over site facilities management. B) Sequencing Power plant re-activation will require, sustainable funding, maintenance, security, and leasing programs to be set in place. Development and construction phases to be gradual, or incremental and strategic. Office space needs to be established for power plant operations. Initial low capital/light interventions such as specialty events, evening light shows on exterior walls, and improved site access for the public. Incremental growth and development as funds become available over time.¹⁵ C) Funding City to seek out Provincial, Federal, and philanthropic funds to help fund site-rehabilitation and adaptive re-use.
6.4 Future Engagement	A) Community Consultation The business plan saw “extensive engagement with resident, landowners, social and business representatives, and other stakeholders,”¹⁶ ongoing consultation will be required over time. B) Indigenous Consultation As per UNDRIP and Canada’s Truth and Reconciliation Commission Calls to Action, persistent Indigenous consultation is recommended. Following this, the report calls for “A proper engagement and communication plan to support ongoing relationship building and dialogue [... as ...] key to the success of the developments.”¹⁷ This is particularly acute considering the power plant’s site relation to the Fort Edmonton Cemetery and Indigenous Burial Grounds. There are additional desires to ensure incorporation of “heritage interpretation and spaces that are welcoming for Indigenous people and securing economic development opportunities for Indigenous people.”¹⁸

¹⁵ Ibid., pp. 72-74.

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ Ibid.

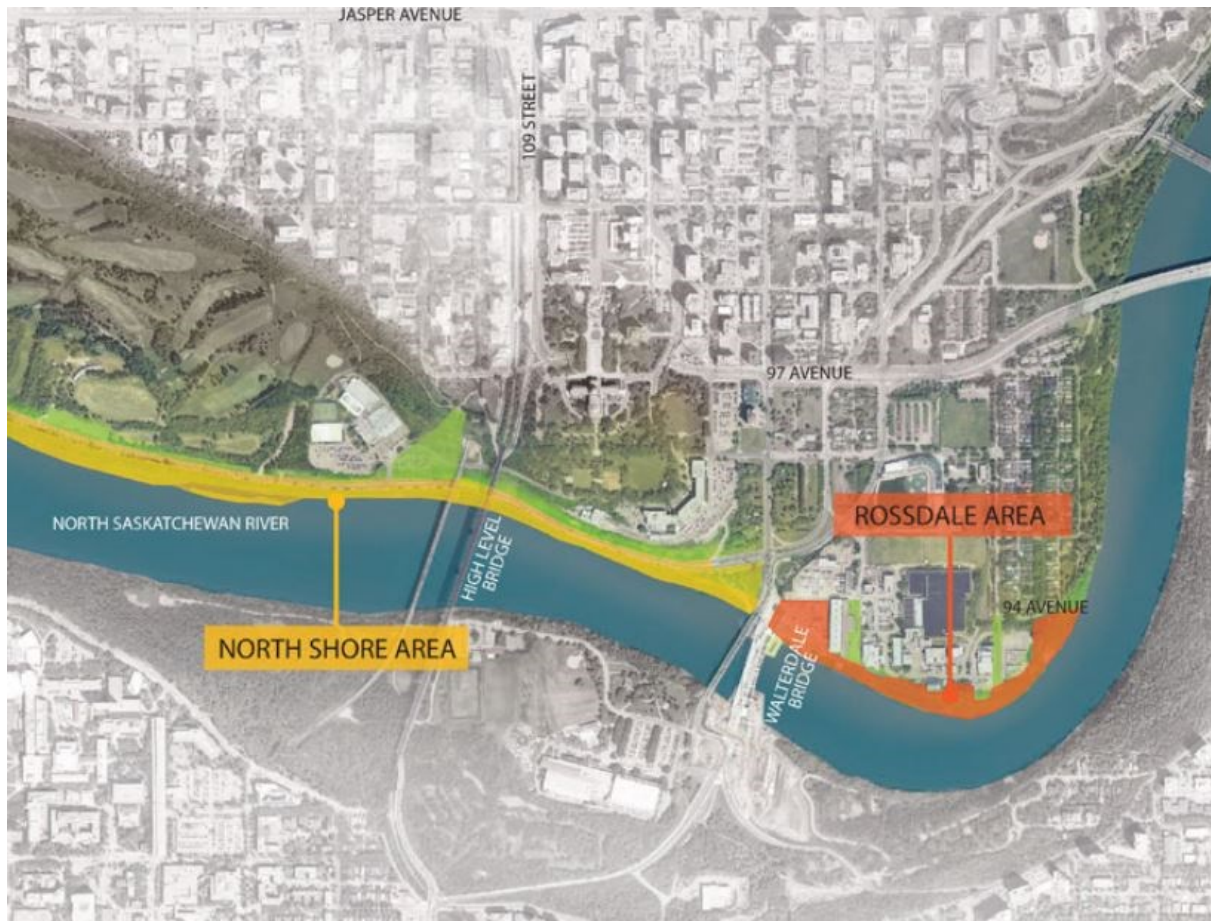


Figure 3: Touch the Water Promenade, areas of riverfront redesign for increased use. (Source: CoE, 2020)

The City is now in the process of updating the Rosedale 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.

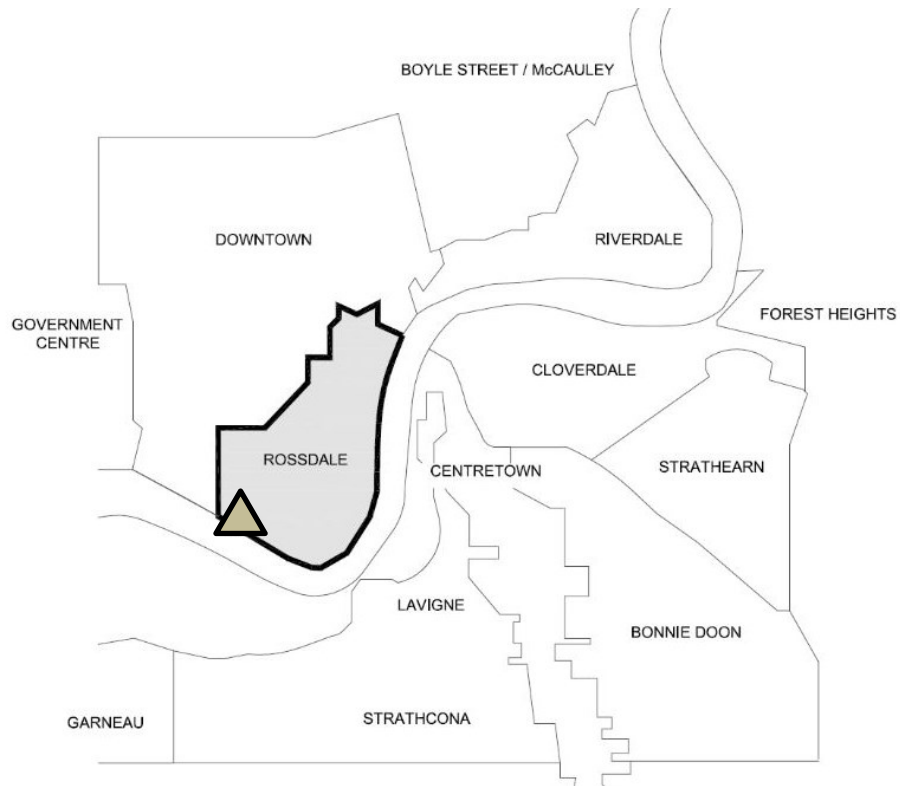


Figure 4: ARP – The area of Rosedale highlighted above is the geographical bounds of Bylaw 8139, the Rosedale Area Redevelopment Plan. The Rossdale Power Plant site is denoted by a golden triangle. (Source: CoE, ARP)

2.4.1 Heritage Planning

The Rossdale Power Plant Site has multiple types of overlapping heritage Municipal and Provincial heritage designation and inventory inclusion. In addition, some of these designations cross boundaries of ownership from the City of Edmonton to EPCOR. The Provincial Historic Resource (PHR) includes the 1930s-1950s Low Pressure Power Plant (Consisting of the Turbine Hall and the Boiler Hall – notably excluding the Switch House from designation), Pump House #1 (1938), and the Administration building (1931). However, the Administration building is not within the purview of this study as its ownership remains with EPCOR and is not slated for adaptive re-use by the city of Edmonton. Nor is the ATCO Gas Metering Building being included in this study as it is neither included in the Provincial or Municipal inventories of historic resources, although the city may consider the ATCO Gas Building as a potential candidate for the Inventory of Historic Resources.

Both the Municipality of Edmonton and the Province of Alberta adhere and recognise the Federal, Provincial, and Territorial collaboration titled the *Standards and Guidelines for the Conservation of Historic Places in Canada* as the theoretical framework to evaluate development proposals of designated historic places. Other documents of primary importance to any consideration of conservation works or development at the Rossdale Power Plant as a heritage site should consider the following documents:

Title	Author	Date
<i>Evaluation of Historical and Architectural Merit of the Rossdale Power Plant</i> ¹⁹	Dorothy Field	1992
<i>Rossdale Flats Historic Land-Use Study</i>	Commonwealth Historic Resources Ltd.	2004
<i>Rossdale Flats Aboriginal Oral Histories Project</i> ²⁰	Prepared for the City of Edmonton by the Edmonton Aboriginal Affairs Urban Committee	2004
<i>Historic Resource Management Plan</i>	City of Edmonton	2009
<i>Standards and Guidelines for the Conservation of Historic Places in Canada</i>	Government of Canada, Territories, & Provinces	2010
<i>Managing Historic Places in Alberta</i>	Alberta, Heritage Division	2010

The City of Edmonton has recognised Pump House #2 (1955) by including it in the inventory of historic resources in Edmonton, but it is not a registered MHR or PHR. However, because it is eligible for MHR inclusion, and because this building is associated with the PHR, it is being considered as part of the same site for rehabilitation by the City, and at the client's request is included in this Conservation Plan. Below is a table of the subject buildings and the historic registers or inventories that they are included in:

Building	Inventory of Historic Resources in Edmonton	Municipal Register of Historic Places (MHR)	Designated Provincial Historic Places (PHR)
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¹⁹ Field, 1992. Part of this document, originally prepared for the Municipality of Edmonton under private contract, became the *de facto* text used for the current statement of significance since it became recognised PHR in 2002.

²⁰ Pelletier, Strach-Strong, Poole, & Davidson; 2004.

ATCO Gas Metering Building	N/A	N/A	N/A
Pump House #1	Included	N/A	Designated
Pump House #2	Included	N/A	N/A
Low Pressure Plant (Switch House/Boiler Hall/Turbine Hal)	Included	N/A	Designated (not including the Switch House)

Date of recognition as Provincial Historic Resource is 2001/10/17. Future site re-development should also take into consideration nearby heritage sites and landscapes, including view-sheds. The map below illustrates nearby cultural sites within the River Crossing geographic bounds:



Figure 5: Rosedale as part of the River Crossing Project. (Source: River Crossing Business Plan, 2019)

2.4.2 Heritage Legislative Requirements: Municipal and Provincial

The Province of Alberta's [*Historical Resource Act*](#) is the primary source of power of legislative protection for historic resources in Alberta.²¹ Under Part 3, Historic Resource Management, it allows for both MHR²² & PHR²³ designation which necessitates any proponent of development to seek municipal or ministerial approval according to each historic resource's level of designation (including, and not limited to, archaeological, paleontological, landscape resources, and Indigenous traditional use sites of an historic nature).

The Rossdale Site has a combination of historical, archaeological, Indigenous sensitivity, and, as listed above, has resources both included on the Municipal inventory and parts that are a Provincially designated site. All proposals for developments in the area must be submitted to Alberta Culture, Multiculturalism and Status of Women's Heritage Division for review, which can result in the issuance of specific regulatory requirements for the completion of Historical Resources Impact Assessments and/or Indigenous consultation.

Developments on sites with archaeological resources often carry with them requirement for Historical Resources Impact Assessment (HRIA) – these often include necessity for an archaeologist to conduct exploratory investigations or monitor soil disturbance activities as a matter of due diligence and to ensure an expert who can recognise archaeological artefacts or historic resource is actively assessing the work. Developments can also include conservation or repair works to buildings. If intact historic deposits are identified, and threatened with disturbance, then a study is often undertaken to understand the nature and extent of a site in order to develop mitigation strategies. All discovered artefacts, other than human remains, eventually make their way to the Royal Alberta Museum (RAM) in Edmonton for storage by the Province; as per the *Historical Resources Act*, any buried archaeological/paleontological artefact is provincial property.

To demonstrate the high level of archaeological concern at the site, the following figure illustrates the zones of historic resource sensitivity across the Rossdale site and the recommended management strategies proposed by consulting archaeologist Nancy Saxberg after completing archaeological monitoring, surveying, and excavation under archaeological permit 12-046 associated with the decommissioning of the Rossdale generating station and the building of a new water lab building.

²¹ Province of Alberta. *Historical Resources Act*. Accessed online 2020-10-23 at: <https://www.qp.alberta.ca/documents/Acts/H09.pdf>

²² Ibid., Section 26.

²³ Ibid., Section 20

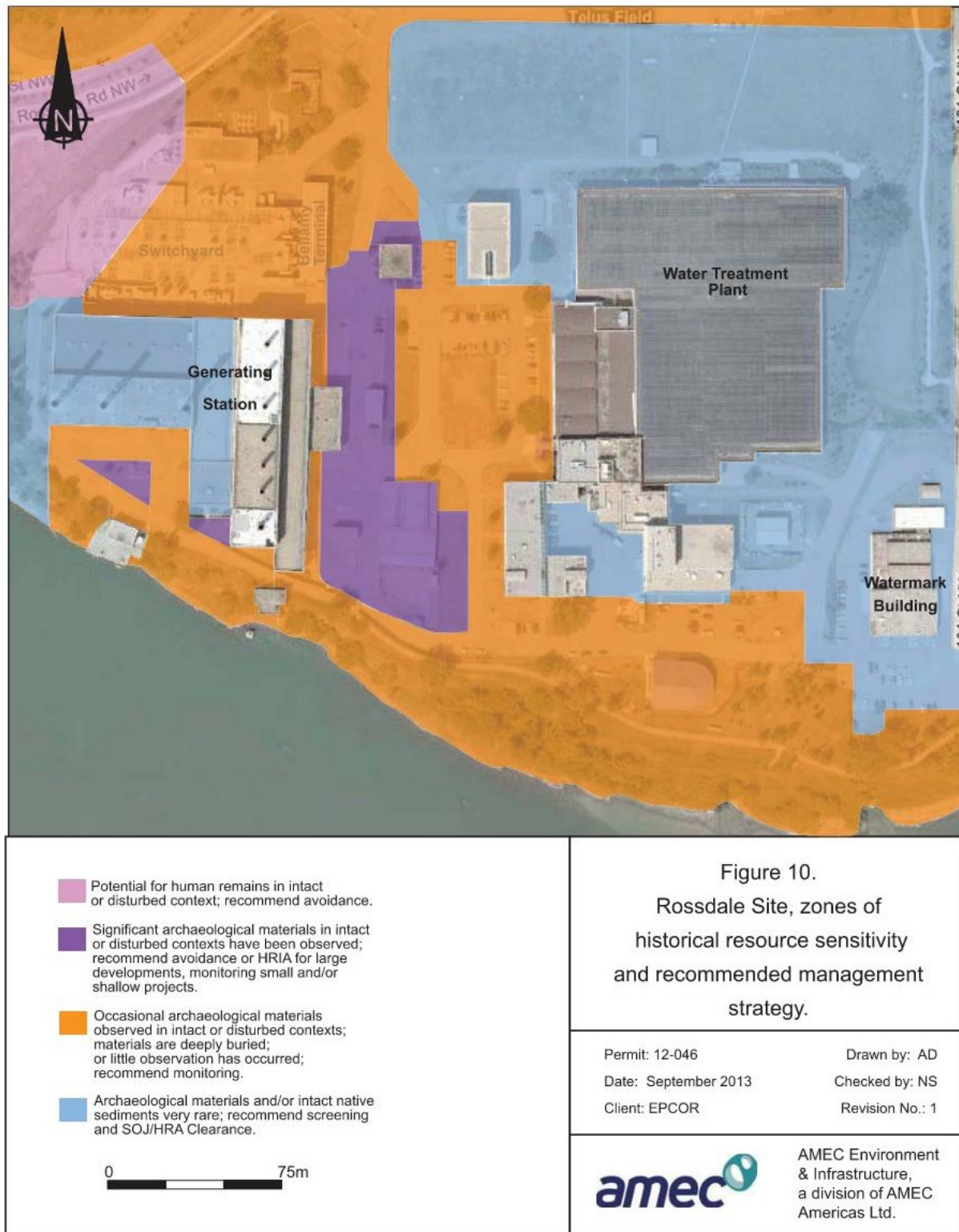


Figure 6: Please note this map dates to a period when the HPP was still present. (Source: HRIA... 12-046c, p94.)

While these 2012 recommendations outlined in the figure above are taken into consideration by Alberta Ministry of Culture, Multiculturalism, and Status of Women (CMSW) staff, all archaeological information obtained from earlier and more recent archaeological studies at Rossdale, and the nature of the proposed developments themselves, are also used to inform any *Historical Resources Act* requirements issued by CMSW. Both Heritage Division Archaeologists and Heritage Conservation Advisors at CMSW have confirmed

that because of the nature of this site's complexity and historic resource significance, any development proposals within the Rossdale site, including disturbance of soils, will still require review by the Ministry of Culture, Multiculturalism, and Status of Women. **All applications, for *Historical Resources Act* approval or for archaeological permits, are made through the Alberta Government's Online Permitting and Clearance system, commonly known as [OPaC](#).**²⁴

²⁴ Alberta Government. *Online Permitting and Clearance*. Accessed Online 2020-11-10 at: <https://www.opac.alberta.ca/Login.aspx>

3.0 Site

3.1 Site Location

As of 2020-09-30, the Rossdale Power Plant Historic Site is located on the north bank of the North Saskatchewan River on the Rossdale flat, approximately 10 metres above average river level. Its properties' bounds abut the north end of Walterdale Bridge and 105 Street NW. The property also neighbours the Traditional Indigenous Burial Ground (Rossdale Flats Memorial) and an EPCOR Substation just south of Rossdale Road NW, at the intersection of 105 Street NW.

As of 2021-04-30, the legal description of the Rossdale Power Plant site is unknown as details are still being decided upon between EPCOR and the City during property handover.

3.2 Building & Site Descriptions

Description of the site landscape is outlined further in Section 3.2.7. The 16.97 hectare Rosssdale Power Plant site is located on the North Saskatchewan River, as seen below.

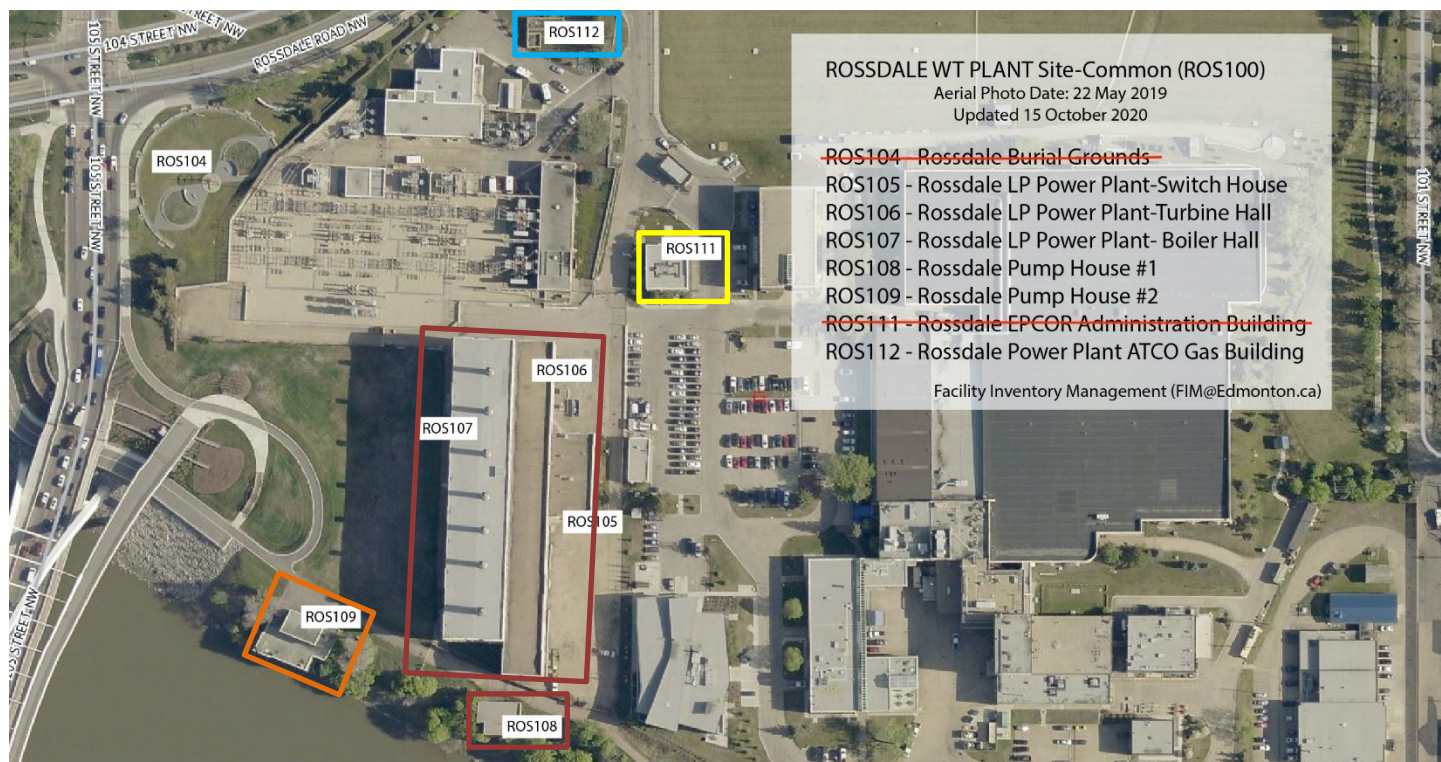


Figure 7: Rosssdale Power Plant Site, and Building Codes

The orange encircled building is Pump House #2, which is considered in this conservation plan despite exclusion from the PHR designation. The blue box encircles the ATCO Gas Metering Building designed by Kasten & Longworth, which is not part of any designation, but associated with the now demolished HPP. The yellow box denotes the Administration Building, which is within the PHR designation, but not considered within this conservation plan because it remains under EPCOR ownership and use and is therefore not part of these future rehabilitation schemes. The burgundy coloured boxes highlight the Low Pressure Plant (chimneys on the Boiler Hall to the left, Turbine Hall in the Centre, and Switch House to the right) and Pump House #1 on the river bank. These four buildings are part of the Rosssdale PHR.

Essential building metrics, as tabulated from Building Record using Revit 2020, are captured in the table as below. Floor area includes calculations of all room area. Height for all buildings is calculated from grade to top of coping. Height calculations for Pump House #1 and Pump House #2 were taken at the north elevation:

Building Name	CoE Code	~Height	~Length	~Width	Floor Area
Boiler Hall	ROS 107	113' / 34 m / (with chimney stacks)	360' / 110m	72' / 22m	56,390 8sq.ft. / 5,238.5 sq.m.

Turbine Hall	ROS 106	49' / 15m	402' / 122m	49' / 15m	39,650sq.ft. / 3,683.3 sq.m.
Switch House	ROS 105	34' / 10m	1052 / 31m	53' / 16m	14,560 sq.ft. / 1352.8 sq.m.
Low Pressure Plant	N/A	N/A	N/A	N/A	110,310 sq.ft. / 10,248 sq.m.
Pump House #1	ROS 108	18'/5.6m	50'/15m	40'/12m	6690 sq. ft/ 621.9 sq. m
Pump House #2	ROS 109	20'/6.1m	82'/25m	63'/19m	1,8630 sq ft/ 1730.9 sq. m
ATCO Gas Building	ROS 112	10'/3m	43'/13m	35'/11m	653 sq ft. / 60.6 sq. m

3.2.1 Low Pressure Power Plant (LPP)

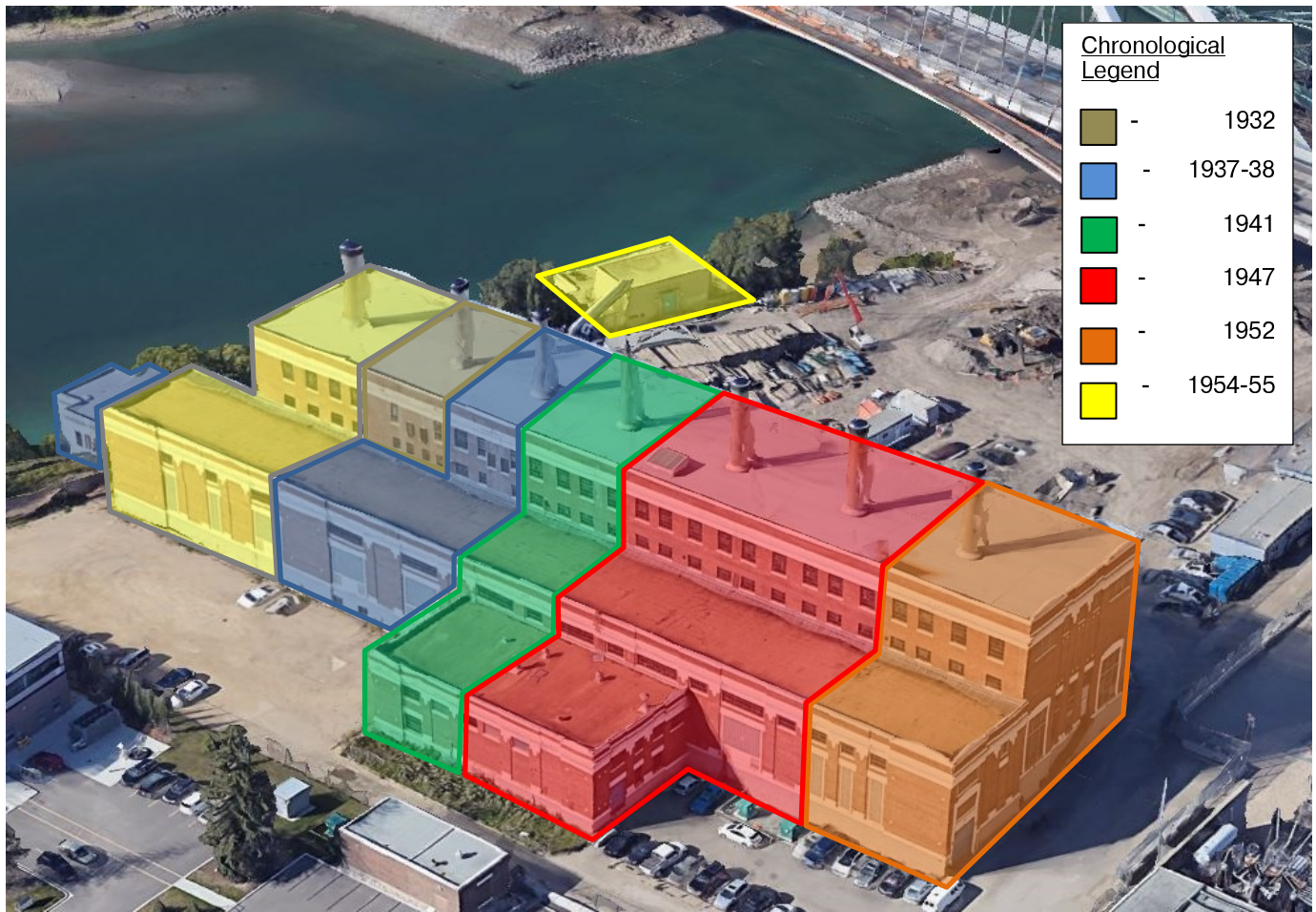


Figure 8: The LPP, smaller Switch House in foreground, long Turbine Hall in centre, and large Boiler Hall with stacks. Pump House #1 & #2 construction dates also correlate to plant expansions. (Source: Google Earth, 2020)

This mid-twentieth century power plant exterior is dominated by the three impressive rectangular massings that make up the Low Pressure Power Plant (LPP). The LPP is comprised of the following three buildings: Boiler Hall, Turbine Hall, and Switch House. All three buildings' exteriors were built with the same programmatic design from ~1930-1954. Its exterior aesthetic program can be described as a stripped Edwardian-classical design verging on transitional art-deco, with a horizontal tripartite scheme of:

- 1) Base: Approximately 2.5 metres in height from grade, the alternately board and plywood formed concrete foundation visibly separates the building from the earth on this pedestal. Plywood finish deviated from board formed concrete from 1947 onwards.
- 2) Shaft: Brick pilasters define the character of the wall faces and are capped with cast masonry unit capitals of a very restrained, or transitional, art-deco design. Exterior brick walls have no decoration aside from the spartan rectangular borders which are denoted by soldier and stack courses of red brick that terminate at their corners with square cast masonry units.

- 3) Cap: Flaring cavetto form cast masonry unit cornice tops a fascia course. This is topped by a plain brick frieze and finished by cast parapet coping. Each of the three buildings featured subtle cast masonry unit pediments at its terminating, and slightly pronounced, corners, and significant doors and windows.

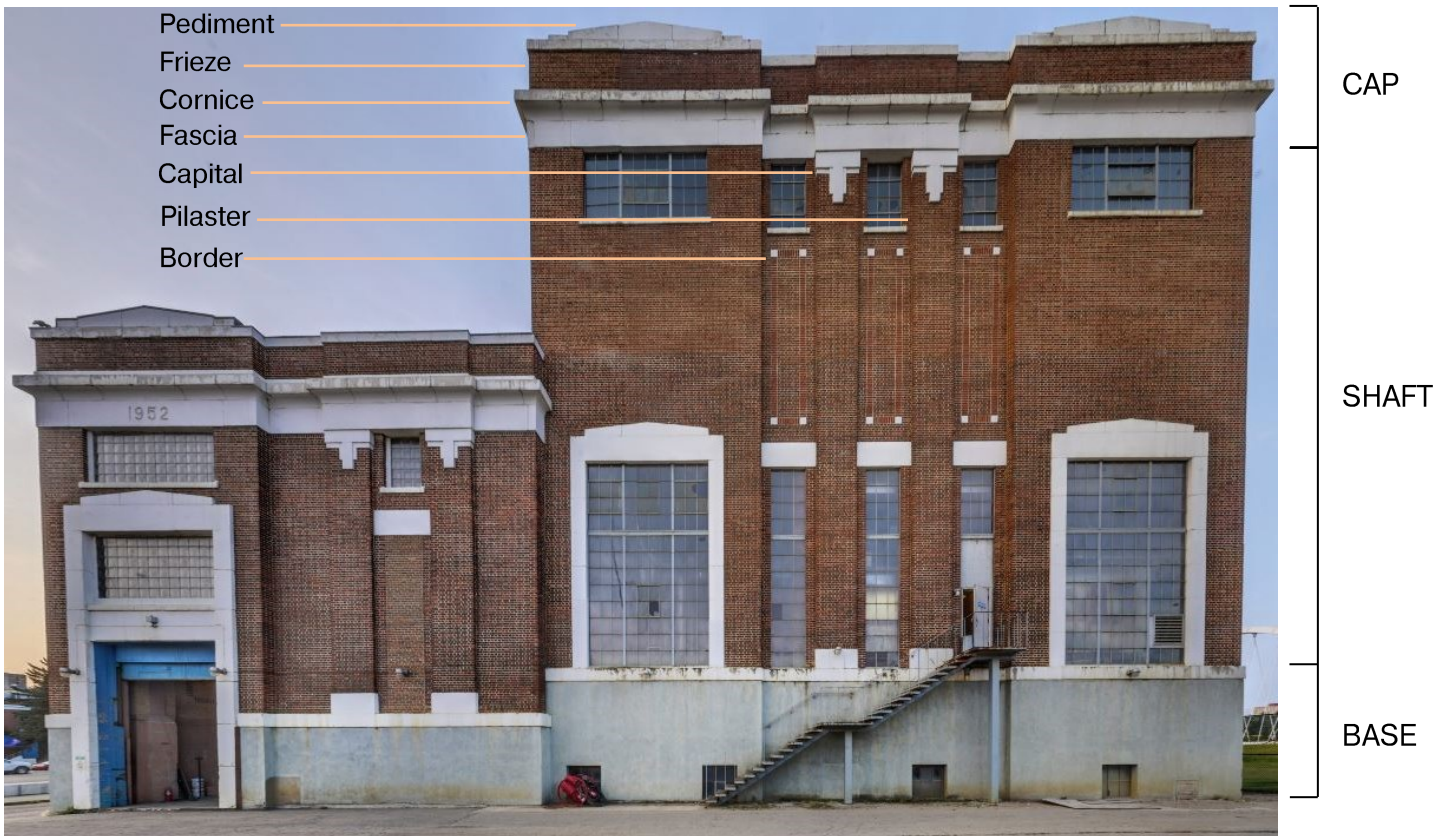


Figure 9: LPP exterior architectural language called-out on the north façade. (Source: Cloud360, 2020)

Originally unpainted, all cast masonry units were first painted white in the 1960s except those hidden by the contemporaneous High Pressure Plant (HPP) and new Control Room additions to the west façade of the Boiler Hall. Building expansions over time are denoted on the Switch House and Boiler Hall with approximate date stamps on the cast fascia underneath the cornice. The west elevation of the Boiler Hall evidences tar/bituminous stains from the HPP where it was simply flashed up against the LPP brickwork, within this area the original unpainted cast masonry units are still visible.

All exterior clinker bricks are laid in an English-bond pattern. The 1932-1947 sections appear to be the same type of brick, named Tapestry and procured through Acme Brick Company of Edmonton according to the 1932 & 1938 building specifications found in the City's contract with the builders, C.C. Batson & G.H MacDonald respective to each period.²⁵ Mortar was a mixture of 5 sacks of 50lb hydrated lime (slaked for at least 14 days): 3 sacks of 87.5lb cement:16 cubic feet of Richardson sand (local supplier still available today): ~5.4 imperial gallons of water. Lime and sand was permitted to be mixed ahead of time, but cement was specified to be

²⁵ Specifications from contract between: CoE & C.C. Batson Ltd., 1932 – written by plant Superintendent Cunningham. CEA, RG 8.13 Contracts, File Number 1512. Also, Specifications from contract between CoE & HG MacDonald, 1937 – written by plant Superintendent Watson. CEA, RG 8.13 Contracts, File Number 1773.

added within 30 minutes of a mason's use and retempering of mortar was prohibited. Bricks were laid with frogs up, and all brick work is fastened to structural steel with anchors on four foot centres. Stone masons laid all of the cast masonry units (CMU) and fixed them with anchors cramped and doweled with copper. Pointing of CMUs was done using a "white plastic caulking compound as manufactured by the Edmonton Paint & Glass Company."²⁶ 16oz copper Cheney Flashing was specified for use underneath the cast masonry unit coping. Lintels were poured in place by manufacturers. All pointing was done at the end of masonry laying, joints were ensured to be carved back ½" and then pointed, struck flush, and beaded. All masonry was swept down and washed with diluted muriatic acid with water and a stiff bristle brush, to be followed by a thorough washing with clean water.

Many of the original rolled steel multi-light windows, with operable louvers, have been variously infilled with Suntrol, clear glass block, and brick over time. Originally, they were "double diamond glazing", 14" x 20" glass units²⁷, with the window sashes being caulked with stone coloured Tremco or Arco. From 1938, glazing putty was specified as Permanite for the "Fenestra" style steel sash windows – which may be a reference to the [Detroit Steel Products Company](#). In both the Boiler Hall and Turbine Hall, these large windows served the very important function of expelling heat and letting in light. However, changing technologies and local concerns about amenities (eg., noise and pollution) led to these being infilled with glass block or brick. Windows are variously bordered by cast masonry units, and both window and doors feature large poured lintels above and cast sills below. Large sections of the foundation, and some brickwork, evidences overpaint as part of EPCOR's site-wide attempts at covering up and discouraging graffiti. Roofing materials are contemporary (2019-2021) polymeric membrane systems.

The concrete foundations of the LPP were poured directly on top of hundreds of "Mountain Fir" piles, which is now better known as Douglas Fir (*Pseudotsuga menziesii*) a moderately durable wood in terms of its decay resistance. These were specified as per American Railway Engineering Association standard specifications, and grade 1 oil (coal-tar creosote) treated by the Canada Creosoting Company, Ltd., based in North Edmonton.²⁸ Piles were pounded until refusal, and cut off to same heights. All cut-off ends were then treated in-situ before pouring reinforced concrete on top.

²⁶ Ibid., 1938, p.34.

²⁷ The city had 1552 lights on hand for reuse from previous buildings, Ibid., 1932.

²⁸ Ibid., 1938, p.17.



Figure 10: Poole Construction Limited (PCL) using crane to drive piles in the 1947 power plant addition. (Source: EPHF)

The interior faces of the Boiler and Turbine hall concrete foundations were specified to use plywood formed concrete, as opposed to the No.1 common spruce yard lumber shiplap.²⁹ All concrete arris, or corners, are chamfered. Concrete was tested at 7 & 28 days as per ASTM Standards, and the cost borne by the city.

The purpose of the LPP was to house all equipment required to produce, transform, and transmit electrical energy it to its customers. This was done through the specialised division of operative space. If the LPP were to be thought of as a human body the Boiler Hall would be the digestive system, hotly consuming coal with its boiled pressured steam being the fiery fuel for the circulatory system. The steam and water pipes, gauges, valves, and regulators could be its circulatory and nervous system, the Turbine Hall its tendons and muscles, capturing and converting the steam's pressurised movement into electricity, and the Switch House its brain – orchestrating the entire effort in a fruitful safe way. These processes are further explained in the sub-sections below.

²⁹ Ibid., 1938, p.24.

3.2.2 Boiler Hall



Figure 11: Boiler Hall hi-lighted in bird's eye perspective.

The Boiler Hall is a rectangular plan five storey tall building with principal divisions of interior space being a basement, main operating floor, and mezzanine. As the name suggests, the Boiler Hall was designed to house equipment that would convert river water to pressurised steam with coal-fired heat. At its peak it had 5 coal-firing units, but these were converted to natural gas by 1955, along with 2 new natural gas boiler units, making a total of 7. Coal, arriving by train on the Edmonton Yukon Pacific (EYP) railway spur, would be conveyed from an outside lift and then would be distributed horizontally to fill hoppers above each boiler. The westerly exterior of the Boiler Hall visibly bears scars of the past coal and ash handling units, notable by the line of pale red colour bricks nearing the southern end of the 1932 bay.



Figure 12: West Elevation of the Boiler Hall with date stamps of incremental additions and windows infilled with brick. (Source: Rossdale Laser Scan Cloud360, 2020)

Graded coal would be stockpiled in hanging coal hoppers and fed into the furnace along a travelling coal grate stoker for consistent heat to boil river water by a myriad crew of pipes. Engineer regulated boiler pressurised steam would then travel through pipes to the Turbine Hall where it would force the rotation of a turbine unit's blades, the generating units, and produce electricity. Coal-ash would fall through grates and be funnelled through ash chutes directly into the basement ash-handling cars on rails that would transport the waste product outside, ultimately to be taken away by train. By 1955 all boilers were converted to natural gas which changed the interior plant configuration and resulted in the obsolescence of the coal spur to the LPPs western exterior. Almost all machinery, from boilers, travelling coal grates, furnaces, pipes, fans, ductworks, cooling, coal ash handling, and coal conveying equipment, has been removed from LPP plant shutdown in 1992-3³⁰ and decommissioning around 2011. All that remains is a partial relict boiler-end, chimneys, mezzanine fan

³⁰ Field, 1992, p.36.

pedestals, catwalks, machinery supporting structural steel, ash-grate openings, ash-cart rails, natural gas intake pipes and valves, sundry pipes and metal fixtures.

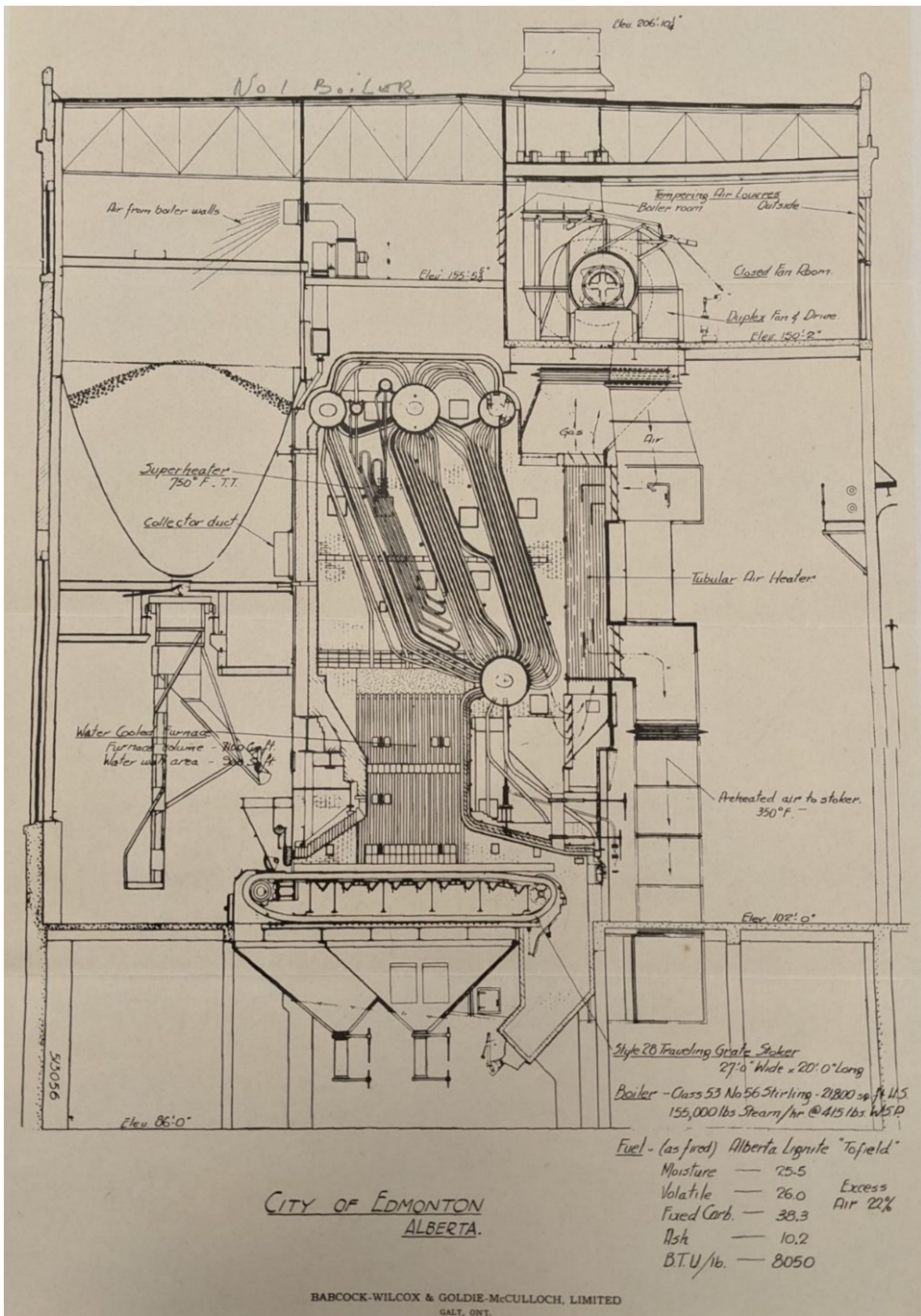


Figure 13: 1937, Boiler Unit #1 in section by Babcock-Wilcox & Goldie McCulloch Limited from Galt, Ontario. (Source: CEA, RG-80 Series 3 Box 2 File 34)

The Boiler Hall is the largest of the three buildings at 26.38 m/ 86,55 ft tall (without chimney stacks) and 34.42 m/ 112.93 ft tall (with chimney stacks) including seven large chimney stacks, one for each boiler, that are painted silver except for their black tips. The oldest chimney stack associated with the first period or bay of construction, dating around 1930-31, is riveted, while the rest are welded in construction. All stacks now have acrylic domes to mitigate water intrusion, steel-wire cable tie downs, and have newly designed apron flashing as per the 2015 roofing renewal project.

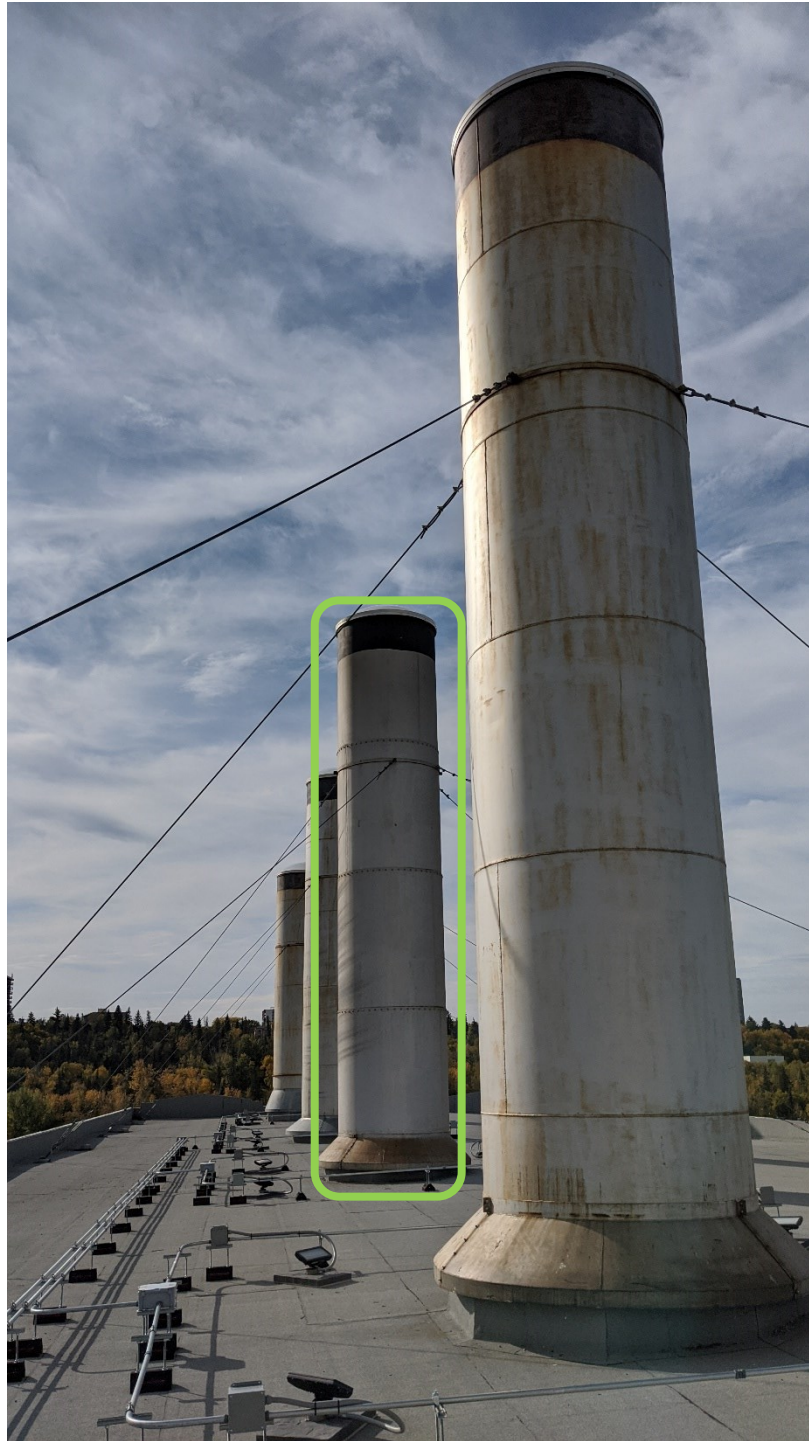


Figure 14: Boiler hall chimney stacks, the one hi-lighted in green is riveted, while the rest are welded. (Source: DFS, 2020)

The building is comprised of four main spaces (the now vast and open Main Operating Floor, the brooding dark Basement, the lofty Mezzanine, and the north elevation's utilitarian storage office tower, and a variety of other small ancillary spaces including stairways, catwalks, utility rooms, and an elevator. As visible on the inside, the building wall structure is constructed out of rolled steel - largely riveted columns, girts, and beams with some modern reinforcements of the west elevation with the introduction of heavy bolted I-beams. The structural steel that remains in place also acted as the armatures to support most of the Boiler Hall's complex machinery and pipes including the hanging boilers, coal hoppers, and travelling stoker grates that have since been removed.



Figure 15: Gray steel below is modern reinforcement all other riveted steel is original. (Source: Cloud360, 2020)

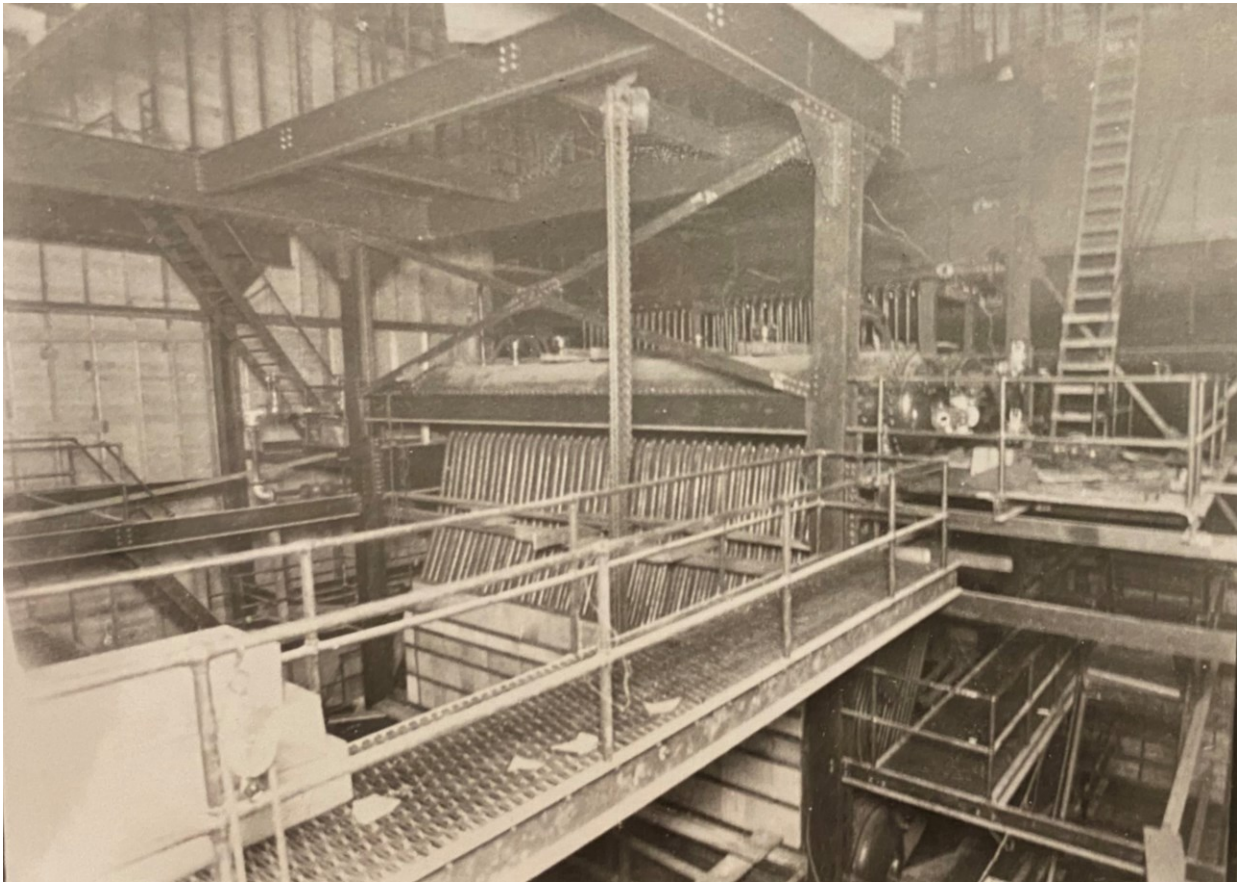


Figure 16: 1938 perspective of Boiler Unit #1. Note the temporary wood framed wall awaiting the next expansion in the background at left. (Source: CEA, EB-28-1517)

The exterior Tapestry brick is contrasted by the interior red brick, which was No.1 IXL Redcliffe Pressed Brick.³¹ The masonry wall is a thick anchored curtain wall, 3 wythes thick on flat wall surfaces extending to 4

³¹ Ibid.

wythes at pilasters and variously terminating plant ends as per the North and South expansion ends of the LPP dating to 1938, 1952, & 1954.



Figure 17: Both the pilasters (highlighted blue) and terminating plant ends (hi-lighted green) extend to 4 brick wythes. (Source: Cloud360, 2020)

Interior brick is stained black from coal dust and white from gypsum leachates from roof decking in the pre-1950s additions. A soldier course lines the top of the concrete foundation on the main operating floor around 2.5m / 8' in height.

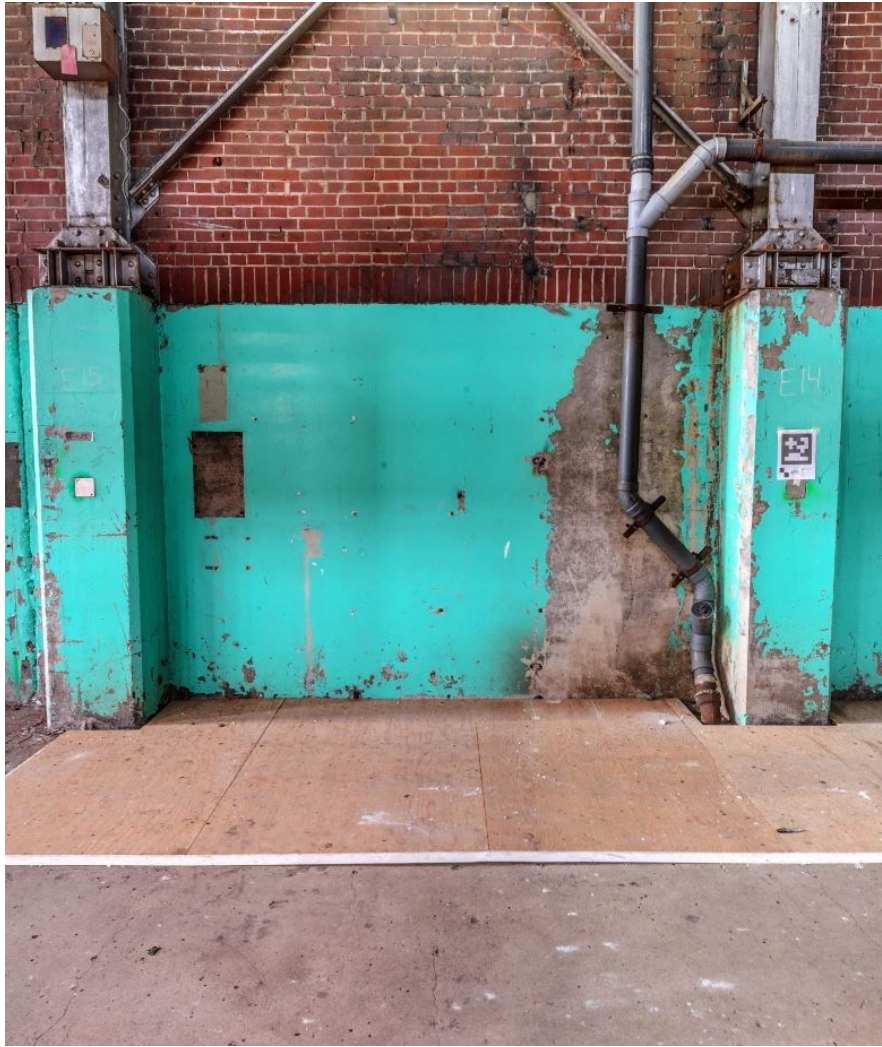


Figure 18: 1950s-60s Rosedale aqua-green painted concrete foundation. (Source: Cloud360, 2020)

From the operating floor it is **14.5m / 50ft** to the floor of the fan-room mezzanine. Both operating and mezzanine floors are poured slab reinforced concrete, and various steel grates and temporary plywood coverings, supported by steel columns, beams, and concrete footers. Numerous steel staircases with pipe railings and floor grating connect both the operating floor to mezzanine, catwalk, and basement.

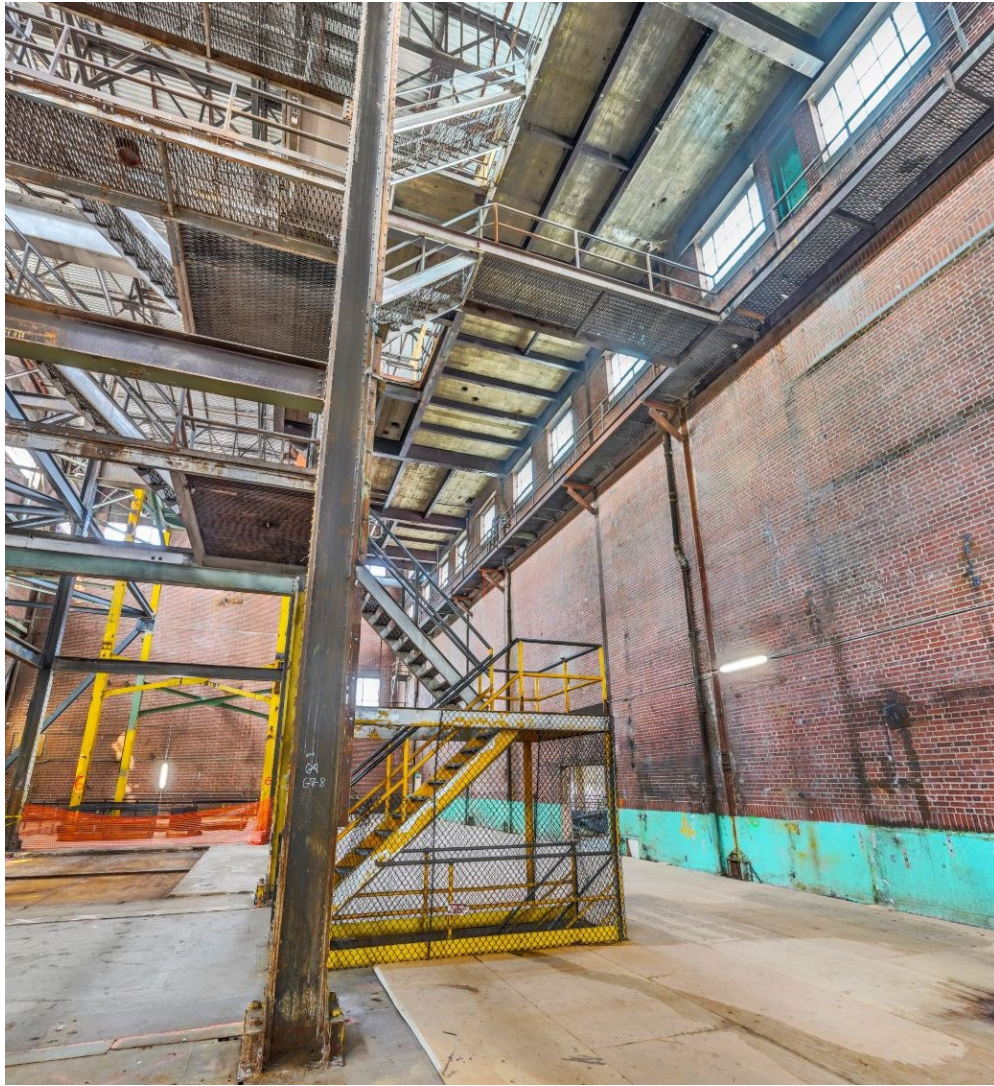


Figure 19: Stairwell and catwalks (Source: Cloud360, 2020)

The mezzanine was once subdivided per boiler bay, with each partition holding its own duplex fan-unit mounted on chunky concrete pedestals with enough mass to anchor the fans and to dissipate vibrations. These fans transported waste gas and smoke through the chimney stacks and extracted hot air from around the boilers to reduce potential overheating. All surrounding walls were plastered and supported with the use of Truscon metal lathe.

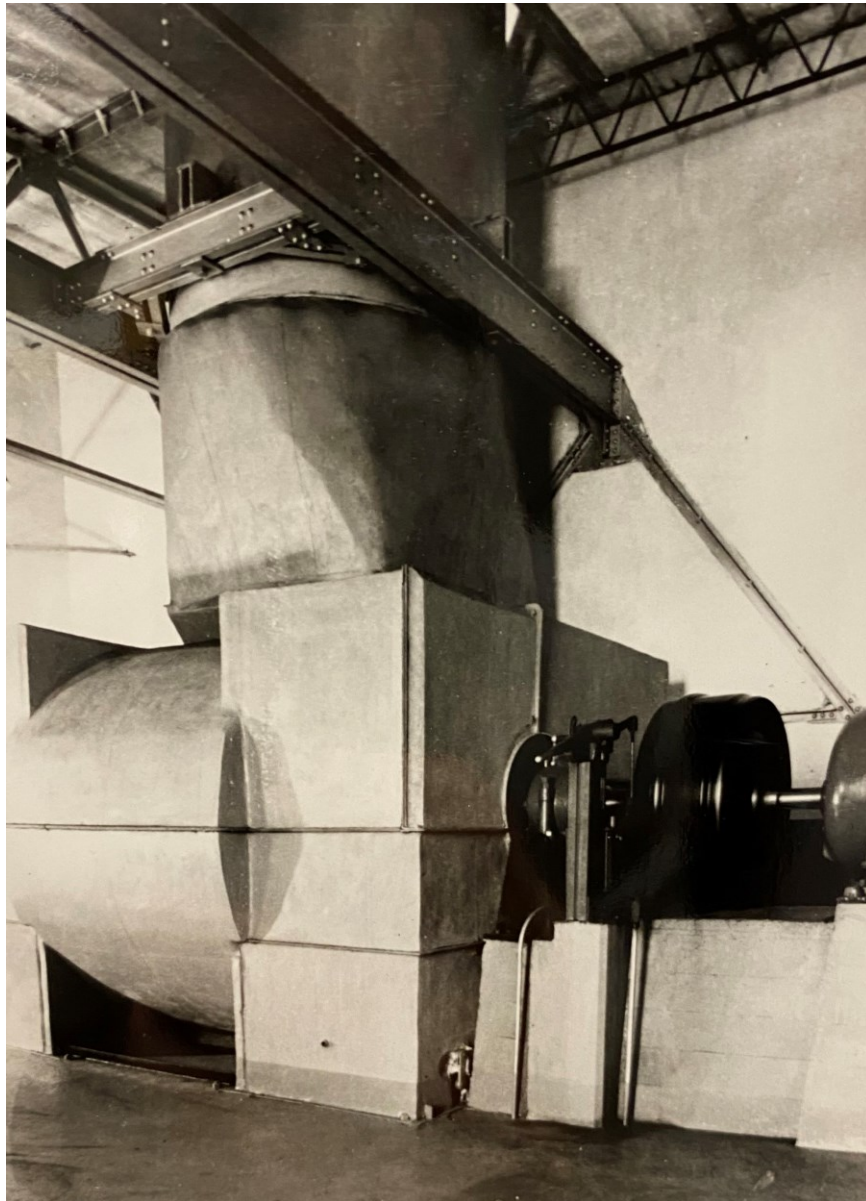


Figure 20: 1938, Fan unit and chimney stack in Boiler Hall mezzanine. (Source: CEA, EB-28-1515)



Figure 21: Mezzanine illustrating fan pedestals aligned with corresponding smoke stacks. (Source: Cloud360, 2020)

The original roof deck was made of 3-1/2" gypsum panels that spanned the purlins, and the last portions were replaced in 2015 with corrugated steel roof decking. The corrugated steel roof decking, Johns-Manville Class "A" as according to the manufacturer's specification No.101, is supported longitudinally by open-web steel trusses (commonly known as a Warren truss) consisting of a single bent round bar webbing welded to top and bottom chord steel angles.³² In turn, these are supported by riveted rolled flat and L-angle steel trusses that

³² The Steel Joist Institute (SJI) became organised in 1928 and published their first standard for design values because of the proliferation of a wide range of product quality due to varying fabrication methods.
<https://www.wje.com/assets/pdfs/articles/WJE-PRIMER-Open-Web-Steel-Joists.pdf>

span the masonry walls east-west and are joined to steel girts that are embedded in masonry and fixed by vertical columns.

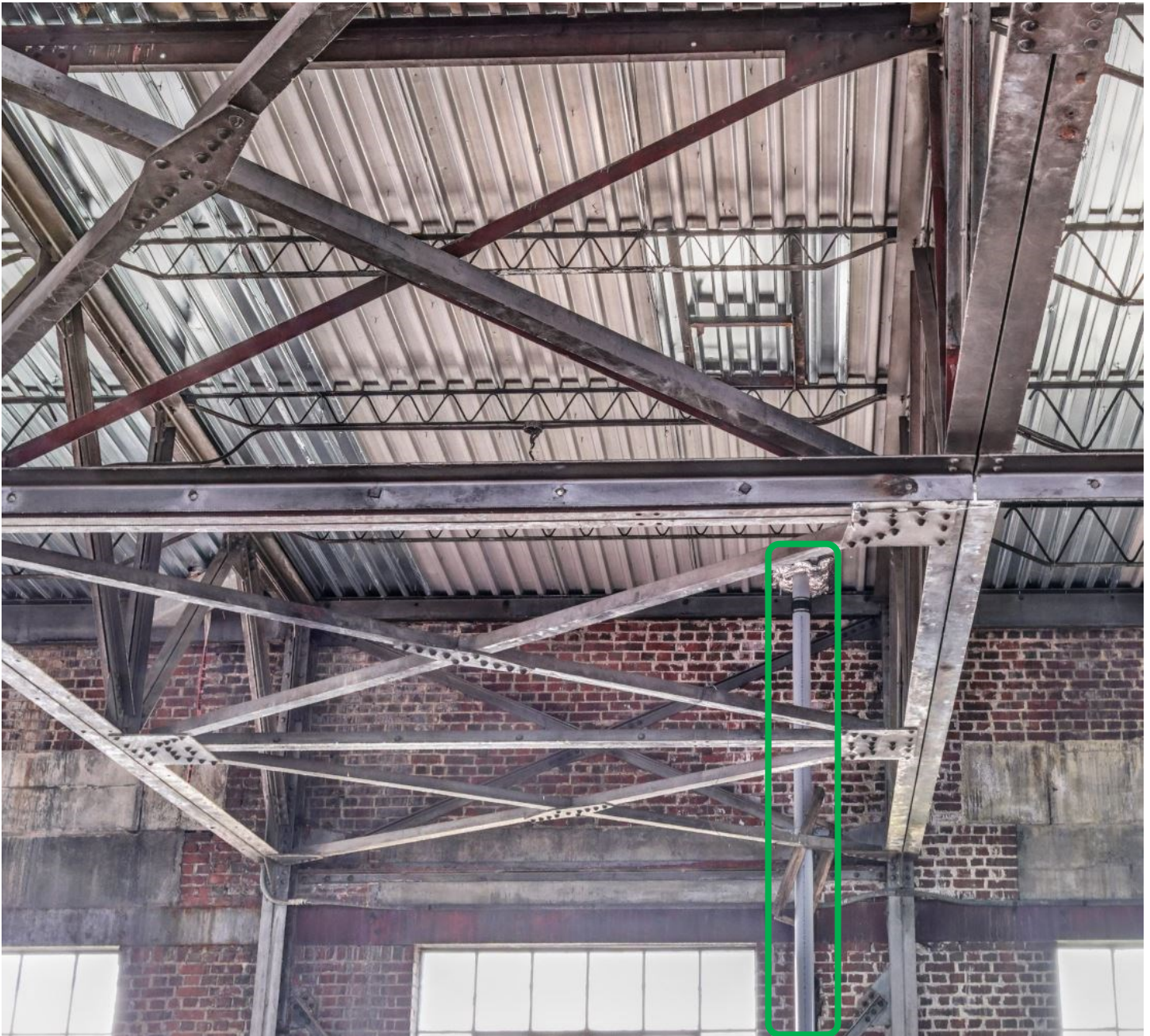


Figure 22: Boiler Hall roof structure with PVC pipe outlined in green. (Source: Cloud360, 2020)

The rain leaders from the roof were once all made of cast iron and travel down the interior of the building, though most have been replaced with PVC pipe as seen in the photo above.

It is an approximate 4.83 m/ 15.85 ft from the operating floor to the basement floor. In the basement interior there is one natural gas related room and a boiler switch room on the west elevation, and a oil and a storage room to the north.



Figure 23: Natural Gas related pipes, dating from the era of boiler cessation of coal, 1940s-1950s. (Source: Cloud360, 2020)

The east elevation of the Boiler Hall basement has numerous doorways and openings for piping utilities like water, steam, and electricity to fulfill various power plant operations. Coal ash-car rails remain as well.



Figure 24: Boiler Hall basement, ash chutes above and ash-car rail tracks below. Note Boiler switch room on the west elevation to viewer's left. (Source: Cloud360, 2020)

On the northwest-end of the main operating floor there is a loading dock, and the 1952 addition of a five storey building within the building, variously used as offices and for storage. The fifth floor of this office/storage tower currently lacks a ceiling.

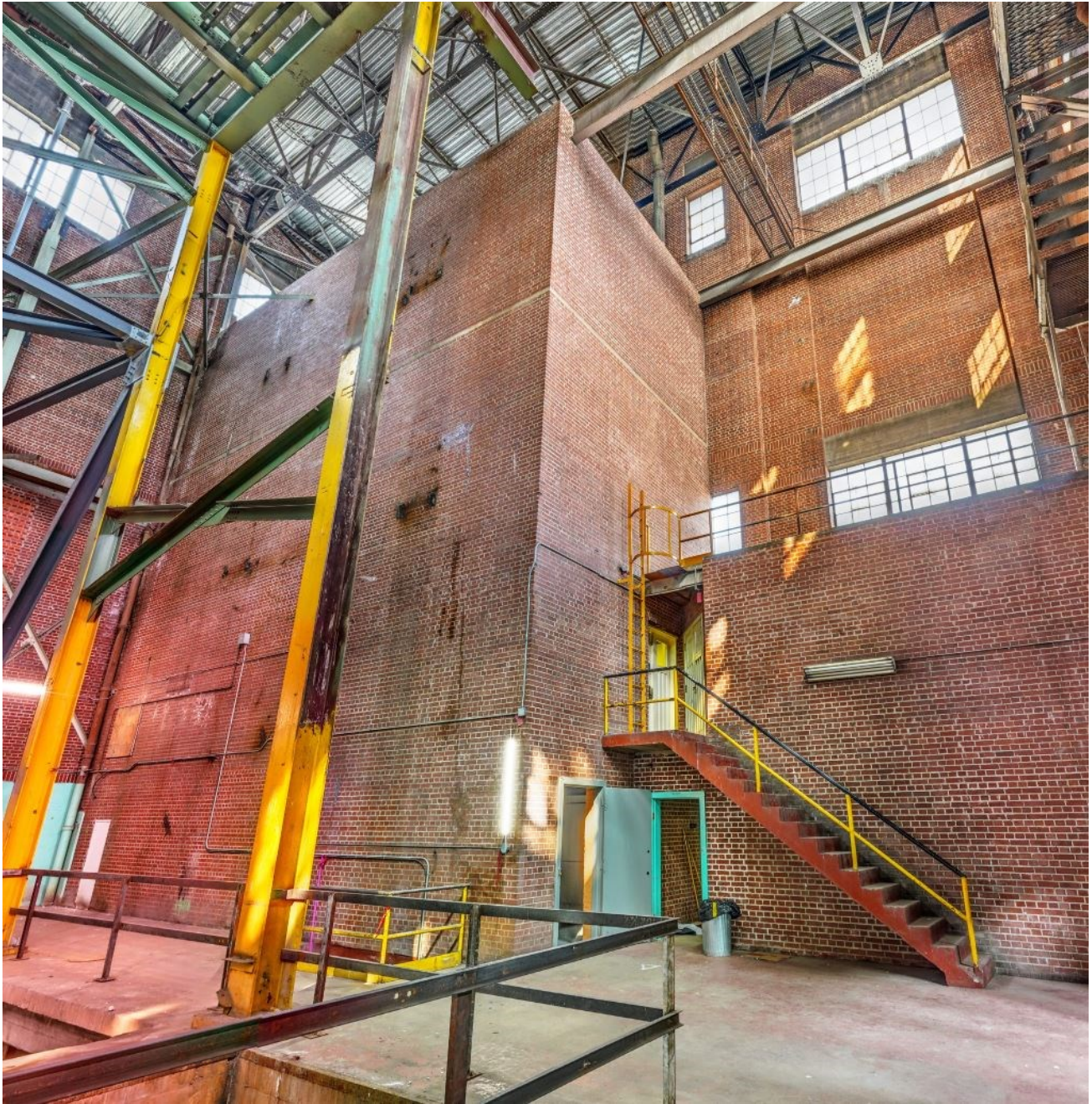


Figure 25: Office and storage tower design dating from 1952 as per recorded drawings. (Source: Cloud360, 2020)



Figure 26: Relict boiler end, note the thickness of the riveted steel. (Source: Cloud360, 2020)

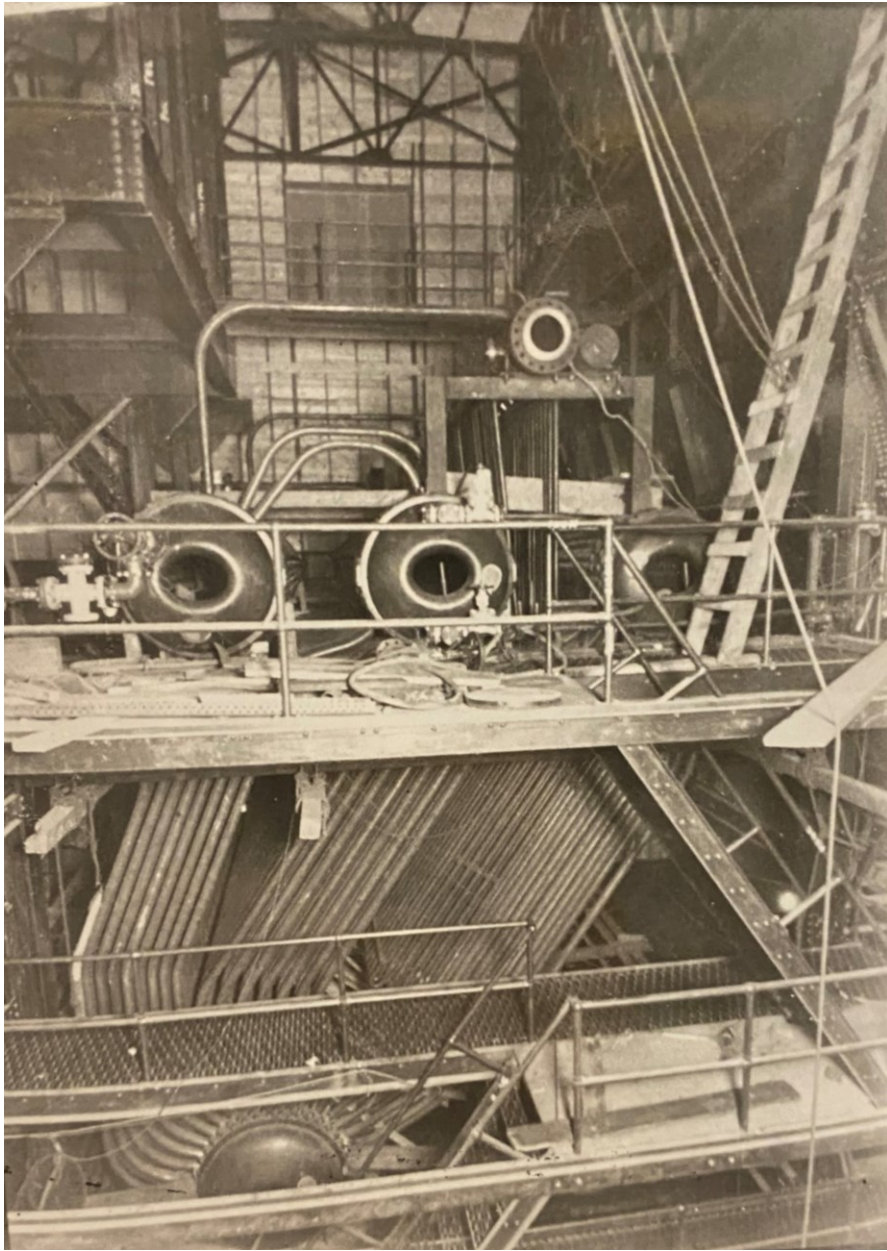


Figure 27: Side elevation of hanging boiler and radiating steam pipes. (CEA, EB-28-1516)

Post-1955, all boiler units had been converted to natural gas, meaning that in terms of duration of time, the predominant fuel of thermo-combustion electricity production at Rossdale was not coal. This conversion was due to a number of factors, ranging from local Rossdale residents combatting the negative effects on their amenity from coal dust and pollution, to the desires of City Plant engineers to have more consistent pressure that was possible with newer technology and the use of natural gas, which was becoming increasingly used and exploited as one of Alberta's fossil fuel natural resources. The illustration below is a schematic illustration that helps describe the operation of one of the boilers in the High Pressure Plant, which is exemplary of the corresponding boilers in Dewar's Low Pressure Plant.

No.8 BOILER

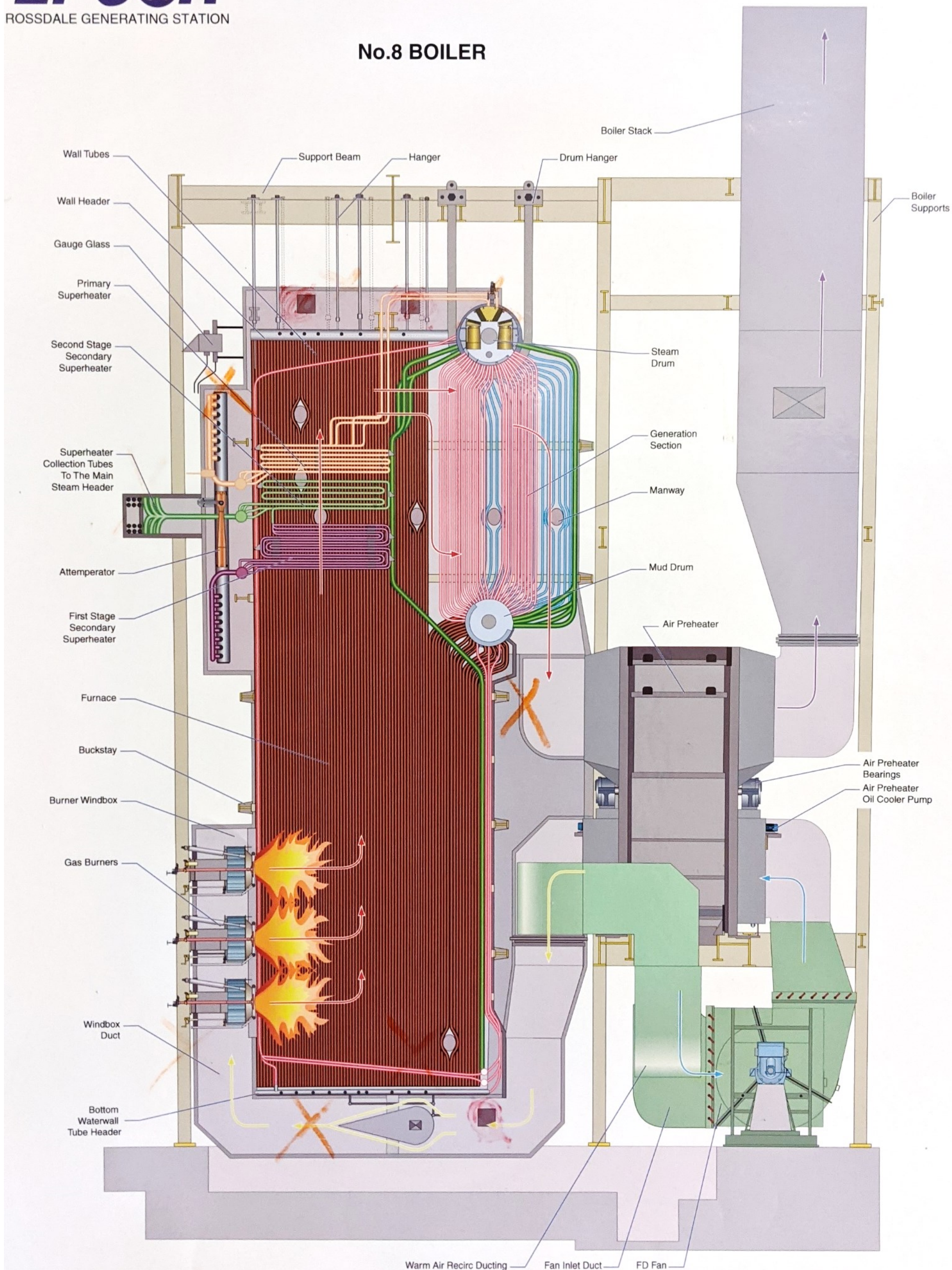


Figure 28: (Source: EPCOR Infographic Poster on Boiler #8, Date Unknown)

3.2.3 Turbine Hall



Figure 29: Turbine Hall hi-lighted in bird's eye perspective.

The Turbine hall is the second largest of the three Low Pressure Plant buildings at 14.85 m/ 48.72 ft in height but is the longest at 122.48 m/ 401.84 ft . Its is a continuous large open rectangularly planned space with a loading dock on its north elevation, connection to the Switch House on its east, and various open doorways to the Boiler Hall on its west. The interior brick mimics the same English-patterned bond of the exterior LPP, but a smooth faced buff, or yellow, colour is used. This colour was likely used to better illuminate the space, but also to create a hierarchical separation of this as a place of monumental aesthetic significance than any other at Rossdale. Buff bricks were sourced from the Cooksville Company Ltd., based out of Toronto, Ontario, and specified to use Shade No.32. Only the interior brick of the Turbine hall was specified to have its pointing mortar to be tinted as per mock-up approvals by the plant superintendent. Almost all of the rolled steel multi-light windows have been replaced by glass block, including integrated operating-floor positioned door louvers, and are largely located on the south, east, and north elevations, with the notable exception of the 1954 addition. Transoms above the rolling gantry rail tracks remain as original multi-light windows. Window openings are supported by reinforced concrete headers. Vertical fluorescent tube lighting was attached to the pilasters in 1973.³³

³³ RGS Database Drawings



Figure 30: View looking east of lower glass block windows, extant original rolled steel multi-light windows at spandrel locations, and operable louvers at operating floor height. (Source: Cloud360, 2020)

Wide blank walls between pilasters, much like the LPP's exterior walls, utilise a dark brown brick stack and soldier courses to trace rectangular panels on the walls. These brown bricks are Shade No.41 by Cooksville Company Ltd., (exception being that a paler red was used in the 1954 addition). The board formed concrete foundation is currently painted a peach colour and has a simple reveal bead mould below its chamfered top. Wood doors and surrounds were painted blue when Edmonton City Power rebranded its colour circa 1980s-90s.³⁴ Riveted steel columns are painted peach to match the foundation. The concrete floor, now variously painted and raw, was once covered in battleship linoleum – although the 1938 Specifications do mention the possibility of the use of a ¼", "industrial plank flooring tiles" product from Vancouver known as "Ace-Tex".³⁵ Pipe rails protect stairwells and a 6 metre/20 foot drop to the basement floor below. Other ad-hoc railing and chains exist throughout as a result of Plant Decommissioning safety measures.

³⁴ Wagner, 2021.

³⁵ Watson, p28.

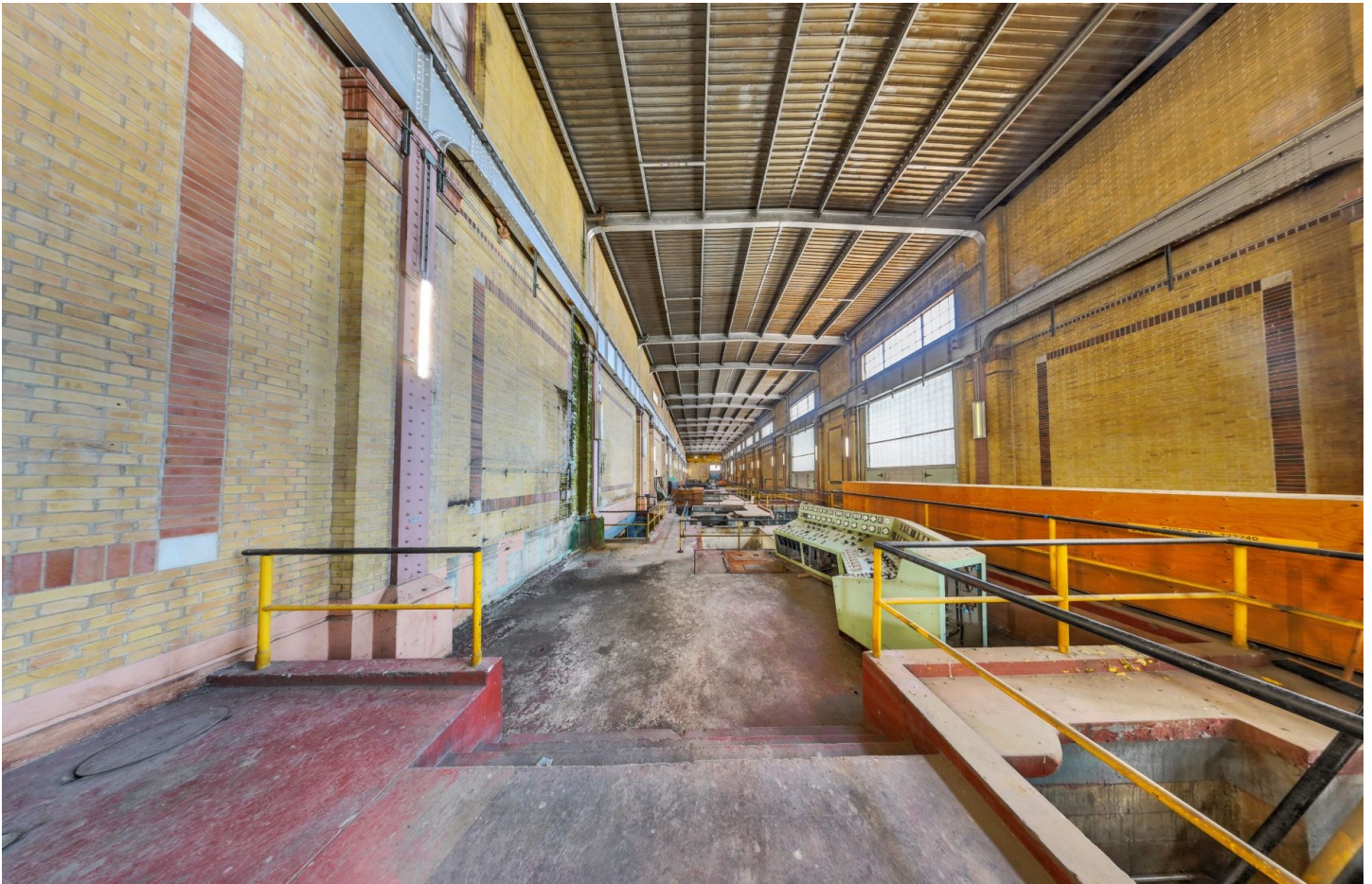


Figure 31: Interior view of the Turbine Hall looking north from the 1954 addition, main operating floor. (Cloud360, 2020)



Figure 32: View looking west from the centre of the Turbine Hall of turbine podiums and condenser tank pedestals below. (Cloud360, 2020)

The interior buff brick is a non-structural curtain wall, 3 wythes thick on flat wall surfaces extending to 5 wythes at vertical riveted column locations, much like the exterior pilasters. The pilasters terminate with a playful capital comprised of different brick bonding with protruding courses of dark red/brown brick alternating with soldier, running, and rowlock bond courses. A rowlock course of the darker brick creates a border joining all capitals with a running entablature of riveted aluminum coloured painted steel that serves to provide the rails of the “Tiger Crane” or gantry above. Also painted aluminum colour is the steel riveted truss work or roof structure, corrugated metal decking, and cast iron roof rain leaders which travel down the interior of the building before transferring into the Boiler Hall on the west elevation, or straight down to the basement on the east elevation. Despite it being obsolete building technology by the later periods of expansion, riveted steel was maintained throughout building expansions for concerns of aesthetic unity to a powerful rhythmic effect.



Figure 33: Details of Turbine Hall pilaster capitals, riveted steel, (Cloud360, 2020)

The Turbine Hall housed massive turbines that would spin due to the pressurised steam system, and generate electricity through this movement. The turbine and generator units were supported by enormous reinforced concrete pedestals in order to absorb and dissipate the many correctional movements of the turbines. Residual steam would be channelled to the basement where it would be cooled in the large condenser tanks to be converted back to water. This warmed water was transferred by large pipes to the nearby water treatment facilities – as it was more efficient to use warmed water than cold river water, while other surplus water was simply directly discharged back into the North Saskatchewan river.



Figure 34: Turbine Hall, turbine/generator unit #4 podiums and Condensor Tank pedestals below. (Source: Cloud360, 2020)

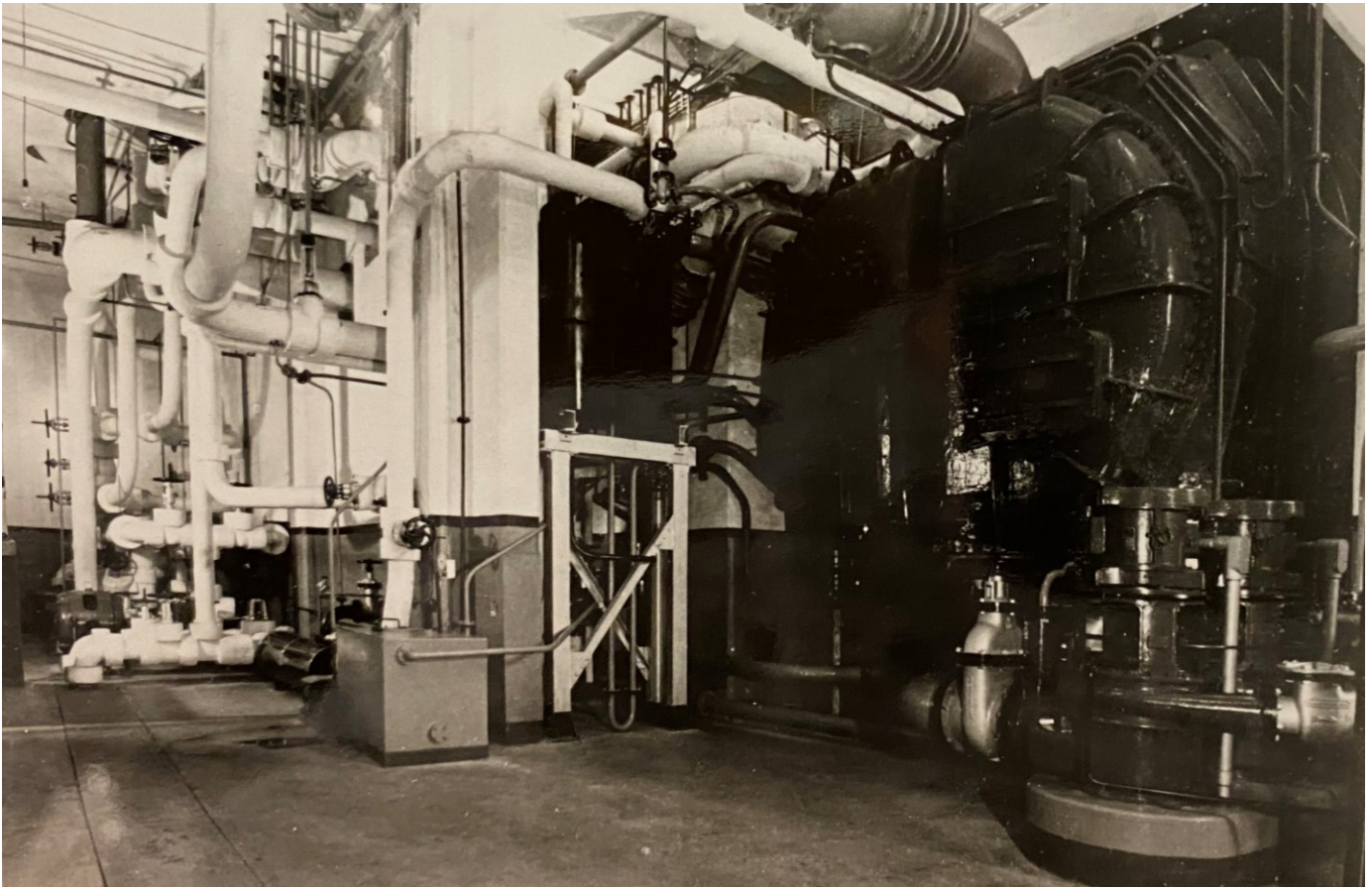


Figure 35: 1950 view of Turbine Unit #1 condenser and pumps.

Almost all original machinery (turbines, generators, condensers and associated pipe and electrical lines) have been removed with plant decommissioning from the 1990s to 2011, with the noteworthy exception of the massive water discharge pipe and valve, and the 60 tonne Whiting made “Tiger Crane”, an overhead travelling gantry, that was used to move and maintain heavy machinery. The HPP Control Panel is currently stored in the Turbine Hall, but would have been located in the Control Room to the west of the LPP Boiler Hall and south of the HPP Boiler Hall.



Figure 36: The Brown & Boveri control panel disassociated from the HPP associated control room, now in the Turbine Hall.



Figure 37: North elevation of the Turbine Hall, including interior gantry. (Source: Cloud360, 2020)

The Turbine Hall ceiling/roof assembly is comprised of Johns-Manville Class “4-A-1” metal decking applied in manufacturers specification No.108. Above this is 1” thick insulating board, such as Roofinsul, was to be covered in roofing felt and hot asphalt.

3.2.4 Switch House

Electricity from the generating units in the Turbine Hall was channelled to the Switch House for power measurement, conversion, and transmission at the discretion of the plant operations shift engineer. The shift engineer was responsible for the day-to-day operations of the plant and was in direct contact with the Boiler Hall, Turbine Hall, and Pump House operators via a telephone system. In the earlier days of the plant, the engineer would ring bells to alert operators to pick up the phone. Operating as an open phone line anyone could pick up a receiver in the LPP and be a part of open communication without making a direct call to a specific number on a dedicated private line.³⁶ Some power was consumed through the Mercury Arc Rectifiers on the second floor, which would transform some of this power into Direct Current electricity to power Edmonton's municipal trolley service.



Figure 38: South-east corner perspective. (Cloud360, 2020)

³⁶ Wagner, 2020.



Figure 39: Switch House hi-lighted in bird's eye perspective.

The Switch House is a much more human scale building, with two stories above grade and a basement. It is a rectangular plan structure on the east side of the LPP. The Switch House is connected to the Turbine Hall on its west elevation. The main entrance to the Switch House is on the south elevation. At the time of writing, 2021, this entrance also functions as the main entrance to the Low Pressure Plant generally. All other exterior doors function primarily as fire egress.



Figure 40: Switch House east elevation (Cloud360, 2020)

The second floor has a lunchroom, washrooms³⁷, the shift engineer's office, rectification room, offices, utility room, and the power plant control room which has swinging French doors that open to a Juliette balcony overlooking the Turbine Hall. Floors throughout are variously made of terrazzo, chequered linoleum tile, and concrete, depending upon spatial use. Some of the rolled steel multi-light windows with operable louvers have been replaced with non-original modern single insulated glazing units, sheet glass and glass blocks. The walls and ceilings are plastered with metal lathe. There are a few drop ceilings, these are made of mid-twentieth century sprayed concrete, as in the control room/shift engineers office, or more recent white mineral fibre panel ceilings as in the lunchroom.

³⁷ Originally these were exclusively men's washrooms, and if a woman visited, and need demanded them, they would have to visit the Administration building.



Figure 41: Lunch-room south-east corner. (Cloud360, 2020)



Figure 42: Washrooms (Cloud360, 2020)

The Switch House Shift Engineer's Office is a more recent partition following the new Control Room construction and space use relocation, contemporary with the HPP construction. The sea foam coloured wall Transite panels of this divided space are asbestos containing (ACM).



Figure 43: Switch House, Plant Control Room. (Cloud360, 2020)



Figure 44: Shift Engineer Office (Cloud360, 2020)



Figure 45: Large refrigerator sized breakers and drop down cabinets with transformers. (Source: Cloud360, 2020)

The first floor is largely occupied by electrical equipment such as large and obsolete breakers and transformers. From here, electricity travelled through the basement supported by cable trays to the transformer house for public distribution.

3.2.5 Pump House #1

Built in 1937-8 by builders Hulbert & Wilson³⁸, Pump House #1 was the first design by engineer John Poole (who later became co-owner of the construction firm known as PCL, formerly Poole Construction Limited, and a prominent Edmonton philanthropist) fresh out of university. In biographies about his life and career, John Poole always remembered this building fondly, and it, “became a regular stopping place during the family's bike rides on river valley paths.”³⁹ Designed to pump river water for the needs of the LPP, this deceptively small-looking structure at the main entrance opens up below to a 5 storey, expansive underground structure.



Figure 46: Principal elevation of Pump House #1. (Source: Cloud360, 2020)

It is located directly on top of the sloping North Saskatchewan river embankment. A structurally reinforced concrete building, it has a surprising amount of decorative detail for such a utilitarian structure. For instance, the foundation below LPP grade is board-formed, whereas the principal part of the viewed exterior is consciously formed with the use of symmetrically detailed plywood for aesthetic effect. Other exterior details of note include the delicate rectangular recesses continued above the windows to the cornice and parapet above.

³⁸ Field, 1992, p.11.

³⁹ *Edmonton Journal*, January 25-28, 2007.



Figure 47: Pump House #1, South Elevation (Source: Oxland, 2020)



Figure 48: Alternating plywood and board-formed concrete at Pump House #1. (Source: Oxland, 2020)

Rolled steel multi-light windows contain operable louvers for ventilation and bring in much needed light. Inside it is 10 feet / 3m to the main operating floor of the Pump House. The ceiling and walls are decoratively clad in

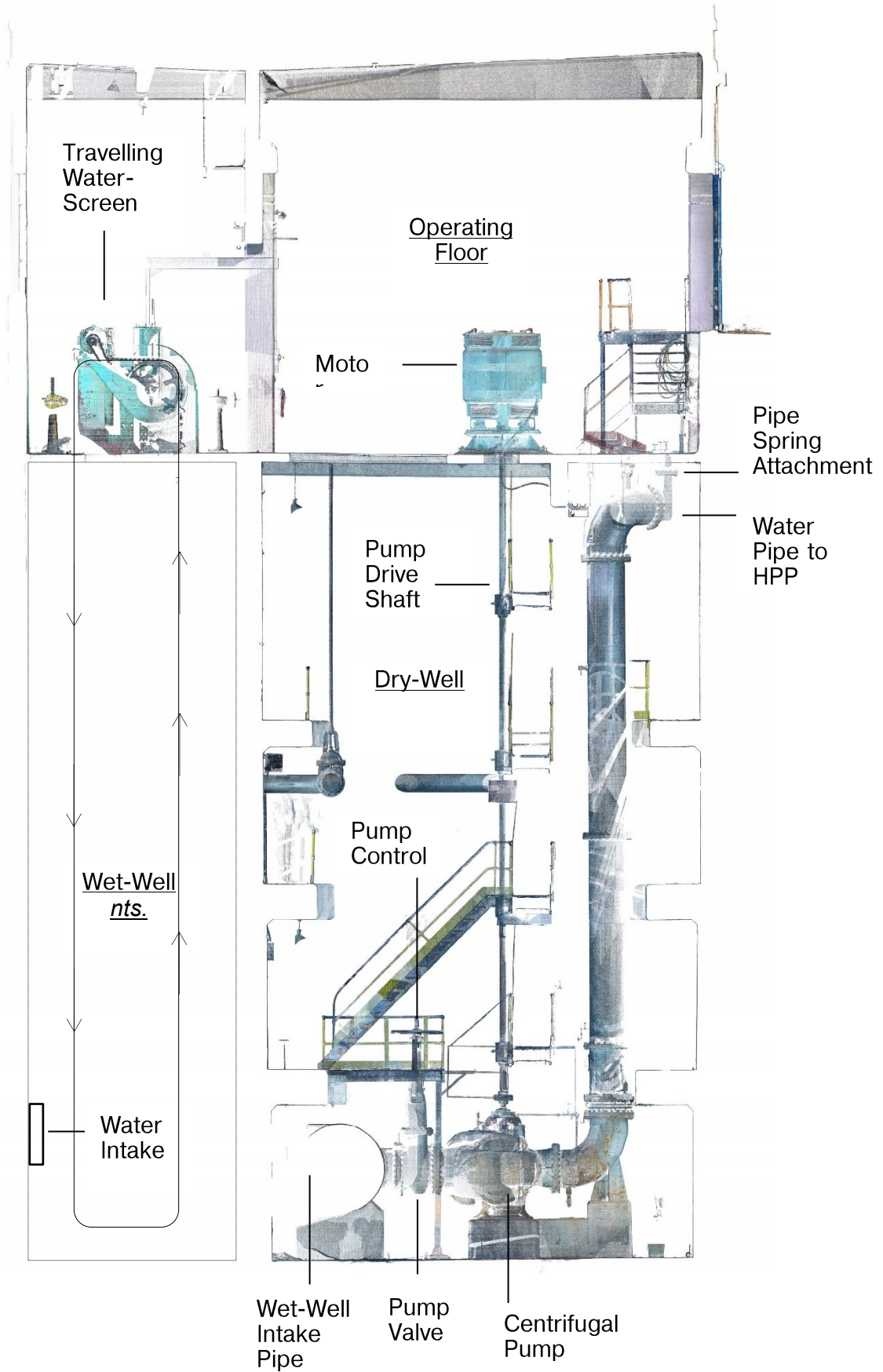
fibre boards that act as insulation. The board is vertically oriented and beaded in the main room, and is fashioned as faux-ashlar in the water screen room behind the columns.



Figure 49: Pump House #1 Main/Operating Floor. (Source: Cloud360, 2020)

Remarkably, machinery and equipment remain largely intact. The four large drums in the foreground are powerful motors that rotate shafts that perforate the operating floor and plunge down four storeys to the centrifugal pumps. Behind the columns are the vertical heads of two seafoam green painted travelling water screens. The motors viewed here operate a continuous screen that is joined by heavy chains. The screens travel four storeys down within the Pump House's isolated wet well, and function to remove any large objects such as branches or the odd river sturgeon before pumping the filtered water to the Boiler Hall. Overhead is a travelling 10 ton "Northern Crane" gantry which can move equipment in and out of the Pump House, and deep into the Pump House dry well via operable steel floor hatch grates.

Figure 50: Section of Pump House #1 taken from Point Cloud (DFS, 2020)



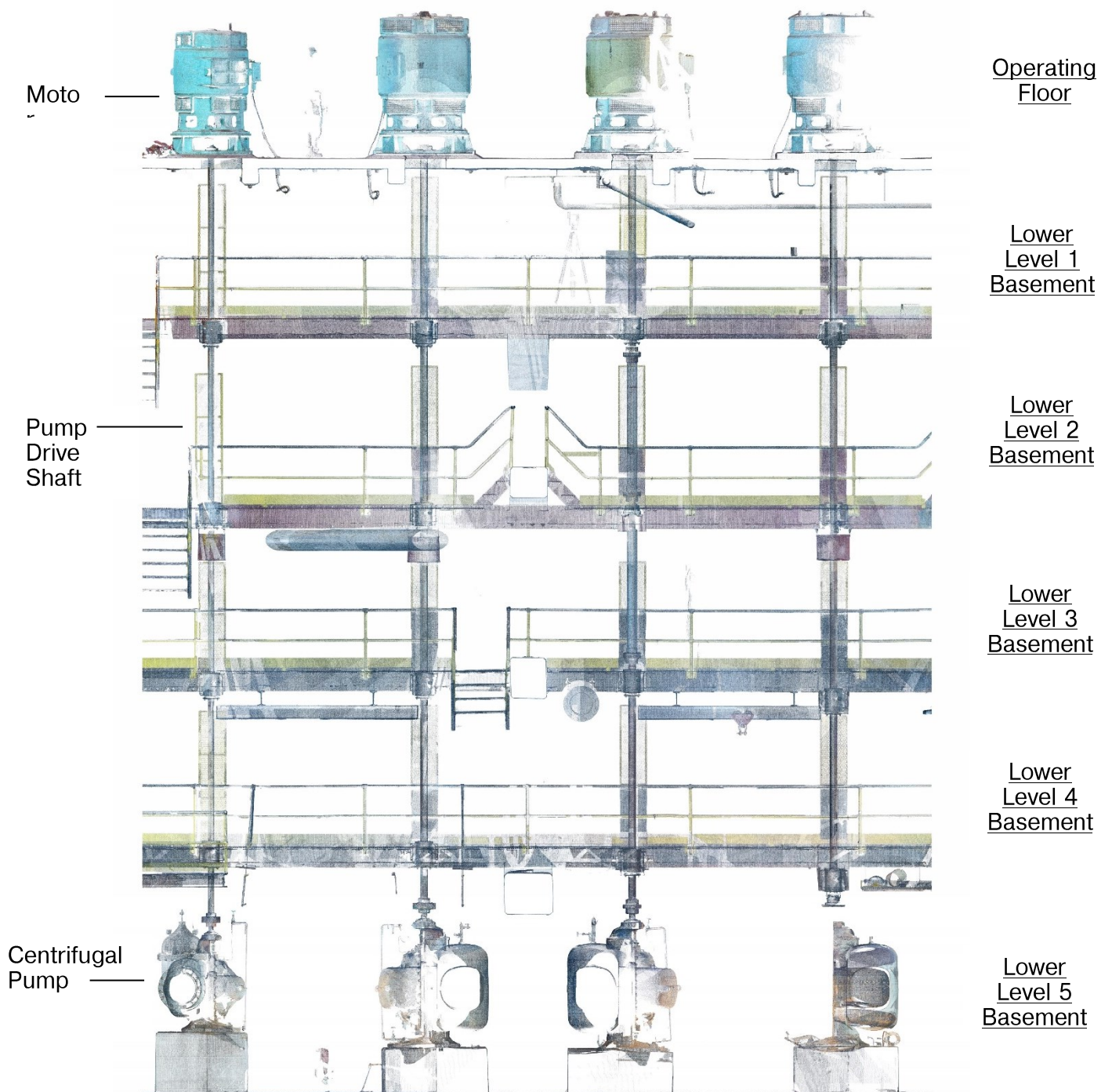


Figure 51: Section of Pump House #2 Looking North in Dry-Well. (Source: DFS, 2020)

There remains an unknown in regards to the travelling water screens. The original design called for the water Screen Washing Room to be below the 1st floor, on Lower Level 1, and physical evidence demonstrates that an access door to this room, just below the main floor, was poured and then later in-filled.

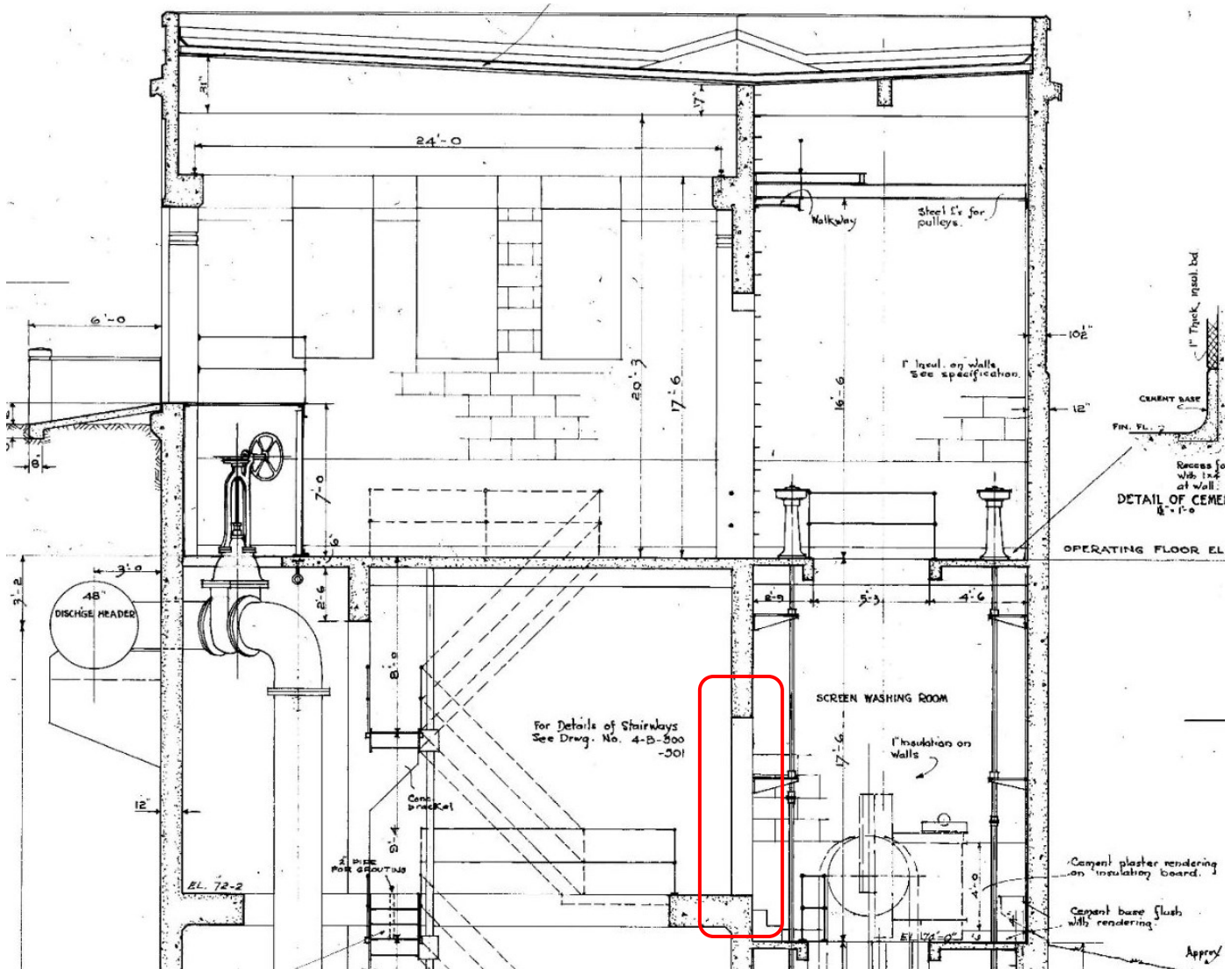


Figure 52: Doorway that has since been infilled, it is unclear whether or not the screen washing room was ever put into use, or if screen machinery was installed on upper operating floor. (Source: RGS Drawing Database, 1937)

It is unclear if this lower screen washing room was ever outfitted and utilised, or if a post-construction change order simply repositioned equipment higher due to ease of access and installation. Furthermore, it is unclear if the volume of the Screen Washing Room was utilised as a wet-well. The exterior southern concrete walls step-in and become thinner, likely because it was never designed to hold water.

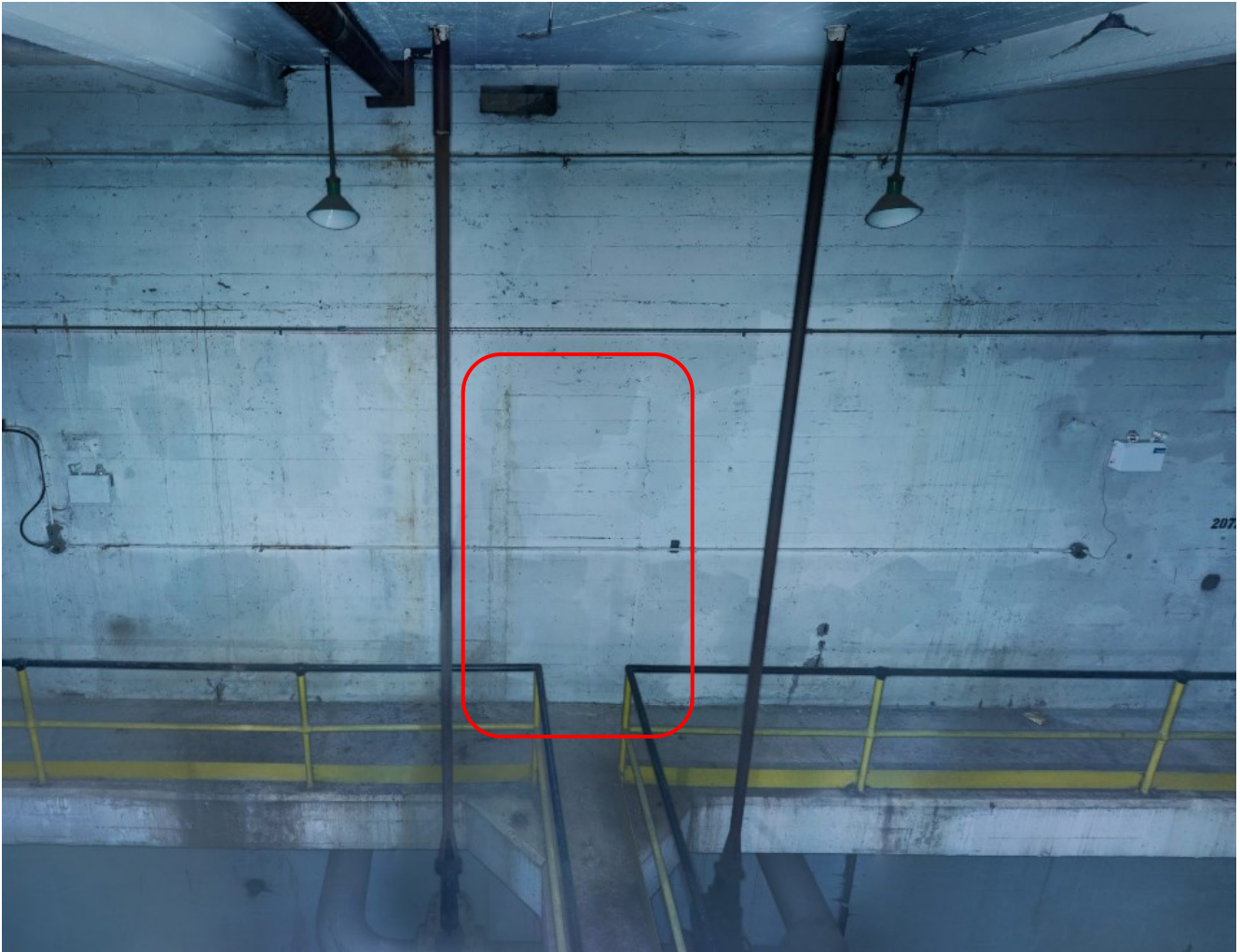


Figure 53: Infilled doorway to originally designed screen-room at lower level. (Source: 360Cloud, 2021)

On the exterior there is a noticeable crack at the centre of this wall, where hydrostatic pressure would be at its greatest if this wall had been used for water storage. Furthermore, at some unknown point, two large reinforcing ferro-concrete beams were placed around this area on the exterior, which suggests it may have been altered for increased water volumes, an impromptu use as additional storage volume.



Figure 54: Red rectangle hi-lights the vertical crack in the centre of the south elevation of Pump House #1, and the later additions of the two horizontal ferro-concrete beams are encircled in black. (Source: Oxland, 2020)

3.2.6 Pump House #2

To meet the needs of continual power plant expansions, including the anticipated HPP, Pump House #2 was designed and built in 1954-55. It was a collaboration with the City of Edmonton's Power Generation & Water Treatment staff who designed the machinery, consulting structural engineers Frank Kasten & John Longworth of Kasten & Longworth Ltd., and Professor I.F. Morrison who was associated with the University of Alberta.⁴⁰



Much like Pump House #1, Pump House #2 is deceptively large considering its modest ground-level control room. It is structurally built with concrete blocks and is parged with a cementitious plaster. Building lettering and date was specified as two coat navy blue enamelled aluminum letters. The control room opens to a broad operating floor below and a four-storey deep structure below this. There is a simple fascia cap to both the exterior of this penthouse and the broader supporting structure below it. Originally designed and built for three isolated wet wells, there are wooden sluice gates that were raised and lowered via screw jacks accessed by a no longer present south elevation catwalk. The presence of this former catwalk is evidenced by relict metal sections and corrosion stains.

⁴⁰The I.F. Morrison Structural Laboratory was honorifically named after this professor in 1963.
<https://www.ualberta.ca/engineering/civil-environmental-engineering/about-us/our-history.html>



Figure 55: South elevation of Pump House #2 Note evidence of former metal catwalks outlined in blue and partially intact sluice gates and screw jacks outlined in green. (Cloud360, 2020)

There are various discharge pipes on the exterior, and a wrapping staircase on the east elevation that was used to access the exterior catwalk.



Figure 56: South-east elevation of Pump House #2, note the 1961 wet well addition outlined in green and south-easterly high water intake addition outlined in blue. (Oxland, 2020)

The south-easterly high-level water intake was added at a later date, possibly at the same time as the 4th Wet Well addition as seen by the asymmetrically protruding south-westerly stack. Alternatively, the catwalk could also be accessed from a doorway found in the operating floor interior.

The main entrance of Pump House #2 leads directly to the control room, which is filled with breakers and switches, and a side room that once operated as a battery room. The control room roof is made of precast slabs supported by transverse I-beams. A staircase down leads to the main operating floor, which functioned in the same manner as Pump House #1.



Figure 57: Pump House #2 main floor electrical rooms. (Cloud360, 2020)



Figure 58: Pump House #2 main operating floor, Basement level 1. (Cloud360, 2020)

Although the machinery is now gone, in the foreground the round grate covered floor holes were arranged to accommodate motors that drove the water pumps via long rotating shafts. In the back, behind the thicker

columns are steel grates that once held travelling water screens for wet well units 1 to 4. Originally designed for units 1-4, the 4th unit was appended in 1961. All structure below the penthouse is composed of reinforced concrete, with spans of metal grate floors, beams, supporting stairs, all protected by pipework railings and flat metal kickplates.

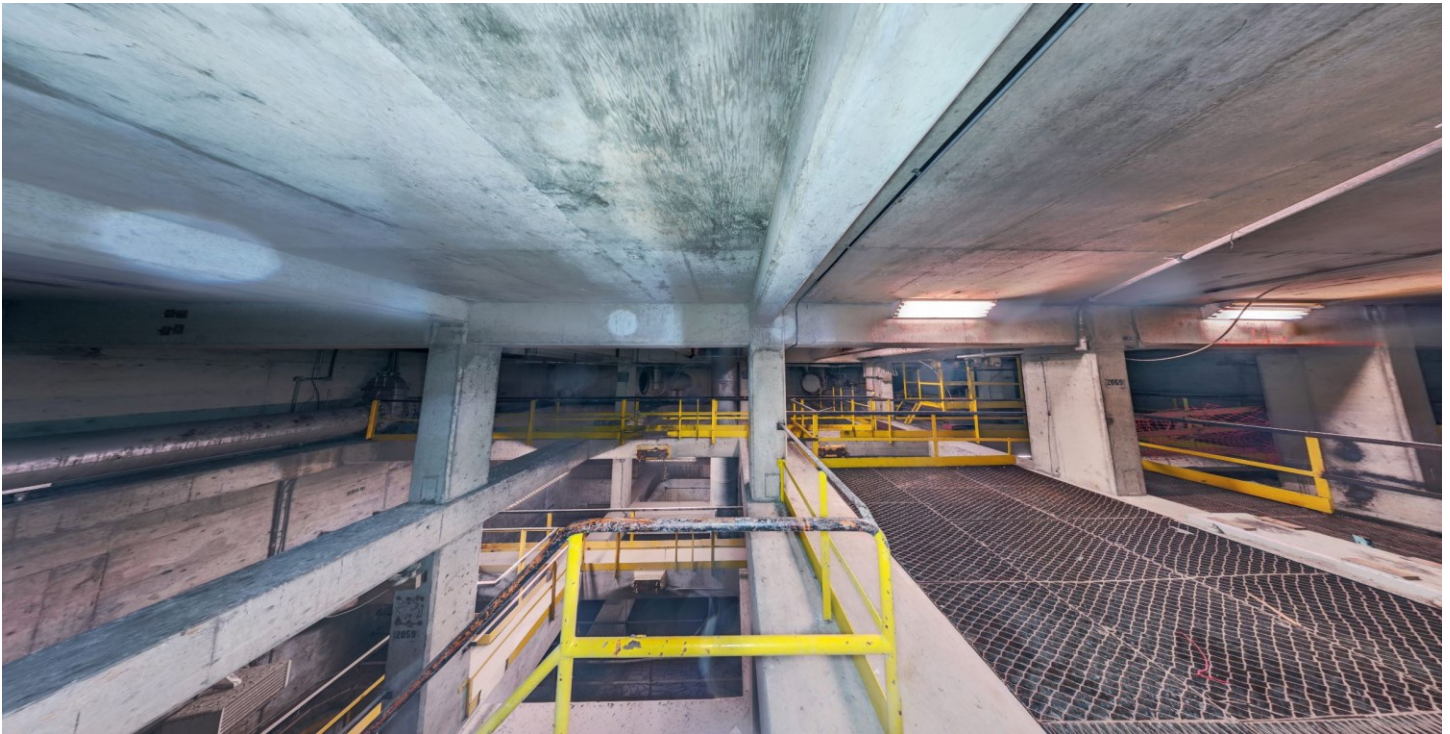


Figure 59: Dry Well Level 1 (Cloud360, 2020)

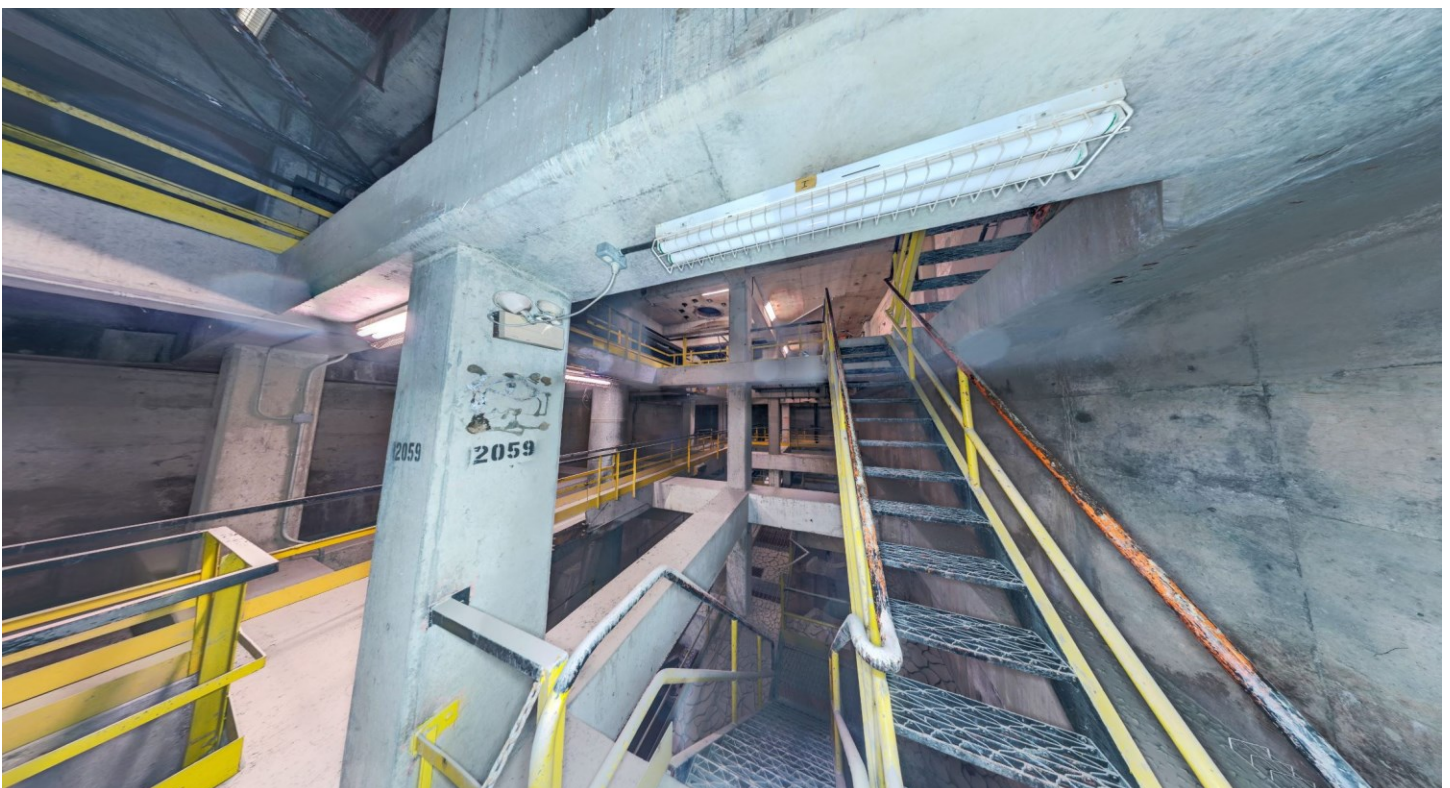


Figure 60: Dry Well Level 2 (Cloud360, 2020)

All Dry Well Levels were used as access to sundry equipment and pipes, and for access to the basement. Dry Well Level 2 evidences a fine thin layer of clay/silt fraction river deposit up to the catwalk railing height, whereas the deposition in Level 3 is a thicker cake layer of river deposit, evidenced by the mud flat-like cracking and cupping of this moist soil as it is drying. This likely occurred during high river water level during the summer-autumn of 2020. The thickest and wettest soil deposit is on the basement floor of Dry Well Level 4. Evidently, these deposits have rendered the large sump pump inoperable.



Figure 61: Dry Well Level 3 (Cloud360, 2020)



Figure 62: Dry Well Level 4 (Cloud360, 2020)

Wet Well Units 1-4 have open valve heads which enable observation from a safe distance. The corroding travelling water screen structure or guides remain. Various ladders are affixed inside to allow for maintenance. It appears that there are persistent leaks, evidenced by the dark markings, that suggest that the high-water intakes are the source of Dry Well flooding. Pedestals supported centrifugal pumps which were the driving force behind water distribution.



Figure 63: Wet Well Unit #4 (Cloud360, 2020)



Figure 64: Looking up from the bottom floor of the Dry Well. (Cloud360, 2020)

3.2.7 Landscape



Figure 65: A view of RDPP located along the North Saskatchewan river from the Walterdale Bridge to its south-east. Broken concrete (urbanite) wall and water out-take near Pump House #1 hi-lighted in red. (Oxland, 2020)

The site is a large flat grass and paving covered alluvial plain located approximately 5 metres above the river's average waterline. The shoreline is a relict industrial landscape consolidated by debris pushed over the rivers edge over numerous building and demolition phases over time. Besides Pump House #1 & Pump House #2, there remain a few built elements. One relict discharge pipe head to the east of Pump House #1 near the shoreline and a poorly dry-laid broken concrete (urbanite) wall to the west of Pump House #2. The shoreline/mudflats, during lower water height in particular, reveal numerous strewn bricks, fragments of metal, and reinforced concrete. Subsequent opportunistic plant growth includes Manitoba Maples (*Acer negundo*), Green Ash (*Fraxinus pennsylvanica*), Caragana/Siberian Pea-Shrub (*Caragana arborescens*), Wild Rose (*Rosa acicularis*), and numerous grasses.



Figure 66: Examples of relict building fabric. (Oxland, 2020)



Figure 67: Relict discharge is hi-lighted in red. (Source: Oxland, 2020)

3.3 Building & Site History

Site morphology is described with more detail in Sections 3.3.5 and 3.3.6, and is illustrated and captured in the Historic Building Record. The following section depicts the history of the site beginning with the recession of the Laurentide ice sheet. Glacier recession processes led to the characteristic riverscape form that the site is comprised of today. The archaeological record and Indigenous land occupation is described, before charting a more typical Eurocentric history of the site. Settler/Colonial site history encompasses the fur trading-era, a brief survey of Rosedale and early power development, before charging into the now dominating mid-twentieth century heritage architecture of Maxwell Dewar. The current plans and action towards its adaptive re-use are described within the context of area redevelopment.

3.3.1 Natural History

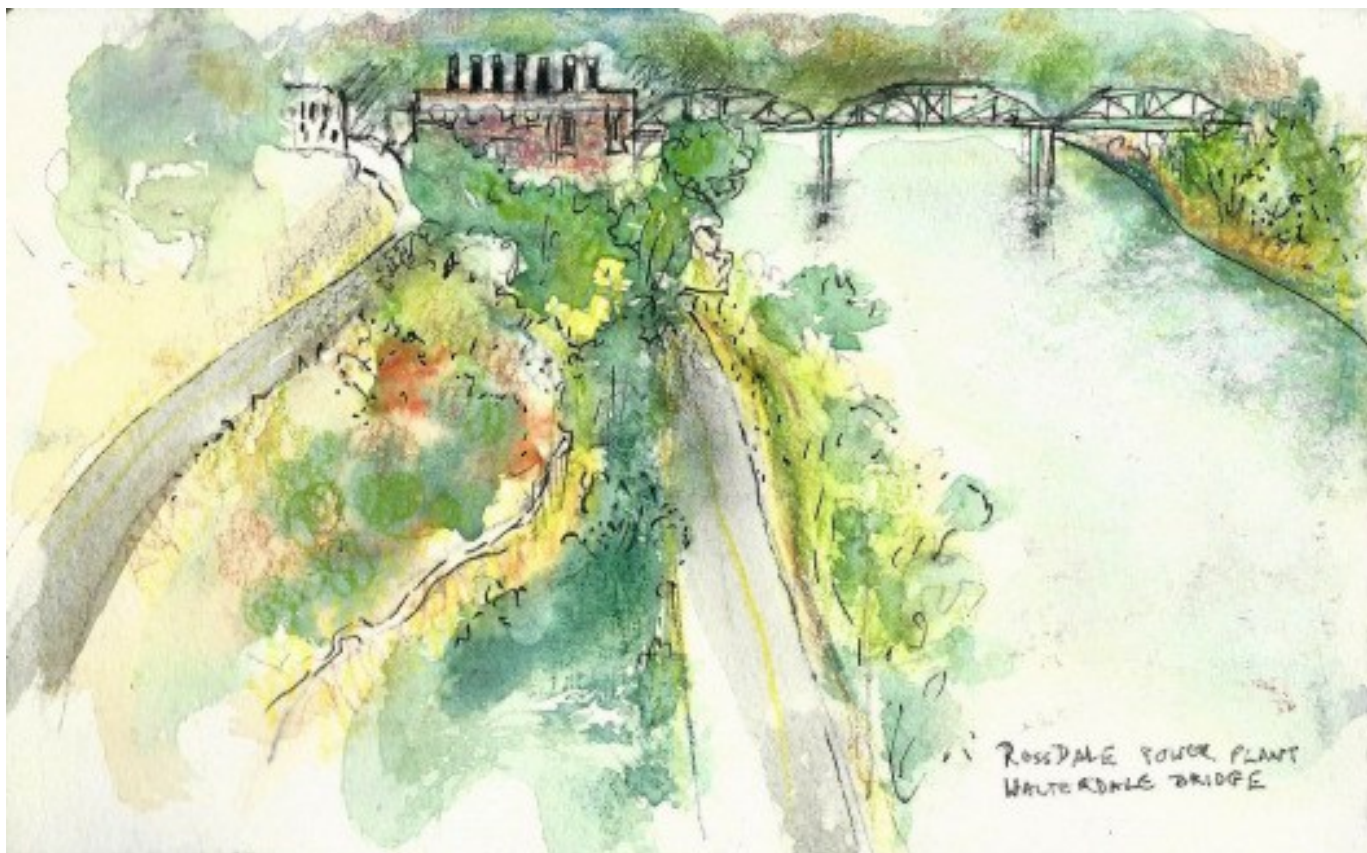


Figure 68: The North Saskatchewan River Valley and Rossdale, with the since demolished Walterdale Bridge. (Source: Illustrated by Karen Wall. <https://theprairieline.wordpress.com/2020/01/09/sketching-history-the-artists-part-1/>)

The area of Rossdale is situated on a notably large flat plain in the river valley that has been formed from regular flooding over the past >10,000 years before present (BP)⁴¹, and is physically bound by the river valley's higher shoulders and the broad shallow river. As seen in the watercolour above, the river valley constitutes an immense amount of continuous river pathways and natural settings. It is extensively used and championed by its citizens.

The story of the formation of the Rossdale Flat begins over 25,000 years BP with Canada being covered in over 1.5km of ice, known as the Laurentide Ice Sheet. When this ice sheet began to melt it created what is known as Lake Edmonton. After the glacial-melt Lake Edmonton drained to the southeast, what we now call the North Saskatchewan River rapidly began cutting down its valley.⁴²

⁴¹ Wood, 2019, 18-005. Recent finding has pushed the date of the Rossdale flats from 8000BP back to more than 10,000BP due to archaeological discoveries of carbon dated organic remains.

⁴² Godfrey, 1993.

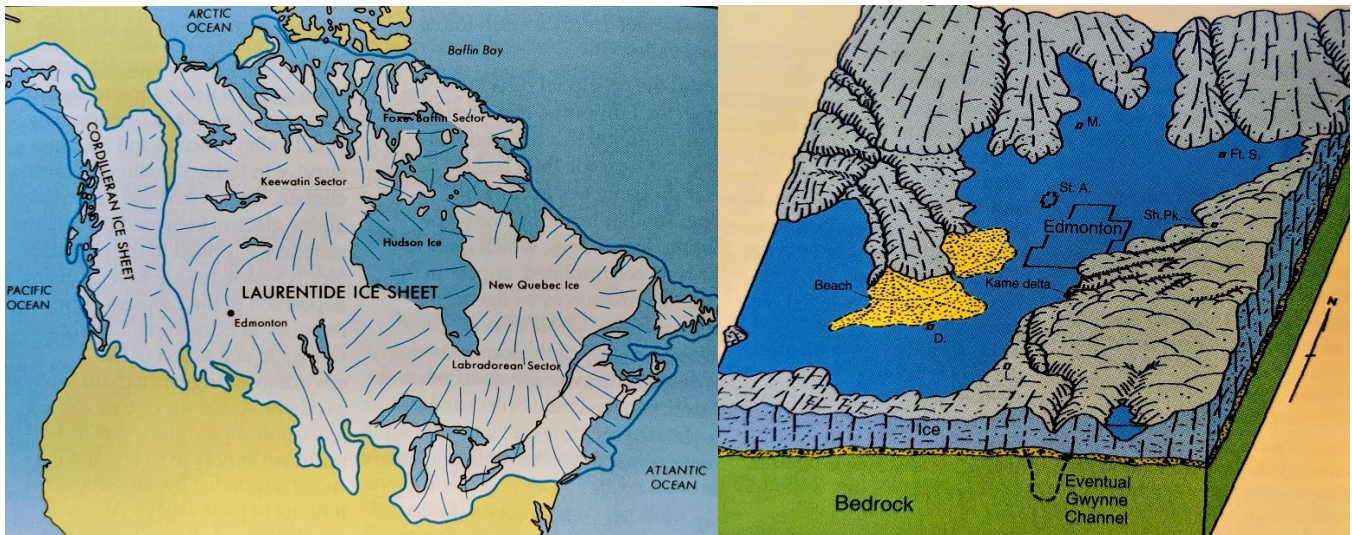


Figure 69: Lake Edmonton ~12,000 years BP as associated with the melting Laurentide Ice Sheet. (Edmonton Beneath Our Feet, 1993)

The illustration below highlights the valley's natural history through a schematic cross-section of its physical geography, and the history of its surficial soils. Because of these known, and dateable, soil stratigraphies, remarkable precision can be used in dating archaeological finds as well as creating favourable conditions for the preservation of archaeological materials in relatively undisturbed strata.

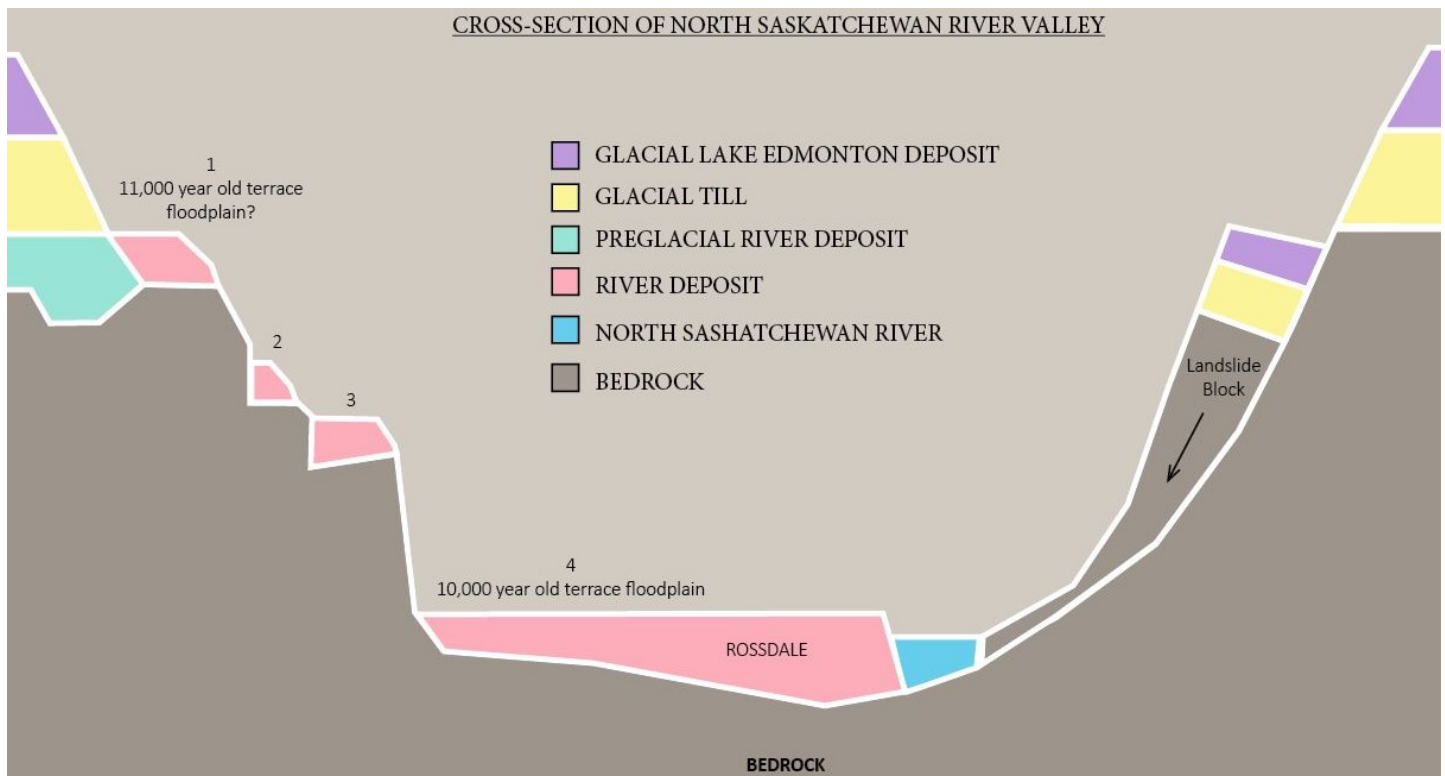


Figure 70: Cross-section of North Saskatchewan River Valley Geology, image not to scale. (Source: Oxland after the Archaeology Guide and Tour of Greater Edmonton Area, by Heinz Pyszczyk & Provincial Museum of Alberta and Strathcona Archaeology Society)

It is important to note how prominent a geographic feature this has created in stark comparison to the heavily glaciated kettle & knob landforms of the surrounding undulating Aspen Parklands. Most maps do not convey this, so a typical map of Edmonton, with the Anthony Henday ring-road encircling the city is compared to that

same area on a Shade Relief Map, or Digital Terrain Model (DTM), with the Rosssdale flats encircled in red on the maps illustrated below. The dark swathe to the north of the Rosssdale flats denotes the sharp grade changes, and the bubbly marks are likely the height of downtown Edmonton's skyscrapers. The river valleys of the prairies and parklands are significant landscape features, offering a breadth of view, relief, unlike anything else in the otherwise remarkably vast, open endless expanse.

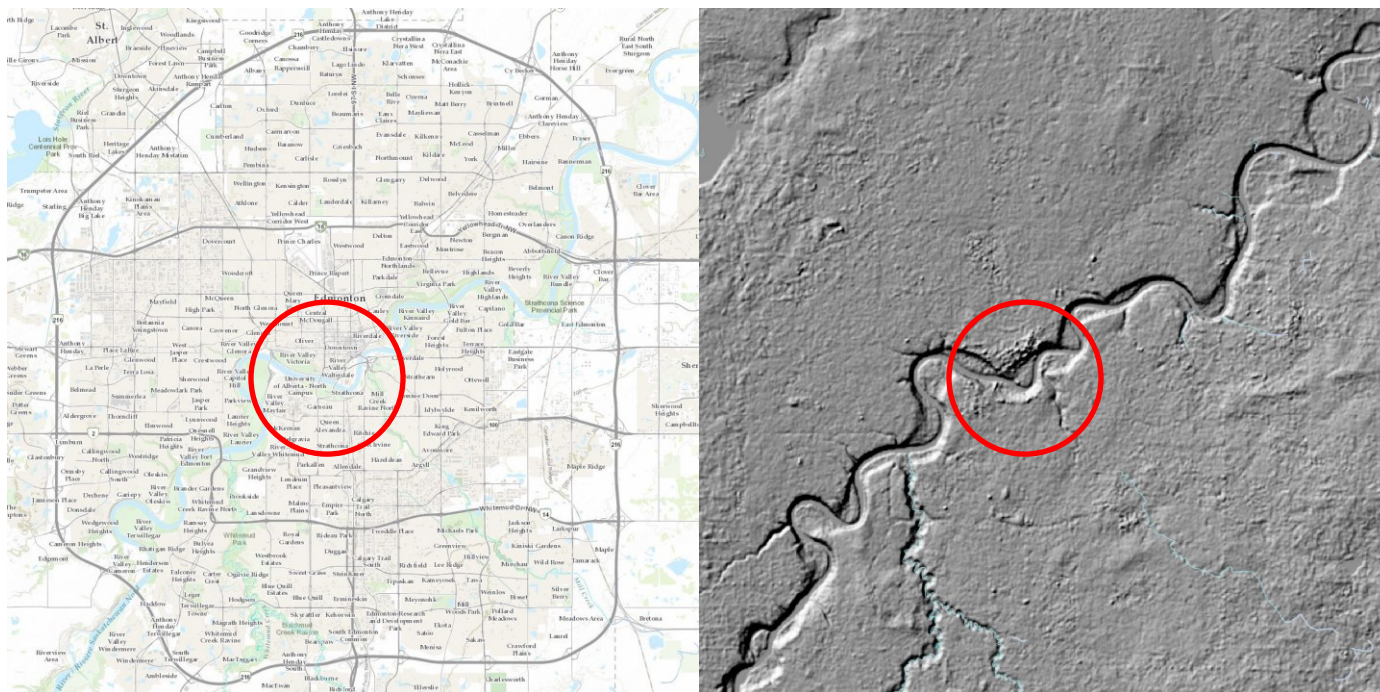


Figure 71: DTM, Shade Relief Map, the large Rosssdale flood plateau that is Rosssdale in the river valley on the right. Edmonton on the left with Anthony Henday ring road with its 20km diameter. (Source: [Alberta Interactive Minerals Map](#), 2020)

The headwaters of the North Saskatchewan find their origin at the Saskatchewan Glacier in the Rocky Mountains. Other significant contributing rivers includes the Nordegg, Clearwater, Ram, Sturgeon, and Vermillion rivers. The North Saskatchewan empties into Lake Winnipeg, and ultimately, along the Nelson River, into the Hudson Bay.

The Aspen Parkland Ecodistrict that envelopes Edmonton spans from the Rocky Mountains, across Saskatchewan, down the south-west quadrant of Manitoba before dipping into and terminating at its southern extents in northern Minnesota and North Dakota. It is sometimes described as a transitional zone between the grasslands of the prairies and the boreal forests to the north. It is typified by various clumping of trees like Poplar, Spruce, Tamarack, Birch, Pine, and Willow between open grasslands pock-marked by sloughs, ponds, and lakes.



Figure 72: Extents of the Aspen Parkland Ecozone (Source: Spacing, 2013)

Typical herbaceous woody perennial shrubs of this ecozone include Wolf willow, Highbush Cranberry, Wild Rose, Elderberry, Pin/Chokecherry, Gooseberry, Alder, Buffalo Berry, Beaked Hazelnut, and Saskatoon are grazed by mammals. Moose, Black Bear, Deer, Elk, Bison number among the larger mammals, while the smaller include Squirrels, Ground Squirrels, Chipmunks, Weasels, Mink, Fishers, Hare, Fox, Coyote, Wolf, Vole, Beaver, and Muskrats. Numerous bird species abound including migratory flocks alternately en route to the arctic or warmer climes to the south. The World Wildlife Fund (WWF) estimates that only 10% of this area is ecologically intact, and even then, it is fragmented into isolated pockets surrounded by farmland or bordered by human habitation, Elk Island National Park being a famous example of this.⁴³

⁴³ World Wildlife Fund. "Canadian Aspen Forests and Paklands." Accessed online 2020-11-18 at: <https://www.worldwildlife.org/ecoregions/na0802>



Figure 73: Typical views of Aspen Parklands seen on the Wood Bison trail in Elk Island National Park (Source: Oxland, 2020)

Bedrock lithology varies depending upon the sectional cut or elevation of a given area, such as above or below the river valley, but has been demonstrated in Edmonton to vary from Upper Cretaceous to earlier Tertiary formations such as Belly River, Bearpaw, and Horseshoe Canyon.⁴⁴ Geo technical analyses of cores taken at the Rosedale site have described bedrock as specifically upper cretaceous period Edmonton formation claystone, with some “lesser amounts of siltstone and sandstones.”⁴⁵ These are all sedimentary formations, primarily including sandstones, but also shales, coal, and some conglomerates. They are contributory to fluvial deposits as the river cuts through numerous sedimentary formations, along with the famously murky Rocky Mountain lime silt fractions.

⁴⁴ Shilong, Bechtel, Grobe, and Palombi; 2015. DOI: [10.13140/RG.2.1.3411.9207bhnrb](https://doi.org/10.13140/RG.2.1.3411.9207bhnrb)

⁴⁵ Stanley, 1993.

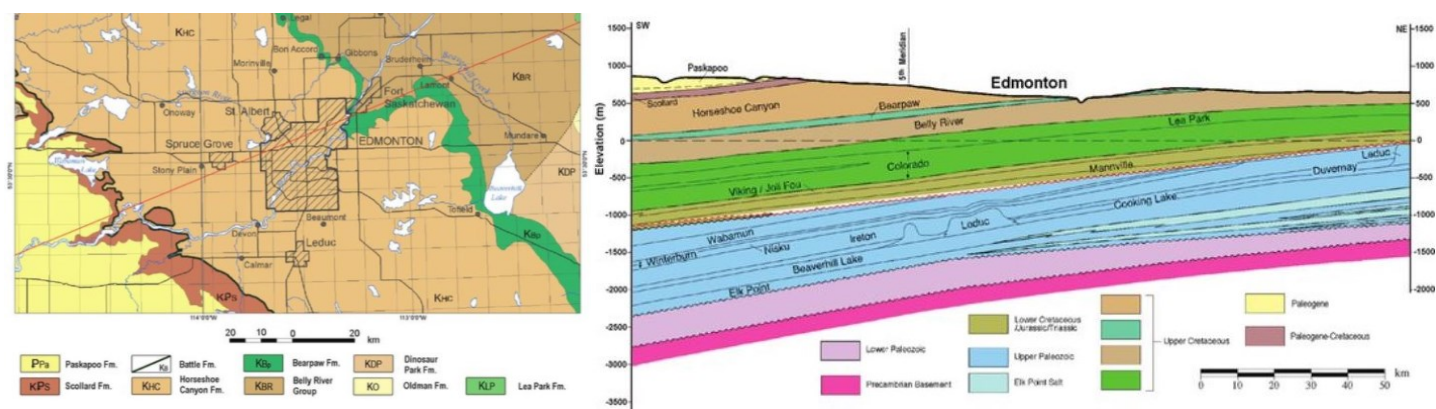


Figure 74: Cross-section of bedrock lithology and geology map surrounding Edmonton. (Source: Grobe, clipped from Hamilton et al., 1999 & 2013)

Environmental site context in terms of a collection of metrics are also summarised here below:

SUBJECT	DESCRIPTION
NTS	83H
Latitude	53.529089°N ⁴⁶
Longitude	113.498795°W ⁴⁷
Site Grade Elevation	624m / 2047' ⁴⁸
Bedrock Lithology	Upper Cretaceous and tertiary sandstones: Horseshoe Canyon, Bearpaw, and Belly River Formations.
Surficial Geology/Glacial Landform:	Stagnant Ice Moraine (irregular massings of material deposited by glacier melt) ⁴⁹ & Fluvial Depositions, predominantly of clays and silts.
Headwaters	Saskatchewan Glacier in the Rocky Mountains.
Drainage	North Saskatchewan River
Alberta Soil Polygon 14285	This soil-map polygon does not provide soil details, instead recording they are recorded as "Disturbed Land," for the entirety of the municipal bounds of Edmonton. ^{50 51}
ASHRAE Climate Profile	7 (Very Cold)
Ecological Land Classification (ELC)	10.2.156.727 as per the Canadian National Ecological Framework. ⁵²
Ecozone (ELC)	Prairies, 10
Ecoprovince (ELC)	Parkland Prairies, 2
Ecodistrict (ELC)	Aspen Parkland, 156
Ecodistrict (ELC)	Leduc Plain, 727
Dominant Tree Profile	Predominantly Trembling Aspen (<i>Populus tremuloides</i>) Balsam poplar (<i>Populus balsamea</i>), Birch (<i>Betula papyifera</i>), White Spruce (<i>Picea glauca</i>). On poorly drained sites Tamarck/Larch (<i>Larix laricina</i>), Black Spruce (<i>Picea</i>

⁴⁶ Google Earth, 2020

⁴⁷ Ibid.

⁴⁸ Ibid.

⁴⁹ Alberta Geological Survey. *Interactive Map Viewer*. Accessed Online 2 December 2017 at: <http://ags-aer.maps.arcgis.com/apps/webappviewer/index.html?id=cfb4ed4a8d7d43a9a5ff766fb8d0aee5>

⁵⁰ Alberta Soils Viewer. Accessed online 2020-10-30 at: <https://soil.agric.gov.ab.ca/agrasidviewer/>

⁵¹ Government of Canada, 1962. Accessed online 2020-10-30 at: http://sis.agr.gc.ca/cansis/publications/surveys/ab/ab21/ab21_report.pdf

⁵² Agriculture Canada, 2018. Accessed online at <http://www23.statcan.gc.ca/imdb/p3VD.pl?Function=getVD&TVD=426171>.

Ecodistrict polygons are directly matched to the *Soil Landscapes of Canada*, there are 12,353 of these identified across Canada.

	<i>mariana</i>), and Willow (<i>Salix spp.</i>) abound. Parkland is described as “complex patterns of treed and non-treed areas wherein 50-90% of these areas are unconnected.” ⁵³
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⁵³ Current Vegetation Cover for Wildlife Resource Inventory and Assessment. *Edmonton (83H)*. Accessed online 1 December 2017 at: <http://aep.alberta.ca/forms-maps-services/maps/map-product-downloads/default.aspx>

3.3.2 Archaeological Record

The following section is a brief summary of the archaeological findings. It has been written based on the review of ten of the most salient archaeological reports from 1999 to 2019 as shared by provincial Heritage Division staff. These 10 reports are a selection of an approximate total 40 archaeological reports that have been prepared on the Rossdale site over the past 50 years. These reports include Historic Resource Impact Assessments (HRIA), studies such as exploratory investigations or field monitoring of proposed development footprints. This summary also includes knowledge from discussions with researchers such as Nancy Saxberg and Heritage Division archaeologists which has contributed to the project's understanding of the breadth and depth of the archaeological significance of this site.

Title	Consulting Firm	Year	ASA Permit
Rossdale Unit 11 Road and Site Services Relocation HRIA 1999 Field Studies.	Lifeways of Canada Ltd.	2000	99-025
Rossdale Unit 11 HRIA 2000 Field Studies	Lifeways of Canada Ltd.	2001	00-062
Rossdale Site (FjPi-62), Historical Resource Monitoring and Mitigative Excavations, 2001 Field Studies	Lifeways of Canada Ltd.	2001	01-019
Fort Edmonton Burial Ground: An Archaeological and Historical Study	Lifeways of Canada Ltd.	2003	01-118
Historical Resources Impact Assessment And Historical Resources Impact Mitigation: EPCOR Water Services New Laboratory Building	AMEC Environment & Infrastructure	2014	12-046
[Guardhouse and Fence Upgrades] Rossdale Site (FjPi-63), Historical Resources Impact Mitigation and Monitoring	AMEC Environment & Infrastructure	2017	16-105
Walterdale Bridge Replacement Project	Turtle Island CRM Inc.	2017	16-002
Rossdale Substation Expansion Project, Rossdale Site (FjPi-63) Historical Resources Monitoring	AMEC Environment & Infrastructure	2017	16-093
Rossdale Substation Expansion: New Electrical Ductbank and Emergency Stairs	Wood PLC (Parent Company AMEC)	2019	18-005
Walterdale Bridge Replacement Project Monitoring Program and Mitigative Excavation at FjPi-63	Turtle Island CRM Inc.	2019	18-001

The Rossdale site, or FjPi-63 as described by its Borden number,⁵⁴ has recently been described by Heritage Division archaeologists as:

one of the most complex archaeological/historic resources sites in Edmonton. With regard to archaeological resources, it has undergone probably close to 40 archaeological assessments since the 1970s. While some of those assessments have been relatively simple archaeological monitoring projects of small-scale construction works and have found minimal, disturbed, or no

⁵⁴ Borden numbers are a classification system created by archaeologist Charles Borden (1952) to identify archaeological sites throughout Canada, see: https://app.pch.gc.ca/application/ddrcip-chindd/field_detailer_term-term_field_detail.app?rID=1025&lang=en&qlang=en&fID=2&fl=GR&dd=sh-hs&tne=ARCHAEOLOGICAL+SITE+FIELDS&tnf=ZONES+RELATIVES+AUX+SITES+ARCH%C3%89OLOGIQUES&pID=2&pID1=1

archaeological resources of any significance, there have been other archaeological studies that have identified significant resources relating to Hudson's Bay Company Edmonton House & North West Company Fort Augustus (1813-1830), as well as burials associated with the Fort Edmonton Cemetery & Traditional Burial Ground, and more recently, precontact Indigenous occupations of significant age [...]

The site is located on a floodplain landform that has been significantly altered in the last 120 years from its use as fairgrounds, gardens and horse pastures, a generating station, and a water treatment plant. The natural surface has been considerably augmented by the addition of fill; in some areas the stratigraphic sequence has been completely graded and removed prior to the addition of fill, but in other areas, river sediments are still intact with evidence for buried soils and Mazama Ash layers (volcanic ash deposited about 6700 radiocarbon years before present, which is calibrated to about 7600 calendar years before present). Despite extensive surface and subsurface disturbances, archaeological investigations since the 1960s have clearly demonstrated that there are pockets of relatively undisturbed areas that contain intact historical resources across site FjPi-63 boundaries.

Archaeological surveys and excavations on the east side of Rossdale in the area of the Emergency Response Department have failed to identify any significant fur trade occupation, related features, and fur-trade period artifacts; this portion of the floodplain landform has experienced more dynamic depositional processes and explains the lack of significant historic resources in this area. Studies on the west side of the Rossdale site, however, have revealed more stable surfaces (i.e., the upstream side of the floodplain) and thus a corresponding presence of more evidence for precontact and early historic occupation. In addition, discoveries made on the west side of the Rossdale site have indicated that even disturbed fill deposits may and have contained disarticulated human remains associated with the Fort Edmonton/Traditional burial ground.⁵⁵

Indigenous people have occupied the Rossdale site, the Aspen Parkland surrounding it, and Alberta generally since at least 10,000 years before present (BP). One author, former employee of the Archaeological Survey of Alberta, Trevor Peck, has summarised this long period of Alberta's cultural history into the following divisions:⁵⁶

- 1) Earliest Inhabitants: Prior to ca. 11,050 BP
- 2) Early Prehistoric Period (ca. 11,050 bp to 8,600 BP)
- 3) Early to Middle Prehistoric Period Transition (ca. 8,600 to 7,500 BP)
- 4) Middle Prehistoric Period (ca. 7,500 to 1,500 BP)
- 5) Middle to Late Prehistoric Period Transition (ca. 1,500 to 1,350 BP)
- 6) Late Prehistoric Period (ca. 1,350 to 250 BP)
- 7) Late Prehistoric to Historic Period Transition (Protohistoric Period, ca. 250 to 200 BP)

⁵⁵ Personal communication with archaeologist Dr. Caroline Hudecek-Cuffe via email, 2020-09-21.

⁵⁶ Peck, 2011.

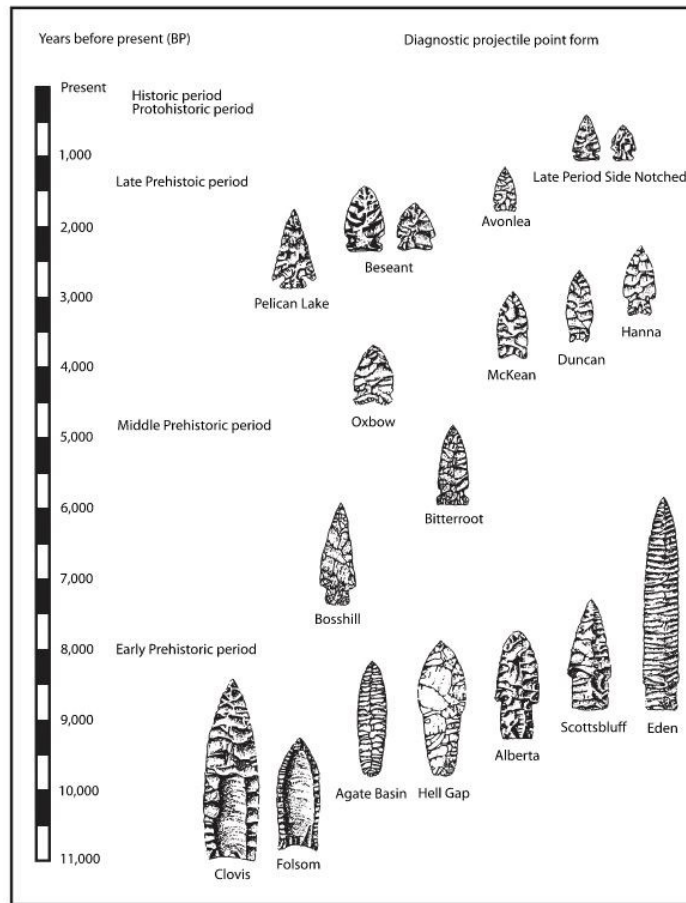


Figure 75: Diagnostic projectile point styles of Alberta (Source: Peck as referenced in Turtle Island CRM, 2019)

As illustrated in the chart above, lithic (or stone) artefacts are one example of material culture that can be used as physical evidence by an archaeologist to describe the cultural affiliation and dating of an object. Based on interpretation of lithics-research to date, in Alberta:

The first inhabitants [...] are associated with the Early Prehistoric Period. They hunted large herbivores, including mammoth and bison. Fluted projectile points are commonly associated with the beginning of the Early Prehistoric Period and were first identified at the type-sites of Clovis and Folsom, New Mexico. Although rarely found in excavations, these projectile point types can be found in Alberta. Stemmed projectile point types are associated with the latter part of the Early Prehistoric Period. These types include Agate Basin, Hell Gap, Alberta and Cody points. Early Prehistoric Period projectile points are generally thought to have been hafted to spears.

The Middle Prehistoric Period is characterized by notched projectile point forms associated with the introduction of the atlatl (dart-thrower). In Alberta, early notched projectile point types include Boss Hill and slightly later Mummy Cave Complex point types. The Mummy Cave Complex includes Bitterroot type projectile points. Dating initially to about 5,000 BP, Oxbow points and later McKean Complex point types (McKean, Duncan and Hanna) occur in the Middle Prehistoric. Around 3,300 BP, a distinctive projectile point type with sharply tanged shoulders and pronounced corner-notching appears. These projectile point types are referred to as Pelican Lake. About 2,200 BP Besant type projectile points appear. Both Besant and Pelican Lake type projectile points are commonly found together at archaeological sites in Alberta.

The Late Prehistoric Period is associated with the introduction of the bow and arrow and the first appearance of ceramics in Alberta. Two projectile point types occur during the

Late Prehistoric Period including Avonlea and Old Woman's. Old Woman's projectile points are small and side-notched. These typify the latter part of the Late Prehistoric Period and were used almost exclusively until European colonization (1750 CE).

The appearance of trade goods such as glass beads and horse bones in the archaeological record of Alberta mark the shift to the subsequent and short-lived Protohistoric Period. It lasted for just over a century in Alberta and is associated primarily with the development of the Fur Trade.⁵⁷

For the past century, we have generally thought that the first people who came to the Americas travelled from Siberia via a land bridge to western Alaska ~13,000 years ago – known as the Beringia land bridge. This explanation credits travel through an inland ice free corridor.⁵⁸ However, more recent evidence and thinking has added the idea of initial travel south via a warmer coastline by boat, where the Columbia river would have been the “first offramp of a Pacific Coast migration route.” The idea being that people subsequently distributed themselves further south but also north and east coinciding with accessibility and glacial recession.

This theory is now being called “Kelp Highway.” Physical evidence supports parts of this theory, with many sites being discovered along the coast dating to 14,000-15,000 BP. However, physical site evidence is not the only story. Some geneticists, comparing archaeological and contemporary populations data, believe it is very likely that people began travelling across the Beringia land bridge around 20,000 years ago.⁵⁹ A compelling new theory that will require more time and evidence to see more definitive explanations, particularly the area between Alaska and Russia.

The oldest known part of the archaeological record at Rosssdale lies within deeply buried intact land surfaces beneath a volcanic ash layer that has been radiocarbon dated to approximately 6700 years BP (about 7600 calendar years BP). This ash layer was deposited across western North America 7600 years ago when Mount Mazama in present-day Oregon erupted and then collapsed to form Crater Lake. Layers of Mazama ash have been found in deeply buried sediments across the western half of the Rosssdale site, indicating the stability and age of the landform in this area. Cultural material, including stone flakes and butchered bone, were recently recovered from buried land surfaces beneath the 7600 year-old ash layer during archaeological work completed under permit 18-005. Radiocarbon dates for this material (approximately 10,000 calendar years BP) represent some of the earliest evidence for human occupation within the North Saskatchewan River valley at this locale. During archaeological studies conducted under permit 99-025 the Mazama Ash layer and possible pre-Mazama cultural occupations were also believed to be present and intact below most of the construction-related activities associated with the power generation and water treatment facilities.⁶⁰ Stratigraphic sections as illustrated below, assist archaeologists to determine the relative age of cultural deposits, and whether proposed development activities are likely to impact them.

⁵⁷ Turtle Island Cultural Resources Management, 18-001. pp.7-8.

⁵⁸ Montaigne, 2020.

⁵⁹ Ibid.

⁶⁰ Lifeways, 2000. p.25.

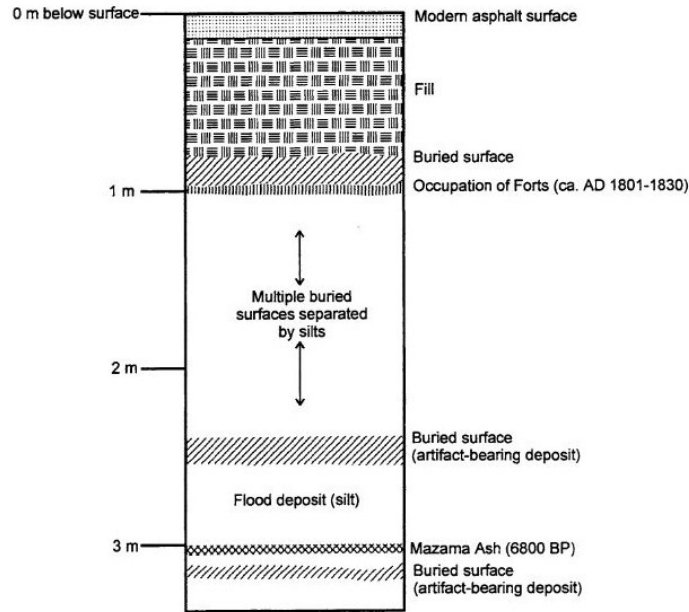


Figure 76: Example of a stratigraphic profile at Rosssdale as used to help date found objects or artefacts (Source: Lifeways, 2000)

Summary of findings over the past 20 years are captured in the table as below:

Archaeological Subject	Excavated Artefact Findings
Pre-Mazama Ash-Layer Era (>6800BP)	- Recent archaeological finds indicate that the Rosssdale site contains one of the earliest occupations in Edmonton, campsite charcoal and bones radiocarbon date to ~9790-10190 calendar years BP. - Chipped biface lithic discovery (knife). - Numerous Indigenous camps, bison, and other animal processing evidenced. - Quartzite lithic flakes.
Post-Mazama Ash-Layer to European Contact Era (<6800-270BP)	- Numerous campsites as evidenced through associated rock vitrification and charcoal. - Numerous lithic artefacts including stone tools. - Numerous butchered animal bones.
Fur-Trading Historical Era (1750-1913)⁶¹	- A confirmed 223' long palisade wall demonstrating <i>poteaux-en-terre</i>, (post in earth) construction. Thin diameter of extant posts suggests its utility as a garden wall, defensive palisades surrounding habitable dwellings being heavier in construction. Correlates to historical evidence of garden walls next to HBC/NWC Forts, although exact positioning of forts/ gardens is not clear, particularly as no corner was found. - Hundreds of artefacts found such as beads, pottery, gun parts, scissors, metal artefacts, and clay pipes. - Axe-cut bones and numerous fish vertebrae.

⁶¹ 1913 is being used as it symbolically marks the end of the fur-trading era as this is when Fort Edmonton V is dismantled by the HBC.

	4) "Evidence of a natural historic surface sloping down towards the east and southeast, indicating that further historic structures are unlikely to be found in the former [machine shops and stores] building footprint,"⁶² but intact historic structures will likely be present to the west of this locale.
Fort Edmonton Cemetery & Traditional Burial Ground	1) Nancy Saxberg has summarised a brief history of the continual re-discovery of human remains associated with Fort Edmonton / Traditional Burial Ground since the beginning of the twentieth century which is highlighted below. During either the construction of the 1908 or 1914 extension of the railway spur for coal transportation to the Rossdale Power Plant, there is the first recorded instance of the accidental excavation of human remains associated with the Fort Edmonton Cemetery. An Indigenous woman watching the construction collected the bones of a baby and asked Mrs. McQueen, the wife of a Presbyterian minister, for a box to put them in so she could bury them on a reserve.⁶³ 2) In the 1930s A.W. Hadow prepared a drawing recording the hypothesised location of the old cemetery as per the engineering survey.⁶⁴ 3) In 1943, an electrical trench north of the 105th street bridge discovered the remains of five bodies, one adult and four children. All were well preserved in crumbling wooden coffins with iron nails, it was buried about 3 feet beneath the ground. They were reburied in either Edmonton Cemetery or Beechmount Cemetery.⁶⁵ 4) Between 1966 & 1967, 6 bodies were transferred to the University of Alberta' Anthropology Department after they discovered them there in association with an unrecorded development. These were reinterred during at the Fort Edmonton Cemetery / Traditional Burial Ground during the 2000s.⁶⁶ 5) In 1976, a number of human skeletons were discovered during telephone line installation and were reburied in Beechmount Cemetery.⁶⁷ 6) Various secondarily deposited human remains have been found on the Rossdale Power Plant Site and reinterred in the Fort Edmonton Cemetery / Traditional Burial Ground nearby. These remains are thought to have originated from the Fort Edmonton cemetery and re-deposited during various municipal development activities over time. 7) The location of the cemetery has been confirmed as largely under the former alignment of Rossdale Road, land which is now part of the Fort Edmonton Cemetery & Traditional Burial Ground cemetery and memorial site. The archaeological excavations conducted under archaeological permit 01-118 identified the actual location of at least two phases of the burial ground fence, with indications that some burials were located external to this fence, suggesting that the burial area was larger than the area fenced either before or after the fence was constructed.

⁶² AMEC, 2014. p.ii.

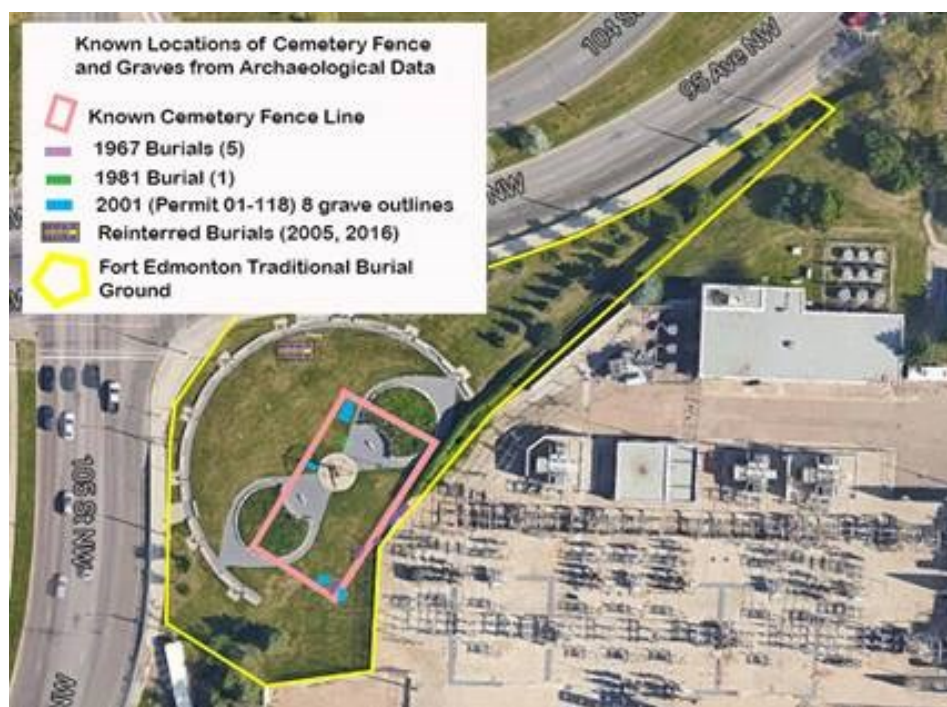
⁶³ Lifeways, 01-118, 2003.

⁶⁴ Ibid.

⁶⁵ Ibid, p.10.

⁶⁶ Ibid, p.11.

⁶⁷ Ibid., 12.



*Figure 77: Known location of the Fort Edmonton Cemetery & Traditional Burial Ground neighbouring the Rossdale Power Plant.
(Source: Archaeological Permit 01-118)*

The discoveries above identify the Rossdale site as provincially significant for its long periods of continual habitation and use. It is likely that the Rossdale Flats has always been used as a convenient camping spot used by Indigenous peoples for many millennia since its formation over 10,000 years ago, for the same reasons Early Europeans and Fur Traders took up here. A flat and wide piece of land, high enough from the river to not worry about overnight flooding but much more accessible than most of the other surrounding embankments, broad enough for a wide variety of land-use.⁶⁸

⁶⁸ Lifeways, 2000.

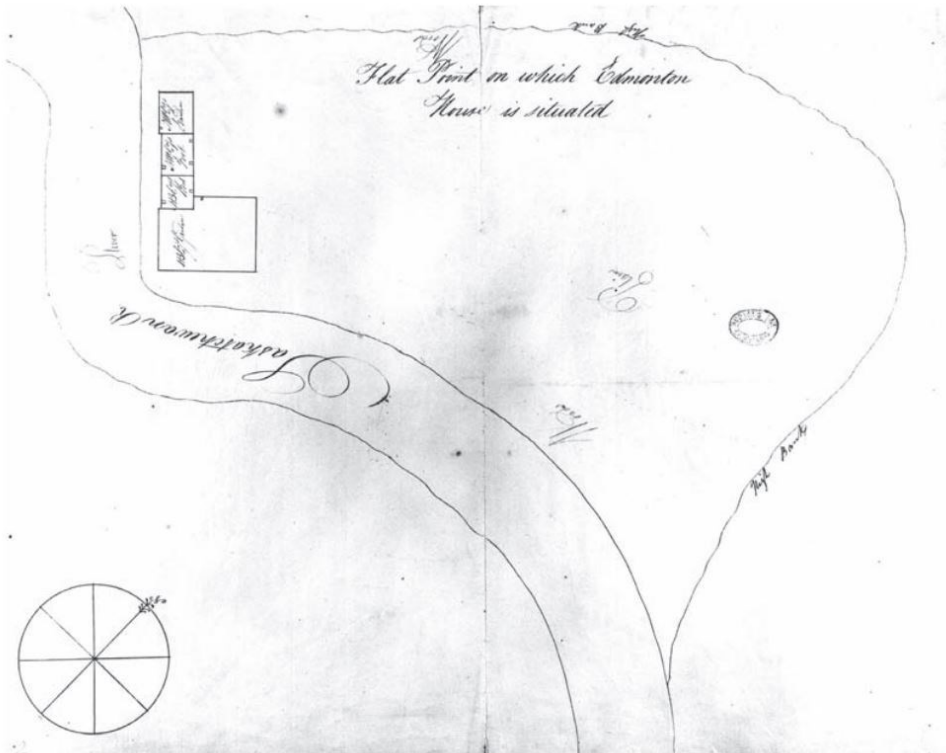


Figure 5-1

James Bird's Sketch Plan of the location of Edmonton House and Garden, 1815.

HBCA G1/98 Hudson's Bay Company Archives/Archives of Manitoba

SECTION 5.1
THE TRADING POSTS OF THE
EDMONTON AREA

Figure 78: James Bird's plan of Fort Edmonton, along the North Saskatchewan River. Larger Square to the east of the tripartite fort is the garden. (Source: Commonwealth, 2004 – HBCA G1/98 Hudson's Bay Company Archives/Archives of Manitoba)

As archaeological investigations associated with Historic Resources Impact Assessments conducted in advance of development activities have provided more information about the plausible locations of Fort Edmonton IV and associated features. These studies are significant to the conservation plan of the Rosedale site and buildings.

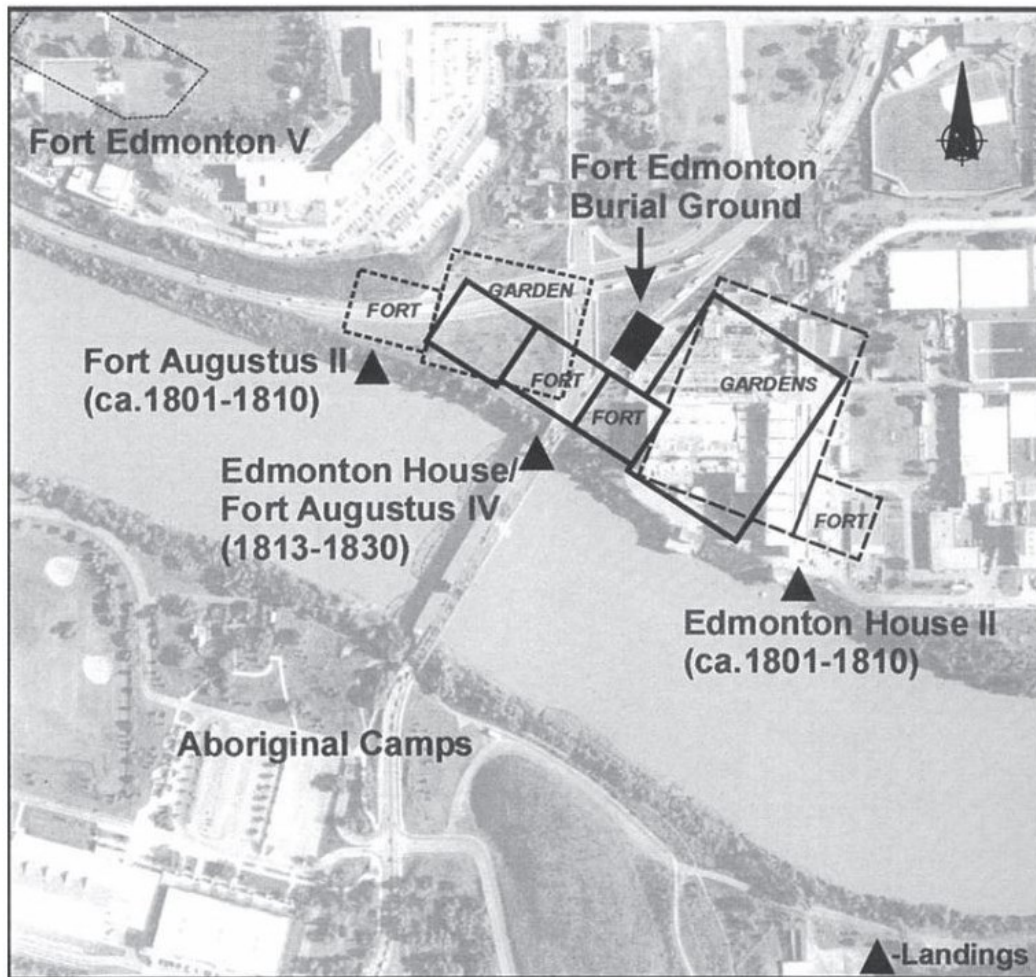


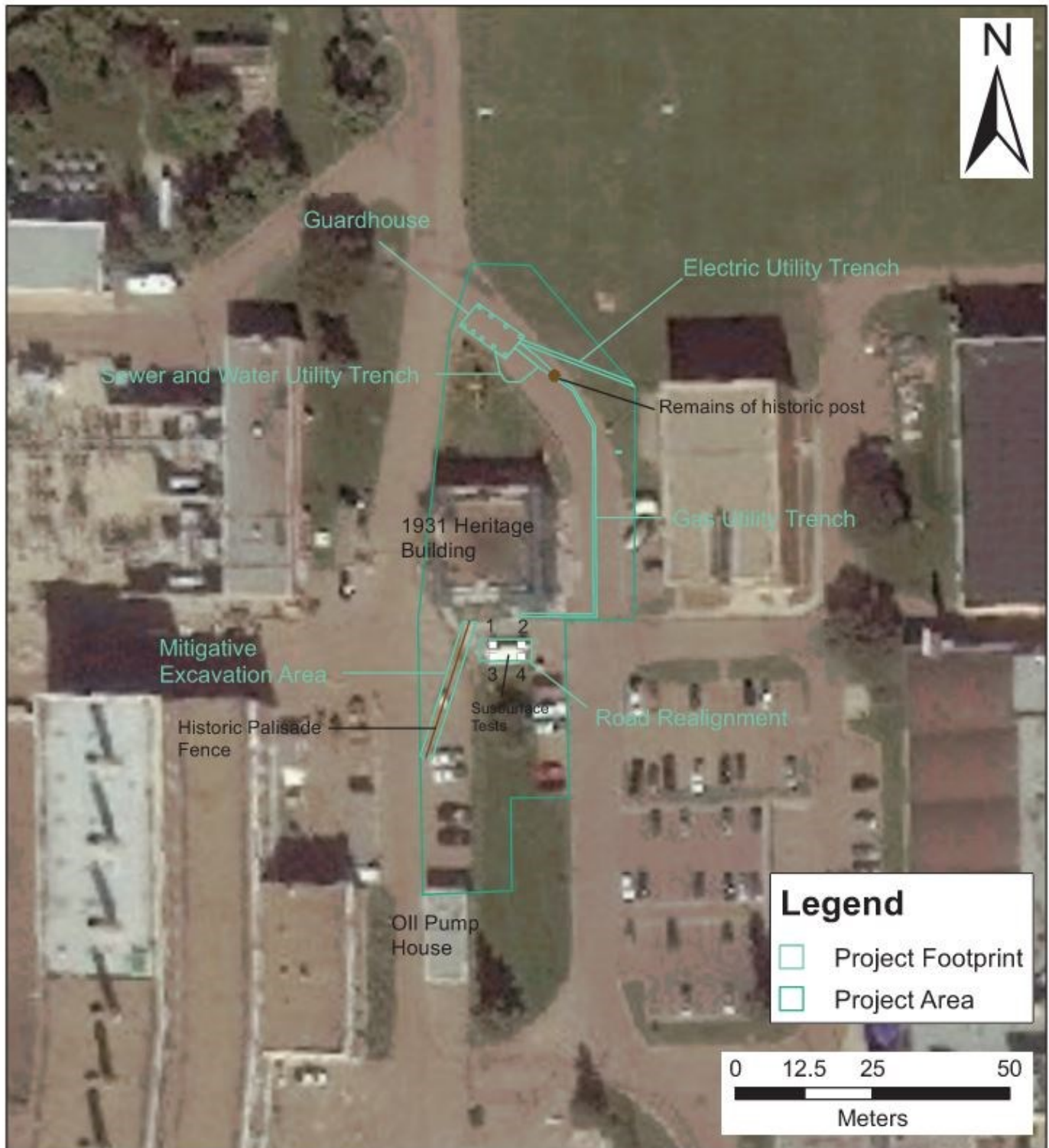
Figure 79: Possible locations and configurations of Fort Edmonton/Fort Augustus II & IV at the turn of the millennia. The thinking post-Reade's scholarship is that Fort Edmonton II is located further west of here. (Source: Lifeways, 2001)

The early 2000s saw the excavation of a long section of small diameter palisade wall posts that most likely represent the Forts' garden walls.



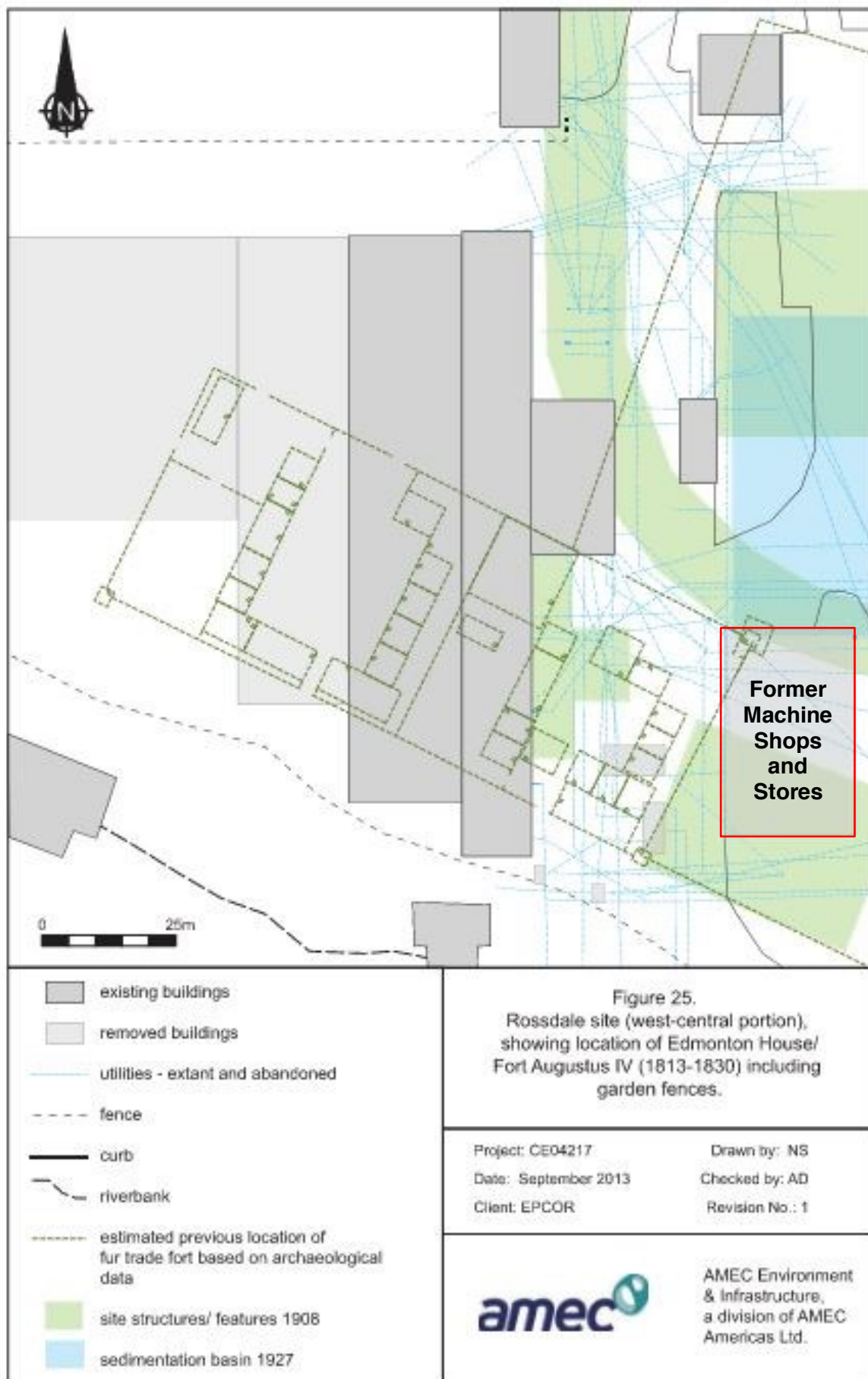
Figure 80: Excavation block 00-09, associated with mitigation in regards to construction of EPCOR's new water lab building. Vertical small diameter posts, as part of a historic 220'+/67m+ garden palisade wall. (Source: AMEC, 2014.)

Further excavation in 2016, in relation to the guardhouse up grades, discovered that this wall must have continued through what is now the Administration Building as well. As a result of this information archaeologists, such as Nancy Saxberg, have postulated a new positioning of the forts. Note the higher likelihood of finding more fur trade archaeological remains to the south of the Switch House and south-east of the Turbine Hall in what is now a broad parking lot – undoubtedly a location that will be of interest for future development proposals.



 Amec Foster Wheeler Environment & Infrastructure 5681-70 STREET EDMONTON, AB, T6B 3P6 PHONE: 780-436-2152, FAX: 780-435-8425	DRAWN:	AB	EPCOR Water Services Inc. Rossdale New Guardhouse and Fence Upgrade	DATE:	21 Mar 2017
	CHECKED:	NS		PROJECT #:	CE04639
	SCALE:	1:1,000		MAP NAME:	16-105 Figure.mxd
	DATUM & PROJECTION:	NAD 83 10TM Forestry	TITLE:	Project Footprint	FIGURE 2

Figure 81: 2016 discovery of historic post in alignment with palisade wall. (Source: AMEC, 2017)



3.3.3 Rossdale as Indigenous Gathering/Waiting Place

The land named Rossdale is also referred to as *pehonan* in *nêhiyawêwin* ᐅᐱᐱᐱᐱᐱ (Cree language), in terms of it as a verb meaning Gathering Place or Waiting Place as opposed to a noun. This understanding of place is likely a result of its historical and continuous attraction to many different Indigenous peoples who would gather here to celebrate, rest, and trade. There are also sacred dimensions extended to the Power Plant Site because its history is in such close association with the Fort Edmonton Cemetery and the Traditional Burial Ground nearby.

The authors of this report acknowledge their own limitations in writing a narrative of Indigenous history at Rossdale, and do not consider it exhaustive or complete. While being able to draw upon published histories and archaeological reports, and though there are resources to develop an engagement plan for consultation in the future, there have been no resources to conduct consultation currently. However, the latter half of this conservation plan deals with future design-processes and community consultation, and to that end the project team includes an Indigenous consultant to draft an engagement plan to ensure best practises in community and Indigenous consultation going forwards. This type of plan is supported by recommendations found in the *Rivers Crossing Business Plan* in Section 2.4:

A proper engagement and communication plan to support ongoing relationship building and dialogue [... as ...] key to the success of the developments.”⁶⁹ This is particularly acute considering the power plant’s site relation to the Fort Edmonton Cemetery and Indigenous Burial Grounds. There are additional desires to ensure incorporation of, “heritage interpretation and spaces that are welcoming for Indigenous people and securing economic development opportunities for Indigenous people.”⁷⁰

Multiple community consultations carried out in advance of the *River Crossing Heritage Interpretive Plan* and the *Rivers Crossing Business Plan* found that the local community would like to see increased interpretation of Indigenous Histories and Heritage at the site. Previously, the City of Edmonton did receive a significant source of consultation on the subject of Rossdale’s Indigenous land-use through the *Rossdale Flats Aboriginal Oral Histories Project* (2004).⁷¹ It was sponsored by the Edmonton Aboriginal Urban Affairs Committee for the City of Edmonton, at that committee’s suggestion, and was intended to complement the *Rossdale Flats Historic Land-Use Study* that was being prepared at that time. They interviewed 27 individuals after contacting 93 stakeholders. Interviewees included Indigenous elders, community members, descendants of people interred at Fort Edmonton Cemetery, Rossdale residents, and historians. The one difficulty in this source is that 2004 was a highly politicised period of time for Edmonton with the preceding 5 years seeing numerous publications, public hearings, controversy over the fate of the Rossdale plant, EPCOR’s desires for expansion, archaeological work, and the discovery of human remains. This led to heightened media interest and lots of

⁶⁹ Ibid.

⁷⁰ Ibid.

⁷¹ Pelletier, Stretch-Strang, Poole, & Davidson, 2004.

speculation – which undoubtedly affected some of the participants’ perceptions and memories. Nevertheless, there are many important insights captured in this document, which was very professionally managed, organised, and presented. These are incorporated into the narrative as below.

While ~12,000 years ago Edmonton was under its slowly draining glacial lake, at least 9,000 years ago bison pounds (a bison corral), bison jumps, and bison traps were put to use in the surrounding Aspen Parklands.⁷² Clovis points, likely used as spearheads on atlatl that were likely used to hunt game like Bison, have also been found in the neighbouring Beaver Hills region. The *nêhiyawêwin* (or Cree language) name for Edmonton is *amiskwaciwâskahikan*, or Beaver Hills House - the area around Edmonton being named *amiskwaciy*, or Beaver Hills.⁷³ As identified in the archaeological record, we also know that human campsites at Rosedale were used as places for butchering or eating animals.



Figure 83: Paul Kane's *The Buffalo Pound*, an image painted for HBC Governor Sir George Simpson (Source: Canada Art Institute & Art Gallery of Ontario)

The image above helps illustrate the sophisticated traditions and techniques developed by Indigenous to thrive in the region's ecosystem. These customs included hunting the largest land mammal in North America, the

⁷² MacDonald, 2009. p.23.

⁷³ Cardinal, Jacquelyn. Correspondence & Conservation Plan Edits. 2021-03-01. "From what we've learned from our elders, this may not be fully accurate. We've been told that the name *amiskwaciy-waskahikan* was the name for the fort at Elk Island, and that it somehow became attached to the Edmonton area by mistake. We haven't been able to surface a name for this place from our nehiyaw elders apart from the *pehonan!*"

bison. Stumps, rocks, and logs are aligned in a funnel shape to help direct horse-driven bison into a fenced corral, also known as a pound. In the tree above the corral, two men are illustrated in colourful clothing as they encourage goodwill for their hunt. Paul Kane is an important source of visualised information about western Indigenous life in the period of his Hudson Bay Company (HBC) sponsored travels from 1846-9. However, his work also betrays a limited colonial eye which needs to be examined critically. For instance, Kane never even saw the actual hunt, but only its aftermath. However, Kane's work is important as it represents rare high-quality legible illustrations of life in the Northern Canadian Prairies to the Rockies during the mid 19th century.

By 1730, the northern plains peoples noticeably began to adapt with European contact and new goods such as guns, horses, blankets, and metal objects that were introduced.⁷⁴ The horse in particular began to challenge accepted areas of land with increasing mobility. Niitsitapi (Blackfoot)-Cree relationships have been postulated to be amicable at this time, only becoming heated with European pressures on traditional ways of life ranging from new materials, horse transportation, decimated traditional mammal populations, and disease into the early 19th century which saw the Cree, Assiniboine, and Saulteaux (*nehiyaw*, or the Iron Alliance) who were associated with the Hudson Bay Company pitted against the Niitsitapi (Blackfoot) by the time first Fort Edmonton and Fort Augustus were established in the area.⁷⁵ The North Saskatchewan became a natural new boundary of the extents of the Niitsitapi (Blackfoot) Confederacy land.⁷⁶ With the construction of the fur-trade institutions of Fort Edmonton/Augustus II and IV, and Fort Edmonton V, Indigenous people continued to treat the Rosedale flats as *pehonan*, but with a new emphasis on the fur-trade with Europeans.

Traditional ways of life continued, such as the use of Buffalo Pounds to hunt Bison as long as animal populations could sustain them. From 1857-1858 the Palliser expedition's "appraisal" of the plains included an accounting of the number of Indigenous peoples and settlements around the Beaver Hills region enumerating over 300 lodges, the most densely recorded region of that expedition.⁷⁷ Animal numbers kept dropping, with Moose almost disappearing despite them being an important staple to earlier European traders.⁷⁸

⁷⁴ MacDonald, 2009. p.33.

⁷⁵ Ibid., p17. / Commonwealth

⁷⁶ Vandervort, 2005.

⁷⁷ MacDonald, 2009. pp.49-53.

⁷⁸ Ibid., p49.



Figure 84: A mound of bison skulls prepared for firing to produce industrial products, an example of the intensive scale of widespread Bison extirpation in the 1870s. (Source: WikiCommons)

The colonial agenda, executed through fur traders, missionaries, foreign governments, hunters, and settler colonisation inevitably led to a loss of Indigenous lands, loss of traditional management of animal populations, and the transmission of various disease outbreaks like the scarlet fever in Fort Edmonton in 1850 and the smallpox epidemics of the 1870s.⁷⁹ These conditions all contributed to the loss of self-sufficiency that eventually led to the signing of Treaty 6.⁸⁰

⁷⁹ Pelletier, Stretch-Strang, Poole, & Davidson, 2004. pp. 65-67.

⁸⁰ MacDonald, 2009. p.60. Please note that not all treaties were signed under scenarios of duress, Jacquelyn Cardinal points out that Treaty 8 had been requested by Indigenous groups for decades before negotiations began.



Figure 85: Treaty maps of Alberta, Rosssdale located within the heart of Treaty 6 Territory.

Long before European contact, the Rosssdale flats was a gathering place used for trading between different groups of people. Rosssdale was also used as a place for dancing, and witnessed events such as the Goose Dance, Sun Dance, Thirst Dance, Ghost dance⁸¹, and Pow-Wows. These were recorded to have occurred here into the early 20th century. According to Phillip Coutu, the Sun Dance grounds became encircled by the permanent exhibition grounds purchased by the city, or what would become the CoE, from the HBC reserve in 1899.⁸² Other events included treaty payments to First Nations along with various parades and events associated with the exhibition grounds. One participant, Phillip Coutu, postulated that the Rosssdale Flats were part of an ancient migration trail called the Wolf Track, which began at Fort Edmonton and split to the west to the Rocky Mountain House or south to Fort Calgary, but predated all colonial sites. The reason for the location of this trail at Fort Edmonton includes the use of the flats site as an ideal location to ford the river.⁸³

In regards to celebration, at least three recorded “Thirst Dances” occurred in Edmonton, with one being recorded in Rosssdale on the 8th of July 1882.⁸⁴ There is a conflicting reference by Coutu who claims that an *Edmonton Bulletin* article in 1883 is when the last Sun Dance occurred. According to Coutu, white boys were

⁸¹ Ibid., 71

⁸² Ibid., pp. 43 & 73.

⁸³ Pelletier, Stretch-Strang, Poole, & Davidson, 2004. Executive Summary.

⁸⁴ Lifeways, 2003. p.7.

also using these same grounds for lacrosse games. According to the University of Saskatchewan's *Indigenous Saskatchewan Encyclopedia*, a Sun dance is defined as below:

*The Sun Dance, also called Rain or Thirst Dance, is a sacred ceremony of First Nations peoples who live in the grasslands of Saskatchewan. The host can use any one of the three names, depending upon the reason for doing the ceremony. This ceremony, which lasts from four to eight days, can take place from early spring to mid-summer. The participants usually begin with the [Sweat-lodge Ceremony](#), and gather to celebrate the renewal of life, good growing seasons, a safe community, good health, and so on. The Sun Dance lodge is built in a circle with the entry facing east, signifying the coming of light. Prior to this, the host will have chosen the centre pole, and a selected group of males will bring the pole to the site where the ceremony is to be held. The pole is not allowed to touch the ground until it is placed standing in the centre of the lodge. At the top of it sits the Thunderbird nest, for it is the Sacred Thunderbird as represented by the mighty Eagle who is the messenger for prayers sent to the Great Mystery. The host and the participant dancers continue to dance in shifts for several days, while stepping to the beat of the drum and saying prayers which are carried to the Creator. This sacred ceremony is one method for traditional Plains Indians to reaffirm their belief in their sacred ways. The bison is honoured during this ceremony by the placing of specific parts of its body at the base of the centre pole; in some ceremonies, a bison robe may be placed inside the lodge to indicate the host's honoured spot. During the actual dance, the participating dancers will always face the centre pole with their eyes on the Thunderbird nest; they will continue until dusk of the final day, dancing and saying prayers for the good of family, community, and Mother Earth. At the end of this ceremony, people may pledge to host another Sun Dance some other time. Once the ceremony is over, the participants will leave the site and have a traditional feast.*⁸⁵

⁸⁵ William Asikinack. "Sun Dance." *Indigenous Saskatchewan Encyclopedia*. University of Saskatchewan. Accessed Online 2020-11-01 at: https://teaching.usask.ca/indigenoussk/import/sun_dance.php



Figure 86: Edmonton exhibition grounds, built on HBC Reserve Lands just north-east of the Power Plant. (Source: PAA, B8786)

Apparently “‘the boys’ came back and cut up all the sacred Sun dance poles and ‘hopefully the thunder god won’t get them’ for cutting up the poles to make the exterior of the racetrack.”⁸⁶ Pamela Cunningham and Chief Calvin Bruneau, descendants of the Papaschase Band, also discuss Indigenous Peoples visiting Rosssdale every summer for treaty payments, Queen Victoria’s birthday, Tea Dances, Sun Dances, and specific gatherings such as the Hobbema people (a cree people to the south, now known as *Maskwacis*, or Bear Hills), including a Medicine Man.⁸⁷ According to Coutu, by 1905 Indigenous peoples were now only gathering in Rosssdale for trading – no more dances.

Indigenous dances likely stopped due to a number of factors, including intensifying European settler land usage, which eroded a multi-millennial period of the commons with the advent of modern private property. Additional exacerbations would have included declining Indigenous populations, forced relocations to reserves (and constant movement of these reserves further away from white European power centres in the case of the [Papaschase Peoples](#)⁸⁸ who were known to inhabit the area including and surrounding Rosssdale), and the

⁸⁶ Pelletier, Stretch-Strang, Poole, & Davidson, 2004. p.74.

⁸⁷ Pelletier, Stretch-Strang, Poole, & Davidson, 2004. p.75.

⁸⁸ University of Alberta & Papaschase First Nation. *Pasikow: the Papaschase Cree and the Story of Edmonton*. Accessed Online 2020-11-19 at: <https://www.arcgis.com/apps/Cascade/index.html?appid=50ec10596bd4402099ecaf66c27673f1>

myriad cultural atrocities that are sadly associated with residential schools and the settler governments and religion that created them.



Figure 87: 1880s Native encampment at Rosedale (Source: PAA, Negative B6649)

However, numerous photographs, drawings, and paintings illustrate continued Indigenous use of the land. Campsites, teepees, horses put to pasture, and wagons with goods are common scenes.



Figure 88: 1905, Cree encampments on the Ross Flats. Fort Edmonton V would be located up the hill on the left. (Source: Glenbow Archives, NA-2251-2)



Figure 89: Tent camps and Indigenous Teepees sometime after 1915, the date Hotel MacDonald was built in Rosssdale (Source: CEA, EA-160-165)

Indigenous land-use of camping in Rosssdale continued into 1915. The photograph above also illustrates shop purchased canvas tents next to Indigenous teepees, which suggests the possibility of European neighbours in

Rossdale as tent occupations was very common in early settler Edmonton, with an estimated 1098 tents supporting 3,294 people - roughly one quarter of the population of Edmonton at that time.⁸⁹ A tradition of encampment could be seen to continue, and recently has taken the form of social justice organisation. During the summer of 2020, [Camp Pekiwevin](#) established itself just north of the EPCOR/Rossdale Power Plant Site. Hundreds of tents took up place here, and established a homeless support camp – in part a response to the strained resources available during COVID-19 pandemic and international dialogues about police violence and calls for reform. The Indigenous camp leaders are calling for the city to “permanently convert the space into a ceremonial and gathering place for Indigenous communities.”⁹⁰



Figure 90: (Source: *River Crossing Business Plan* / CBC)

As a result of earlier consultation and planning processes, the city's *River Crossing Business Plan* has a public green space planned for this same area with Indigenous heritage as the central theme. In response to the United Nations Declaration of the Rights of Indigenous Peoples (UNDRIP), and Truth and Reconciliation Committee of Canada (TRC), and the Final Report of the National Inquiry into Missing and Murdered Indigenous Women and Girls, there should be continued engagement with Indigenous stakeholders.

Following years of public, including Indigenous, consultation surrounding the *River Crossing Heritage Interpretation Plan* and the *River Crossing Business Plan* the following summaries can be made of comments by Indigenous stakeholders specifically relating to the Rossdale Power Plant:

⁸⁹ City of Edmonton. *Heritage, Archive, and the Arts*. 2020.

⁹⁰ Cook, *Edmonton Journal*. 2020.

- Broad interest from participants in re-use of the building as an Indigenous cultural centre, with possible uses including: museum, interpretive centre, cultural facility, library, campus space, meeting space, offices.
- Broad interest from participants in providing space for Indigenous-run businesses, hosting artist / artisan markets, etc.
- Concern about the costs associated with rehabilitation of the Power Plant, which might limit the potential for its use without substantial government support.
- Many participants expressed concerns with, and stated the need to recognize, how human remains were treated during various phases of construction on EPCOR property more broadly.
- Strong interest in future participation in any discussions about the future use of the building and adjacent spaces.
- Need to recognize and commemorate that the site on which the Power Plant sits has been used by First Nations peoples for camps, as a crossing place and as a meeting place since time immemorial.
- Opportunity to interpret settler resource uses on the site.
- Recognition that access and parking is limited for future use of the site.
- One suggestion of dismantling and moving the Power Plant to allow for the area to be reclaimed and naturalized as much as possible.
- Concern that the Power Plant is treated with respect and formally protected in a way that Indigenous history and spaces haven't been treated.⁹¹

⁹¹ Personal Correspondence with James Haney, Principal City Planner, via email, on 2021-02-08.

3.3.4 Fur Trade Era

The first record of European travel through modern day Edmonton is that of Anthony Henday in 1754 as he travelled from York Factory on Hudson Bay to the Rockies along the North Saskatchewan River.



Figure 91: The green line depicts a possible route of Anthony Henday's expedition from York Factory in 1745-55, returning along the North Saskatchewan. (Source: Wikipedia)

Scholarship and archaeology has positioned the first Fort Edmonton (associated with the London owned Hudson Bay Company (HBC)) and Fort Augustus (alternatively known as Fort des Prairies, associated with the Montreal based North West Company (NWC)) a few dozen kilometres downstream near present-day Fort Saskatchewan, at the confluence of the Sturgeon and North Saskatchewan rivers in 1795.⁹² The site is commemorated as [Fort Augustus and Fort Edmonton National Historic Site](#).⁹³ Recent historic scholarship by Dylan Reade, in 2018, suggests that Fort Augustus II actually may not have been situated under the current

⁹² Hudson Bay Company History Foundation. "Edmonton." Accessed online 2020-10-22 at: <https://www.hbcheritage.ca/places/places-other-institutions/edmonton>

⁹³ Parks Canada. *Fort Augustus and Fort Edmonton National Historic Site of Canada*. Lamoreux, Alberta. Accessed Online 2020-12-30 at: https://www.pc.gc.ca/apps/dfhd/page_nhs_eng.aspx?id=24

day Rossdale Power Plant, but further to the west on the north side of the North Saskatchewan, closer to the current Groat Road or below Government House.⁹⁴

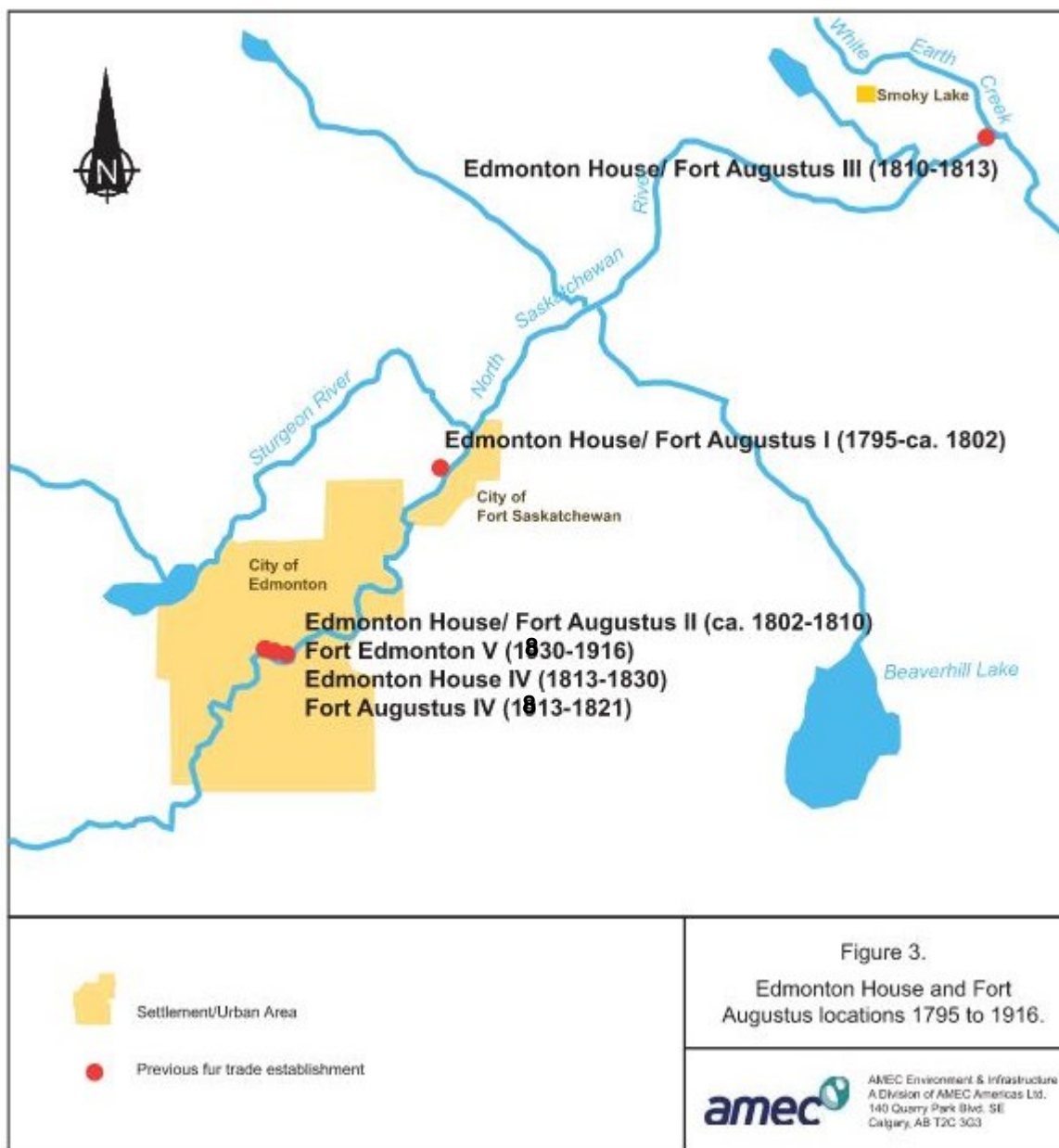


Figure 92: Locations of the various era fur trade forts (Source: AMEC, 2013)

The north side of the North Saskatchewan possibly maintained different iterations of these forts due to potential hostilities from the Niitsitapi (Blackfoot) who stayed south of this river. By 1801 Fort Edmonton noted drastic animal depletion as illustrated by 12,512 or more beaver pelts traded in 1797 alone.⁹⁵ European settlement on the Rossdale flats did not occur until the early 19th century, with Fort Edmonton IV & Fort Augustus II (1813-1830). The move from Forts I & Forts II locations can be attributed to regional beaver and animal depletion. The third iterations moved to White Earth Creek, or *Terre Blanche*, for a brief year before

⁹⁴ Reade, 2018.

⁹⁵ Commonwealth.

moving to Rosssdale in 1813. It is likely that this location was chosen 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, like many other Edmonton region river flats.⁹⁶ In 1821, the North West Company merged with the Hudson Bay Company, and were able to consolidate their functions into a single fur-trading establishment.⁹⁷ The decision for one final relocation to higher grounds at Edmonton V by 1830 was spurred on by an 1825 flooding of Rosssdale which heavily damaged the fort. As regional animal depletion continued, and colonial interests transitioned from animal pelt extraction to settlement, it is important to note that the primary functions of these forts progressively transitioned from fur trading centres to trader and settler outfitting.⁹⁸ Fort Edmonton V, is mistakenly commemorated as [*Fort Edmonton III National Historic Site of Canada*](#), possibly misnamed due to historical knowledge at the time of commemoration (Designation Date - 1959-11-25 / Recognition Statute - Historic Sites and Monuments Act (R.S.C., 1985, c. H-4)).⁹⁹

The exact locations of Edmonton II & IV are currently unknown, but the IV is now thought to be in the general vicinity of the present Rosssdale Power Plant site and to its west. Archaeologists who have been specialised in this research have not found conclusive evidence of fort locations but excavated palisade wall foundations are indicative of a number of possible Fort, ancillary structures, and land-use locations.¹⁰⁰

⁹⁶ Commonwealth, pp 39-31.

⁹⁷ Wood, 2019, 18-005. p.4.

⁹⁸ Ibid., 41.

⁹⁹ Parks Canada. *Fort Edmonton III National Historic Site of Canada*. Lamoreux, Alberta. Accessed Online 2020-12-30 at: https://www.pc.gc.ca/apps/dfhd/page_nhs_eng.aspx?id=19

¹⁰⁰ 2014 & Personal communication with Nancy Saxberg.



Figure 93: Paul Kane's romanticised landscape of Fort Edmonton. (Source: Art Institute of Canada/Royal Ontario Museum)¹⁰¹

A famous mid 19th century painting by Paul Kane of Fort Edmonton V picturesquely depicts it near the current site of the Alberta legislature building, on one of the taller cuts along the river. The teepees of Indigenous traders on the right-hand side of the painting are located below in the Rossdale Flats, near the current site location of the power plant.¹⁰² This painting in conjunction with later photographs and historic records suggest that there was near constant land-use for Indigenous encampments into the earliest years of the 20th

¹⁰¹Arlene Gehmacher. Paul Kane paints the Hudson's Bay Company fur trade in Fort Edmonton, c.1849–56 *Art Canada Institute*. <https://www.aci-iac.ca/spotlight/picturing-empire-by-arlene-gehmacher/> *Paul Kane: Life & Work* by Arlene Gehmacher

¹⁰²

century.¹⁰³ Other land-uses are recorded as well including agricultural cultivation.



Figure 94: Photograph of a painting from 1867, view of Fort Edmonton from the south by missionary Father Emile Petitot, original is hanging in the Alberta Legislature Library. Cemetery with cross encircled in red. (Source: CEA, EA-10-3120 & the Alberta Legislature Library & Visitor Centre)

This painting circa 1867 captures both Fort Edmonton and part of the Rosedale flats. The white picket fence and cross amongst bushes denotes the Fort Edmonton Cemetery, while the surrounding fence encircles agricultural lands – to the right of the cemetery they are visibly tilled or bear evidence of freshly cut crops/hay. Below the cemetery, at the river's edge, one can see the York Boat landings and two access ramps.

¹⁰³ Lifeways, p7. 2003



Figure 95: 1870, Fort Edmonton V (Source: Wikipedia, 2020 from [Library and Archives Canada](#), Reference number C-007475 & MIKAN ID number [3192725](#))

Up until 1870, the Hudson Bay Company (HBC) owned, by charter, a massive tract of northern Canada known as Rupert's Lands. Following its sale back to the British Crown for £300,000, which the Government of Canada paid, the HBC ensured to keep a reserve of lands surrounding Fort Edmonton V, including parts of the Rosedale Flats.¹⁰⁴ The Fort Edmonton cemetery closed in 1886, having operated continuously from 1814-1871¹⁰⁵, and despite some reinterment to the new city cemetery, an unknown number of the approximate 200 burials remained.¹⁰⁶

¹⁰⁴ MacDonald, p.59.

¹⁰⁵ Lifeways, 2003.

¹⁰⁶ Lifeways, 2000. p5.

3.3.5 Rossdale Settlement

In 1874, Donald Ross took on a three year contract to operate a farm for the HBC on 70 acres of land on the Rossdale Flats, known as River Lot 4 – ultimately obtaining the land on undetermined circumstances according to one report from 2004.¹⁰⁷ However, recent scholarship by historian Dylan Reade has found that:

*Donald Ross didn't purchase from the HBC, but from William Leslie Wood, a high ranking HBC clerk and later factor at Athabasca Landing who held a prior claim on it. Before Wood there was a cluster consisting of an old interrelated Cree-Assiniboine-American extended family from which Wood purchased the claims, but failed to close the deal with proper paperwork. Hence Donald Ross had to later go back to those families and renegotiate quit claims to secure his own assertion. From this, it becomes clear that both Ross and Wood before him considered the earlier occupants of this part of the flat to be legitimate settlers, like any others. I think there were four separate claims that Ross settled -- some of the families had roots going back to the "old" Fort Edmonton, and some stayed at least for a time afterwards as Edmonton river lot settlers south side, downtown and the Highlands. Some were Métis and others Treaty 6, and I think their independent family stories should well be prominently featured in the Rossdale narrative.*¹⁰⁸

An industrious businessman, Ross became well known for having a diversity of pursuits, at first farming, coal-mining, and building the locally well-known Edmonton Hotel, which led to the wider area's namesake as Ross Flats or Rossdale. The land underneath the Power Plant is outside of the bounds of River Lot 4.

¹⁰⁷ Commonwealth, 2004, p. 59

¹⁰⁸ Personal communication with Dylan Reade, email 2021-03-19.



Figure 96: Example of the early river-based seigneurial system of land division in Edmonton, 1882 Plan of Edmonton Settlement NWT. Donald Ross' land hi-lighted in green and the HBC reserve highlighted in red. The blue triangle denotes estimated location of the present-day Rosedale Power Plant Site, the blue square Fort Edmonton V. (Source: City of Edmonton Archives, EAM-679)

A 55-acre parcel of the Hudson Bay Company's land reserve in Rosedale was sold to the city in 1899,¹⁰⁹ including some overlaying what would become the Rosedale Power Plant site. This land became the permanent exhibition grounds from 1899-1909, previously being held in ever-shifting locations.¹¹⁰ The exhibition grounds functioned by hosting ceremonies, celebrations, and horse races. These grounds were notably the site that officially welcomed Alberta into confederation as a province of Canada in 1905, known as Inauguration Day. The grounds themselves consisted of a racetrack, stables, and animal pens.

¹⁰⁹ Lifeways, 2003. p.i.

¹¹⁰ Lifeways, 2000, p.33.



Figure 97: Inauguration Day saw the birth of the Province of Alberta on the Rossdale Flats. Caption reads: "This very moment is the CAPITAL ALBERTA A-Province in Reality." (Source: National Archives of Canada, PA29060)

In 1905, Fort Edmonton remained high above Rossdale, and the first iteration of the power plant has yet to expand. A solid looking picket fence surrounds the exhibition grounds while a thinner race track course defining fence curves as it approaches the power plant. This land slowly becomes co-opted by the needs of the rapidly expanding power plant as the demand for energy soars.

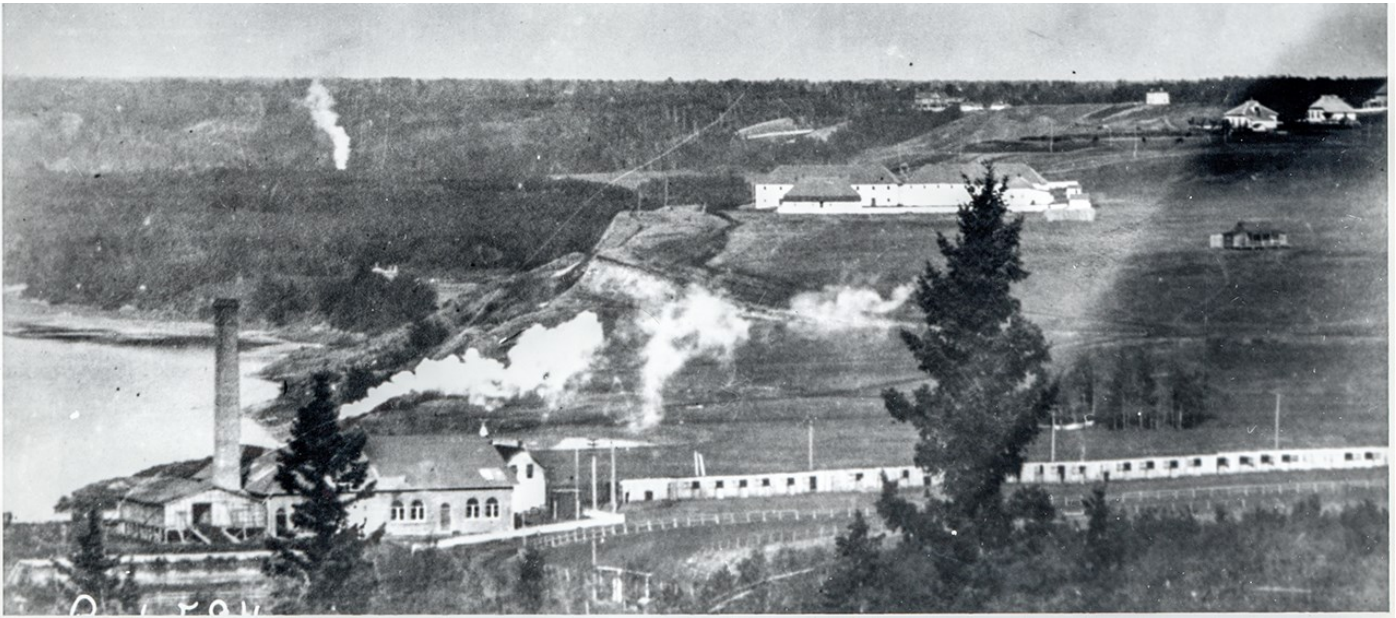


Figure 98: 1905 view of the Rosedale Light & Water Station. Note Fort Edmonton V on a higher river formed terrace and the curving fence of the exhibition grounds to the north-east of the station. (Source: EPHF)

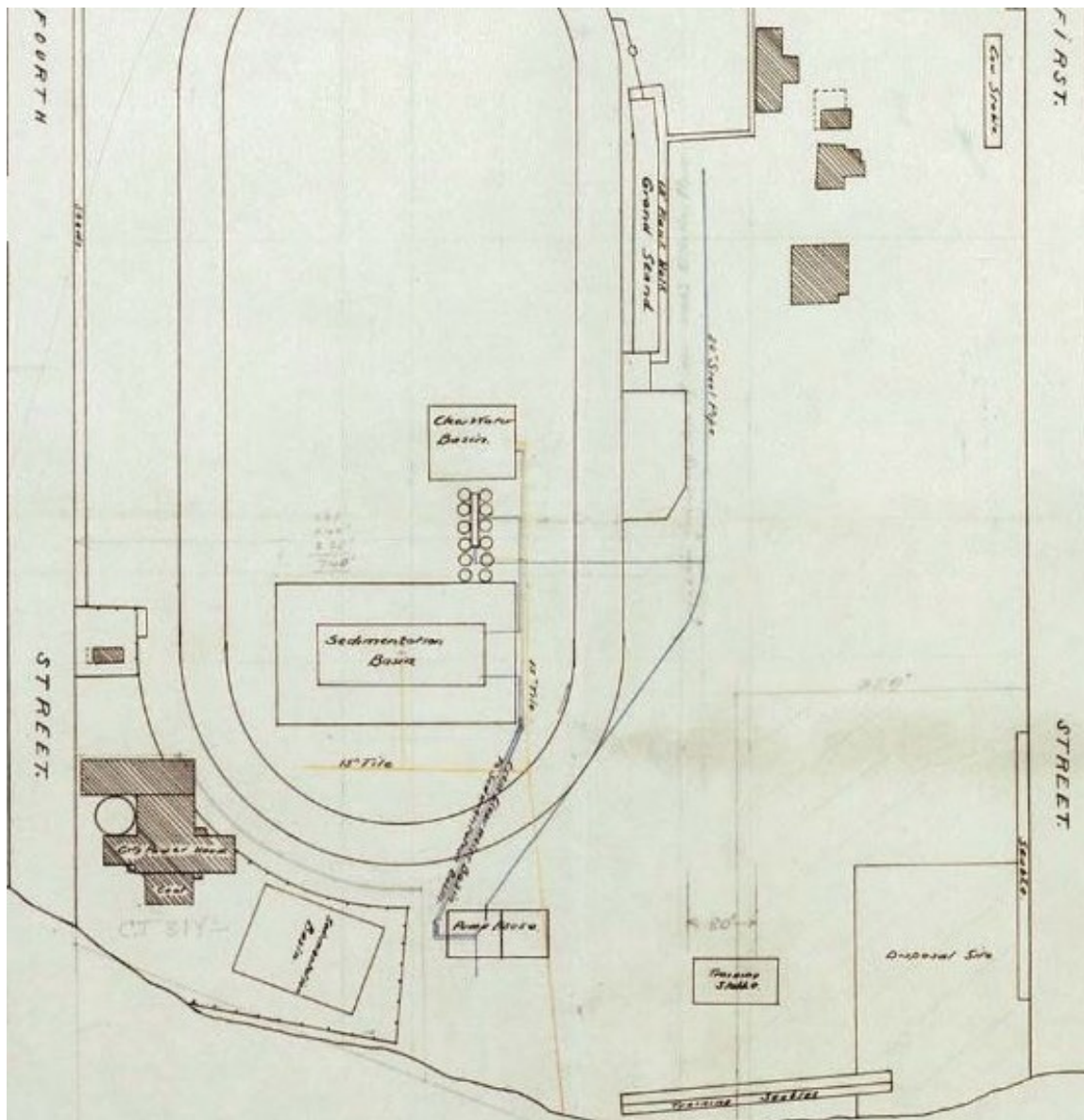


Figure 99: 1908, City of Edmonton's Engineering Plan showing the Industrial Exhibition Grounds and interrelated Water & Light Station. (Source: CEA, EAM-243)

In this 1908 plan one may notice the 1906 power plant addition, and it is about to double in size with the 1908 addition. Additionally, the pump house, associated with the water plant pumps water across the racetrack to new sedimentation and clarification basins which are situated in the centre of the track. By 1909, the exhibition grounds were relocated – likely due to further land requirements of the growing power production and water system.

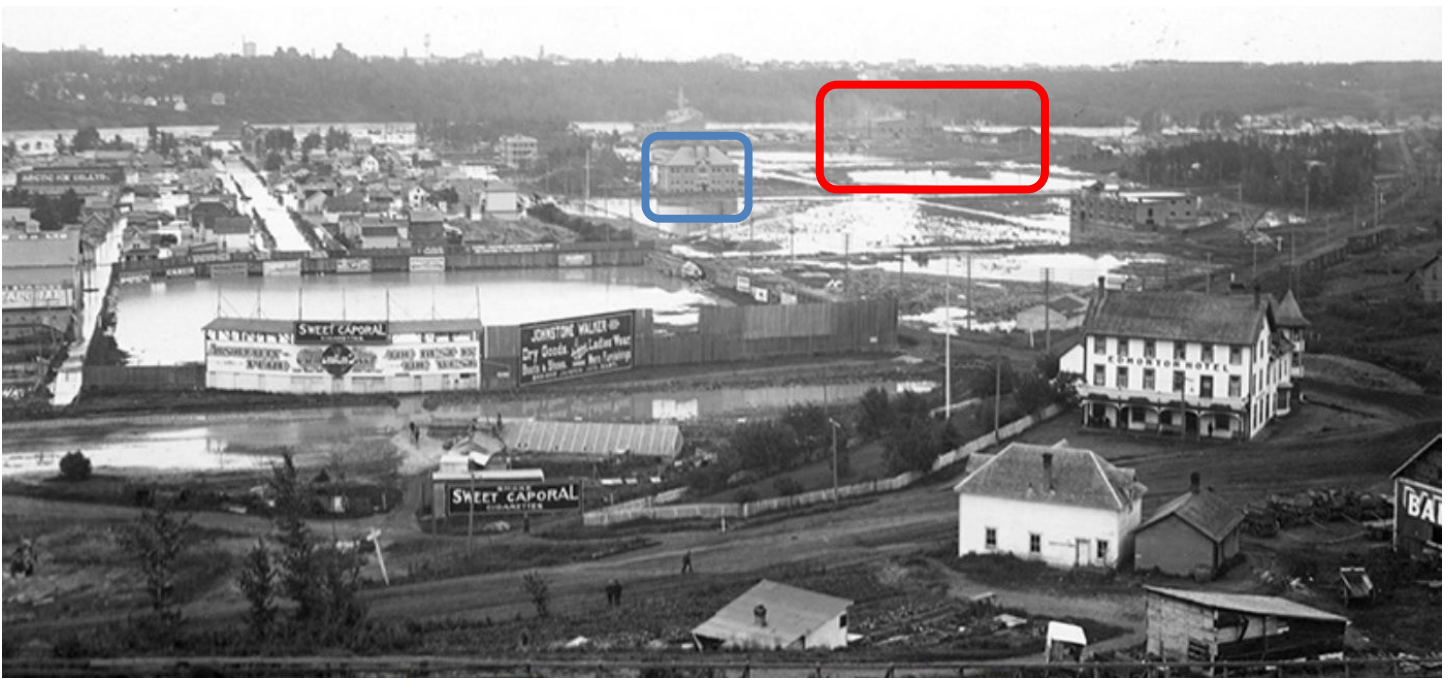


Figure 100: 1915 Flood in Rossdale, with the landmark Rossdale school encircled in blue and the power plant in red. (Source: CoE Archives, EA-25-18)

In the early 20th century Rossdale saw further settler development, becoming a very dense and diverse neighbourhood, ranging in land usages from baseball park, flour mills, houses and subdivisions, apartments, breweries, coal mines, tanneries, ice companies, horse shoers, paint manufacturers and distributors like BAPCO brick yards, cast masonry manufacturers, lumber mills, schools, churches, orphanages, all alongside Ross's hotel.¹¹¹ However, during the large flood of 1915, many businesses and homes were ruined, and many never returned. No one was killed during the flood, however around 50 buildings were destroyed, 700 were damaged, and an estimated 2000 people were displaced as the river rose more than 15 metres. It was devastating to Rossdale.

¹¹¹ Chan-Marples & Gibson, 1985.

MEN AT POWER PLANT DID HERCULEAN WORK ALL DAY TO KEEP PLANT RUNNING

**Working at Times in Water up to Their Armpits They Strove to
Keep Machinery in Operation—Were Successful Until Late at
Night When Power, Light and Finally Water Was Shut Off**

Figure 101: Edmonton Bulletin. "Power Plant in Danger." 29 June 1915. (Accessed Online 2020-11-16 at:
https://www.edmonton.ca/city_government/documents/PDF/Flood_PowerPlantDanger.pdf)

The power plant became a focal point of the city, as its continued operation was integral to the wider city, and a newspaper clipping from the day captured this intense interest, "At four o'clock this afternoon the battle was raging desperately around the power plant. The water is over the top of the bank and is surrounding the pumping plant building. Hundreds of men have been pressed into service trying to damn the water back. It is feared the power plant will have to close down in a very short time."¹¹² The work was likely cold and hard, as described in one article illustrated above.

The power plant did close down for a day, but was quickly, if only partially, restarted within a day. However, the water pumping station was integral to the power plant – meaning that safe drinking water was also compromised, and it was a few days before the city's water came back online, albeit much siltier than usual.

¹¹² *Edmonton Bulletin*. "Power Plan in Danger." 29 June 1915. Accessed Online 2020-11-16 at:
https://www.edmonton.ca/city_government/documents/PDF/Flood_PowerPlantDanger.pdf



Figure 102: 1915 view of the Rossdale flood from McDougall Avenue (100th Street) (Source: Glenbow Archives, NC-6-1438)

3.3.6 Early Edmonton Power Development

Edmonton's first power plant was incorporated as the Edmonton Electric Lighting and Power Company on the 23rd of September 1891 to generate and distribute electrical power in Edmonton. The company operated until the 8th of May 1902 when it was acquired by the Town of Edmonton. It was begun by a group of local businessmen, namely:

Arsemous Delton Osborne (Postmaster), Richard Secord (Merchants Clerk), Donald Ross (Hotel Keeper), Alexander Taylor (Government Telegraph Operator), John Alexander McDougall (Merchant), William Johnston Walker (Merchant), Stanislas Larve (Merchant), Joseph Henri Picard (Merchant), Alexis Francois Degagne (Carpenter), Herbert Charles Wilson (Physician), Frederick Ross (Merchant), Luke Kelly (Hotel Keeper), Alfred Everard Johnston (Forest Ranger), Daniel Robert Fraser (Lumber Merchant), Sydney Stockton Taylor (Advocate), Xavier St. Jean (Hotel Keeper), Luke Arthur (Carpenter), John Walters (Ferryman), Kenneth Archibald McLeod (Carpenter), Colin Ferrie Strang (Financial Agent), James Ross (Merchant), George Robert Foster Kirkpatrick (Bank Manager), George Thompson (Druggist), Emmanuel Raymer (Jeweler), William Fielders (Implement Agent), Campbell Young (Insurance Agent), Frederick Sache (Merchants Clerk), Nicholas Dominic Beck (Advocate) and Patrick McNamara (Advocate), all of Edmonton in the District of Alberta; Henry Goodbridge, of Miners Flats near Edmonton aforesaid; Charles Bremner of Clover Bar near Edmonton aforesaid, and Richard George Hardisty of Sturgeon River near Edmonton

John Alexander McDougall served as President (1891-1902) and Secretary-Treasurers were P.L. Macnamara (provisional, 1891), Campbell Young (1891-1892) and St. George Jellett (1892-1902). Alex Taylor, who was also the city's first organiser of telephones, began management of this first power plant and received the necessary "letters patent," from Queen Victoria's representative Joseph Royal, lieutenant governor of the Northwest Territories (Alberta not being formed yet).

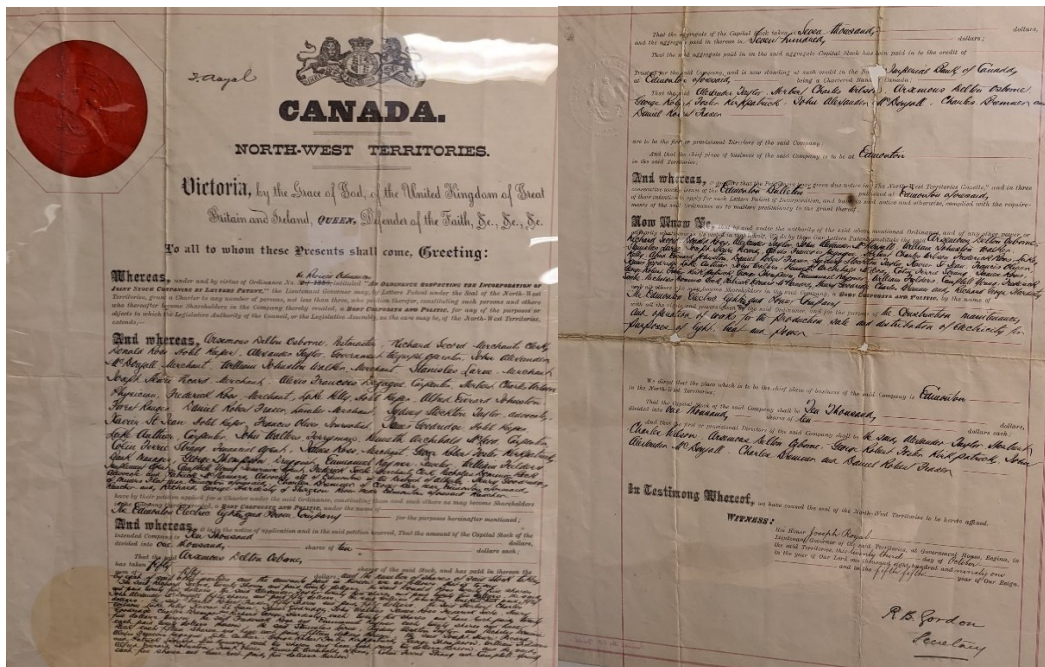


Figure 103: Letters patent from the Queen for the Edmonton Electric and Lighting Company. (Source: CEA, MS-232 File 5 Page 1 of 2)

This first power plant, dating from 1891, was located around a kilometre downstream from the current location, right beside the river to take advantage of coal shipments by water. The first lights were energised in Edmonton on the 22nd of December 1891, with operating times of Jasper Avenue's principal buildings and lampposts from sunset to 1:00AM during the summer and 5:30AM to sunrise in winter.¹¹³ The company first began as a corporation with 1000 shares being valued at 10\$ each for a total valuation of \$10,000. Its first machinery was a coal-fired steam boiler and simple piston engines which would drive the generator, also known as a dynamo. However, the proximity of the power plant to the river on a floodplain led to problems in 1899 when a 41 foot rise in river water led to its total inundation. This resulted in power plant operations to be relocated to the safer higher grounds at the current location of the Rosedale Power Plant site.

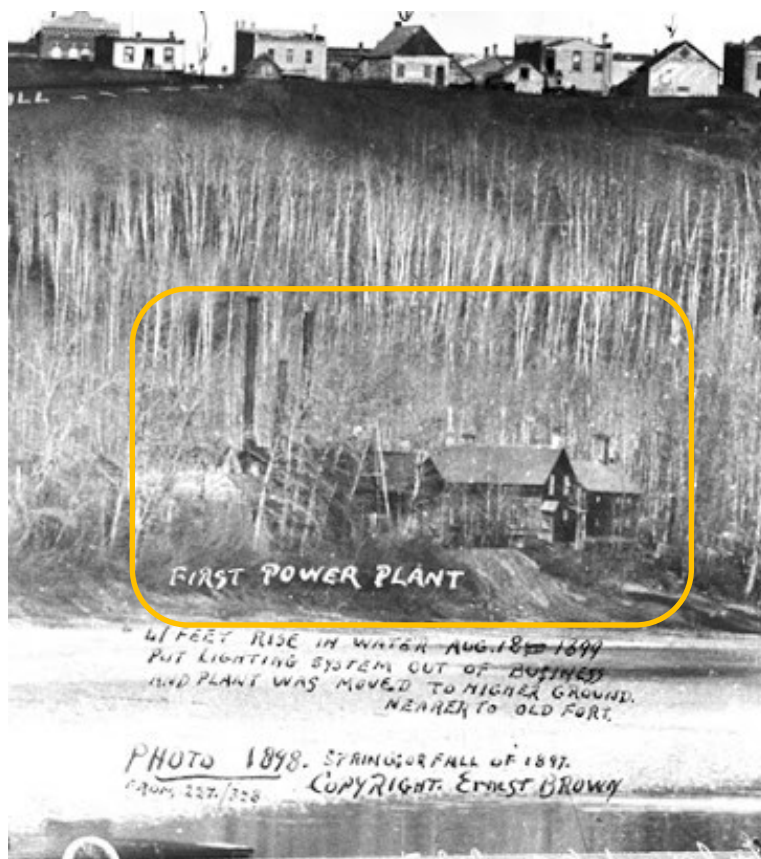


Figure 104: First power plant in 1897. (Source: Ernest Brown - Provincial Archives of Alberta, PAA-B1508)

¹¹³ Marshall & Culbertson, 2002, p.4.

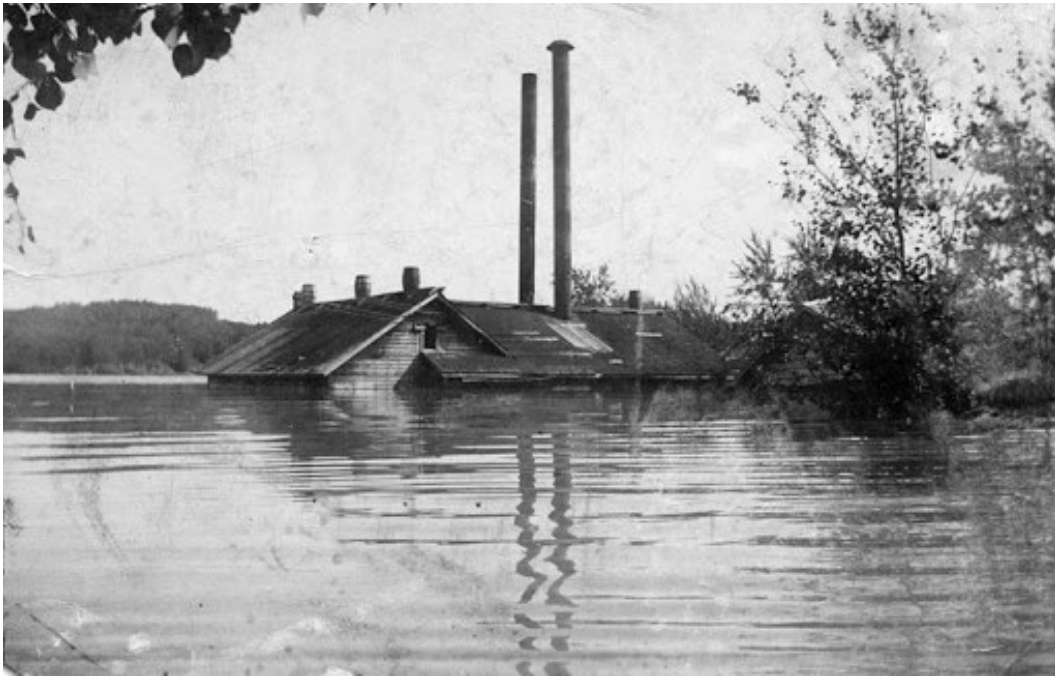


Figure 105: Flood in 1899 at first site of first power plant, downstream of current site. (Source: CEA, EA-10-875)



Figure 106: View of Sam McCauley and workers hauling the “Dynamo” turbine circa 1899, in winter when movement was easier with the use of sleds. Identified men present include Alex Taylor, Sam McCauley, Dan McCauley, and George West among others. (Source: City of Edmonton Archives, EA-430-7)

In 1902, the city of Edmonton purchased the Edmonton Electric Light and Power Company outright with *Bylaw 221: A Bylaw to Purchase the Power Plant and other Property of the Edmonton Electric Lighting and Power*,¹¹⁴ becoming the first municipally owned electrical company in Canada.

¹¹⁴ CEA, AR-RG-80.



Figure 107: 1902, the Edmonton Electric Lighting and Power Company board prior to municipal takeover. (Source: CEA, EA-10-734)



Figure 108: 1902, The new municipally owned Edmonton Water & Light Station, view of the north elevation. (Source: EPHF)

The city immediately invested in the new Edmonton Water & Light Station as energy demand was beginning to increase. The theme of constantly planning and building new additions of ever more efficient, stronger, faster, and larger electricity output coincides with the electrical market demand exploding with increasing waves of colonial European settlement. Alberta, along with the Aspen Parklands of the other Prairie Provinces became promoted as the “Last Best West.”

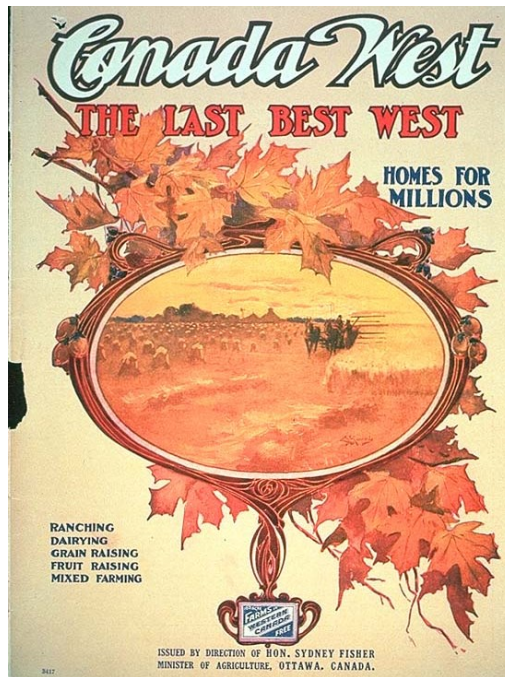


Figure 109: An advertisement used to encourage American/British/European settlement in Canada's Prairies, the "Last Best West".
 (Source: Canadian Museum of History, <https://www.historymuseum.ca/cmc/exhibitions/hist/advertis/ads1-01e.html>)

In Alberta, this theme has always had direct correlation with wider societal patterns of human electrical use, including as a reflection of increasing population, economic and technological demand (including the myriad of electrified devices that people now surround themselves with). The graphs below help illustrate the rapid growth of both Edmonton's rapid electricity production capacity and population growth. However, it is also important to realise that throughout these periods Edmonton was also sometimes an energy exporter, sending surplus energy as far afield as Calgary before the days of unified electrical grids. Until the advent of Cloverbar Generating Station, Rossdale was the only power producing centre for the city.

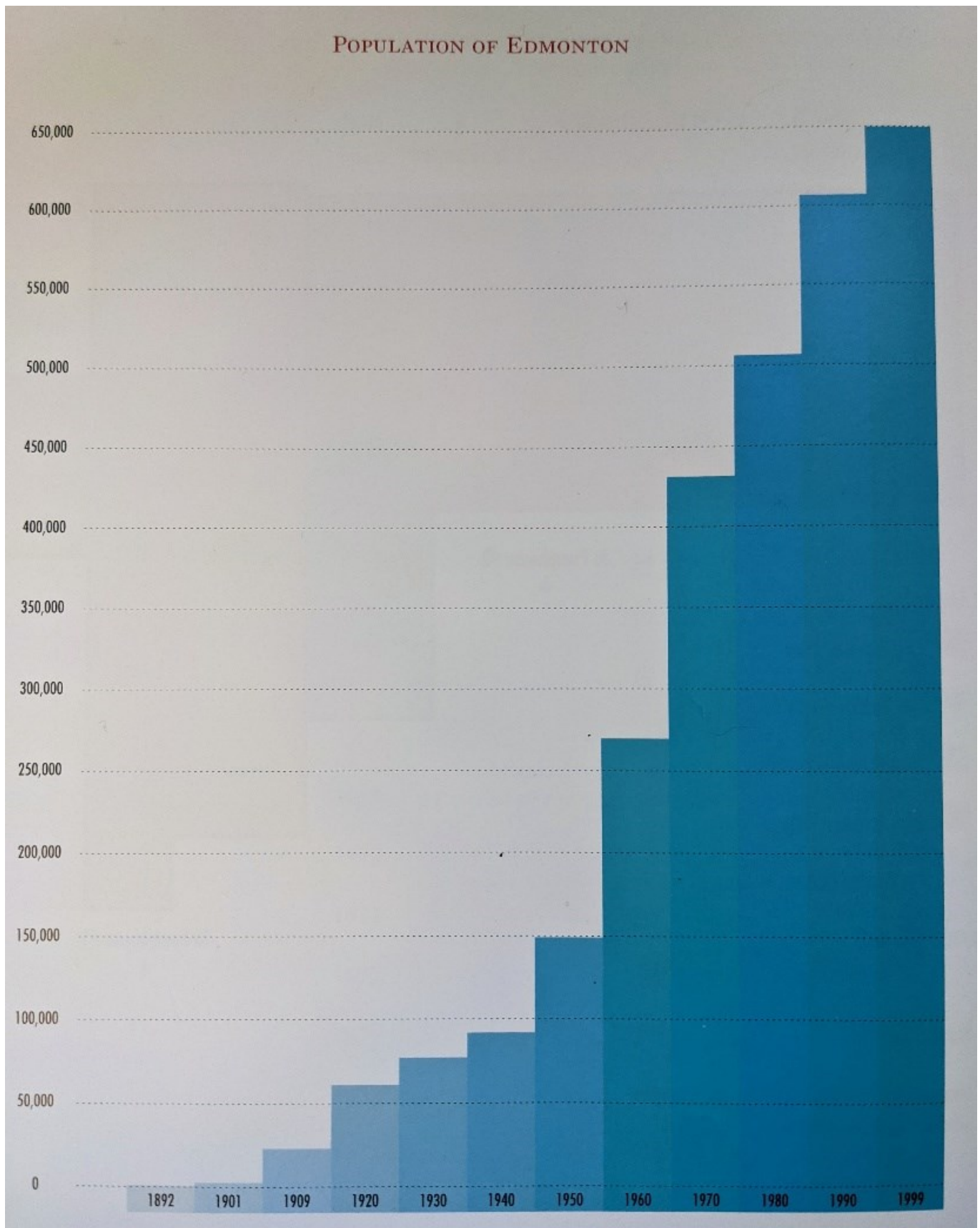


Figure 110: Population growth of Edmonton 1892-1999, now closer to one million people. (Source: Candles to Kilowatts, p124-125)

GENERATING CAPACITY OF EDMONTON'S POWER UTILITY

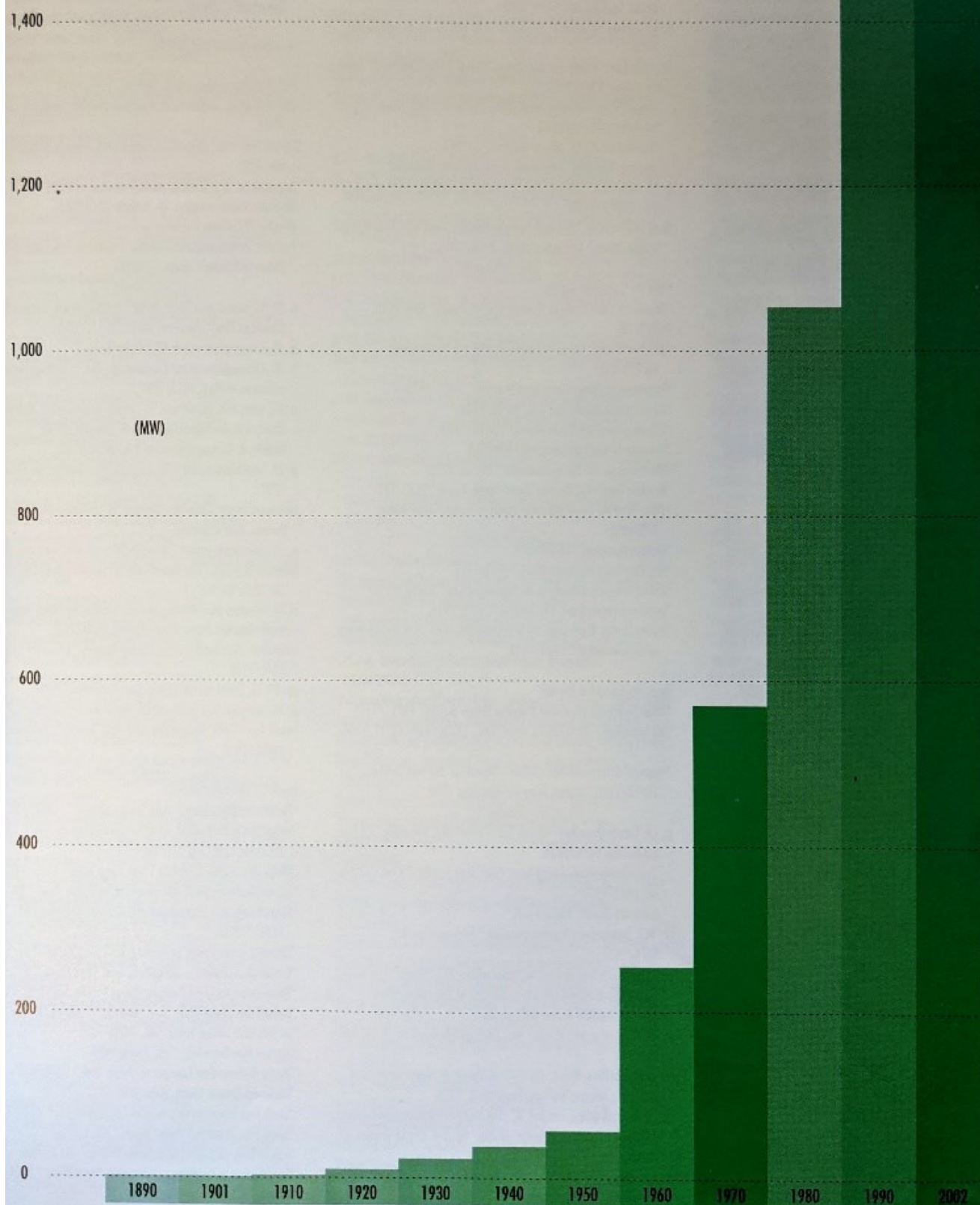


Figure 111: Edmonton power production in terms of Mega Watts 1890-2002. (Source: Candles to Kilowatts, p124-125)

Early views of the new Water and Light Station constructed to meet the burgeoning demand in 1902, illustrate the diverse land-uses around the Rosssdale site. In the background, the fenced in racetrack and ancillary buildings associated with the permanent exhibition grounds can be noticed, and further afield there are crops or gardens and encroaching houses.



Figure 112: 1903, view of south elevations. (Source: Ernest Brown, EPHF)

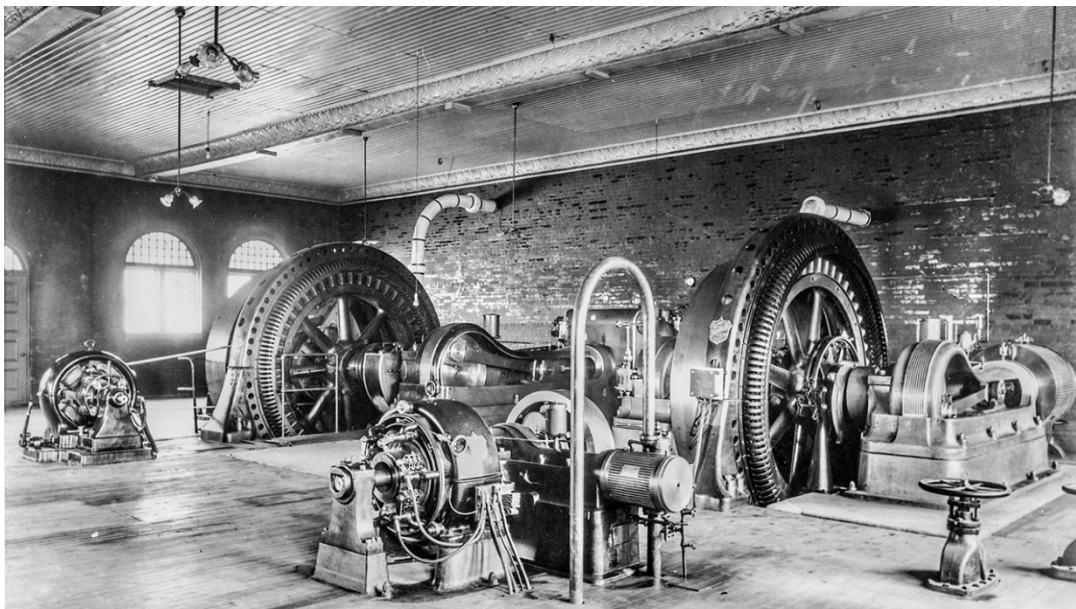


Figure 113: 1904, Interior photo showing early Corliss steam engines and generator units. (Source: PAA, B1489)

From 1907 to 1914 power demand in Edmonton quadrupled,¹¹⁵ and with it the power plant's spatial needs for production capacity correspondingly grew. In 1906, a much larger addition was made with a division of boilers to the west and engines and generators to the east.

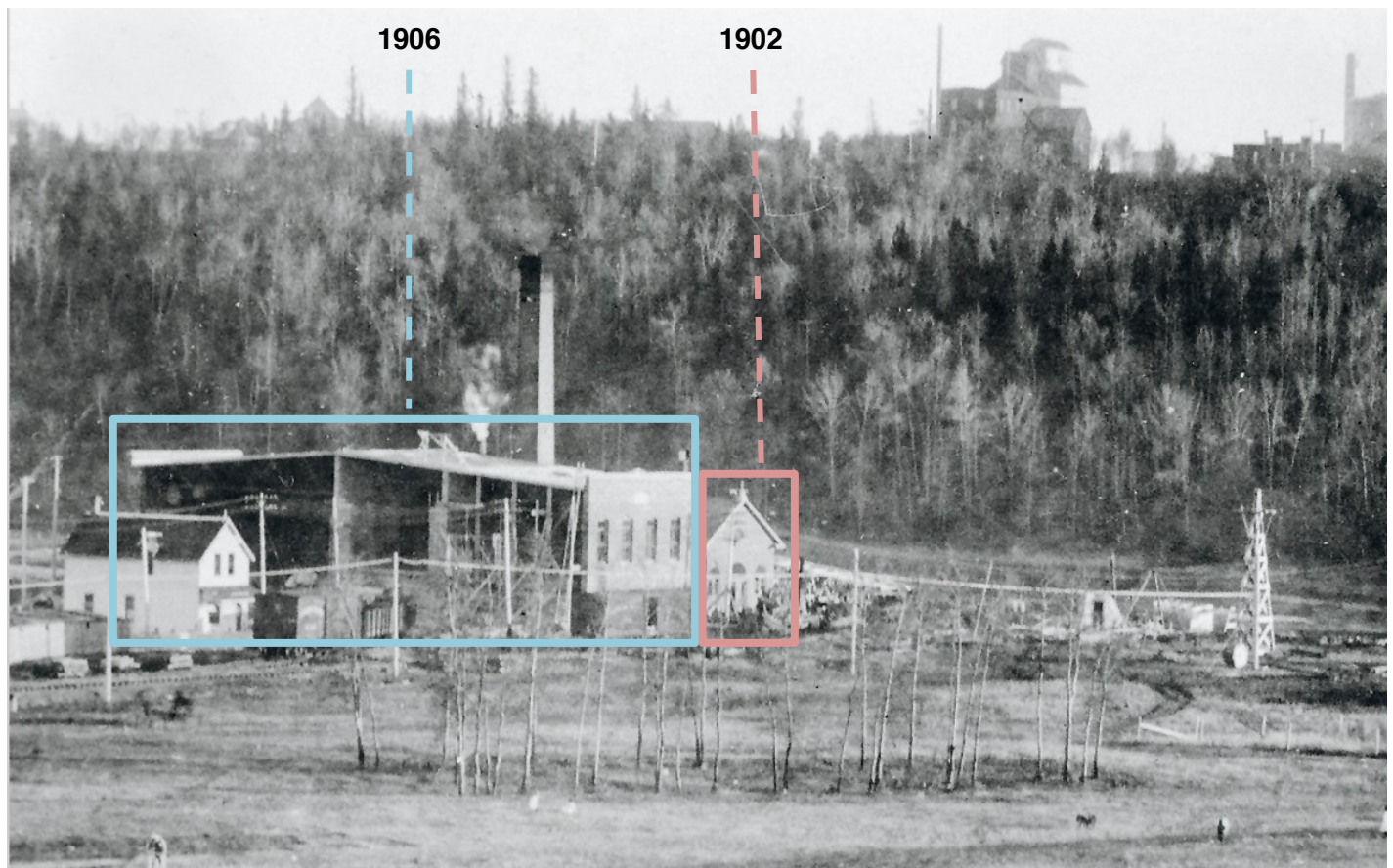


Figure 114: 1906 New addition to north end of 1902 plant, view looking south. with Strathcona in the background. Boiler hall on right and machinery halls on the left. (Source: EPHF)

¹¹⁵ Marshall & Culbertson, 2002, p 9.



Figure 115: 1906, “Northern Crane” gantry erection using screw jacks and raw timber dunnage in the machinery hall addition on the north end of the 1902 plant. (Source: EPHF)

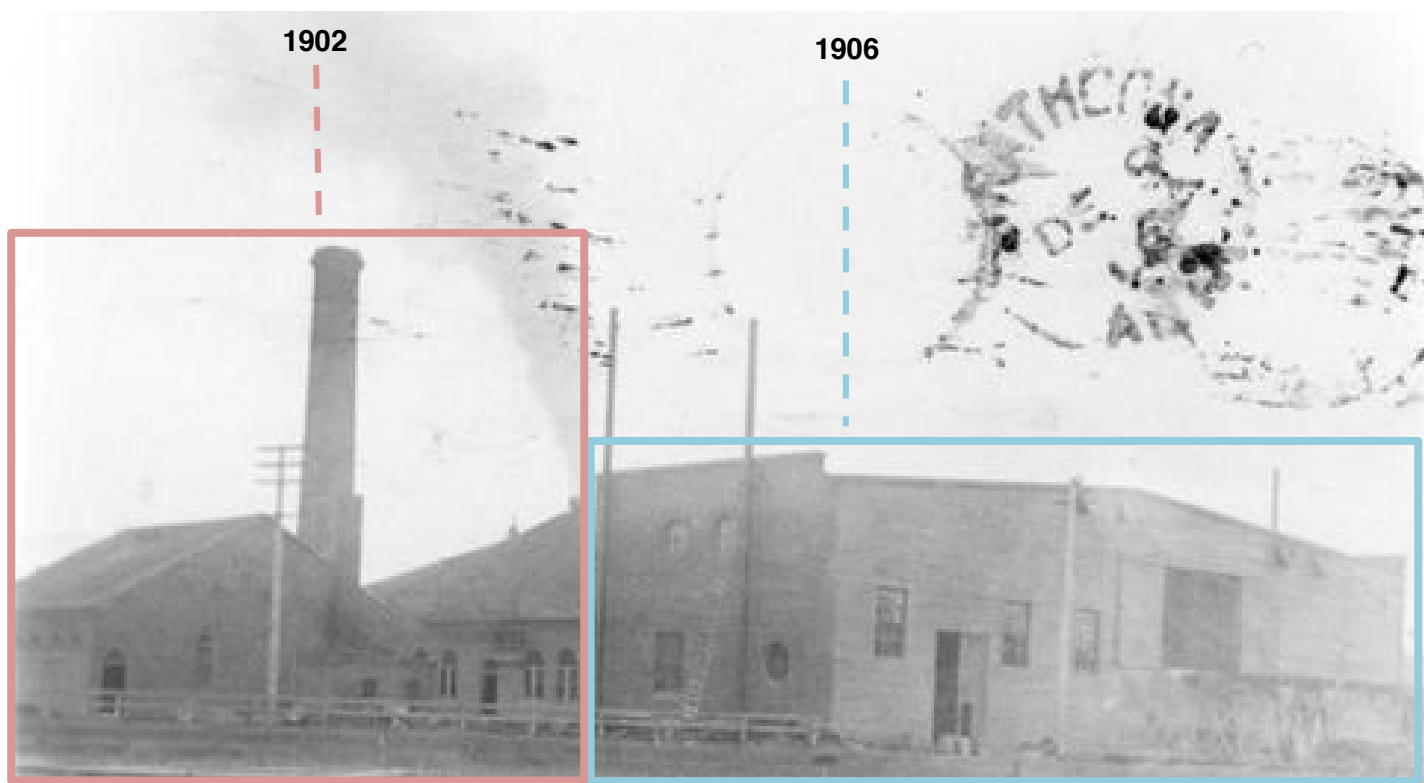


Figure 116: 1908, A view of the first power plant with the 1906 addition from the north-east. Note the larger massing will continue to expand with a characteristic accordion-like growth as seen by the subsequent demolitions and additions. (Source: CEA, EA-10-667-141)

The 1908 expansion was particularly large in comparison to both the 1902 and 1906 expansion, as the contract between Acme Brick Ltd. and the City amounted to 350,000 bricks, which was built by contractors Pheasey & Batson.¹¹⁶ In addition, 1908 saw the construction of the spur line for the Edmonton Yukon Pacific railway by J.A. Bagley, which enabled coal and coal-ash transportation by rail instead of more laborious water, cart, or sled transportation which must have become increasingly impractical with the larger volumes associated with increased energy production. As demands for more electricity increased the city responded by investing in ever larger and more efficient machinery. 1910-11 denoted the installation of two 2000kw turbo generators, and one 750kw turbine to solely service street railway cars. The first turbines from this 1911 period were very significant as it was the first deviation from engine driven piston technology, which was much less efficient and consistent in generating electricity. Throughout this earlier period, boiler technology was still manual, with furnaces being hand fed with coal and stoked with hand irons.

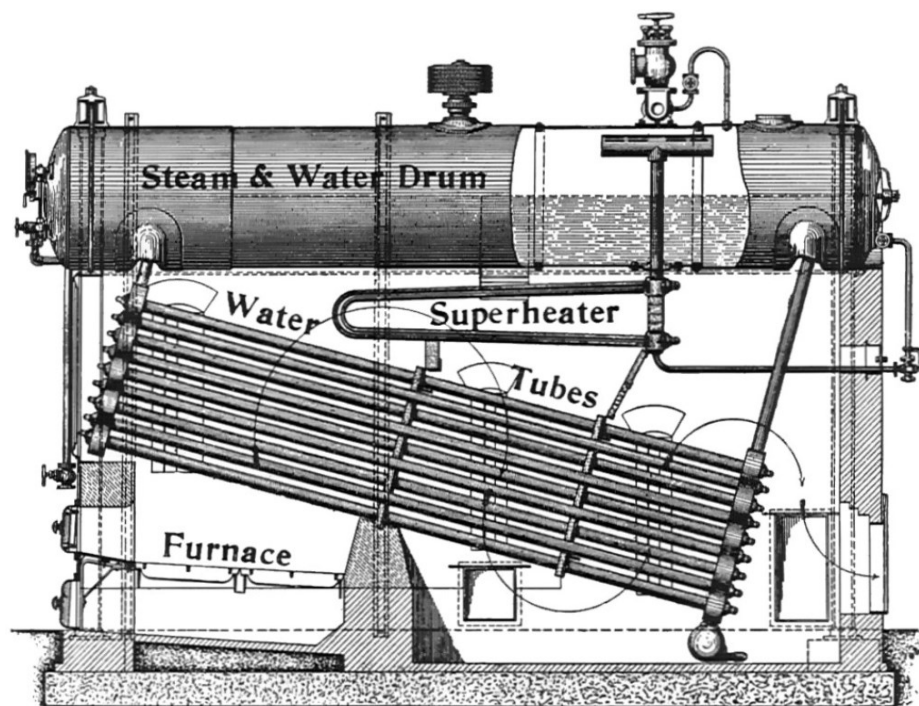


Figure 117: State of the art 1913 Boiler Technology, as per a Babcox & Wilcox boiler section. (Source: Wikicommons, Scan from Prof. William Ripper, Sheffield Univ. d.1937 (1913 edition of 1909 book. Originally published in 1889 as "Steam", but later expanded to cover internal combustion engines and so re-titled.)

¹¹⁶ Pheasey & Batson contracts signed with CoE, 1908, RG-8.13 Contracts – File Numbers 141 & 142.

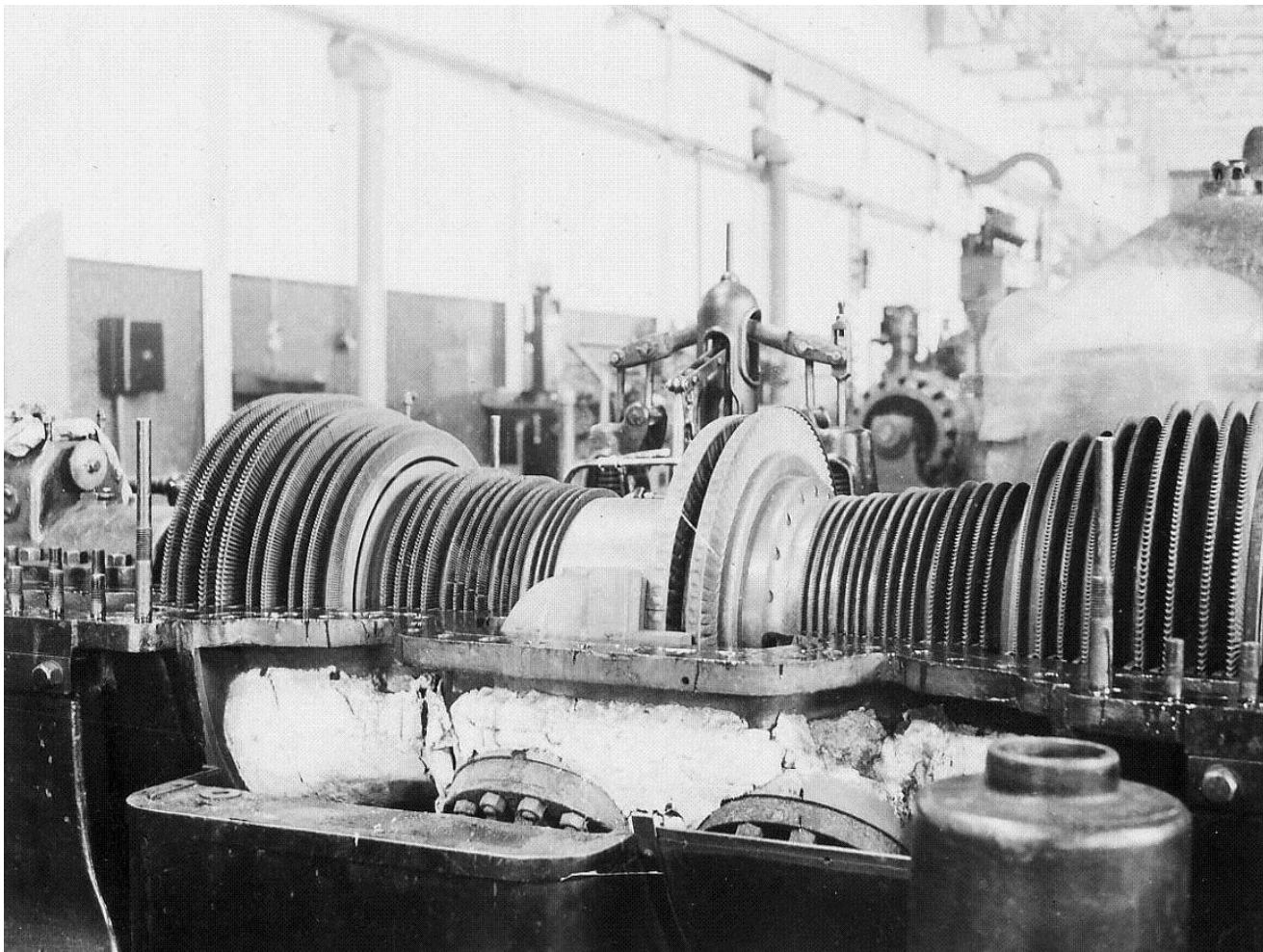


Figure 118: 1911, the first turbine, a 2000kw Westinghouse unit. (Source: EPHF)

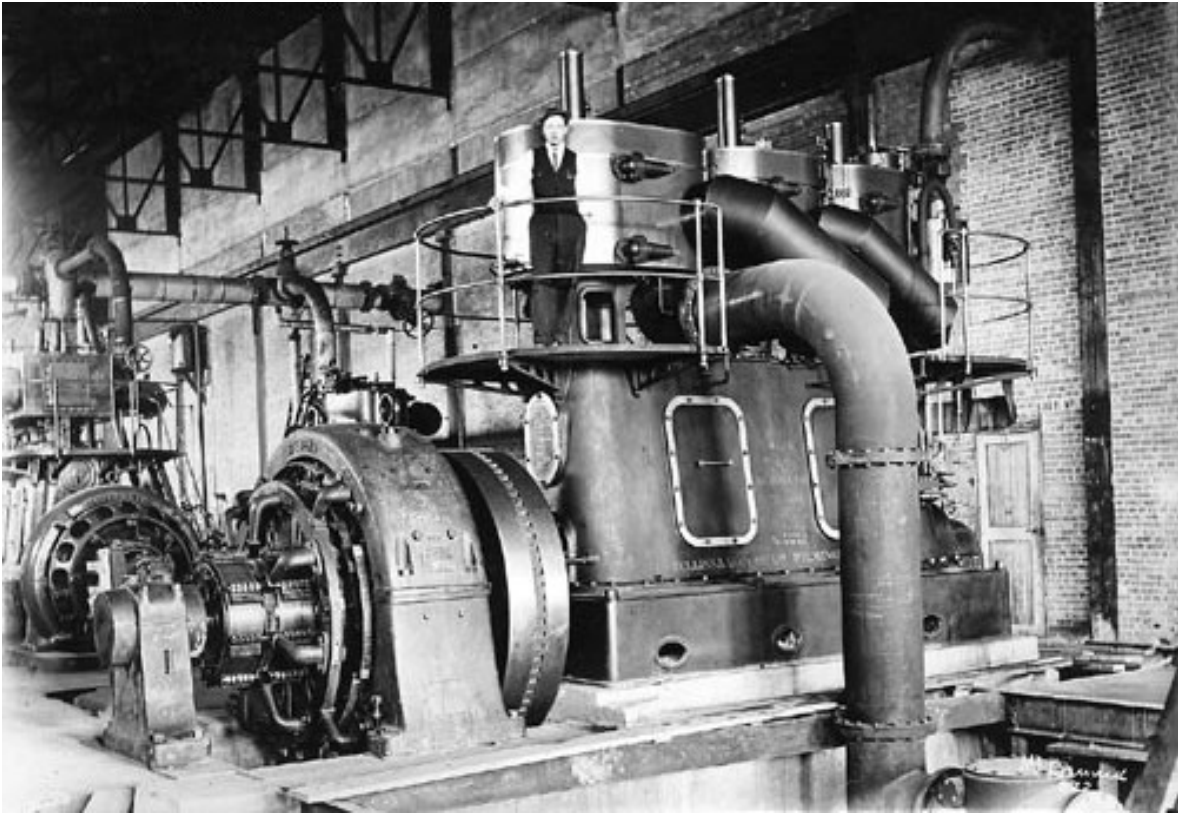


Figure 119: A 1912 view of the interior and a turbine at Rosedale Power Plant. (Source: Glenbow Archives, NC-6-272)



Figure 120: 1913, Detail of the Edmonton Water Works and Electric Light & Power Station from the Chas E. Goad Fire Insurance Map.
(Source: CEA, RG-200-6-1-1913_fip_1-1913_fip_1_93)

As seen in the fire insurance map above, by 1913 the original 1902 Light & Power Station is being called out for demolition, along with its machinery, the space being obsolete in function and size. A set of architectural plans were created for an addition to the power plant were drafted by City Architect Allan M. Jeffers in 1912-13, and again a new power plant foundation in 1914.¹¹⁷ According to Field, the 1914 addition was never constructed after intense citizen engagement on the subject of the power plant and city referendum.¹¹⁸ There was no mention of a 1912 addition in her history, nor in the Marshall and Culbertson *Candles to Kilowatts*. There are however, curiosities associated with the latter and largest addition to this early Edmonton power plant under close analysis of photographic evidence that suggests three periods of additions since 1902, namely 1906, 1908-09, and 1912. Plainly, the plan of this larger later addition does not line up architecturally, in terms of massing, decoration, function, and plan with the confirmed 1908-09 addition.

1912-13

1908-09

¹¹⁷ City of Edmonton, City Architect and Building Inspector's Department Fonds. RG-16 Series 2 – Civic Buildings.

¹¹⁸ Field, 1992, p. 8-9.



Figure 121: >1913 photograph north-westerly exterior view of the power plant, including the Yukon Edmonton Pacific rail spur. Yellow boxes highlight identified date stones as discussed below. (Source: Glenbow Archives, NC-6-271).

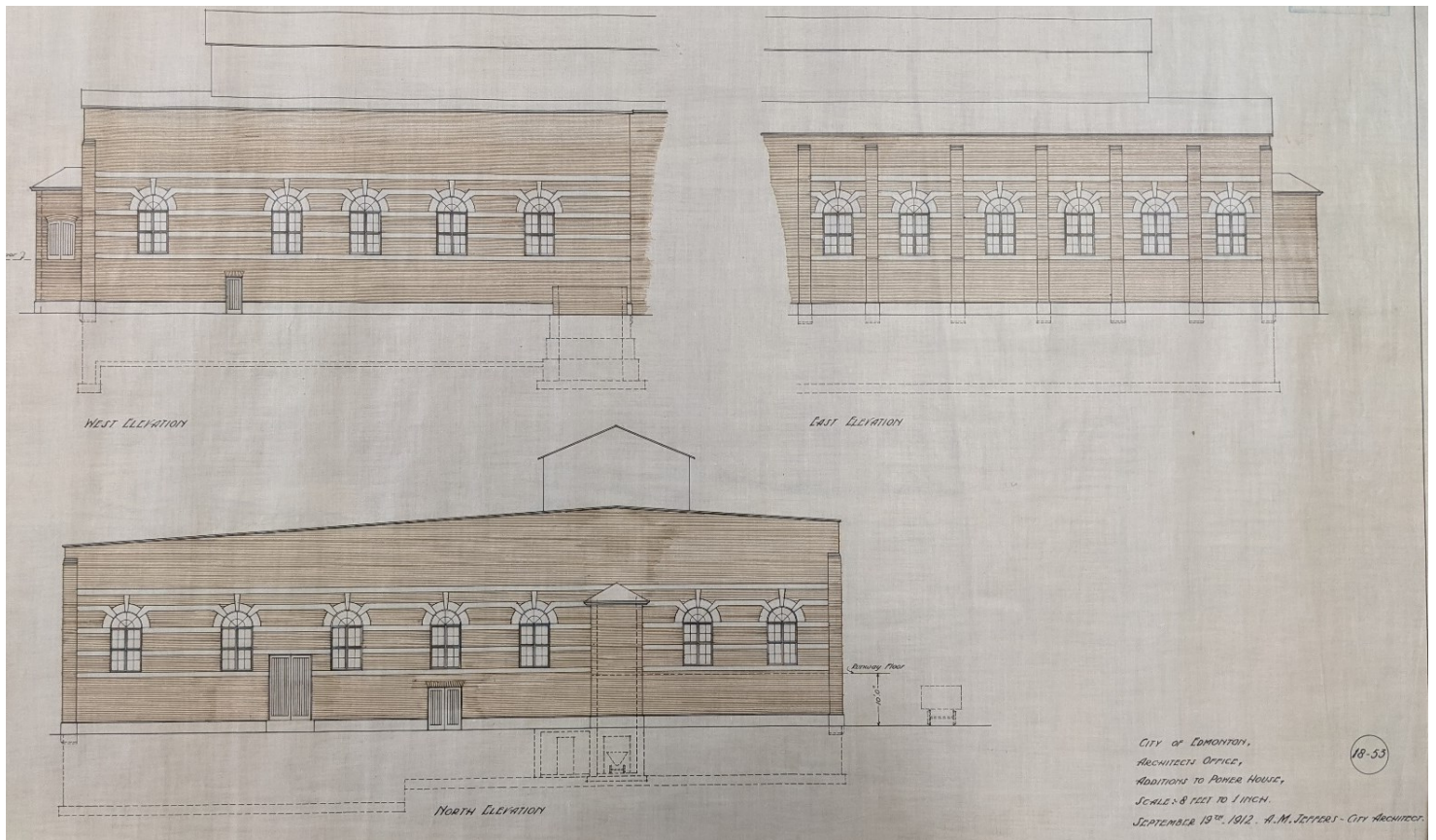


Figure 122: Elevation of the 1912-13 expansion by city architect A.M. Jeffers (Source: CEA, RG-16 Series 2, Box 16 File 211)

Evidence at the Edmonton Archives illustrates that the 16 architectural plans from A.M. Jeffers, drafted in 1912, correspond to this later addition. Architecturally, windows, rooflines, and spacings are in accord with photographic evidence, and the elevations are almost a perfect match (some detailing of decorative features such as stone bandings appear to have been foregone).

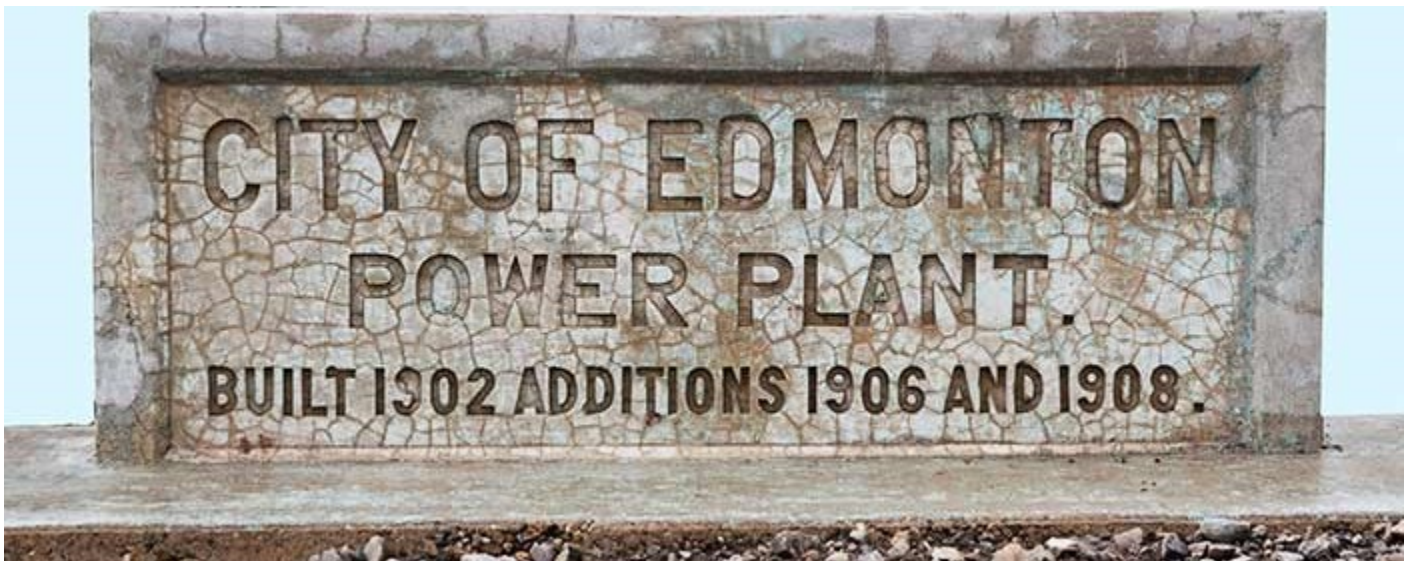


Figure 123: Building date in cast masonry unit, was once mounted upright in Dewar's Low Pressure Power Plant of the 30s-50s. Identified on the west elevation of the 1906 addition. (Source: EPHF)

It is probable that date stones have added to the confusion of exact dating of these building expansions, as construction often begun and finalised a year before or after these pronounced dates, and it appears that no date stone remains from this 1912 extension, if there ever was one. The progression of each expansion offered much more space and was able to house a number of new boilers and generators that the city continues to acquire. Note about this new addition to the historical narrative.

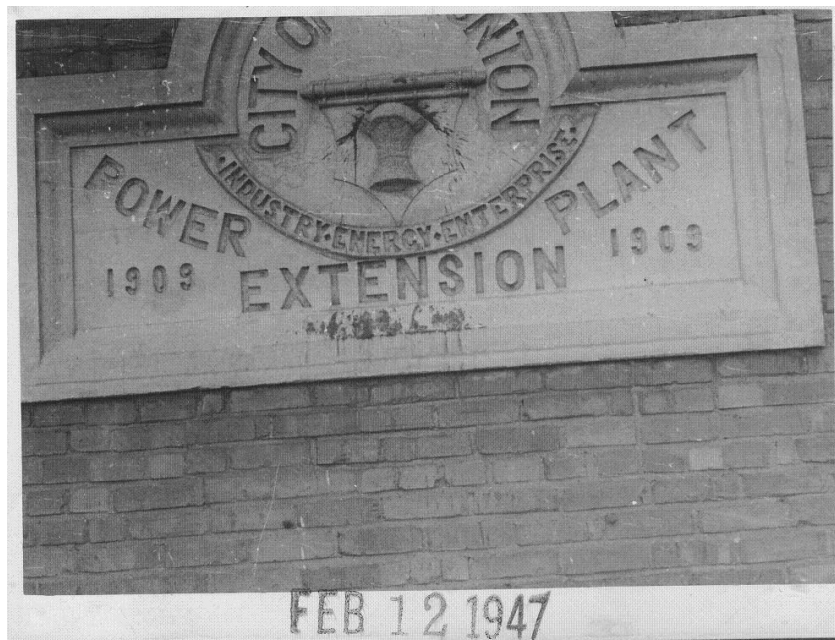


Figure 124: Date stone identified on the west elevation of the 1908-09 plant extension documented during demolition work in 1947. (Source: EPHF)

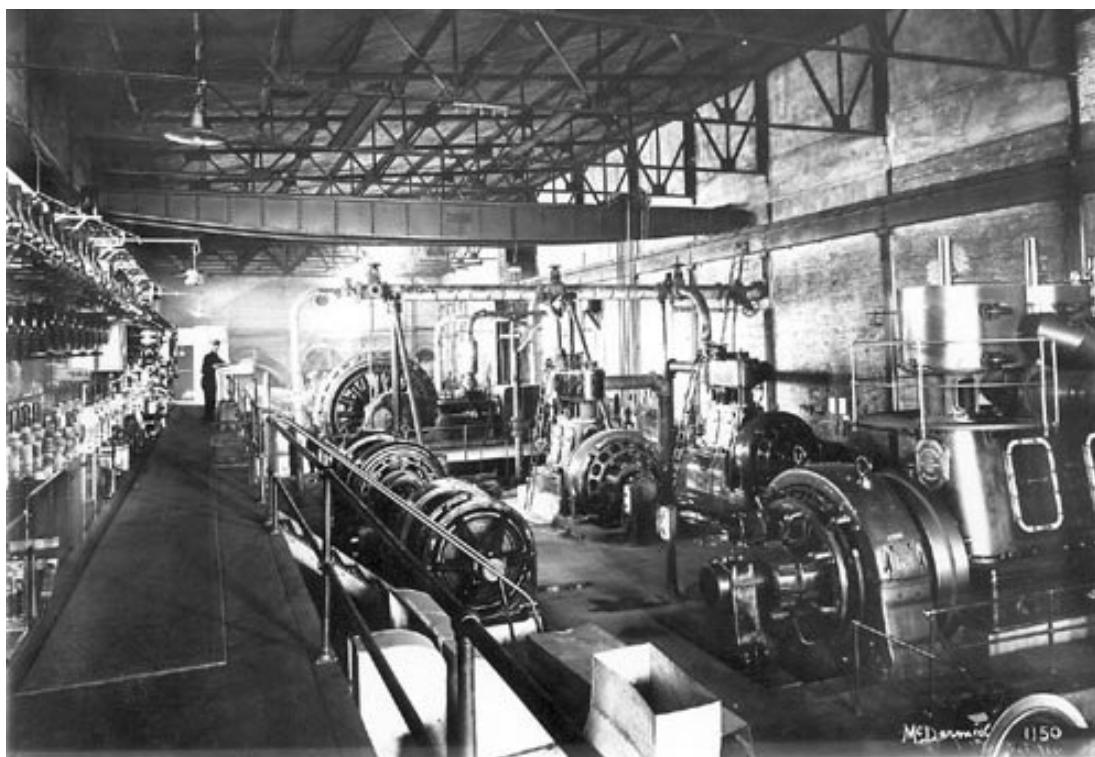


Figure 125: 1914 image of the Machinery Hall, with interior engines, turbine, and generators on the right and switch boards on left. Overhead, the Northern Crane gantry could be used for maintenance. (Source: Glenbow Archives, NC-6-1150)

As alluded to in the introduction, the history of the Rossdale Power Plant cannot be separated from a wider industrial landscape. Operational support goes as far afield as the UK with English made turbines, boilers cast in Galt, Ontario and native Alberta coal that was dug out of the ground by thousands of workers. This wider network is all part of the same system and history. The poor working conditions of coal-miners during the early 20th century was a particularly harsh externalised cost of power production. One coal miner, Joe Cavazzi, submitted the following testimony to the Alberta Coal Commission in 1919:

We have cold weather in this country; sometime around 45 below zero, and the miners get to stand outside there waiting for the fire boss to put the lamp— examine the lamp. The miners have to stay there 15 to 20 minutes in some mines where there's a big crew. It seems to me, speaking humanly, there should be a big room there so the miners can go in and warm themselves instead of stay in the cold weather outside... Some time we have a cave or the lamp run out. Probably fire boss isn't there. Well, anything took place there the miner lose his life, because he ain't no key to open the lamp, but if he has the small lamp in his pocket, just to use for emergency, save his life... There should be in each mine—inside the mine—in every section or two sections a couple of blankets and an ambulance [meaning "stretcher"]...A miner can go there and take the blankets and the ambulance to support that fellow miner that has been hurt. It happened to me in Drumheller field last year, a man be shot and I had to go and take a board—was full of nails—and take the nails out and then carry him out on that board. That should be in the mine in case of accidents, and support men being hurt.¹¹⁹

The Alberta Coal Commission was responding to a general coal strike throughout the province. However, testaments like Cavazzi's often led workers to being blacklisted by all mine owners after the end of organised strikes. Early coal mining was dangerous, cold, dirty, and dark hard work. Donald Ross, the namesake of Rossdale himself had business interests in coal mining, just below 101st Street. The photo below illustrates a worker in 1917 falling a section of coal for Humberstone Coal, another purveyor¹²⁰ of coal for the City, awaiting further mechanical size reduction, grading, and sale above:

¹¹⁹ CEA, EA 600-600I. Quoted from: Finkel, Albert. *The Great Labour Revolt, 1919*. Alberta Labour History Institute, Edmonton: 2019.

¹²⁰ Contract between CoE & Humberstone Coal Co., "1922 Purchase of Coal for Power Plant". RG-8.13, File Number 932.



Figure 126: Coal mining by pick, note the coal truck on rail behind this worker. The working conditions were dangerous and difficult. (Source: Humberstone Fonds. CEA, EB-39-7)

After a brief period of private management by the Alliance Power Company, 1915-1919, the city began further improvements to the neglected plant. From 1921-1922 new machinery was installed such as the 5000kw turbogenerator with a Wheeler condenser, and mechanical grate stokers for the boilers. The leaking roof was replaced, including new light monitors. Thomas Ingram was awarded the contract to construct an addition to the power plant of a transformer and Switch House – providing more space for electrical generation in machinery hall. All of these improvements were accommodated by designs by city architect John Maitland.¹²¹ The city directly purchased their new switching equipment from the Canadian Westinghouse Co. Ltd.¹²²

¹²¹ Maitland, John. *City Architect and Building Inspector's Department Fonds – Series 2, Civic Buildings*. RG-16 Box 17 File 212. 1920-21.

¹²² *Office of the City Clerk, RG-8.13 Contracts*.



Figure 127: By 1923, up to 16 of the plant's boilers were now fed by hoppers and mechanical stokers rather than by manual hand stoking action. (Source: Glenbow Archives, ND-3-1858)

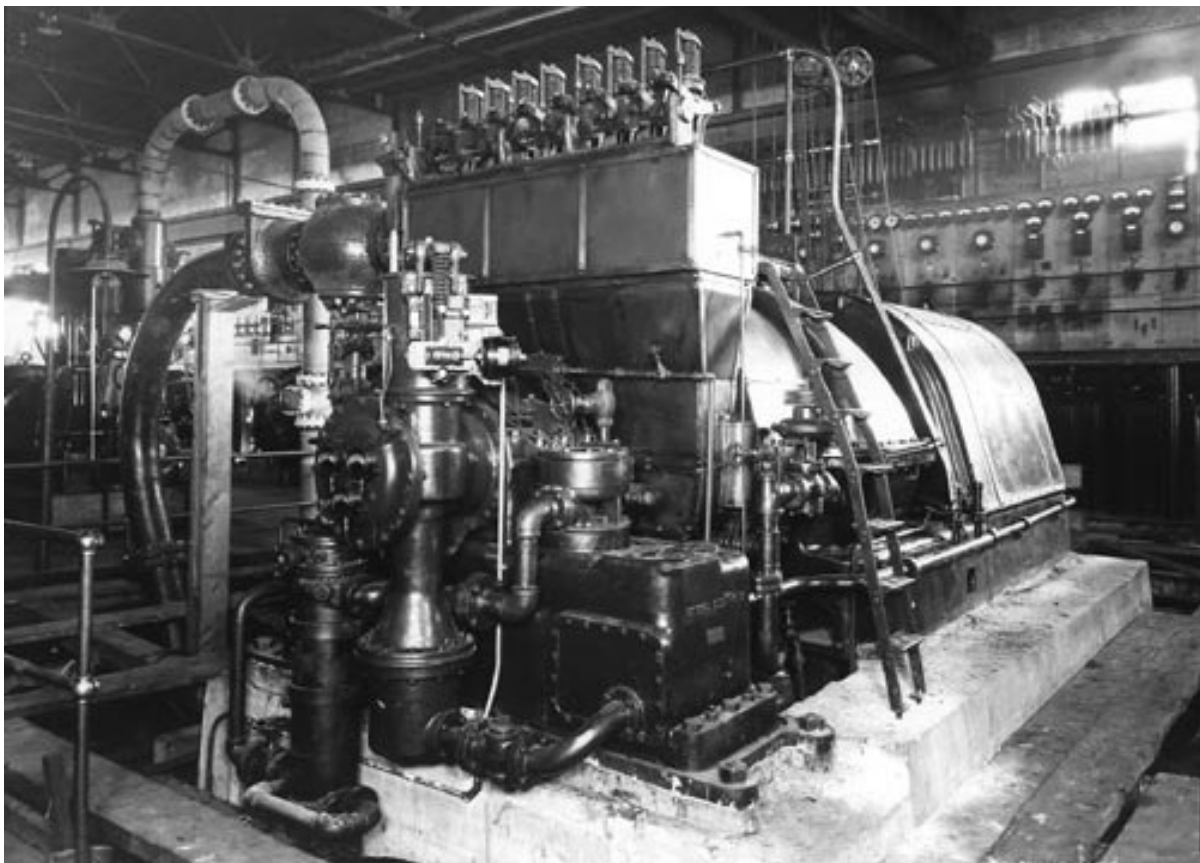


Figure 128: The installed 5000kw General Electric-Curtis turbogenerator in 1921. (Source: Glenbow Archives, ND-3-1398)

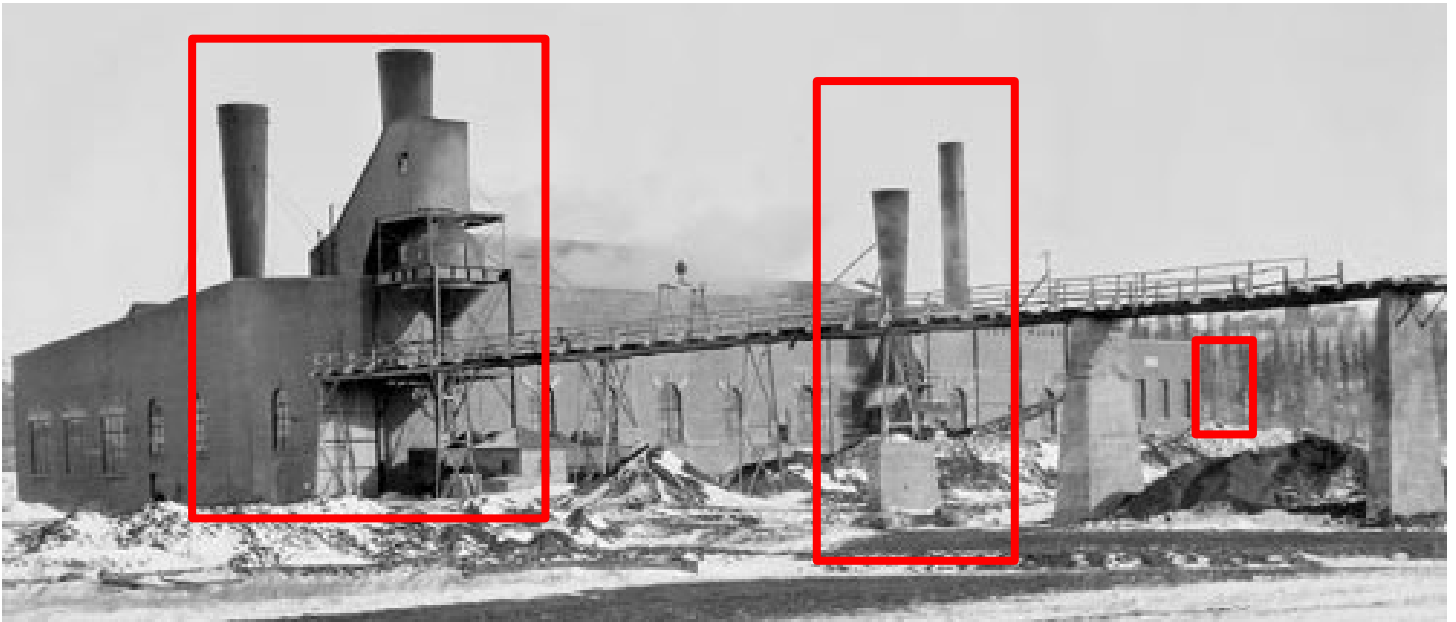


Figure 129: A 1931 north-westerly view of the powerplant exterior, note the increased number of stacks and a coal-dump viaduct and the notable absence of the 1902 Edmonton Light and Water Station, all highlighted in red. (Source: Glenbow Archives ND-3-5714)

By 1928, the continual expansions, alterations, and additions of machinery and space culminated in the 10,000kw Parsons turbine (UK made) – which was later hyperbolised by Premier Manning in the 1953 opening of Dewar’s plant extension, as “the first big turbine in the world of that size to be run at a speed of 3600 rpm”.¹²³ Following this, the Great Depression slowed progress until, and after, the first expansion of Maxwell Dewar’s new programmatic design in 1932.

¹²³ CEA, RG80, Series 3, File 14, A95-100 – Quoted in a speech by Premier Manning of the 1953 opening of the final extension of Dewar’s LPP. If consulting original, please note that some of the early dates quoted by Premier Manning are suspect.

3.3.7 Maxwell Dewar's Low-Pressure Power Plant

This sub-section describes the architect of the Low-Pressure Plant (LPP) before narrative describing the history of both the LPP and Pump House #1 (being associated as an auxiliary support building for the LPPs functioning). It then describes Pump House #2, the Gas Metering Building, and the High Pressure Plant (HPP) as they were contemporaneous in design and function. Finally, the Rossdale Power Plant complex is briefly considered as part of a wider designed campus of utilities, where water and power provision were planned for in tandem.



Figure 130: Portrait of Maxwell Dewar, Date Unknown. (Source: Capital Modern Edmonton Article, 2007)¹²⁴

The architect of the LPP's programmatic design (1932-1954) that is seen today was Maxwell Cameron Dewar (1910-1955). A description of Dewar from the *Biographical Dictionary of Architects in Canada* follows below:

*Dewar was born in Scotland and arrived in Canada about 1926 and served an apprenticeship with **MacDonald & Magoon**, a leading firm of architects in Edmonton. He joined the Alberta Association of Architects in 1931 and worked independently until 1939 when he was hired as Assistant City Architect for Edmonton. Four years later, in 1943, he was appointed Chief Architect for the City, and was responsible for the design and construction of all City-owned buildings until 1949. During his tenure as City Architect, he was elected President of the Alberta Assoc. of Architects*

¹²⁴ Fedori, Marianne & Murray, David. "Overview of the practice of architecture in Edmonton 1930-1969." *Capital Modern Edmonton*. Accessed 2020-10-11 Online At: <http://capitalmodernedmonton.com/essay-david-murray-marianne-fedori/>

and served in that post from 1945 to 1947. He was later nominated as a Fellow of the Royal Architectural Inst. of Canada in 1954.

When Edmonton City Council voted to give a greater share of commissions to private architectural firms in 1949, his position as City Architect was abolished. Dewar then joined in a partnership with the Calgary firm of **Cawston & Stevenson** who remained in Calgary while Dewar operated a branch office of the firm in Edmonton until late 1950. The firm was renamed Dewar, Stevenson & Stanley in 1951, and their most important commission was the striking modernist design of the Edmonton City Hall. Dewar designed this landmark in 1954 and stated in a newspaper interview that his design "...was influenced by the United Nations Building in New York City" (interview and description in *The Lethbridge Herald*, 6 April 1954, 11). The City Hall project was completed in 1957 after the death of Dewar in 1955. Dewar died unexpectedly on 1 April 1955 while conducting an inspection of the MacDonald underground parking garage facility in downtown Edmonton, a project which he had designed (obit. and port. *Edmonton Journal*, 2 April 1955, 1 & 20; obit. *R.A.I.C. Journal*, xxxii, May 1955, 186). After the death of Dewar in 1955, the successor to his practise was Kelvin C. Stanley & Co. Architects.¹²⁵

There is no doubt that Maxwell Dewar was an architect of great local significance to Edmonton.

A list of his works as city architect are as follows:

EDMONTON TELEPHONE BUILDING, 102nd Avenue, major addition, 1945 (C.R., lviii, August 1945, 152; Tim Morawetz, *Art Deco Architecture Across Canada*, 2017, 48, illus. & descrip.)
DELTON ELEMENTARY DISTRICT SCHOOL, 89th Street, for the Edmonton Public School Board, 1946 (C.R., lix, April 1946, 148)
VICTORIA COMPOSITE HIGH SCHOOL, 108th Avenue, for the Edmonton Public School Board, major addition, 1946-47 (C.R., lix, Nov. 1946, 98; *R.A.I.C. Journal*, xxix, April 1952, 102-03, illus.; M.A. Kostek, *Looking Back: A Century of Education in Edmonton Public Schools*, 1982, 107; *Capital Modern - Guide to Edmonton Architecture & Urban Design 1940-1969*, 2007, 133-34, illus. & descrip.)
VIRGINIA PARK PUBLIC SCHOOL, 73rd Street at 109th Avenue, 1946-47 (C.R., lix, Dec. 1946, 74)
EDMONTON CIVIC CENTRE, Master Plan, 101 A Avenue at 100th Street, 1947 (*Edmonton Journal*, 23 Jan. 1947, 9, descrip.; *Red Deer Advocate*, 5 Feb. 1947, 14, descrip.)
EXHIBITION GROUNDS, Stock Pavilion & Sales Arena for the Edmonton Exhibition Assoc., 1947 (C.R., lx, May 1947, 122)

Dewar's works with Dewar, Cawston & Stevenson are listed as below:

(with **C. Davis Goodman**, Montreal) *HOTEL*, for Max Gristall and George Gristall, 1950-51 (C.R., lxiii, April 1950, 128)
ST. STEPHEN'S THEOLOGICAL COLLEGE, major addition, 1950 (C.R., lxiii, May 1950, 138; *R.A.I.C. Journal*, xxx, Oct. 1953, 296, illus.; *Capital Modern - Guide to Edmonton Architecture & Urban Design 1940-1969*, 2007, 81-82, illus. & descrip.)
THE GRAND HOTEL, 103rd Street, major addition, 1950-51 (C.R., lxiii, Sept. 1950, 130-32)
GENERAL STEEL WARES LTD., 120th Street, warehouse, 1950-51 (C.R., lxiii, Sept. 1950, 130)
BAKER MEDICAL CLINIC, 105 Street, 1953; additions 1959 (*Capital Modern - Guide to Edmonton*

¹²⁵ *Biographical Dictionary of Architects in Canada 1800-1950*. "Dewar, Maxwell Cameron." Accessed online 2020-10-6: <http://dictionaryofarchitectsincanada.org/node/2389>.

Architecture & Urban Design 1940-1969, 2007, 59-60, illus. & descrip.)

MACDONALD PARKING GARAGE, located “.....just east of the MacDonald Hotel”, 1954-55 (Lethbridge Herald, 26 June 1954, 19, descrip.)

EDMONTON CITY HALL, designed by Dewar in 1954; built 1955-57; demolished 1989 (R.A.I.C. Journal, xxxv, May 1958, 165-70, illus. & descrip.; Canadian Architect, iii, Oct. 1958, 58-59, illus.; v, May 1960, 48-51, illus. & descrip.; Architectural Review [London], cxxvi, October 1959, 160, illus.; J.M. Richards, New Buildings in The Commonwealth, 1961, 72, illus.; Dr. Hal Kalman, A History of Canadian Architecture, 1994, vol. ii, 809-10, illus. & descrip.)¹²⁶

The styles of architecture that Dewar put forth ranged from classically derived interwar period stripped classicism/transitional Art Deco (as in the Rossdale Power Plant) to Art Deco (Churchill Wire Centre for the Edmonton Telephone Company) and International Modernist (City of Edmonton, Second City Hall 1957) designs. Dorothy Fields highlighted the similarities of Dewar's Rossdale Power Plant in form, structure, and style with Albert Kahn's Ford Plant in Highland Park, Michigan¹²⁷ or the Kaufmann Rubber Plant in Berlin (now, Waterloo), Ontario.



Figure 131: Albert Kahn's Ford plant at Highland Park, Michigan. (Source: Wikipedia, 2020)

¹²⁶ *Biographical Dictionary of Architects in Canada 1800-1950*. "Dewar, Maxwell Cameron." Accessed online 2020-10-6: <http://dictionaryofarchitectsincanada.org/node/2389>.

¹²⁷ Fields, p 19.



Figure 132: Kaufman Rubber Company Ltd., another design of Albert Kahn, but this one in Ontario. (Source: <http://doorsopenwaterlooregion.blogspot.com/2011/10/hundred-years-of-industrial-heritageand.html>)

3.3.7.1 Low Pressure Power Plant & Pump House #1

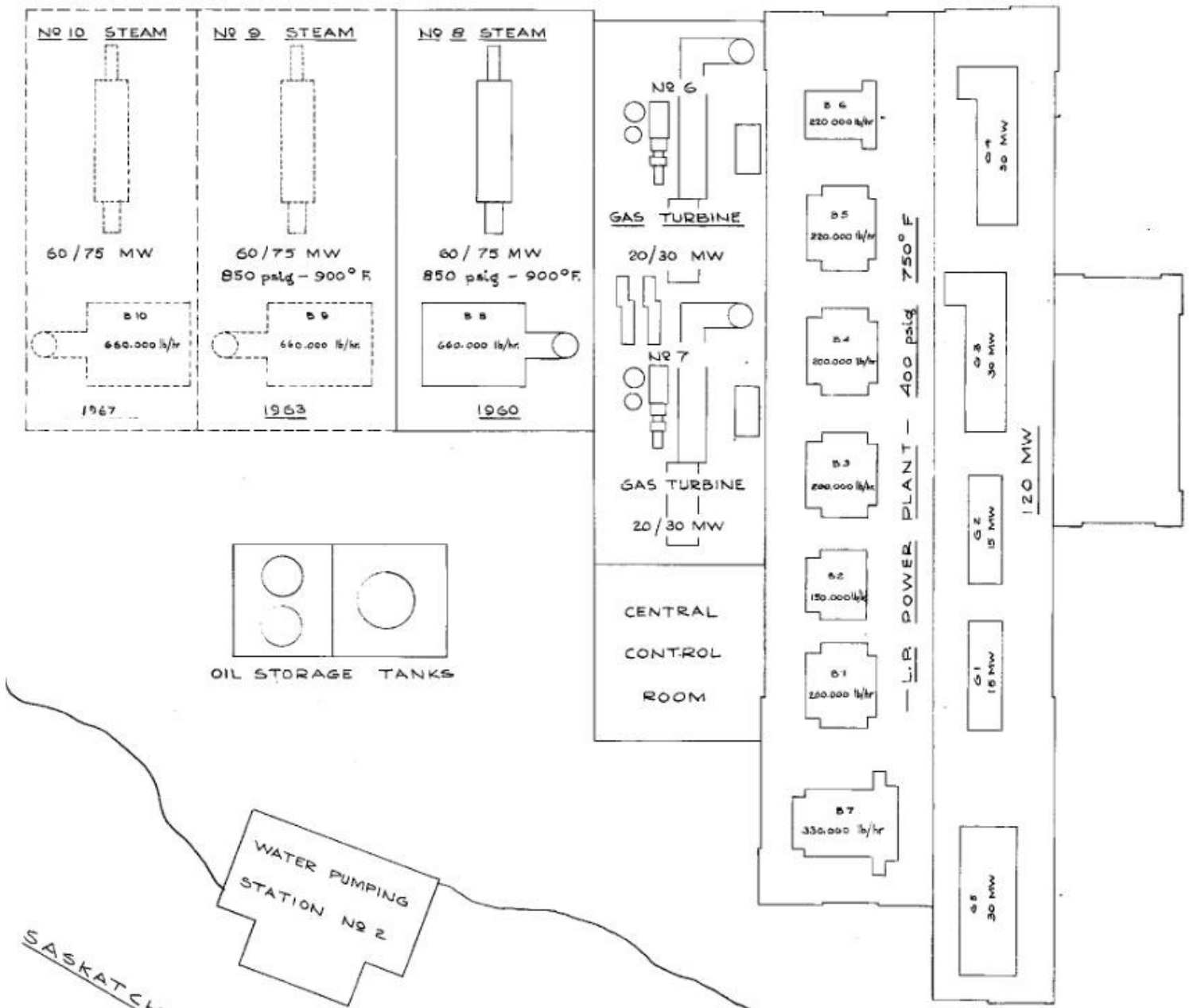


Figure 133: Layout of Power Generation Capacity, 1960. (Source: RGS Drawing Database)

Rosssdale Power Plant Building & Generation Chronology				
Extension Subject Building	Units to be Accommodated / Subject ¹²⁸	Boiler lb/hr ¹²⁹	Turbine kw	Extension Dates
Boiler Hall	Boiler #2 ¹³⁰	86,000lb/hr	N/A	1932

¹²⁸ Installation of machinery units often lagged in time behind the erection of a given structure intended to house that machinery.

¹²⁹ Weight over time is a common engineering expression of how much weight of evaporated steam a boiler can produce in how much time. In the case of Rosssdale, these units were historically conveyed with imperial units of pounds per hour, or lb/hr.

¹³⁰ Although this boiler was built first, it became known as boiler number 2 because of the overall design goal of the plant. However, this was changed as they appended Turbine Unit 5 and Boiler Unit 7 to the south of the 1937 addition.

Turbine Hall & Boiler Hall	Turbine #1, Boiler #1 & #3	155,000lb/hr	15,000kw	1937
Pump House #1	Well Units #1 & #2	N/A	N/A	1938
Turbine Hall & Boiler Hall & Switch House	Turbine # 2, Boiler #3, Switch House Begun	155,000lb/hr	15,000kw	1941
Turbine Hall & Boiler Hall & Switch House	Turbine #3, Boilers #4-5, Switch House Complete	155,000lb/hr	30,000kw	1947
Turbine Hall & Boiler Hall	Turbine #4, Boiler #6	155,000 lb/hr	30,000kw	1952
Turbine Hall & Boiler Hall	Turbine #5 Boiler # 7	155,000 lb/hr	30,000kw	1955
Boiler Hall	Natural Gas Conversion of LPP Boilers	Increased Capacities Depicted In Image Above	N/A	1955
Pump House #2	Well Units #3-5	N/A	N/A	1955
ATCO Gas Metering Building	Square Gas Metering Building	N/A	N/A	1956
Pump House #2 ¹³¹	Well Unit #7	N/A	N/A	1961
ATCO Gas Metering Building	Rectangular Northern Extension	N/A	N/A	1967
HPP	Control Room & Turbine Units #6-7	N/A	30,000kw	1958
HPP	Turbine Unit #8	66,000 lb/hr	75,000kw	1959
HPP	Turbine Unit #9	66,000 lb/hr	75,000kw	<1966
HPP	Turbine Unit #10	66,000 lb/hr	75,000kw	<1970

In 1931 the city made equipment purchases for a 86,000lb/hr boiler from Babcock & Wilcox and Goldie & McCulloch Ltd., stokers, and coal & ash handling equipment from Fairfield Engineering Co., and steel and steelwork from Dominion Bridge Co., to be managed and built by the general contractor C.C. Batson Ltd. As seen in the contract and specifications between Batson and the City, there was an incremental approach to the fulfilling Dewar's vision of the power plant from the beginning, with planned re-use of old bricks and window lights, and construction of temporary wood walls to the north or south to allow for the next expansion.¹³² By beginning with a Boiler Hall the Power Department was able to double the amount of stable pressurised steam for increased power and efficiency of existing machinery/generators. The only easily accessible image one can find of this stage of development is from H. Vincent Foster's painting, likely mistakenly dated to the winter of 1931. However, it does illustrate that it only takes up the footprint of the old gas producing room and part of its engine room from the 1906 addition, leaving the 1908 & 1913 additions intact.

As described in recorded communications about the plant, Superintendent Cunningham intended to contract out the engineering services for the detailed designs and construction of the new power plant from the beginning.¹³³ However, with the Great Depression, output demand slowed drastically, and so to did city funds to execute Dewar's design. Instead, they declined engineering services from private consultants such as William McClellan & Co., Ltd., after advertising for requests for proposals. Instead, the city department under

¹³¹ Location of Well Unit #6 is not clear, but the addition is clearly labelled as Unit 7.

¹³² Cunningham, 1932 & Watson, 1937.

¹³³ Cunningham & City Commissioner. *Edmonton Power Fonds, Communication*. File "Correspondence Re: Machinery at the Power Plant – Power Plant Extension". RG 11 Series 6, Sub-Series 6.2. A73-52 f2 26, class 246, f16. February 1931.

Cunningham focussed on developing design & construction and supervision services in-house, with great cost-savings.¹³⁴



Figure 134: "30C Below, Edmonton Power Plant & Buildings," 1931. Painted by H. Vincent Foster. (Source: CEA, A63-111 EAA-5-3

¹³⁴ Ibid.



Figure 135: A 1939 south-westerly view of Dewar's Boiler Hall exterior. (Source: CEA, EA-802-1)

In 1937, builders H.G. MacDonald constructed Boiler Unit Number 2 & 3, and space for the corresponding 2 new 15,000kw Parsons turbines, although the second turbine did not follow until 1944 as critical parts were sunk by a U-boat somewhere in the North Atlantic as it was making its long trip to Edmonton in 1943.¹³⁵ In 1939, the northern extension of the 1908 plant is still visible with its chimney stacks, and coal and ash handling equipment.

¹³⁵ Field, 11.

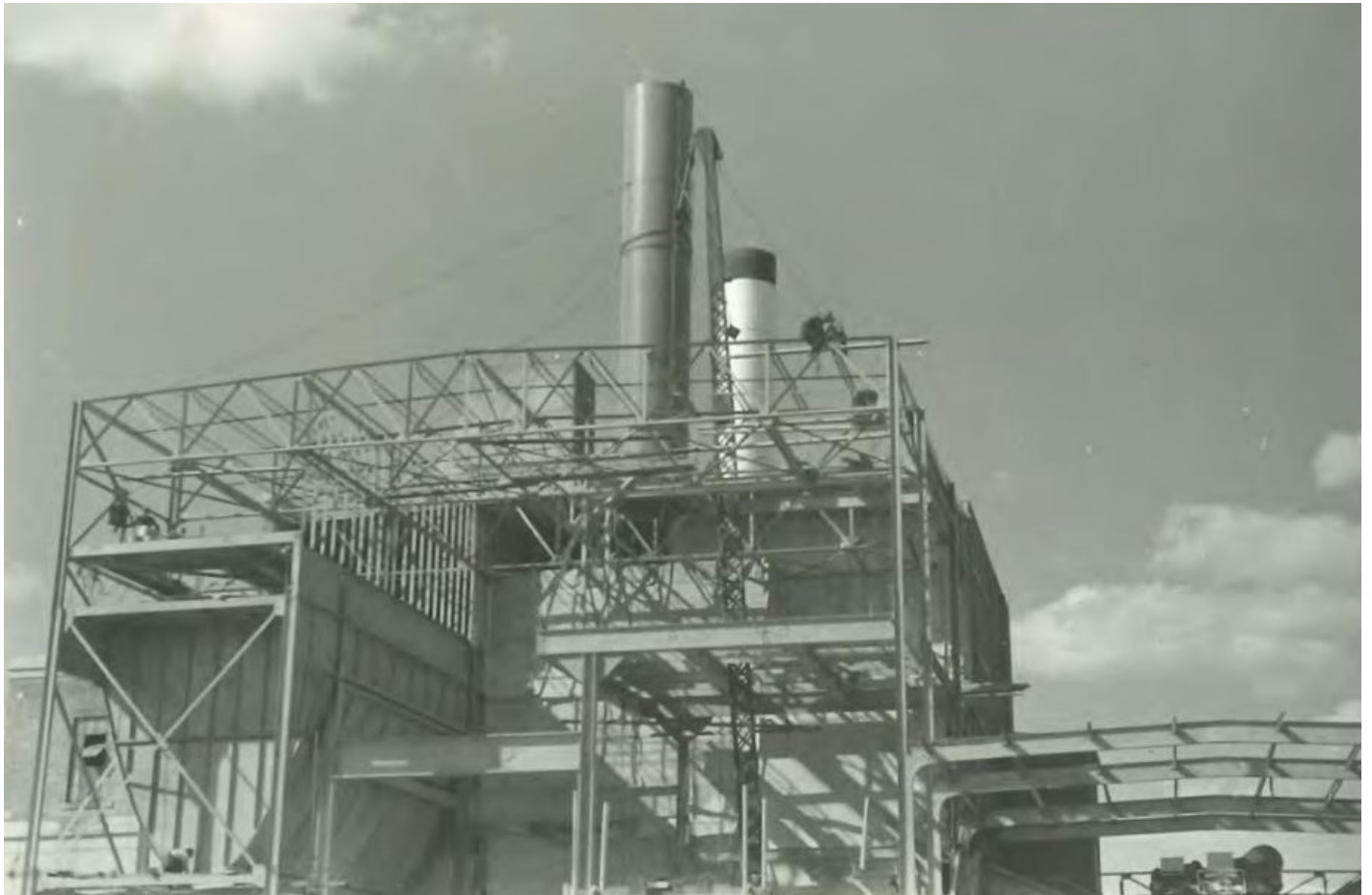


Figure 136: 1938 construction of Boiler #2, and the first bays in Turbine Hall. (Source: River Crossing Business Plan - via the Poole Family Archives (EEP))

With larger turbines and boilers there came a larger requirement for water to convert into pressurised steam. Pump House #1 was designed by engineer John Poole fresh out of engineering school, who used structurally reinforced concrete to meet this end, executed by builders Hulbert & Wilson who won the contract.



Figure 137: Preparing the foundation for Pump House #1 in 1937. (Source: CEA, EB-28-1519)



Figure 138: Pump House #1 nearing completion, and before machinery is installed. (Source: CEA, EB-28-1539)

Building expansions continued on, and the 1941 section, including the first foundations of the Switch House, was constructed by builders Foote & Askew.¹³⁶ Around this time Rossdale Power Plant was also hailed as part of Edmonton's contribution to the "War Effort"¹³⁷, supplying valuable electricity as far afield as munitions plants in southern Alberta at the request of the Canadian and British Governments - but also locally as "airplane construction and repair, and RCAF schools, and 24-hour packing houses," required increasing amounts of power.¹³⁸ However, the burning of all this coal did not go unnoticed by local residents. In 1948, the Rossdale Community League, concerned about their amenities, complained to the city about blackened laundry strung out to dry, doctor's bills for cinders in children's eyes, and unusable rinks. By 1949 discussions were in full swing about boiler conversion to natural gas.¹³⁹

¹³⁶ Fields, 11.

¹³⁷ Ibid., 12.

¹³⁸ Marshall & Culbertson, 2002, 39-42.

¹³⁹ Ibid., 46.

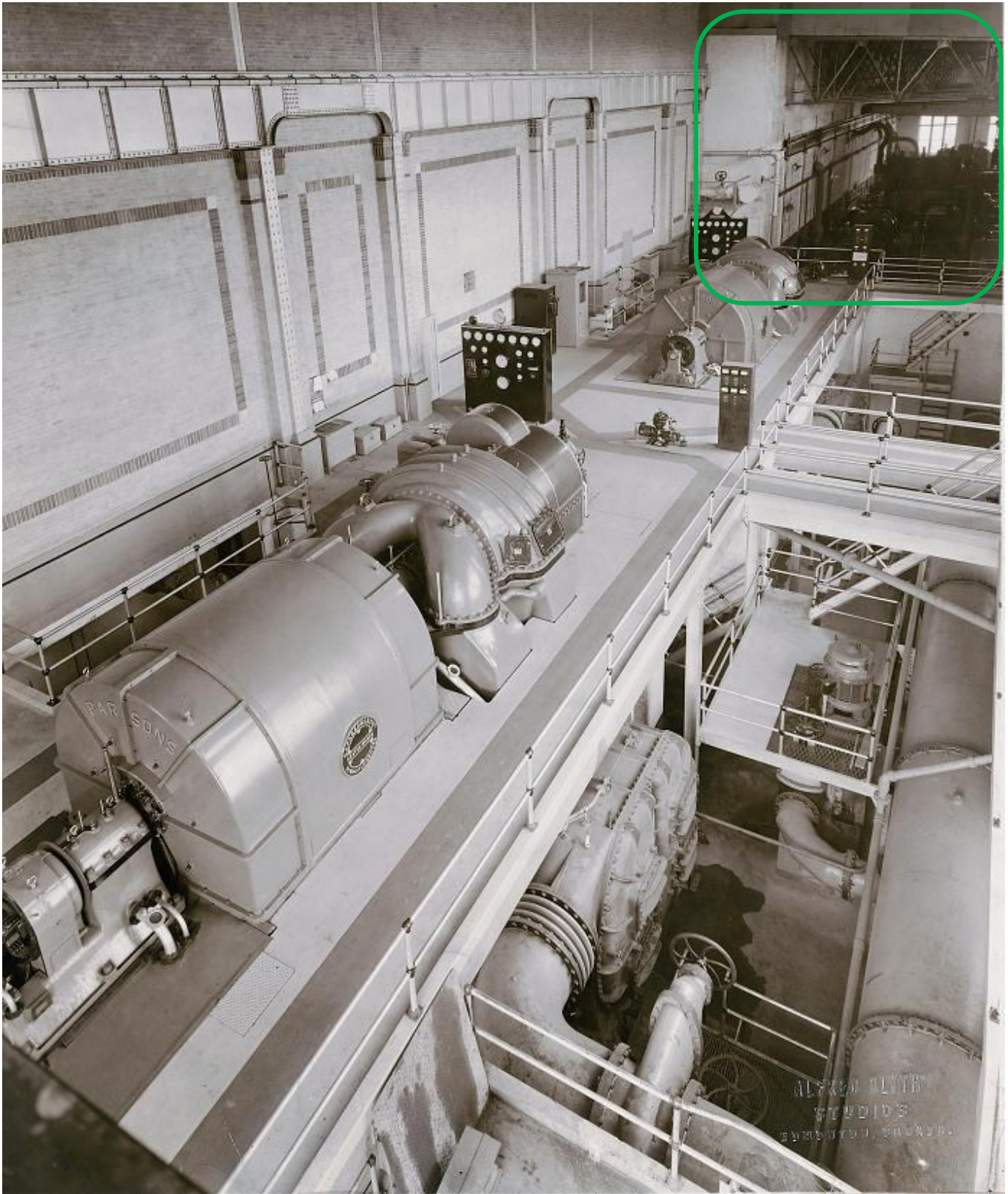


Figure 139: 1944, Turbine hall shortly after installation of the Parsons Turbine #2, including the early machinery hall in the background encircled in green. (Source: EPHF)

By 1949, a first 30,000KW Parsons Turbine was installed along with 2 boilers that were each over double the strength of the 1932 at 155,000 lb/hr each. At this time, the “City Power Plant [... was lauded as the...]”

“Largest of Kind,”¹⁴⁰ in Canada. In 1951, the installation a second 30,000KW turbine and a 200,000 lb/hr boiler was completed along with the conversion of 3 older boilers from coal-firing to gas. In 1953, it was reported that “since the discovery of oil in the vicinity of Edmonton, the load growth in the City has been abnormal. In order to keep up with the demand it has been necessary to accelerate the rate of expansion of future generating facilities.”¹⁴¹ At this time there were 4 gas powered steam generators and 2 coal-fired ones. Peak load in 1945 had more than doubled from 32,100KW to 73,500KW in 1953. This last extension of the Low Pressure Power Plant with its 30,000KW generator and new gas boiler came to a total cost of \$1,775,430, and was opened by Mayor Hawrelak and Premier E.C. Manning along with a number of other industrial power and political luminaries.¹⁴² The three 30mw turbines were not brought online until 1955, 1958, and 1959. The last two being Brown-Boveri gas turbines.



Figure 140: 1948, North Elevation of the Low Pressure Power Plant with the remnant early power plant to the north. (Source: EPHF)

¹⁴⁰ Marshall & Culbertson, 128.

¹⁴¹ CEA, RG80, Series 3, File 14, A95-100.

¹⁴² Ibid.



Figure 141: Demolition of part of the last of the earlier power plant, the 1912-13 extension boiler rooms seen here. (Source: EPHF)

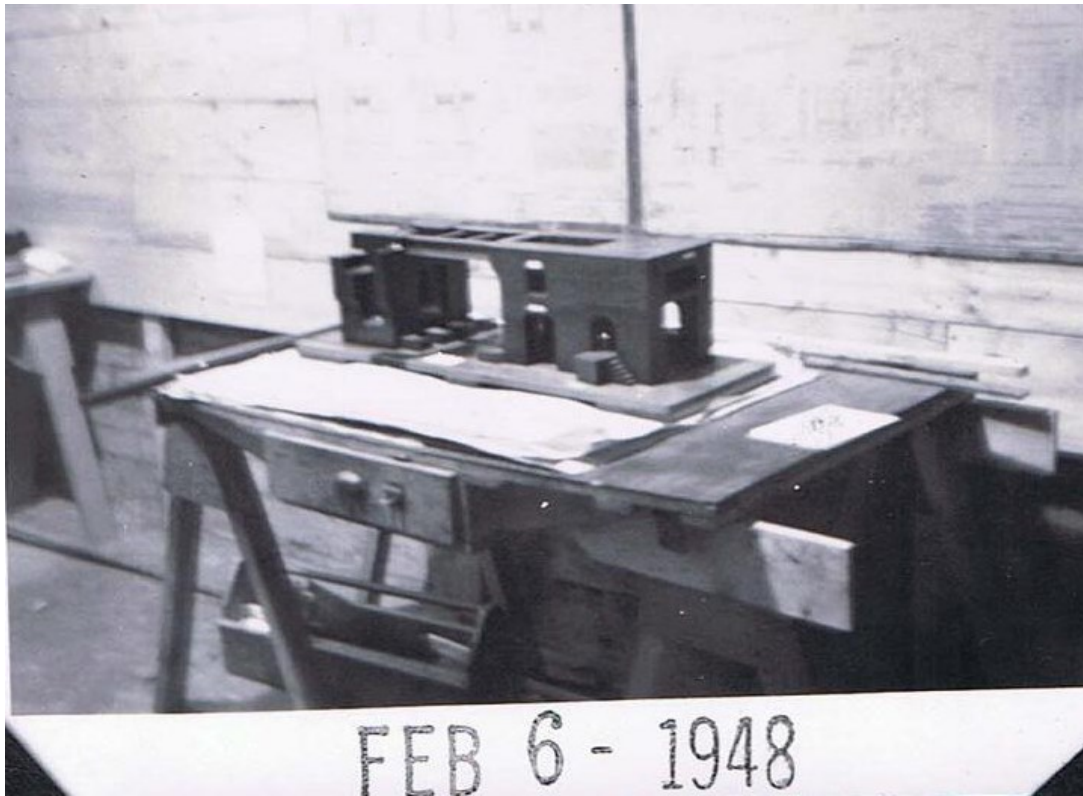


Figure 142: Example of a scaled model of a Turbine-Generator podium, which would also house a condenser below. Model constructed by the Power Plant engineering department. (Source: EPHF)

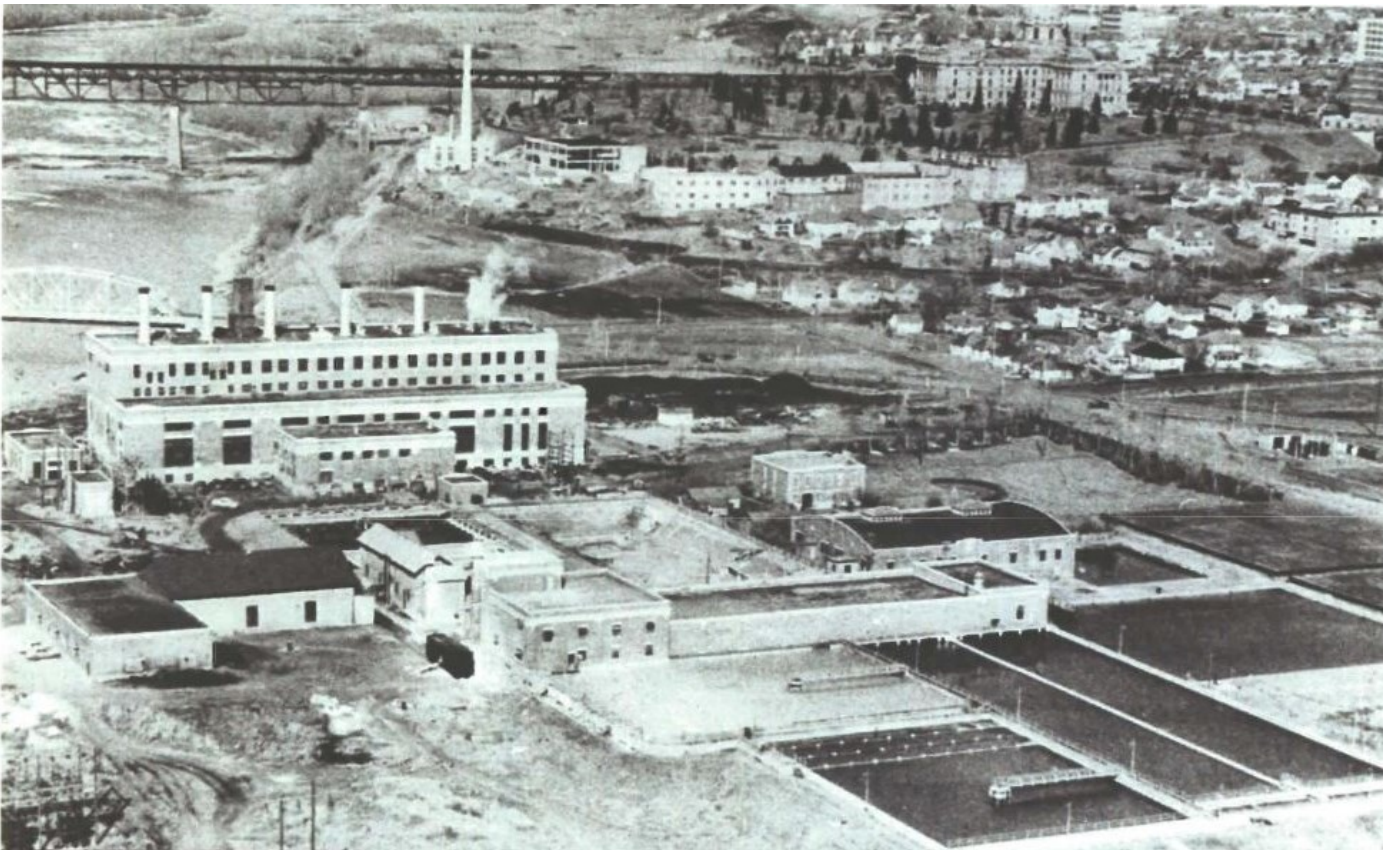


Figure 143: Before 1955, view of the LPP before last southerly expansion. (Source: CEA, EA-33-252)

3.3.7.2 Pump House #2, the Gas Metering Building, & the High Pressure Power Plant (HPP)

Pump House #2 was designed by Kasten & Longworth alongside Prof. I.F. Morrison (1889-1958), their drawings date to 1954 while the building's date stamp is 1955.¹⁴³ During this time period it was still common for university professors to maintain professional practise, and Professor I.F. Morrison was one of these practitioner/teachers from the University of Alberta, who had been a consultant to the City since 1928.¹⁴⁴ A Graduate of MIT, he taught at the University of Alberta since 1920, where he taught for 34 years, even becoming the namesake of a Structures Laboratory there today.¹⁴⁵ Kasten & Longworth provided structural engineering consultation, and Prof. I.F. Morrison was specified by the client to be hired by the consultants.¹⁴⁶ Kasten & Longworth was retained for the period from 1954-1958 to fulfill consultant services supporting:

- 1) *Construction of new Pumping Station.*
- 2) *New extension to Water Treatment Plant.*
- 3) *Power Plant Extension.*¹⁴⁷

As described in the appendix of their contract with the City, a large part of the design came from the in-house City of Edmonton plant engineering staff. The benefit of having long-term employees who knew the needs of the plant meant that much of the design work such as mechanical and electrical requirements could be quickly and accurately sketched out in-house, with a full understanding of future maintenance needs and operational requirements. Equipment for Pump House #2 such as "Pumps, Screens, Sluice Gates, Crane, Electrical Equipment and Piping including valves," were all purchased directly by the City, meaning all mechanical and electrical systems were designed by the City itself. In 1961, Pump House #2 expanded to include an additional travelling water screen and corresponding wet-well, increasing its total number of well units to four.

¹⁴³ EPCOR, RGS Database.

¹⁴⁴ Personal Communication with Bill Eadie, 2020. He never met I.F. Morrison. Also see *Edmonton Journal*. A short biography. Published on 1953-10-29.

¹⁴⁵ *Edmonton Journal*. "His Stamp on Alberta," A retirement editorial. Published on 1954-04-30. & <https://structures.civil.ualberta.ca/research-facilities-2/ifm/>

¹⁴⁶ Kasten & Longworth Ltd. Memo of Agreement – Construction of New Pumping Station. *Office of the City Clerk*, RG-8.13 Contracts. File Number 4360. 14 June 1954.

¹⁴⁷ Ibid.



Figure 144: Operating floor of Pump House #2 while still in operation. Note the similarities in configuration with Pump House #1. Date Unknown. (Source: EPHF)

Like Pump House #2, the HPP, including control room, was structurally designed by Kasten & Longworth, with equipment of “Steam generator, Turbo-generator and all auxiliaries, Steam water and gas piping, Travelling Crane, Electrical Controls and Cables, Transformers and Breakers, Feed pumps,” designed and purchased directly by the City, and their details passed on to the structural engineers to provide for a design that would house that equipment in the buildings they designed. The City architect contributed to the material and aesthetic choices for the HPP façade. The HPP’s turbines were an order of production higher, all three being capable of producing 75,000kw each, for a total of 225,000kw. The HPP turbines were all powered by, and originally designed for, natural gas boilers.



Figure 145: 1959 view of the expanding HPP, unit number 8. (Source: CEA, EA-802-3)

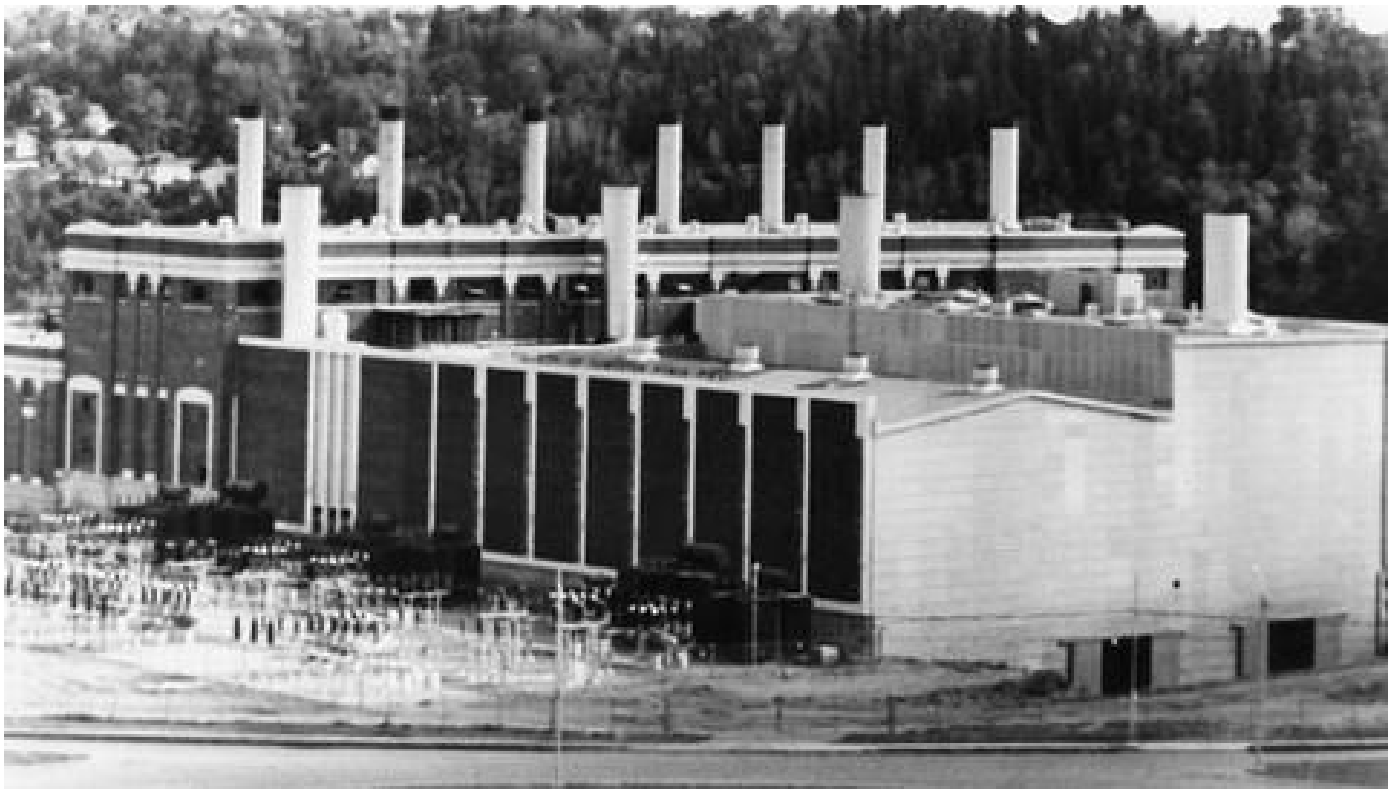


Figure 146: 1966, view of Plant from the north-west, modernist expansion almost complete. Boiler halls located in the background where the stacks are positioned. (Source: CEA, EA-802-4)

In 1967 the City of Edmonton renamed the Edmonton Electric Lighting and Power Company to Edmonton Power.¹⁴⁸

¹⁴⁸ Edmonton Power Fonds. RG-80. Accessed online 2020-09-27 at: <https://cityarchives.edmonton.ca/edmonton-power>



Figure 147: 1970, View of completed HPP Turbine Hall's modern design (Source: CEA, EA-802-5-141)

Engineer Bill Eadie, now partners with Kasten, provided design work to extend the HPPs chimney stacks because its exhaust was obstructing vehicular visibility along the nearby Walterdale Bridge.¹⁴⁹

¹⁴⁹ Eadie, 2020.



Figure 148: 1976, northwest view of completed high pressure power plant with elevated chimney stacks. (Source: CEA, EA-802-6)

3.3.7.3 Rosedale Power Plant as Part of a Wider Campus

It's easy to overlook the water plant on the Rosedale site after in-depth discussion of the Power Plant. In returning to the name of the 1902 plant, the Edmonton Water & Light Station, one begins to remember that these two utilities have been hand-in-hand over years for many practical reasons. For instance, Dewar's Rosedale Power Plant still bears the evidence of pipes that ran condensed steam water to the water filtration plant. They would use water that had been boiled and condensed from turbines, instead of discharging all of it directly back to the river, it would run to the water plant so that they could use warmed water without need of further expenditures to heat river water before purification and distribution.

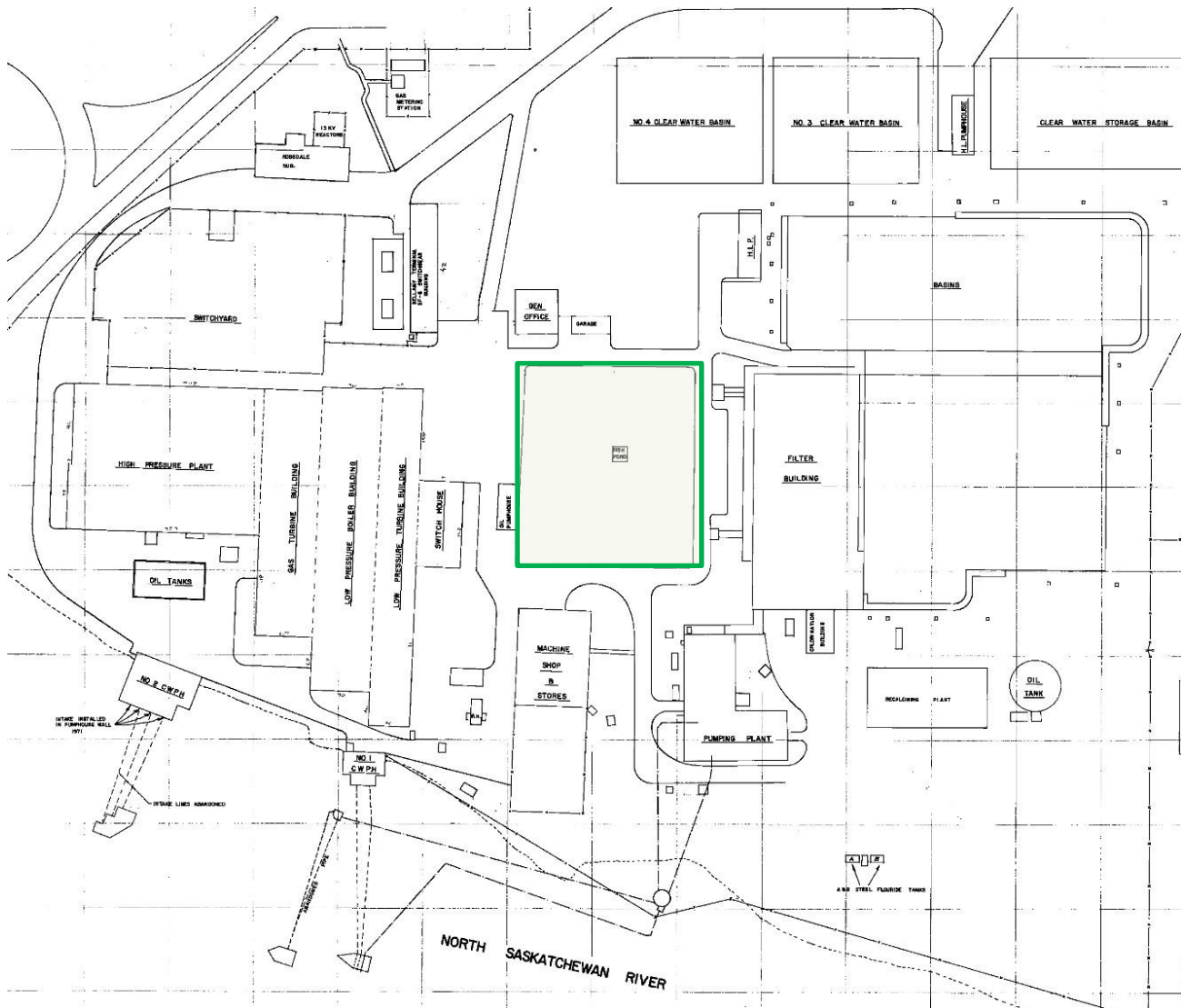


Figure 149: Rossdale General Plant Layout, including the various Water Treatment Buildings (Source, RGS Database - 1979)

Both the Rossdale site plan above, and the aerial photo below depicts the Rossdale water treatment station and power generating facilities as part of one campus. A green square in the plan above highlights what was a green landscaped square between the facilities. At its centre, and as seen in the photo, there is a fish pond. This use of ornamental exterior green space, along with decorative programs of architecture, turns this facility into something more of a planned campus. The building on the east side of this square is the water Filter Building, and the water pools to the east of this are sedimentation basins, where the limey silt carried from the rockies and silica from the North Saskatchewan River valley cuts are left to settle before further purification and distribution. These basins have since been enclosed.



Figure 150: 1980s Aerial view of the site from the west. 1950s addition encircled in red, and the 1940s Dewar design highlighted in green. (Source: CEA, ET-28-302)

Furthermore, the important influence that City of Edmonton Architectural staff working with the Water Treatment and Power Plant staff cannot be overlooked. As previously discussed, the design process of the LPP was largely driven by internal City resources rather than external consultants. This physically manifested in the construction of designs as seen below. For instance, the Water Treatment Plant's Filter Building (1947) is a direct borrowing of the same programmatic design as used in Dewar's design for the Rosedale Power Plant.



Figure 151: A 1980 view of the water treatment plant in the foreground and LPP behind. (Source: CEA, ET-28-303-141)

However, since the enclosure of the settlement ponds, and the addition of a modernist building to its east, the extant views of this building water treatment building has been largely obscured, leaving it with very low integrity. Most other buildings on the campus have also given reference to Dewar's design until the 2010s Water Laboratory facility which was a complete departure.

3.3.8 Designating, Decommissioning, and Re-Imagining the Rossdale Power Plant

From the late 1990s to early 2000s there was a flurry of political activity and public interest in the Rossdale Power Plant that even resulted in court battles surrounding Edmonton Power Corporation's (EPCOR) proposed power expansion at Rossdale that ultimately lead the province to designate the site to save the remaining Maxwell Dewar complex. In May 1995 the Alberta Electrical Utilities Act was passed by the provincial government which deregulated the energy industry. The Edmonton Power Authority became EPCOR Utilities Inc. on January 1st, 1996.¹⁵⁰ While the City retained ownership of EPCOR, it now stood at an arms length away, and became allowed it to pursue expansion of its business to other provinces, and even extending into the United States.

On 25 August 1999, Whiting Architecture submitted a Historic Resources Impact Assessment (HRIA) in support of an EPCOR planned expansion of the Rossdale Power Plant, named RD-11. It would have added one enormous 170,000kw turbine to the site, and Heat Recovery Steam Generator (HRSG), requiring a building at least 105' width x 240' length x 95' height with a 150' tall stack.¹⁵¹ Four options, or configurations, were considered by Stantec who put the technical proposal together for EPCOR, which affected the LPP in various ways. Given the spatial constraints of the site, significant demolition of the LPP would be required no matter which option was chosen. For instance, in all four options, the Switch House would be demolished.¹⁵² The author acknowledged that all four options who have "significant impact on the integrity of the LP Plant," while the Administration building and Pump House #1 would remain unscathed.¹⁵³ WHITING concluded that another design should be considered that would further reduce the impact to the heritage elements of the building.

In October of 2000, Sturgess Architecture and David Murray Architect submitted "A Critique of the Whiting Report – Historical Analysis and Review & A Study of the Architectural and Urban Design Potential for the Inner City Edmonton Power Plant,"¹⁵⁴ to the Alberta Energy & Utility Board. Their study argued that the options tabled by EPCOR via the Whiting report were far too aggressive and did not conserve enough of the LPP. In July 2001 an "Intervention Review," was tabled by HIP Architects, Whiting Architecture, and EllisDon Consulting tabulating cost-benefit analyses of the various options including heritage criteria of Phasing, Historic Character, Witness to Change, and Alterations and Additions.

¹⁵⁰ *Edmonton Power Fonds*. RG-80. Accessed online 2020-09-27 at: <https://cityarchives.edmonton.ca/edmonton-power>

¹⁵¹ Whiting Architecture. *Historic Resource Impact Assessment Rossdale Power Plant*. Report Submitted for Edmonton Power Generation Inc. 1999-08-25. p.27.

¹⁵² *Ibid.*, p30.

¹⁵³ *Ibid.*, p29.

¹⁵⁴ Sturgess Architecture and David Murray Architect. *Rossdale Site and Low Pressure Plant Building*. Submitted to the Alberta Energy + Utility Board. 2000-10.

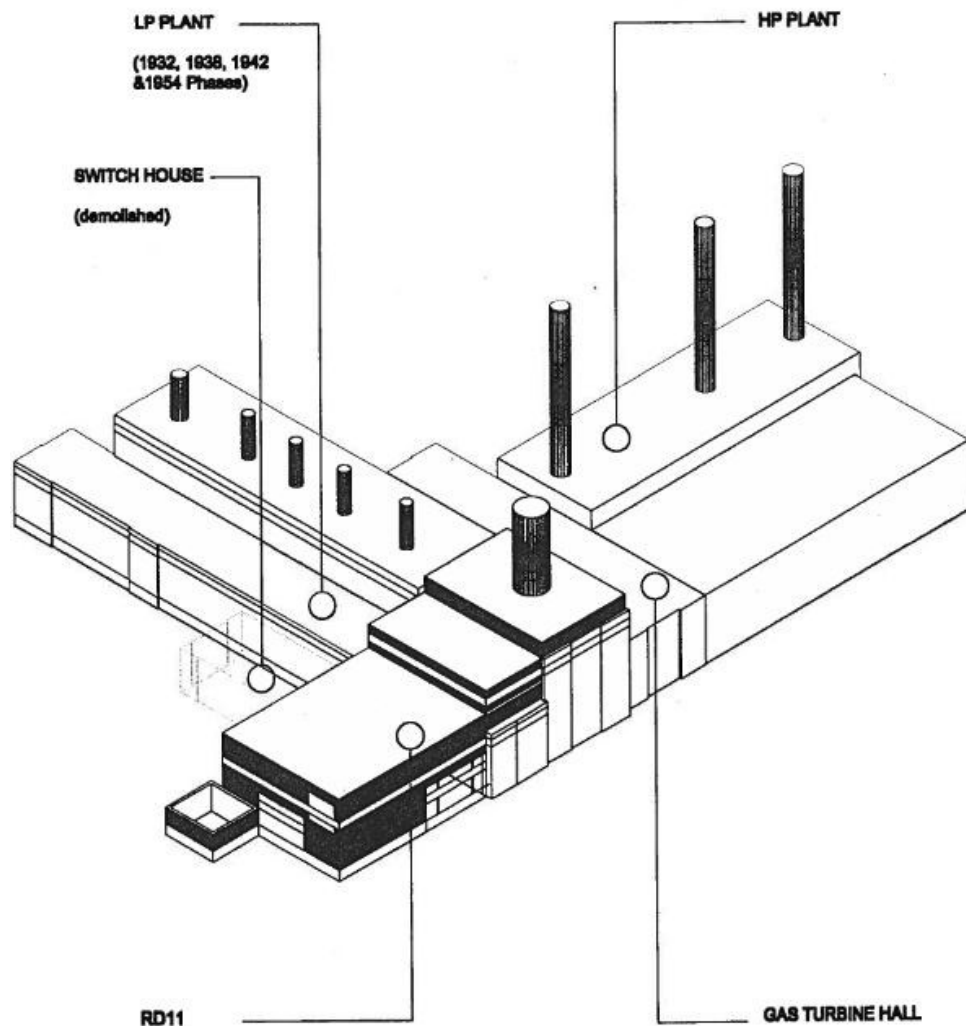


Figure 152: Isometric view from NE of Option 3. (Source: WHITING Architecture, p.67, 1999)

Nevertheless, on 17 October 2001, the site was recognised by the Province of Alberta as a historical site, and along with it, all of the privileges and requirements as per the *Alberta Historic Resources Act*. Larry Pearson's article in *Plan*, "Rosssdale Power Plant A Provincial Historic Resource,"¹⁵⁵ details the Province's response surrounding EPCOR's proposals to reconfigure the LPP & HPP for enormous new turbine units. This furtive period elicited strong public scrutiny surrounding the site, including journalist inquiry, concerned public interest and community groups, and Indigenous communities. Activity outside of public hearings, in newspapers and community groups also increased as human remains were found as associated with the Fort Edmonton Cemetery and Traditional Burial Ground during various archaeological mitigation activities and sensationalised accounts and reactions abounded. The Province's decision to retain protection of the LPP's character defining elements ultimately lead to EPCOR's decision to cease all power development at the Rosssdale site. The designation of this site is one of only three sites in Alberta ever to have been designated against the wishes of its owners.

¹⁵⁵ Pearson, 2003, p.25.



Figure 153: Aerial view of Rosedale Power Plant before HPP decommissioning. (Source: EPHF)

Demolition of the HPP, and abatement of hazardous materials and metal scrapping of machinery and systems occurred in the LPP, occurred from 2010 to 2011 with Stantec as the project's consulting engineers. The aerial photograph above captures the site just before work began. The photo below illustrates the careful dismantling required.

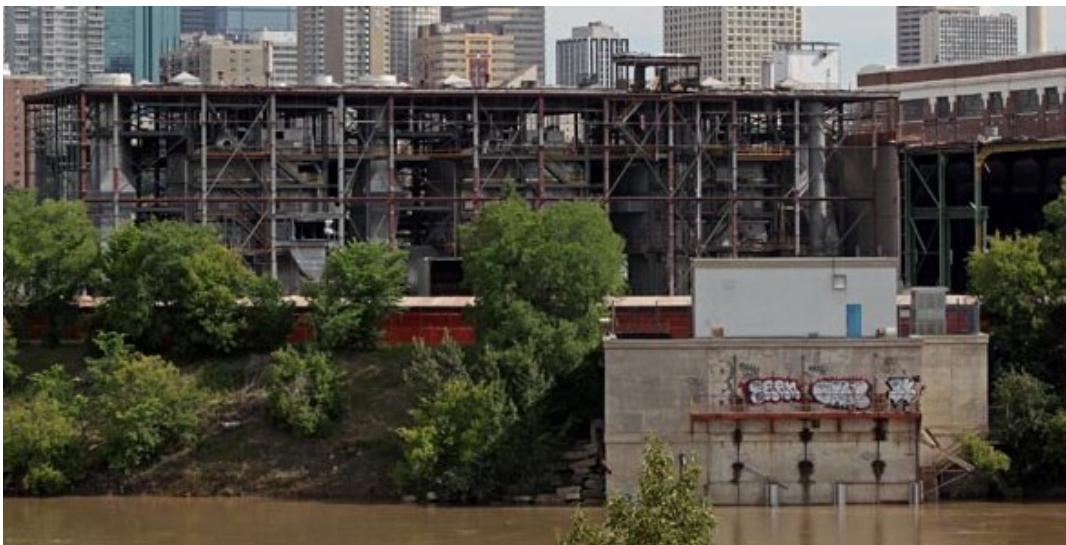


Figure 154: 2011, HPP decommissioning (Source: John Lucas, Edmonton Journal)

By utilising mechanical shears to relieve tension from strategically selected steel members, the demolition project team was able to drastically reduce costs by effectively falling the boilers as one large tree rather than incrementally cutting and falling smaller members like branches.¹⁵⁶ The design of the connection of the HPP to the Boiler Hall meant that there was little damage done to the architectural shell of the Boiler Hall upon demolition of the HPP. Besides from a few isolated spot repairs of brick in-fill, there was little that needed to be done to the LPP because the HPP was simply flashed/tarred up to it.

The interior of the LPP was a different story. A profusion of designated substances (the expected litany of PCBs, Mercury, Lead Paint, and Asbestos insulation) meant that abatement was required. During this process, most of the mechanical and electrical systems, including turbines, boilers, condensers, tanks, and pipes, were removed and handled as scrap metal, with notable exception of Pump House #1, where its original mechanical systems remain relatively intact. A blue coloured dye remains on building fabric as it was sprayed throughout the basements of the Turbine Hall and Boiler Hall during this process, this dye aided in the quick identification of safe and hazardous materials during that abatement.



Figure 155: Turbine hall, Units 3, 4, & 5, before and after decommissioning. (Source: EPHF)

A small number of disassociated mechanical and electrical devices from various periods of Rosedale Power Plant's electrical generating history have been salvaged by the Edmonton Power Historical Foundation and are stored at their interpretive center in Leduc, Alberta.¹⁵⁷

Since decommissioning, the City has commissioned numerous building studies and made a structural reinforcement and roof replacement of the Boiler Hall. Ownership is scheduled for transference to the City in 2021. As previously highlighted in this report, the City envisions the adaptive re-use of the LPP, Pump House

¹⁵⁶ Wagner, Personal Communication, 2020.

¹⁵⁷ Edmonton Power Historical Foundation. Accessed online 2020-08-27 at <https://www.ephf.ca/>

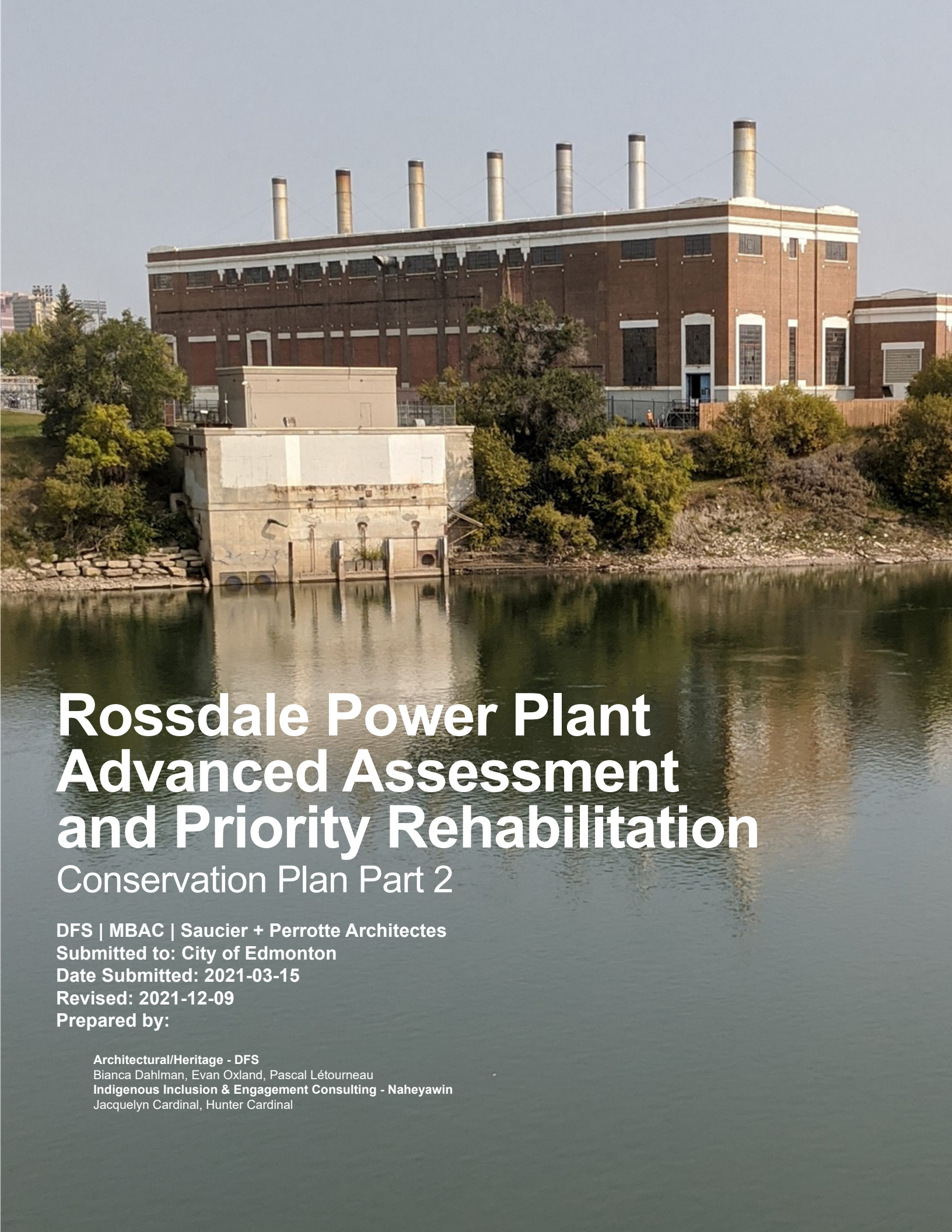
#1, and Pump House #2 to be engaging, fun, informative, interesting, and diverse public spaces ranging from green space for relaxation, opportunities to interact with the river, with opportunities for both arts & cultural heritage uses alongside mixed commercial.



Figure 156: Image of a reimagined landscape and re-purposed buildings at Rosedale. (Source: River Crossing Business Plan)

The neighbouring Fort Edmonton Cemetery / Traditional Burial Ground has also been developed as memorial site, a result of lengthy consultation, and construction being completed in 2007. The site has also gripped the imagination of students, and novel works at the graduate level that have considered adaptive re-use and interpretation of Rosedale Power Plant include:

Title	Author	Program Type	Year
Development of a Public Place: Rosedale Power Plant Building; Collaborative Placemaking Using Virtual Reality	Reyhaneh Alizadeh	Master of Design, Industrial Design	2019
Pehonan Fort-Des-Prairies The Flats Rosedale Urban Design for Heritage Interpretation in Edmonton	Alix Christine Krahn	Master of Science, Planning	2017
Generating an Oasis: Architecture of Climatic Engagement for a Northern City	Michael Zabinski	Master of Architecture	2014
Sacred Landscape: Division and Convergence Between Past and Progress	Teague A. McCrae	Master of Architecture	2013

A large, multi-story brick industrial building with several tall, cylindrical smokestacks on its roof. The building is situated on a grassy bank overlooking a body of water. In the foreground, there is a concrete structure with some equipment, possibly part of the power plant's infrastructure. The water reflects the building and the sky.

Rossdale Power Plant Advanced Assessment and Priority Rehabilitation Conservation Plan Part 2

DFS | MBAC | Saucier + Perrotte Architectes

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4.0 Building & Site Significance

This section describes the understanding of significance of the Rossdale Power Plant site as identified with the benefit of the preceding Section 3. The understanding of the significance of a historic place is established by criteria from municipal and provincial governments, which in the case of Rossdale, is in alignment with the National, Provincial, and Territorial Framework for Heritage Places, as per the *Standards & Guidelines for the Conservation of Historic Places in Canada*.

4.1 Assessment Criteria

Identification of site values, or significance, is derived from site history and community consultations as described in the preceding sections. This information needs to be compared to objective criteria to establish the notion of significance. The criteria used in the evaluation of significance varies between jurisdictions throughout the world. Edmonton's Municipal and Alberta's Provincial criteria are aligned (although there are slight subtleties in the difference between an MHR and PHR criterion based on wider regional significance versus local significance). The identification of significance becomes critical in Character Defining Elements of the resource for the latter portions of this Conservation Plan, which in turn help define opportunities and limitations of the future development of a historic resource – including site conservation, rehabilitation, and adaptive reuse.

Municipal / Provincial Criteria of Historic Place Evaluation¹	
1) Age: Rossdale Power Plant and Pump House #1, and Pump House #2 are older than 50 years, and thus meet the minimum age requirement.	
2) Significance: Rossdale Power Plant and Pump House #1 & #2 fulfill one or more of the criteria as described below.	
3) Integrity: Rossdale Power Plant and Pump House #1 & #2 retain the qualities that distinguish it as a significant resource, both in terms of material and historic character. The province does not recognise “degrees” of integrity, either the historic resource possesses it fully or lacks it, however the municipality does make allowances for it.	
Municipal / Provincial Historic Criteria for Significance²	
Criteria	Significance
A) Theme/Activity/Cultural Practice/Event	A historic resource directly associated with one or more of the listed criteria that have made a “significant contribution to our broad pattern of history.”
B) Institution/Person	A historic resource “directly associated with significant institutions or the lives of significant persons in the past.”
C) Design/Style/Construction	Resources that embody distinctive characteristics of a type, style, period or method of construction; represent the work of a master; possess high artistic values; or present a significant and distinguishing entity even though the components may lack individual distinction.
D) Information Potential	These resources have yielded or may be likely to yield information that is important in history, prehistory or natural history.
E) Landmark/Symbolic Value	A historic resource “particularly prominent or conspicuous; have acquired special visual, sentimental or symbolic value that transcends their function or contribute to the distinctive character of the province or a region of the province.”

¹ <https://open.alberta.ca/dataset/cc425c76-ca13-48a4-a46d-7957bd085250/resource/62c1e271-05e7-434f-acea-560352ba9fd6/download/7029261-2010-managing-historic-places-protection-stewardship-your-local-heritage.pdf>

² Ibid.

4.2 Identification of Values

The city has requested an updated Statement of Significance, with an emphasis on local value, to serve as a draft municipal basis for listing. Pump House #2 and the Switch House is included in this draft. The draft Statement of Significance follows a re-evaluation of criterion of significance, and the existing criteria are used as the basis of this, as below:³

Criteria of Significance	Description of Supporting Values
A) Theme/Activity/Cultural Practice/Event	Date of Construction: The extant iteration of Rosssdale Power Plant, including the Pump House #1 & #2 was primarily constructed in the 1930-1958 period. The Low Pressure Plant buildings were designed to be expanded over time. Though the final dimensions of the Power Plant may have exceeded those originally foreseen, all parts of the structure are consistent in accordance with the style of the first section of the building.
	Event: This building has a long association with events of great continuing interest and importance to residents of Edmonton. Any event associated with the Power Plant inevitably found its way into the newspapers, whether it was construction projects, labour disputes, new equipment, controversies surrounding public and private ownership and management, City Council debates, or statistics on increased output and consumption. Questions related to the plant occupied many hours of Council debate, it was a source of civic pride, and was seen as a major component in the city's "War Effort" between 1939 and 1945.
	Industrialised River Valley: The use of the river valley as an area for industrial development is consistent with, and idiomatic of, historic local land-use during the early to mid-twentieth century. This includes the relict industrial landscape which is physically made of historic concrete, bricks, and the coal-ash composition river's edge.
	Rosssdale Flats as Gathering Place: For numerous Indigenous and Metis peoples, the Rosssdale flats is a powerful meeting place. It has included long traditions of ceremonies, celebrations, meetings, trade, dance, games, and evidence of campsites for at least the past 10,000 years. ⁴ The site also has sacred dimensions, including associations with the Traditional Burial Grounds and Fort Edmonton Cemetery. Because of the associations between the Traditional Burial Grounds and Fort Edmonton Cemetery, Rosssdale Power Plant, Fur Trading Posts, and the discovery of human remains on the Rosssdale Power Plants site-bounds, in conjunction with the millennial old history of habitation, there is a deep Indigenous connection to the site (an arbitrary Eurocentric delineation), and the area more broadly.
	Fur-Trading Era: Rosssdale is associated with HBC and NWC fur trading posts (specifically Forts Edmonton IV & Fort Augustus IV) at the turn of the 19th century, parts of which were positioned directly underneath the

³ Field, 1992.

⁴ https://www.youtube.com/watch?v=KB1A7D_ha1c

	power plant. In addition, the historic shoreline along Rossdale Power Plant was a landing zone for trading York boats and canoes. Development and Impacts of Power Generation Technology: The Rossdale Plant was the only electrical facility in Edmonton until 1970, when it generated one quarter of Alberta's power.⁵ Exemplary of technology's rapid adaptation, proliferation, and obsolescence from the 1900s to the 1990s⁶ including the extant electrical and mechanical systems associated with power production is demonstrated by the building evolution over time. The Rossdale Power Plant is representative of the importance of power provision during 20th century life, particularly in terms of social and economic reliance and effects, but also contributing to national wartime efforts during World War II. Development of power includes obsolescence and growth of the power plant, change of machinery and functions over time, which is evidenced by the markings of the changing utility of space, operations, and machinery through the passage of time – this extends to evidence of plant decommissioning. Increased Responsibility of Government:⁷ The 20th Century has witnessed the rapid expansion of government into new territory. Municipally owned power production is a fine example of this as the growing city of Edmonton became increasingly reliant on its electrical utility reflecting demographic, economic and political trends and events which shaped Edmonton's history; in spite of the long period of its construction, the plant emerged as an organized, unified structure – evidence of a strong vision and a sustained plan of expansion.
B) Institution/Person	Associative Value with Institutions: 1) Association with the City Architects / Plant Staff (Architects, Engineers, & Superintendents) who oversaw, likely influenced, and ensured the continuity, of Dewar's programmatic design over time – even using it for the basis of other buildings seen in various water treatment facilities nearby. The City was also responsible for detailed designs of the mechanical and electrical systems held within the Rossdale Power Plant buildings– and the detailing of the now demolished High Pressure Plant's architectural façade. 2) Association with Edmonton's City Power Department, Canada's largest and longest lasting municipally owned and operated power generation company (ultimately becoming EPCOR), who extended Dewar's design to the wider utility campus that included facilities for Edmonton's water provision. Also, interrelation between Rossdale Power Plant and neighbouring Water Treatment systems. The Water Treatment Plant receiving post-boiled, warmed, river water directly from the LPP. 3) Association with the Edmonton Electric Light and Power Company (1891-1901) who began public electricity provision in Edmonton. Associative Value with Individual(s):

⁵ https://www.edmonton.ca/projects_plans/communities_neighbourhoods/west_rossdale/rossdale-power-plant-history.aspx

⁶ Getty, 20th Century Thematic Framework of Heritage, p.8.

⁷ Getty, 20th Century Thematic Framework of Heritage, p.5.

	4) Association of the LPP with Architect Maxwell Dewar, who detailed the LPP's programmatic design, at least in part. He was a prominent Alberta architect employed by the Power Plant in the 1930s, he later served as City Architect for Edmonton, and went on to a successful career in private practise. He was also president of the Alberta Association of Architects for at least two terms. 5) Prominent contracting firms worked on the various phases of its construction including builders C.C Batson, H.G. MacDonald, Dominion Structural Steel, Foote & Askew, Poole Construction Limited, among others. 6) Association of Pump House #1 with engineer John Poole and its builders Hulbert & Wilson. 7) Association with local engineers Kasten & Longworth & University of Alberta's Professor I.F. Morrison who were responsible for the structural designs of Pump House #2, the now demolished HPP, and the extant Gas Metering Building. 8) Until 1968, Edmonton's municipally owned electrical utility consisted only of the Rossdale Power Plant. As such, it was associated with the city's Mayors, Commissioners, and Councils since it was established in 1902. Persons and groups of both primary and secondary importance have been loosely connected with this structure throughout its history.
C) Design/Style/Construction	Architecture: 1) Design: The Interwar period stripped classicism industrial design of the Rossdale Power Plant reflects the period in which it was conceived. That is, it is consistent with the period of the late 1920s and early 1930s. This was a transitional period in Edmonton, when both classical and Victorian architecture were on the wane, but neither the Art Deco nor Moderne styles had been established. The models for this building are found in such ground-breaking industrial and factory designs as those of Albert Kahn's Kaufman Rubber Factory in Waterloo, ON & the Ford Highland Park Plant in Detroit, MI. It is the largest example of its period, style, and building use in Canada. 2) Construction & Materials: The Rossdale Power Plant is not a revolutionary building in terms of structure. It is composed of a steel load-bearing skeleton with brick curtain walls and concrete floors and foundation. It is a good example of its type, and is unique in Edmonton; there are no other curtain wall brick and steel industrial buildings of comparable period or size. Pump House #1 is unique in its complete and sensitive use of reinforced concrete in classical form, with attention to detail to concrete formwork. Symmetrically planned, cut, and supported plywood above board-formed foundation is one such example. 3) Alterations: Both the interior and the exterior of the Rossdale Power Plant display a remarkable degree of preservation. The two most significant changes occurred in the 1950s-60s relocation of the plant's controls from the Switch House on the east side of the plant to a new, centralised location on the west side and the replacement of the multi-light metal-framed windows with glass block,

	painting cast-masonry units white, and bricking up windows on the west elevation of the Boiler Hall. However, since plant decommissioning and abatement in 2011, the majority of historic machinery mechanical and electrical systems have been scrapped. As a result, in terms of its Industrial value, Rossdale Power Plant can no longer be considered wholly intact.
D) Information Potential	Future Research Value: There is strong potential for future research to discover new information about a wide variety of subjects from the evolution of power generation technology over time to fur trade era Fort-Edmonton/Fort Augustus and the earliest settlers of Alberta over 10,000 years ago.
	Architectural Rarity: Further information can still be extracted about the function and use of building components and systems, including as they changed over time. The LPP, Pump House #1, and Pump House #2 have the potential to increase information about their era specific construction technologies and forms, which are Provincially rare, 1) The LPP is the only building type of its era, construction, function, scale, and aesthetic form remaining in Edmonton, the Province of Alberta, and Canada more widely. 2) Pump House #1 is a rare example of early 20th century concrete structure that takes a sensitive approach to detailed concrete with the use of classical forms.
	Archaeological Value: Indigenous/Historical/Industrial archaeological resources have all been uncovered on-site and are of great municipal, regional, and provincial significance. Archaeological work continues to expand our understanding of history, pre-history, and natural history of the site, and Edmonton more widely.
E) Landmark/Symbolic Value	Landmark: The Rossdale Power Plant is a conspicuous and familiar landmark, or river valley icon, in the context of Edmonton. Its central location in the River Valley positions the structure as a focal point for those travelling between the north and south sides in the city centre where it is visible. The Walterdale Bridge, the main artery into downtown from the south side, passes within a few hundred metres of the building. In addition to its bulk, the steam emitted from the many smokestacks was a well-known winter sight in the city. The Rossdale site is a familiar and much-loved icon of Edmonton's river valley and skyline. The fact that it was designated a historic site against the wishes of its owner at that time, is in part due to the community upswell of support for this landmark, and thus remains of interest for adaptive re-use today. The site is a prominent feature along the walking and cycling trails of the river water's naturalised edge.
	Streetscape: The Rossdale area is dominated by several structures, the most prominent of which are John Ducey Park Stadium, and the Rossdale Power Plant. The regular grid pattern of streets originally planned for the south part of Rossdale was disrupted in order to accommodate the Power Plant and the other municipal facilities which surround it. In the context of the mixed residential, industrial and recreational use patterns of the Rossdale area, the Power Plant is of particular significance because of its placement, size and age.

	Urban Design: The Rossdale Power Plant is very important to the urban design and environmental quality of the area. No other industrial operation of this size remains in the River Valley. Its design, location and dimensions are all important factors which have an impact on Rossdale. Most large North American cities retain areas such as Rossdale, and in a number of cases adaptive re-use of the major structures has maintained the historic character of the area, while providing for current needs. Urban design practices in the latter part of the 20th century have strictly segregated buildings by function, and mixed areas such as Rossdale have gradually been eliminated; the Rossdale Power Plant is part of a vanishing urban pattern.
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More recent criteria developed specific to Twentieth-Century Heritage is [The Twentieth-Century Historic Thematic Framework: A Tool for Assessing Heritage Places](#) by the Getty Conservation Institute. Of the themes illustrated below, themes 1, 2, 5, and 10 are applicable. Theme 1, “Rapid Urbanisation and the Growth of Large Cities,” is represented in the Rossdale Power Plant in terms of its dual theme of both propelling urban growth with electricity provision, but also how urban growth and rising electricity consumption spurred the growth of Rossdale Power Plant. Theme 2, “Accelerated Scientific and Technological Development,” is represented in the types of boiler, turbine, pump, and electrical technology used at the plant that developed over time. Theme 5, “Transportation Systems and Mass Communications,” is exemplified by the rectification room in the Switch House which converted energy to DC for energising Edmonton’s streetcar system. Theme 10, “War and its Aftermath,” is represented in the role of Rossdale Power Plant during World War II, for instance, providing electricity for munitions plants as far afield as southern Alberta and aircraft manufacturing

and RCAF training and activities in Edmonton at the request of both British and Canadian federal governments as part of the “War Effort”, but also in its supporting role in post-WWII development.

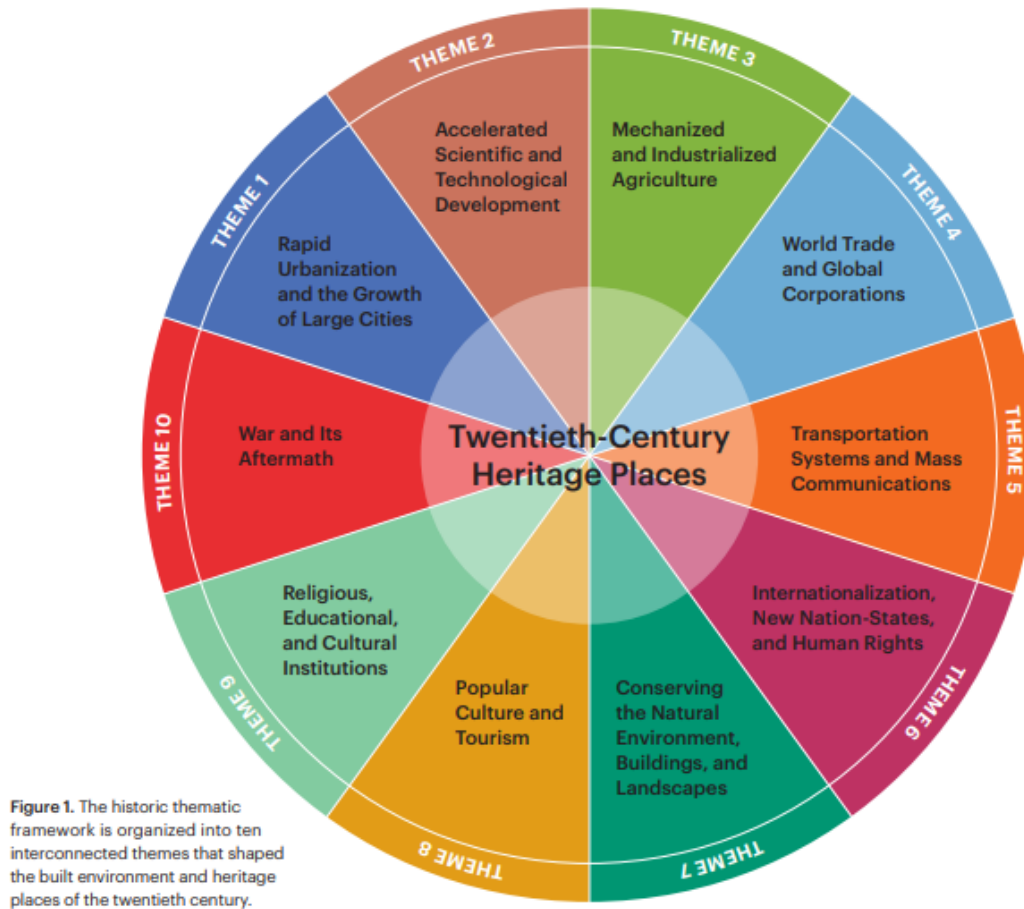


Figure 1: The ten thematic criteria from the Twentieth-Century Historic Thematic Framework: A Tool for Assessing Heritage Places. (Source: GCI, 2021)

4.3 Comparative Analysis of Similar Historic Canadian Power Plants

The following comparative analysis reviewed lists of power generating facilities of various types and ownership across each Canadian province & territory, including heritage specific lists. Criteria used included:

- 1) Scale & Massing
- 2) Era & Stylistic design
- 3) Industrial type (coal derived thermal power generation)
- 4) Ownership and management type (municipal or otherwise)

The closest examples of era, scale, and style are of the Hydro-Quebec water-power generation facilities, but not of industrial type (coal generation) nor of ownership and management type (municipal). The Hearn generation station is a second close parallel being a coal power plant of similar size and massing. However, Hearn is stylistically more similar to the former High Pressure Plant (*art moderne*), rather than the Dewar's interwar period, near transitional art-deco design, of the Low Pressure Plant, and was owned and operated by OPG, a provincial crown corporation. The comparative review as mentioned above, which is selectively illustrated below, visually demonstrates the Rosssdale Power Plant to be unique in Canada in terms of the four criteria above. When combined with other site characteristics including Indigenous and Fur-trade era heritage of early Fort Edmonton, it could be considered worthy of National Historic Site nomination.

Name, Ownership, & Location	Date & Style	Photograph
Hearn Generation Station, Ontario Power Generation (Provincial), Toronto, Ontario	1951, Mid-century Moderne Style	 Figure 2: Exterior View of Hearn Power Station (Source: Richmond Power Station Final Report, UPenn, 2016).

		 Figure 3: Hearn Power Station hosts Luminato Festival in 2016 (Source: https://thespaces.com/torontos-decommissioned-hearn-power-plant-becomes-worlds-largest-pop-arts-centre/).
Queenston-Chippawa, Hydro-Electric Power Commission (Provincial), Queenston, Ontario	Constructed 1917-1925, Neoclassical	 Figure 4: General View of Queenston-Chippawa Hydro-Electric Development. Canada National Historic Site (Source: Parks Canada).

Rover Avenue Electrical Terminal, Manitoba Hydro (provincial) Winnipeg, Manitoba	Constructed 1910s, Edwardian	 Figure 5: Rover Avenue Electric Terminal, 1910s. (Source: Manitoba Hydro, 1910s).
Double Lab Building / North Power Plant, University of Alberta , Edmonton, Alberta	Constructed 1914-15, Edwardian	 Figure 6: Double Lab, University of Alberta. (Source: University of Alberta, 2006).

Buntzen Lake Power House #2, B.C. Electric Co. (private), Anmore, British Columbia	Constructed 1912, Neoclassical	 Figure 7: (Source: Atlas Obscura, https://www.atlasobscura.com/places/buntzen-lake-powerhouses).
Toronto Power Generating Station, Electrical Development Company and then Ontario Hydro (private-provincial), Niagara Parks, Ontario	Constructed 1906, Neoclassical	 Figure 8: Toronto Power Generating Station National Historic Site of Canada (Source: Wikipedia).

Beauharnois
Generating
Station,
Hydro-
Quebec,
Beauharnois,
Quebec

Constructed
1929-1960s,
Art Deco



Figure 9: Beauharnois National Historic Site (Source: Hydro-Quebec).

4.4 Draft Municipal Statement of Significance

The City of Edmonton has requested that the Statement of Significance (SoS) associated with Rossdale Power Plant be revisited with an emphasis on local significance. The current SoS was lifted from a Municipal Historical Evaluation prepared for the City of Edmonton by then consultant Dorothy Fields (1992), where municipal criteria and focus were used at that time.⁸ In the past approximate 30 years, a generation past, changes in societal values have been great. In addition, much more information about the site is known about its archaeological and historical record than during Fields' initial assessment. Initial assessment and recommendations primarily rested upon Historical and Aesthetic merits of the historic resource.⁹ The Administration building has not been reconsidered as it is outside the scope of this report.

4.4.1 Description of Historic Place

The Rossdale Power Plant is situated on a flat alluvial flood plain that has been the site of human habitation for at least the past 10,000 years. The earliest European settler influence includes an archaeological record associated with fur trading posts over 200 years ago – including Fort Edmonton IV and Fort Augustus IV. Present site-form is dominated by the site's architectural and industrial heritage, a power generation plant constructed during the middle part of the twentieth century and located on the north bank of the North Saskatchewan River. The designation applies to three separate but interrelated structures: the Low Pressure Plant (including the Turbine House, and Boiler House, and Switch House), Pump House #1, and Pump House #2 occupying 3.72 hectares of land in Edmonton's river valley.

4.4.2 Heritage Value

Asides from architectural and industrial appreciation of the more conspicuous built heritage of the Rossdale Power Plant, there are layers of historic significance deep beneath this site, ranging from local community value of the site's landmark value and natural riverfront. Indigenous peoples have sacred value associated with this site, in part due to the Fort Edmonton cemetery but also evidenced in the archaeological record of continued human habitation for at least 10,000 years. Fort Edmonton IV and Fort Augustus IV's location at this site also adds value to this place as an enduring node of importance in the history and development of Edmonton.

The iconic Rossdale Power Plant is comprised by Low Pressure Plant, and associated Pump House #1 and Pump House #2, constructed between 1931 and 1955, and represent the history of electrical power generation in Edmonton and Alberta. The site is associated with Maxwell Dewar, a prominent Alberta architect responsible for designing part of the plant, and who later served as Edmonton's City Architect. As one of Canada's largest and longest lasting municipally run electrical utility, the plant illustrates the increasing reach of government involvement during the 20th century, including the extension of the city into industrial enterprise such as power

⁸ Fields, 1992.

⁹ Fields, 1992.

and water provision. Built elements of the Rossdale Power Plant are also very good examples of architectural design, style, and construction methods characteristic of the late 1920s and 1930s design, and of this scale and period the only that remains in Alberta, and Canada more widely.

The Low Pressure Plant is associated with architect Maxwell Dewar who created its programmatic design, and the city's Power & Architecture Departments. Pump House #1 was designed by John Poole, a prominent Canadian engineer and contractor and co-owner of PCL. It is a good example of a reinforced concrete building that derived its ornamentation and architectural rhythm from traditional form, and that paid attention to details such as concrete forming with decorative effect. Pump House #2 is associated with consulting engineers John Kasten & Henry Longworth, and Professor I.F. Morrison who were responsible for the design of the building alongside City Power Department mechanical engineering staff & city architectural staff. It is important that Dewar's design was appreciated enough that they maintained its intention throughout the various expansions, and even extended it to neighbouring water treatment buildings.

Electricity has been generated continuously on the site since 1902, when the first electrical generating station in Edmonton was relocated here. Its functional design was influenced by contemporary industrial and factory architecture in the United States. The plant is one of the oldest surviving examples of mid-twentieth century industrial design in Alberta; no other steel and brick buildings of this size and period remain in Edmonton. The Low Pressure Plant is also notable in that its expansion - with six additions over a twenty-two year period, as the site evolved to incorporate technological advances - maintained Dewar's original style.

The century long process of electricity provision requiring constant building expansions, obsolescence, demolitions, and additions is a central theme of the power generation site. The plant continued to generate electricity until 1989 and, with its series of seven large chimney stacks, remains a prominent landmark in Edmonton along with the Pump Houses and outflow pipes that punctuate the rivers edge.

4.4.3 Character-Defining Elements

Some of the tangible heritage value of the Rossdale Power Plant can be understood through the character-defining elements as below.

4.4.3.1 Low Pressure Plant (Boiler Hall, Turbine Hall, and Switch House)

- overall form and massing made up of three large, parallel, flat-roofed 'building' blocks of different heights and cross sections - located side by side and running perpendicular to the river;
- reinforced concrete foundations, structural rivetted steel framing, non load-bearing masonry walls;
- classical design features interpreted in a contemporary industrial manner;

- salvaged and reused brick in the basement;
- horizontal white precast masonry cornice banding containing the dates of each phase, coping and belt course, pediments, capitals and other brick masonry materials and design details such as pilasters, rectangular decorative motifs, string courses, and Turbine Hall capitals;
- large and frequent openings of multi-light rolled steel windows and original ventilation openings for industrial components;
- large simple interior spaces, especially the Turbine Hall, reflecting the scale of the industrial processes being accommodated;
- remaining industrial support structures such as the turbine podiums, boiler supports, gantry track [This point split as below];
- built voids in Boiler Hall and Turbine Hall to accommodate equipment and movement of materials
- extant electrical & mechanical equipment, such as the interior crane track and structure, pipes, breakers, switches, control panels, ash chute frames, ash-car rails in basement, and valve heads;
- Switch House interior terrazzo finishes;
- darker clinker brick on the exterior and lighter, buff coloured brick on the interior (Turbine Hall);
- the use of industrial detailing, such as pipe rails, concrete and steel stairs;
- the generally consistent approach to materials, detailing and finishing over the period of six phases of construction resulting in a unified whole;
- seven roof stacks;
- Douglas fir craftsman style single/double doors, and metal clad safety / fire-proof doors;
- elevator;
- text on walls, ceilings, and floors that relate to industrial functioning, including historical graffiti;
- relict building modifications, for instance, ghost caulk-lines from High Pressure Power Plant control room and Turbine Hall visible on the Boiler Hall west elevation;
- brick infilled coal/ash handler location;
- air circulation mezzanine;
- catwalks in Boiler Hall;
- floor hatches;
- layers of colours, including decorative and industrial paint schemes used throughout the site, including layer of colour of doors over time that are representative of different periods of colours used by Edmonton Power;
- Turbine Hall interior vertical fluorescent pilaster tube lighting

4.4.3.2 Pump House #1

- form, scale and massing of the one-storey reinforced concrete 'T' shaped structure with cast-in-place concrete construction;
- lower chambers, catwalks and levels to a depth of over fifty (50) feet below grade;
- material choices and detailing such as fibre board insulation (some ashlar in form) and edge laid 2x4 Douglas-fir roof decking, multi-light rolled steel windows, Douglas fir door, and the use of symmetrically cut and planned plywood formed concrete above grade rather than board formed;
- extant mechanical systems such as: Pump engines, centrifugal pumps & pump shafts, travelling water screen, water intake valves and pipes, and gantry;
- text on walls, ceilings, and floors that relate to industrial functioning, including historical graffiti;
- extant electrical control equipment;
- exterior elements such as formed lettering and extant pipes;
- connecting tunnel to the Low Pressure Plant;
- interpretation of classical forms, including cornice and pediment;
- access hatches & ladders;
- layers of colours and decorative and industrial schemes used throughout the site, including layer of colour of doors over time that are representative of different periods of colours used by Edmonton Power.

4.4.3.3 Pump House #2

- form, scale and massing of the one-storey reinforced concrete 'T' shaped structure, penthouse control room, and all cast-in-place concrete construction;
- lower chambers, catwalks and levels to a depth of over fifty (50) feet below grade;
- exterior elements such as aluminum lettering and extant pipes, staircase and rails, water intakes, and sluice gates;
- text on walls, ceilings, and floors that relate to industrial functioning, including historical graffiti;
- extant electrical control equipment;
- internal cast-iron rain leaders;
- layers of colours and decorative and industrial schemes used throughout the site, including layer of colour of doors over time that are representative of different periods of colours used by Edmonton Power;
- extant mechanical systems such as: gantry, machinery access hatches, water intake valves, pipes, pump engine location, operating floor canal drainage, and pump pedestals;
- access hatches;
- physical connection to the water.

4.4.3.4 Landscape

- The built elements associated with the Rosssdale Power Plant along the riverbank, including the literal connections of Pump House #2's water in-takes & sundry discharge pipes such as the large outflow near Pump House #1.
- The riverbank at the power plant is a relict industrial landscape, with elements such as ruined water reinforced concrete water intake heads, a large number of structural wall and refractory bricks of a multitude of makers and eras strewn across the embankment, and broken monoliths of concrete dry-stacked as a retaining wall.
- The naturalised river embankment/adventitious growth associated as part of a relict landscape.

4.5 Mapping Significance

Opportunities and constraints of significant physical attributes, or character defining features, have been mapped in their spatial divisions and networked systems. These opportunities and constraints become much more comprehensible when illustrated. When considered, these illustrations become a handy field guide for understanding where and how interventions can be made while respecting the character defining elements of the historic Rossdale Power Plant site. The following spaces are categorised and highlighted on plan drawings based on historic spatial function, namely that of:

- 1) Monumental Industrial Space
- 2) General Operating Floor
- 3) Specialised Technical Rooms
- 4) Common Spaces
- 5) Human Circulation & Access

4.5.0.1 Monumental Industrial Spaces

There are two monumental industrial spaces at the Rossdale Power Plant site of particular significance for their spatial qualities and rhythmic arrangement: the Boiler Hall and Turbine Hall main floors (although they are respectively broken down into bays according to associated boiler or turbine number).

The main floor of the Turbine Hall is a celebration of the generation of electricity, and aesthetically the most important significant space in the Low Pressure Power Plant. The architectural significance of the Turbine Hall is self-evident in the heroic grandeur of this open-space and the attention to detail of materials and decoration in Dewar's programmatic design, including fastidiously replicating details such as riveted steel, an obsolete technology at the time of latter power plant extensions. The industrial monumental impression includes views down into the operating floor and basement that was once occupied by massive turbines and condensor tanks.

The main floor of the Boiler Hall, with its uninterrupted views ~100 feet up, would have felt congested with machinery and equipment during its functioning days. Since decommissioning, the rhythmic bays of windows and steel, coal-dust stained brickwork, and steel grated boiler floor bases help convey the heavy industrial past within its vast structural shell.

Building	CoE Building ID#	Room Name	Spatial ID#
Turbine Hall	ROS106	Generator Unit #4	MN-210
Turbine Hall	ROS106	Generator Unit #3	MN-230
Turbine Hall	ROS106	Generator Unit #2	MN-240
Turbine Hall	ROS106	Generator Unit #1	MN-260
Turbine Hall	ROS106	Generator Unit #5	MN-270

Boiler Hall	ROS107	Boiler Unit #6	MN-310
Boiler Hall	ROS107	Boiler Unit #5	MN-320
Boiler Hall	ROS107	Boiler Unit #4	MN-330
Boiler Hall	ROS107	Boiler Unit #3	MN-340
Boiler Hall	ROS107	Boiler Unit #1	MN-350
Boiler Hall	ROS107	Boiler Unit #2	MN-360
Boiler Hall	ROS107	Boiler Unit #7	MN-370

4.5.0.2 General Operating Floors

The general operating floor spaces are open, wide, and convey most of the spatial and architectural qualities necessary for the essential processes of a specific building's industrial function as part of the wider generating plant's system of operations. These spaces housed a variety of controls, mechanisms, dials, and monitoring devices necessary for the operation of a variety of mechanical and electrical systems required for plant operation. As much of the character defining elements relating to the historic industrial function, historic atmosphere and architecture should be retained and interpreted.

CoE Building ID#	Building Name	Spatial ID#	Room Name
ROS105	Switch House	BM-101	Conduit Rooms
ROS105	Switch House	BM-105	Conduit Rooms
ROS105	Switch House	MN-101	Breaker Room
ROS105	Switch House	MN-102	Switch Gear Line Up
ROS106	Turbine Hall	BM-210	Mechanical Circulation Spaces
ROS106	Turbine Hall	BM-230	Mechanical Circulation Spaces
ROS106	Turbine Hall	BM-240	Mechanical Circulation Spaces
ROS106	Turbine Hall	BM-260	Mechanical Circulation Spaces
ROS106	Turbine Hall	BM-270	Mechanical Circulation Spaces
ROS107	Boiler Hall	BM-350	Material Transportation Space
ROS107	Boiler Hall	BM-370	Material Transportation Space
ROS108	Pump House #1	L4-102	Lower Level 4
ROS108	Pump House #1	MN-102	Operating Floor
ROS109	Pump House #2	L1-101	Lower Level 1 - Main Operating Floor
ROS109	Pump House #2	L5-101	Lower Level 5 - Basement Operating Floor

4.5.0.3 Specialised Technical Rooms

The specialised technical rooms are usually smaller spaces that accommodate very specific kinds of technical use, within specific industrial operations, rather than a variety. Extant character defining elements relating to these historic industrial functions should be retained and interpreted wherever possible.

CoE Building ID#	Building Name	Spatial ID#	Room Name
ROS105	Switch House	02-105	Battery Room
ROS105	Switch House	02-110	Switch Room
ROS105	Switch House	02-113	Rectification Room
ROS105	Switch House	02-116	Shift Engineer's Office
ROS107	Boiler Hall	BM-325	Natural Gas Room

ROS107	Boiler Hall	MZ-340	Air Circulation Bays
ROS107	Boiler Hall	BM-355	Utility Room
ROS107	Boiler Hall	02-305	Electrical Switch Gear Room
ROS107	Boiler Hall	RF-303	Elevator Mechanical Room
ROS108	Pump House #1	MN-103	Pump Valve Appendage
ROS108	Pump House #1	L4-103	Wet Well
ROS108	Pump House #1	L4-104	Distribution Chamber
ROS109	Pump House #2	L5-102	Wet-Well Unit # 1
ROS109	Pump House #2	L5-103	Wet-Well Unit # 2
ROS109	Pump House #2	L5-104	Wet-Well Unit # 3
ROS109	Pump House #2	L5-105	Wet-Well Unit # 4
ROS109	Pump House #2	MN - 102	Battery Room
ROS109	Pump House #2	MN-101	Penthouse Operating Floor
ROS112	ATCO Gas Metering Building	MN-101	Metering Room
ROS112	ATCO Gas Metering Building	MN-103	Relaying Station
ROS112	ATCO Gas Metering Building	MN-104	Gas Metering House

4.5.0.4 Common Spaces

The common spaces include office spaces for administrators, lunchrooms and washrooms with showers for relaxation, and filing or light equipment storage. These spaces have some architecturally significant elements, but little to no industrial equipment of importance.

CoE Building ID#	Building Name	Spatial ID#	Room Name
ROS105	Switch House	02-104	Lunchroom
ROS105	Switch House	02-106	Common Office
ROS105	Switch House	02-108	Common Office
ROS105	Switch House	02-109	Common Office
ROS105	Switch House	02-112	Common Office
ROS105	Switch House	02-102	Washroom
ROS107	Boiler Hall	02-301	North Tower - Company Classroom
ROS107	Boiler Hall	BM-305	Storage and Electrical Equipment
ROS107	Boiler Hall	BM-304	Storage and Electrical Equipment
ROS107	Boiler Hall	BM-302	Oil Storage Room
ROS107	Boiler Hall	05-301	Paper Records & Storage Room
ROS107	Boiler Hall	BM-301	Storage Tower
ROS107	Boiler Hall	04-301	Paper Records & Storage Room
ROS107	Boiler Hall	03-301	Paper Records & Storage Room
ROS107	Boiler Hall	MN-305	Common Office

4.5.1.5 Human Circulation & Access

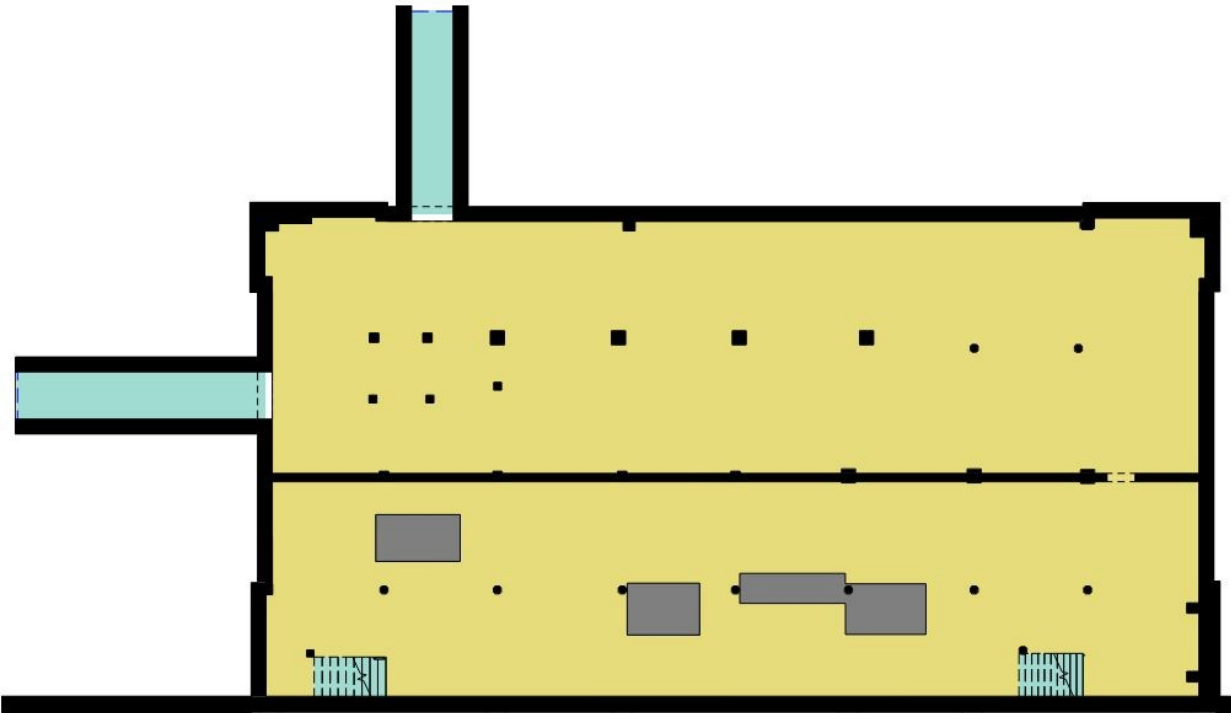
The circulatory spaces offered the ability for power plant operators to access the equipment they needed or to travel between disparate spaces via hatches, catwalks, ladders, stairwells, hallways, tunnels, and platforms.

CoE Building ID#	Building Name	Spatial ID#	Room Name
ROS105	Switch House	02- 103	North Stairwell
ROS105	Switch House	02-101	South Corridor
ROS105	Switch House	02-107	South Stairwell

ROS105	Switch House	02-111	Juliet Balcony
ROS105	Switch House	02-114	Central Corridor
ROS105	Switch House	02-115	North Corridor
ROS105	Switch House	BM-103	North Stairwell
ROS105	Switch House	BM-107	South Stairwell
ROS105	Switch House	MN-103	North Stairwell
ROS105	Switch House	MN-106	Main Entrance
ROS105	Switch House	MN-107	South Stairwell
ROS105	Switch House	BM-193	North Tunnel
ROS105	Switch House	BM-195	East Tunnel
ROS106	Turbine Hall	BM-220	Basement Corridor North
ROS106	Turbine Hall	BM-215	Interior Stairs
ROS106	Turbine Hall	BM-235	Interior Stairs
ROS106	Turbine Hall	BM-237	Interior Stairs
ROS106	Turbine Hall	BM-239	Elevator
ROS106	Turbine Hall	BM-245	Interior Stairs
ROS106	Turbine Hall	BM-265	Interior Stairs
ROS106	Turbine Hall	BM-280	Basement Corridor South
ROS106	Turbine Hall	BM-213	Interior Stairs
ROS106	Turbine Hall	BM-233	Interior Stairs
ROS106	Turbine Hall	BM-243	Interior Stairs
ROS106	Turbine Hall	BM-267	Interior Stairs
ROS106	Turbine Hall	BM-295	Exterior Open Stairs
ROS106	Turbine Hall	BM-299	Tunnel to Pump House 1 (ROS108)
ROS106	Turbine Hall	MN-213	Interior Stairs
ROS106	Turbine Hall	MN-217	Interior Stairs
ROS106	Turbine Hall	MN-233	Interior Stairs
ROS106	Turbine Hall	MN-243	Interior Stairs
ROS106	Turbine Hall	MN-263	Interior Stairs
ROS106	Turbine Hall	MN-265	Interior Stairs
ROS106	Turbine Hall	MN-267	Interior Stairs
ROS106	Turbine Hall	MN-295	Exterior Open Stairs
ROS107	Boiler Hall	02-302	Interior Stairs
ROS107	Boiler Hall	02-304	Exterior Stairs
ROS107	Boiler Hall	03-302	Interior Stairs
ROS107	Boiler Hall	04-302	Interior Stairs
ROS107	Boiler Hall	05-302	Interior Stairs
ROS107	Boiler Hall	BM -373	Interior Stairs
ROS107	Boiler Hall	BM-303	Interior Stairs
ROS107	Boiler Hall	03-305	Storage / Catwalk Access
ROS107	Boiler Hall	BM-306	Interior Stairs
ROS107	Boiler Hall	BM-333	Interior Stairs
ROS107	Boiler Hall	BM-357	Interior Stairs
ROS107	Boiler Hall	BM-395	Tunnel
ROS107	Boiler Hall	CW-333	Interior Stairs
ROS107	Boiler Hall	CW-340	Catwalk
ROS107	Boiler Hall	MN-301	Old Loading Dock
ROS107	Boiler Hall	MN-303	Interior Stairs
ROS107	Boiler Hall	MN-306	Interior Stairs
ROS107	Boiler Hall	MN-307	Boiler Hall Staircase North
ROS107	Boiler Hall	MN-333	Interior Stairs
ROS107	Boiler Hall	MN-347	Interior Stairs

ROS107	Boiler Hall	MN-357	Interior Stairs
ROS107	Boiler Hall	MN-373	Interior Stairs
ROS107	Boiler Hall	MN-375	Exterior Stairs
ROS107	Boiler Hall	MZ - 305	Interior Stairs to Roof Hatch
ROS107	Boiler Hall	MZ - 333	Interior Stairs
ROS107	Boiler Hall	MZ - 357	Interior Stairs
ROS107	Boiler Hall	RF-302	Roof Hatch Access
ROS107	Boiler Hall	MN-304	Interior Stairs
ROS108	Pump House #1	L1-101	Interior Stairs
ROS108	Pump House #1	L1-102	Lower Level 1
ROS108	Pump House #1	L2-101	Interior Stairs
ROS108	Pump House #1	L2-102	Lower Level 2
ROS108	Pump House #1	L3-101	Interior Stairs
ROS108	Pump House #1	L3-102	Lower Level 3
ROS108	Pump House #1	L4-101	Interior Stairs
ROS108	Pump House #1	MN-101	Interior Stairs
ROS109	Pump House #2	MN - 103	Interior Stairs
ROS109	Pump House #2	MN - 104	Exterior Stairs
ROS109	Pump House #2	MN - 105	Exterior Stairs
ROS109	Pump House #2	L1 - 102	Interior Stairs
ROS109	Pump House #2	L2-101	Lower Level 2
ROS109	Pump House #2	L2-102	Interior Stairs
ROS109	Pump House #2	L3-101	Lower Level 3
ROS109	Pump House #2	L3-102	Interior Stairs
ROS109	Pump House #2	L4-101	Lower Level 4
ROS109	Pump House #2	L4-102	Interior Stairs
ROS109	Pump House #2	MN-102	Interior Stairs
ROS112	ATCO Gas Metering Building	MN-102	Stairs

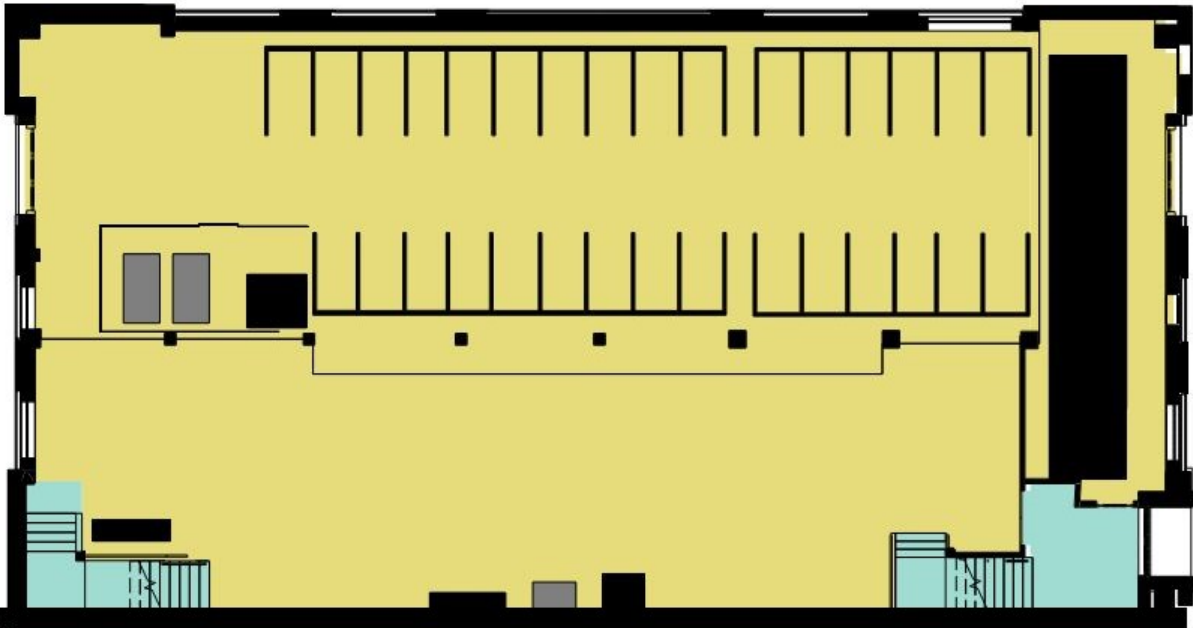
4.5.1 Spatial Divisions of the Low Pressure Plant



3 BM - SWITCH HOUSE area
1 : 100

SPATIAL DIVISION

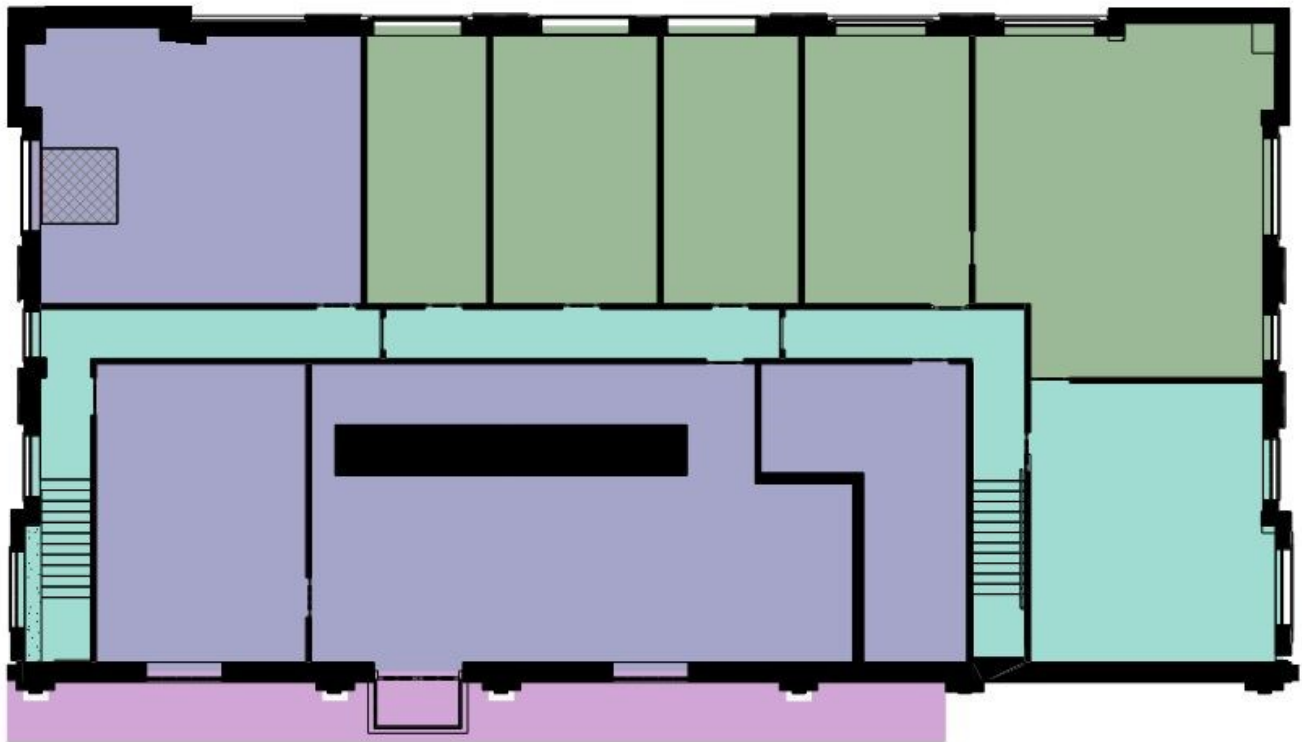
- GENERAL OPERATING FLOOR
- HUMAN CIRCULATION & ACCESS



2 MN - SWITCH HOUSE area
1 : 100

SPATIAL DIVISION

- GENERAL OPERATING FLOOR
- HUMAN CIRCULATION & ACCESS



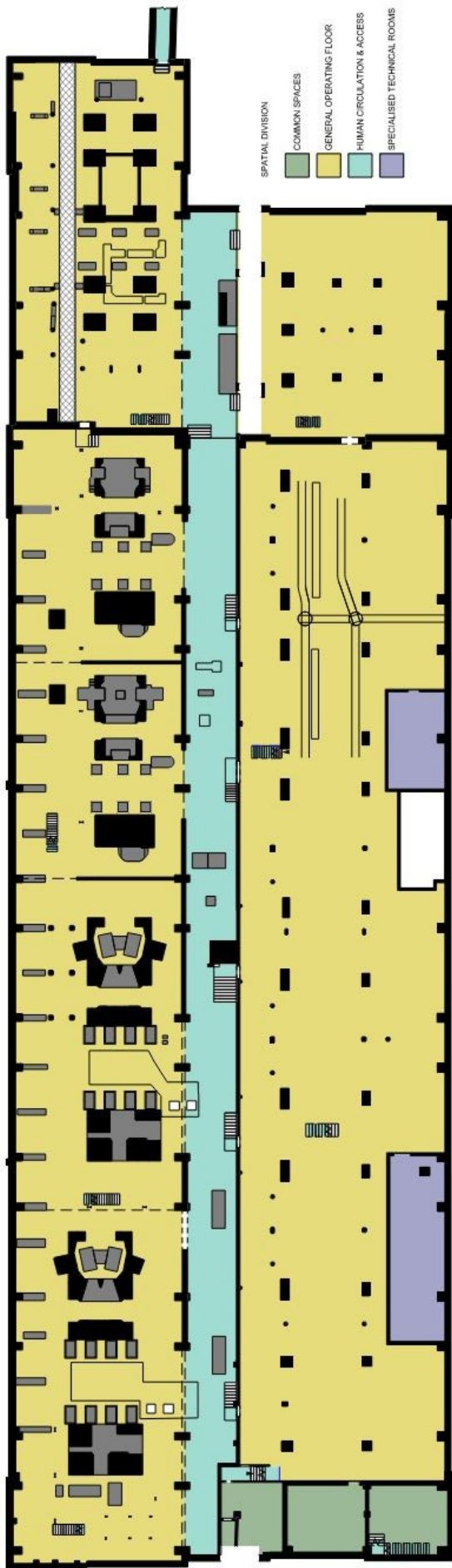
1

02 - SWITCH HOUSE area

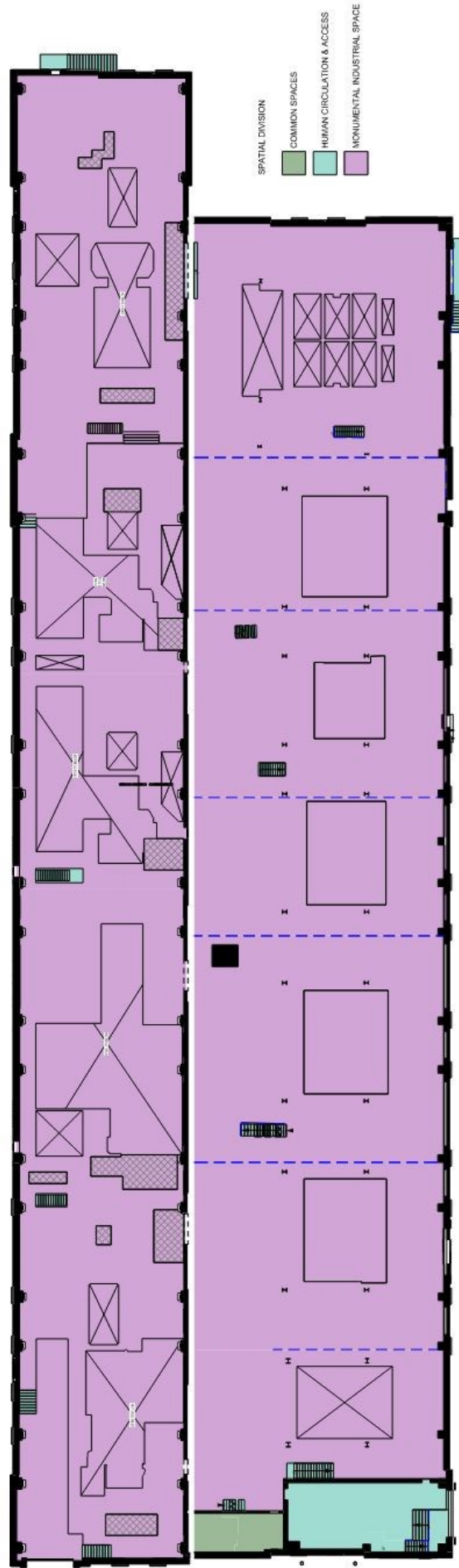
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SPATIAL DIVISION

- COMMON SPACES
- HUMAN CIRCULATION & ACCESS
- MONUMENTAL INDUSTRIAL SPACE
- SPECIALISED TECHNICAL ROOMS

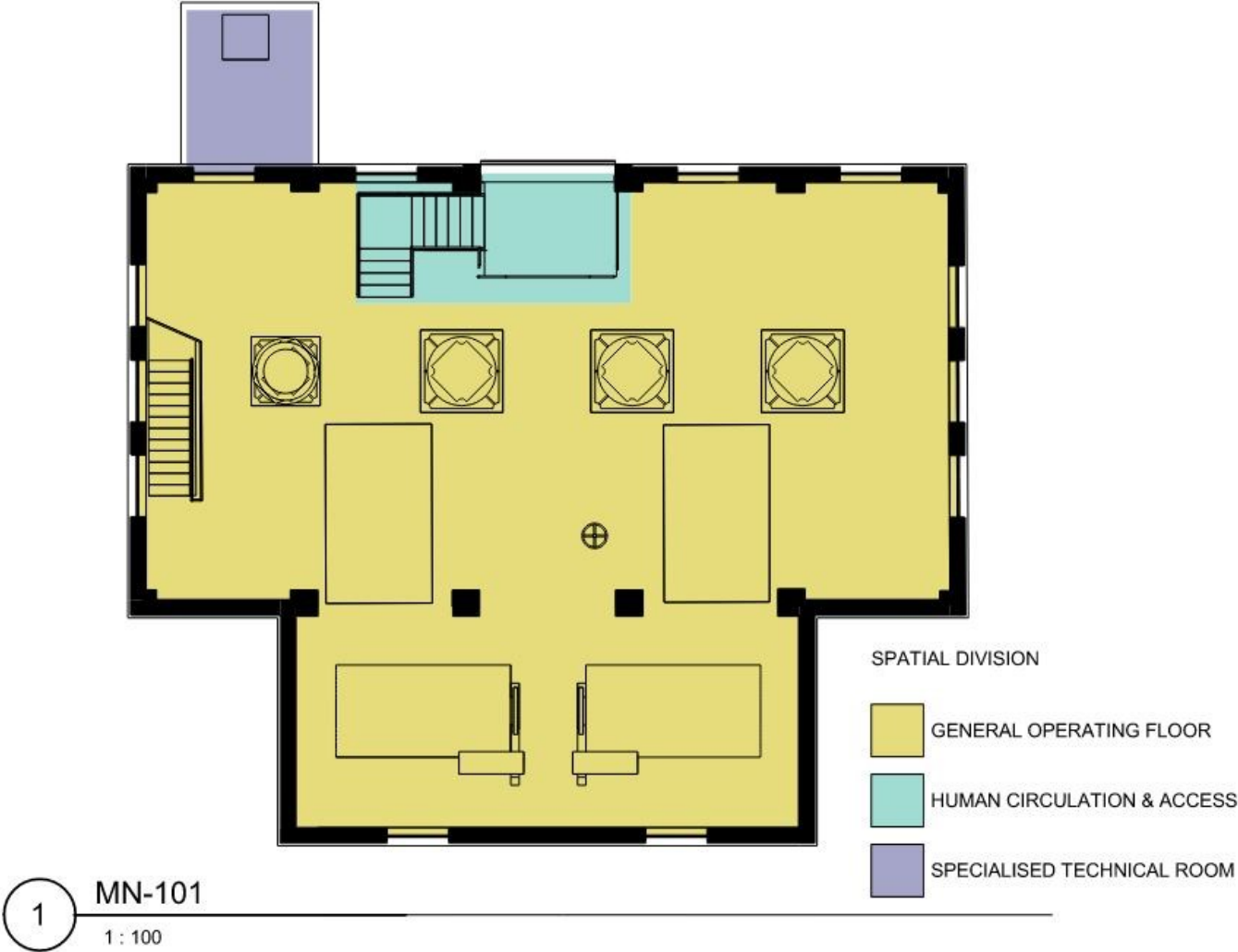


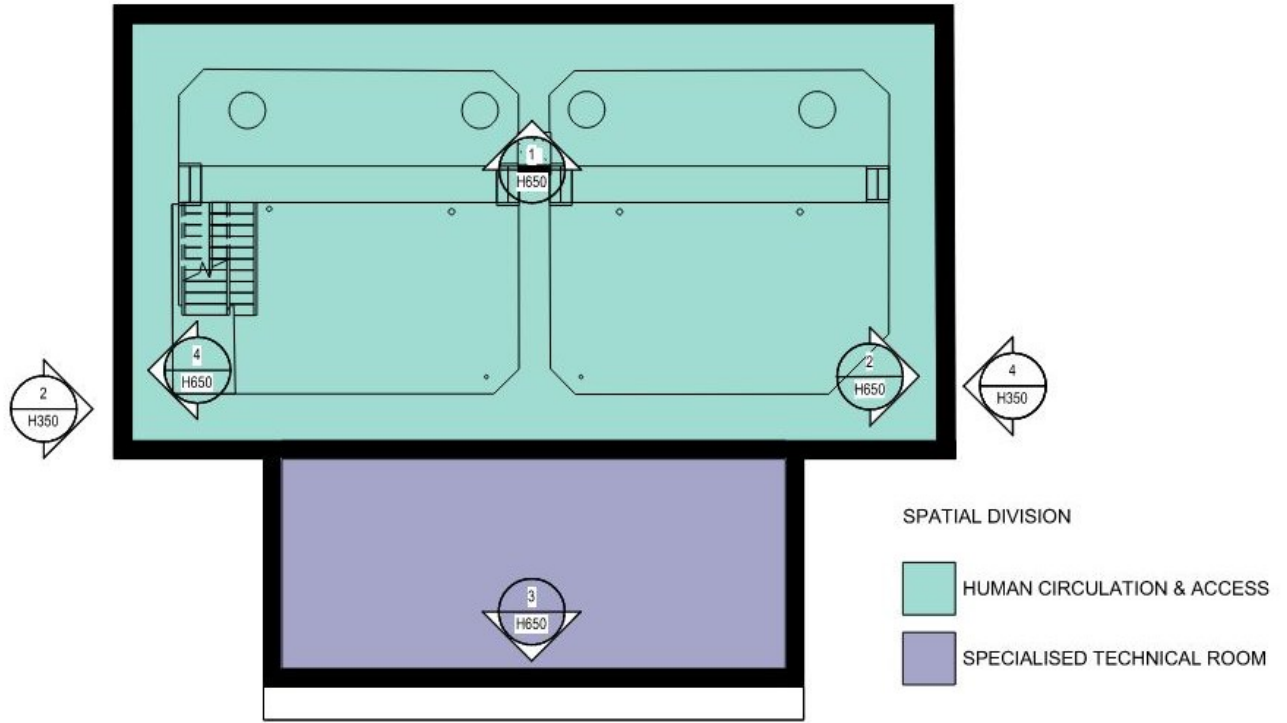
1 KEY BM - LPP_AREA
1:200



2 KEY MN - LPP_AREA
1:200

4.5.2 Spatial Division of Pump House #1

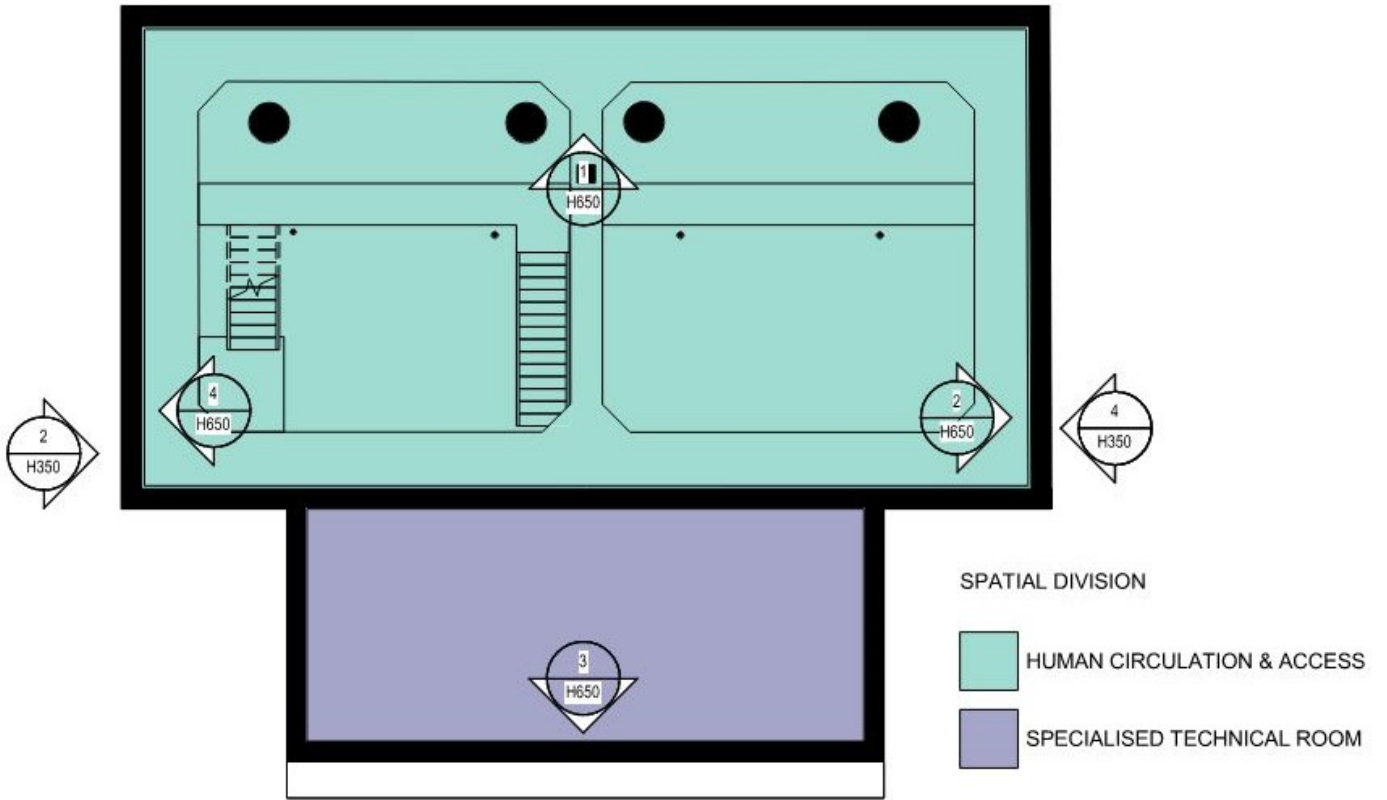




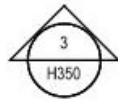
2

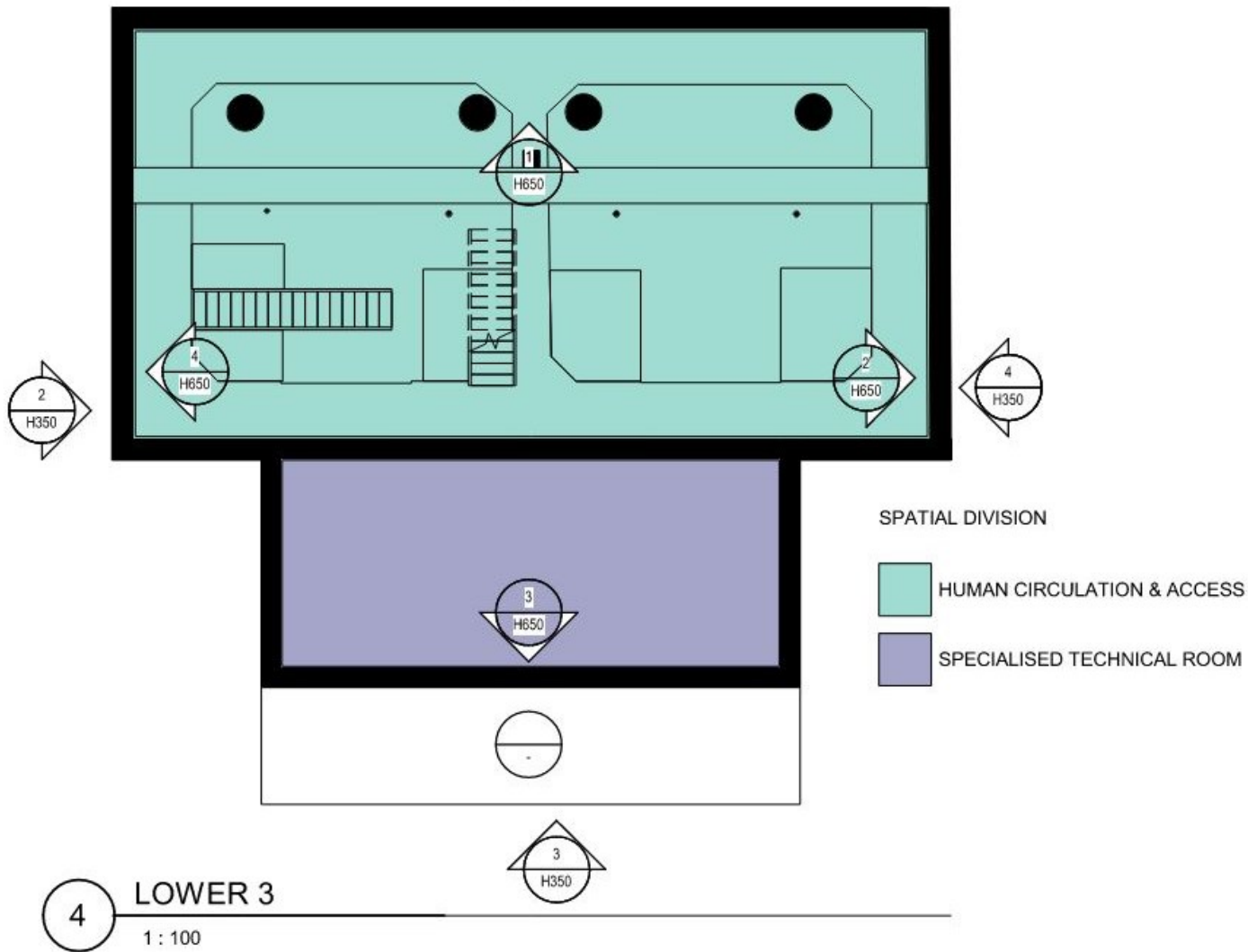
LOWER 1

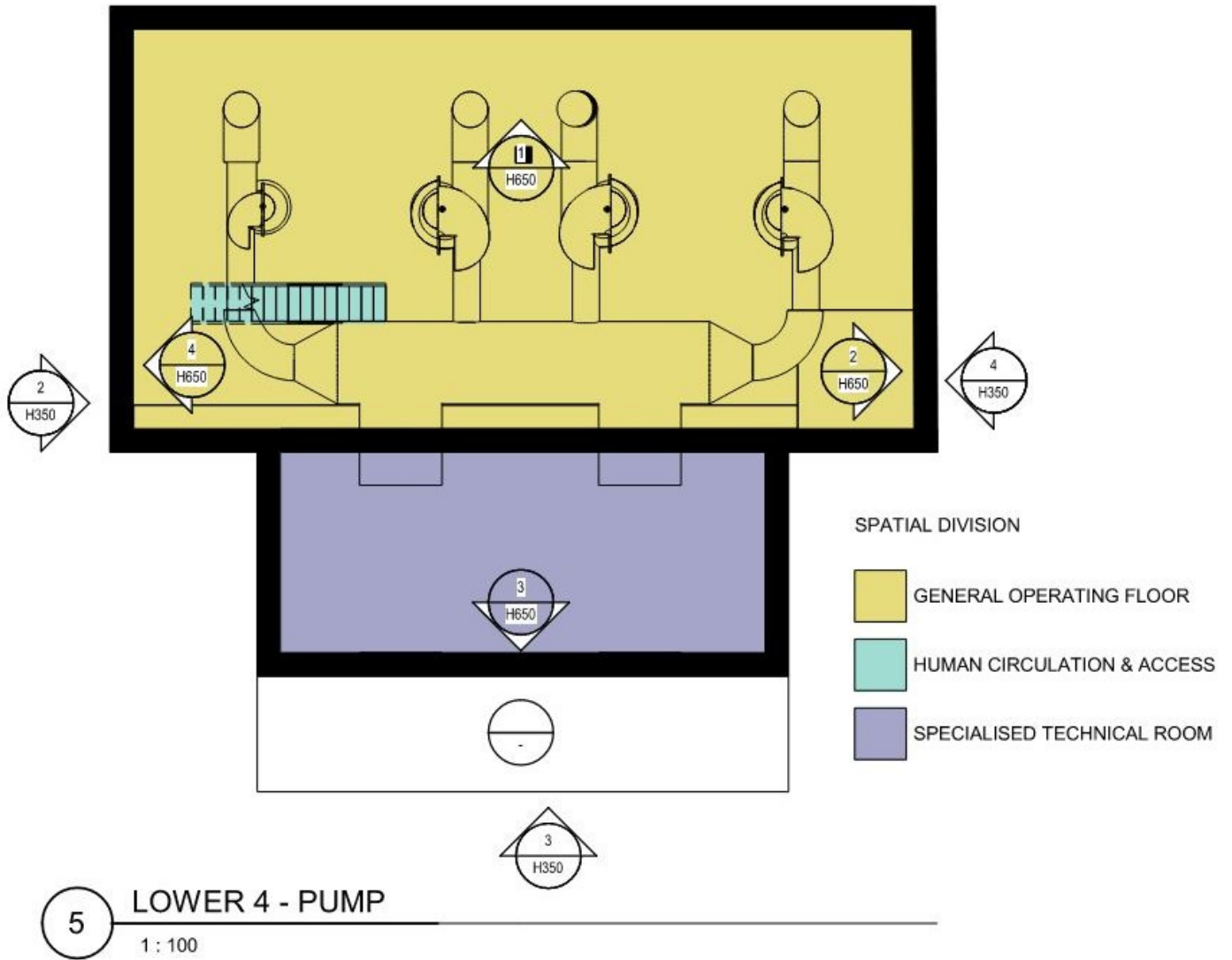
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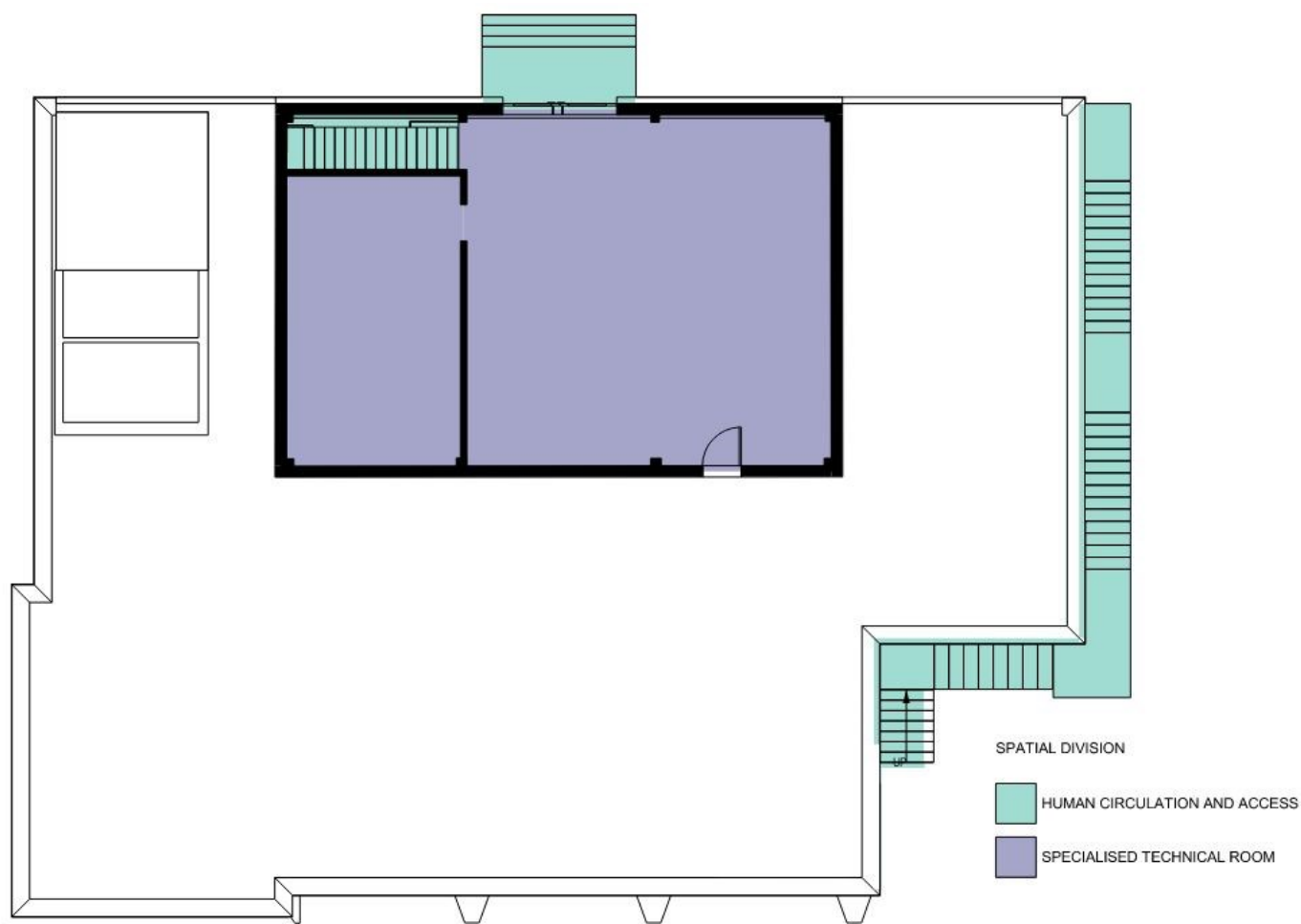
3 LOWER 2
1 : 100







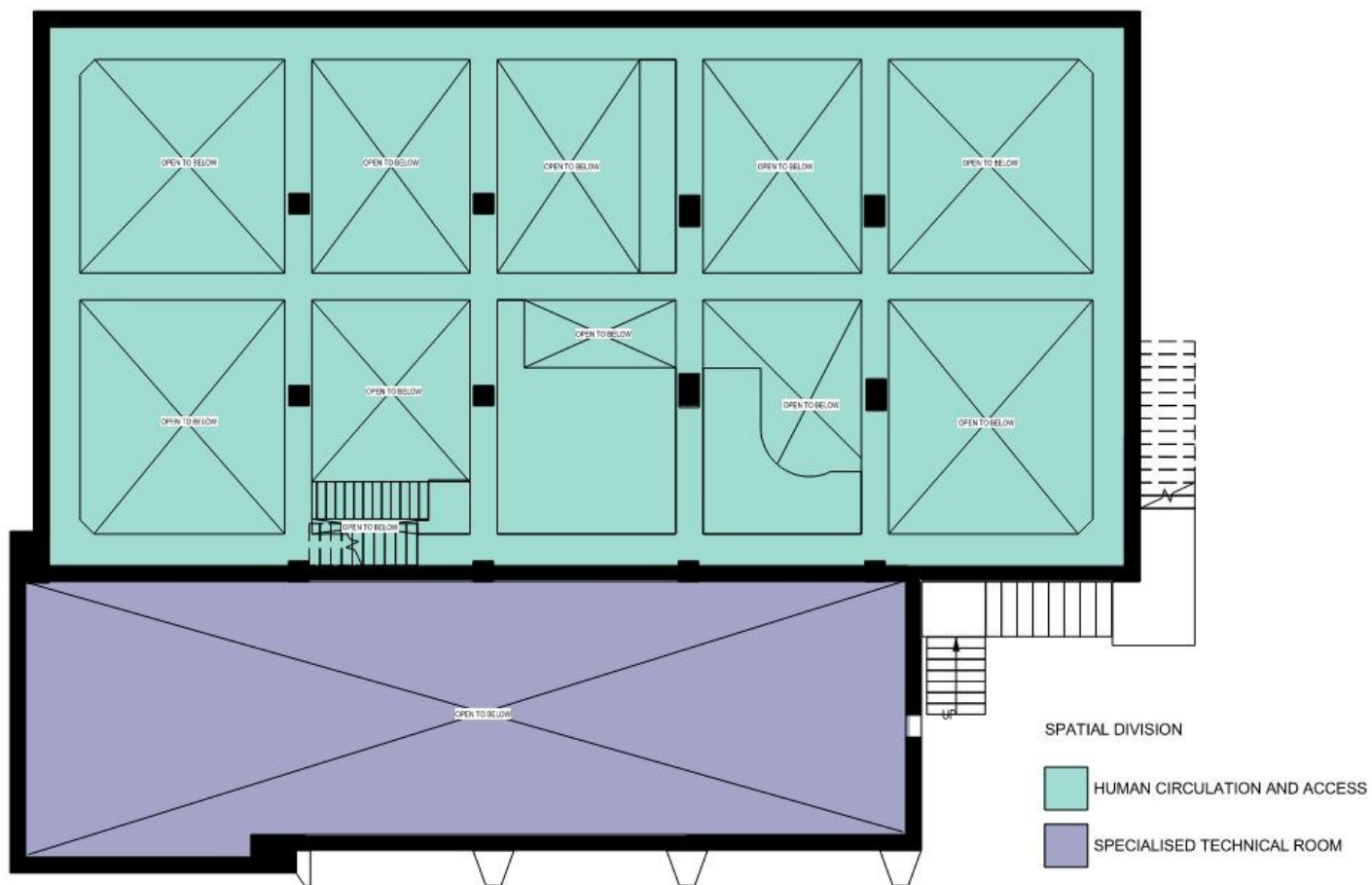
4.5.3 Spatial Division of Pump House #2



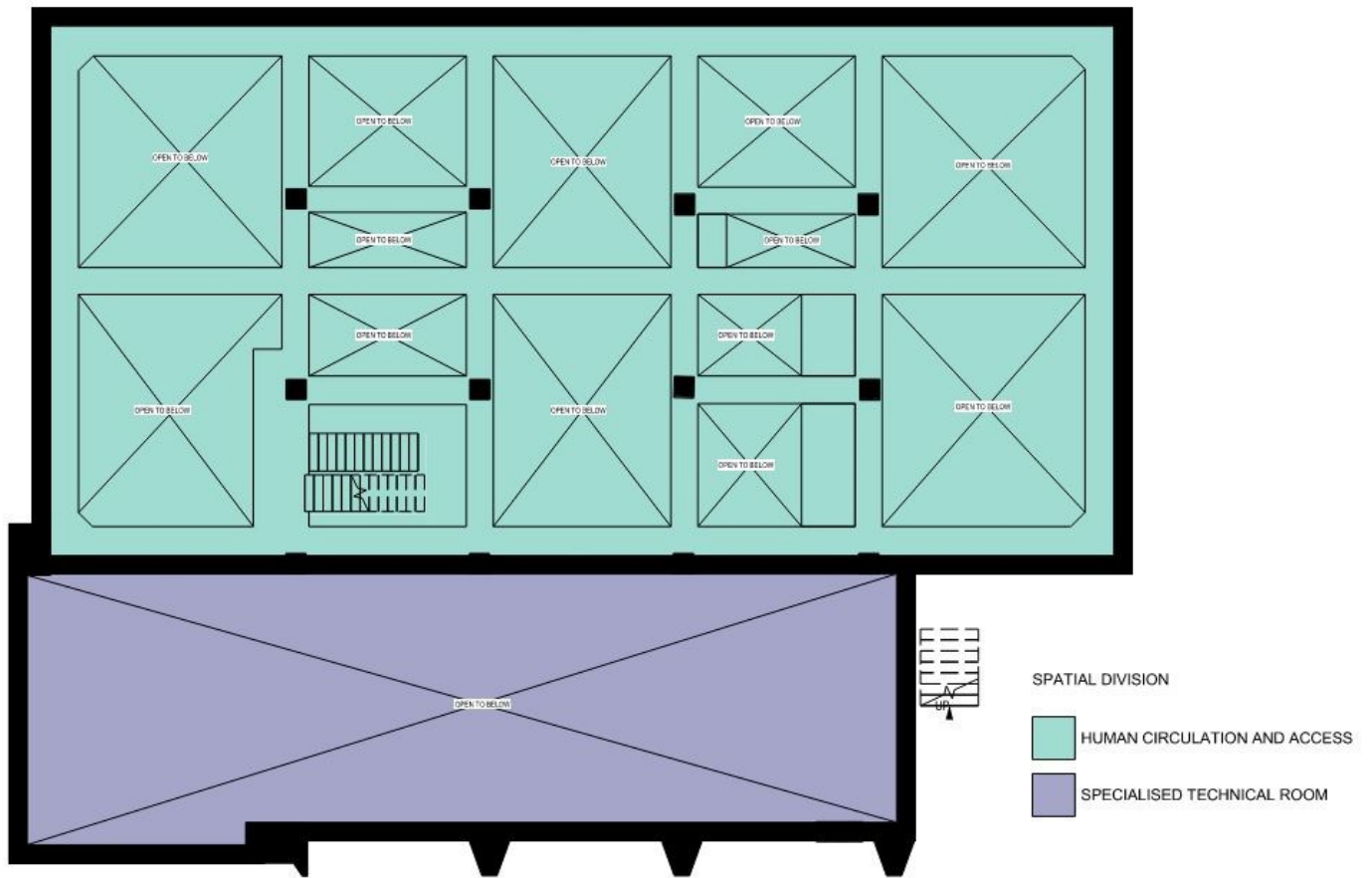
1 AREA-MN
1 : 100



2 AREA-LOWER 1
1:100

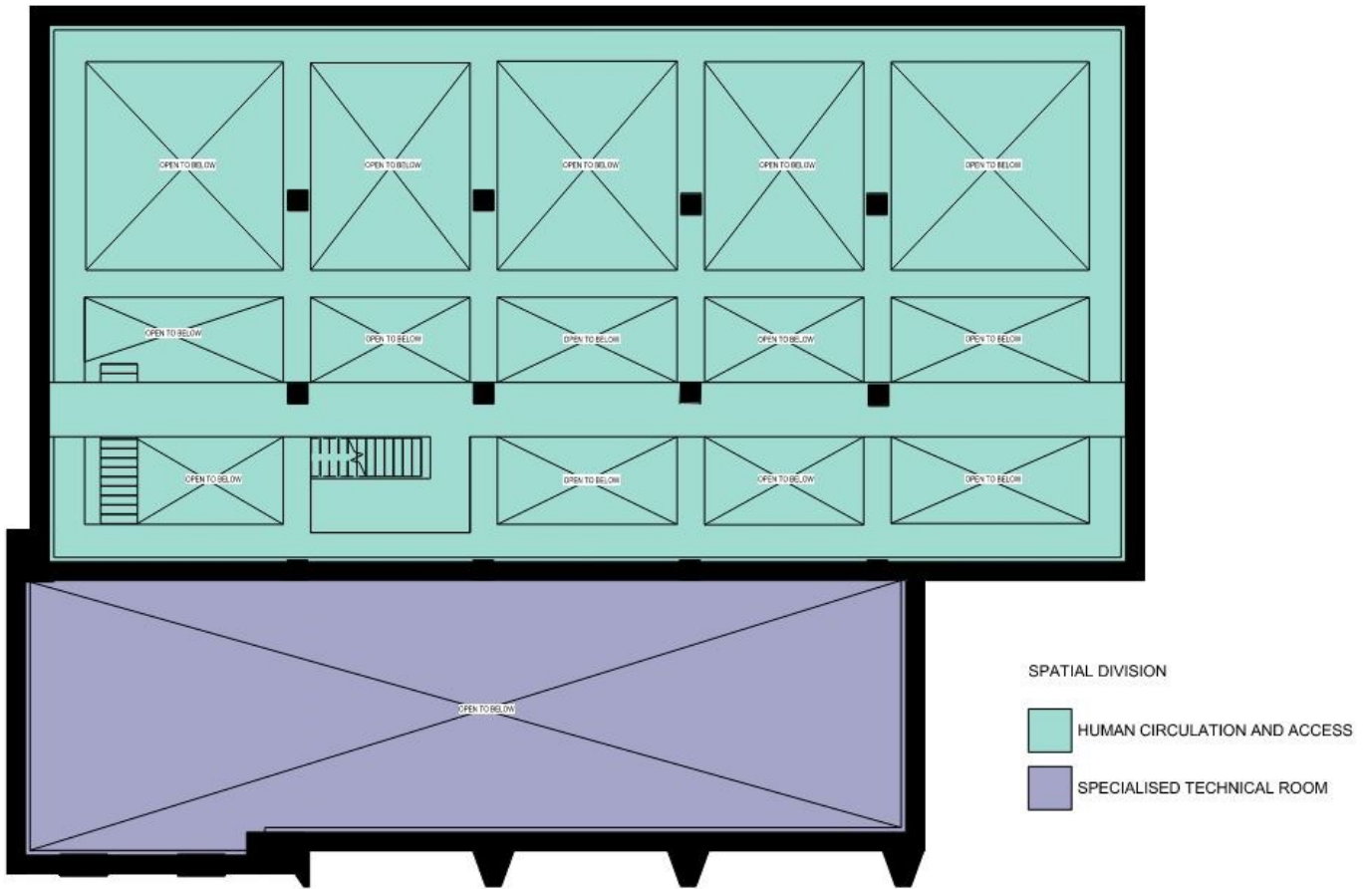


3 AREA-LOWER 2
1 : 100

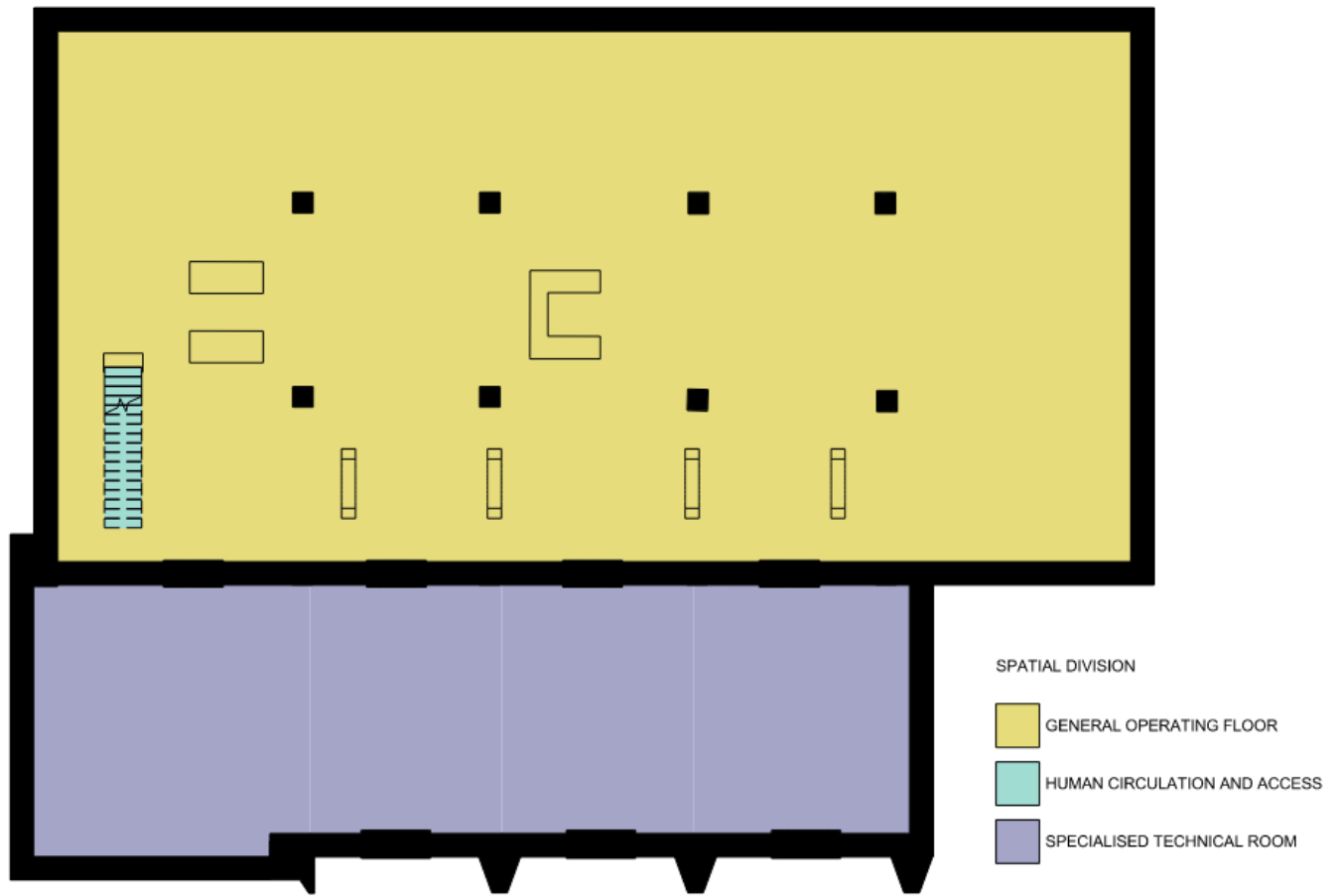


4 AREA-LOWER 3

1 : 100

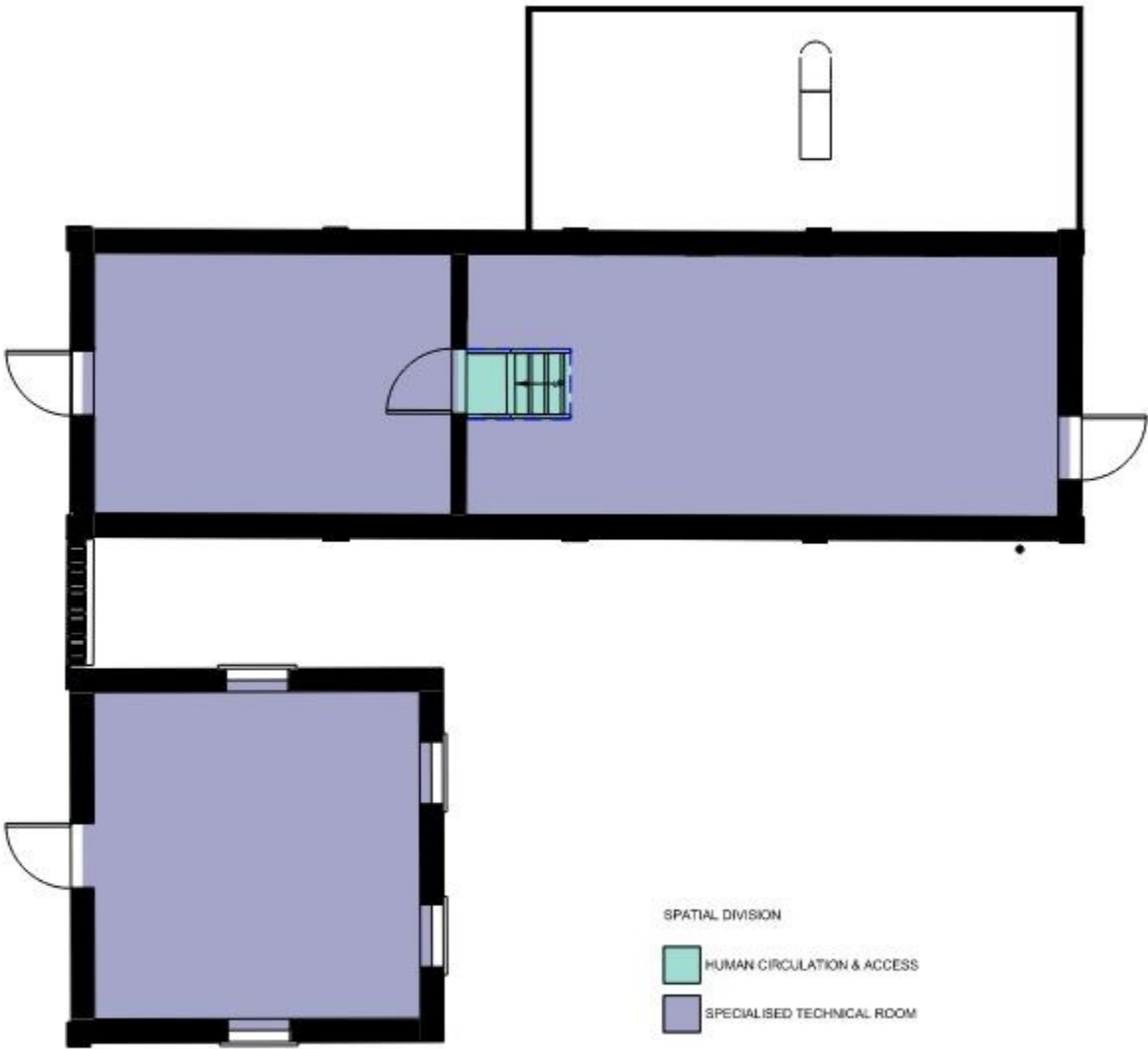


5 AREA-LOWER 4
1 : 100



6 AREA-LOWER 5
1 : 100

4.5.4 Spatial Division of ATCO Gas Building



1 MAIN FLOOR area
1 : 50

4.6 Building & Site Conditions and Integrity

The project team has prepared a separate conditions assessment for each building at the request of the City, including the LPP (subdivided as Switch House, Turbine Hall, & Boiler Hall), Pump House #1, Pump House #2, and the ATCO Gas Metering Building. Details about specific building conditions can be found in these documents, and are one of the primary data sources being funneled into future priority rehabilitation recommendations.

Integrity of all buildings is medium-high to excellent, the highest is in Pump House #1 which is the only building that retains the various electrical and mechanical services that directly relate to its industrial heritage with changes over time. The reason for not giving these buildings the highest integrity is largely due to the plant decommissioning process which saw associated demolition and abatement works remove almost all of the machinery from the LPP and Pump House #2. In addition, there are other works such as drop ceilings and modern windows in the Switch House that also detract from the heritage value of those spaces.

5.0 Building & Site Conservation Policy

This section describes opportunities and constraints surrounding long-term conservation and adaptive re-use of the Rossdale Power Plant site. Detailed recommendations and phasing of future conservation works can be found in the Advanced Assessment Priority Rehabilitation and Class 5 Budget.

Given the historic values of the site and current economic realities necessitating long-term phased development, the project team suggests a mixed **Preservation & Rehabilitation** approach for the foreseeable future. Theories of heritage conservation and implications of interventions on a historic resource aside, restoration can become a very costly proposition, for instance, reinstatement of all rolled steel multi-light windows. Preservation and Rehabilitation would be a much more financially feasible project for site rehabilitation. As per the Priority Rehabilitation and Class 5 Budget, the project suggests the following phasing:

PHASE	PROJECT CONSERVATION APPROACH
Phase 1 – Immediate, AARP (2022-23)	Preservation / Rehabilitation
Phase 2 – Short Term, 5 Year Lookout (2023-2028)	Preservation / Rehabilitation
Phase 3 – Medium Term, 10 Year Lookout (2029-2034)	Rehabilitation
Phase 4 – Long Term, 20 Year Lookout (2035-2045)	Restoration

Conservation recommendations have been broken down into priorities based on a combination of criteria. The criteria are described below, they may be central to or part of an emphasis of priority:

Criteria Identifier	Criteria	Description
A	Heritage	Any works that lead to the conservation of character defining elements of the historic resource.
B	Health and Safety / Security	Any intervention required to rehabilitate the resource to the end of human health and safety. Any work that ensures security from unwanted visitation (also correlates to Human Health and Safety).
C	Cost	The cost, useability of investment, returns of a given work, or long-term financial feasibility of a multi-year phased development project is critical.
D	Schedule	The realistic amount of time required to plan, design, and execute work within a given budget or project cycle is essential.
E	Building Envelope / Energy Efficiency	Any work that is critical in keeping the elements out of a building, critical to maintain the building in good condition – might include heating (preventing building footings from heaving for instance). Work that contributes to increased energy efficiency of building use.
F	Adaptive Re-Use & Visitation	Any work that enables desired types of visitation and site re-use.

Approach and rationale has been identified for each recommendation in the *Priority Rehabilitation Scheme & Class 5 Budget*. Each building considered in this scheme has three tables attached to it, separately identifying conservation recommendations as per different project approaches to the same end; namely, Preservation, Rehabilitation/Adaptive Re-use, and Restoration.

5.1 Design Guidelines

General principles of heritage conservation suggest the retention of maximum amount of historic fabric. Opportunities and general recommendations per building and space are as follows. Any proposed interventions need to consider how the historic character of the resource is affected by the criteria below. The following criteria are site and project specific and supplemental to the *Standards and Guidelines for the Conservation of Historic Places in Canada*. The criteria below do not discuss communities or stakeholders in - depth. Instead, they are discussed as part of future design process in Section 5.3.

The conservation plan suggests that any design work in the future, including contemporary work such as the *Touch the Water Promenade* and the potential gondola station (illustrated in the figures below), follow the design guidelines below. These should be closely coordinated with the AARP, and consider the conservation opportunities as described below.



Figure 10: Concept Option Gateways & Threads (Source: CoE, Touch the Water Promenade, 2020)

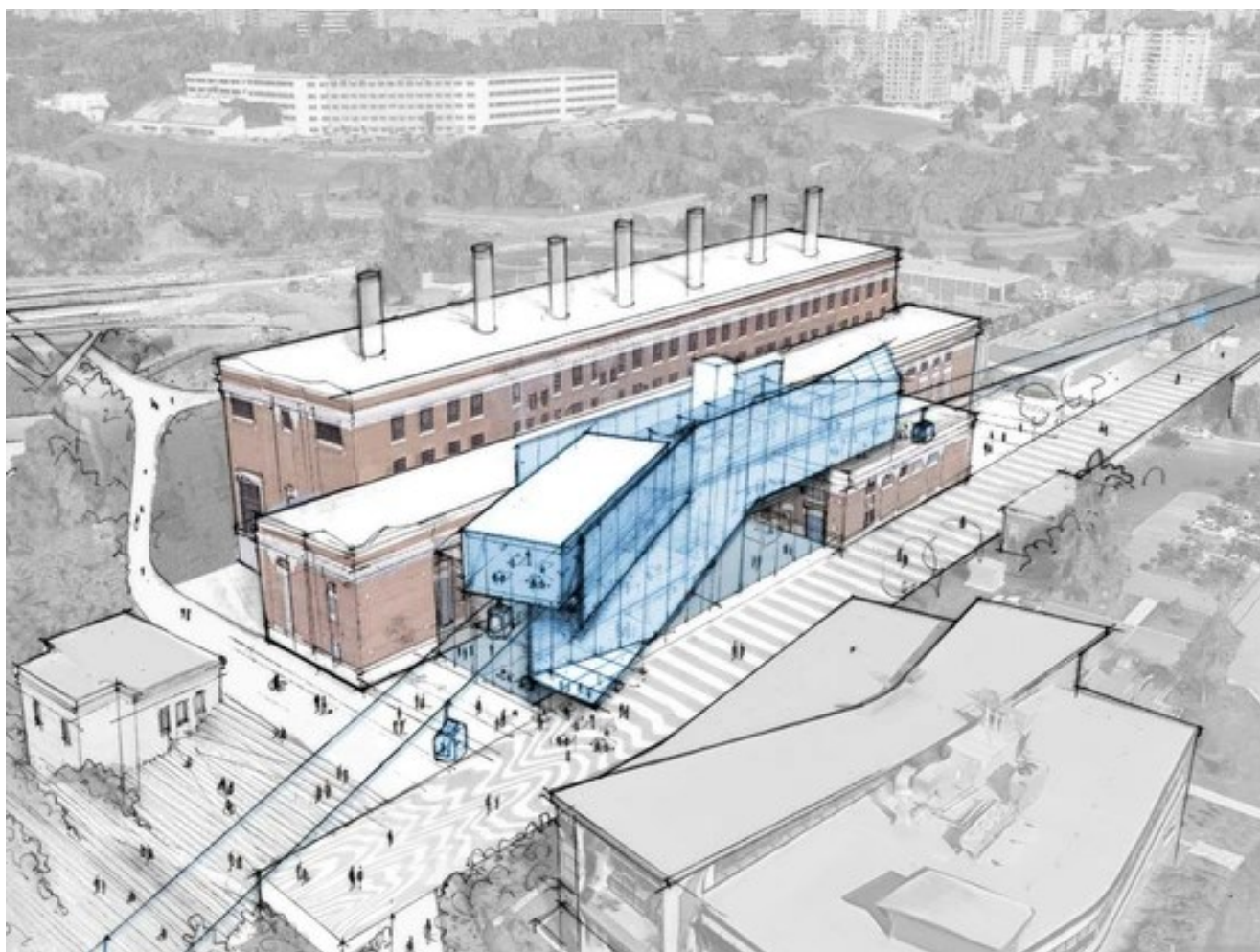


Figure 11: Schematic Design of an envisioned Prairie Sky Gondola development at Rosssdale. (Source: Edmonton Journal, 2020.)

Keywords such as “subordinate, distinguishable, and compatible,”¹⁰ abound in the heritage field whenever considering the design of a new addition to a historic place to avoid negatively affecting the heritage value of a given resource. Out of respect for the historic character of the site, the spirit of adaptive reuse should guide all design decisions at the Rosssdale Power Plant site. Designs work should be derived through a thorough analysis of the site’s heritage context as described in the previous sections of this Conservation Plan.

New Design Criteria	Description of Criteria
Stakeholder Consultation	New developments/designs should incorporate stakeholder consultation, this includes any interpretation planning as above. Local community (Rosssdale) and Indigenous stakeholders need to be consulted throughout future planning and design processes. This should include reviewing past community consultation studies.
Interpretation and Display	As per wider city planning for the Rosssdale area (Heritage Interpretation Plan) and site-specific goals of the Power Plant site, new designs should take the interpretation and display of site history as a central design goal. These efforts are to be executed at landscape scale and building scale. 1) Landscape: Consideration of reinterpreting layouts of previous buildings or connections between buildings in plantings, paving, or other landscape features.

¹⁰ S&G, 2010.pp.130-131.

	For instance, this could include an outlined plan of the HPP, Control Room, now demolished workshops in-situ, highlight the sealed tunnel connection between Pump House #2 and the HPP & Control Room, various historic water outtakes, or parts of known outlined walls of Fort Edmonton IV. Interpretation of the heritage values of the site should be a focus – this plan can provide much material for this. 2) Industrial Heritage/ Building: Reinterpretation of previous room layouts, equipment positioning, removed equipment, function. For example, historic water screens, pumps, motors, etc. should be represented in Pump House #2. An effort to exhibit heritage turbine and boilers in the Low Pressure Plant should also be made. 3) Indigenous Culture and Heritage: New design should protect and celebrate Indigenous culture and heritage. This culture and history extends beyond Rossdale Power Plant property lines as a network of living connections.
Landscape (Functional Arrangement and Change over Time)	Industrial buildings often have functionally important relationships with their landscapes, and Rossdale is no exception. For instance, try to imagine and understand Pump House #2 with no connection to the river. Its visible high-level water intakes are important tangible cues to the historic operation of the power plant and physical connection to its environment. Other clues can be even more subtle, but still of value to the historic place, such as the expansion lines and bump on the bicycle pathway between Pump House #1 and the LPP, which belies the utility and function of the underground tunnel connection between the two. Landscape design goals should include: 1) Protection: Design that protects the functional arrangements of extant buildings with their environment, and other buildings, in such a way that reinforce historic industrial networks, plans, and relationships with the river. 2) Documentation: Archival recording and salvaging of what remains of the industrial waterline, a relict landscape that is composed of a myriad of construction debris, such as bricks, from previous building periods. Exemplary samples should be documented, archived, and securely reinterpreted within the site buildings or at city archives. 3) Maintenance of Viewsheds: Maintain open historic viewsheds of buildings. Viewsheds should not be by the positioning of large plantings, street furniture, or exterior structures. Developments should also not obscure or clutter historic viewsheds along the river valley – for instance, a development that detracts from the iconic smokestacks and general massing of the dominant LPP as they open to the river valley in a way that makes them a very visible city icon. 4) Fences and Gates: New fences and gates are appropriate to the style, details, and materials of the architectural period of the Rossdale site.¹¹ Fences and gates are to be installed in a manner whereby they can be removed without damaging heritage building fabric. 5) Urban Planning: Should align with broader city planning goals such as the <i>River Crossing Business Plan</i> and the <i>River Crossing Heritage Interpretation Plan</i>.
Additions (Exterior or Interior)	Any addition outside of, inside, or neighbouring these buildings should not negatively affect the heritage value of original building designs. This includes elements and accretions which reflect changing site use over time. Conservation design goals for a given addition includes:

¹¹ City of Melbourne *Heritage Design Guide*, 2020. pp 48

	1) Restraint: Additions should only be considered if existing spaces cannot meet performance requirements of adaptive reuse. 2) Massing: An addition should be subordinate and distinctive to the existing mass and form of the LPP and Pump Houses, and not be juxtaposing to the point of distraction. Subdued and discrete are the words of intent here rather than flashy and attention-seeking. A massing should not dominate or visually disrupt heritage buildings as they present in elevation. Prominence of heritage buildings are to be maintained by creating set-backs and moderating height. 3) Form: Design efforts respect rather than replicate historic forms and details. The geometry of an addition should be sympathetic to the historic building it is being appended to or inserted within. It should be restrained, harmonious, and reaffirm the geometry of the original, rather than a dissonantly juxtaposing addition. New designs should seek to emulate the notion of base, shaft, and cap composition seen in LPP programmatic design (see section 3.2.1). Retain roof form of existing heritage buildings. New roof lines should be designed with distinction through measures such as simplified or contemporary cornices and parapets¹². 4) Materials: Where additions are made, materials should be legibly distinctive, so as not to confuse the viewer as to what part is new and which is original. New materials should be durable and high quality. Avoid the use of highly reflective materials. Use exterior materials and paint colours that reflect local heritage palettes.¹³ 5) Spatial Arrangement: New developments should incorporate existing rhythms of structural bays, windows, doors, ornaments, etc. These new rhythmic elements should be of a scale and proportion similar to the heritage pattern.¹⁴ Public facing blank walls are to be avoided and should be enhanced with appropriate design elements. New additions to the interior should maintain spatial arrangements. For example, the repetition of boiler hall bays would adapt well to careful insertions of buildings within the building. A sense of the machinery's heritage location within the Low Pressure Plant should be preserved.
Repairs	Repairs should be guided by conservation philosophy such as article 3.1 in the Burra Charter which states that conservation should be guided by, “ a cautious approach of changing as much as necessary but as little as possible, ” to retain maximum original historic fabric.
Windows and Doors	Existing doorways should be used for access and rehabilitated only as necessary (e.g. code requirements). Historic Window and Door assemblies that have surpassed their serviceable lives, should not be discarded. Rather, it is parts of the whole that likely require replacement and maintenance as historic building assemblies were designed to be repairable. Historic windows may also provide opportunities for increased access. New perforations of historic walls should be avoided, and, if necessary, design requirements should be placed in a location and scale that is compatible with the heritage of site architecture, such as infilled windows. New openings in the LPP and Pump Houses, for access or connection, should respect the original design and rhythms of architectural/industrial functional bays. For example, adaptively repurposing a window opening as a doorway is preferable to opening a doorway in the centre of an architectural pilaster.

¹² City of Victoria, *Old Town Design Guidelines*, 2019. pp 20

¹³ City of Victoria, *Old Town Design Guidelines*, 2019. pp 30

¹⁴ City of Victoria, *Old Town Design Guidelines*, 2019. pp 22

Verandas or Awnings	Any new awning or veranda should be an appropriate contextual design response to the heritage place and one that can be removed without loss of heritage building fabric. ¹⁵
Mechanical and Electrical Systems (Including Machinery)	Obsolete electrical/mechanical systems and machinery should be retained. For spaces that are rendered unusable due to the sheer unusable mass of machinery (1st Floor Switch House) it is recommended that idiomatic examples be retained, and previous uses be interpreted through displays such as flooring patterns of relict plans. If keeping given removed mechanical equipment is not possible, then a suitable home should be found – such as the Edmonton Power Historical Foundation or Canadian Energy Museum. New additions should not attempt to insulate and service the LPP envelope generally (windows and doors aside) which would inevitably detract from character defining elements of interior heritage fabric, spatial and atmospheric qualities, and understanding of structure and materiality, but should be designed to service and insulate any ‘buildings-within-the building’.
Reversibility	While reversibility was once a mantra of the heritage profession re-treatability is recognised as a more realistic term. No intervention can ever truly be undone, but an intervention should be able to be modified in the future in a way that respects and maintains the historic character, or integrity, of the resource. Interventions should be maintainable and repairable. Additions should be removed without damage and significant loss of original fabric. For example, new wall perforations might be re-infilled again with retained original brick.
Services, Signage, and Ancillary Fixtures	Mechanical and electrical services, or signage, should be installed in a manner whereby they can be removed without damaging heritage building fabric. They are to be concealed from building elevations and historic viewsheds. Do not fasten mechanical fixings directly into any bricks or cast masonry units, instead fasten fixtures in the masonry joints surrounding a masonry unit. Mortar joints are designed to be sacrificial and of lesser heritage value, whereas masonry units are designed to be permanent and of greater heritage value. All signage applications must be approved by Alberta Culture. New signage should not obscure dates, building titles, or architectural ornamentation (pediments, capitals, cornices, etc.). Do not fasten mechanical fixings into bricks or cast masonry units, instead fasten fixtures to masonry joints.

¹⁵ City of Melbourne *Heritage Design Guide*, 2020. pp 19

5.2 Tolerance for Change: Opportunities & Limitations

“We require from buildings two kinds of goodness: first, the doing their practical duty well: then that they be graceful and pleasing in doing it.” - John Ruskin

This section focuses more on opportunities for change and development than it does on the limitations of change. Limitations of development are explicitly stated in the Statement of Significance (SoS), which includes a list of character-defining elements that should not be removed, obscured, demolished, or otherwise negatively impacted in so far as they reflect and communicate the heritage value of the historic place. That is not to say one cannot, for example, open a doorway where there never was one. The opportunities below describe some of these instances. However, the applicant, or potential developer, must ensure to respect and assume the spirit of the Statement of Significance - and the Municipal and Provincial Heritage Planners/Regulators will not be hoodwinked by any deviously minded or ignorant applicant.

In regard to the development of a historic resource, heritage conservation emphasizes protecting and enabling adaptive reuse in a respectful manner, and it is the details like specific location, size, form, and materials of a given intervention that predicates success (as suggested above in the Design Guidelines). An intervention might negatively affect the heritage fabric of a historic place, but if it is minor, such as individual loss of a repeated unit of fabric, and if that intervention is important to enable the long-term viability of the historic resource, then it could be considered both desirable, or a win, for the historic place. Some design opportunities are listed below in tables specific to the LPP, Pump House #1, Pump House #2, and ATCO Gas Building.

5.2.1 LPP, Opportunities & Limitations

Opportunity	Description of Opportunities & Limitations	Image
Indigenous Heritage Interpretation	Further incorporation of burial ground memorial with Rossdale landscape.	 The image shows a large, rectangular interpretive panel mounted on a metal frame. The panel is titled "TRADITIONAL BURIAL GROUND AND FORT EDMONTON CEMETERY COMMEMORATIVE SITE". It features a map of the site, several photographs, and text in both English and French. The panel is set outdoors in a snowy landscape with trees and a city skyline in the background. <i>Figure 12: Interpretive panel at the Rossdale Burial Grounds. (Source: DFS Architecture, 2021).</i>
Blue Stain in LPP	Retain blue stain as part of story of the industrial heritage of these spaces, preservation approach valorising an industrial past. However, consider stripping the blue stain from the Turbine Hall Main Operating Floor because of its higher aesthetic value to celebrate the architectural dimensions of this industrial space.	 The image shows a large industrial facility with several tall, cylindrical storage tanks and a complex network of pipes and valves. A group of people is standing in the foreground on a grassy area, looking at the facility. The sky is blue with some clouds. <i>Figure 13: At the Turner Valley Gas Plant historic site, decay and the palimpsest of different finishes have been embraced. Clear coatings, rather than opaque, are used for maintenance. (Source: Government of Alberta, n.d., https://www.travelalberta.com/us/listings/turner-valley-gas-plant-10654/).</i>

Returning to unpainted Cast Masonry Units

Allow the white paint to fade or as construction activities allow access, carefully remove loose sections so as not to damage the cast-masonry units below it. For reference, the cast masonry units of the West Elevation Boiler Hall have never been painted. A level of cleanliness would need to be established after revealing the condition of the substrate.

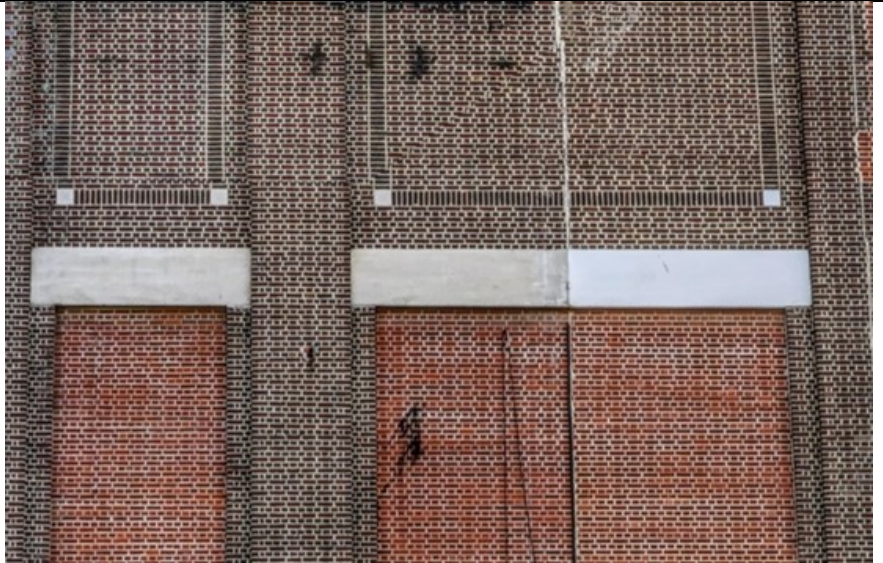


Figure 14: Figure 3: Unpainted cast masonry units on the west elevation of the Boiler Hall. The unpainted units can be seen to the left, while the painted unit can be seen on the right. (Source: Cloud360, 2021).

Insulating Existing Windows

One way of increasing on-site energy efficiency without altering the exterior appearance of the buildings may be to insert an insulated unit on the inside face of the original windows.

Photograph is from
Athlone Hall,
courtesy of
Chalmers
Conservation.



Values in Tension, Industrial VS. Architectural: Acceptance of Evidence of Change Over Time & Ruin-like Value	A championing of site industrial values suggests preservation of the evidence of change to buildings over time, favouring the cause and effects of industrial arrangement of function and process. However, architectural value champions notion like original design intent of Dewar's programmatic vision. Ideally, the treatment of the building would be a mixture or balancing of these two impulses between celebrating the obsolete industrial ruin-like heritage values with the architectural desire to restore visions of design intent.	 <i>Figure 15: The Tate Modern contemporary art museum exemplifies an architectural restoration approach to a former power plant. Here, visions of design intent are honoured. (Source: The Art Newspaper, 2020, https://www.theartnewspaper.com/news/tate-modern-turns-20).</i>  <i>Figure 16: Change over time at the Turner Valley Gas Plant heritage site is evident in the varying degrees of wear and tear across structures. The province has been considering clear coating these structures to preserve paint layers and evidence of change over time rather than period-specific restoration and opaque paint. (Source: GeoHistory Inc. n.d., https://www.geohistory.ca/turner-valley-gas-plant-field-trip.htm).</i>
Boiler Hall West Elevation - Landscape Access	Accommodate access by perforating the west elevation Boiler Hall's bricked up windows/base into doorways – including a former loading access ramp. Grade could be, in areas, raised to accommodate access.	 <i>Figure 17: Patio space has been tastefully added to an adjacent heritage building in Toronto's Distillery District. New doorways have been made in window areas to</i>

		enable commercial vibrancy and adaptive reuse. (Source: The Distillery District, n.d., https://www.thedistillerydistrict.com/).
Boiler Hall Tower Use	Can be converted into commercial or residential use – interior finishes other than craftsman style Douglas-fir doors and original windows, have no particular heritage value, and walls/floor/ceilings could be insulated and refinished as necessary.	 Figure 18: BOK, a former school in Philadelphia, is adaptively reused as a workplace of makers, non-profits, small business, and artists. Image above features an instrument repair shop. (Source: Spaces, https://www.buildingbok.com/).
Boiler Hall Mezzanine Use	Can be converted into community, commercial, or residential use – walls could be insulated and removable insulated windows inserted on interior side of original. Efforts should be made to retain original plaster with decorative finishes in oldest section of the Mezzanine (1932 & 1938).	

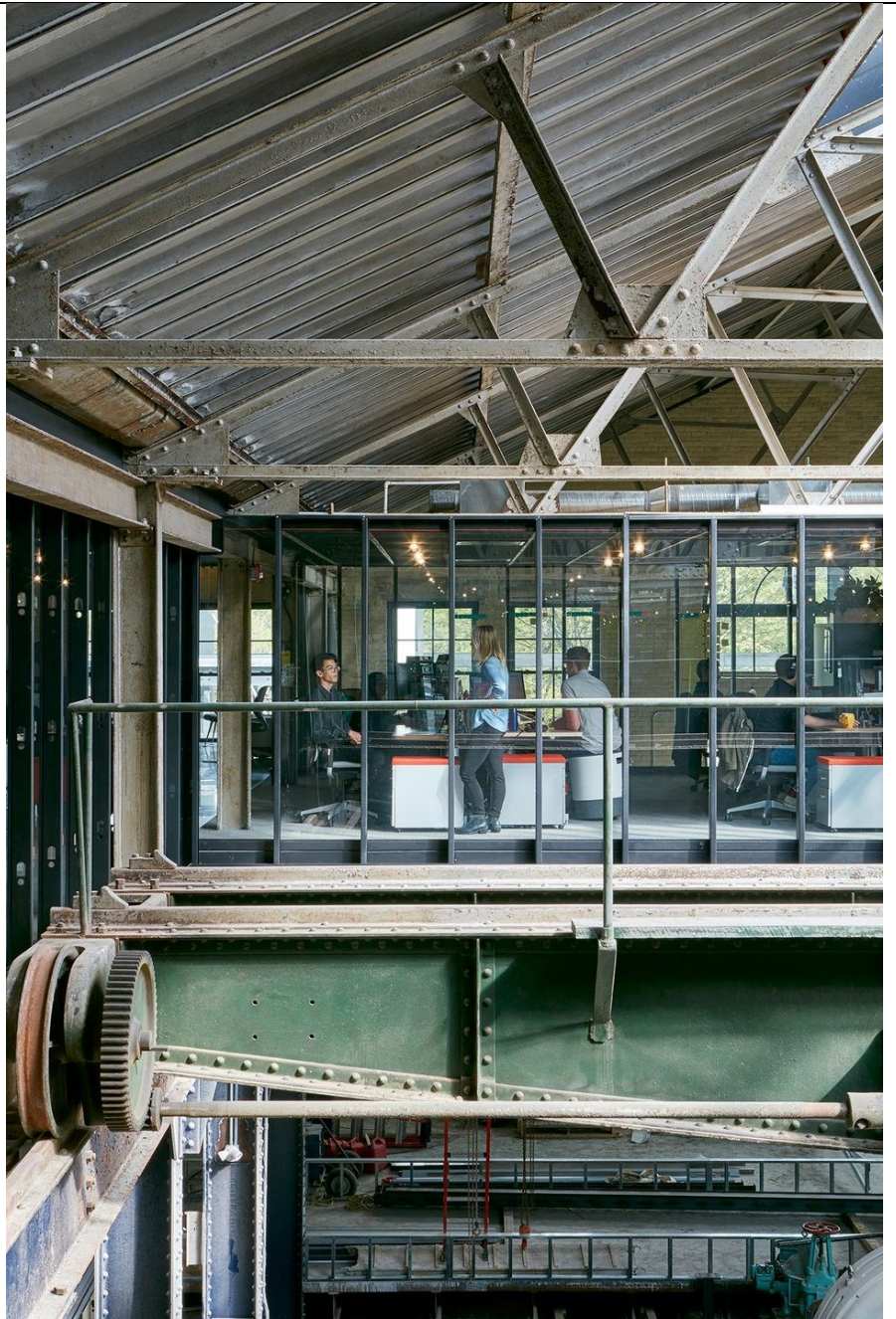
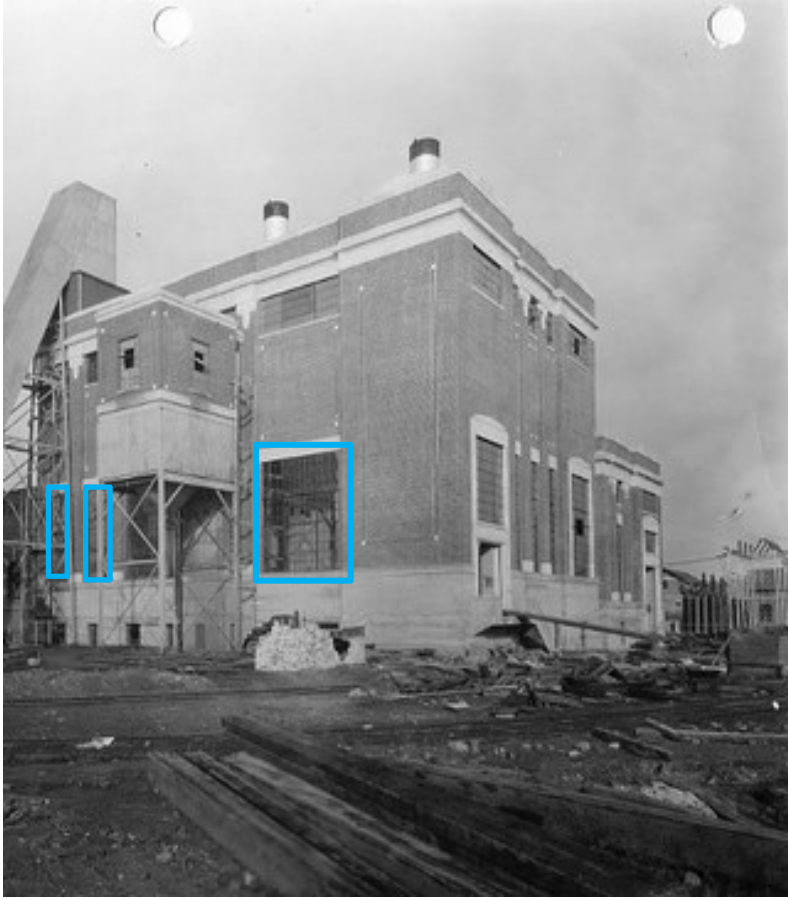


Figure 19: Mezzanine of James Avenue Pumping Station in Winnipeg, MB, adaptively re-used as commercial space. Architect: 5468796 Architecture. (Source: <https://archello.com/project/james-avenue-pumping-station>).

Boiler Hall Interior Partitions	Visually perforated partitions, glass or metal grates, that align with boiler hall bays can maintain view shed and provide opportunities for mixed-uses.	 Two Persons Coffee Dudley Street Workshop Cafe <i>Figure 20: BOK building in Philadelphia features a café in an adaptively re-used school (Source: https://www.buildingbok.com/)</i>
Reinstate Boiler Hall/Turbine Hall In-filled Windows	Bricked-In Windows could be re-instated as multi-light windows, possibly reinterpreted in design like the 1960s Turbine Hall insulated glass block for insulative purposes for energy efficiency.	 <i>Figure 21: 1939 south-westerly view of Boiler Hall exterior prior to the infill of rolled steel windows on the main floor.</i>

**Boiler Hall and
Turbine Hall
Floor
Openings**

Can be partially opened to allow for increased mobility and access. Coverings that maintain visual connection between the basement and operating floor is preferable to opaque ones.



Figure 22: The rehabilitation of an old archive in Spain unearthed the original architecture beneath. Glass flooring was used to allow visual access and protection of the original fabric at Arsenal of Cartagena. (Source: Martin Lajarraga Architects, 2010, <https://architizer.com/projects/rehabilitation-of-old-archive-fencing-hall-disarmament-warehouse-arsena-of-cartagena/>).



Figure 23: Archeological ruins beneath the New Acropolis Museum are protected and celebrated with glass flooring. (Source: Architect Magazine, 2009, Bernard Tschumi Architects, https://www.architectmagazine.com/design/buildings/esto-gallery-new-acropolis-museum_o).

**Turbine Hall
Bricked-In
Windows**

Bricked-In
Windows could be
re-instated as
multi-light windows,
possibly
reinterpreted in
design like the
1960s Turbine Hall
insulated glass
block.

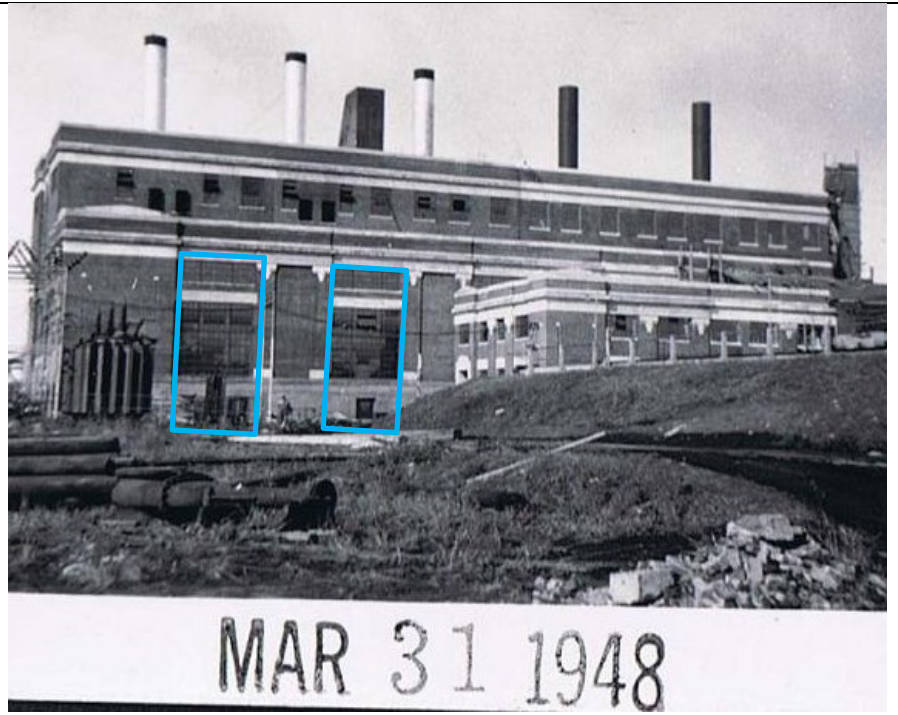


Figure 24: Archival photo of Turbine Hall east elevation with rolled steel windows outlined in blue. In the 1960's these windows were replaced with glass block.

Turbine Hall Access	Windows could be used as access, particularly where glass block and ventilation doors were added as later interventions.	 <i>Figure 25: Window is adaptively re-used as a door for accessibility in the South Agriculture Building, Washington DC. (Source: https://www.wbdg.org/design-objectives/historic-preservation/provide-accessibility-historic-buildings).</i>
Switch House Main Operating Floor Equipment Removal	Idiomatic examples of the Switch House Main Operating Floor equipment should be retained, but total retention is not necessary, and would otherwise be an expensive to maintain unproductive space. This wide open space could be adaptively reused for a variety of purposes.	 <i>Figure 26: BOK building in Philadelphia features in an adaptively re-used school (Source: https://www.buildingbok.com/).</i>

Exterior Doors

Exterior doors could be restored for weather resiliency, security, and function, but meet modern code or energy requirements with the strategic use of interior vestibules.



Figure 27: A new vestibule, complete with lift for accessibility, has been added to St. John's Library in Winnipeg. This renovation of a Carnegie library won a Heritage Winnipeg Conservation Award of Excellence. (Source: Public City

Architecture, n.d., <https://www.publiccityarchitecture.com/st-johns-library-renovation>).



Figure 28: Interior Glass Vestibule for Firebreak/Security/EnergyEfficiency while Maintaining Heritage Views at St.Patrick's Cathedral, NYC (Source: Seele, 2021)

5.2.2 Pump House #1, Opportunities & Limitations

Opportunity	Description of Opportunities & Limitations	Image
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**Install Visually
perforated**

Install grate or glass flooring across the PH1 main operating floor, above the historic machinery at the ground entrance level to gain usable space but maintain visual connection and interpretation of space.



Figure 29: Project 21c Museum Hotel in Nashville, Tenn. features a glass, fire resistive floor. (Source: Building Design Construction Network, 2017).

**Insulate
Existing
Windows**

One way of increasing on-site energy efficiency without altering the exterior appearance of the buildings may be to insert an insulated unit on the inside face of the original windows.

Photograph is from
Athlone hall.



Exterior Doors

Exterior door could be restored for weather resiliency, security, and function, but meet modern code or energy requirements with the strategic use of an interior vestibule.



Figure 30: Pump house in Winnipeg adaptively re-used as restaurant. (Source: Colliers, Retail Market Study, 2020).

5.2.3 Pump House #2, Opportunities& Limitations

Opportunity	Description of Opportunities & Limitations	Image
Main Operating Floor Re-Use	This wide open space could be re-used as a commercial space. New access may need to be established on south or west elevations for accessibility.	 <i>Figure 31: Pump house in Winnipeg adaptively re-used as a restaurant. (Source: Collers, Retail Market Study, 2020).</i>
Exterior Door	The principal exterior door could be restored (repainted) or preserved (clear coat) for weather resiliency, security, and function, but meet modern code or energy requirements with the strategic use of an interior vestibule.	 <i>Figure 32: (Source: https://lambertarchcs.com/portfolio/st-johns-sanctuary-door-restoration/)</i>

**Exterior
access to
Main
Operating
Floor**

Reinstatement/ reinterpretation of the main operating floor level exterior catwalk, south elevation, as a balcony/patio, or potentially as a point of access (would require perforating this south wall). The west elevation could also be considered an ideal candidate for access to this floor from the exterior. The east elevation is not ideal because of the wrapping staircase.



Figure 33: Armstrong Oil and Gas Headquarters, Denver, Colorado, adaptive re-use incorporating a rooftop patio. (Source: Adaptive Reuse Info., 2016).

5.3 Indigenous Consultation / Community Engagement as part of Future Design Process

The project team is adamant that future design of adaptive re-use and developments should take active roles in community engagement and Indigenous consultation, both of which should follow the City's [Indigenous Framework](#). It is not anticipated that these activities are required for the AAPR due to the nature of its scope, primarily stabilisation, conservation, and health and safety code related works.

Consultants [Naheyawin](#) have included a guide for the inclusion and engagement of Indigenous peoples specifically, as their narratives have notably been lacking from consideration of the heritage value of Rosssdale Power Plant specifically, and of more detailed consideration in its more permanent adaptive re-use, as opposed to the River Crossing and Rosssdale area more generally. However, as seen in section 3.0, it is acknowledged that limited Indigenous views in regards to the Rosssdale Power Plant have been captured through the Rivers Crossing engagements. It is envisioned that future design processes beyond AAPR, that involve more substantive building intervention and permanent use follow Indigenous engagement as below, and in accordance with the City's Indigenous Framework.

Non-indigenous community engagement should also follow the [City's Public Engagement Framework](#) as well. It is also suggested that consultation could be coupled with other nearby City consultation processes, for instance an Indigenous park neighbouring Rosssdale Power Plant to the north or the Gondola proposal, if more permanent designs are developed enough for more serious consideration at that given time. Other relevant contemporary engagement projects, such as [The Ribbon of Green](#), should also be aligned the Rosssdale Power Plant AAPR and Touch the Water.

5.3.1 Purpose & Objectives

In order to engage the diversity of Indigenous peoples who have relationships to the Rosssdale Power Plant and surrounding lands in a co-design process, a robust and rooted strategy must be developed and implemented.

Such a strategy should pursue the following activities, utilizing Indigenous community-building and decision-making frameworks to:

1. Continue the ongoing dialogues among and between Indigenous peoples about the layers of place and meaning of the Rosssdale Power Plant and surrounding lands;
2. Co-design visions of the long and short-term future of the Rosssdale Power Plant and surrounding lands;
3. Provide avenues for deepened relationships of Indigenous peoples to the lands, histories, and futures of the Rosssdale Power Plant and surrounding lands.

A fundamental commitment upon which this engagement process is built is that of demonstrating respect for past contributions of Indigenous peoples to consultation processes regarding this and similar projects within

the city of Edmonton. This commitment recognizes the cultural and historical knowledges shared by Indigenous communities to date, and positions subsequent conversations as part of a continuous, ongoing dialogue.

Additionally, as noted in previous sections of this document, alignment with articles in UNDRIP will be aspired to, including the principle of gaining free, prior, and informed consent from Indigenous communities, rather than a consultation process geared towards information sharing and data collection.

5.3.2 Roles

In line with emerging best practices in Indigenous engagement, steps should be taken to ensure that these conversations are led and shaped by Indigenous stakeholders, and that those participating in the process are individuals who have ties to stakeholder communities. However, meaningful and clear roles for non-Indigenous collaborators will be critical to the success of the engagement process.

In respecting the work done to date by Indigenous people and communities in relationship to the Rossdale Power Plant and surrounding lands, we recommend utilizing the roles developed by the City of Edmonton in their Indigenous Framework of *Listener*, *Advocate*, *Partner*, and *Connector*.

Role	Description
Listener (Witness)	We listen, with open hearts and minds, when Indigenous people share their stories and experiences.
Advocate	We stand with Indigenous people to create a safe and inclusive city where everyone is treated with dignity and respect.
Partner	We work in partnership with Indigenous people to improve the physical, mental, spiritual and emotional well-being of Indigenous people in Edmonton.
Connector	We connect Indigenous people to the things that matter to them and foster relationships to create positive change.

These roles should be regularly revisited and renewed by non-Indigenous collaborators in this process, and Indigenous community members should be made aware of these roles to engage in relational accountability processes as required.

5.3.3 Approach

The following multimodal, relationship-based process will be organized around convening circles of Indigenous individuals, communities, and key stakeholder institutions in accessible, strength-based, and future-focussed conversations. These dialogues may range in their direct applicability to the Rossdale Power Plant but will accrue valuable insights that can be later applied to the design solution(s).

Opportunities for these convened circles should include independent events and interactions, as well as intercept-style engagements which take place adjacent to gatherings of Indigenous communities for other purposes such as cultural events, sporting events, or job fairs.

5.3.4 Frames & Provocations

In order to produce co-designed solutions for the Rosedale Power Plant, discussions that took place during the making of the *River Crossing Heritage Interpretive Plan* and *River Crossing Business Plan* must be expanded upon. These discussions should sprout from the themes which emerged in these consultations, including *Territory & Land, Lived Experience, Making & Trading, Connecting & Understanding*.

This expanded dialogue can be sparked through the intentional efforts to frame discussions within Indigenous worldviews and utilizing Indigenous research methods such as Two-Eyed Seeing¹⁶, Ethical Space making and Self-Location¹⁷, and by taking steps to grow the diversity of voices included in these discussions. This diversity should encompass the Indigenous peoples who may not have formal, federally- or provincially-recognised ties to these lands, but choose to lead their lives in Edmonton, as well as those from underrepresented subsets of Indigenous communities, including women, youth, and 2SLGBTQA+ people.

5.3.5 Methods & Instruments

Providing a range of opportunities for contributions should be explored to draw in a broad cross-section of the experiences, perspectives, and aspirations of Indigenous communities being convened.

These opportunities could include:

- **Talking Circles:** Small groups gathering to discuss a topic in considerable depth. This method is most effective for deepening understandings, widening frames, and engaging in ideation and design processes.
- **Artistic Reflections:** Flexible opportunities for artistic expression in response to the witnessing of a Talking Circle or to respond to insights and trends identified in Talking Circles, Interviews, and Questionnaires. These opportunities are most widely accessible to all stakeholder types.
- **Questionnaires:** Short-form surveys designed to validate or confirm understandings. This method would be most commonly used to affirm outcomes and trends identified in Talking Circles, Interviews, and Artistic Reflections.
- **Interviews:** One-on-one discussions designed to capture the perspective of an individual. This method is effective in gaining detailed, contextual information from knowledge keepers or those with unique lived experiences and perspectives.

¹⁶ Bartlett, Cheryl & Marshall, Murdena & Marshall, Albert. (2012). Two-Eyed Seeing and other lessons learned within a co-learning journey of bringing together indigenous and mainstream knowledges and ways of knowing. *Journal of Environmental Studies and Sciences*. 2. 10.1007/s13412-012-0086-8.

¹⁷ Peltier, C., Manankil-Rankin, L., Paulin M., Anderson, P., Hanzlik, K. (2019). Self-Location and Ethical Space in Wellness Research. *International Journal of Indigenous Health*, 14(2), 39-53. DOI:10.32799/ijih.v14i2.31914

5.3.6 Communications

As identified in previous engagement processes for the Rossdale Power Plant, the ongoing and transparent sharing of knowledges and stories back to the Indigenous communities will be critical to the success of this project.

Channels for this communication should include open opportunities such as the City of Edmonton's Indigenous Bulletin as well as niche, smaller-scale communications channels that may be gained through forging partnerships with established community organizations.

Methods for outreach and continued dialogue should include:

- Social Media
- Grey Literature
- Speculative Storytelling & Art

5.3.7 Engagement Phases

While the engagement process itself will be dynamic, allowing stakeholders to follow Indigenous protocols and flex to the needs of the communities, the following phases encompass the key milestones, decisions, and methods for engagement.

5.3.8 Ceremonial Opening

An appropriate ceremonial opening to this engagement process should be designed and hosted by Elders, knowledge keepers, and other important stakeholders from previous engagement processes. Note that this should be done before any formal community engagements, and should be among the first external communications materials produced for this engagement process.

5.3.8.1 Phase 1: Confirming & Expanding Dialogues

In multiple talking circle-style gatherings, convened Indigenous individuals, families, and organizations will:

- Review the outcomes of past conversations about the Rossdale Power Plant and surrounding lands,
- Confirm the purpose, objectives, roles, and engagement approach, and
- Collaborate on expanding the stakeholder map by defining important sub-populations of Indigenous communities in Edmonton and surrounding areas.

Gathering on the lands being discussed or within other important venues for Indigenous stakeholder groups should be considered, including community centres, ceremonial grounds, or arts spaces.

A community event to bring together the identified stakeholder groups for the Rosssdale Power Plant and surrounding lands could be hosted, with final feedback from that event serving as the transition point to Phase 2.

5.3.8.2 Phase 2: Multigenerational Visioning

Utilizing questionnaires, talking circles, interviews, and artistic reflections with broad stakeholder groups as well as identified specialized groups, stakeholders will engage in visioning processes through a multigenerational lens. Such visions will depict futures 150-175 years from today, captured in an artistic expression such as speculative fiction and accompanying rationale.

These dialogues and artistic responses, if agreed upon in Phase 1, could be revisited in multiple rounds of engagement in order to allow for fully expanded discussion.

A community event to showcase the multigenerational visions for the Rosssdale Power Plant and surrounding lands could be hosted, with final feedback from that event serving as the transition point to Phase 3.

5.3.8.2 Phase 3: Designing for Our Time

Utilizing Talking Circles and interviews with broad stakeholder groups and identified specialized groups, stakeholders will discuss design solutions for the next 5-30 years for the Rosssdale Power Plant. These discussions should be framed within the multigenerational visions generated in the preceding phase.

These design solutions, if agreed upon in Phase 1, could be revisited in multiple rounds of engagement in order to allow for fully expanded discussion.

A community event to showcase the design solutions for the Rosssdale Power Plant and surrounding lands could be hosted, with final feedback from that event serving as the end point for this engagement phase. Artists engaged in the development of the multigenerational visions of Phase 2 could be invited to assist with framing the design solutions within the context of the visions.

5.3.9 Ceremonial Close

An appropriate ceremonial closing to this engagement process should be designed and hosted by Elders, knowledge keepers, and other important stakeholders from the engagement process.

5.3.10 Stakeholders

As a starting point for convening Indigenous communities, we recommend reaching out to the following stakeholder groups consisting of formal representatives, service providers, and advocacy groups.

Type	Stakeholder
Treaty 6 First Nations	Alexander First Nation

	Beaver Lake Cree Nation
	Alexis Nakota Sioux Nation
	Cold Lake First Nations
	Enoch Cree Nation
	Ermineskin Cree Nation
	Frog Lake First Nation
	Heart Lake First Nation
	Kehewin Cree Nation
	Louis Bull Tribe
	Montana First Nation
	O'Chiese First Nation
	Paul First Nation
	Saddle Lake Cree Nation
	Samson Cree Nation
	Sunchild First Nation
	Whitefish (Goodfish) Lake First Nation 128
Métis Organizations	Métis Nation of Alberta
	Metis Settlements General Council
Tribal/Regional Organizations	Athabasca Tribal Council
	Blackfoot Confederacy
	Confederacy of Treaty Six First Nations
	Kee Tas Kee Now Tribal Council
	Lesser Slave Lake Indian Regional Council
	Maskwacis Cree Tribal Council
	North Peace Tribal Council
	Stoney Nakoda - Tsuut'ina Tribal Council
	Treaty 8 First Nations of Alberta
	Tribal Chiefs Ventures Inc.
	Western Cree Tribal Council
	Yellowhead Tribal Council
Agencies, Services, and Advocacy Groups	Aboriginal Veterans Society of Alberta
	Aksis-Edmonton's Aboriginal Business and Professional Association
	Alberta Indian Investment Corporation
	Alberta Native Friendship Centres Association (ANFCA)
	Amiskwaciy Academy
	Ben Calf Robe Society
	Bent Arrow Traditional Healing Society
	Boyle Street Community Services
	Boyle Street Education Centre
	Creating Hope Society
	Edmonton Indigenous Seniors Centre
	Edmonton Native Healing Centre
	Indigenous Knowledge and Wisdom Centre (IKWC)
	Institute for the Advancement of Aboriginal Women
	Maskwacis Cultural College
	Michif Cultural Connections

	Native Counselling Services of Alberta
	Norquest College
	Oteenow Employment and Training Society
	University of Alberta - Faculty of Native Studies
	University of Alberta - Faculty Extension, Indigenous Programs
	Yellowhead Tribal College
National Groups	Canadian Council for Aboriginal Business
	Inuit Tapiriit Kanatami
	National Association of Friendship Centres
	Native Women's Association of Canada

5.4 Future Site & Building Maintenance

“Sustainability is not possible without durability [...] Once constructed a building becomes a machine that ‘needs to be fed’.” -Joseph Lstiburek, 2006

All buildings, or property, require constant maintenance to maintain expected levels of deterioration, or loss of value, over time. Regular maintenance and monitoring are integral to this process, and actually saves money in the long-term in comparison to periodic restoration-like campaigns which influxes larger amounts of money into a property over longer periods of time.

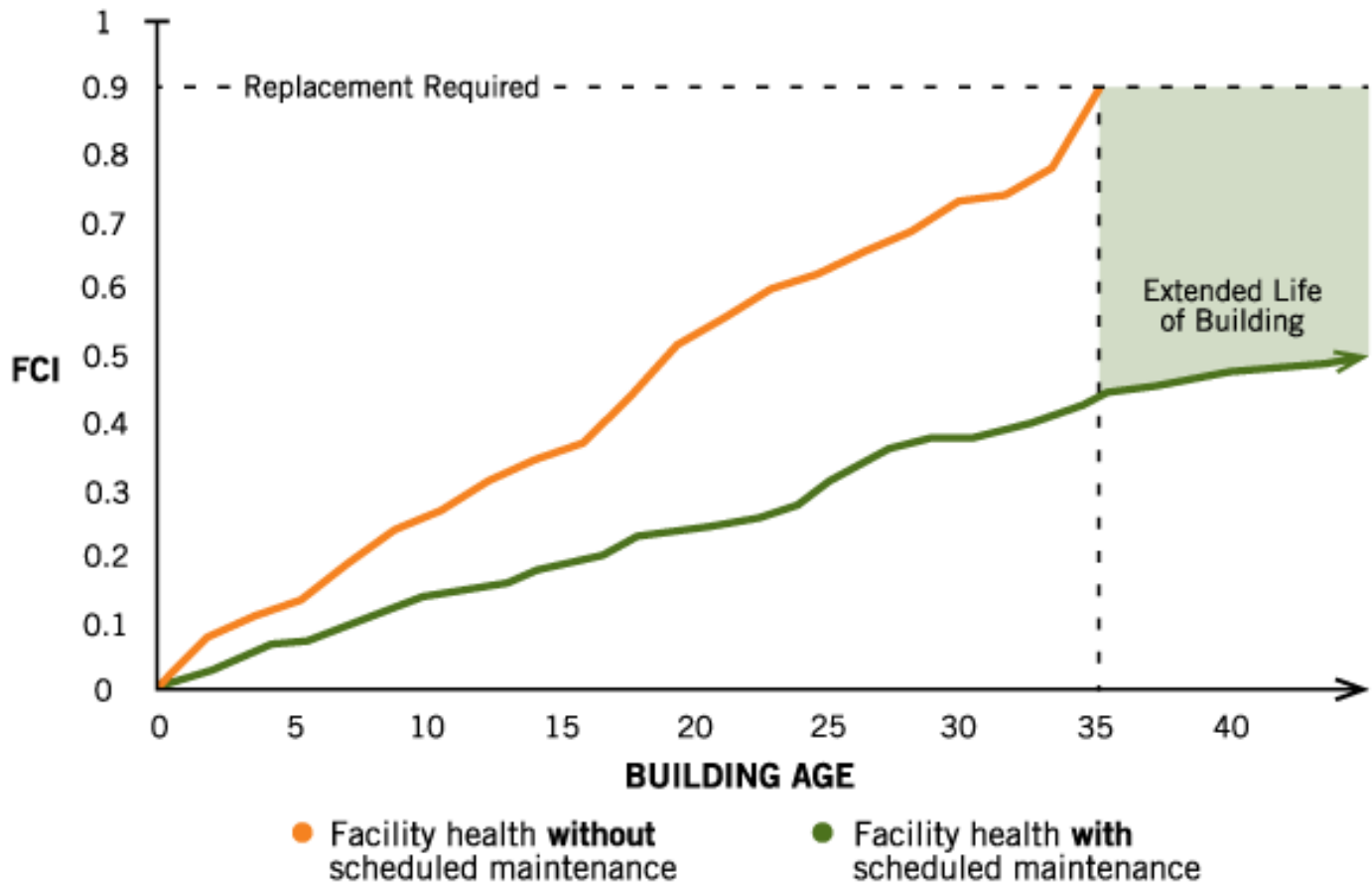


Figure 34: According to facilities management best practices, it's apparent that buildings require cyclical investments for increased service life of building components. FCI=Facilities Condition Index. (Source: BCIT, Maintenance Planning.)

Figure 1

Small but Timely Renewal Investments Save Money

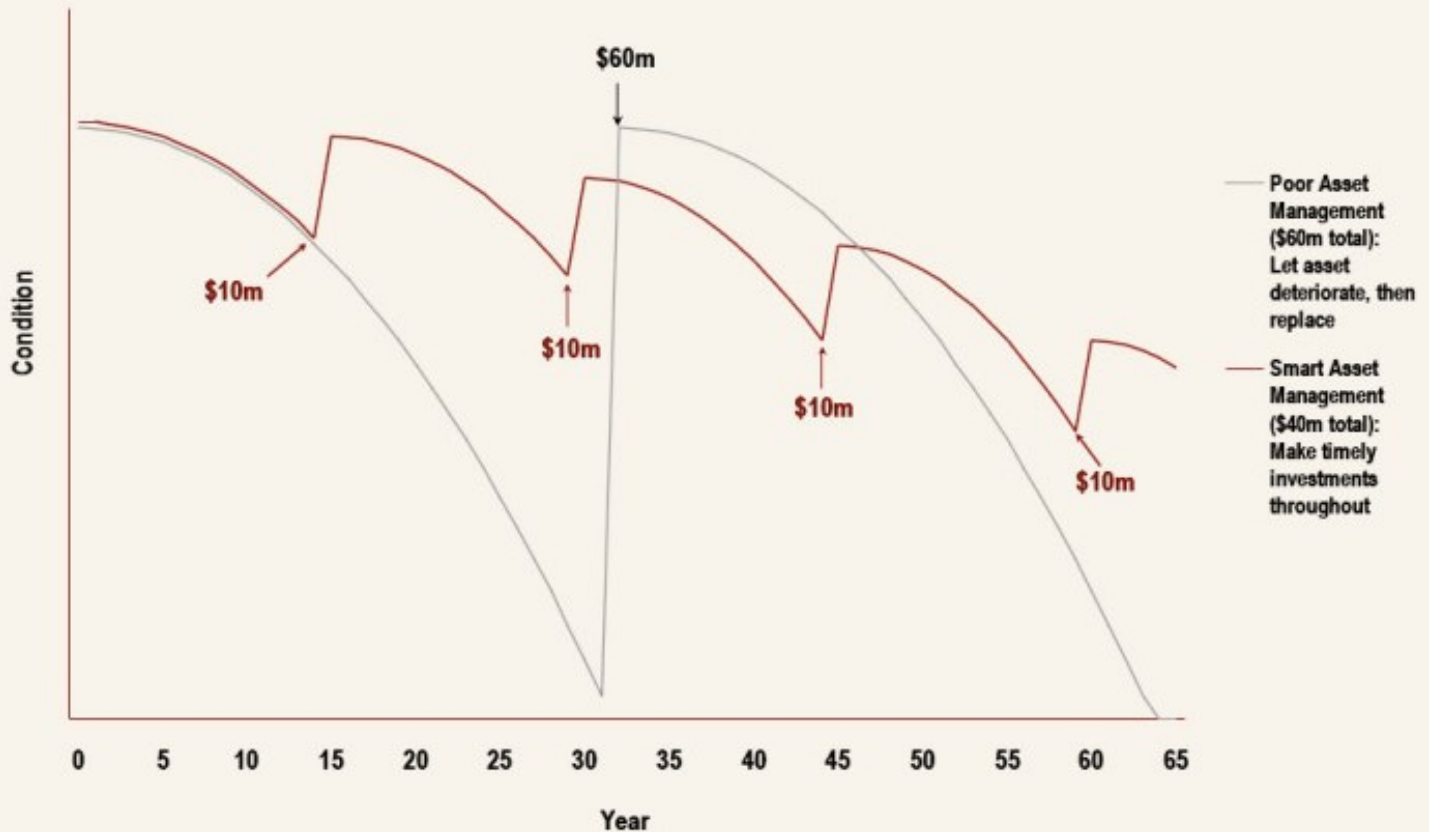


Figure 35: While scheduled building maintenance requires numerous small investments, the result is usually a significant overall cost savings. (Source: Government of Ontario, "Guide for Municipal Asset Management Plans", 2016.)

Asides from the more pressing remedial treatments associated with end of service-life components currently, which will be captured in another document deliverable, the Priority Rehabilitation, the following table recommends the following activities as part of a cyclical maintenance program, necessary for the long-term conservation of the resources. These are broken into categories of regular maintenance, monitoring, or larger periodic intervention as required. As an administrative aid, the table below should become a part of a facilities maintenance managers regular checklist. This list is not exhaustive, but is preliminary and live, and should be iterative in nature as the building's needs change over time. The building owner will need to develop not only semi-annual and annual maintenance lists, but also develop a monitoring program. Monitoring is essential as it can track progression of deterioration and inform the priority of maintenance needs before more advanced levels of intervention are required.

5.4.1 LPP

Activity	Activity Description
Roof Inspection & Cleaning, Annual - Autumn	1) Inspect chimney stacks/supports. 2) Clean any accumulated detritus on roof, particularly along parapets/drainage pathways. 3) Inspect parapets/flashing.
Window Inspection & Cleaning, Annual	1) Inspect windows for possible breaks and cleanliness. 2) Clean windows as necessary/clearing detritus from sills. 3) Clean-up and replace any broken glazing units as necessary.
Masonry Inspection	1) Follow local façade inspection ordinances, semi-annual inspections for Health & Safety. 2) Periodic repointing campaigns based on conditions identified through monitoring as above.
Concrete Inspection, Annual	1) Inspect exterior concrete spalls, if necessary patch. Match material properties of original material.
Basement Heating, Annual - Autumn to Spring	1) Ensure heating system is setup and running in building basement before cold temperatures commence.
Entrances/Thresholds, Annual - Winter	1) Clear all snow with shovels and ice breakers to avoid wood deterioration – avoid the use of de-icing salts as they hasten material degradation.
Chimney Stack Inspection, Annual	1) Inspect guy-line connection points, and building anchors. 2) Inspect coatings, recommend recoating as necessary.
Monitor Cementitious Patch in Switch House Main Operating Floor, Annual	1) Inspect vertical cementitious patch on brick work, as discussed in the building conditions assessments for cracks.
Inspection of Lighting, Quarterly	1) Inspect all light fixtures for operability, and address if deficient (replace bulbs/call electrician).

5.4.2 Pump House #1

Activity	Activity Description
Roof Inspection & Cleaning, Annual - Autumn	1) Clean any accumulated detritus on roof, particularly along parapets/drainage pathways. 2) Inspect roof hatch for seal against elements. 3) Inspect parapets/flashing.
Window Inspection & Cleaning,	1) Inspect windows for possible breaks and cleanliness.

Annual	2) Clean windows as necessary/clearing detritus from sills. 3) Clean-up and replace any broken glazing units as necessary.
Concrete Inspection, Annual	1) Inspect exterior exposed rebar and honeycomb patterned concrete on the underside of the cornice for Health & Safety considerations. 2) Inspect interior concrete, particularly at the basement main floor level where spalling due to corroding rebar is currently active due to free water ingress. 3) Inspect exterior concrete spalls, if necessary patch. Match material properties of original material.
Water Intakes Inspection, Quarterly	1) Inspect metal valve heads for any active water leaks, correct as necessary.
Basement Inspection & Cleaning, Annual	1) Inspect former water inlets and pipes for any active water ingress. 2) Inspect state/function of sump pump system. 3) Clean any detritus/soil deposits as necessary.
Basement Heating, Annual - Autumn to Spring	1) Ensure heating system is setup and running in building basement before cold temperatures commence.
Entrances/Thresholds, Annual - Winter	1) Clear all snow with shovels and ice breakers to avoid wood deterioration – avoid the use of de-icing salts as they hasten material degradation.

5.4.3 Pump House #2

Activity	Activity Description
Roof Inspection & Cleaning, Annual - Autumn	1) Clean any accumulated detritus on roof, particularly along parapets/drainage pathways. 2) Inspect roof hatch for seal against elements. 3) Inspect parapets/flashing.
Basement Inspection & Cleaning, Annual	1) Inspect former water inlets and pipes for any active water ingress. 2) Inspect state/function of sump pump system. 3) Clean any detritus/soil deposits as necessary.
Concrete Inspection, Annual	1) Inspect interior concrete, particularly at lower basement levels due to free water ingress, and also exterior at waterline. 2) Inspect exterior concrete spalls, if necessary patch. Match material properties of original material.

Water Intakes Inspection, Quarterly	1) Inspect metal valve heads for any active water leaks, correct as necessary.
Entrances/Thresholds, Annual - Winter	1) Clear all snow with shovels and ice breakers to avoid wood deterioration – avoid the use of de-icing salts as they hasten material degradation.
Basement Heating, Annual - Autumn to Spring	1) Ensure heating system is setup and running in building basement before cold temperatures commence.

5.4.5 Methodology in Conservation Treatments

Specifying remedial repair treatments in a historic building should take into consideration the material properties, and overall building science, considering the known predominant building technologies used. For instance, concrete from the decades of interest, the 1930s, 40s, and 50s, all witnessed strength gains. In turn, the concrete of the 2020s is guaranteed to be significantly stronger and different in other material properties of interest, and in some cases is more than double in strength.

Table 6-3 Default Lower-Bound Compressive Strength of Structural Concrete (psi)					
Time Frame	Footings	Beams	Slabs	Columns	Walls
1900–1919	1000–2500	2000–3000	1500–3000	1500–3000	1000–2500
1920–1949	1500–3000	2000–3000	2000–3000	2000–4000	2000–3000
1950–1969	2500–3000	3000–4000	3000–4000	3000–6000	2500–4000
1970–Present	3000–4000	3000–5000	3000–5000	3000–10000	3000–5000

Figure 36: FEMA 356 - Criteria for Evaluating Strength of Concrete in Historic Assemblies (FEMA 356, 2000)

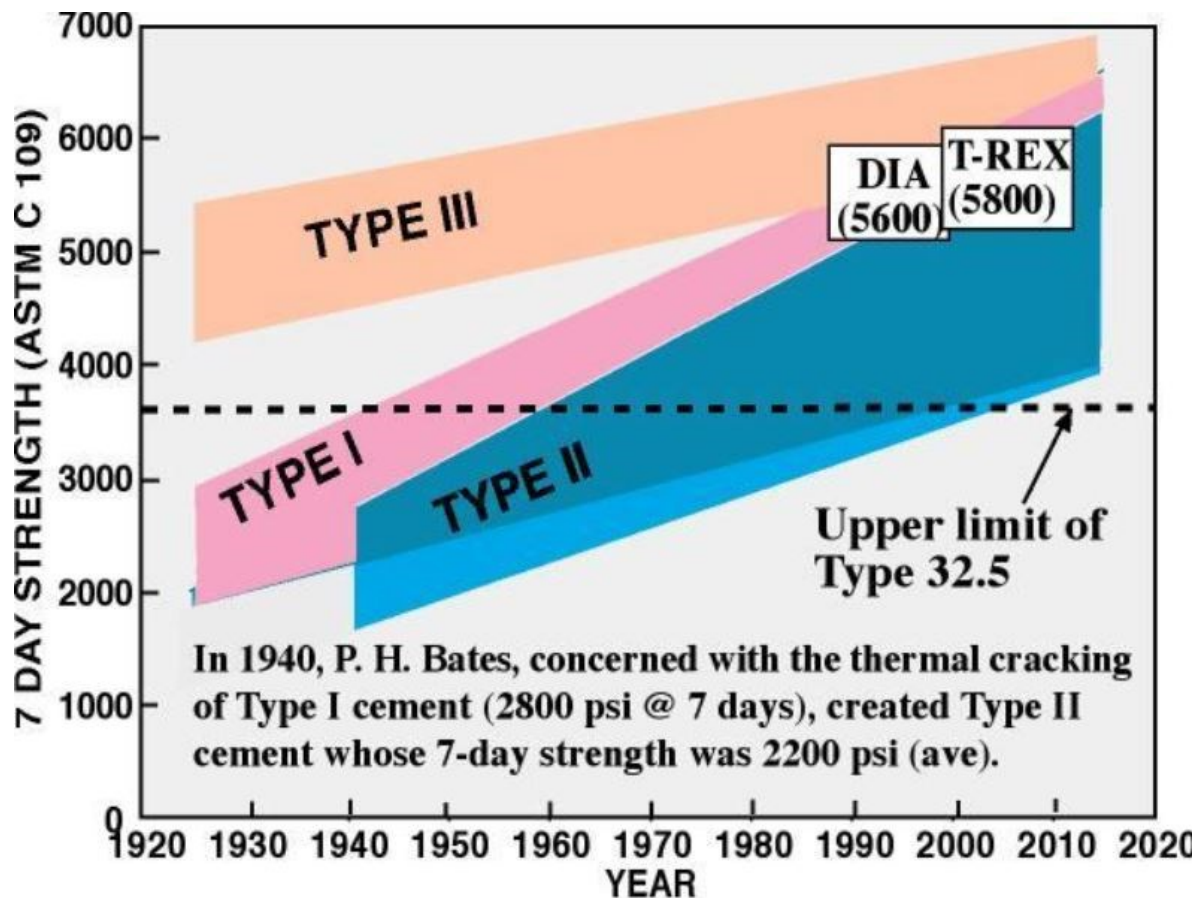


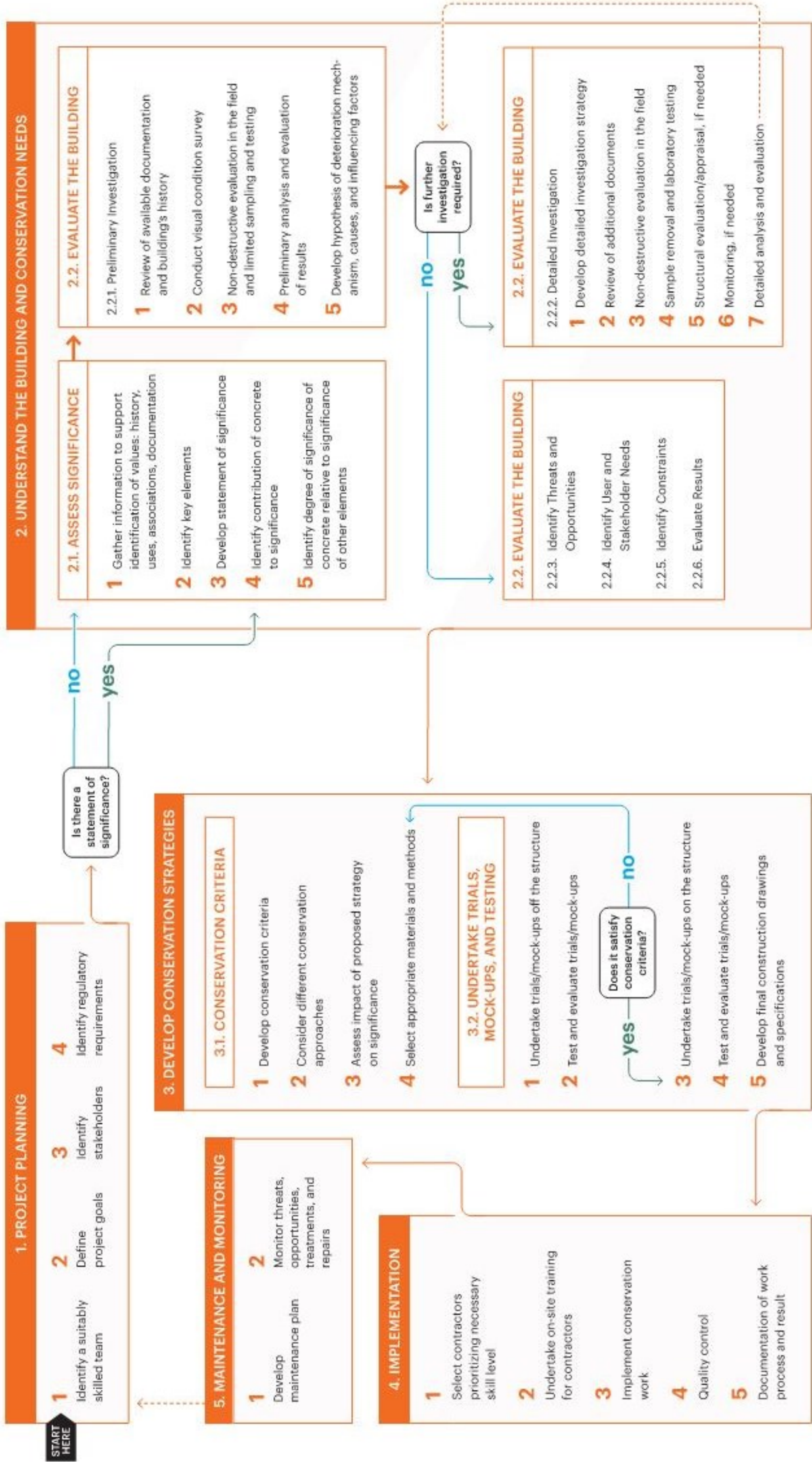
Figure 37: Concrete Durability (https://www.concreteconstruction.net/how-to/materials/concrete-durability_o, 2020)

Understanding known histories of building materials and technologies used at Rossdale will help inform conservation treatments. For instance, the above graphs of concrete and cement strength not only informs concrete conservation, but also the cast-masonry units, brick mortar, cast-masonry unit mortar, plasters, and glass block mortars used, as all have cement as significant binder constituents.

The Getty Conservation Institute (GCI) has been doing much work in the specific field of the conservation of modern architecture, and through this has developed a holistic conservation planning and treatment specifying framework for approaching concrete buildings, as seen below. While the suggested flowchart below is intended to specifically refer to concrete, it is equally applicable to any built heritage material, including fibreboard, brick, cast-masonry units, mortar, paint, terrazzo, plaster, metal, etc. The desire of the conservation professional is to avoid the use of incompatible modern materials that either fail, or worse, have deleterious effects on the historic substrate. Defining compatibility and appropriate treatment in a historic resource often requires coordination of on-site investigations, material testing, and mock-ups. These are all tested against the Burra Charter Conservation Planning process as illustrated in Section 1 of this report.

THE CONCRETE CONSERVATION PROCESS

FIGURE 5 Flowchart illustrating the entire concrete conservation process, combining best practices in concrete repair and conservation processes (see fig. 3).



The framework above specifically refers back to the Burra Charter/Conservation Planning process whereby:

- 1) Project Planning precedes a deliberate and focussed inquiry into an;
- 2) Understanding of the building conservation needs, which informs the;
- 3) Development of conservation strategies, that are actually;
- 4) Implemented as conservation works required as informed by the preceding two sections of work, to be followed by;
- 5) Cyclical maintenance and monitoring.

As a conservation process that should be followed for all historic fabric, the deliverables of the AARP (Conservation Plan, Historic Building Record, Conditions Assessment, and Priority Rehabilitation) live in the realm of #1 & #2, project planning and understanding of building and conservation needs. The next phases of schematic and developed design will advance the strategies to address these (#3), see through their implementation (#4), whereafter building owner takes increased responsibility for cyclical maintenance which extends to building monitoring (#5).

5.5 Conclusion and Future Work

Further archival research, investigations, or planning actions are recommended for site conservation as below:

- 1) The Dominion Bridge Company was involved in the construction and provision of steel for every period of expansion of the power plant. Do salient [archival records](#) survive despite bankruptcy and change? There is reference to a finding aid within Government Canada archives, these files would need to be accessed to find out.
- 2) As above, PCL Archives access could secure further information about power plant expansions and Pump House #1, perhaps even unknown original drawings or archival photographs. The authors attempted to make contact but was unsuccessful.
- 3) The City of Edmonton Archives had specifications for 1932 and 1938 relating to the construction of the power plant, found in old contract documents between the city and contractors. What about the latter periods of expansion? Later specifications could reveal critical information that could avoid costly material testing and would inform the specifications of remedial conservation treatments. If there are additional avenues or ways that the city can use to find these documents, it would be very useful.
- 4) Can more information be gathered about Pump House #2 via its Kasten & Longworth and Prof. I.F. Morrison associations? For instance, the University of Alberta has an I.F. Morrison laboratory, can further biographical details or details of involvement be worked out? The authors attempted contact at the University of Alberta but unfortunately did not receive any responses.
- 5) Continued Archaeological mitigation and study as per the opportunities associated with site developments. Nancy Saxberg has identified the area to immediate south of the Switch House and East of the southern half of the Turbine Hall as places of great interest with potentially intact Fort Edmonton related resources as based on the geometry of wall lines discovered just to the north.
- 6) A site-specific Interpretation Plan should be developed for touristic display and heritage interpretation of site values, history, and significance. Emphasis should be given to the palimpsest of site values over time and diverse communities and narratives, with the use of the plethora of available archival material (photographs, drawings, written word, memories etc..). As per the River Crossing Business Plan,

emphasis of the deep Indigenous connections to this site is also recommended. As demonstrated through previous community consultation surrounding the River Crossing Heritage Interpretative Plan there is great public interest on these subjects.

- 7) There are grounds for consideration to commemorate Rossdale Power Plant as a National Historic Site of Canada, this recognition could aid site re-development and future conservation as it would become, a) eligible for [national cost-sharing programs](#) for site-conservation works, consultancy/design work, or interpretive display or marketing and; b) could help raise public appreciation through associated media attention – potentially encouraging private funds or partnership for site re-development. Furthermore, there may be an impetus to leverage the site’s rich palimpsest of connections, including indigenous heritage as part of Truth & Reconciliation (TRC) policies, “Call to Action 79(ii) which calls upon the Government of Canada to revise the policies, criteria, and practices of the [National Program of Historical Commemoration](#) to integrate Indigenous Peoples’ history, heritage values and memory practices into Canada’s national heritage and history.”¹⁸

Furthermore, as mentioned in Section 3.3.4, the site of Fort Edmonton V has been mistakenly identified and commemorated as Fort Edmonton III. It would be fitting to recommend both correction of this designated site along with an expansion of it to include the wider cultural landscape of Fort Edmonton IV / Fort Augustus IV, indigenous occupation, site of provincial inauguration, and Rossdale Power Plant powering development of the city and province as a broadened and deepened understanding of the site’s wider network of significance, similar to that of [The Forks National Historic Site](#) (NHS) in Winnipeg, MB.

- 8) Iterative updating of this document would position this plan as a central clearing house of information and policies as the site continues to develop and new information comes to light.

This Conservation Plan supports a mixed preservation and restoration approach to the conservation of the buildings on site. This type of approach is consistent with, and provided for, by the *Standards and Guidelines for the Conservation of Historic Places in Canada*. The palimpsest of Indigenous, Fur-Trade, Colonial Settler, Architectural, and Industrial values should be conserved and interpreted through not only preservation of existing historic fabric but also the development of interpretative programs and restoration of character defining elements.

¹⁸ Parks Canada, “National Program of Historical Commemoration.” Accessed Online 2021-02-17 at: <https://www.pc.gc.ca/en/culture/clmhc-hsmbc/ncp-pcn/evaluation>

There is a risk in a project like this that an overly clinical approach be taken, one that overly sanitizes a site, cleans it to the point where its raw industrial value is diminished. There is no doubt that in Rosssdale's current state that it has a slight ruinous atmosphere, but this is exactly part of what makes this space special, as a direct result of its industrial past. The tensions of values between architectural and industrial value, for instance, could lead a project team to favour one over the other – perhaps preserving salt stains where cleaning gypsum is necessary for masonry health, or restoring a former masonry opening with brick that matches its surroundings even though its disharmonious appearance is exactly what provides for understanding of an important former coal tower location.

Where possible, existing fabric, whether pristine, soiled, present, or erased, should be conserved, and cleaning should not be overly extensive or aggressive. For instance, the blue abatement stains in interior basements of the Turbine Hall and Boiler Hall tells a warning tale of hazardous construction substances and the ethical removal response, but perhaps it would be most appropriate to restore the Turbine Hall's monumental main operating floor, a space of higher aesthetic value, by removing sundry stains, including an isolated area of blue stain.

The exteriors of buildings are areas where preservation becomes more challenging, as patterns of deterioration are active due to exposure to the elements. For instance, the cornice requires work to remedy further deleterious water ingress into the masonry assemblies and so to do windows with exhausted glazing putty which requires renewal to keep the windows weatherproof. Building envelope masonry evidences efflorescence, which should be cleaned in remedial works otherwise salts may cause further deterioration through cyclical deliquescence and re-crystallisation processes. However, there are still opportunities for preservation approaches, such as the ghost outlines of the now demolished High Pressure Plant which is legible in the bituminous marks across the west elevation of the Boiler Hall, and this should be preserved for interpretation. A balanced approach needs to be considered and reviewed throughout design processes.

Through honouring change over time, this plan seeks to conserve the architecture, industrial equipment, networks, and relationships, of the landscape, Low Pressure Plant, Pump House #1, and Pump House #2. Adaptive re-use of these buildings should honour the living Indigenous histories that transcend existing settler expressions of industrial architecture. A multifaceted celebration of the Rosssdale site will reflect, and therefore engage, the diverse community of future visitors.

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7.0 Appendices

Appendix I: Criteria for National Historical Significance

Criteria for National Historic Significance¹⁹

Any aspect of Canada's human history may be considered for ministerial designation of national historic significance. To be considered for designation, a place, person or event must have had a nationally significant impact on Canadian history, or must illustrate a nationally important aspect of Canadian human history.

Subjects that qualify for national historic significance will meet one or more of the following criteria:

A place may be designated of national historic significance by virtue of a direct association with a nationally significant aspect of Canadian history. An archaeological site, structure, building, group of buildings, district, or cultural landscape of potential national historic significance will:

- illustrate an exceptional creative achievement in concept and design, technology and/or planning, or a significant stage in the development of Canada; or
- illustrate or symbolize in whole or in part a cultural tradition, a way of life, or ideas important in the development of Canada; or
- be most explicitly and meaningfully associated or identified with persons who are deemed of national historic importance; or
- be most explicitly and meaningfully associated or identified with events that are deemed of national historic importance.

A person (or persons) may be designated of national historic significance if that person individually or as the representative of a group made an outstanding and lasting contribution to Canadian history.

An event may be designated of national historic significance if it represents a defining action, episode, movement, or experience in Canadian history.

General guidelines

Uniqueness or rarity are not, in themselves, evidence of national historic significance, but may be considered in connection with the above criteria for national historic significance.

Firsts, per se, are not considered for national historic significance.

In general, only one commemoration will be made for each place, person, or event of national historic significance.

Places

Buildings, ensembles of buildings, and sites that are 40 years of age or older may be considered for designation of national historic significance.

¹⁹ Parks Canada, "National Program of Historical Commemoration." Accessed Online 2021-02-17 at: <https://www.pc.gc.ca/en/culture/clmhc-hsmbc/ncp-pcn/evaluation>

A place must be in a condition that respects the integrity of its design, materials, workmanship, function and/or setting to be considered for designation of national historic significance, insofar as any of these elements are essential to understand its significance.

The boundaries of a place must be clearly defined for it to be considered for designation as a national historic site.

Large-scale movable heritage properties that would not normally be considered suitable for museum display may be considered for designation of national historic significance.

Persons

Persons deceased for at least twenty-five years may be considered for designation of national historic significance, with the exception of Prime Ministers, who are eligible for commemoration immediately upon death.

Events

Events that occurred at least 40 years ago may be considered for designation of national historic significance. Historic events that continue into the more recent past will be evaluated on the basis of what occurred at least 40 years ago.