

**The Conscious Landscape:
Reinterpreting and Reinhabiting the La Colle Falls Hydro Dam**

by

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Author's Declaration I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

The ruins of the La Colle Falls Hydro Dam encompass two very distinct topographies: the physical landscape of the vast Canadian Northwest, and the complex emotional terrain of the urban mythology of the city of Prince Albert, Saskatchewan.

In 1912 the city embarked on the ambitious project, building a dam and shipping lock on the North Saskatchewan River to supply the city with cheap and plentiful hydroelectric power and create a navigable inland shipping route from Winnipeg to Edmonton. The people of the community believed that it was poised to become a new commercial centre of the west, a key manufacturing and industrial metropolis. Instead, the project became an enormous and ruinous financial debacle that embarrassed the residents and crippled the urban growth of the city for nearly a century. Its failure, and the consequent suffering it brought permeate local legend to this day.

The solution to this negative residual memory exists in the hydro dam's own genesis: the spiritual and functional significance of the North Saskatchewan River as a site of traditional Aboriginal healing and a crucial regional amenity. Unable to bridle the waters of the North Saskatchewan, the dam instead comprises a dramatic visual testimony to the effects of an enormous work of construction on the panoramic Saskatchewan landscape, and an ideal setting to address the interface of man, structure, and the human body in the natural world.

This thesis uses the ruins of the dam as a physical armature on which to construct a spa complex, an architectural insertion that will complete the dam, and present a positive alternative ending to its story. The spa is viewed as a place of intimate physical contact and remedial personal reflection that acknowledges the dramatic landscapes surrounding it, engages the senses, and simultaneously heals the bodies of the patrons while reconciling the latent negative historical memory of the original hydro dam project.

Acknowledgements I would like to acknowledge the assistance of several individuals who helped to make the completion of this thesis possible:

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Kristi, Emily, Susan. For being incredible friends.

Javier, muchas gracias tu serpiente, you kept me going.

Author's Preface

This thesis investigates and interprets the ruins of the La Colle Falls Hydro Dam, near the city of Prince Albert, Saskatchewan, Canada. It explores the physical and psychological relationship of the abandoned hydro dam project with the local community. For clarity, the thesis is divided into three chapters that describe and outline the specific landscapes of the site and the project.

The Mythological Landscape summarizes the dramatic local and global historical events that led to the current unfinished, ruinous state of the hydro dam, and the reasons for the negative attitude held toward it by the citizens of Prince Albert. It also elucidates the legendary proportions that the dam project has achieved in local urban lore.

The Elemental Landscape presents the physical and geographic components of the topography of Saskatchewan in relation to the thesis site and the local region immediately surrounding it.

The Healing Landscape proposes an architectural solution of inserting a Spa complex into the existing ruins. This proposal is based on the interpretation of the previous two topographies, and focuses on the positive effect that a reinhabitation of the ruins would have on the attitude of citizens of Prince Albert toward the history of the site.

The objective of this thesis is to obtain a deeper understanding of the landscapes pertaining to the historic dam project, the failure of which dwells heavily in the consciousness of the local people. The connections between the site and the external factors that produced it have been explored with the purpose of proposing a solution that will cast the project in a positive light, and allow residents and visitors alike to gain a new understanding of the history of the region: to simultaneously heal the physical body and the historical memory of the site.

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The physical remains of the La Colle Falls Hydro Dam reside in a place of remote natural beauty along the North Saskatchewan River. The impressive concrete mass projects from the south bank of the river, and shows little sign of serious deterioration after almost a century of enduring spring ice break-ups, and the harsh northern climate.

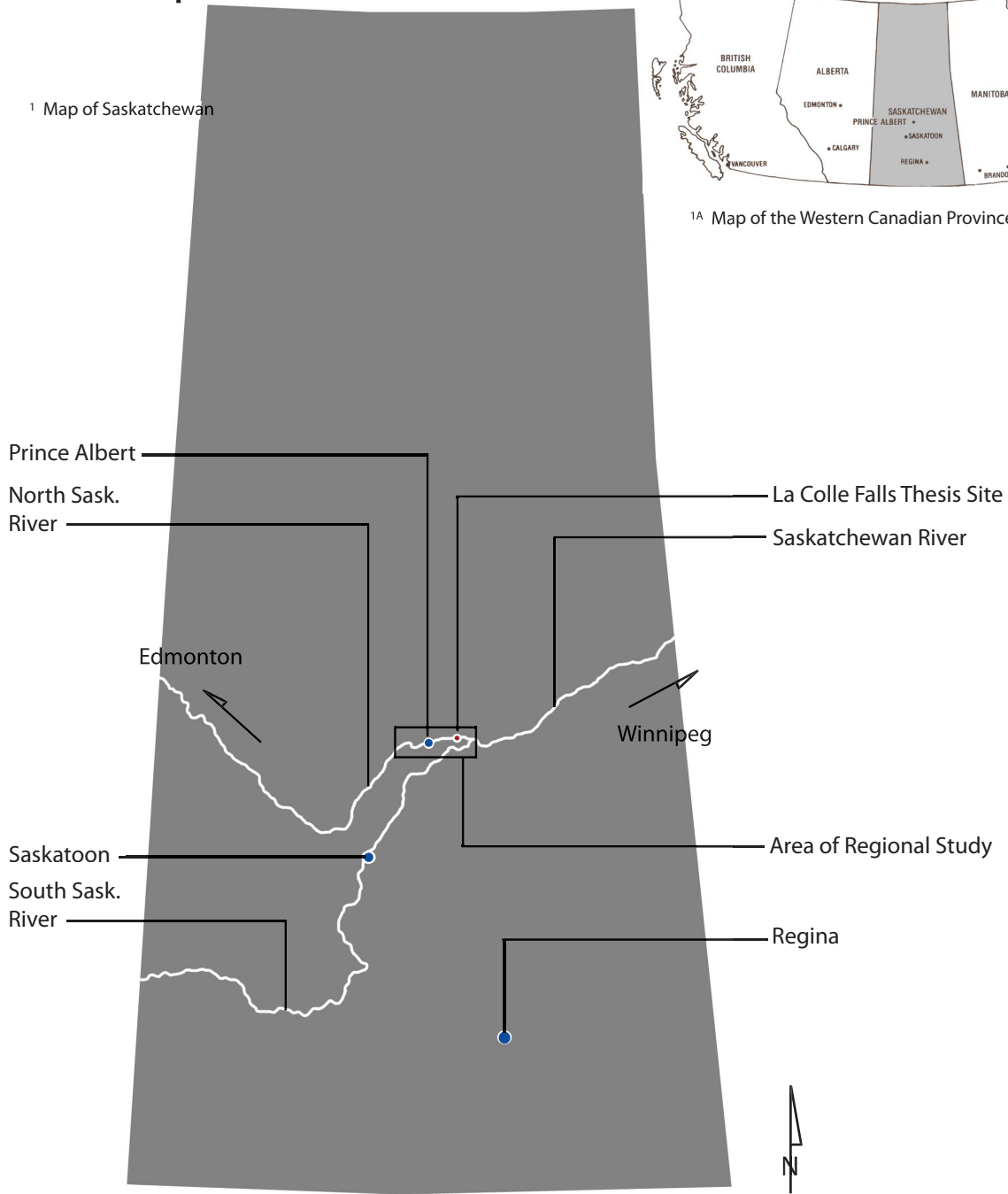
Introduction:

But the ruins of the hydro project also reside elsewhere: in the psyche of the citizens of the nearby city of Prince Albert. The dramatic events surrounding the birth and demise of the project dominate the local urban mythology. It is a legend populated by villains, false prophets, persecuted anti-heroes, grandiose schemes, and unbridled greed. All of it fueled by, and viewed against the backdrop of the unstoppable optimism that pervaded the towns of the Canadian West at the start of the 20th century.

This thesis contends that reactivating the ruins of the dam through contemporary architectural insertions will allow visitors to explore the structure and gain a new appreciation of the unique landscape of the site. The enormous construction will become a device for reading the landscape, and divining physical health from it. It looks to the global trend of health spa as destination, and asserts that by creating spaces for the healing arts within the ruins, the Spa at La Colle Falls will foster a new, positive understanding of the site and alter the collective memory of Prince Albert's citizens.

The Mythological Landscape

¹ Map of Saskatchewan



^{1A} Map of the Western Canadian Provinces

Metropolitan Ambitions

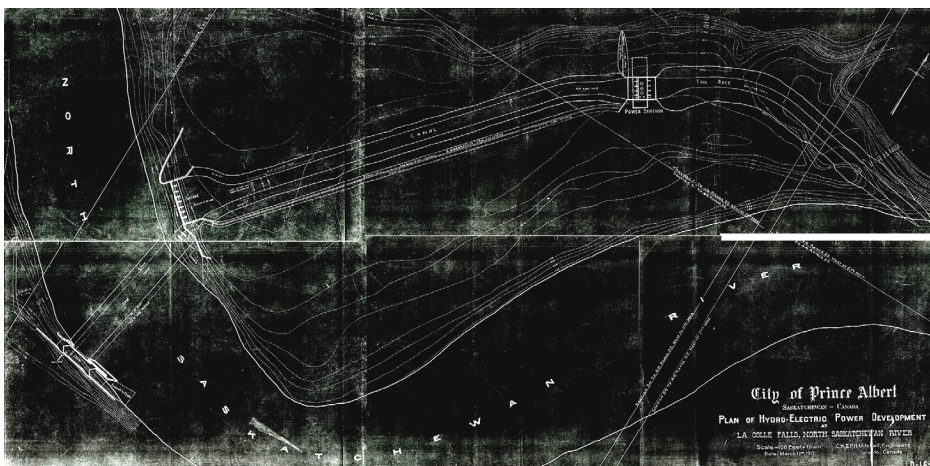
In 1912, the city of Prince Albert, Saskatchewan, embarked on one of the largest and most ambitious construction projects in the Canadian Northwest: a dam to bridle the unruly North Saskatchewan River, stabilize the water level, and most importantly, channel the water to a power generating station that would supply the city with cheap and plentiful hydroelectric power. The scheme was also planned to raise the river water level and submerge the dangerous La Colle rapids, the series of shallow boulder rapids that created an impediment to river steamboat traffic. In addition, the new dam would include a shipping lock to bypass the falls and improve the navigability of the river.

At the behest of civic officials Charles Mitchell, an engineer from Toronto published a feasibility report in 1909 that outlined the power generating potential of the North Saskatchewan River at La Colle Falls. Mitchell was a former City Engineer for the City of Niagara Falls¹, Ontario, publisher of a contemporary volume on European hydropower developments, and possessor of unusual powers of persuasion². He quickly became the prophet of metropolitan hydropower for the citizens of Prince Albert.

Mitchell brought his appealing brand of understated hydro-evangelism to the people of Prince Albert at a particularly auspicious time. The residents, frustrated at the city's delayed urban growth, which they blamed on the major railway companies and their hesitancy in running branch lines to the city, seized upon the chance to bring industry, commerce, and fame to Prince

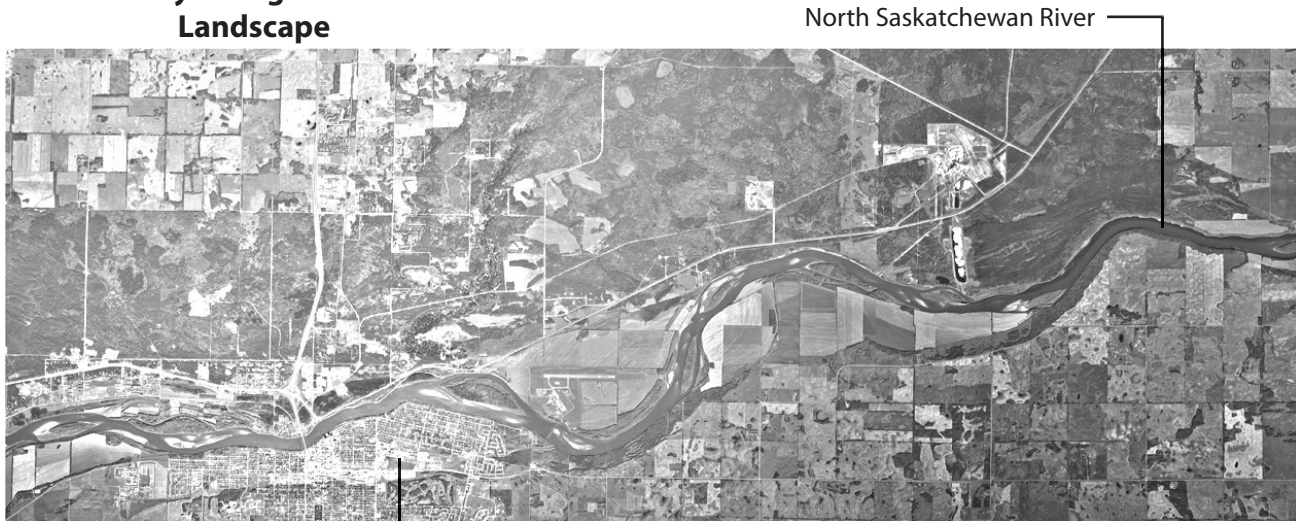
The Mythological Landscape

Site History:



² Mitchell Site Plan of Hydro Scheme - Note: Thesis Site is Shown at the Lower Left of the Plan - See Appendix Two for an Enlargement of This Plan

The Mythological Landscape



³ Regional Landscape - Aerial View

City of Prince Albert

Site History:

Albert. The Mitchell report on the potential of the hydro project expounded on the economic success that a major dam would bring to the community. It reported that the chosen location on the river would generate a yearly minimum of 10,000 horsepower (7500 Kilowatts), at an initial cost to the city of no more than one million dollars³. Of particular interest to civic officials, it clearly cited the plethora of industry that would be attracted to the city and local district by easy access to cheap and plentiful power. Mitchell's report outlined a three-phase construction sequence for the project (which the impatient city administrators would later abandon in favour of a more expensive one-phase scheme) and brashly glazed over the lack of critical information such as the river's winter water flow, openly admitting that his firm had not taken measurements⁴. Nevertheless, the eager city council proceeded with the plan, and petitioned to purchase a franchise from the Provincial Government that would allow it to share the miracle of cheap power, by selling it to every community within 100 miles⁵ once the dam was completed and functioning. The people of the city believed that it was poised to become the new industrial center of the West, and speculators boasted that it would soon rival cities such as Winnipeg and Chicago as a key manufacturing and industrial metropolis.

⁴ Boomtown Intersection with Brick Shopfronts and Electric Street Lighting - a Sign of Prosperity



From 1910 until 1912 the city became consumed with the hydro scheme and the supposed wealth that would be generated by it. News of the project

The Mythological Landscape

La Colle Falls Dam Thesis Site



South Saskatchewan River
Saskatchewan River Forks

quickly caused a land-rush, and real-estate speculators swarmed the land titles office desperate to buy property. Many landowners quickly grew wealthy through the orgy of speculation, and brick mansions rose in the East and West Hill districts. Boomtown mania took hold of the community. City council threw caution and financial prudence to the wind, borrowing and spending enormous sums of money. The municipal boundaries were extended in all directions, eventually incorporating an area of 10,599 acres⁶, equal in size to the contemporary city of Toronto⁷. Civic improvements were hastened: concrete sidewalks were laid, sewers, several schools, a firehall, and police station were constructed, modern road-building machinery, two freight barges and a 110-foot steamboat were purchased. Electric street lighting was installed on Central Avenue the city's main thoroughfare, where property was now selling for as much as \$1000 per frontage foot⁸. Street trees were planted on many residential streets, and a park system was begun.

Site History:

⁵ The Municipal Bond Coupons



At this time the city made its first attempt at professional urban planning in preparation for the expected surge in industry and population, employing the Toronto firm of E.A. James and T. Aird Murray. Among their suggestions were: a new traffic bridge to cross the North Saskatchewan River, a series of 86-foot-wide highway boulevards extending from the city centre to the

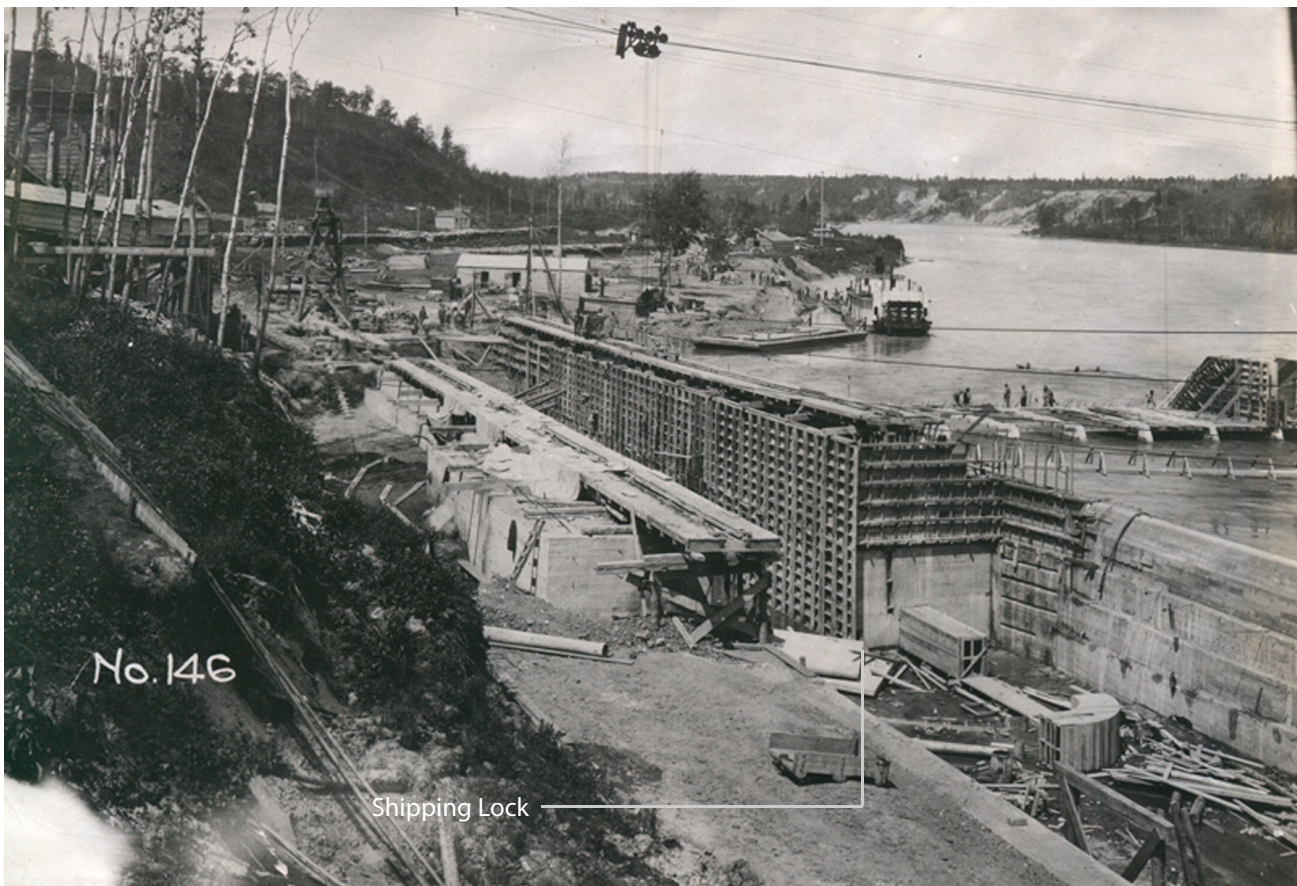
The Mythological Landscape

suburban periphery, and the widening of existing streets to accommodate electric streetcars upon the completion of the hydro dam⁹. The urban population quickly swelled to 15,000, an increase of 65% in less than two years¹⁰.

Site History:

At this same time, a strange architectural confection of glass and turrets materialized in the centre of town. The new Permanent Land Show Building – a propagandist structure designed specifically to present the agricultural bounties and industrial potential of the Prince Albert region to eager foreign investors, and to house the newly expanded Board of Trade. Widely distributed publications of the Board included such optimistic titles as “Electric Prince Albert – The White Coal City” and boasted of the region’s commercial destiny. These documents were carefully written to entice

⁶ Photographic Panorama of Peak Construction Activity - Showing the Shipping Lock and Weir Partially Complete



industry to the city, and succeeded in fueling the almost maniacal blind faith in the community's future with phrases such as "Have faith in Electric Prince Albert...and that faith will coin itself into gold"¹¹. The belief in the virtue and abundance of "white coal", or hydropower, and the prosperity it would bring, had become an overwhelming and unshakable secular religion for the community¹².

The Mythological Landscape

Site History:

The lone visible voice of dissent and opposition to the project came from H. C. Beatty, Editor of the city's main newspaper, the Prince Albert Herald. Beatty took it into his own hands to conduct research into the technical aspects of the Mitchell hydro scheme. He succeeded in discovering major discrepancies in the projected electrical power generation estimates and river water levels. Another shocking discovery was that Charles Mitchell

Note: See Appendix Two for the Original Full Set of Construction Photos Illustrating the Entire Sequence. These Are Original Documents, and Have Never Been Viewed In Their Entirety Outside of the Prince Albert Historical Museum Archives.



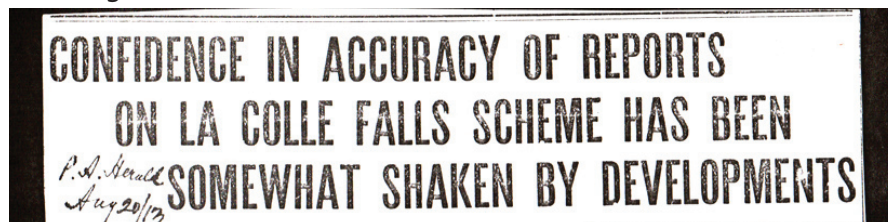
The Mythological Landscape

Site History:

had never actually been in charge of a major project¹³. Annoyed by Beatty's discoveries, fearful of the public repercussions, and possessing an inflated faith in their own judgment, city council ignored them, and moved to hire Mitchell, despite his inexperience and professional dishonesty, to design and manage what would be the first hydroelectric development on the Canadian Prairies¹⁴. Beatty continued to voice his opposition to the project, eventually exhibiting signs of mental unbalance and making wild accusations of capitalist conspiracies and political graft¹⁵. He was finally forced to resign from his position at the Herald and leave town permanently, while the hydro project commenced.

Secretly alarmed by Beatty's discoveries, and at the urging of several prominent business people and skeptical residents, city officials hired a consultant to evaluate the hydropower scheme. After reviewing the design, C. B. Smith, a Toronto engineer, reiterated the major discrepancies in Mitchell's project pointed out by Beatty, in particular the inaccurate power estimates and water flow figures¹⁶. More importantly, based on riverbed boring samples that proved Mitchell's proposed site unfit, Smith demanded that the damsite be moved to a new location half a mile down river. Mitchell conceded to the change in site, but ignored Smith's design changes to the structure of the dam and authorized the city to proceed with construction. Site preparation work on the project was scheduled to begin almost immediately.

In Toronto, Smith was shocked to learn that construction was beginning without his approval. He sent a telegram to city officials warning that the dam as designed would not withstand a flood, and demanded radical design-changes. At the fear of dampening the buoyant mood of the times, city officials opted to keep this information hidden from the public. Instead, they hired a third engineering consultant to review the design: Isham Randall of Chicago. Randall made several minor but costly modifications to the design, but ensured that the dam would withstand a flood¹⁷.



⁷ The Beginning of the End - The Failing of the Project Becomes Public Knowledge - Prince Albert Herald Headline August 20, 1913

In May of 1912 equipment was on site, and by late September, Prince Albert became headquarters to the largest construction operation ever seen in the region¹⁸. Every day for nearly ten months, an army of wagons dragged loads of coal, cement, and structural steel from the city over 25 miles of dirt road that often became an impassable bog or buried under snow¹⁹. The Ambursen Hydraulic Construction Company of Montreal signed the contract for the construction of the dam, shipping lock, power canal and intakes, and quickly turned the site into a veritable hive of activity. A visitor to the site described the scene to the Prince Albert Herald: “tons of concrete being dumped by huge swift running machinery, ...walls under construction, teams (of horses) and wagons everywhere, aerial carriages on cable wires across the river, taking eight tons of material at one time, engines away in the flat excavating earth by the ton, and huge steam diggers placing it in wagons²⁰”. At the peak of the construction over 300 labourers²¹ were working and living on the south river bank above the construction site in a specially built camp which included bunkhouses, a dining hall, hospital, and school (Note: See Appendix One for the original site photographs outlining the construction sequence).

Financial disaster struck in July of 1913, when the city, fiscally overextended by the enormous civic improvements campaign (which to that point had cost \$1, 315,500), was refused a loan of \$200,000 from the Imperial Bank²², to whom it was already severely indebted. Mitchell’s initial cost estimate for the hydro project had neglected to take into account inflation, and costs had quickly escalated. Civic officials had originally conceived the dam as a joint venture between the city and the Federal Government as a waterways improvement scheme, but vague promises for grants quickly evaporated, and the project became solely funded by the city. Construction had proceeded on the misguided belief that the government would offer financial assistance once the project was underway. Instead, the government repeatedly raised the cost of the project by exercising its rights under the Navigable Waters Protection Act, changing the required size for the shipping lock, and forcing the city to modify the design. The dire financial situation was compounded when the municipal bonds that the city had been selling on the European market to finance the dam suffered a tremendous drop in value with the first signs of political unrest in Europe. The mayor of Prince Albert traveled to London, England in a desperate, but successful attempt to sell the municipal bonds privately, although at a significantly lower price.

The Mythological Landscape

Site History:

^{7A} Land Rush at the Titles Office



The Mythological Landscape

Site History:

Further complications arose when it was finally made public that Mitchell, the engineer in charge of the project, had failed to measure the seasonal water flow on the river or its fluctuations, and consequently had grossly overestimated the river's power generating capability. Unfortunately, Frank Creighton, the city engineer assigned to the dam project by the city council proved to be completely inept. Possessing no experience with a major construction project, he relied almost entirely on the advice of the likewise inexperienced engineer Charles Mitchell, and instead focused his attention on the poorly planned public works campaign. Consequently, the cost of the dam escalated. The remote location of the site further complicated matters, as supplies traveling along the rough road frequently "disappeared" enroute to the construction, and the process of transporting them by riverboat proved to be costly and time-consuming. Construction on the hydro project was halted for nearly a year while the city desperately worked to find a solution to its serious financial situation.

Reprieve seemed to come in June of 1914, when the Anglo-Dutch Finance Corporation, a British consortium, offered to step in and complete the project. The company proposed to finish the dam and pay the city an annuity of \$10,000 per year for water rights and a streetcar system franchise²³. City council approved this proposal believing that their monetary woes had been alleviated. Unfortunately, World War I broke out one month later, and all European capital was drawn into the war effort. The consortium and its plans disappeared, leaving the city in absolute financial despair and ending construction work on the dam permanently. The completed portion of the project included the 130 foot long by 40 foot wide shipping lock, and half of the weir, which extended 293 feet from the south riverbank, as well as the partial excavation of the power canal on the north bank.

⁸ An End to 50 Years of Debt - Prince Albert Herald Headline December 21, 1965



By 1916, the population of the city had shrunk to 6,436, its real estate market had collapsed, and its net debt stood at a staggering \$3,328,000 with an overdraft of \$401,000. It had shattered its municipal credit standing, and it would take almost fifty years for the people of Prince Albert to pay off the consolidated debts from the La Colle Falls Hydro Dam. The financial strain stunted the urban growth of the city until 1965, when the final payment was made²⁴, and the bonds burned in a public ceremony. For decades streets were left unpaved (although the city had over 19 miles of concrete sidewalks from the public works program), sewers and water mains crumbled, and

municipal amenities such as the police and fire brigade were suspended intermittently while the civic officials struggled with large annual payments to creditors in Ontario and Europe. But perhaps more devastating than the financial troubles it had brought, the project also left a cynicism, a psychological scar on the residents of the city and embarrassment over the “weaknesses of individuals and the extravagant follies of the whole community²⁵” that persists to the present day.

The Mythological Landscape

¹ Gary Abrahms, *Prince Albert: The First Century 1866-1966* (Saskatoon: Modern Press, 1966; reprint, 1976). pg. 164.

² *Ibid.*, pg. 164.

³ Shirley Mannweiler, “The La Colle Falls Story,” (Prince Albert: City of Prince Albert Tourism Marketing Department, 1989). pg. 2.

⁴ Mitchell, Charles. *Report: City of Prince Albert Hydro-Electric Power Development La Colle Falls, Saskatchewan River*. Toronto: Charles H. Mitchell & Percival H. Mitchell Consulting & Supervising Engineers, 1909, pg. 5.

⁵ Silversides, Brock. *Gateway to the North – A Pictorial History of Prince Albert*. Saskatoon: Western Producer Prairie Books, 1989, pg. 14.

⁶ Abrahms, *op. cit.*, pg. 180.

⁷ Abrahms, *op. cit.*, pg. 180.

⁸ Mannweiler, *op. cit.*, pg. 3.

⁹ Abrahms, *op. cit.*, pg. 183.

¹⁰ Abrahms, *op. cit.*, pg. 178.

¹¹ Prince Albert Board of Trade, *Prince Albert - White Coal City* (Prince Albert: Prince Albert Board of Trade, 1913). pg. 30.

¹² Abrahms, *op. cit.*, pg. 193.

¹³ *Ibid.*, pg. 168.

¹⁴ *Ibid.*, pg. 168.

¹⁵ *Ibid.*, pg. 169.

¹⁶ Mannweiler, *op. cit.*, pg. 3.

¹⁷ *Ibid.* pg. 4.

¹⁸ Abrahms, *op. cit.*, pg. 193.

¹⁹ *Ibid.*, pg. 193.

²⁰ Prince Albert Herald, July 3, 1913.

²¹ Silversides, *op. cit.*, pg. 15.

²² Abrahms, *op. cit.*, pg. 200.

²³ *Ibid.*, pg. 211.

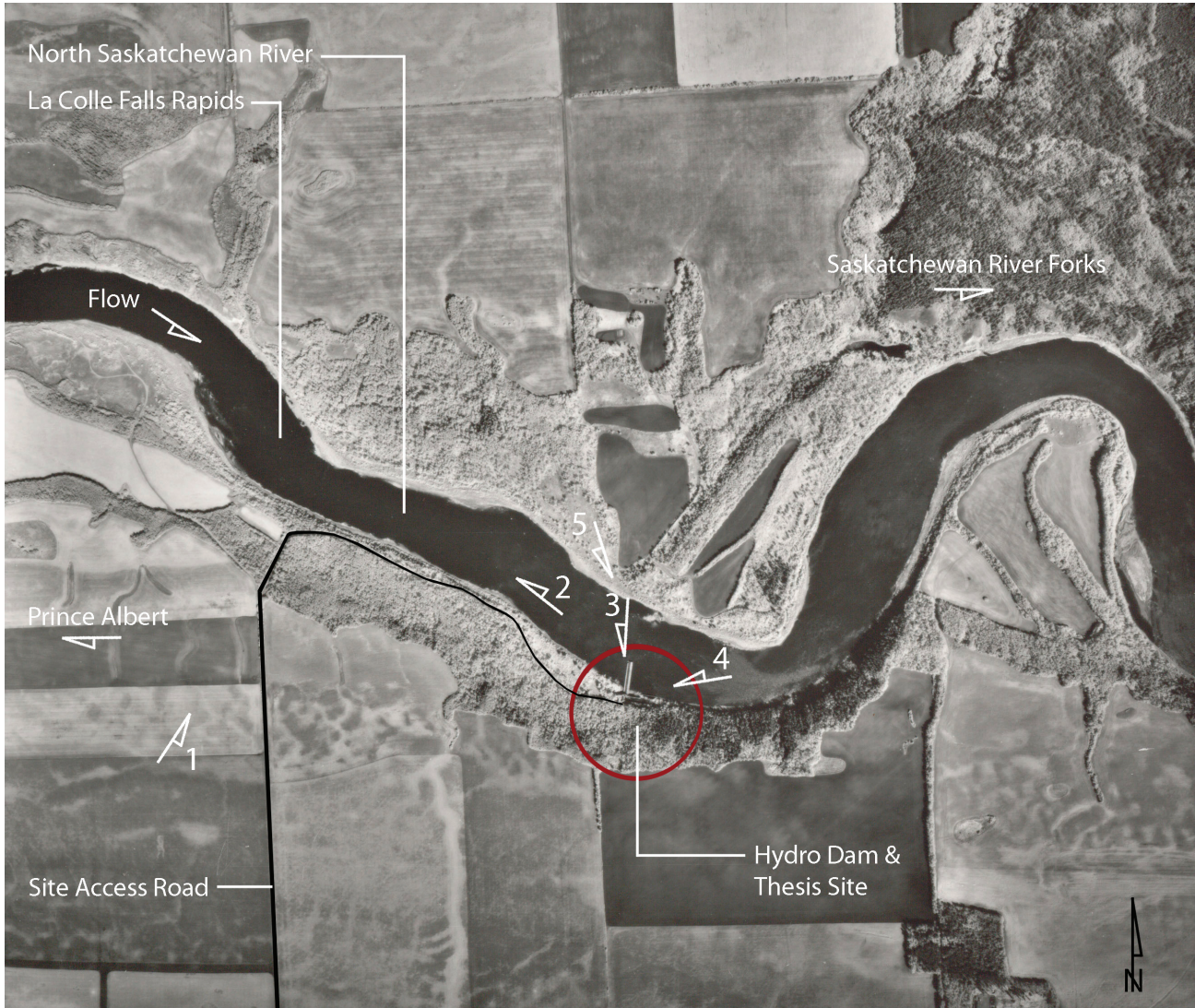
²⁴ *Ibid.*, pg. 372.

²⁵ *Ibid.*, pg. 219.

Endnotes

The Elemental Landscape

Site Context:



⁹ Aerial Photograph of Site and Surrounding Area

Understanding the Elements

Earth

Saskatchewan is a land that is geographically vast, and sparsely populated. The sheer size and emptiness of the landscape fosters a fundamental psychological sense of exposure that in turn creates a human attachment to the land, born of the practical need to be sheltered from its rigorous climate. Don Gayton writes in *The Wheatgrass Mechanism* of “dream beds”, or hilltop encampments that were favoured by the Plains Indians¹. From these high vantage points, the enormity of the landscape could be perceived and man’s position in it fully appreciated. Any structure or building must contend with, and work with the vastness of the landscape, the persistent, vanishing horizon and the incredible compressive polar weight of the sky. Gayton keys in on something fundamental to the experience of the Saskatchewan terrain when he surmises that for the early natives “there may have also been spiritual reasons for exposing oneself to a great sweep of distance².” The ability to see for miles can be very reassuring, and the expanses of undulating forest and fields no doubt reaffirmed the tribal beliefs that only a higher being or creator could be responsible for a geography of such enormity.

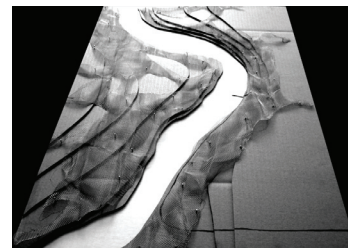
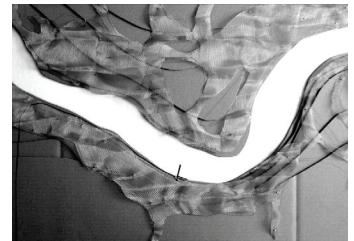
In such a vast terrain, the only suitable method of encapsulating scale is the photographic panorama. The series of historical construction photographs (see Appendix One) outlining the construction sequence of the hydro dam includes several panoramas composed of multiple shots of the construction site. These photos clearly illustrate just how important the panorama is in elucidating the size and scope of the land. The La Colle Falls Hydro Dam was an enormous and audacious engineering project conceived at the scale of the natural world, and the panoramic photographs of the construction site in its organic setting successfully convey the grandeur of the landscape and speak of the technological ambition of those labouring to alter it. But the photos also establish the position of the viewer, and elucidate the relationship between observer and subject. Taken individually, the photos represent instantaneous personal glimpses, snapshots of a transformative process at work on the land, charged with what landscape architect Robert Smithson referred to as “the rawness of an instant out of...continuous growth and construction³”. They illustrate a fascinating

The Elemental Landscape

Site Context:



^{9A} *Is That All There Is?* Sculpture by Charley Ferraro



¹⁰ Site Topographical Model

The Elemental Landscape

Site Context:



^{10A} Traveling Through the Undulating, Panoramic Terrain

^{10B} Arriving at the Crest of the Ravine Above the River Valley and Thesis Site: Note the Two Specific Local Topographies, the Boreal Forest and the Grasslands/Agricultural





The Elemental Landscape

Site Context:

^{10C} Winding Down Through the Dense Forest of the Ravine Bank to the Thesis/Spa Site



^{10D} Arriving at the Ruins/Spa Site

The Elemental Landscape

Site Context:



1¹¹ View of Approach to Site from Top of South Riverbank - Showing Threshold Condition of Forest and Grain Fields



2¹² View Up-River from Dam



3¹³ View of Dam and South Riverbank Showing Weir and Shipping Lock Structure



The Elemental Landscape

Site Context:

14 Bird's Eye View of Site

process of transformation involving incredible violence against the earth: scraping, digging and exploding. Smithson elaborates on the spectacle of construction: "processes of heavy construction have a devastating kind of primordial grandeur, and are in many ways more astonishing than the finished project⁴". When viewed sequentially, the photos take on a cinematic quality, zooming from the small-scale intimacy of a construction detail, to the dramatic overall scenographic composition of the site. They do not simply represent the routine documentation of a construction project, they also clearly assert in their composition, that the concrete form of this monumental structure was meant to be but one component of a greater landscape, and function not simply as a visual intrusion, but a vital and

15 View Looking Up-River with Weir



The Elemental Landscape

well conceived intervention that emerged (or perhaps was revealed) from the earth and the water via the labour of man. As Smithson contends: “the manifestations of technology are at times less extensions of man, than they are aggregates of elements...made of the raw matter of the earth⁵”.

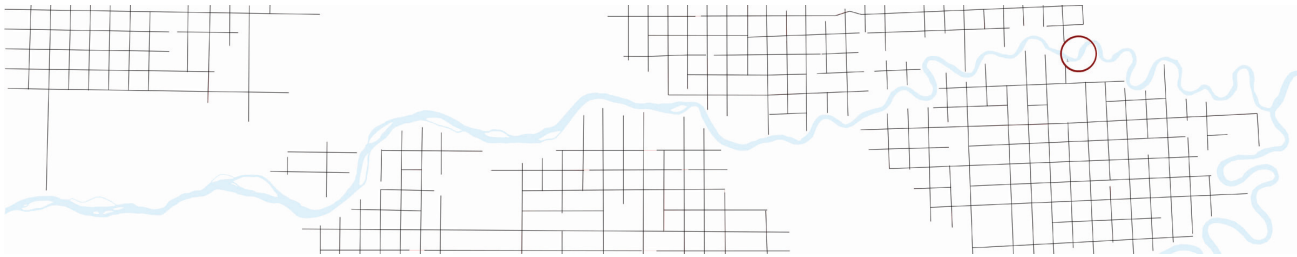
Site Context:

Regional Context:

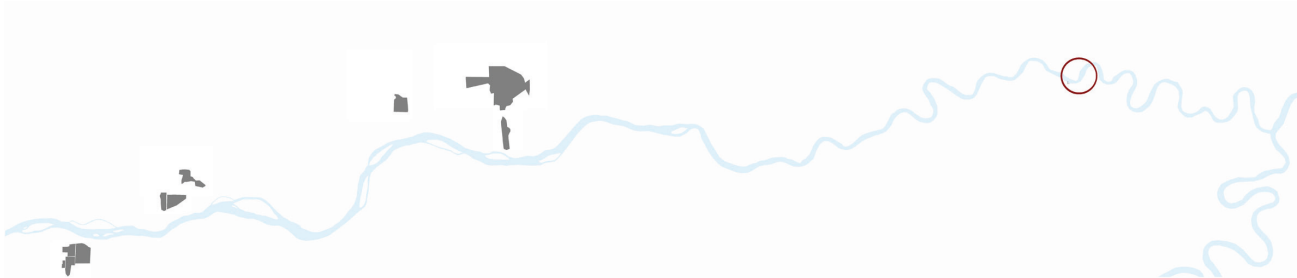
Known locally as the “parkland”, the region immediately surrounding Prince Albert forms a natural border, a symbolic and physical threshold between the grain-farming agrarian culture of the south, and the forestry focused northern regions. The dividing line between these two distinct topographies is the North Saskatchewan River. Agricultural clearings often perforate the forest, and wheat fields host wooded groves, giving the region a varied



¹⁶ Forest in Proximity to the Site



¹⁷ Surveyed Grid System of Land Division



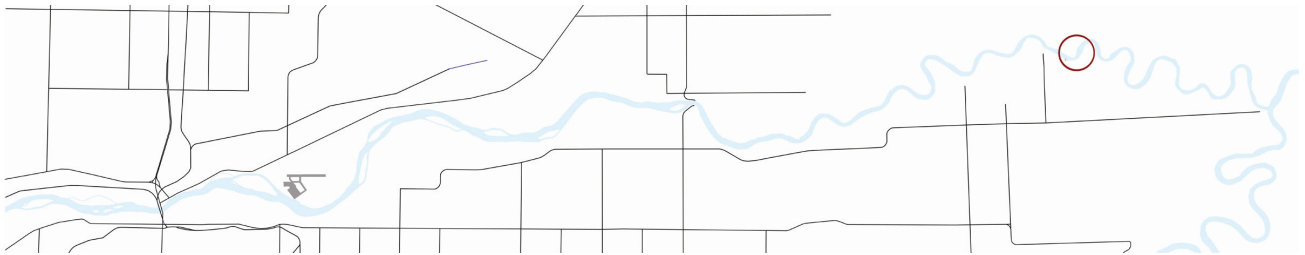
¹⁸ Industrial Land Use in Proximity to the Site

topography, but the aquatic boundary formed by the river is generally accepted as the geographic point where the Canadian Shield meets the grasslands. The artwork *"Is That All There Is?"* (See Figure 9A) by Charley Ferraro speaks formally of the experience of the Parkland landscape in northern Saskatchewan. The clay and plastic sculpture portrays a section of the terrain that includes a deep wooded ravine and a section of empty prairie. It illustrates the very condition that exists on the La Colle Falls site: a forested cleft that appears as a topographical surprise within the prairie setting, a sort of inverse mountain. The trees cling to the edge of the ravine seeking shelter, and echoing the human need for the same in a dualistic landscape that can be generous and benevolent but also harsh and

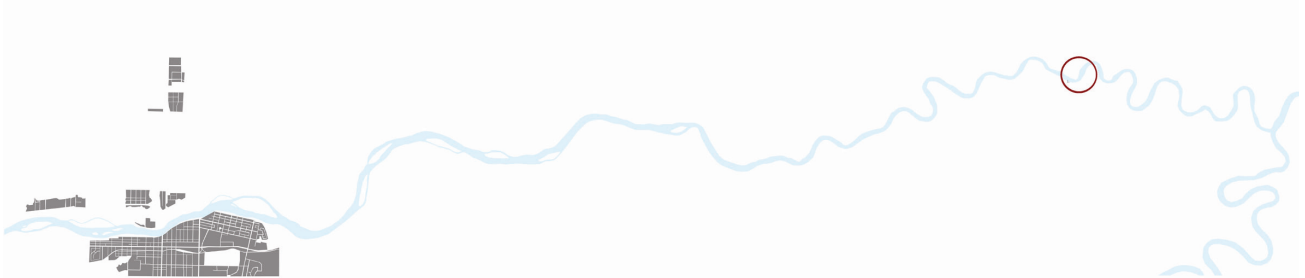
The Elemental Landscape

Site Context:

Regional Context:



¹⁹ Proximity of Site to Existing Transportation Networks: Major Highways, Secondary Roads and Airport



²⁰ Proximity of Site to Nearest Urban Centre: Prince Albert



²¹ Agricultural Land Use in Proximity to the Site

The Elemental Landscape

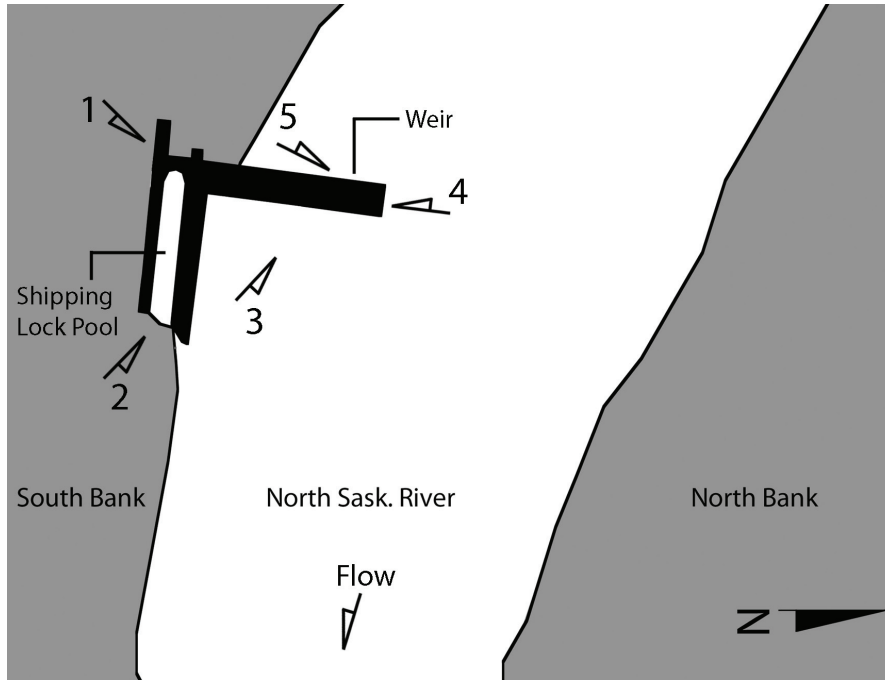
The Site:



²² View of the Shipping Lock Pool
Looking Downstream

²³ View of the Shipping Lock Pool and
Weir Beyond Looking Upstream





The Elemental Landscape

The Site:

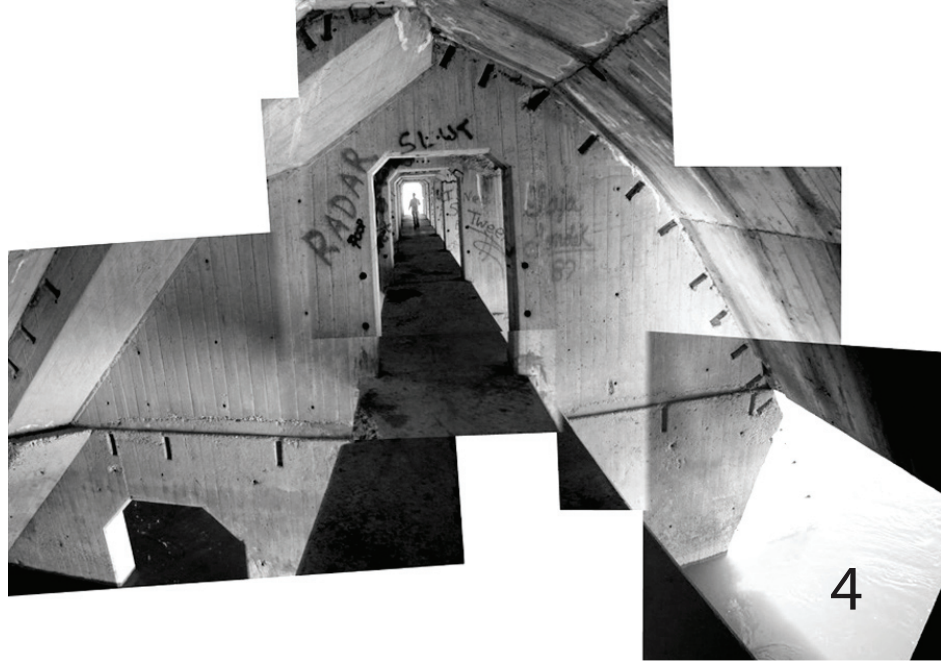
²⁴ Spaces of the Existing Ruins



²⁵ View of the Weir in the River Looking Upstream

The Elemental Landscape

The Site:



²⁶ View inside the Weir Showing the Existing Walkway and the Chambers



²⁷ View of the Weir Ledge

unforgiving. Photographs from the hydro dam's construction reveals that much of the native pine forest was stripped from the banks of the river valley at the site, and the timber burned or used to construct service buildings for the construction operations. The steep, ragged banks that rise over 100 feet from the river to the top of the ravine have since regenerated with mixed groves of pine, poplar and birch. High above the ruins of the dam, at the crest of the ravine the forest abruptly stops, and the grain fields begin, making the La Colle Falls site a microcosmic example of the varied landscape of the Prince Albert region.

The Elemental Landscape

The Site:

Water

"Dreaming beside the river, I gave my imagination to the water, the green, clear water, the water that makes the meadows green. I can't sit beside a brook without falling into a deep reverie, with out seeing once again my happiness...the stream doesn't have to be ours; the water doesn't have to be ours. The anonymous water knows all my secrets. And the same memory issues from every spring⁶".

Gaston Bachelard, *Les Eau et les Reves*.

The North Saskatchewan River is more than just a water source, means of transportation, or physical and symbolic division between two disparate geographic typologies; it is a spiritual entity.

The Saskatchewan River system drains most of the Canadian prairie. Its minor branches and tributaries collect meltwater from the Rocky Mountains and rain runoff from the grasslands and grain fields. The waters flow eastward to Lake Winnipeg and down the Nelson River, into Hudson Bay. The North Saskatchewan is a swiftly flowing river, and takes its name, like that of the province; from the Cree Indian word *kisiskatchewan*, meaning swift current⁷. Its rapid waters include a rich mixture of sediment and organic matter, and its colour can alternate from deep yellow-green to almost clear depending on the time of year, and the intensity of the sunlight.

The river has shaped the history of the region and the lives of the people who live there. Prior to European arrival, tribes of American Indians hunted and camped along the banks of the North Saskatchewan, most notably

²⁸ Shoreline and Poplars



The Elemental Landscape

The Site:

the three branches of the Cree nation: the Plains, Wood, and Willow⁸. The Cree referred to the region around Prince Albert and in particular the banks of the river as the “Good Wintering Place”, though little else from their oral history survives in reference to the specific area⁹. Historian Simon Schama speaks of the spiritual importance of rivers and the correlation between “the circulation of rivers and the blood stream of the human body”¹⁰. An important water and earth-based healing tradition practiced on the banks of the river by the local Cree was that of the sweatlodge. A sweatlodge was a small hut three or four feet in diameter made of willow branches that were cut from the riverbank, bent to form a dome, and then covered with animal hides, robes or pine boughs. In the centre, a small hole was dug to place stones that had been gathered from the shore and heated in a fire. Sweetgrass (a highly fragrant grass burned during meditation, festivals, and religious ceremonies) was burned inside and water was sprinkled on the stones to make steam. The function of the sweat lodge was multifaceted. Participants were encouraged to pray and release their internal stresses, while seeking introspective harmony and spiritual guidance. Sweatlodges also had a medicinal therapeutic value, and were employed to treat specific illnesses. Herbs and roots were gathered and placed on the stones to create a healing steam¹¹ and the participants inhaled the vapours. The sweatlodge was often sited at a distance from the tribal settlement; this sense of removal from the everyday helped to distance the participant from personal and community issues and allowed them to focus on healing and meditation.

^{28A} Hudson’s Bay Company steam-boat the *Saskatchewan*, circa 1900



This thesis proposes that the same principles that informed the traditional creation of the sweatlodge; removal from urbanity, contact with the natural landscape, and intimate physical healing practices, will lead to a psychological healing of the memory of the La Colle Falls Dam project. By using the dam as a physical armature on which to construct a new ending to the story.



^{28B} Typical American Indian Sweat-lodge

Early non-native settlers to the north-central Saskatchewan region relied heavily on the river for water and transportation. The North Saskatchewan brought the first white settlers to what would become the Prince Albert settlement in 1866. The band of Scottish-Ontarians rode the river currents from Fort Carlton (the Hudson Bay Company fort located upstream) and came ashore at the present site of the city declaring the riverbank to be the best possible site¹². Their purpose was primarily one of spirituality,

and they carved a community out of the wilderness with the prime goal of establishing a Presbyterian mission to convert the local Cree Indians to Christianity. The pioneering Métis (persons of mixed ethnic origin, usually American Indian and French) of the region also placed an importance on the river. They created a system of land ownership based on the river lot, with properties arranged organically in strips along the river's course. This allowed landowners (primarily farmers) access to the main water and transportation source without necessitating trespass. It was the resistance of the Federal Government to accept this system of property allocation, and their subsequent dispatch of surveying crews, that sparked the fires of the Northwest Rebellion, a series of bloody skirmishes between government military forces and Métis farmers that galvanized the region in 1885.

The solution to the primarily negative historical memory of the disastrous, failed hydro dam project that financially crippled and psychologically wounded the local community for nearly a century lies in its own historical genesis: in the traditional spiritual and functional significance of the river as a source of healing and renewal.

The Falls

The La Colle Falls are a series of boulder rapids in a shallow section of the North Saskatchewan River 25 miles east of the city of Prince Albert, Saskatchewan. They were named after John Cole, a fur trader who built a trading post near the site in the 1770s. Cole is most notably remembered for mistreating the local Indian tribes, who eventually killed him in a skirmish in 1779¹³. These unpredictable rapids created a major impediment to the burgeoning river steamship industry in the late 19th and early 20th centuries. During periods of low water in the summer they made the river extremely hazardous and often virtually impassable for cargo boats. This was due to the fact that the freight vessels drew a minimum depth of three feet and submerged boulders easily punctured their wooden hulls. The majority of the traffic plying the river at this time was comprised of steam-driven Hudson's Bay Company vessels, carrying supplies to the northern trading posts and passengers to the remote towns along the river. The supply ships usually originated in Winnipeg, Manitoba and traveled up the river past Prince Albert, and on to the final stop in Edmonton, Alberta. The total distance between Prince Albert and Grand Rapids, the point at which the

The Elemental Landscape

The Site:

²⁹ Rusted Tractor on a Farm Near the Thesis Site



The Elemental Landscape

The Site:

North Saskatchewan empties into Lake Winnipeg, and the freight origin point, was roughly 525 miles, and according to a Captain McLeod of the Hudson Bay Company, La Colle Falls was one of only two points along the course of the river where serious difficulty and shipwreck could occur¹⁴. The existence of these rapids and the obstruction they created accelerated the impetus for the creation of the La Colle Falls Hydro Dam scheme.

Ruins and Memory

It is not unusual to encounter ruins in the landscape surrounding Prince Albert. Hundreds of abandoned farmyards dot the landscape, complete with compounds full of rusted agricultural machinery and empty, weathered houses and barns. The ruin of the La Colle Falls Dam however, is unique in its size and type in the region. The relative youth of the province, and the lateness of its settlement has resulted in a lack of large industrial ruins, so unlike parts of eastern Canada, there are very few empty factories or other major remnants of a manufacturing past.

Historian Andreas Huyssen asserts that the prevalent contemporary urge to renovate or revitalize industrial ruins robs them of their authenticity¹⁵. He contends that it is an urge born of the nostalgia of an era that is disillusioned with the promises of modernity, and seeks solace in a return to the romantic ruins of the past. This thesis argues the contrary; that architecturally engaging the ruins of the dam presents an opportunity for visitors to go beyond the romantic concept of the ruin as a folly in the landscape, where the elements of decay, erosion and return to nature were so central¹⁶ and to approach it in a functional and tactile way. Architecturally reinventing ruins is an attempt by the people who live with them to understand their



³⁰ Burlap imprints: (when construction was stopped, supplies were left around the site - bags of cement were left exposed to the elements, and subsequently solidified - the burlap sack has since rotted away)

collective past. For the first time, citizens who live near the ruin of the La Colle Falls Dam will have the opportunity to rethink their primarily negative conception of the structure, and reexamine the history surrounding the site.

Gasworks Park in Seattle is a successful contemporary example of the reinterpretation of an industrial ruin in an urban landscape. The remains of the enormous gasworks were adaptively reused and became the centerpiece in a large interpretive waterfront park network on the shores of Lake Union. The concept of maintaining the environmentally offending gasworks, while adapting the site for the park was very controversial in the 1970s, and the city government needed to be convinced by the architect Richard Haag that the structures should be preserved¹⁷. Like the ruins of the La Colle Falls hydro dam, the gasworks were rife with residual memory. In the case of the hydro dam however, the pollutants are primarily negative historical memories, not industrial toxins.

The rusted storage tanks and pipes of the gasworks now create a startling relief against the city skyline and offer the residents the opportunity to relate to an important component of their industrial past. It was the intent of architect to “create rooms and experiences for human recreation ranging from the contemplative to the intensely social, habitat for nature wild and



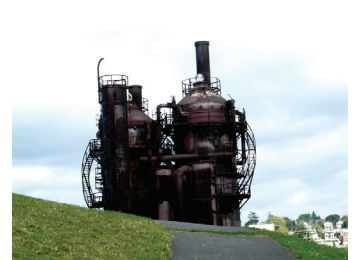
The Elemental Landscape

The Site:

30A(Left) Gasworks Park, Seattle - Aerial View - A Reactivation of an Industrial Artifact in the Landscape, and a Re-establishment of a Connection to the Water

30B(Top Right) Rusted Steel Blast-Furnaces

30C(Bottom Right) Industrial Concrete Upstands



**The Elemental
Landscape**

The Site:

cultivated¹⁸. Portions of the gasworks and the utility buildings associated with it were converted into hands-on interpretive displays outlining the original function of the complex. Haag's design recognized that the gasworks would serve an important role in the community, allowing the people of Seattle to understand the city's industrial past, and the toxic environmental consequences that accompanied its development. The project also offers hope, as a successful example of a blighted landscape that has been completely rejuvenated, through environmental remediation and adaptive reuse, reinforcing and reconciling the relationship between the city, the water and its industrial past.

The physical remains of the La Colle Falls Hydro Dam are comprised of the two completed portions of the project: the shipping lock (the long still-water pool), and the weir (the hollow portion of the dam that projects into the river and would have held back the water). These remnants are such an enormous feature within the landscape of earth and water; that as American author Richard Guy Wilson contends when describing monumental dams, they almost "transcend topography to become a geological feature¹⁹."

Simon Schama refers to "the colossal dam and hydroelectric power station as emblems of (man's) omnipotence²⁰" and dominance over nature. The paradox of the La Colle Falls project is that the dam was never completed, and rather than gain a sense of civic pride or power in the accomplishment of harnessing a great river, the project instead induced a sense of shame, anger and embarrassment²¹ within the local community that persists to the present day. In *A Tour of the Monuments of the Passaic* Robert Smithson refers to the strange conditions manifested by certain projects as "ruins in reverse". The La Colle Falls dam is the definition of this idea: "the opposite of the romantic ruin because the buildings don't fall into ruin *after* they are built, but rather rise into ruin *before* they are built²²". The hydro dam was never able to fulfill the purpose for which it was built and the dam never functioned. Instead it emerged into an instantaneous state of ruin, trapping the collective hope and human energy of its conception in a perpetual state of suspended animation. A ruin imbued not with the memory of a century of mechanical service, rather cast against a delusional and financially ruinous urban drama, rife with the "memory traces of an abandoned set of futures²³".

Richard Wilson alludes to the many external forces at work on the project when he suggests that there are several dimensions to the monumental work of engineering in the landscape: the design, the construction, and the post-construction interpretation by critics²⁴. The dam at La Colle Falls has additional unique facets, notably the local urban drama associated with its conception, and the global financial and political events that led to its lack of completion. The most critical dimension, however, is the negative effect on the citizens of Prince Albert, that of the collective memory of its failure. The architecture of the Spa at La Colle Falls will present this crucial part of the collective historical memory of the site and the city to its patrons through its interaction with the existing ruins.

The Elemental Landscape

The Site:

Seasons

The Saskatchewan climate is notorious for its extreme variability, and the experience of the La Colle Falls site changes dramatically throughout the year to reflect this. These seasonal shifts create an awareness and appreciation in the visitor of the sense of exposure that is part of the prairie experience, and the temporal rhythm of the dynamic and vast river landscape.

In spring the emergence of a green glow on the fields and branches of the trees reminds the visitor of the joy of seasonal rebirth. The North Saskatchewan River swells with accumulated melt and rainwater and forces out the layer of ice that covers it throughout the winter. Sheets of ice noisily float down the river past the site, creating a dramatic and violent image as



^{30D} Spring/Summer

The Elemental Landscape

The Site:

they thunder into each other and slide up onto the banks. Summer brings a dry dusty heat and a sky that is generally a clear sunlit azure bowl. But this placid dome can quickly become animated with heavy grey cumulonimbus clouds foretelling drenching rain, or signaling hail. The forest and the riverside site echo with the sound of birds, the gentle crashing of the river rapids, and the rustle of the wind in the leaves of the trees. In the autumn, the rich colour of the changing foliage: orange, yellow, rust, and the falling leaves combines with the rich earthy scent of moss and loam, bringing to mind the solemnity of the natural cycles of life and death. The biting breeze of the coming winter floats through the air, and the sky turns a pale pink in the evenings to warn of the first snowfall. The winter months bring incredible temperature lows that can drop to below -40°C . The crisp, biting winter air carries a freshness that stings the skin and burns the nostrils, but kindles longing in the heart for the spring regeneration. Morning hoarfrost

^{30E} Autumn



^{30F} Winter



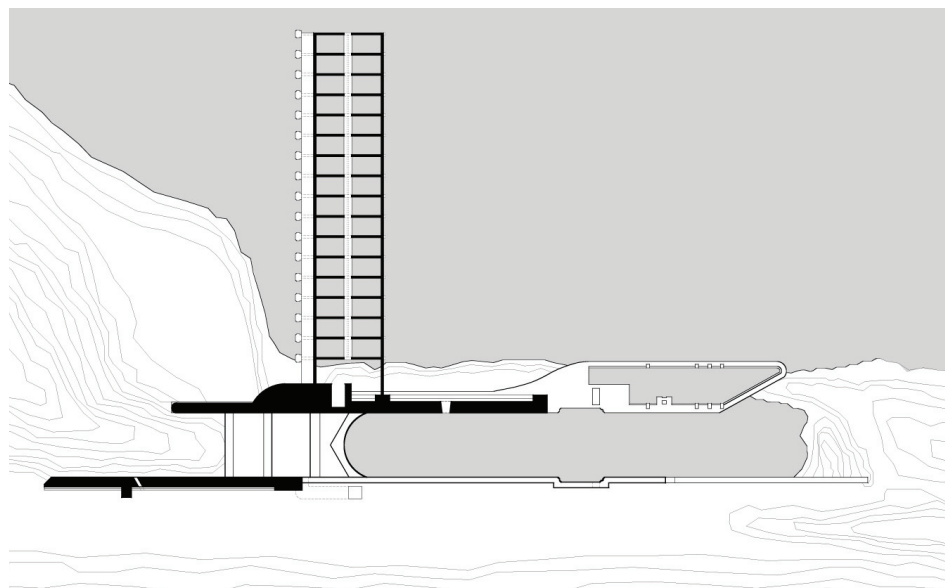
clings to the trees. The sunlight is clear, bright and blinding as it reflects off the snow to illuminate the stark polar landscape. At night, the inky black sky comes to life with the ghostly apparition of the aurora borealis. The multicoloured ribbons stretch and dance across the night sky and reveal the stark black silhouettes of the pines.

The Elemental Landscape

The Site:

Endnotes

- ¹ Don Gayton, *The Wheatgrass Mechanism - Science and Imagination in the Western Canadian Landscape* (Saskatoon: Fifth House, 1992). pg. 37.
- ² *Ibid.*, pg. 37.
- ³ Jack Flam, ed., *Robert Smithson: The Collected Writings* (Berkeley: The University of California Press, 1996). Pg. 160.
- ⁴ *Ibid.*, Pg. 102.
- ⁵ *Ibid.*, Pg. 100.
- ⁶ Simon Schama, *Landscape and Memory* (New York: Vintage Books, 1996). pg. 244.
- ⁷ Canadian Council for Geographic Education [Website] (Canadian Council for Geographic Education, [cited March 11 2007]); available from http://www.ccge.org/ccge/english/Resources/rivers/tr_rivers_saskatchewanRiver.asp.
- ⁸ Brock V. Silversides, *Gateway to the North - a Pictorial History of Prince Albert* (Saskatoon: Western Producer Prairie Books, 1989). pg. 1.
- ⁹ *Ibid.*, pg. 1.
- ¹⁰ Schama, op. cit., pg. 250.
- ¹¹ M. K. Lux, *Medicine That Walks: Disease, Medicine and Canadian Plains Native People 1880-1940* (Toronto: University of Toronto Press, 2001). Pg. 77.
- ¹² Silversides, op. cit., pg. 3.
- ¹³ Clark, Keitha. *Prince Albert Patriot*. October 1, 2006, <http://www.jmcpl.ca/patriot/trivia.html>.
- ¹⁴ Mitchell, Charles. *Report on City of Prince Albert Hydro-Electric Power Development, La Colle Falls, Saskatchewan River*. Toronto: C.H. Mitchell and P.H. Mitchell Supervising Engineers, 1909, pg. 7.
- ¹⁵ Andreas Huyssen, "Nostalgia for Ruins," *Grey Room* 23 (2006). Pg. 10.
- ¹⁶ *Ibid.* Pg. 10.
- ¹⁷ University of Washington, *Showcase - Richard Haag* [Website] (University of Washington, 1997 [cited 03/24/2007 2007]); available from <http://www.washington.edu/research/showcase/1958a.html>.
- ¹⁸ *Ibid.* Pg. 3.
- ¹⁹ Richard Guy Wilson, "The Machine in the Landscape," in *The Machine Age in America* (New York: The Brooklyn Museum, 1986). pg. 3.
- ²⁰ *Ibid.*, pg. 261.
- ²¹ Gary Abrahms, *Prince Albert: The First Century 1866-1966* (Saskatoon: Modern Press, 1966; reprint, 1976). Pg. 219.
- ²² Flam, ed., *Robert Smithson: The Collected Writings*. Pg. 72.
- ²³ *Ibid.*, Pg. 72.
- ²⁴ Wilson, op. cit., pg. 3.



31(Left) Site Plan of Existing Hydro Dam
Structure Drawn from Measurements
Taken on Site

Site Investigation/Documentation

Before design work could proceed, a set of measured drawings had to be produced to document the existing dam structure. A search for original structural drawings with official sources unexpectedly yielded nothing of use. The City of Prince Albert Economic and Planning Department did not possess any drawings nor did the Prince Albert Historical Museum. Research at the Historical Museum did reveal a complete set of original construction photographs outlining the work on the project from start to abandonment (see Appendix One).

Extensive site documentation was begun with photographs and site videos. The site was visited during each of the four seasons, and the structure and landscape was photographed to record the seasonal transitions and characteristics. Measurements of the existing structure and spaces were taken throughout the course of several site visits. These measurements and sketches were used in combination with the photographs to create a set of measured “as-built” working drawings and a scale model. These drawings and the model represented the first time that the ruins of the La Colle Falls Hydro Dam were subjected to survey and documentation, and were a significant contribution to creating a permanent historical record of the site. These drawings and the model were then used to produce the architectural design scheme.

Thesis Blog

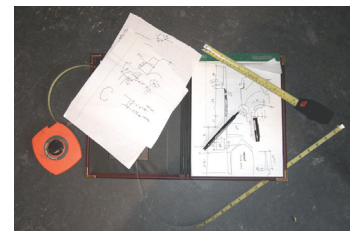
During the research phase a blog was created through the website *Blogspot* (<http://lacollefalls.blogspot.com/>) to disseminate site information. This blog was mainly created with the intent of keeping the thesis advisors informed of the discoveries made during the course of the thesis. The blog included site photographs, diagrams, sketches, maps, and embedded links to site videos posted on the website *YouTube* (<http://www.youtube.com/index>). It also included links to information pages about the province of Saskatchewan and the City of Prince Albert.

The site videos posted on the blog proved to be unexpectedly popular with the public and recorded 742 viewings as of March 27th, 2007. Numerous comments were posted on the blog about the content of the videos. These

The Healing Landscape

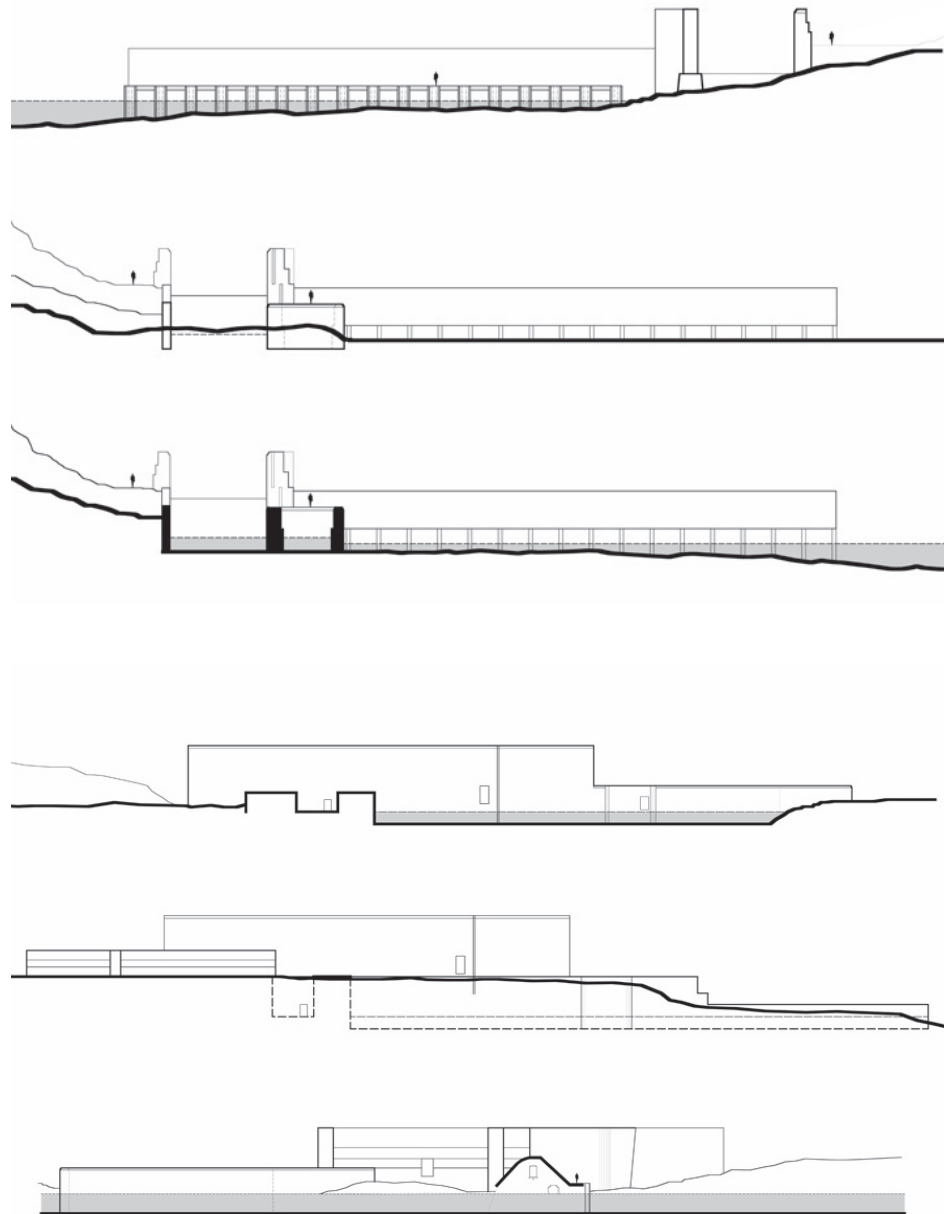
Methodology:

31A(Below) Tools of Investigation



The Healing Landscape

Methodology:



^{31B} Elevations and Sections of Existing Hydro Dam Structure Drawn from Measurements and Photographs Taken on Site

comments included compliments on the videographic work, personal reminiscences, and questions about the history of the project:

“Thanks for putting this up, it’s an amazing site to see in real life. My Grandfather worked on the project so it’s cool to see all these pictures put together”.

“Nice document, especially for those that have worked on newer dams and don’t know the old procedures of dam construction”.

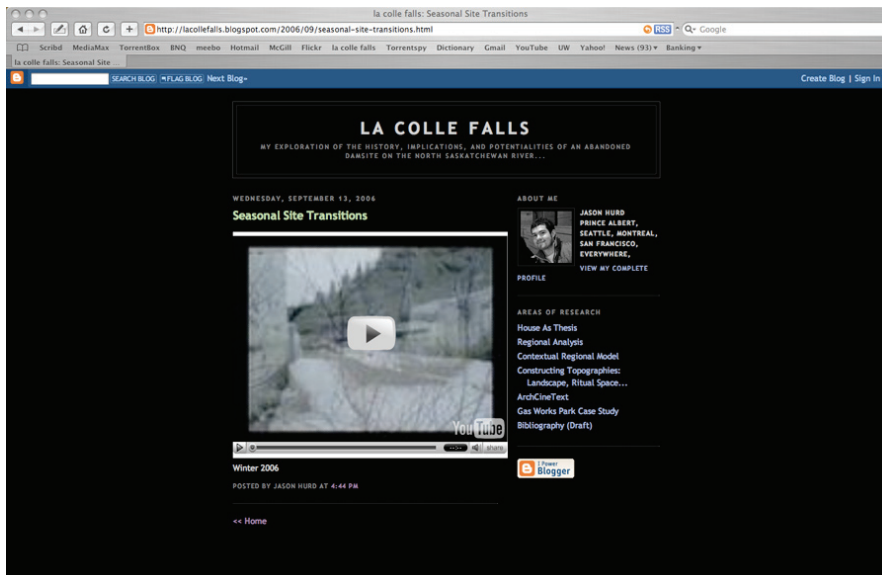
“Do you know why this project was abandoned?”

“I’m from Prince Albert and La Colle Falls really is as spooky as I remember it. Darned thing threw Prince Albert into debt for 50 odd years!”

These comments about the videos are indicative of a continued fascination with the history of the project, and proof that the site of the failed hydro dam and its historical legacy is a persistent and deeply ingrained topic within the local urban and regional mythology.

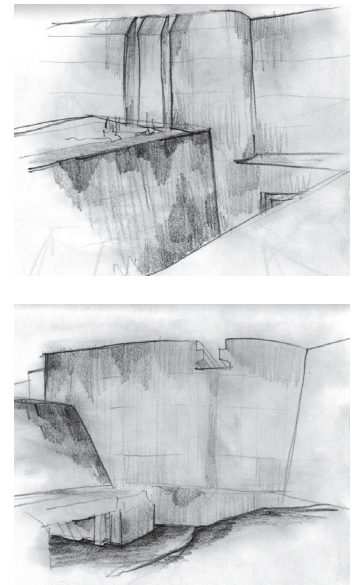
The Healing Landscape

Methodology:

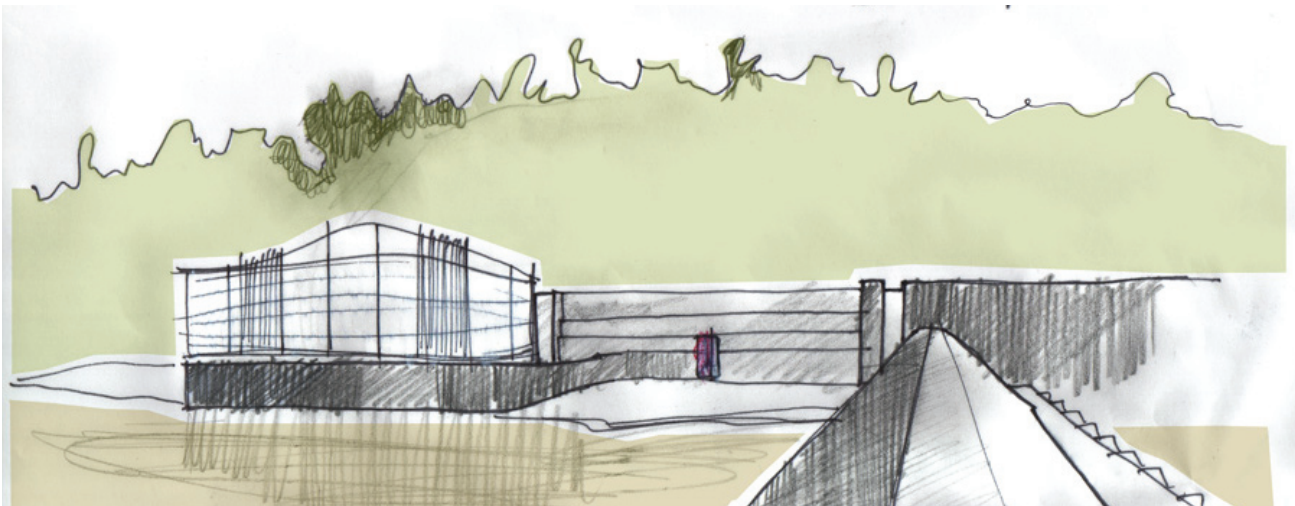


31C(Left) Screenshot from Thesis Blog

31D(Below) Site Sketches of Spaces of the Existing Dam Ruins



32 Early Design Sketch



Spa at La Colle Falls

The Architecture

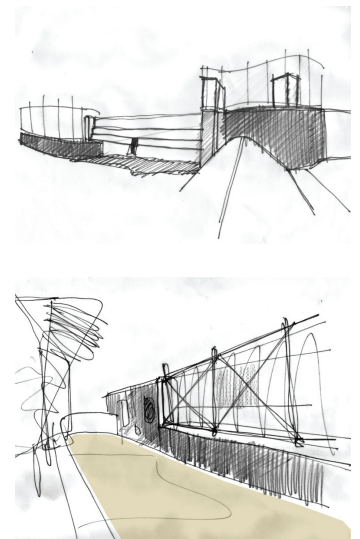
Completion of the La Colle Falls hydro dam is the main concept behind the architectural form of the Spa. This “completion” involves two main concepts. The first is the physical and structural reinterpretation and re-inhabitation of the dam through an architectural addition to the ruins. This consists of an engagement of the existing ruins that will attempt to generate a meaningful architecture grounded in what architect Ignasi de Sola-Morales refers to as the key concepts of contemporary architecture; “earth, sky, light and shadow, and the site’s ancestral images and histories¹.” The second concept involves a psychological completion: the collective healing of the memory of the failed project through the healing arts of the Spa. This further relies on the premise of de Sola-Morales that: “movement, vision, and touch act together in the production of a global, sentimental experience...the reality of a work of architecture is inseparable from human perception and its active mechanisms².” The experience of the spaces of the Spa at La Colle Falls will activate these senses to positively influence both the physical and historical perception of the site.

The formal composition of the Spa building references and accentuates the rectilinear layout of the existing dam. It also highlights the visual effect of a rigid, monumental work of engineering in a secluded and organic landscape. The main building is volumetrically composed of three floors. The subterranean level is programmatically aquatic, containing the change rooms, a series of pools, sauna, and hammam or steamroom. The ground floor contains the main reception area, and a series of massage rooms and offices. It also provides access to the meditation and massage chambers in the Weir. The second floor contains the Vichy therapy (treatment involving warm water cascading over the body) rooms and two large multipurpose activity rooms. It also hosts a café/restaurant, and a small gallery. From the second floor you can also access the small roof garden that overlooks the shipping lock pool and the river. The roof of the Spa is partially a green roof, and the slope of the ravine bank spills down onto it, creating the appearance that the architecture is emerging from the earth. Initially the roof will be planted with native grasses to stabilize the soil, and small shrubs such as willows and birch clusters will take root, adding to the illusion that the Spa is emerging from the forest and bank.

The Healing Landscape

Spa at La Colle Falls:

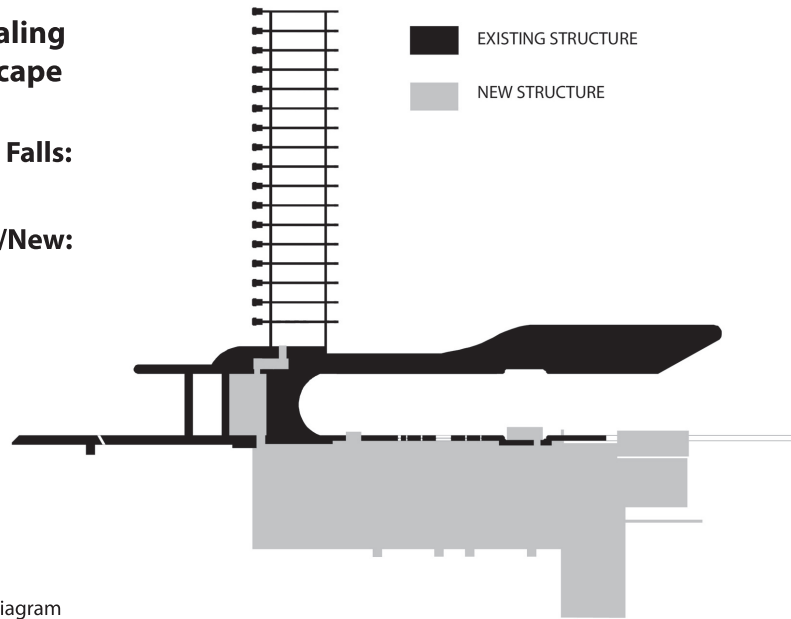
³³ Early Design Sketches



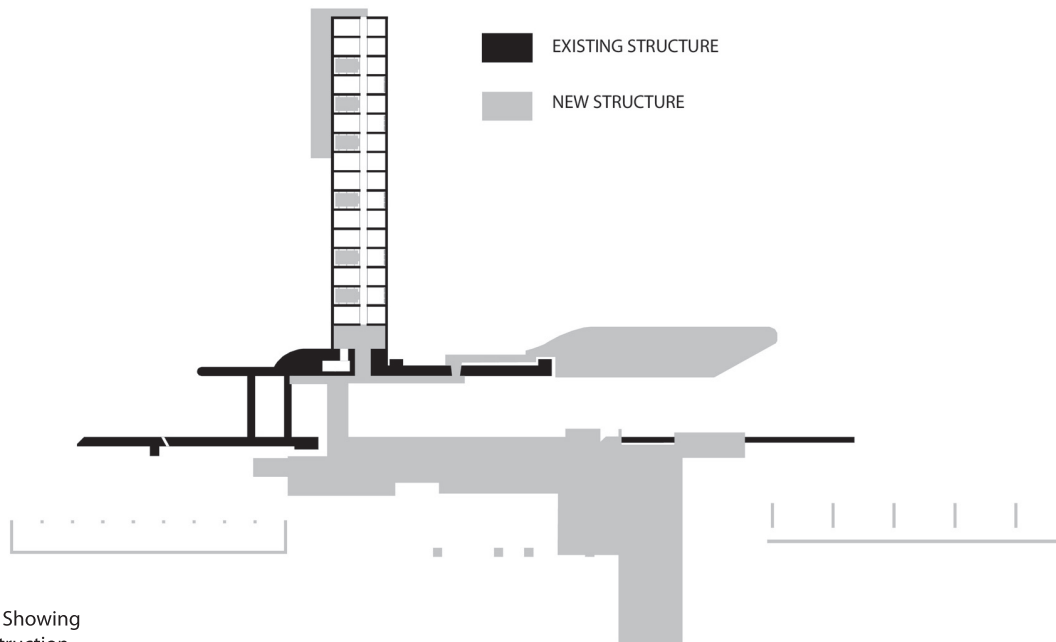
The Healing Landscape

Spa at La Colle Falls:

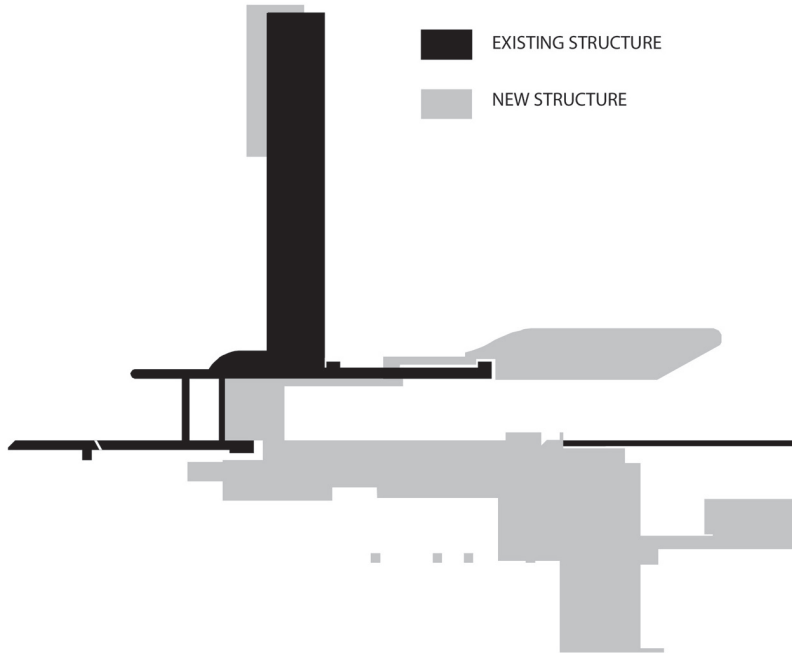
Existing/New:



³⁴ Underground Pool Level - Diagram Showing Existing and New Construction



³⁵ First Floor - Diagram Showing Existing and New Construction



The Healing Landscape

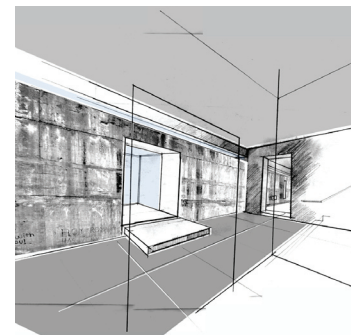
Spa at La Colle Falls:

³⁶ Second Floor - Diagram Showing Existing and New Construction

Four large concrete ventilation towers rise up out of the forest beside the Spa. The function of these towers is to ventilate the enormous amounts of humid air generated by the underground pools. These towers have an industrial appearance and complement the iconography of the existing dam.

The vertical, planar arrangement of the main structural elements, primarily concrete shear walls, slices through the soft earth of the ravine bank, simultaneously acting as retaining walls and vivisectioning the live forest floor to expose the sedimentary geological composition of the site. Like the ruins of the dam, the structure of the Spa is primarily composed of concrete, although steel elements have been used in some areas, such as the hammam and the yoga studio. The formwork patterns are clearly visible in the structural concrete of the new construction and the intent is to replicate the rough surface of the existing poured concrete of the dam.

The exterior materials palette references the industrial nature of the existing dam. The primary skin of the building is an aluminum and glass curtainwall, with a seemingly random pattern of vertical mullions. The intent of this pattern is to echo the rhythm of the stands of wild, native poplar trees that surround the site. Unlike birch trees that grow in clusters of multiple trunks,



^{36A} Puncturing the Existing Lock Wall

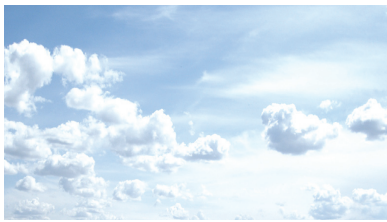
The Healing Landscape

Existing Site Palette:

Water:



River Water - Summer



Sky and Clouds



River Ice



Late Autumn River Ice-Castings



Snow

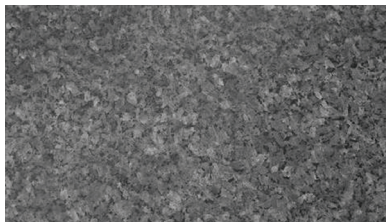
Geology:



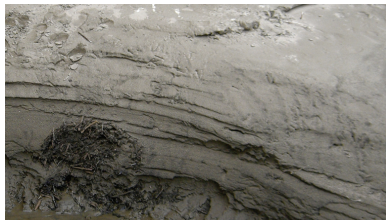
Soil



Existing Concrete



Granite Stone



River Sand/Silt/Mud



Graffiti



River Stones

Flora:



Native Grasses



Poplar Trees



Pine Trees



Birch Trees



Moss



Wheat

The Healing Landscape

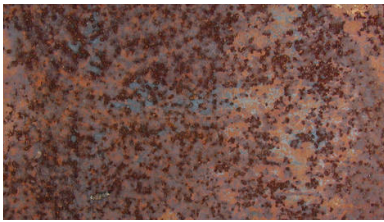
Architectural Palette:

Spa:

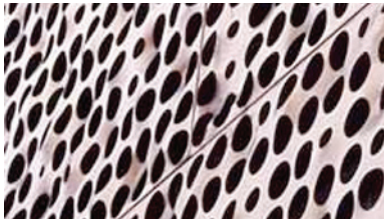
Exterior:



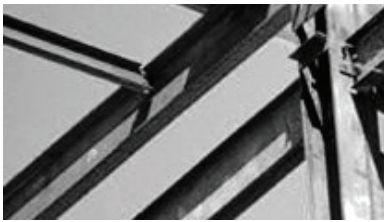
Poured Concrete



Corten Solid Steel Panel



Corten Steel Perforated Panel



Structural Steel



Aluminum Curtainwall

Interior:



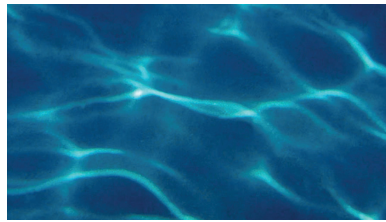
Native Birch Wood Floor



Polished Concrete Floor



Cut Native Granite Masonry



Pool Water



Steam



Human Touch



Warm Towels



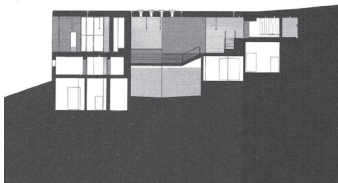
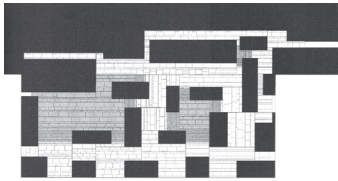
Massage/Essential Oils



Sauna Cedar

The Healing Landscape

Spa at La Colle Falls:



37(Above) Plans and Section of Spa at Vals, Switzerland - By Peter Zumthor

37A(Below) Lounge Area in Spa at Vals, Switzerland



the poplar tree stands alone with one tall slender stalk. The seriality of these poplars creates a noticeable cadence in the forest surrounding the building, and that concept has been interpreted in its skin. The building is draped in a secondary skin, a perforated Corten steel mesh. This mesh creates an additional architectural layer through which to view the landscape and was inspired by the vernacular corrugated steel agricultural buildings and abandoned rusting farm implements of the region. Its physical changes are indicative of the passing of time, and with exposure to the elements, it will oxidize, eventually achieving a deep red colour and bleeding onto the existing and new concrete. This staining will help the architectural additions to conceptually blend with the existing dam structure.

The palette for the interior finishes is drawn from the native geology and flora of the site. Native birch wood flooring has been used throughout the massage rooms to give a sense of warmth, softness, and intimacy. It has been left unfinished so that in time it will age, and the wear patterns of the users will be visible. Grey native granite stone has been split and applied to the walls in the bathing halls and the wet areas of the Spa. Granite is more common north of the site, but many of the boulders in the river rapids are actually granite remnants of ice age glacial till. This dark natural stone contrasts with the finish of the existing and new concrete, and gives an indication of the geological and ancient climatic forces that worked to create the site. The hard rough finish of the stone will also highlight the softness of the bodies of the human patrons. In the main circulation areas of the building, polished concrete floors lead visitors from space to space. The smooth cool texture of this finished surface will contrast with the finish of the concrete used elsewhere in the building, in particular the exposed, weathered concrete of the existing dam.

Contemporary Models

An example of contemporary spa architecture is the Therme Bath at Vals, Switzerland designed by architect Peter Zumthor. This building presents an appropriate model for the Spa at La Colle Falls. It is programmatically comprised of a bathing complex built to compliment an existing hotel that caters to the alpine tourist market. The site of the spa is quite remote, and like the Spa at La Colle Falls, the journey through the scenic countryside to the baths becomes part of the special attraction and narrative of the place.

When conceiving the project Zumthor asked himself this question: "Mountain, stone, water - building in the stone, building with stone, into the mountain, building out of the mountain, being inside the mountain - how can the implications and the sensuality in the association of these words be interpreted, architecturally?"³ A similar approach was taken with the design of the Spa at La Colle Falls. River, forest, ruin – how could these words help to generate an architecture that would embrace the incredible natural beauty of the site, and address the rich historical drama associated with the failed hydro project?

The Vals spa projects from its mountainside location, and resembles a monolithic geological rock formation. The main structural and facing material used in the construction of the building is stacked Valser quartzite, a grey stone that is specific to the site, and has been used as a roofing material in the town for hundreds of years⁴. The lighting and materiality of the bathing pools in the Vals spa create the illusion that they are located deep underground, and like the Spa at La Colle Falls, the main bathing areas are lit with a dim, intimate light. Some of the most dramatic lighting in the Vals spa comes from above, from fissure details in the concrete structure.

The Vals bathing complex has become an important public amenity to the town, and is in fact owned by the community⁵. In addition to the local users, the architecture of the facility has also been very successful in drawing international visitors interested in experiencing the building as well as the healing waters and spa treatments. The bath operates on a schedule that allows members of the public to use it in the mornings, and the guests of the adjacent hotel to use the facilities in the afternoons and evenings. This arrangement has proven very successful because the region surrounding the spa is very popular with hikers, who trek the mountainsides during the early hours of the day, and retire to the spa in the afternoon.

Recreation

Prince Albert is well situated economically to support a Spa. The city of Prince Albert hosts a population of 41,460⁶, and is the third largest community in the province. The total population for the entire region immediately surrounding the city is 149,300⁷. It is located a 1.5 hour drive from Saskatoon (the largest city in the province), and a 4 hour drive from

The Healing Landscape

Spa at La Colle Falls:

378(Below) Exterior of Spa at Vals, Switzerland



The Healing Landscape

Regina, the provincial capital. The city is well connected to these urban centres via a highway network, and a regional airport.

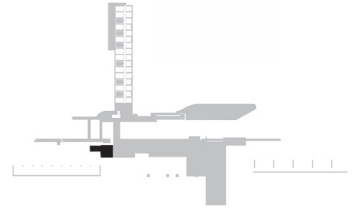
Spa at La Colle Falls:

The area surrounding Prince Albert, and the La Colle Falls thesis site, has a rich history of recreational activity. It is populated with numerous small fishing and resort lodges that draw a diverse regional and international clientele. Immediately north of the city is the Lakeland region, home to hundreds of freshwater lakes and a large all-season resort economy. This territory includes Prince Albert National Park, a 3875 square kilometre⁸ protected area of lakes and boreal forest, that draws thousands of local and international visitors yearly, as well as dozens of Regional and Provincial Parks. This established resort clientele would be drawn to the Spa at La Colle Falls by its remote and beautiful location. Their support would supplement that of the local population.

The Narrative Journey

The journey to the Spa at La Colle Falls begins when the visitors leave the city. They will exit Prince Albert via the eastward rural highway. The grid quickly softens as the highway carries the traveler past the municipal boundary and through an area of rural acreages and farms. The fragmentation and dissolution on the fringes of urbanity becomes apparent. The travelers find themselves speeding through a mixed landscape of grasslands, grain fields, and forest. The paved surface allows an unnatural velocity that paradoxically suits the natural landscape. Field, forest, farm, flash by in the simulation of a cinematic panorama, the only really appropriate device for viewing a landscape of this vastness.

Eventually, a sign is encountered on the highway pointing the direction of the Spa. This sign represents the first step in the process of "slowing". The asphalt ribbon ends, and the travelers find themselves turning onto a gravel road. Gravel is a common road surfacing material in Saskatchewan, one that does not allow excess speed, so the traveler is forced to slow down. These rural roads are locally known as grid roads, but the true meaning of this term only becomes apparent when the landscape is examined in aerial photographs. The roads follow the lines of the government survey grid, imposing an expanded version of the urban grid onto the countryside, creating a rigorous rectilinear network of spatial division that actually works at the large scale of the landscape.

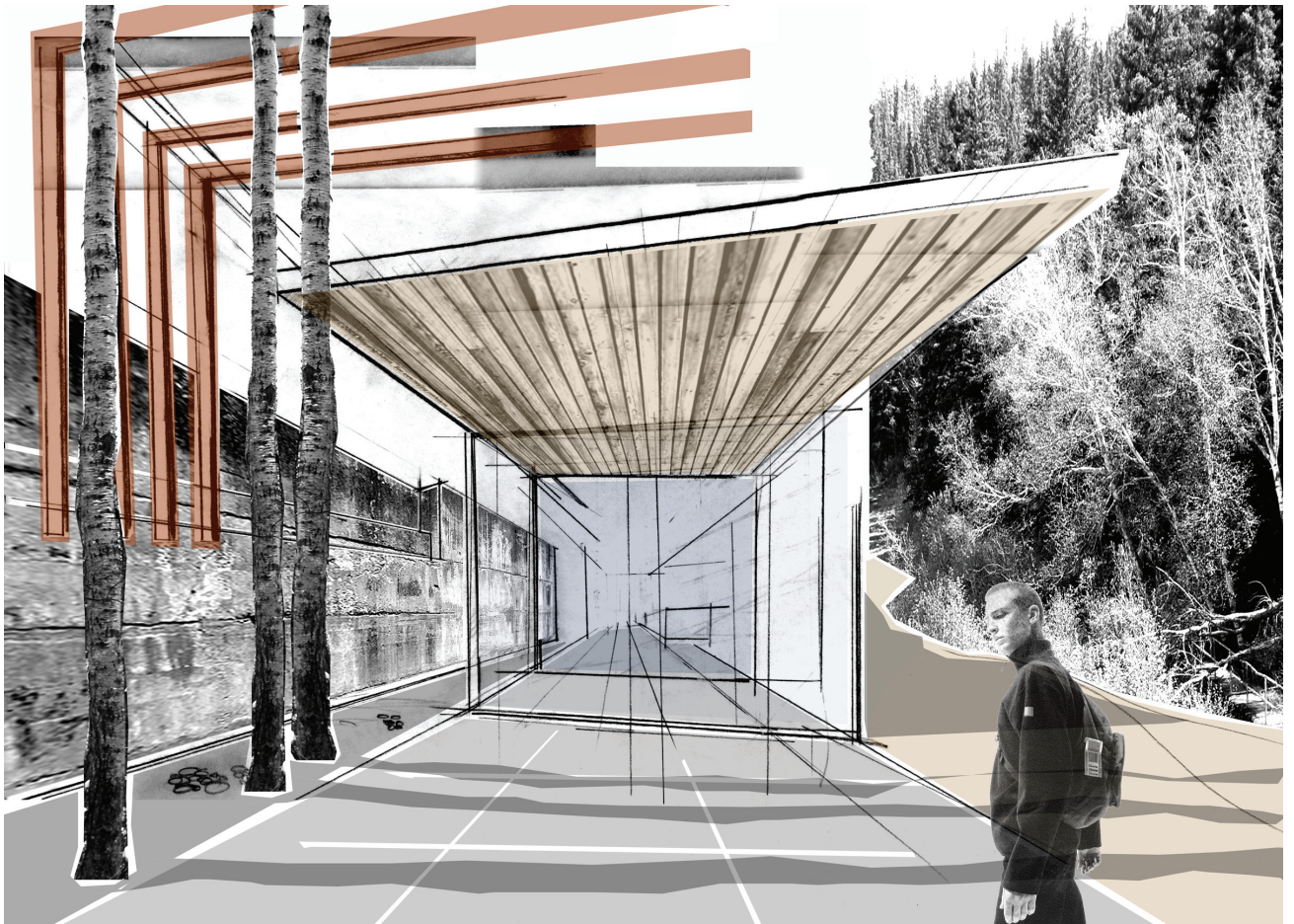


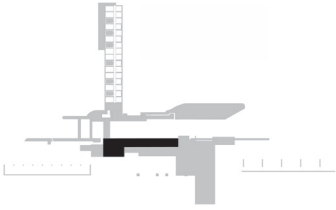
First Floor

The Healing Landscape

Spa at La Colle Falls:

³⁸ The Spa Main Entrance with Wood and Steel Canopy - Existing Concrete Dam Structure to the Right





First Floor

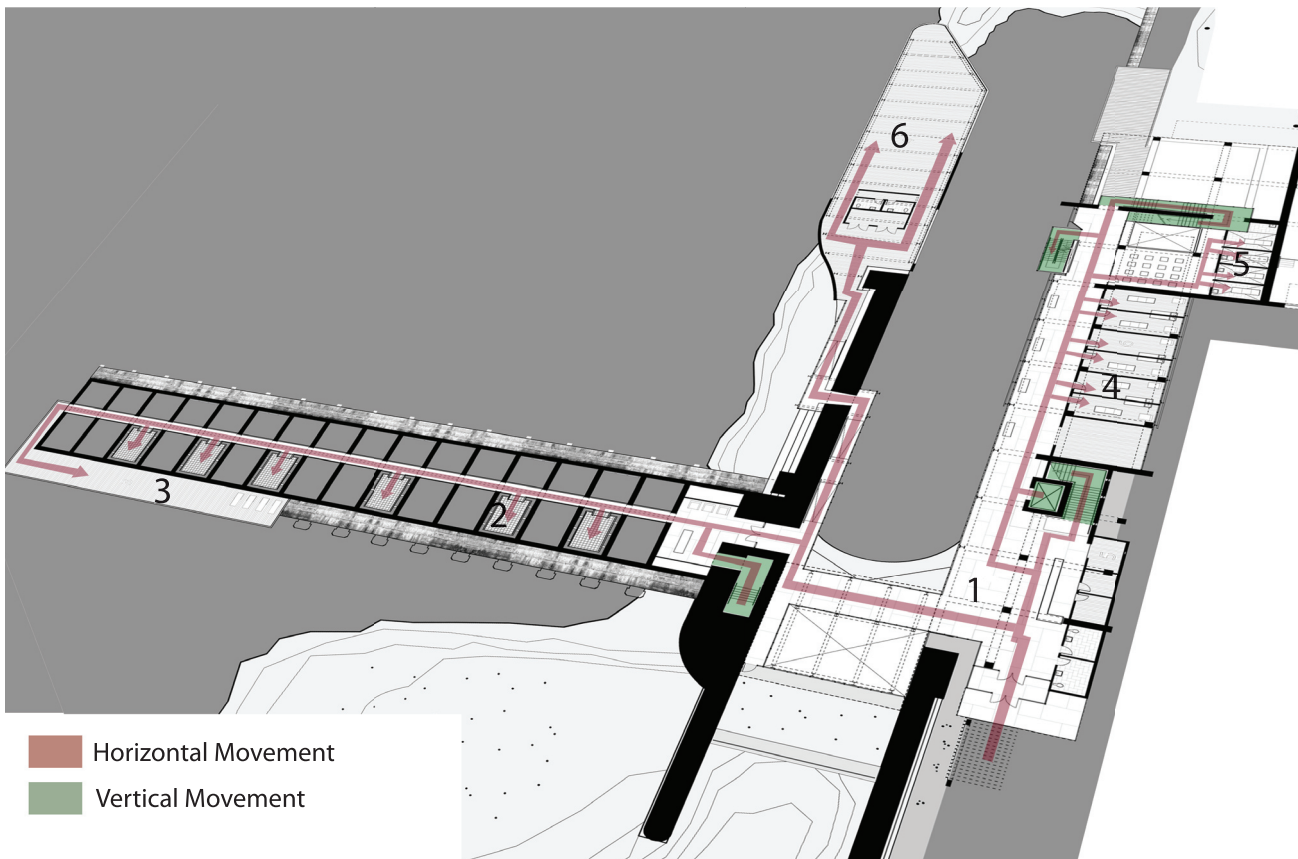
The Healing Landscape

39(Right) Spa Lobby Overlooking the Shipping Lock Pool

39A(Below) Movement Through the Spaces of the Underground Pools Level





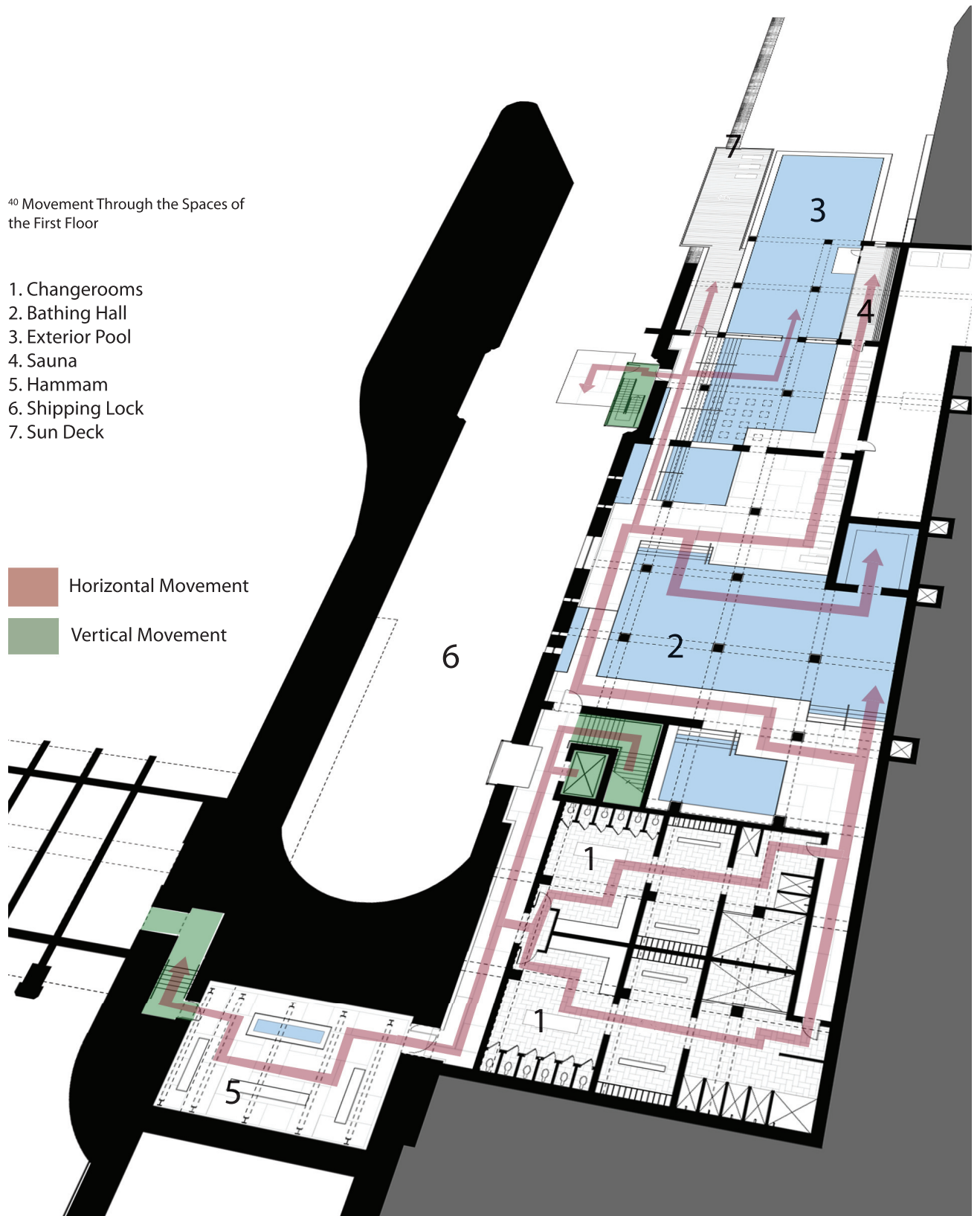
1. Main Lobby/Reception
2. Weir Massage/Meditation Room
3. Sun Deck
4. Massage Therapy Rooms
5. Vichy Therapy Room
6. Yoga Studio



40 Movement Through the Spaces of the First Floor

- 1. Changerooms
- 2. Bathing Hall
- 3. Exterior Pool
- 4. Sauna
- 5. Hammam
- 6. Shipping Lock
- 7. Sun Deck

-  Horizontal Movement
-  Vertical Movement





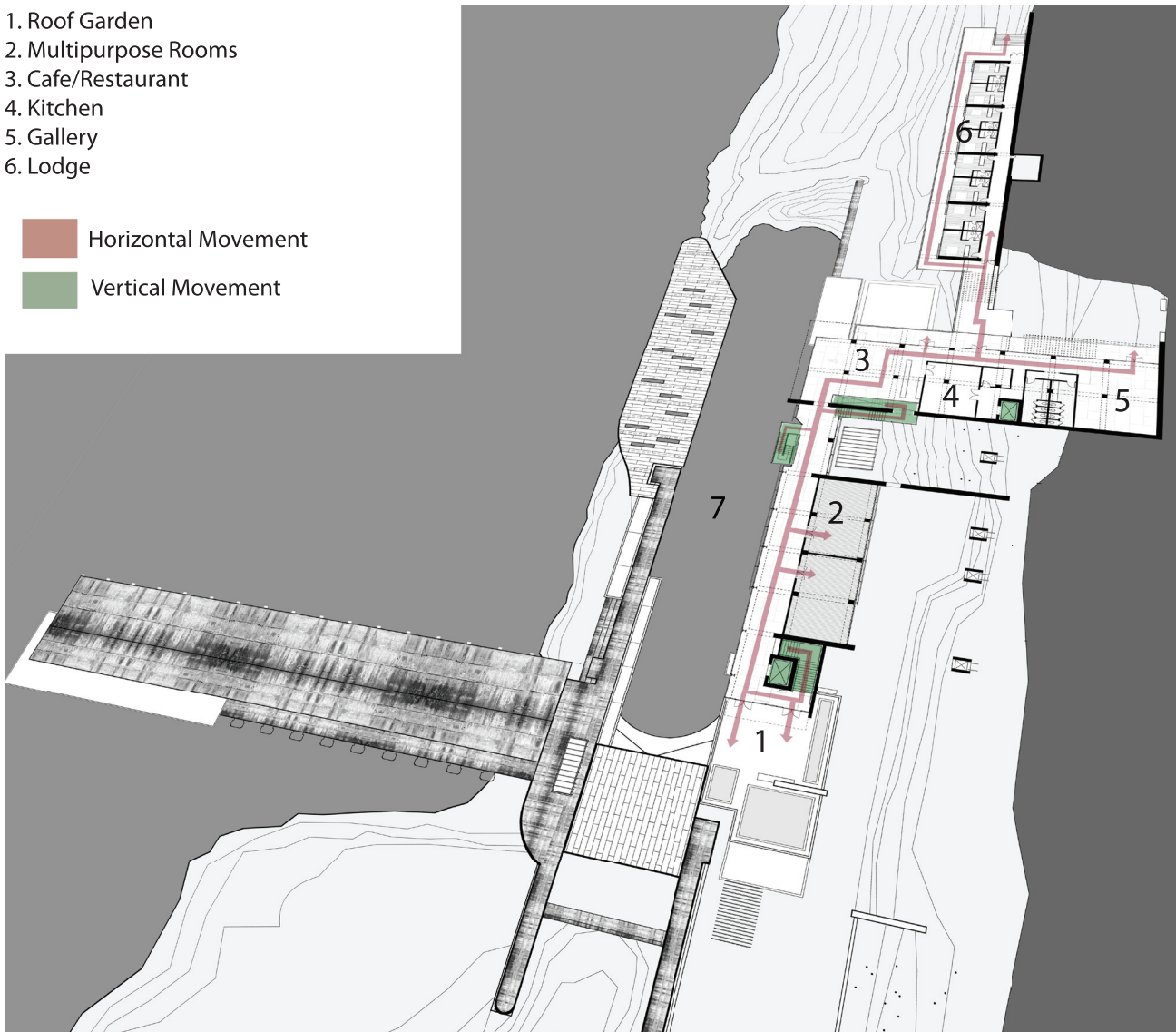
The Healing Landscape

Suddenly, with a reduction in speed comes an increase in sensation. The finer details of the landscape become apparent. Peeling paint on a roadside mailbox, the barbs on a wire fence, a ripple on the surface of a slough. The experience of the landscape begins to move from vast and imposing to intimate and tangible. The gravel road continues north. Cresting a hill, the traveler is confronted with the sweep of the river valley. Steep and ragged forested banks frame a serpentine line of green water. The agricultural fields end abruptly at the top of the ravine emphasizing the threshold between two topographies.

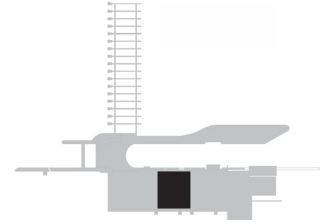
^{40A} Movement Through the Spaces of the Second Floor

1. Roof Garden
2. Multipurpose Rooms
3. Cafe/Restaurant
4. Kitchen
5. Gallery
6. Lodge

-  Horizontal Movement
-  Vertical Movement



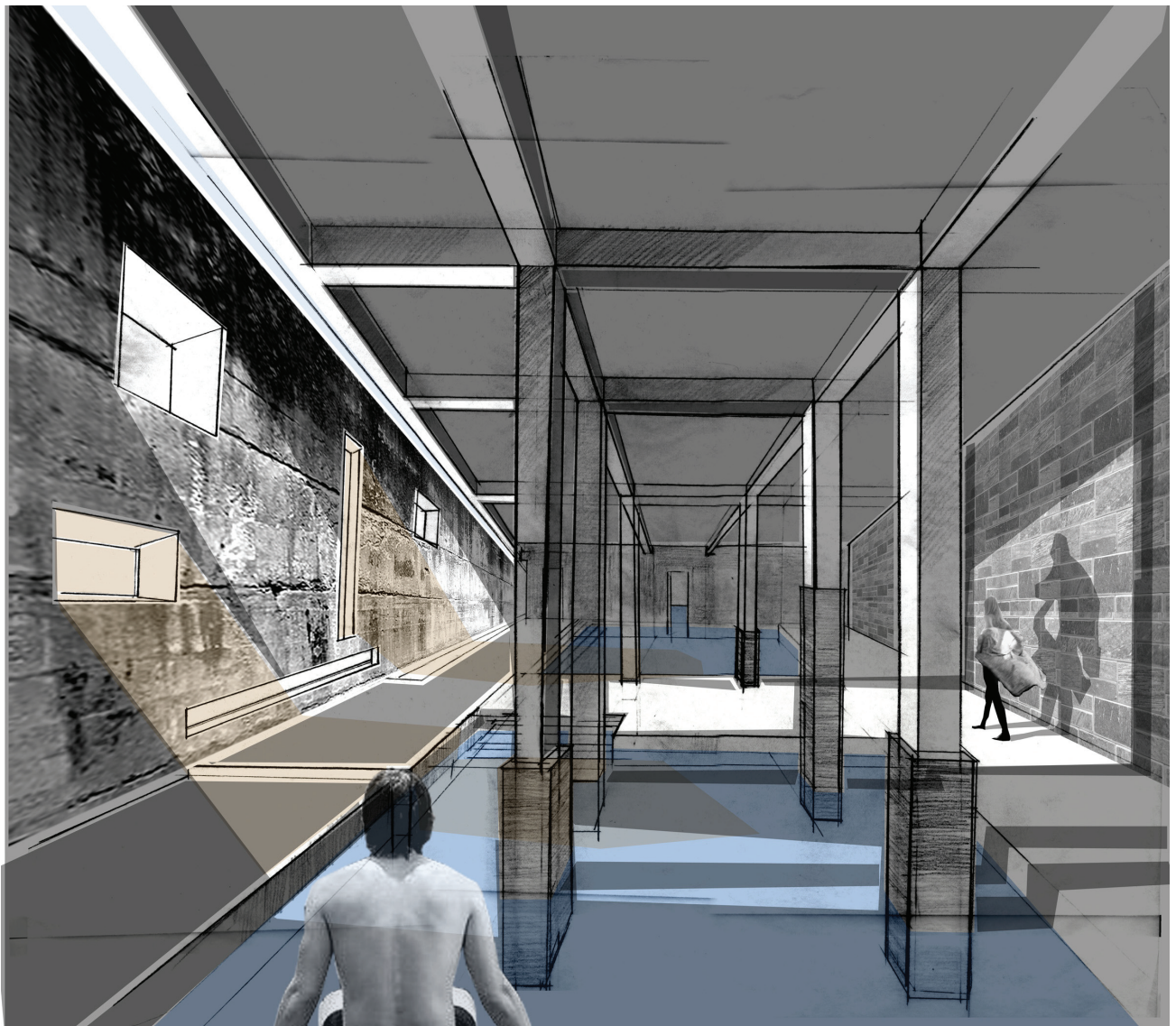
Underground

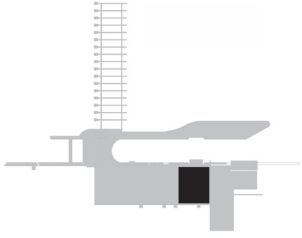


The gravel road continues, descending the steep riverbank through groves of poplar, pine, willow, and birch trees. The lighting changes as the visitor leaves the exposure of the escarpment and fields, and enters the forest. Dimness closes in; the leaf canopy above filters the sunlight. The trail flattens out, carrying the visitor along a densely wooded mudflat of the river. The air temperature becomes cooler. To the left the river can be glimpsed through gaps in the foliage. The crunch of the gravel and the splashing sound of the rapids suddenly become very noticeable. The ruins of the dam and the

The Healing Landscape

^{40B} The Main Bathing Hall with Existing Concrete Shipping Lock Wall to the Right with Punctured Windows





Underground

The Healing Landscape

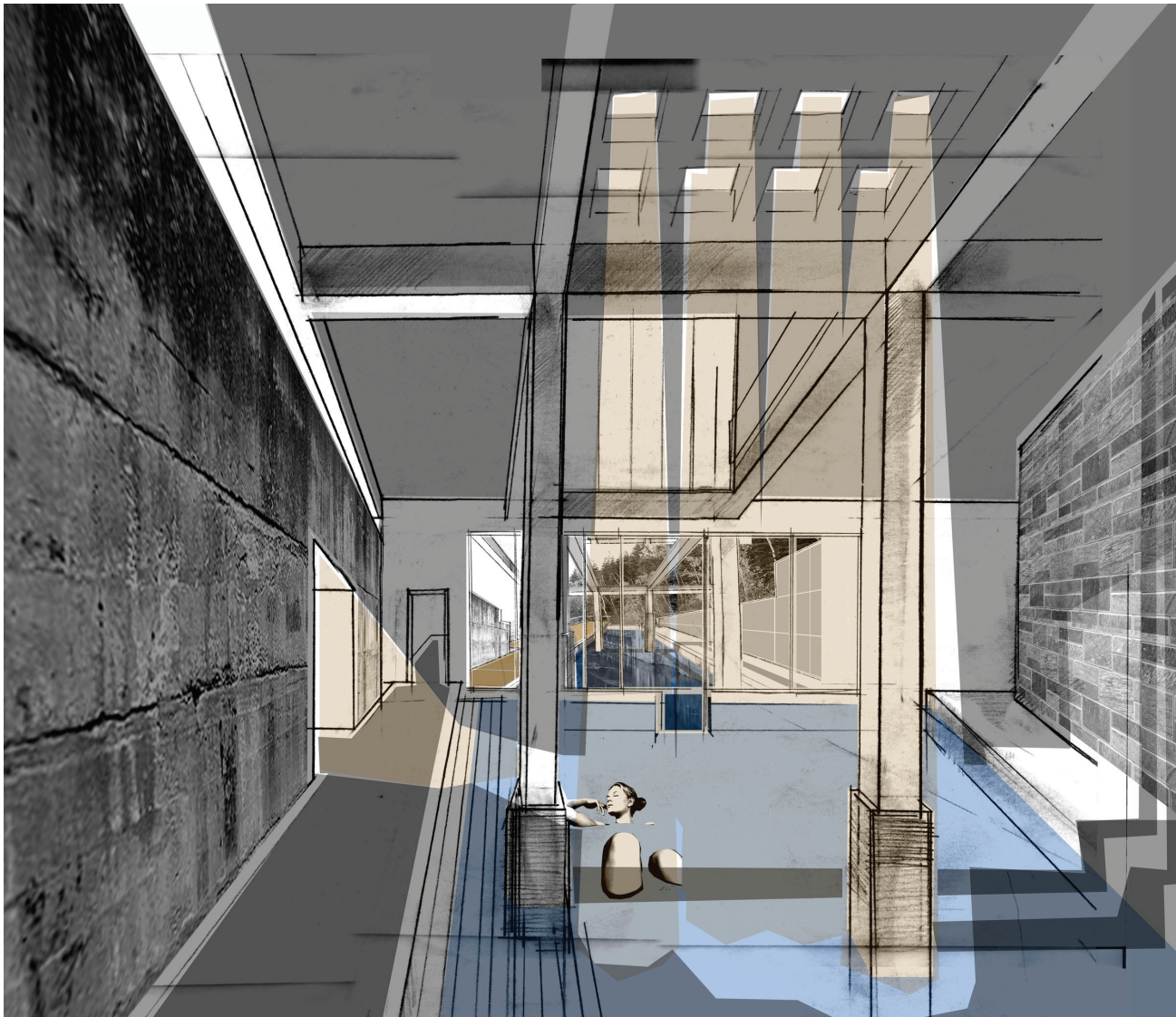
Spa building emerge from the vegetation quite unexpectedly, creating an element of surprise and the climax of the arrival sequence. From this point on, the traveler becomes Spa patron.

Spa at La Colle Falls:

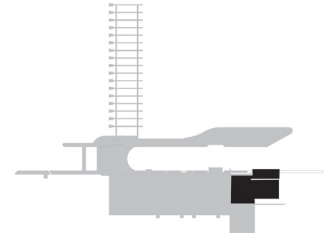
⁴¹ The Bathing Hall With Concrete Shipping Lock Wall and View to Exterior Pool

Movement Through the Spaces of the La Colle Falls Spa

Water is the key element in the Spa, and its various ritual uses define the experience of the architecture. The creation of spaces for retreat and connection was the primary design concern. The secluded nature of many of the rooms in the Spa, such as the hammam and the meditation chambers



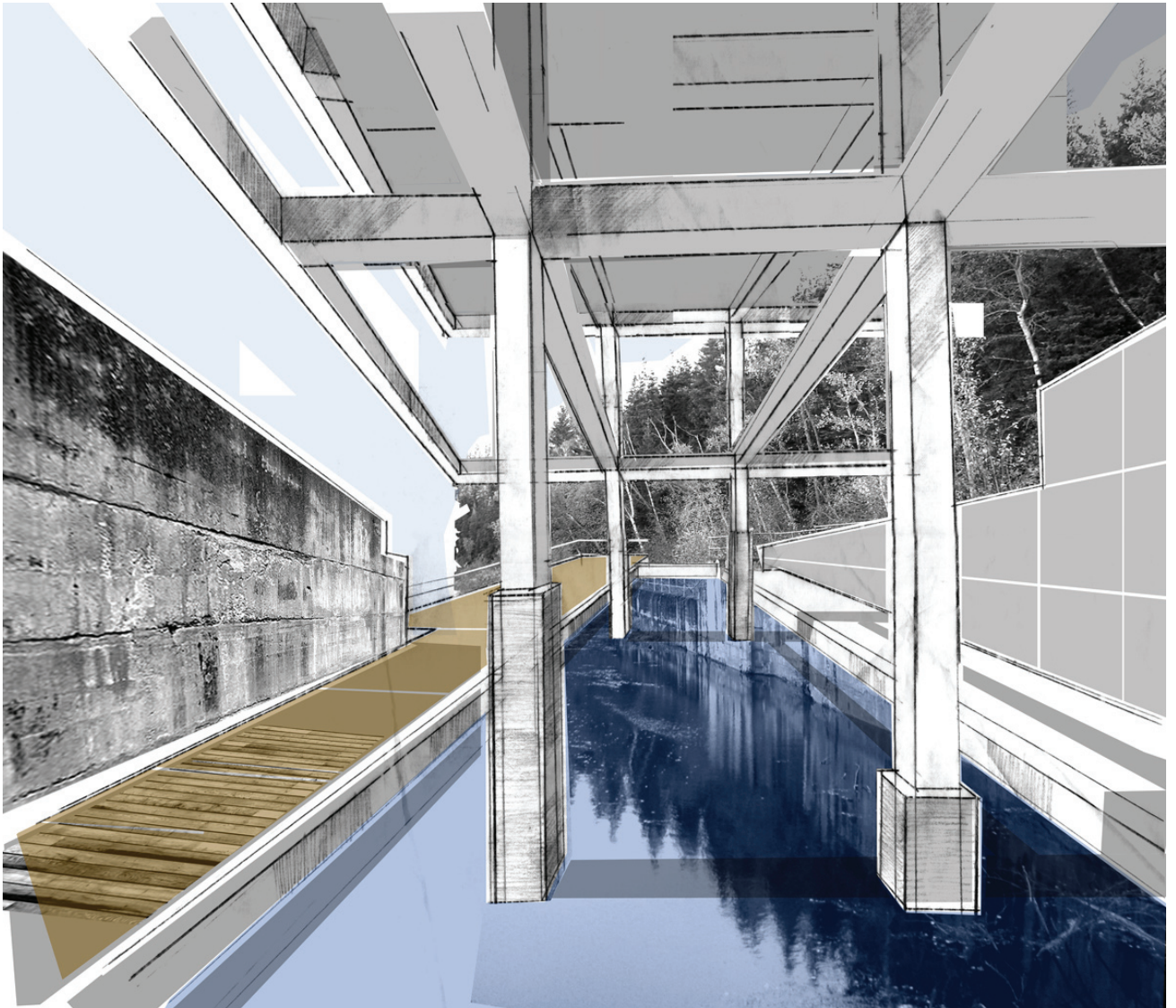
Underground

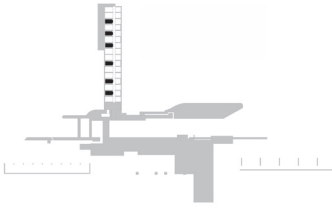


The Healing Landscape

Spa at La Colle Falls:

⁴² The Exterior Pool with Views to Surrounding Landscape





First Floor

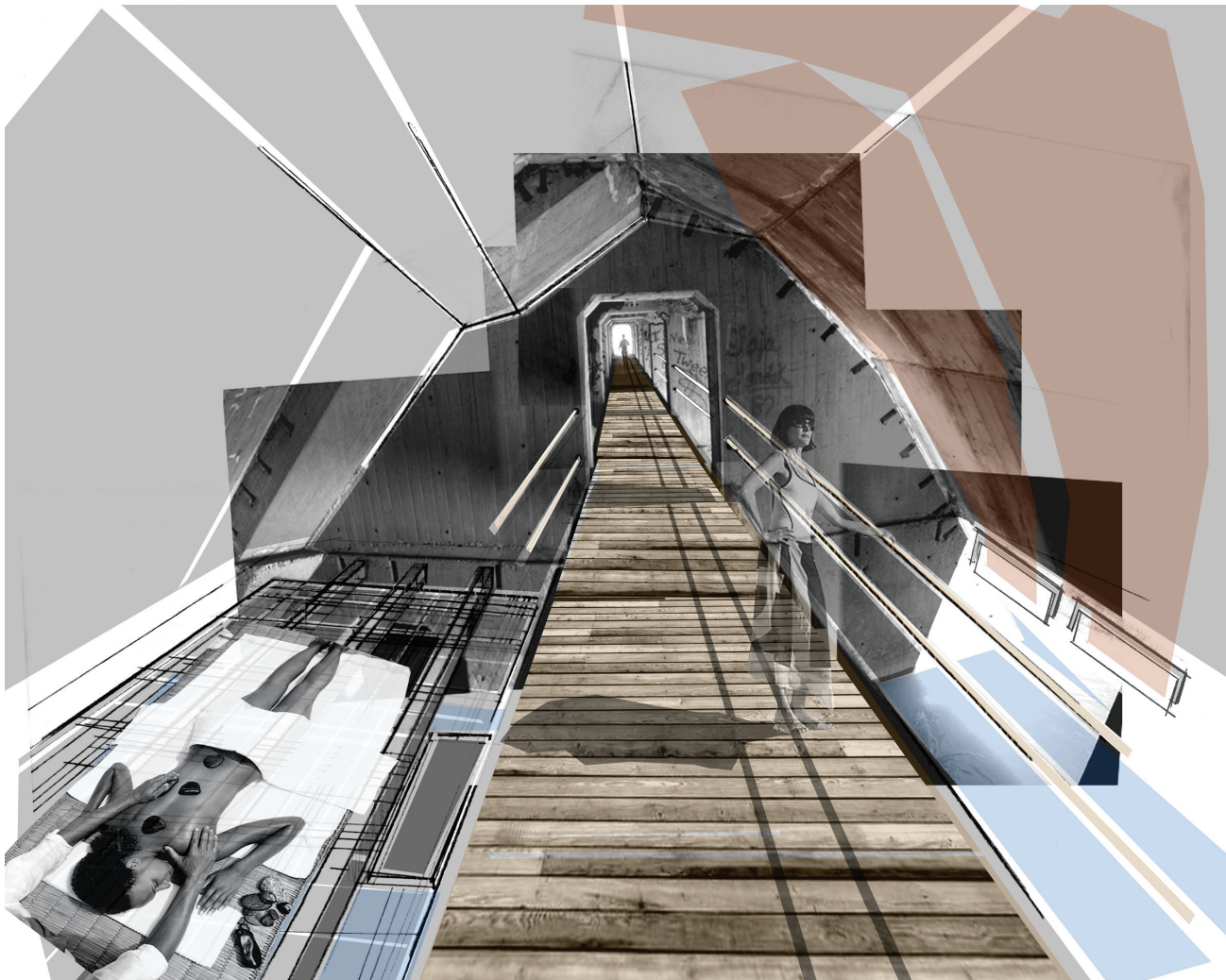
The Healing Landscape

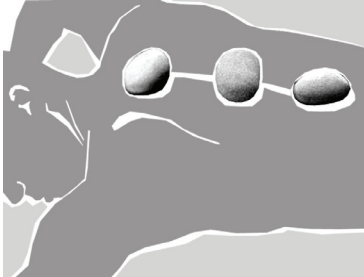
in the Weir create an opportunity for personal reflection, through their specific lighting and use of water. The architectural design of most of the spaces presents a visual or tactile connection to the ruins of the dam, and to the landscape of the site.

Spa at La Colle Falls:

Patrons will move through the architecture of the Spa in a very specific manner. The building is entered via a large lobby with walls of glass that overlook the full length of the existing shipping lock pool. This pool is over 180 feet long, and 40 feet wide, and has been left in a semi-natural state, filled with water from the river. It forms the central element of the design scheme, with most of the spaces opening onto it, or having views to it. The horizontal nature of this water feature draws the eye in a sweeping gaze, and

⁴³ Inside the Weir -
Massage & Meditation Chambers
Suspended Over the River





Second Floor



The Healing Landscape

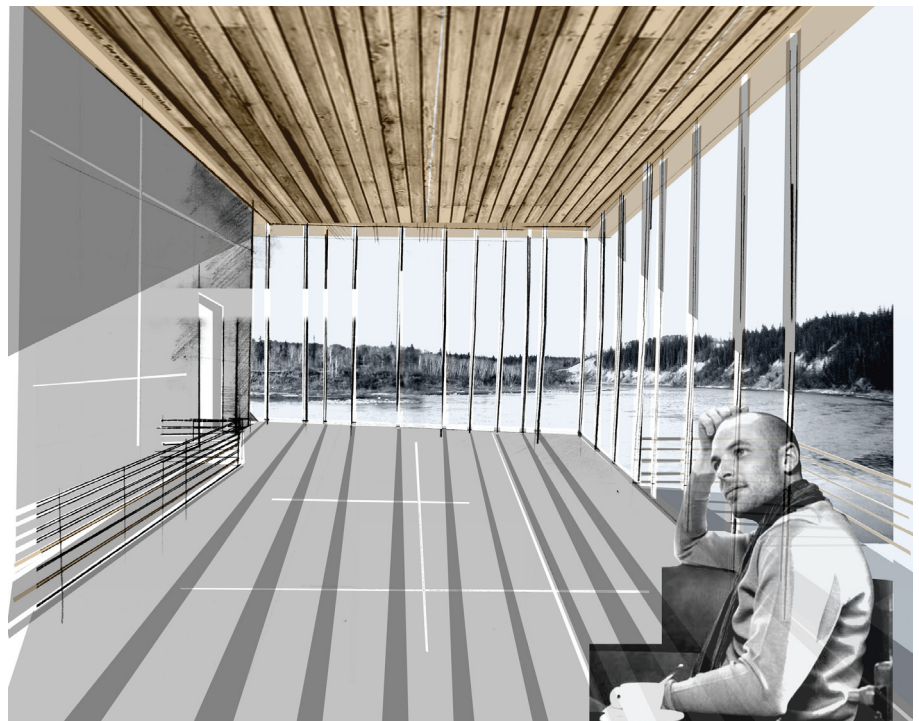
Spa at La Colle Falls:

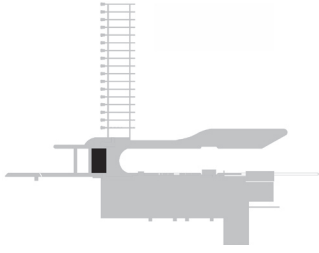
44 (Right) Hot Stone Therapy

alludes to the motion of the river beyond. Upon registration at the reception desk in the main lobby, patrons precede to the underground Bathing Hall via the granite steps of the main stair, or to massage rooms in the main Spa or Weir.

Cleansing is the first use of water in the Spa. Before entering the pools, patrons will undergo the process of cleansing the body. Beginning in the change rooms, outside clothing is removed and placed in designated lockers. The visitors symbolically leave the outside world and discard its vestiges. After removing their garments, they will wash their bodies. This step relaxes the muscles and mind and further distances them from the outside world.

45 View of the Cafe and Restaurant Overlooking the River





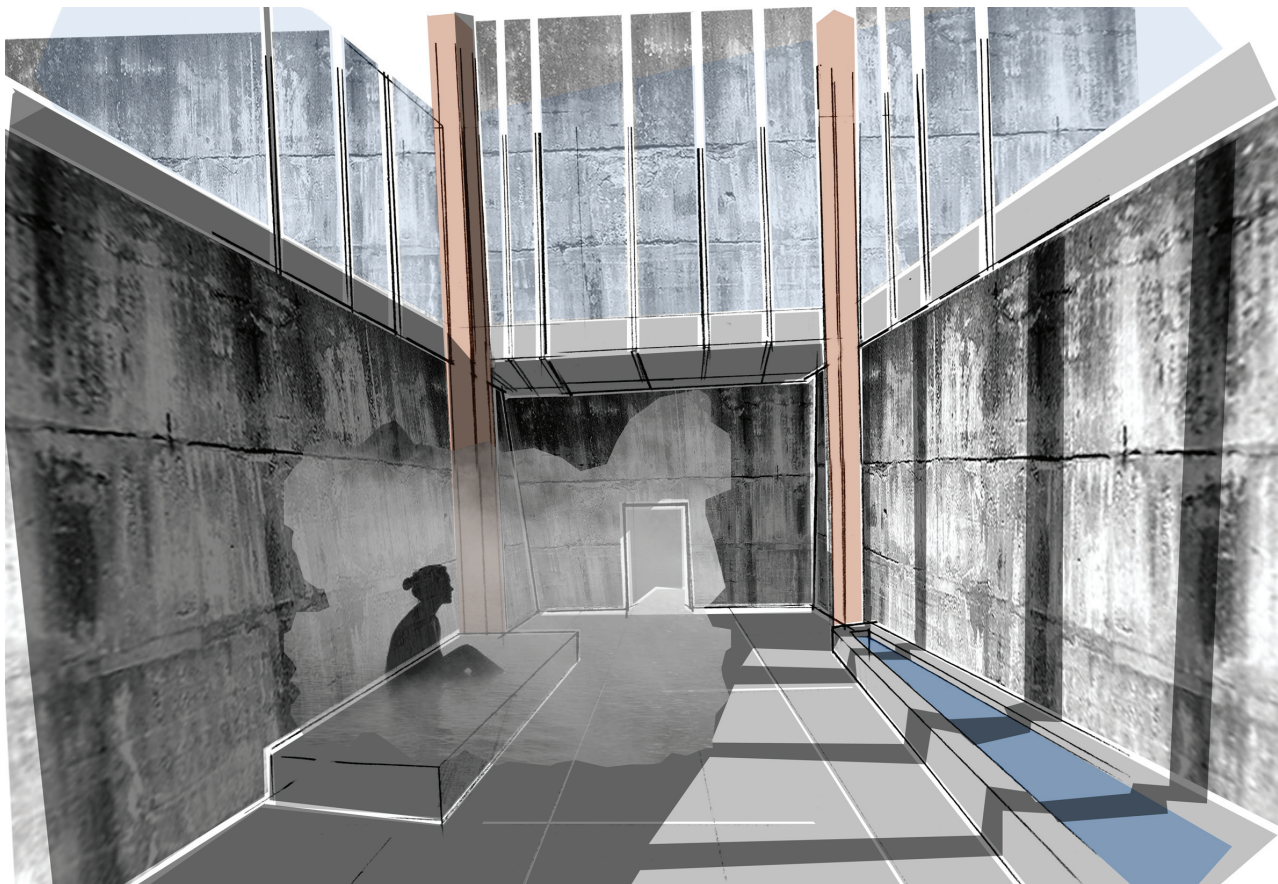
Underground

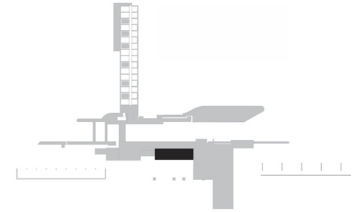
The Healing Landscape

Spa at La Colle Falls:

Soaking is the next aquatic activity. The main Bathing Hall is a large grotto-like space that contains a series of underground pools. Like the baths of ancient Rome, the bathing sequence begins with an intensely heated pool, followed by a warm pool, and finally a cool plunge pool at the end that extends into the landscape and overlooks the river. Surrounding all of the pools are lounging decks and spaces for relaxation and meditation. Dark granite stone, native to northern Saskatchewan has been chosen to face the walls of the Bathing Hall. This stone is reminiscent of the site, and speaks of the geologic forces that created it. The existing concrete wall of the Shipping Lock forms one wall of the underground Bathing Hall. At several points, windows have been cut into the concrete wall to allow a diffused intimate light to enter the vast room. These penetrations echo the small glass windows common in a Turkish hammam, or bathhouse, and create an intimate half-light. These windows also allow views to the exterior pool of the Shipping Lock, reminding the patrons of the history of the site. Bathers will follow the pool sequence, and then have the option of proceeding to the hammam.

45A View of the Hammam





First Floor

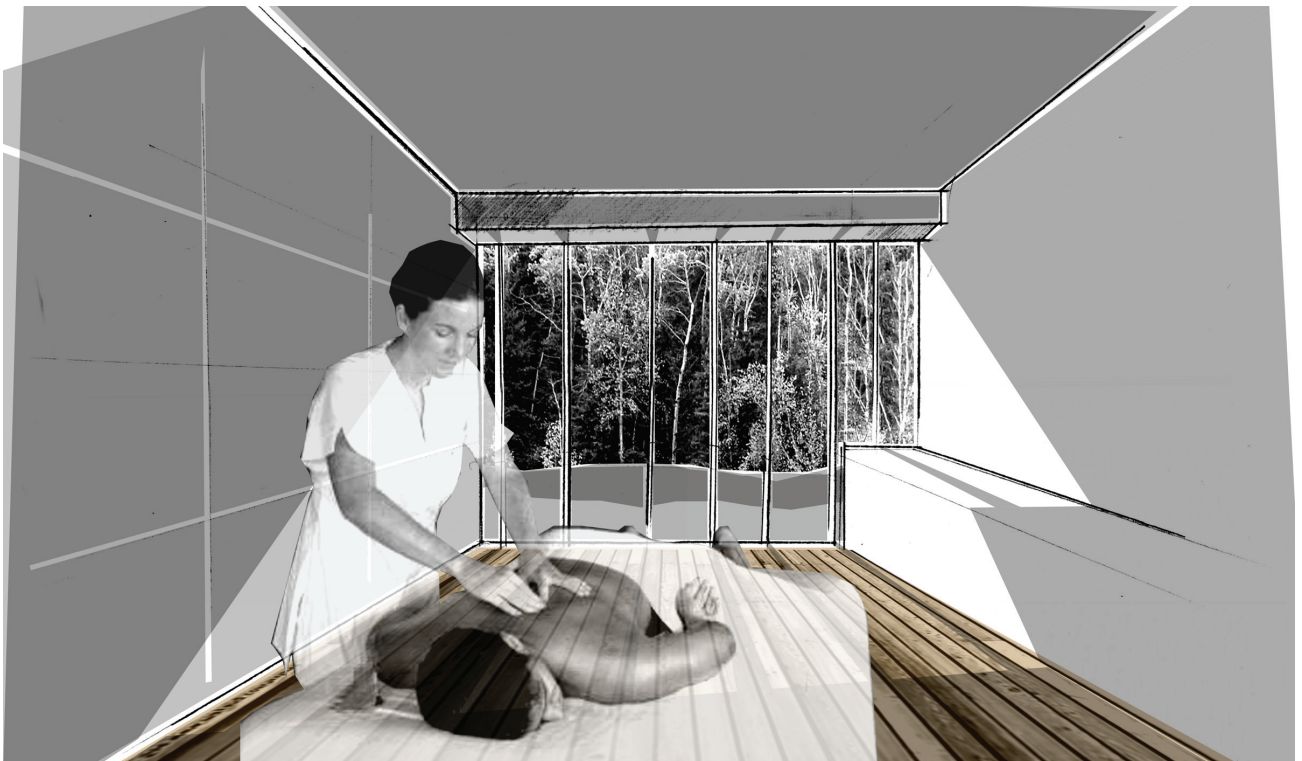
The hammam or steam chamber is located in an underground room. Originally, it was a part of the system of tunnels and chambers that would have been used to fill the shipping lock with water. The original concrete of the walls has been cleaned and left exposed. Like its Turkish namesake, the hammam creates a space for the body to relax and imbibe hot steam, an ancient ritual use of water. The hammam was also inspired by the history of the local Cree Indians, and their use of sweatlodges. The space also contains large concrete slabs on which patrons will lay to receive scrub massages. The Weir can be entered from this room via an access stair.

The Healing Landscape

Spa at La Colle Falls:

The Weir contains meditation and massage therapy rooms comprised of steel mesh platforms suspended in the coffers of the dam and extending out into the river. During the spring, summer, and autumn these rooms will be places where the cool temperature, unique sounds, and the earthy smell of the river water rushing through the concrete structure aid in relaxation. In the winter, the rooms will not be places for massage, but they will be conducive to meditation as they will be filled with an intense, crisp, silence. Coloured glass strips have been installed in several of the bays of the Weir. The angle of the sun reflecting off of the surface of the river will cause light to pass through these coloured strips and fill the spaces with coloured light,

45B View of the First Floor Massage Therapy Room





Second Floor

The Healing Landscape

adding to the sensory experience. At the end of the Weir a large sundeck has been constructed to provide a warm place to lounge and relax while contemplating the views of the landscape.

Spa at La Colle Falls:

The main massage therapy rooms are located on the first floor of the Spa. These rooms have unfinished native birch flooring and one wall entirely of glass that opens onto a view of the steep forest bank of the ravine south of the building.



The Vichy Therapy rooms are located on the second floor, in rooms that are lit from above via skylights that wash the cast concrete walls with a calming indirect natural light.

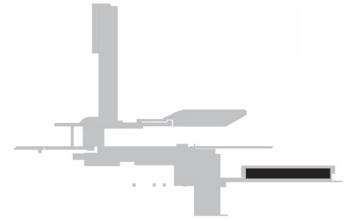
The Café and restaurant projects from the hillside toward the Shipping Lock pool offering panoramic views of the river, and the ruins of the dam. This space is envisioned as a public gathering space for the patrons of the Spa and the Lodge and local people. It provides a tranquil environment to contemplate the sweeping river vistas and history of the site.

The gallery provides a small-scale display space for local art and historical interpretive displays explaining the history of the construction of the dam. Two large multi-purpose meeting rooms exist on the second floor of the Spa, and are intended for use as activity rooms.

⁴⁶ Vichy Therapy Room on the Second Floor

The Yoga Studio is a pavilion that is somewhat separate from the main Spa. It is accessed through a series of glass walkways that cling to the existing





Second Floor

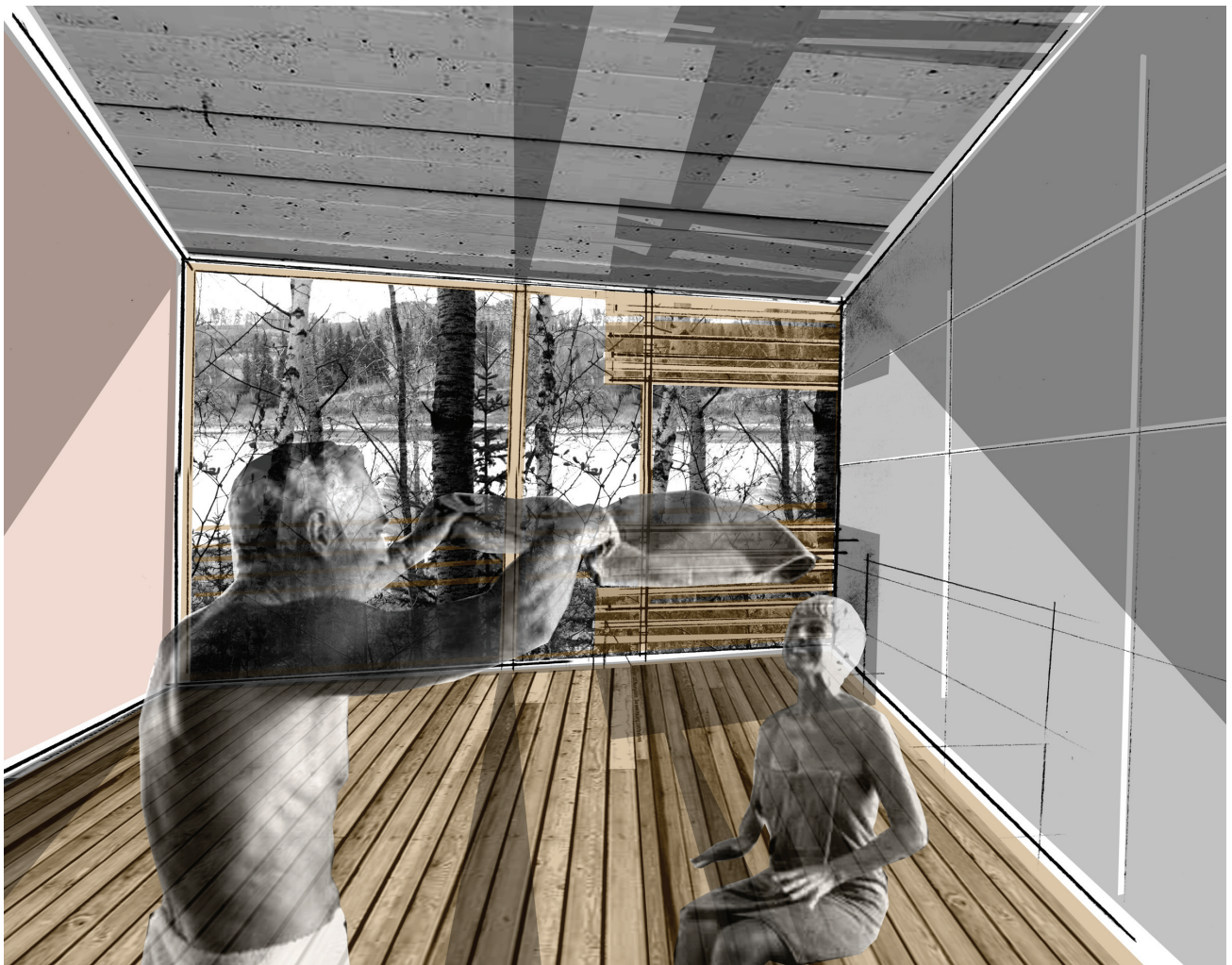
concrete wall of the structure. From the exterior, the studio appears as a large steel-clad volume that projects over the river. It is comprised of a large versatile studio space. The floor of the studio is birch wood that will age in time, showing the wear-patterns of the users. Large horizontal strip windows and numerous skylights provide natural light and a panoramic view of the surrounding riverscape.

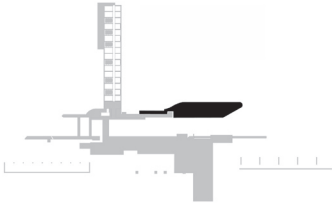
The Healing Landscape

Spa at La Colle Falls:

The Lodge is a small exclusive hotel comprised of eight guest rooms. It was inspired by the numerous small fishing lodges and cabin resorts that populate the region. The rooms have warm native birch wood floors and panoramic views of the river. Patrons of the Lodge will have complete access to the facilities of the Spa in the afternoons and evenings. During the early hours of the day they will hike the ravine landscape surrounding the Spa.

47 Lodge Guest Room Overlooking the River





First Floor

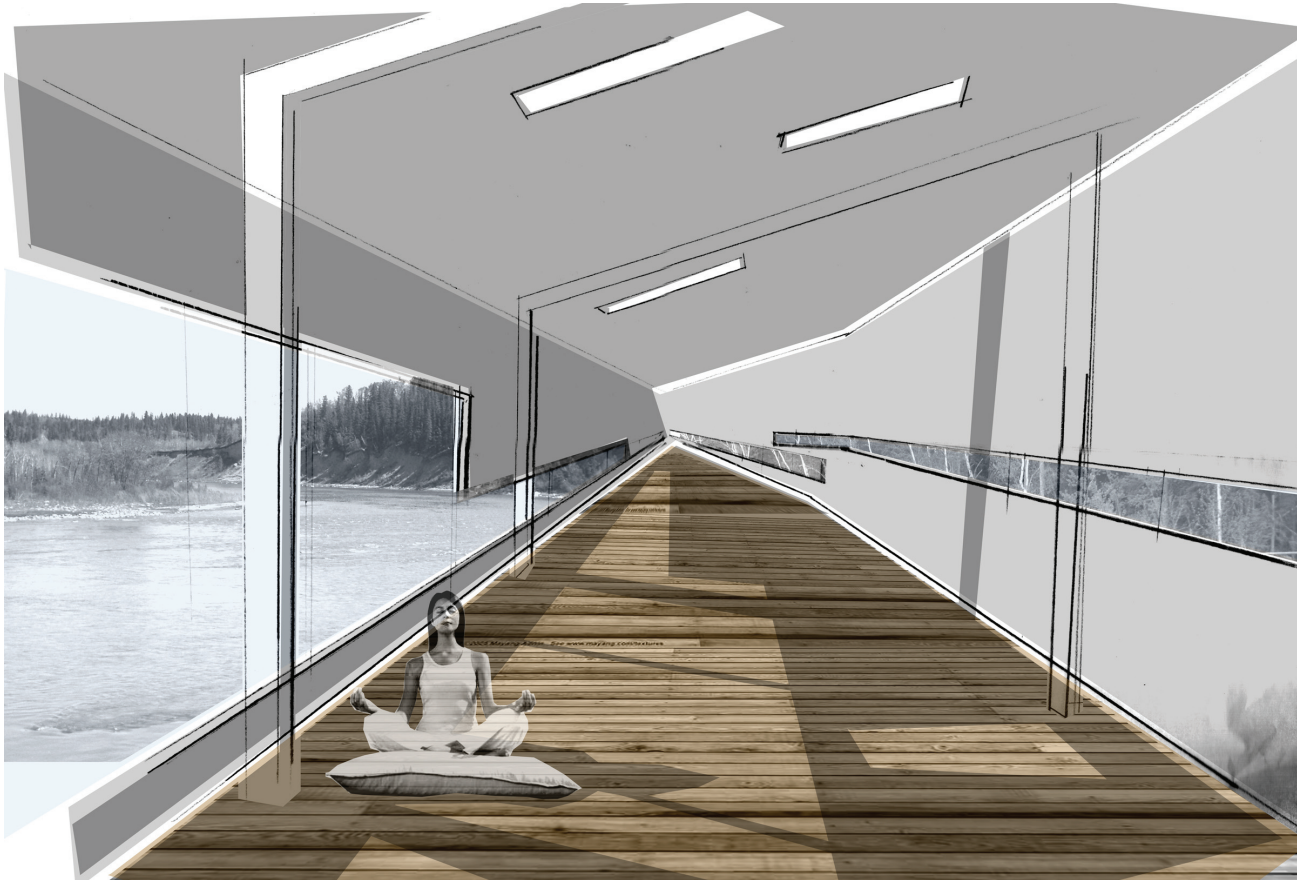
The Healing Landscape

Spa at La Colle Falls:

Inspiration for the creation of the Lodge also came from the existence of the historical memory-traces of the worker’s camp from the hydro dam’s construction. Originally located at the crest of the ravine, high above the construction site, the camp provided accommodation for 300 labourers. No discernable remnants of the camp exist in the forest that has grown over the site. It survives only in a series of photographs depicting the wooden structures that were constructed onsite (see Appendix One). The Lodge represents the desire for a continuous inhabitation of the site, one that can be traced back beyond the construction of the dam, to the early traditional healing practices of the Cree Indians performed in the area. The Lodge is located down the bank from the original site of the worker’s camp, in case future interest in the site instigates an archaeological investigation.

⁴⁸ The Yoga Pavilion on the First Floor Overlooking the River - Vertical Stip Windows With Views of the Landscape, Skylighting, and Warm Birch Wood Floors

The Threshold Pavilion is a small platform built at the top of the riverbank, high above the Spa. This pavilion straddles the dividing line between the forest and the agricultural land, and becomes a metaphoric point of intersection between these two local topographical phenomena. This



concrete, wood and steel structure offers the chance to meditate on the natural and mechanically manipulated world with sweeping views of the agricultural land and the river valley below. The Pavilion presents a device that allows the viewer to see the landscape of the two topographies of the site in a panoramic sequence. It also offers a stage for exposure to the elements, the sun, the rain, and the night sky, and it is a rest pavilion for hiking and nature walks through the woods along the river, and along the top of the ravine.

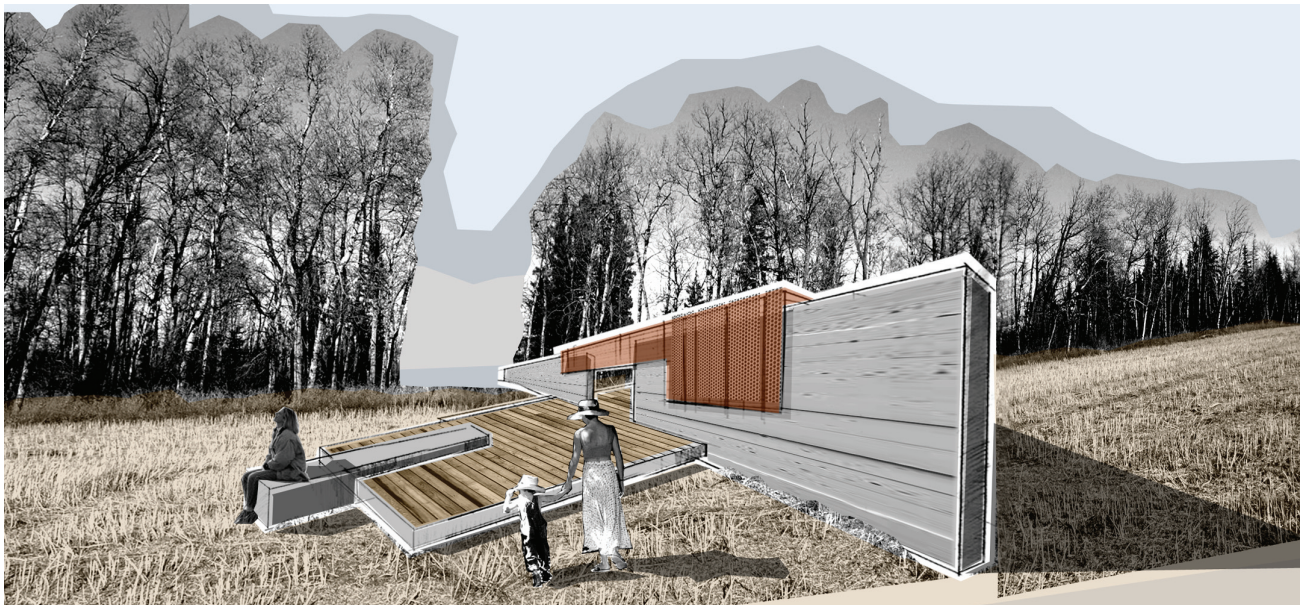
The Healing Landscape

Spa at La Colle Falls:

Through engagement with the architecture surrounding the ruin of the dam, the human body comes into contact with the landscape in a way that is completely appropriate considering the popularity of recreational activities in the region. The monumental nature of the ruins emphasizes the fragility and weakness of the human body, while highlighting the importance of health and relaxation. Simon Schama contends that to “see a river is to be swept up in a great current of myths and memories...strong enough to carry us back to the first watery element of our existence in the womb⁴⁹”. The Spa engages this natural affinity for water in a sequence of aquatic spaces that offer views to the landscape, and the ruin. The experience of the Spa also extends to the forested landscape that surrounds it. It provides opportunities for hiking trails through the woods, along the top of the ravine or the river shoreline.

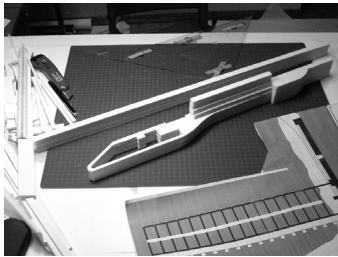
At the Spa at La Colle Falls, the architectural insertions engage the residual memory of the site through the careful arrangement of spaces around and

⁴⁹ The Threshold Pavilion Overlooking the River Valley - Materials: Concrete, Steel Mesh and Wood



The Healing Landscape

Model:



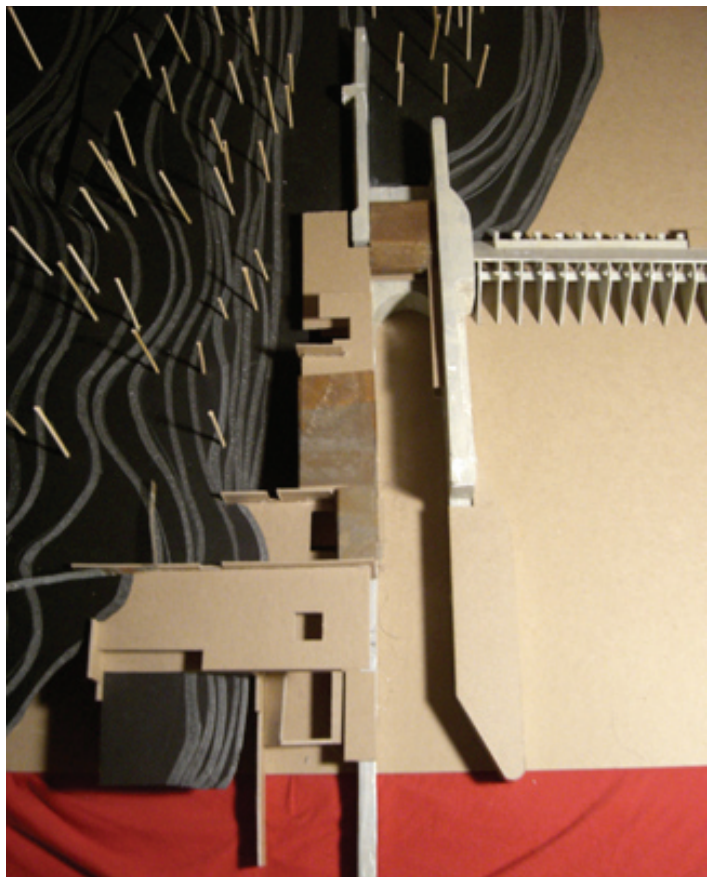
50 Model Progress Photograph

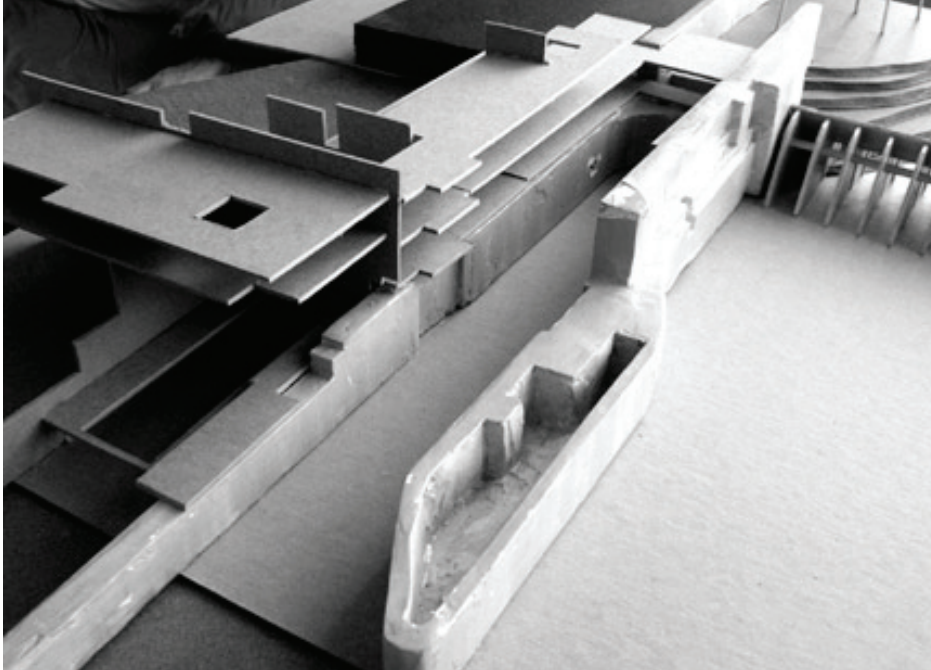
50A Model Photograph



51 Model Progress Photograph

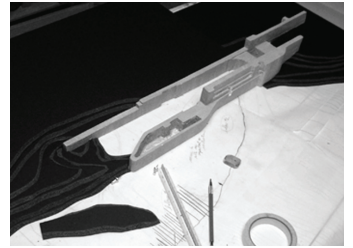
51A Model Photograph





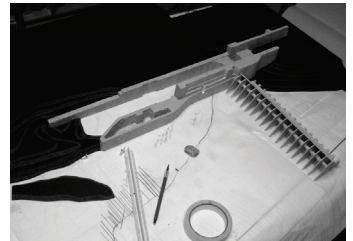
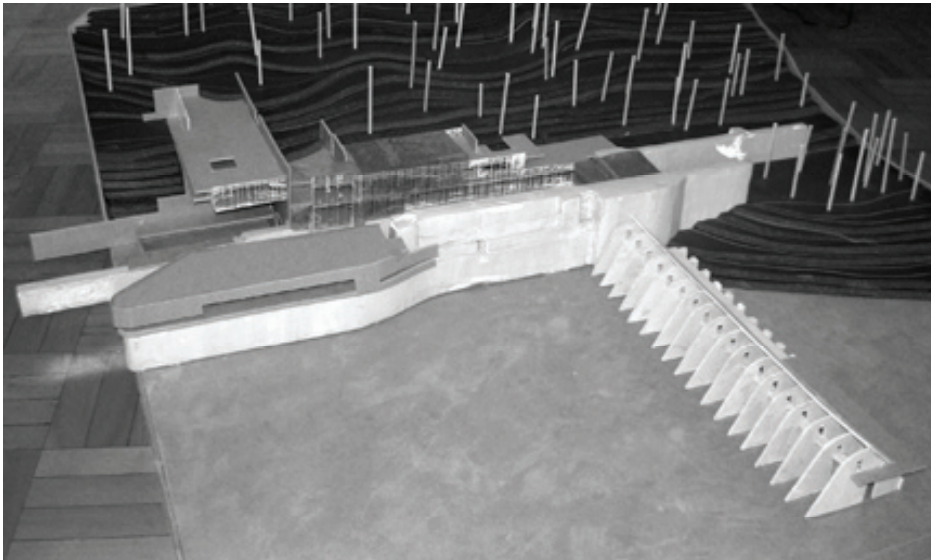
The Healing Landscape

Model:



52 Model Progress Photograph

52A Model Photograph

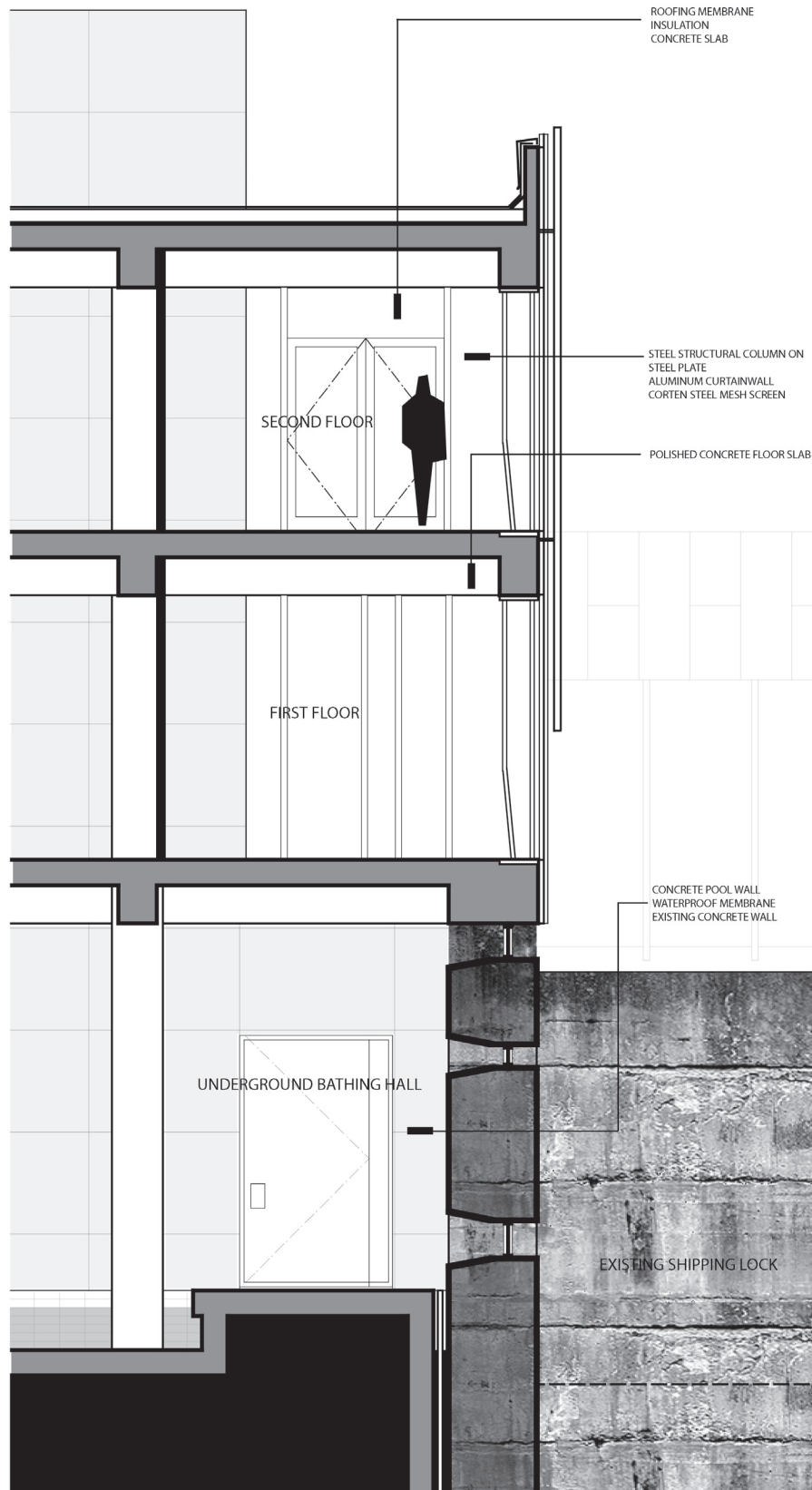


53A Model Progress Photograph

53A Model Photograph

The Healing Landscape

Details:



⁵⁴ Typical Wall Section at Lock Pool Showing Interface with Existing Shipping Lock Concrete Wall

within the ruins of the dam. It is the premise of this thesis that in order to discover, and in turn accept the realities of the past, it is important to confront these realities in a means in which they can be understood. The intimate nature of the program works with the belief that through tactile investigation, the citizens of Prince Albert, and visitors will be offered the chance to grasp the importance of the site and their own history.

The Healing Landscape

Spa at La Colle Falls:

¹ Ignasi de Sola-Morales, *Differences - Topographies of Contemporary Architecture* (Massachusetts Institute of Technology, 1999). Pg. 97.

² Ibid. Pg. 95.

³ Therme Vals, *Therme Vals* [Website] (2007 2007)]; available from http://www.therme-vals.ch/?__locale=en.

⁴ Ibid.

⁵ Ibid.

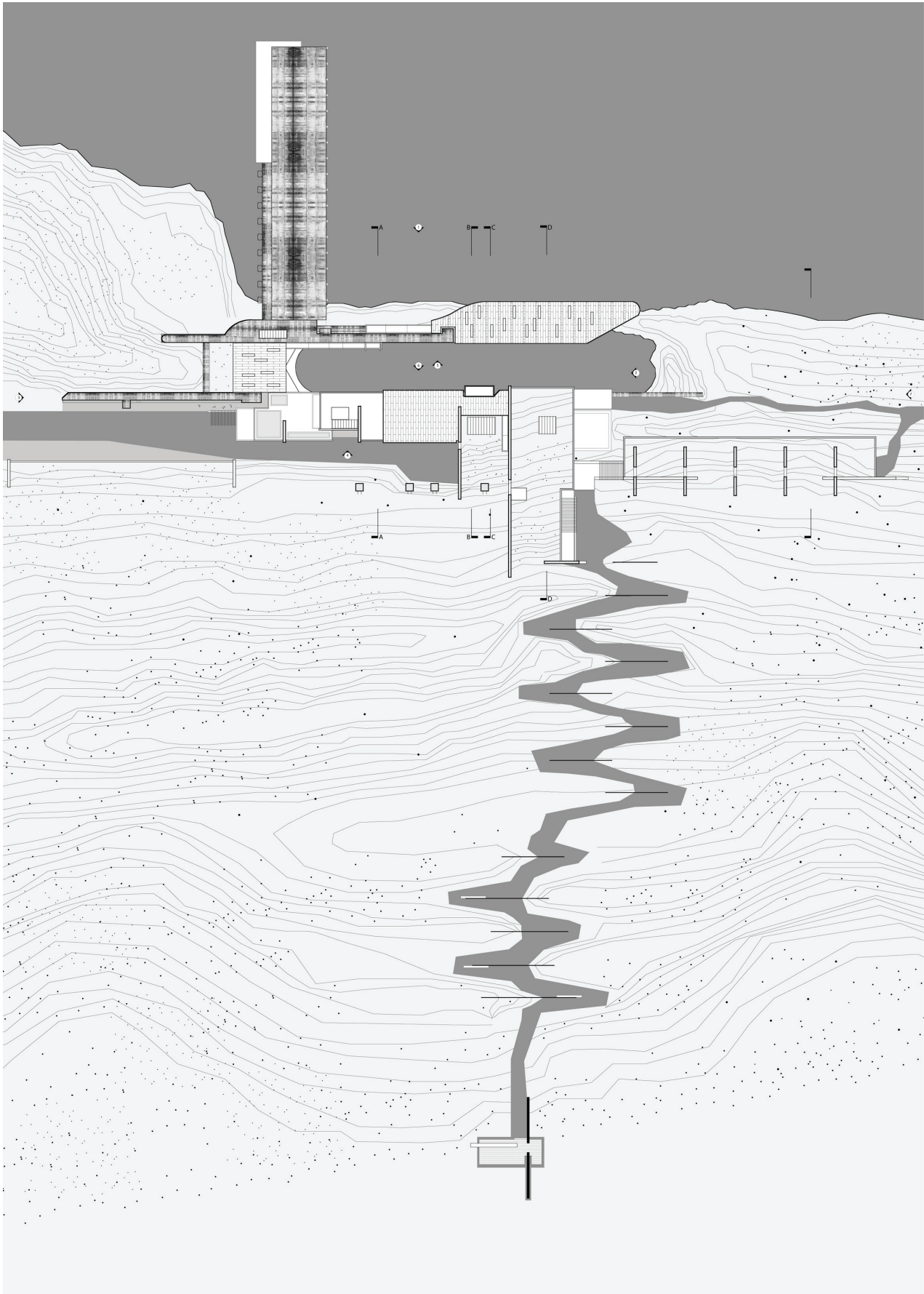
⁶ City of Prince Albert, *City of Prince Albert Official Website* [Website] (City of Prince Albert, 2006 2007)]; available from <http://www.citypa.ca>.

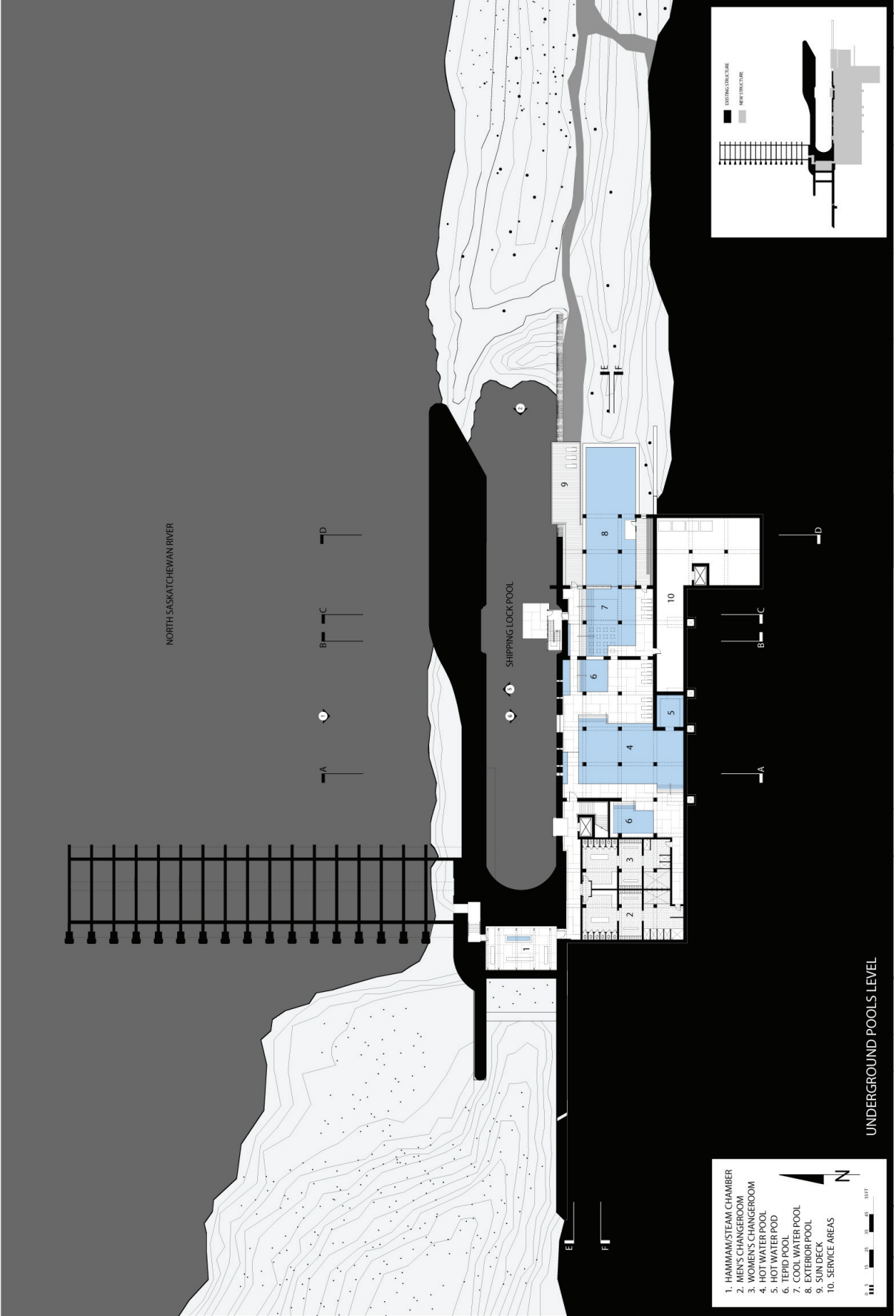
⁷ Statistics Canada, *Labour Force Characteristics* [Website] (Statistics Canada, 2007 2007)]; available from <http://www40.statcan.ca/l01/cst01/labor36c.htm>.

⁸ Waskesiu Community Council, *Waskesiu Prince Albert National Park* [Website] (Waskesiu Community Association, 2007 2007)]; available from <http://www.waskesiu.org/>.

⁹ Simon Schama, *Landscape and Memory* (New York: Vintage Books, 1996). Pg. 247.

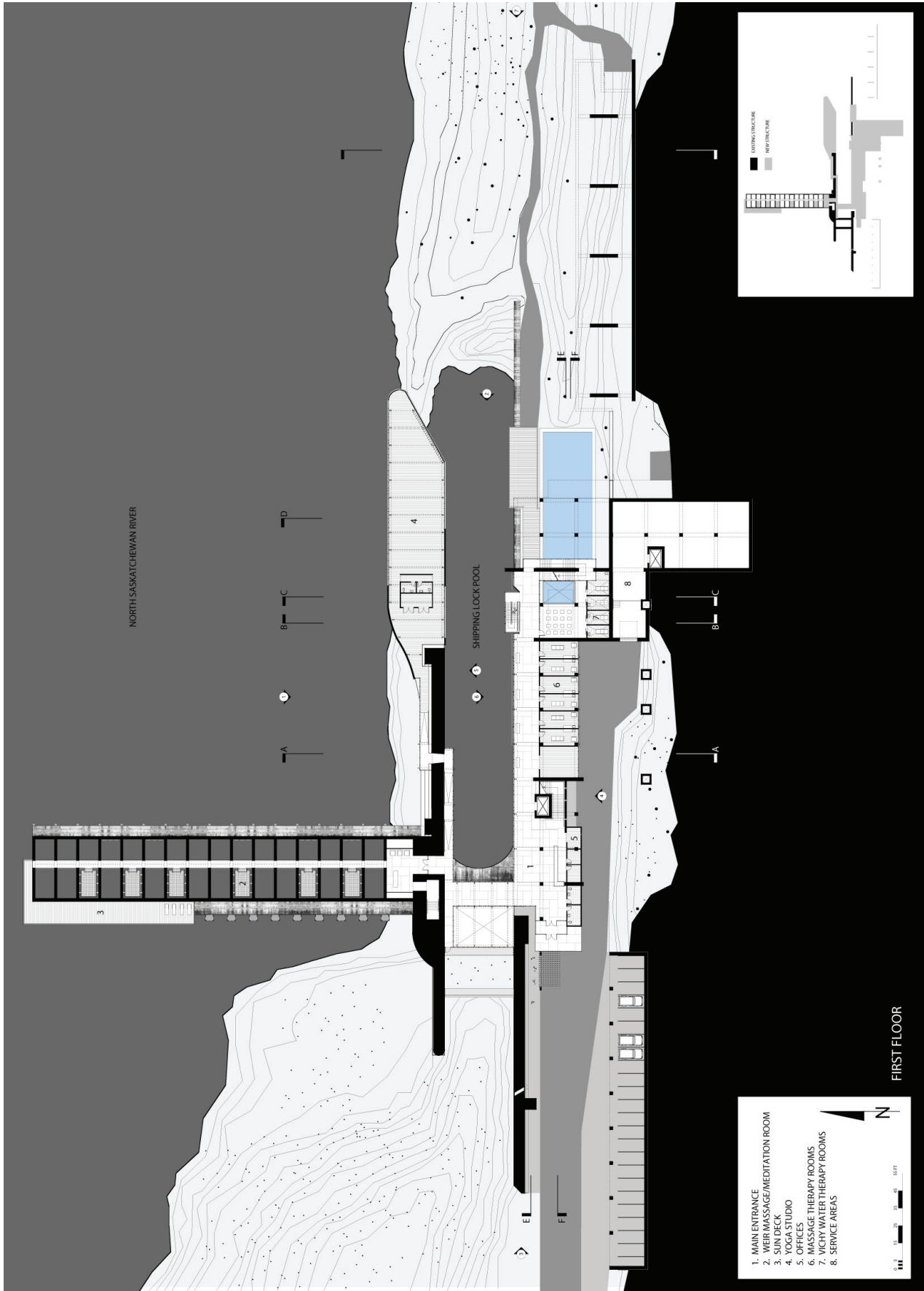
Endnotes:



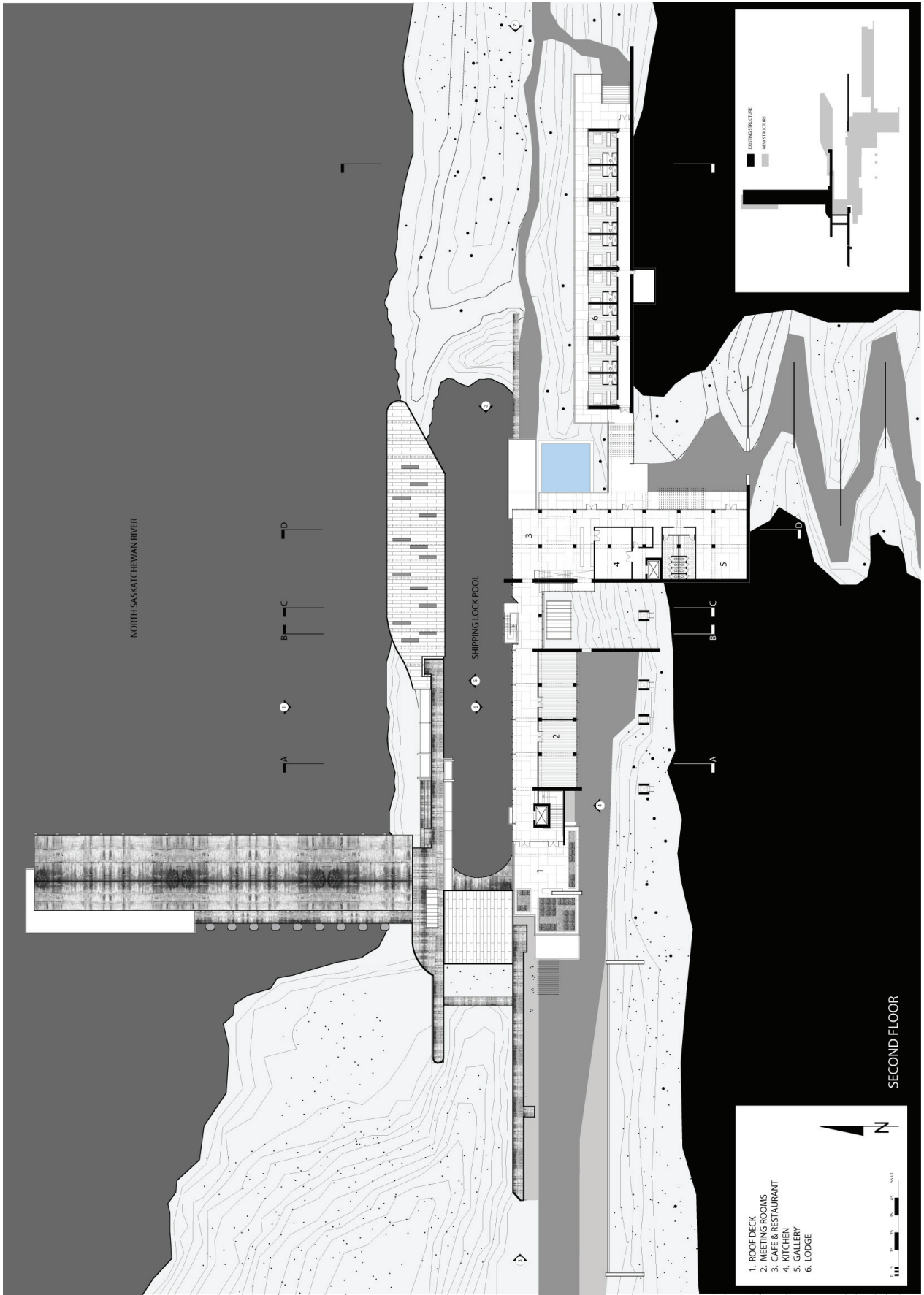


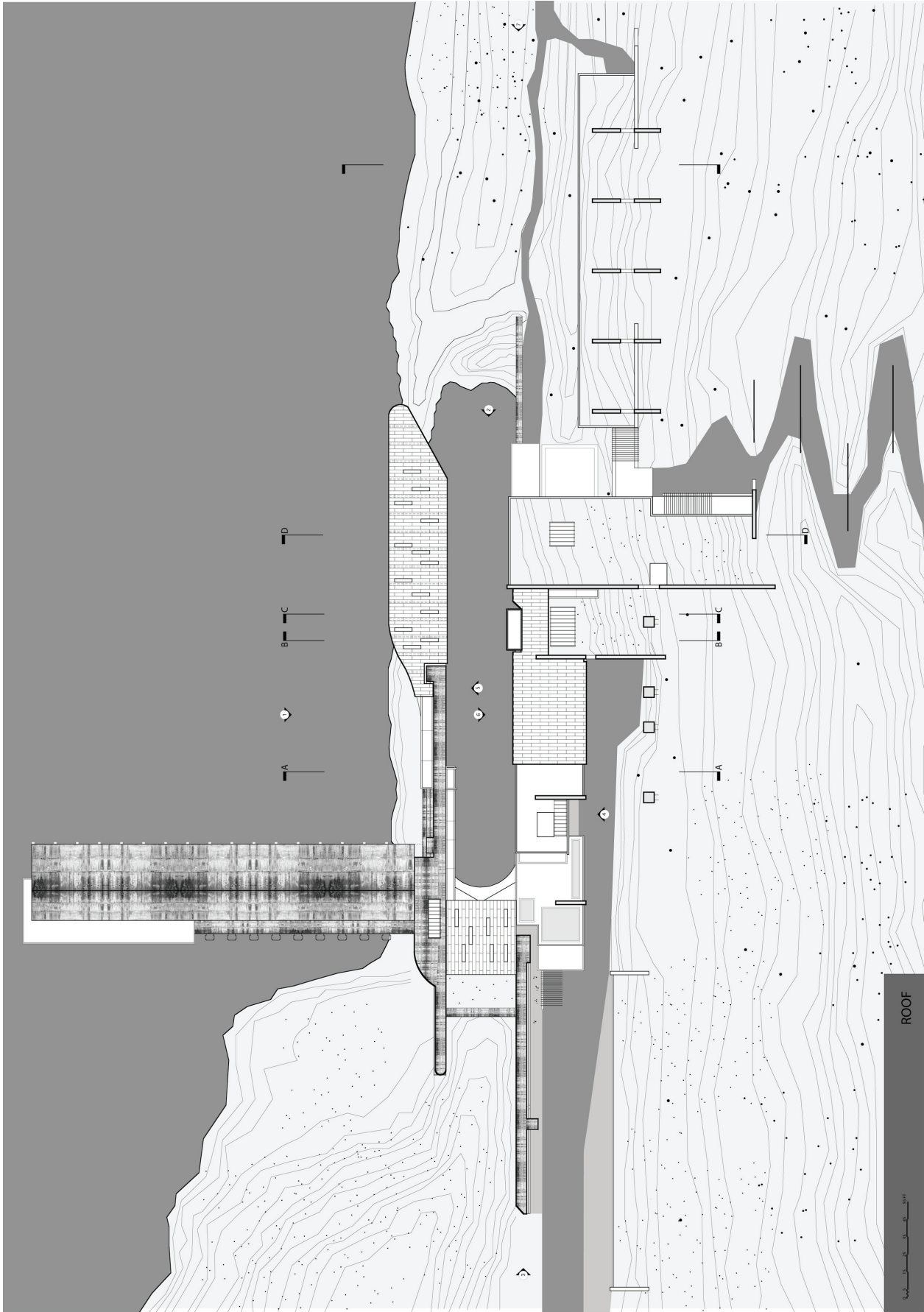
1. HAMMAM/STEAM CHAMBER
2. MEN'S CHANGEROOM
3. WOMEN'S CHANGEROOM
4. HOT WATER POOL
5. HOT WATER POD
6. TEPID POOL
7. COOL WATER POOL
8. EXTERIOR POOL
9. SUN DECK
10. SERVICE AREAS

UNDERGROUND POOLS LEVEL

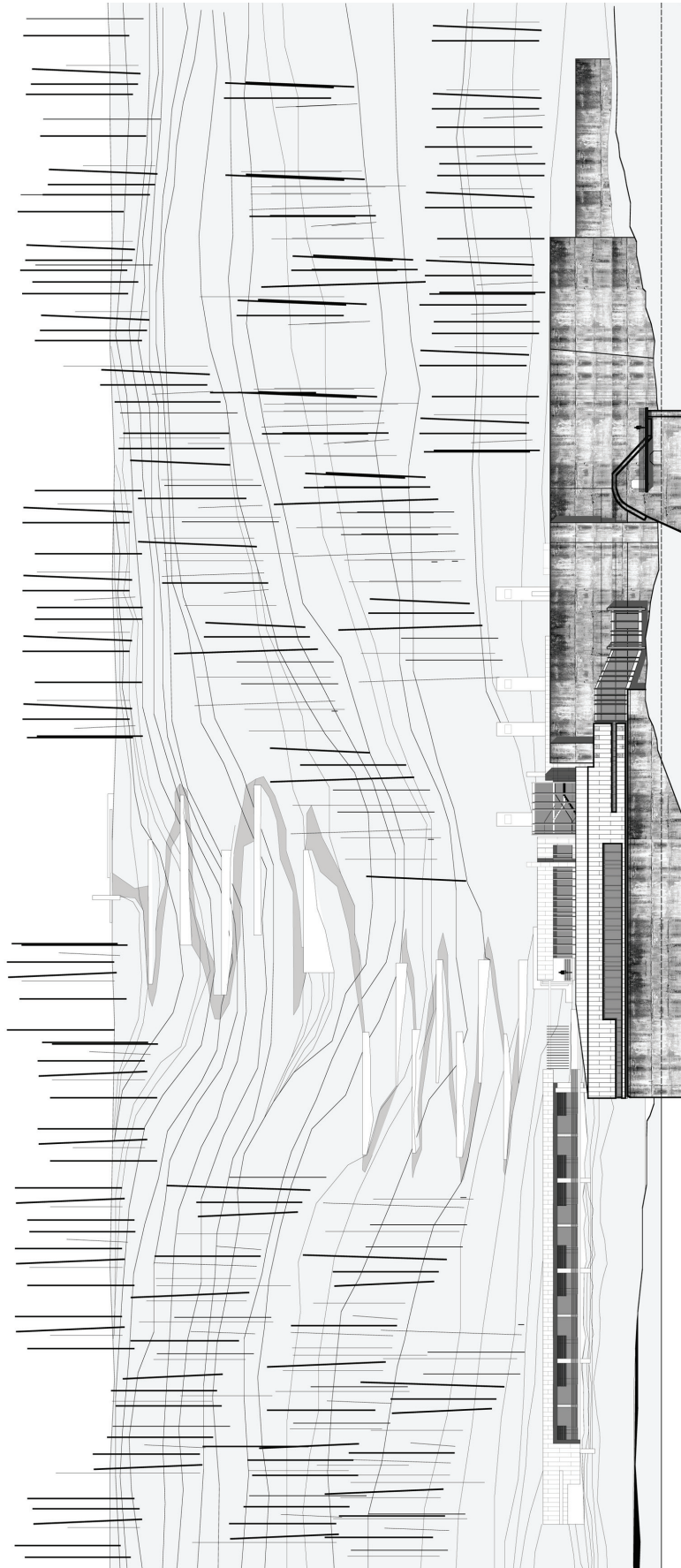


58 First Floor Plan

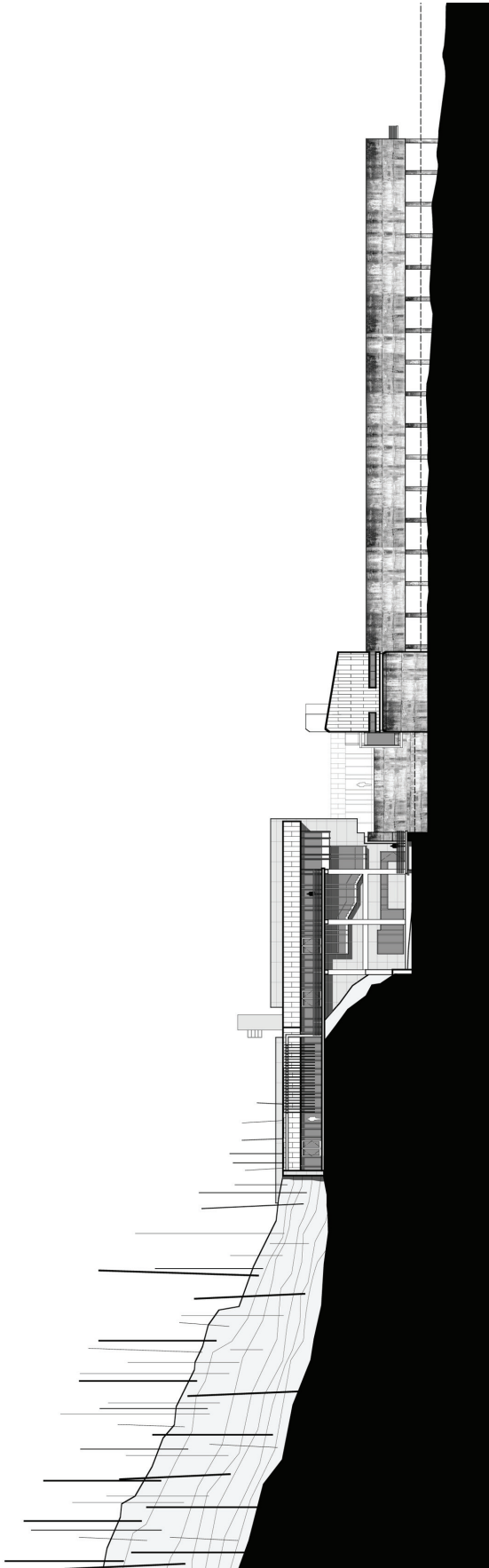




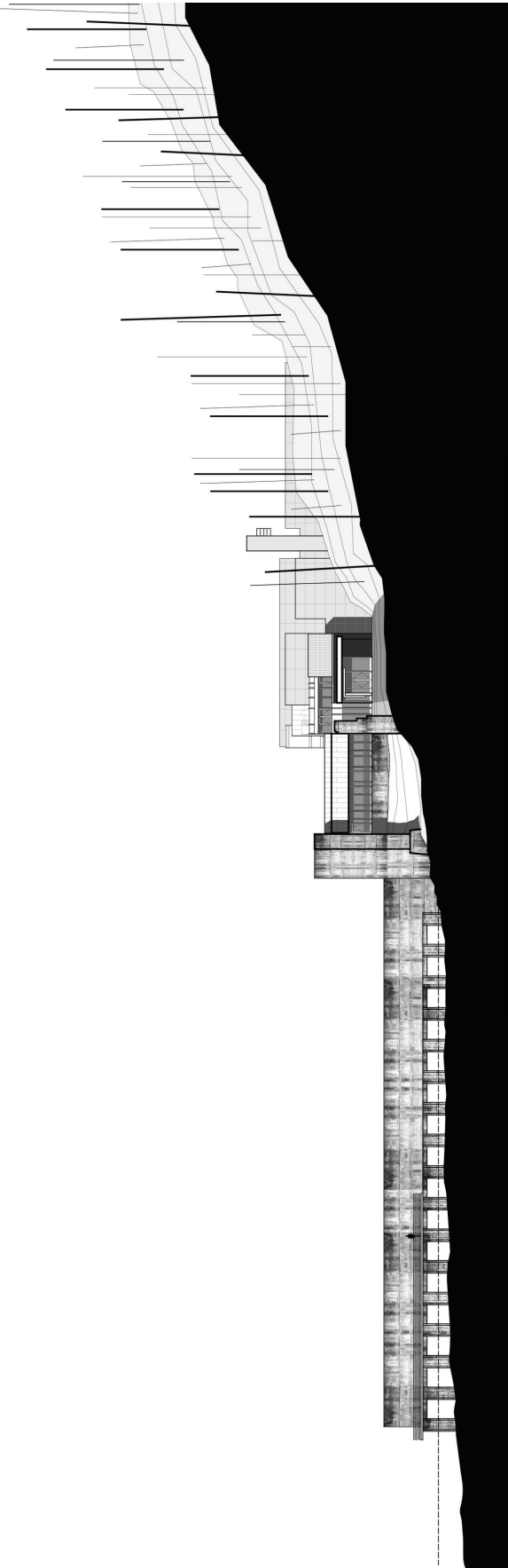
60 Roof Plan



ELEVATION 1 - NORTH ELEVATION FROM RIVER



ELEVATION 2 - EAST ELEVATION



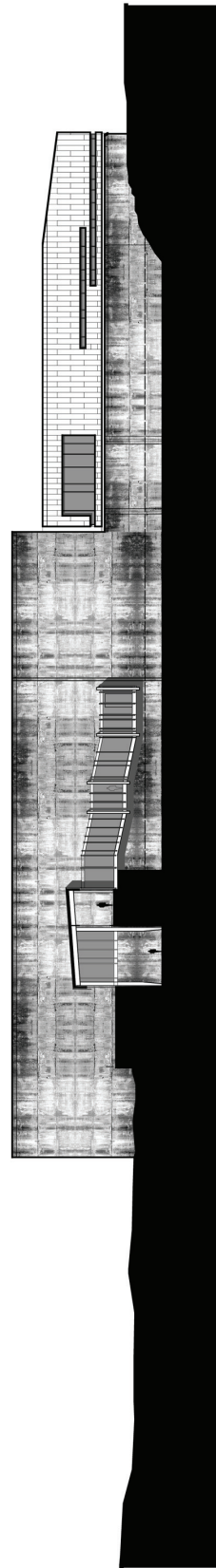
ELEVATION 3 - WEST ELEVATION

62 Elevation 2 - East Elevation

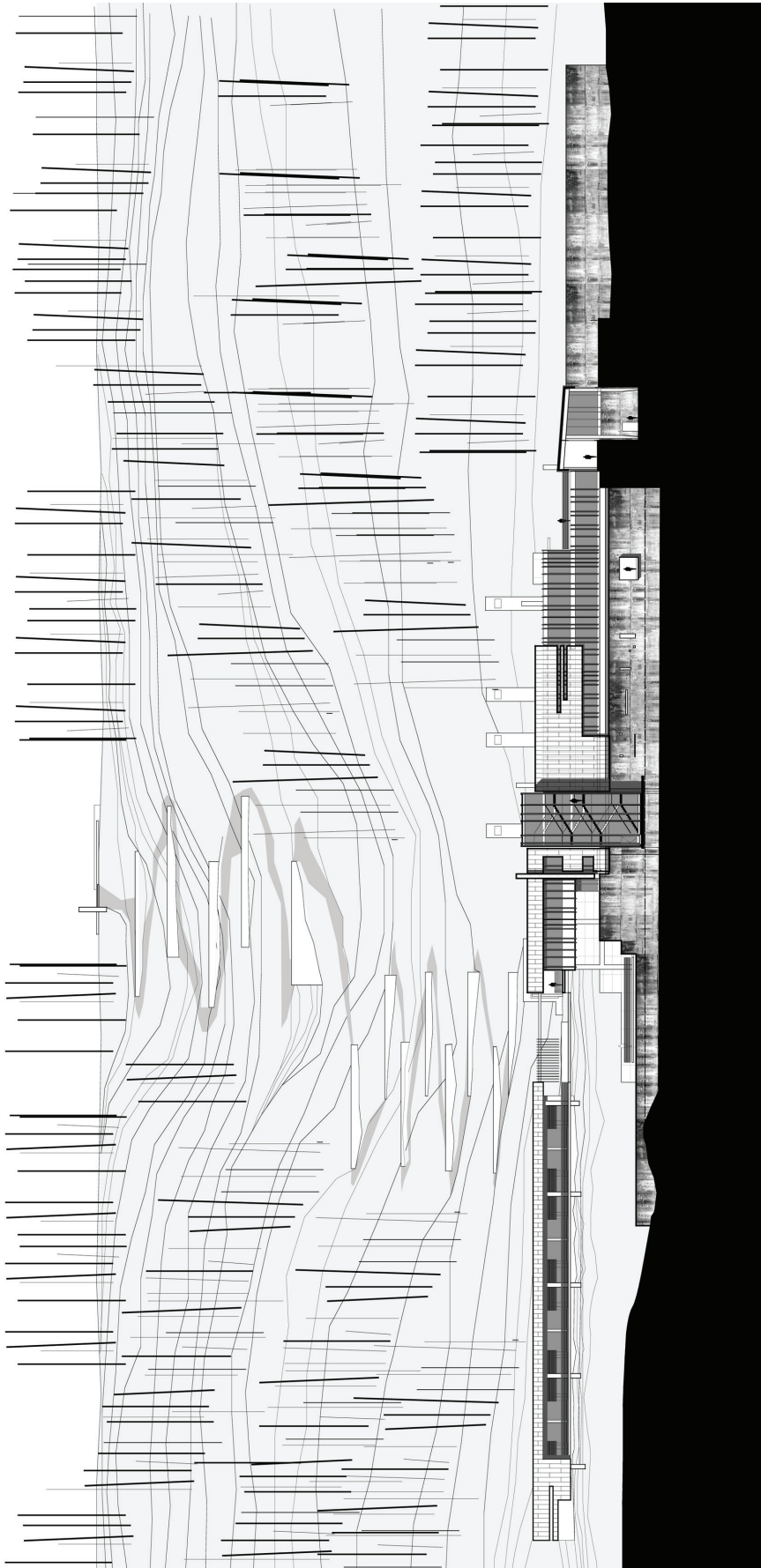
63 Elevation 3 - West Elevation



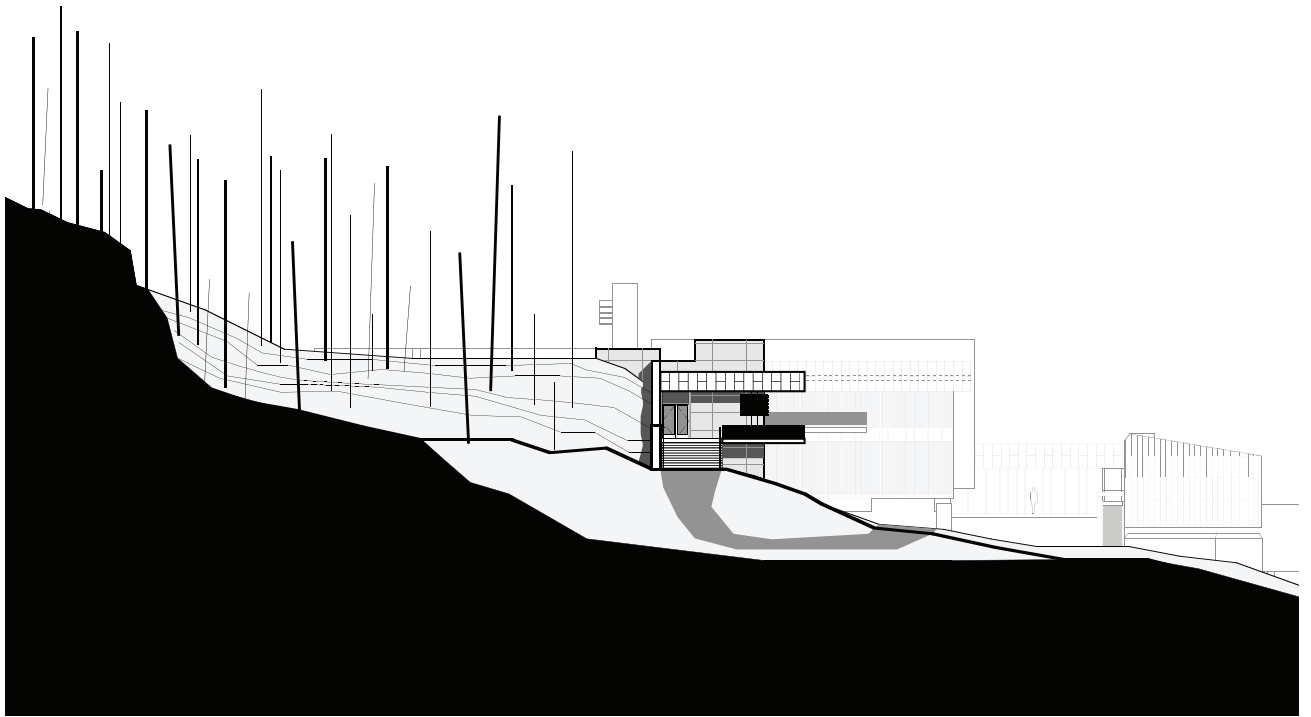
ELEVATION 4 - SOUTH ELEVATION



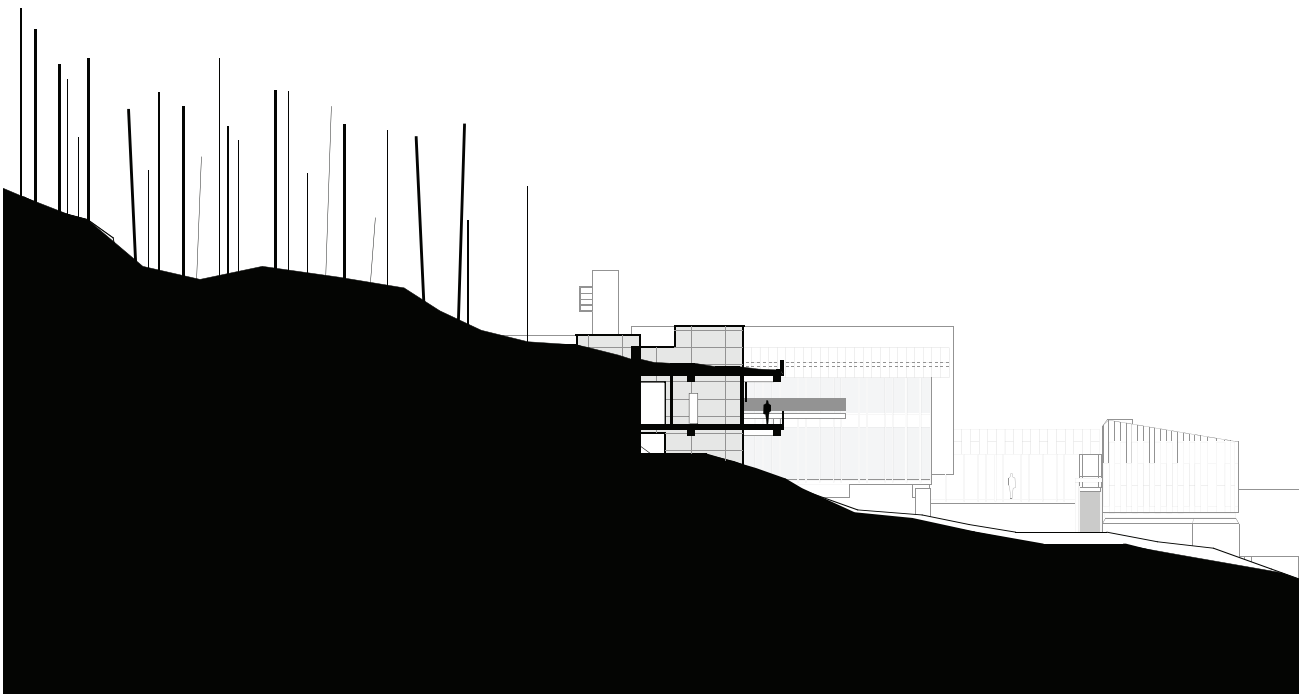
ELEVATION 5 - SOUTH ELEVATION CUT THROUGH LOCK

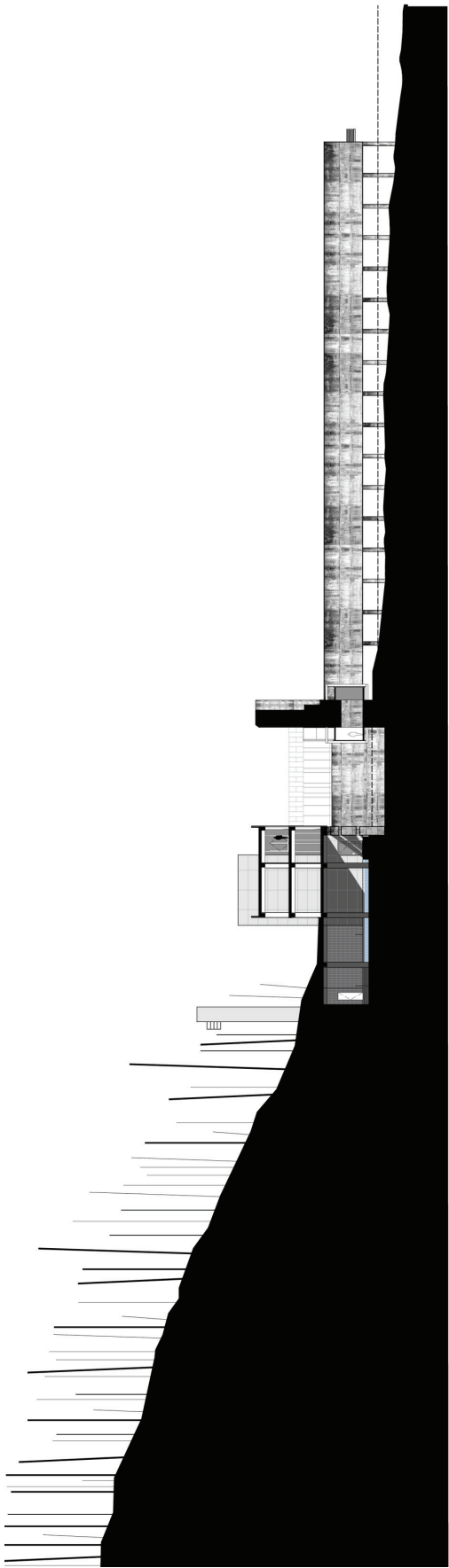


ELEVATION 6 - NORTH ELEVATION CUT THROUGH LOCK

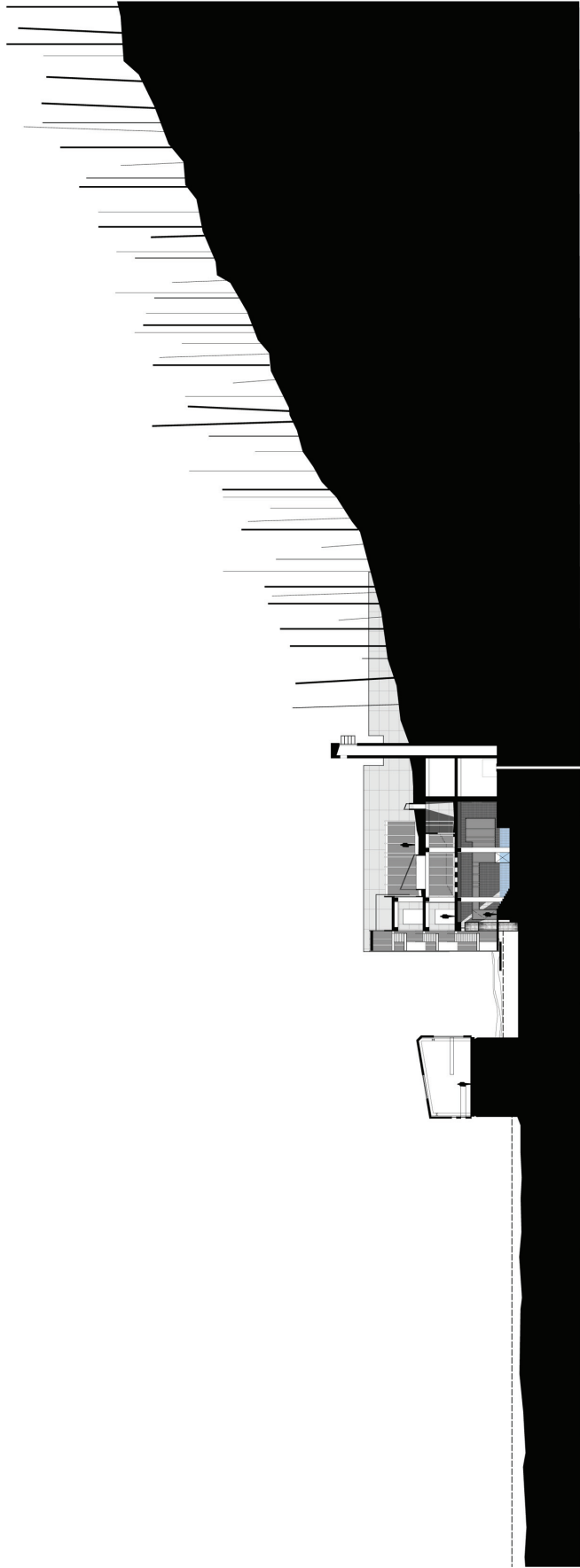


54 Elevation 7 - East Lodge Elevation





SECTION A

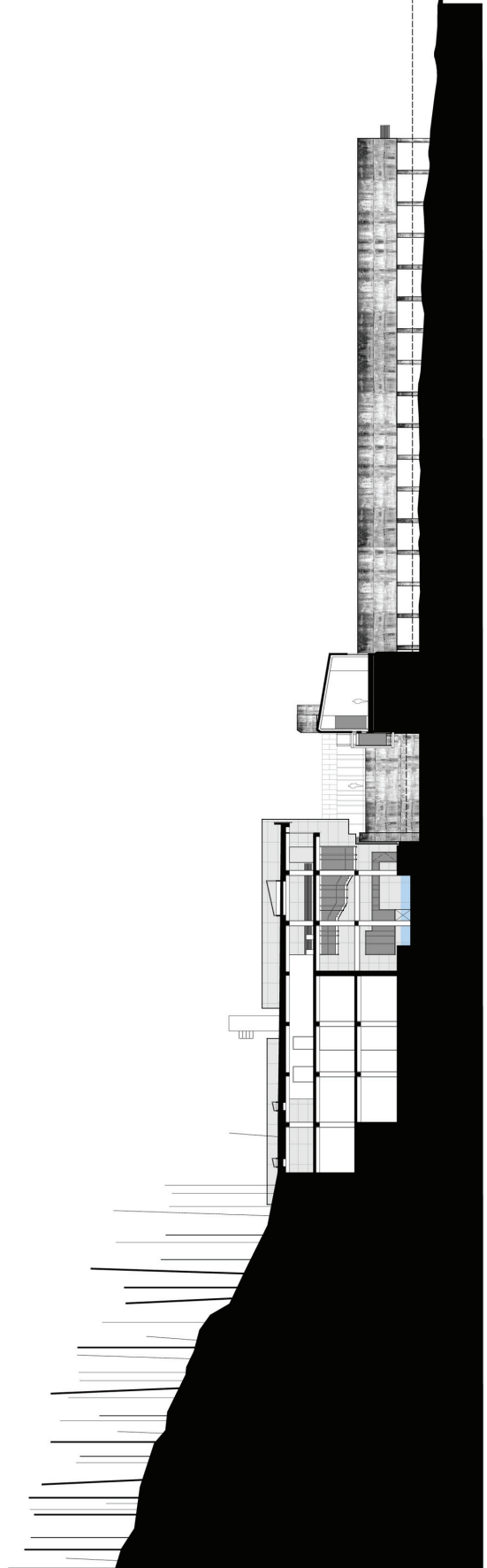


SECTION B



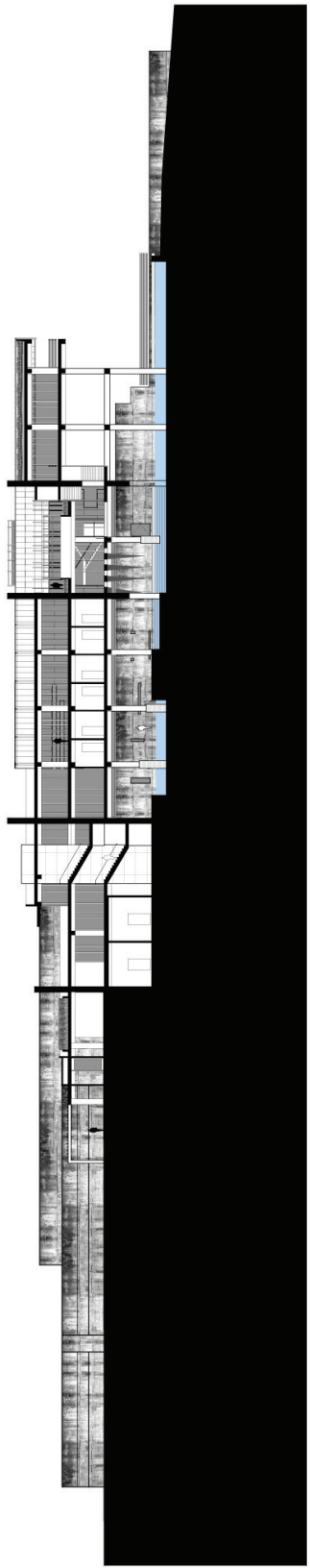
SECTION C

70 Section C

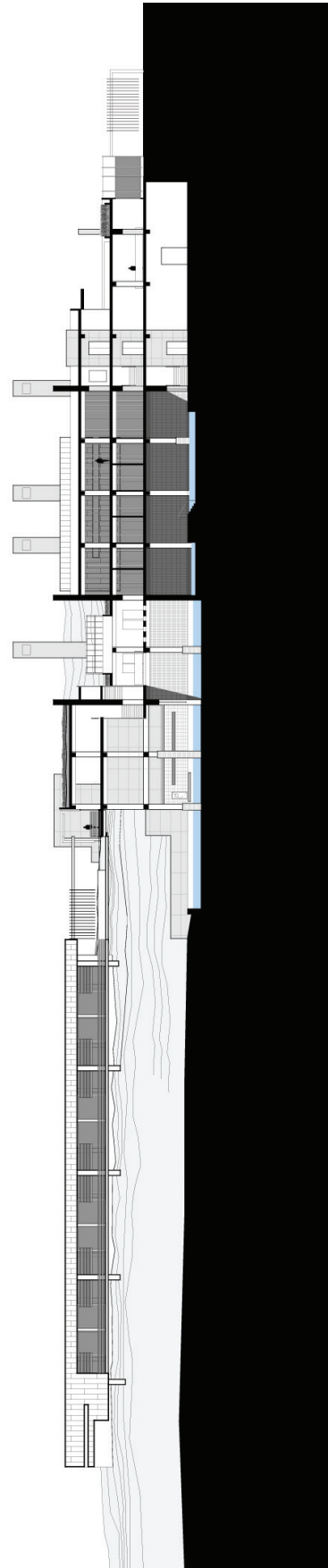


SECTION D

71 Section D



SECTION E



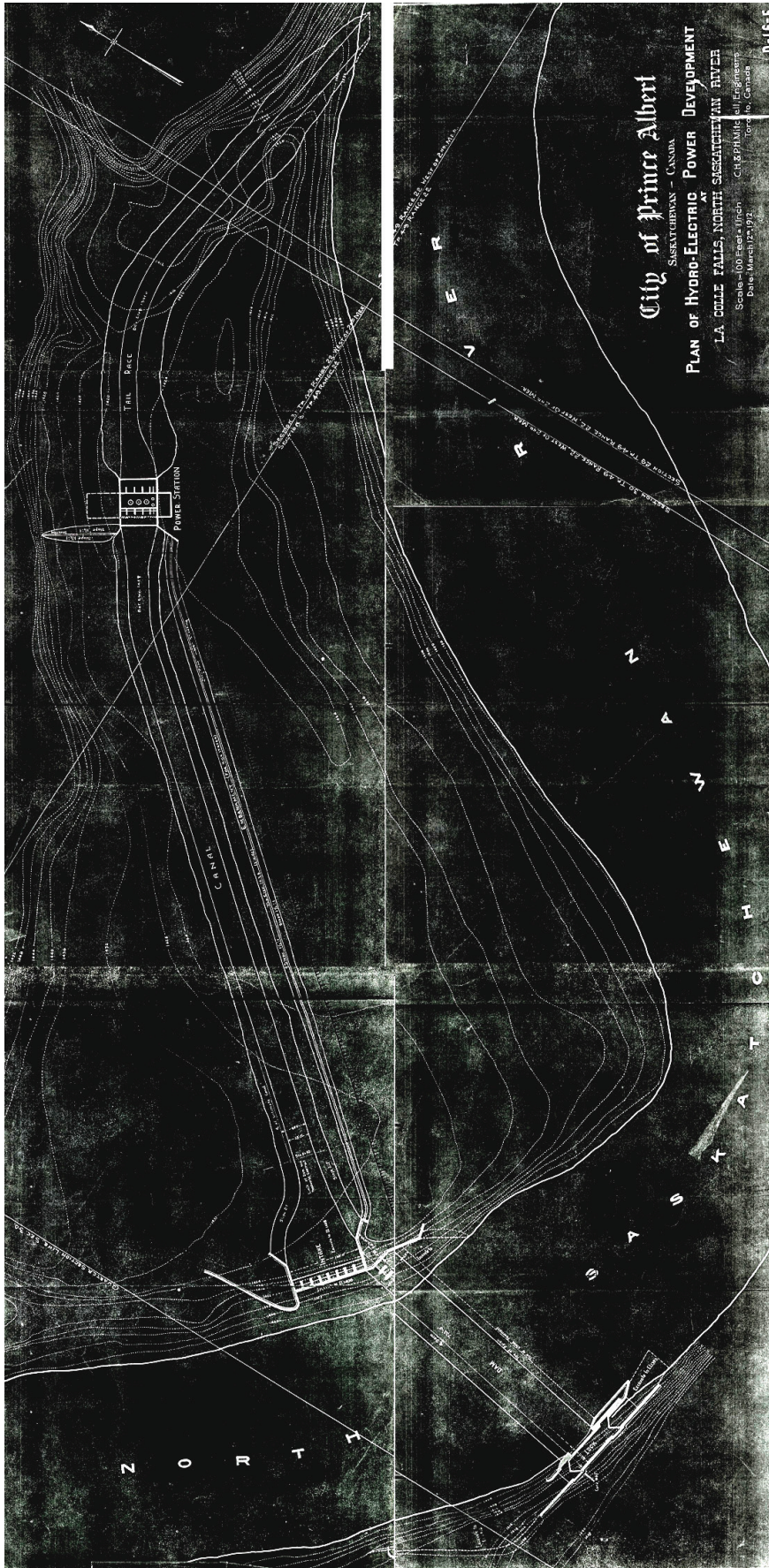
SECTION I



The ruins of the La Colle Falls Hydro Dam present an unprecedented opportunity for the city of Prince Albert to reclaim and recast the most devastating and negative part of its history.

Conclusion:

The main objective of this thesis was to re-imagine the ruins of the dam as host to a number of healing spaces within the landscape. To explore how by engaging the ruins with a new architectural interpretation of the spaces, the construction will become a device for reading the historical landscape and healing the human body. By creating a destination spa, the unique facility will draw visitors to the region, and increase the pride of the local people. It will also create a new appreciation for the special characteristics of the site and man's place in the landscape of the north.



⁷⁴ Site Plan of the Hydro Scheme - This Plan was Discovered in a Window Display at Adam's Bookstore in Prince Albert. It is a Photocopy of the Original Plan. It was Scanned in Sections, Reassembled Digitally, and the Colour was Enhanced for Reproduction in This Thesis.

No Original Drawings of the Built Project Other Than This Plan Exist.

Appendix One:

The Site Plan presented in this thesis was discovered in a window display at Adam's Bookstore in Prince Albert. The plan is comprised of photocopies taken from the original document. These photocopies were scanned in sections and reassembled for this thesis. This is the only original drawing in existence from the La Colle Falls Hydro Dam project that outlines the final scheme for the dam.

Site Plan of Hydro Dam Scheme:

The following original series of photographs illustrate the full construction sequence of the La Colle Falls Hydro Dam from the start of excavation in April of 1912, until the project was abandoned half-finished in January of 1913 for financial reasons.

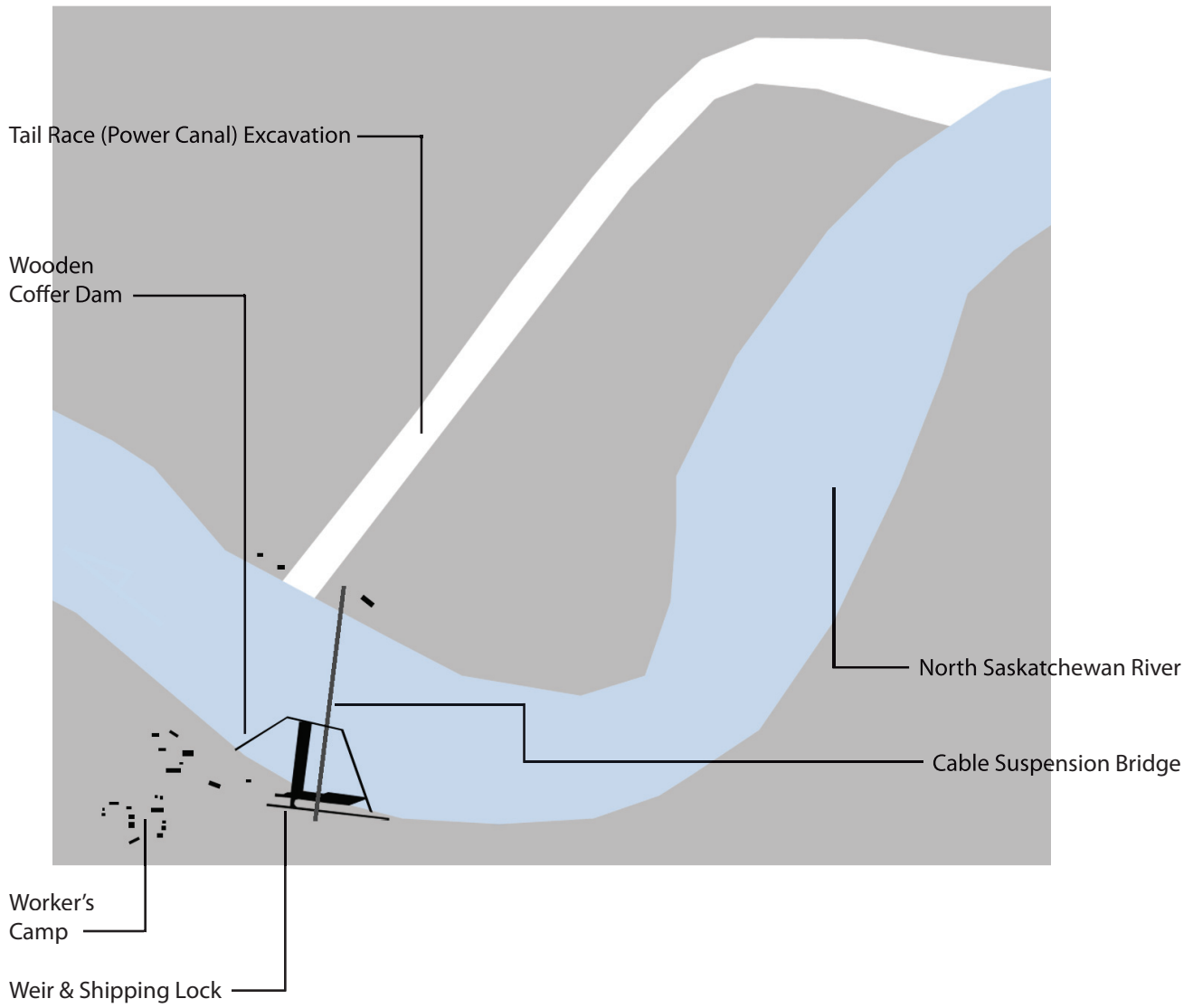
La Colle Falls Hydro Dam Construction Photos:

The origin of these photos is somewhat mysterious. Taken by the Am-bursen Hydraulic Construction Company of Montreal, the contractor in charge of the hydro project, it is claimed by Prince Albert Historical Museum officials that they were discovered in an album retrieved from the riverbank at the abandoned construction site. They now reside in the museum archives. In the winter of 2006 the author of this thesis scanned and catalogued all of the photographs.

The photographs reveal a startling amount of detail regarding construction practices in the early 20th century: teams of horses used to grade and haul earth and debris, men operating machinery and scaling heights in the complete absence of safety equipment, an entire village constructed to house the workers. In this respect, the clarity of the photos and their candid nature also illustrates the very human aspect of the creation of a monumental piece of engineering. The series of panoramic shots also vividly testify to the visual effect, both traumatic and spectacular, that an enormous dam and construction site can have on a primarily virginal landscape.

These photographs were integral to the design process as they illuminated the historical memory of the site with their vivid depiction of the construction sequence and the treatment of the landscape. The photographs reveal the extraordinary power inherent in their method of documentation, disclosing the succession of changing elements in the landscape.

These photographs are the property of the Prince Albert Historical Museum and have not been seen in their sequential entirety by anyone outside of the staff of the museum until now. They are presented in their original black and white and sepia tones.



74A Speculative Construction Site Diagram
 Drawn from Information Gathered from Existing Drawings and Photographs



75(Above) Construction Photograph - A Wooden Cofferdam Was Constructed in the River to Hold Back the Water on the Construction Site

76(Below) Construction Photograph #55 - View of the Site as the Construction Team Began to Converge





77(Above) Construction Photograph #4 - The Team of Horses Beginning the Excavation for the Powerhouse

78(Below) Construction Photograph #6 - The Team of Horses Excavating the Tail Race (Power Canal)

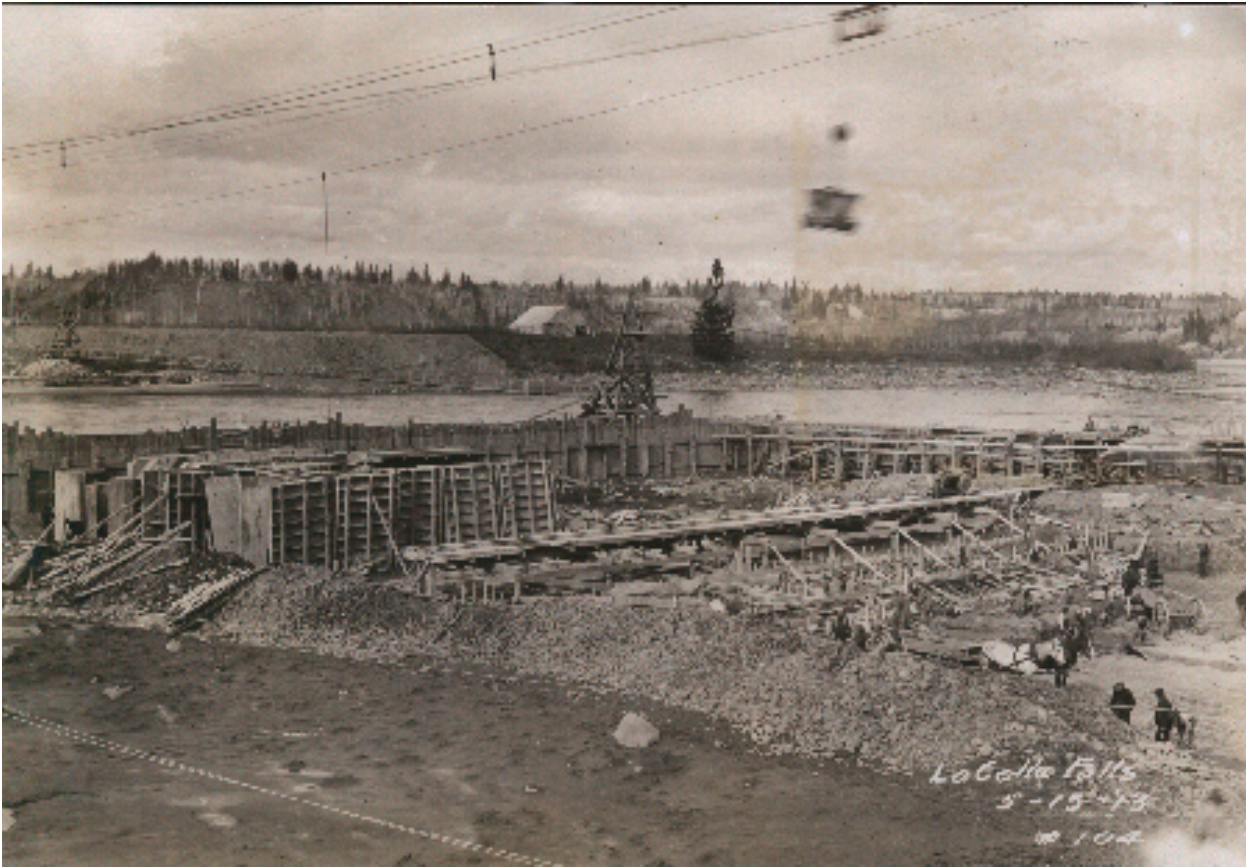




79(Above) Construction Photograph #100 - The Area Inside the Wooden Cofferdam in the River is Drained, and Debris is Removed

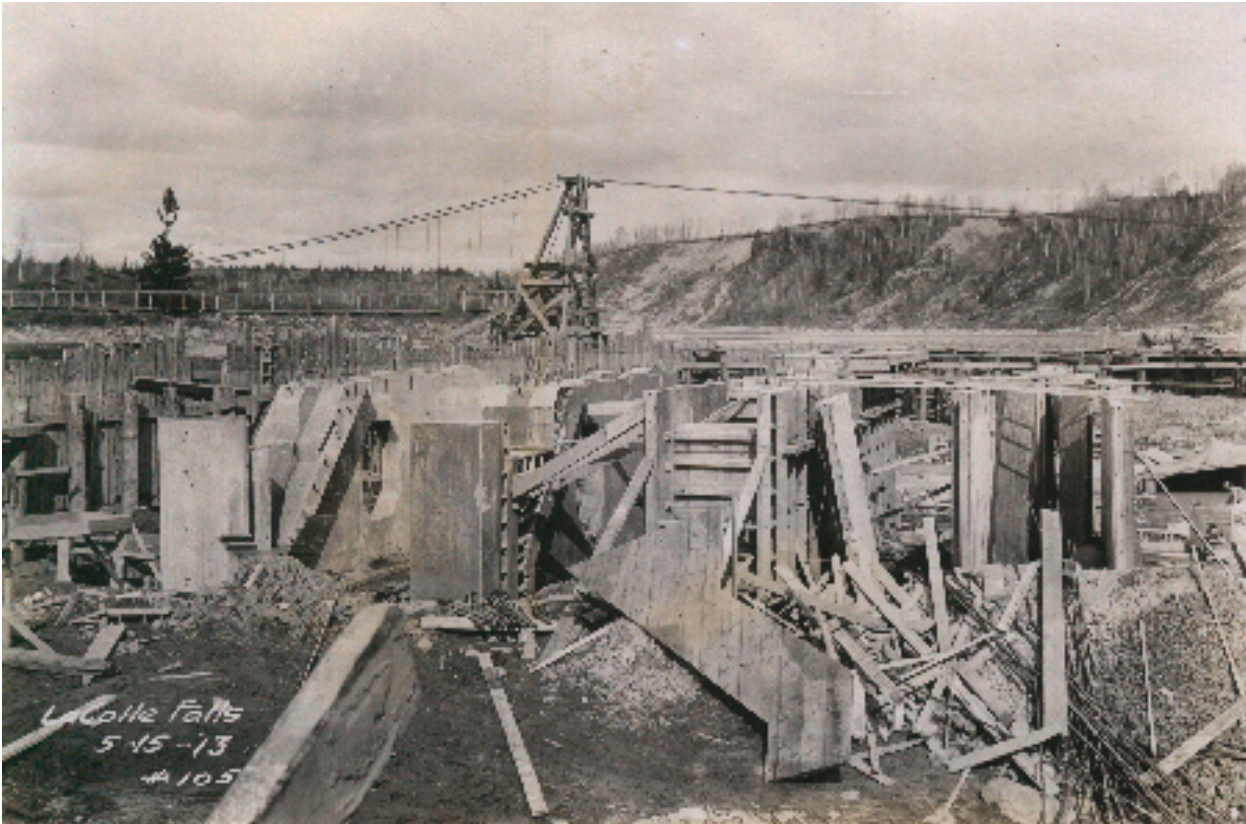
80(Below) Construction Photograph #102 - Concrete is Poured for South Wall of the Shipping Lock

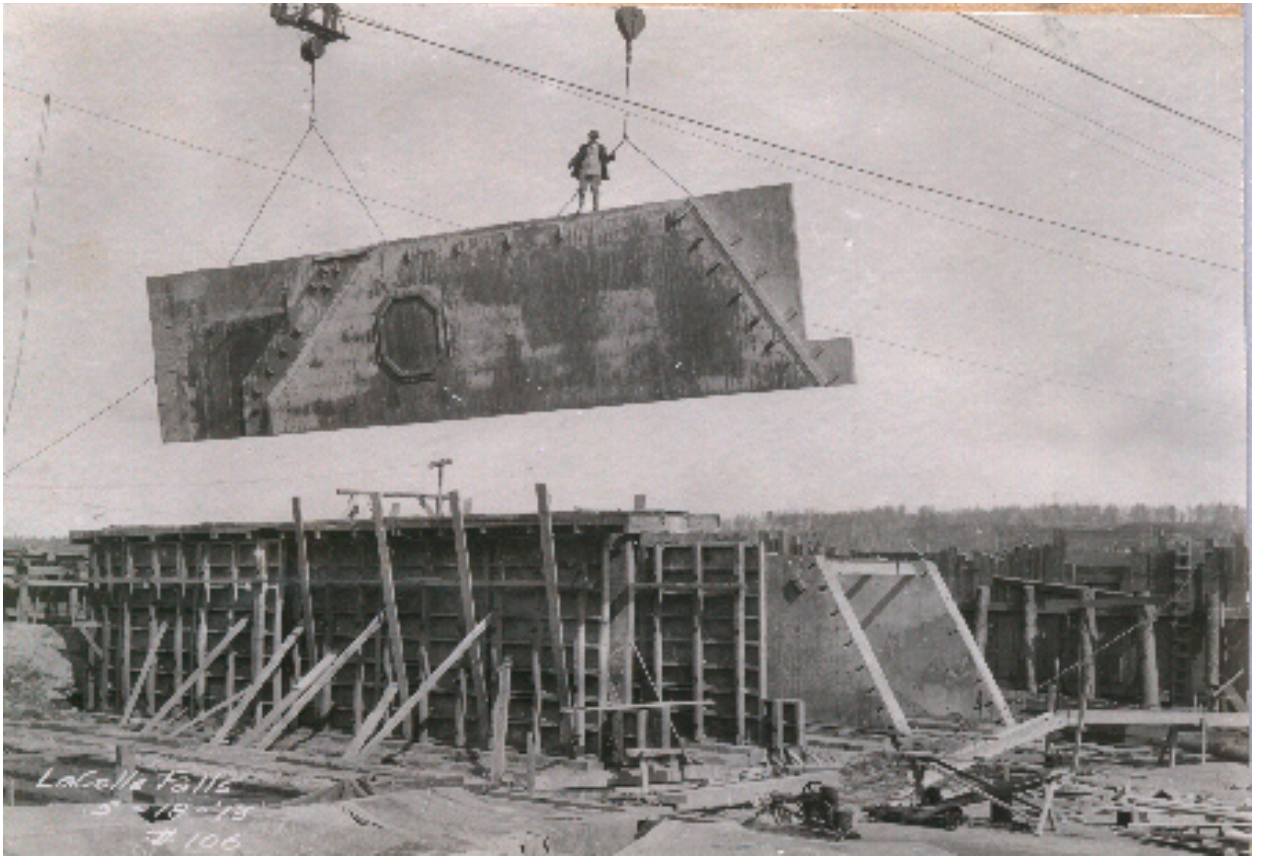




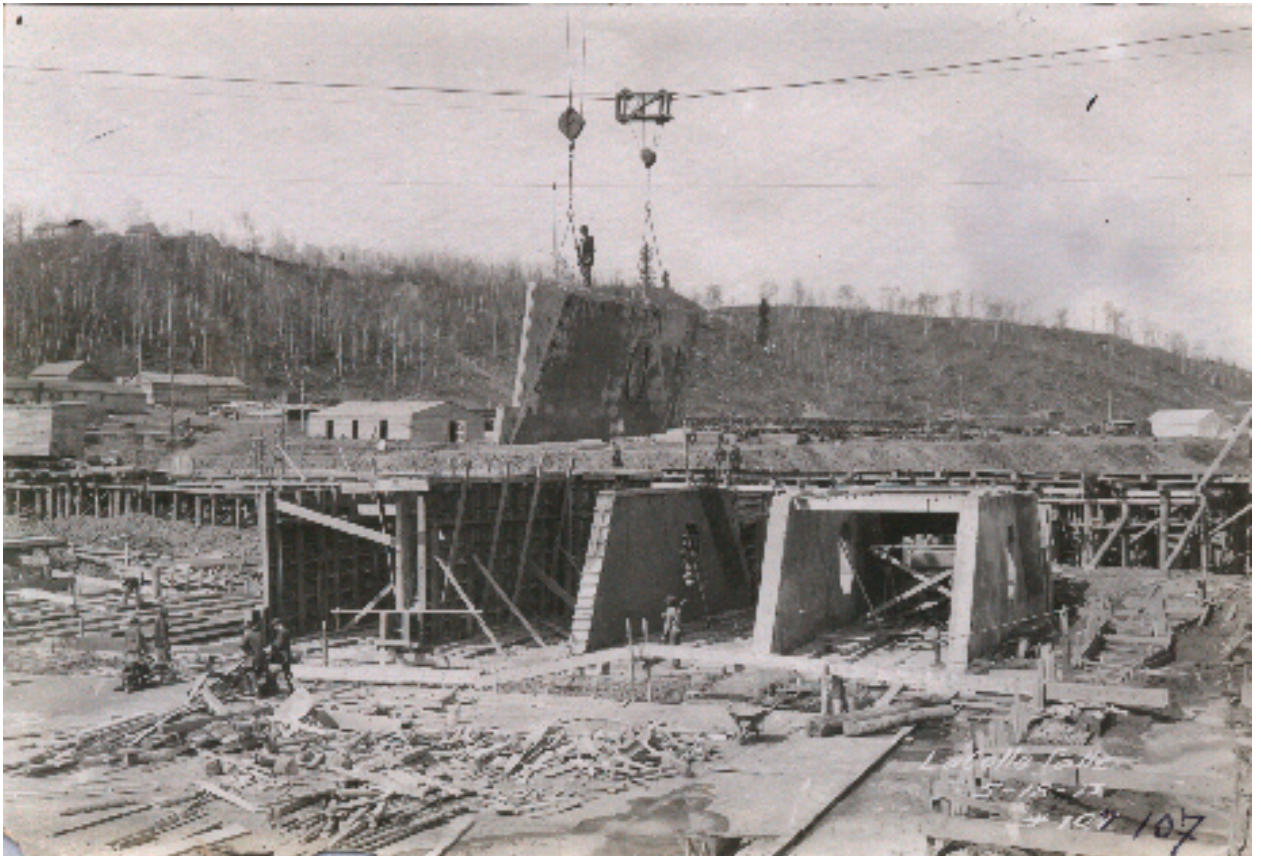
81(Above) Construction Photograph #104 - Debris Is Removed from Inside the Cofferdam, Formwork is Put into Place for the Weir

82(Below) Construction Photograph #105 - Formwork and Concrete Ribs of the Weir, Cable Suspension Bridge Shown in the Background Used to Move Supplies Across the River

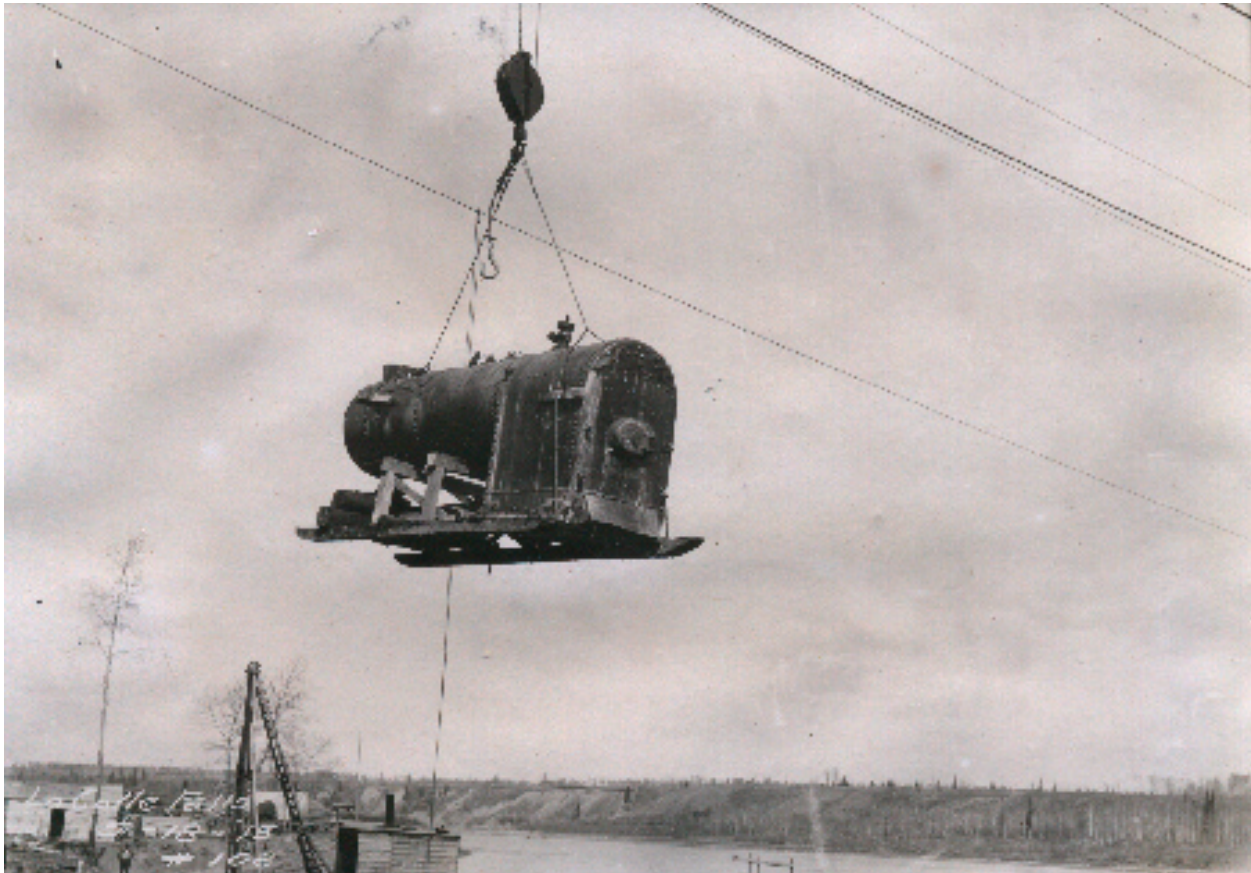




83(Above) Construction Photograph #106 - Using the Cable Pulley System to Move the Formwork for the Ribs of the Weir



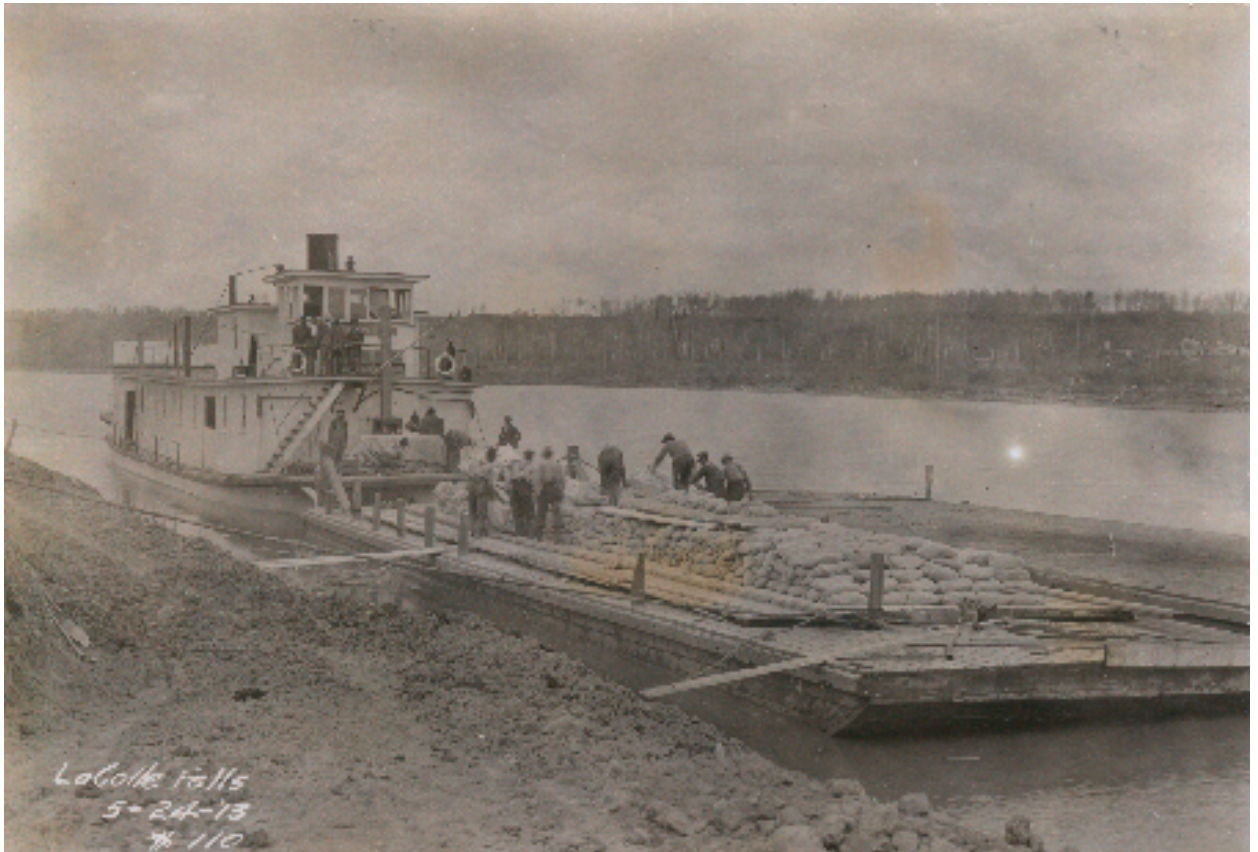
84(Below) Construction Photograph #107 - Using the Pulley System to Move the Formwork for the Ribs of the Weir



85(Above) Construction Photograph #108 - Using the Cable Pulley System to Move a Steel Boiler Across the River

86(Below) Construction Photograph #109 - Wooden Towers That Supported the Cable Pulley System Across the River





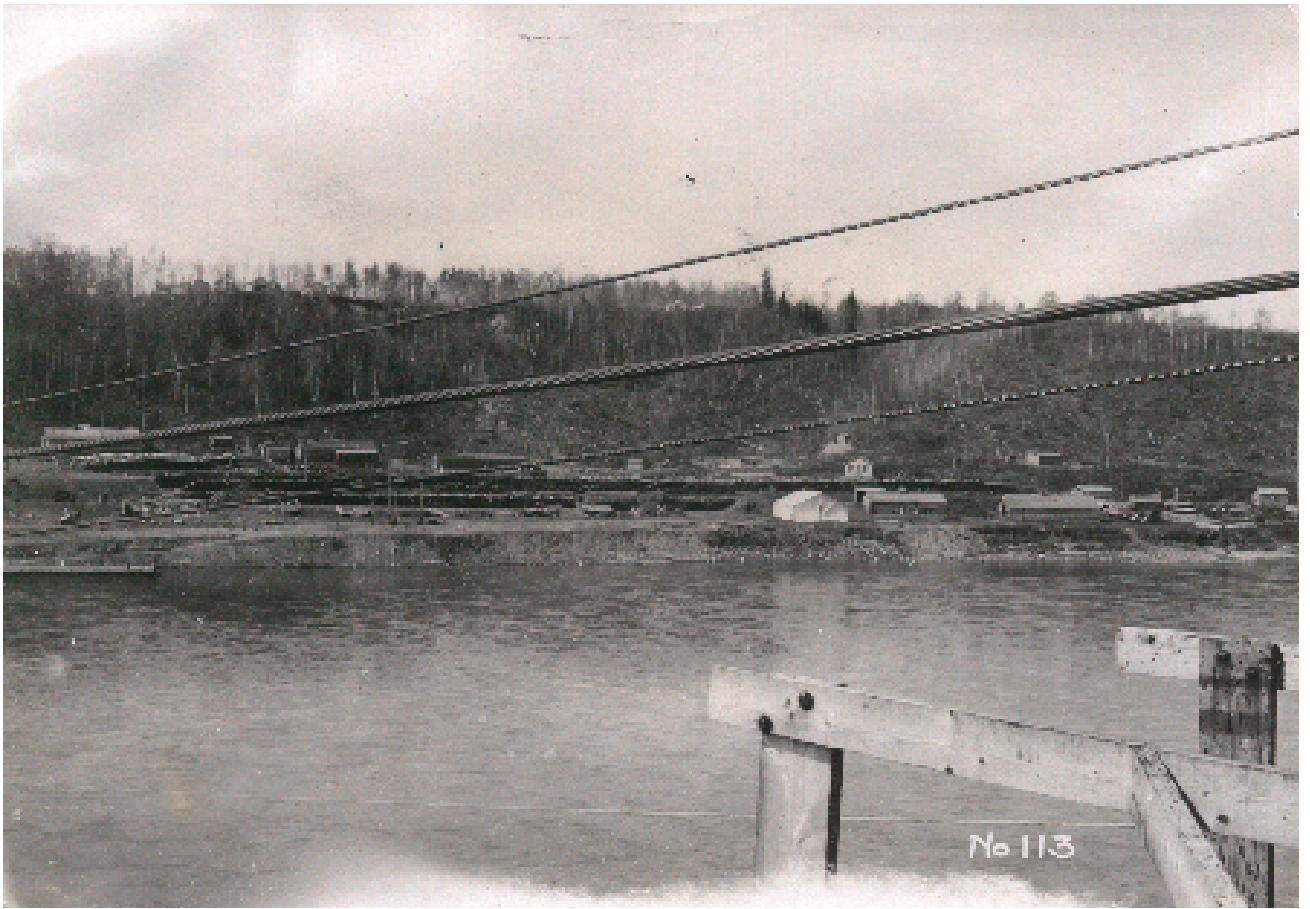
87(Above) Construction Photograph #110 - Unloading Bags of Cement from the Steamboat at the Construction Site

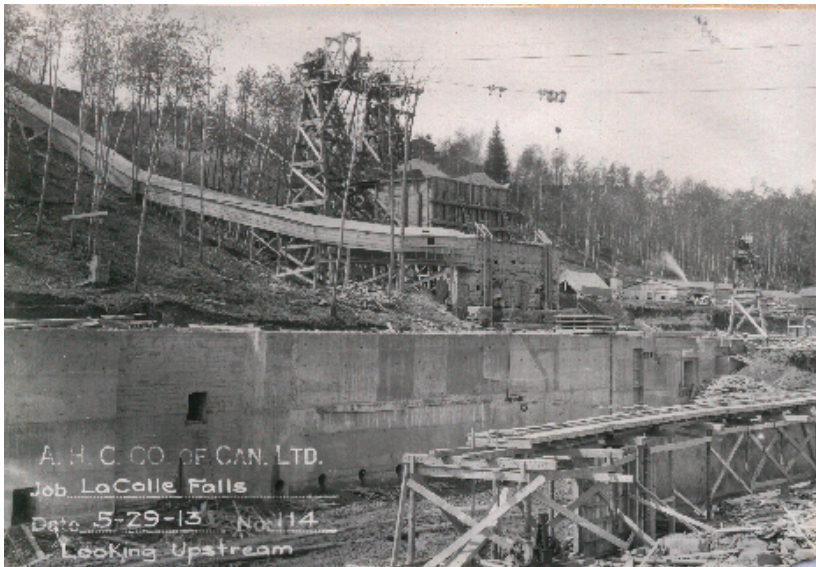
88(Below) Construction Photograph #111 - Laying Formwork and Steel Reinforcing Bars for the Bed of the Shipping Lock



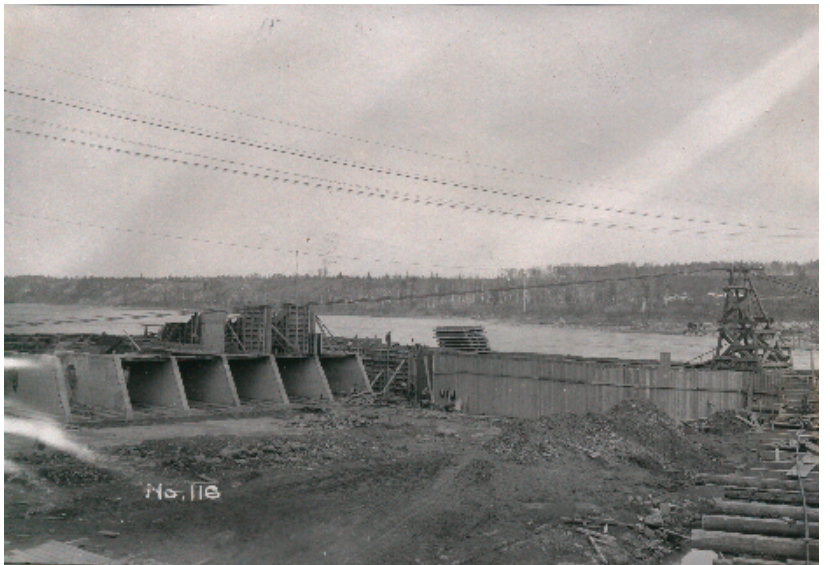


⁸⁹ Construction Photograph - Panorama - # 112 and #113 - This View Shows the Entire Construction Site, the Coffor Dam is Visible in the River, Behind it is One Full Wall of the Shipping Lock. At the Top of the Hill is the Construction Camp. Concrete was Mixed in the Building at the Top of the Hill, and Poured Down the Wooden Chute to the Site Below.





⁹⁰ Construction Photograph - Panorama - # 114, #115, and #116 - View of the Construction Site Looking Up-River, Showing One Concrete Wall of the Shipping Lock and Some of the Completed Ribs of the Weir.





91(Above) Construction Photograph #117 - Excavation and Plant North Bank - View Showing the Towers for the Cable Pulley System

92(Below) Construction Photograph #118 - Tail Race (Power Canal) Excavation with Grading Machine on the North Bank of the River

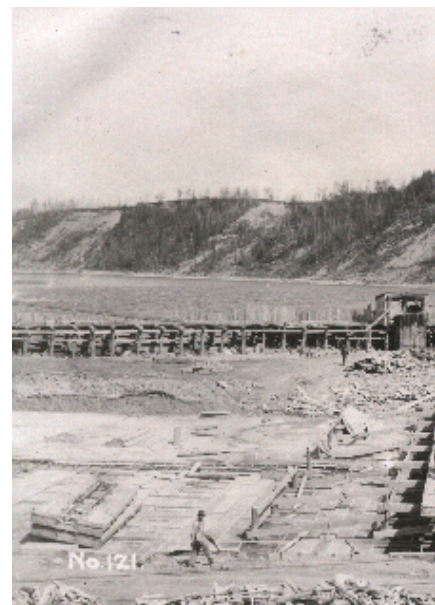
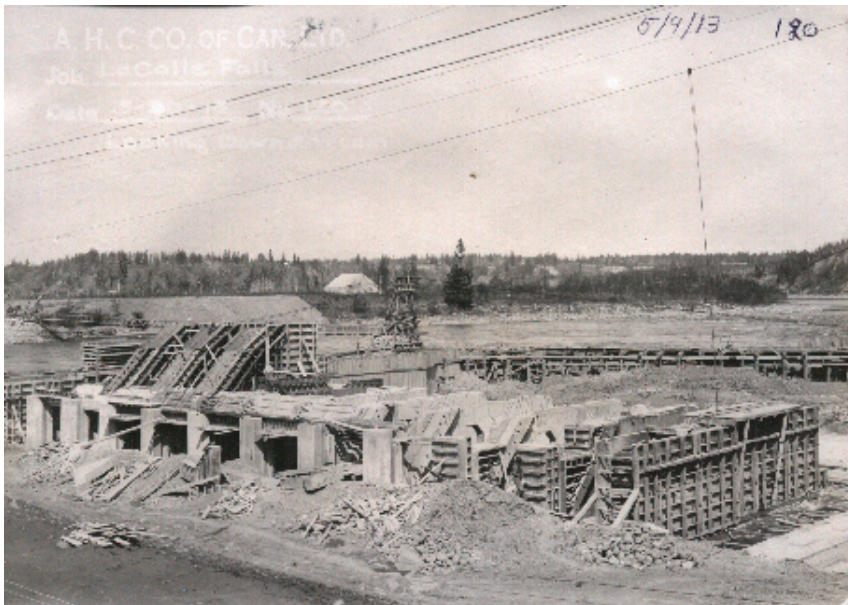




93(Above) Construction Photograph #119 - Tail Race (Power Canal) Excavation with Grading Machine

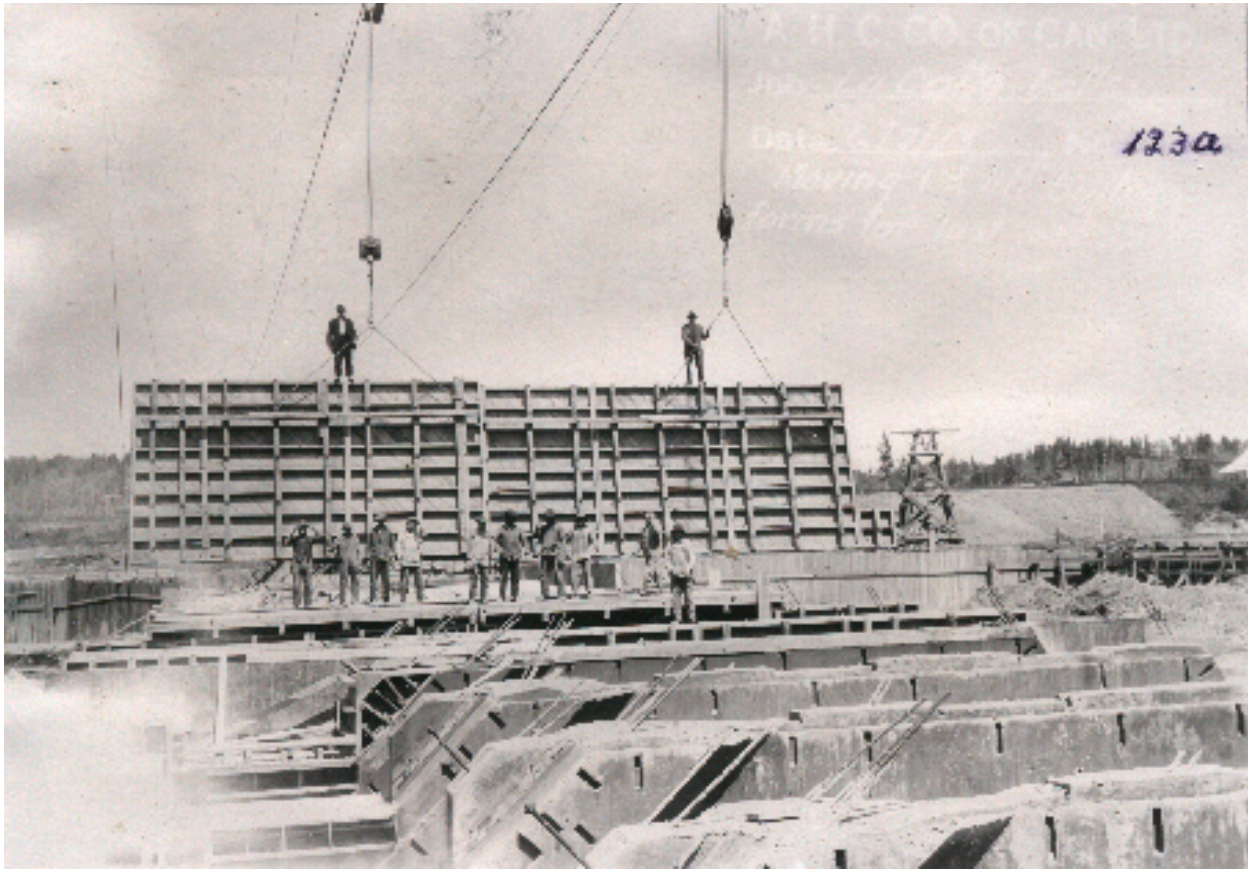
94(Below) Construction Photograph #11 - Tail Race (Power Canal) Excavation with Grading Machine Looking East





⁹⁵ Construction Photograph - Panorama - #120, #121, and #122 - View of Construction Site Inside the Cofferdam Looking Downstream. Concrete Ribs of the Weir are Shown to the Left, Shipping Lock Wall and Formwork are Shown on the Right





96(Above) Construction Photograph #123A - Using the Cable Pulley System to Move Formwork for the Weir

97(Below) Construction Photograph #123 - View of the Inside of Shipping Lock Showing Teams of Horses Used to Haul Debris





98(Above) Construction Photograph #124 - Cofferdam Connection to the Concrete Ribs of the Weir

99(Below) Construction Photograph #125 - Formwork North Wall of Shipping Lock





100(Above) Construction Photograph #126 - Crack in North Wall of Shipping Lock Excavation for Floor Extension

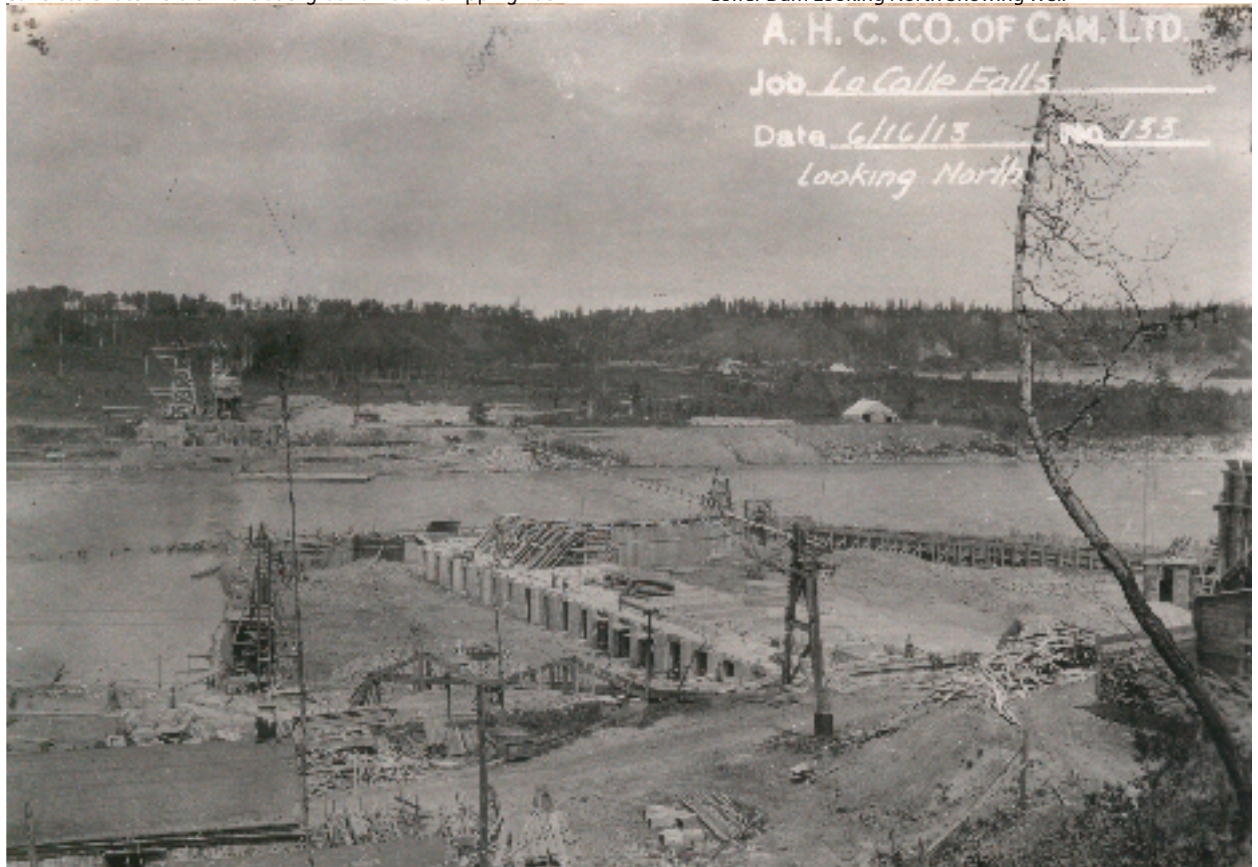
101(Below) Construction Photograph #127 - View Showing the Formwork for the North Wall of the Shipping Lock and Partially Completed Weir



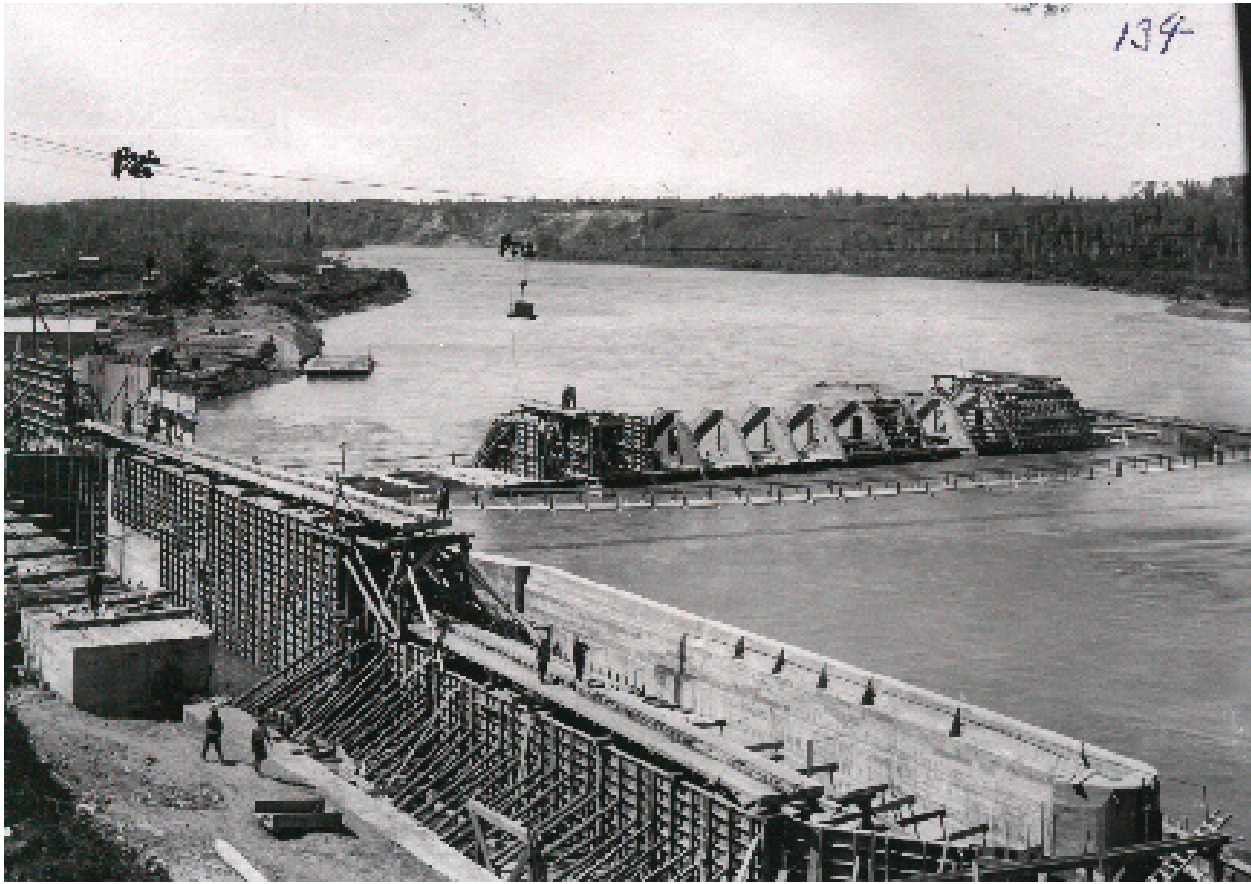


102(Above) Construction Photograph #129 - Ribs of Weir with Spouts of Concrete Chute Visible in the Background Above Shipping Lock

103(Below) Construction Photograph #133 - View of Inside of Cofferdam Looking North Showing Weir



134



¹⁰⁴ Construction Photograph #134 - View Showing the Partially Completed Shipping Lock with Formwork, and the Partially Completed Weir, Note That the Cofferd Dam has Been Removed and the River is Flowing Through the Weir

105 Construction Photograph #135 - View of Inside of Wooden Cofferdam Holding Back the River Water Showing Exposed Riverbed

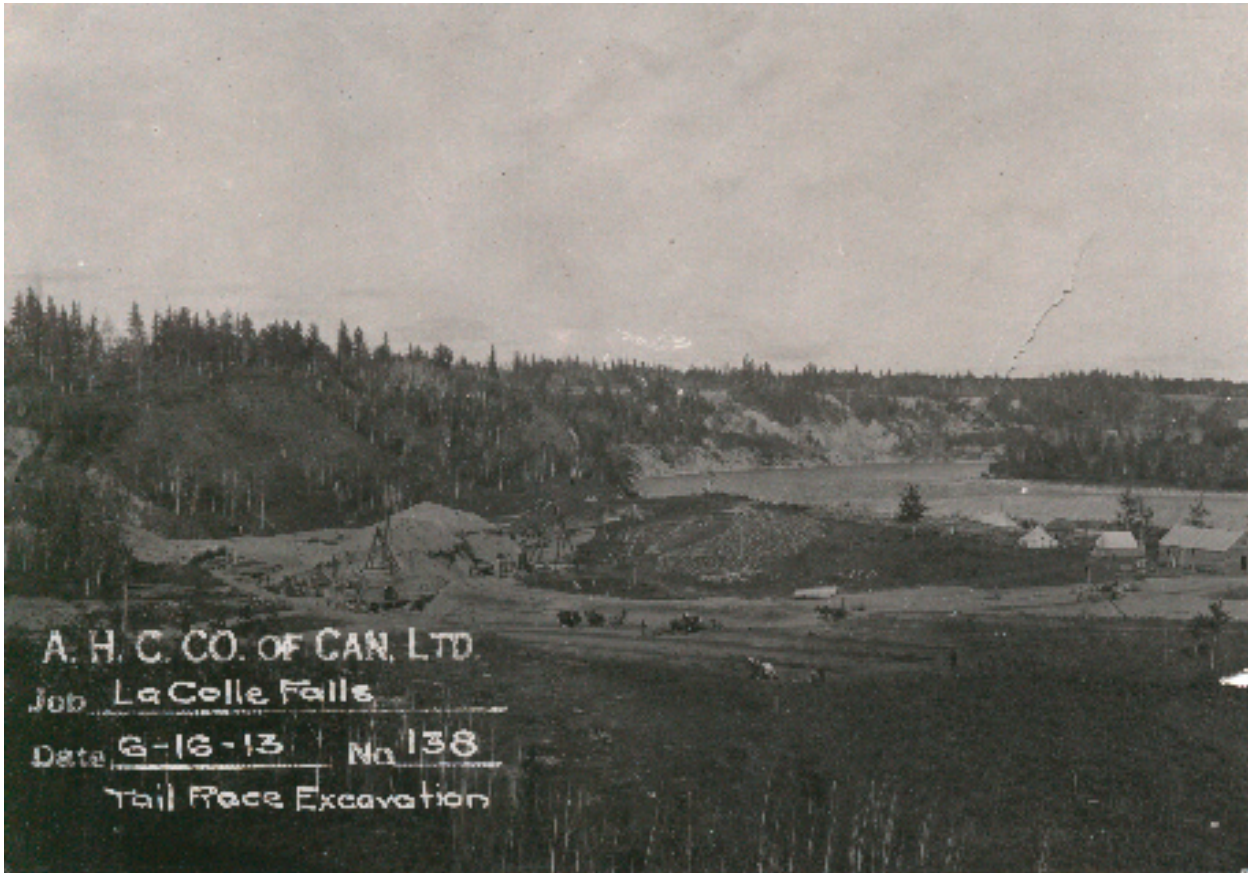




¹⁰⁶ Construction Photograph #136 - View Showing Weir Closure Openings, the River Water Would Have Passed Through the Openings, In Times of Low Water, Doors Would Have Been Closed to Raise the Water Level



¹⁰⁷ Construction Photograph #137 - Lock Looking Down-Stream, the Shipping Lock South Wall is Visible on the Right - Note the Extend of Foliage Cleared on the Ravine Bank



A. H. C. CO. OF CAN. LTD
Job La Colle Falls
Date 6-16-13 No 138
Tail Race Excavation

108(Above) Construction Photograph #138 - Tail Race (Power Canal) Excavation on the North Bank of the River

109(Below) Construction Photograph #141 - First Breach in Up-Stream Cofferdam - the First Step in Removing the Wooden Cofferd Dam was to Remove Boards and Allow the River Water to Enter



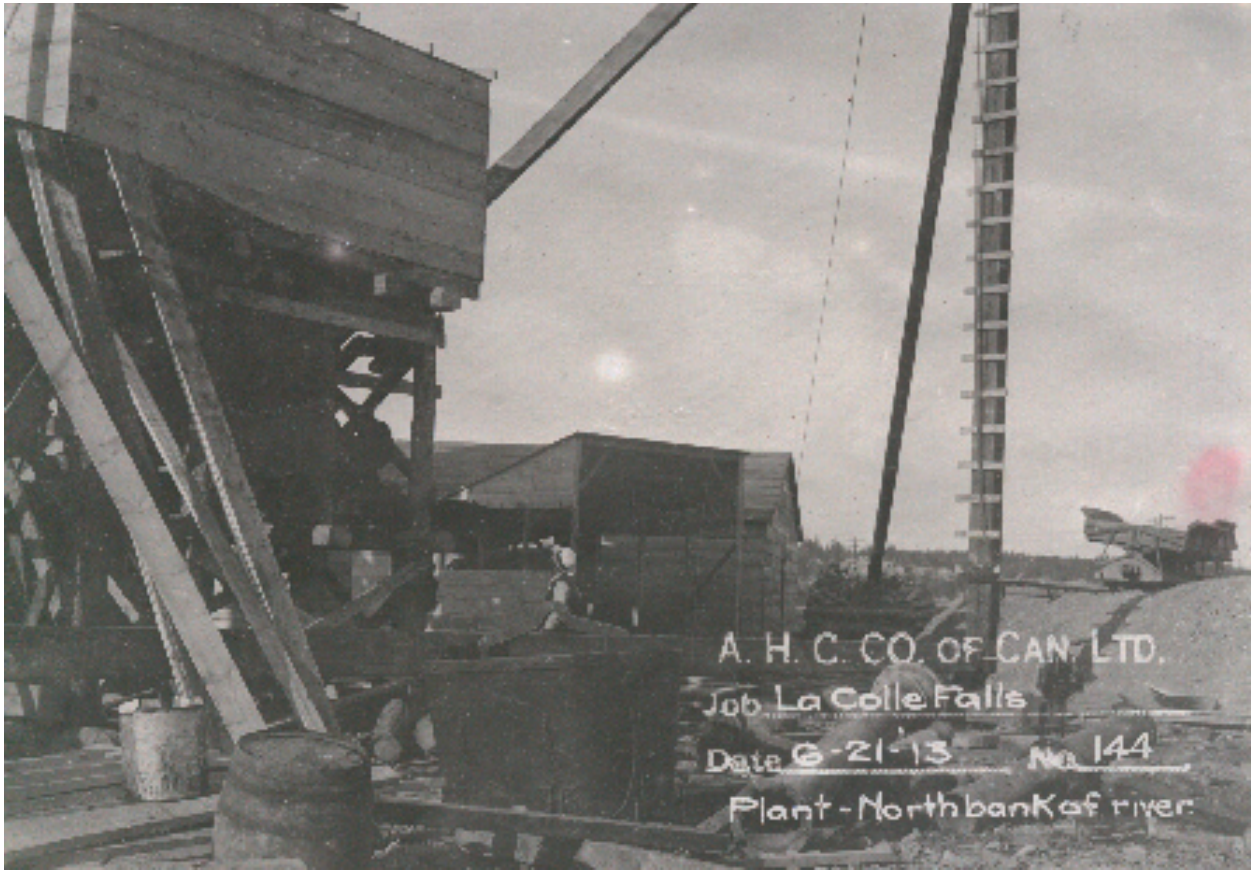
A. H. C. CO. OF CAN. LTD.
Job La Colle Falls
Date 6-19-13 No 141
1st breach in up-stream
coffer-dam.



110(Above) Construction Photograph #142 - Blowing Out Coffe-Dam - After Allowing Water to Enter, the Coffe Dam was Exploded with Dynamite

111(Below) Construction Photograph #143 - Coffe Dam Removed and River Water is Flowing Through the Weir, Note the Cable Suspension Bridge that was Built Across the River to Transport Supplies to the Other Side





A. H. C. CO. OF CAN. LTD.
Job La Colle Falls
Date 6-21-13 No. 144
Plant - North bank of river.

¹¹² Construction Photograph #144 - Plant North Bank of River

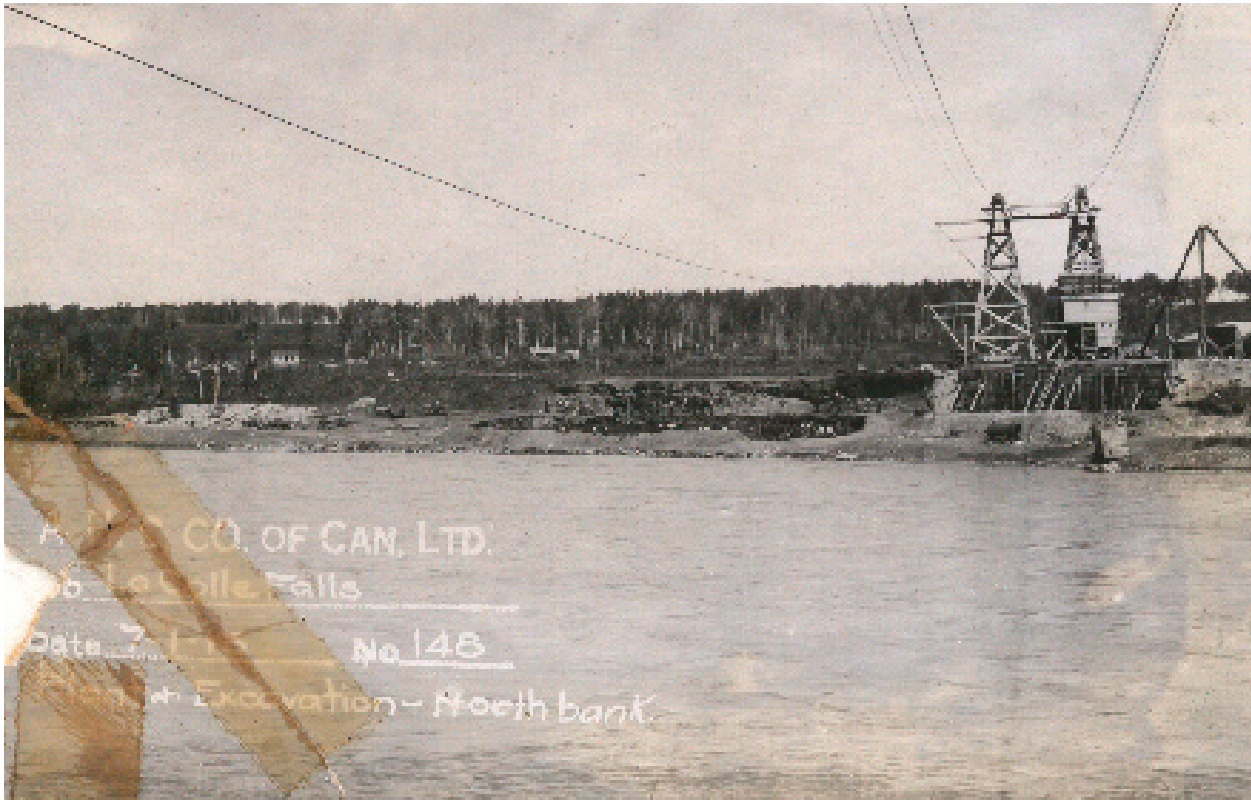
¹¹³ Construction Photograph #147 - Erecting 1st Crest & Apron Forms Buttress No. 18 of the Weir, Note the Curved Construction of the Weir to Allow Debris to be Easily Carried Over the Dam During Times of High Water





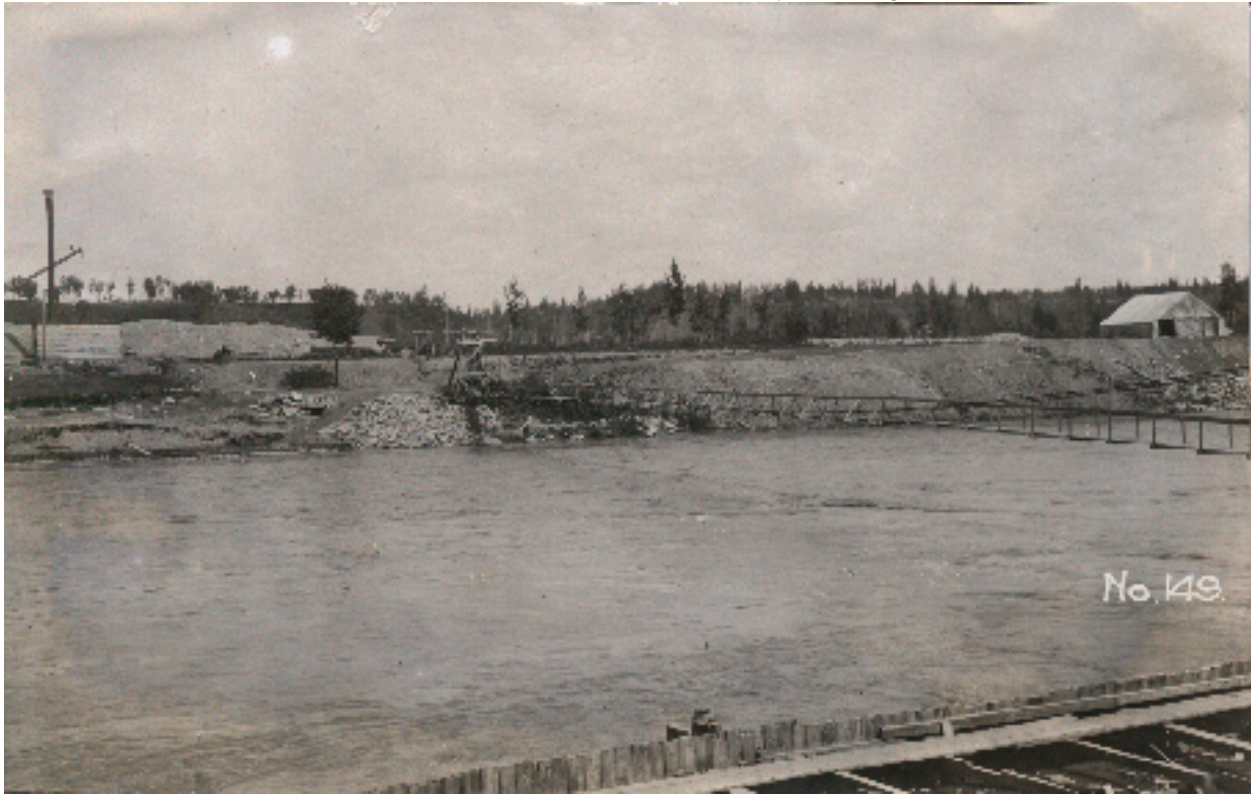
¹¹⁴ Construction Photograph - Panorama - #146 and #145 - Looking Upstream - View Showing the Construction Site at Peak Activity, the Shipping Lock is Visible on the Left Side and the Partially Completed Weir Reaches Across the River, Note - the Weir was Constructed with a Curved Design to Allow Debris to be Easily Carried Over the Dam During Times of Flood and High water





115(Above) Construction Photograph #148 - Plan & Excavation - North Bank

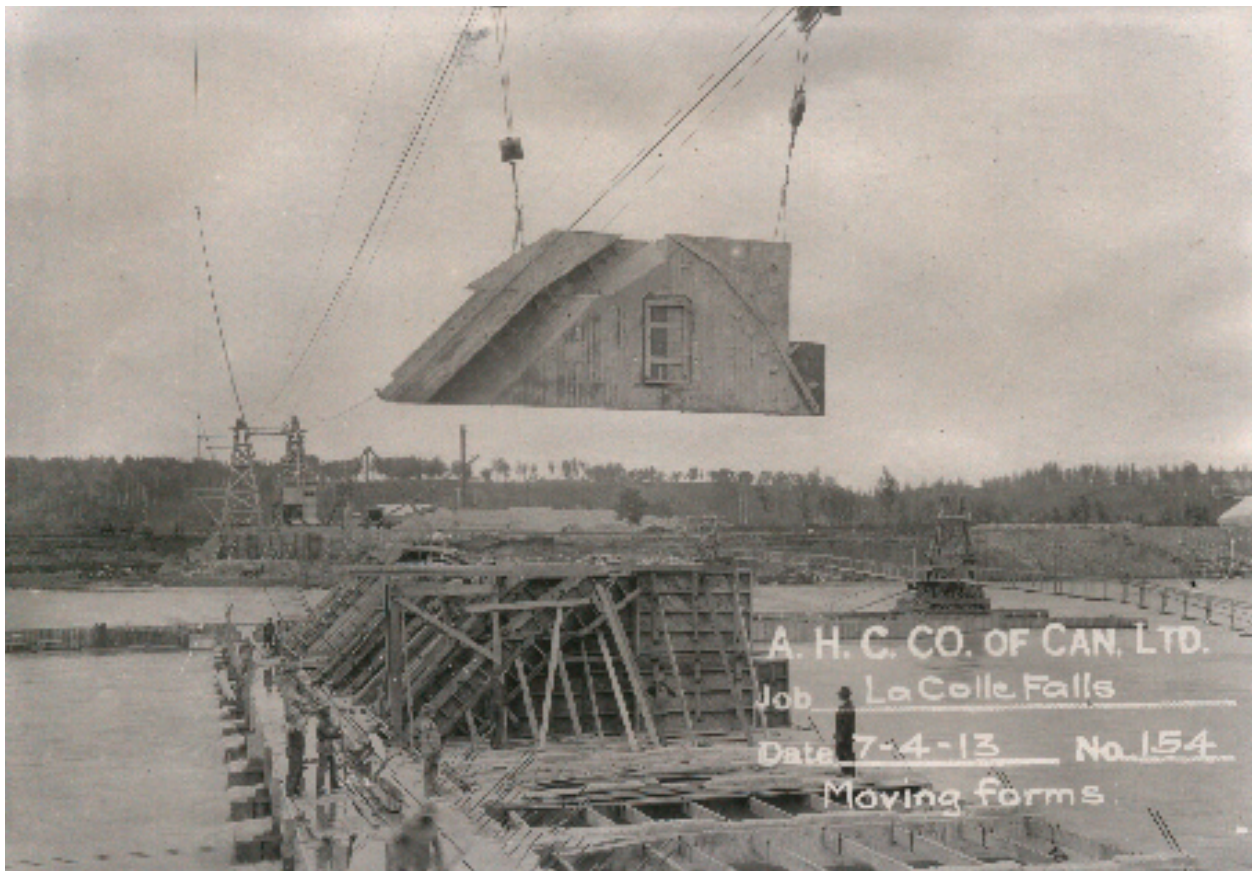
116(Below) Construction Photograph #149 - Note the North End of the Cable Suspension Bridge





117 Construction Photograph #153 - Reinforcement in Place for the Crest of the Weir

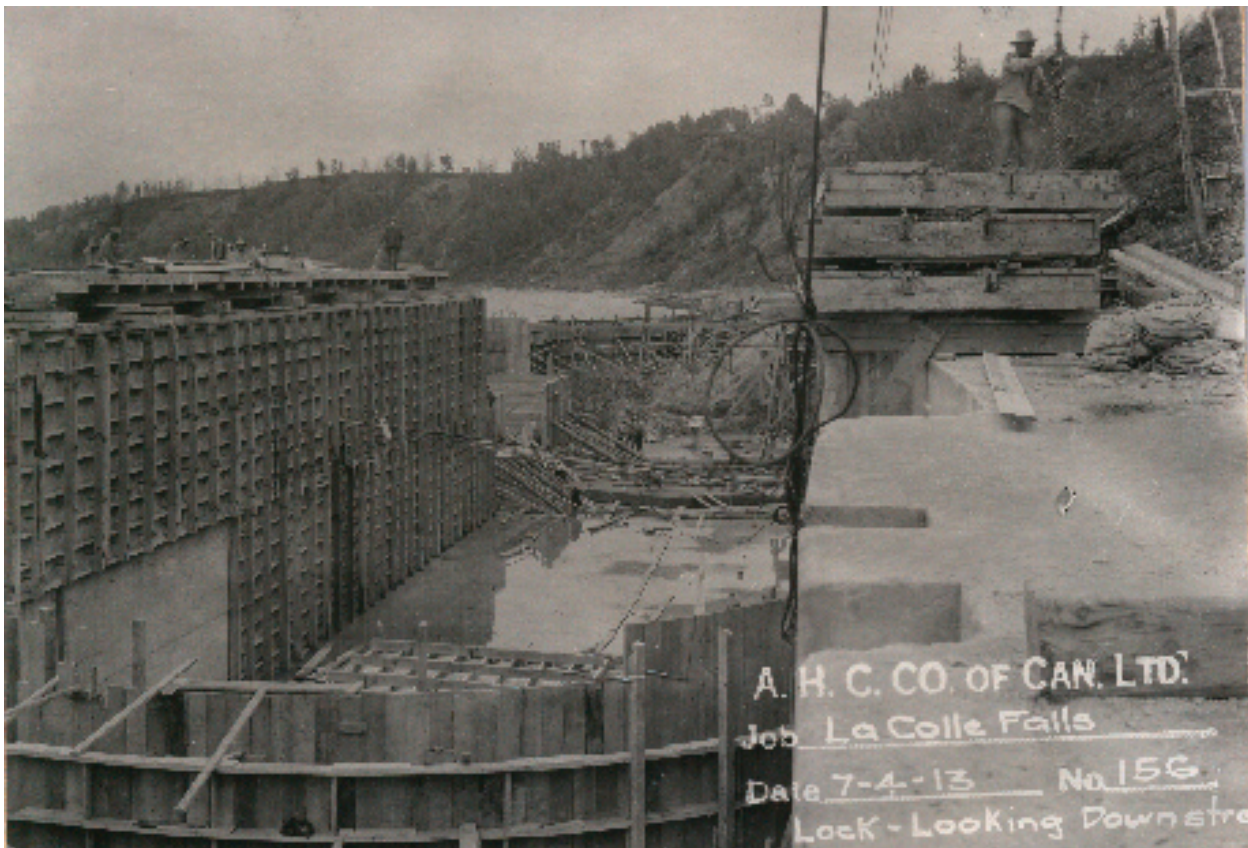
118 Construction Photograph #154 - Moving Formwork for the Crest Ribs of the Weir with the Cable Pulley System

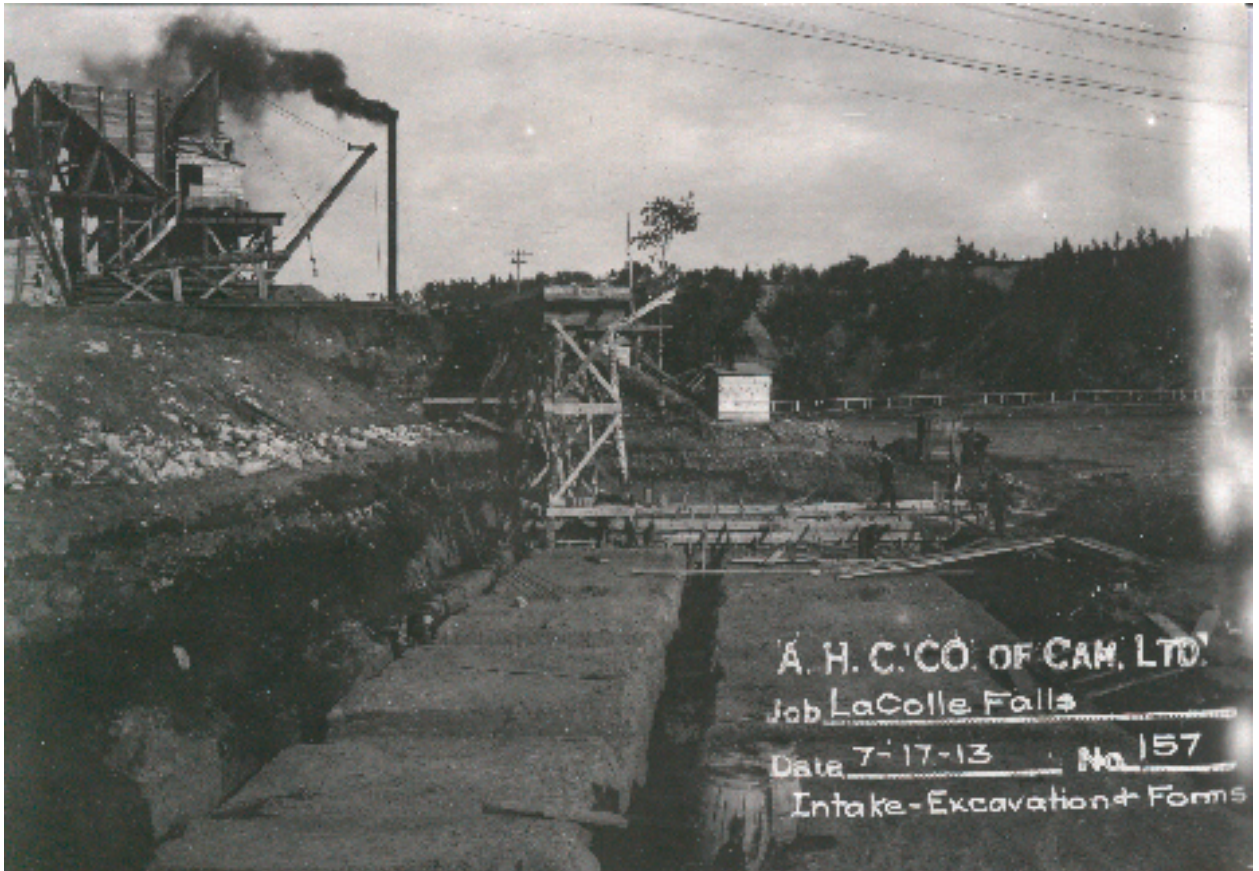




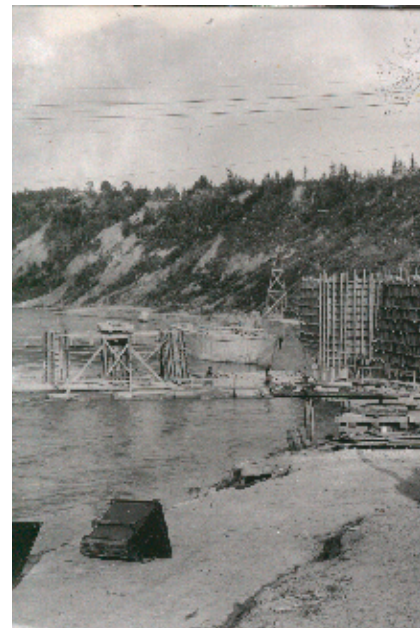
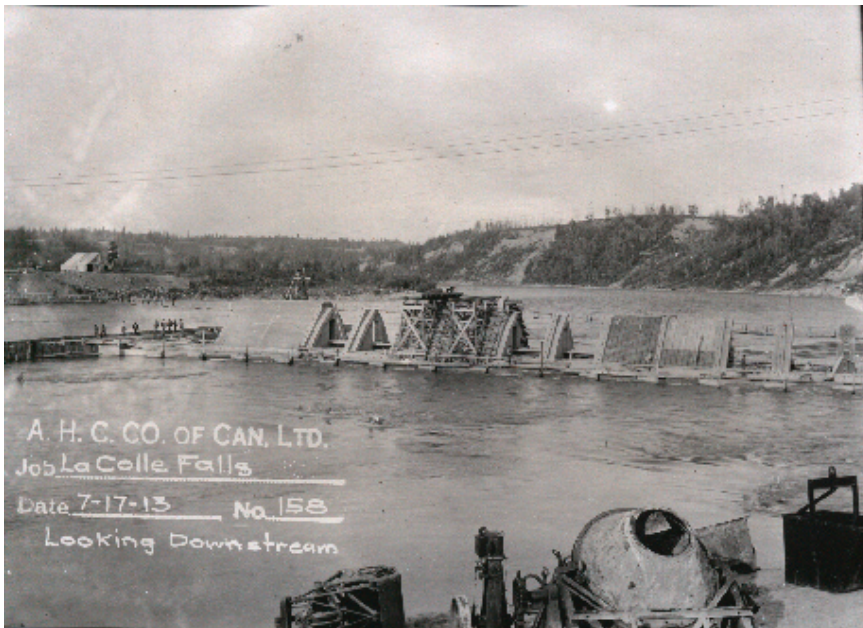
119(Above) Construction Photograph #155 - View of Shipping Lock Looking Upstream Showing Completed South Wall Formwork for North Wall

120(Below) Construction Photograph #156 - Shipping Lock Looking Downstream Showing Formwork for North Wall

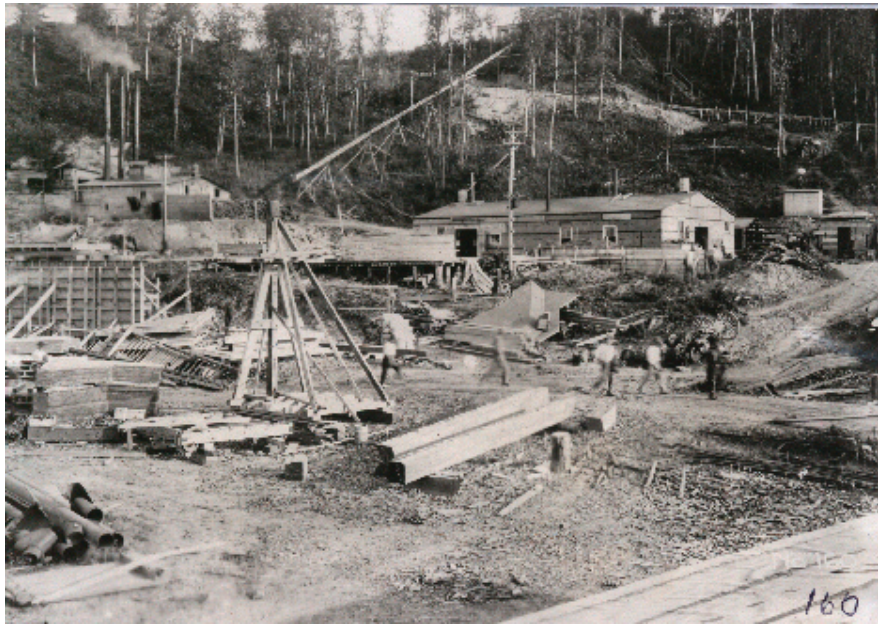




¹²¹ Construction Photograph #157 - Tail Race (Power Canal) Intake
Excavation & Forms - North Bank of River



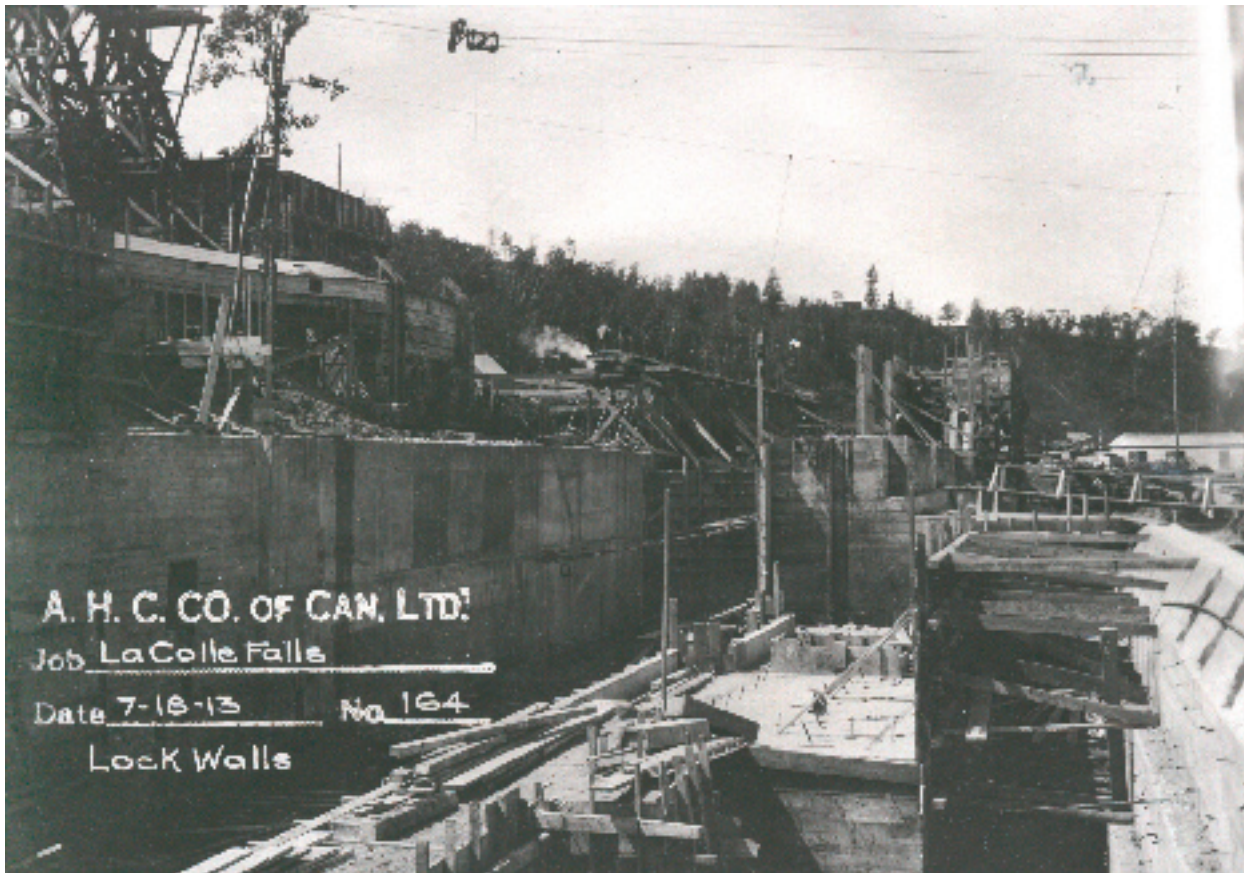
122 Construction Photograph - Panorama - #158, #159, and #160 - Looking Downstream





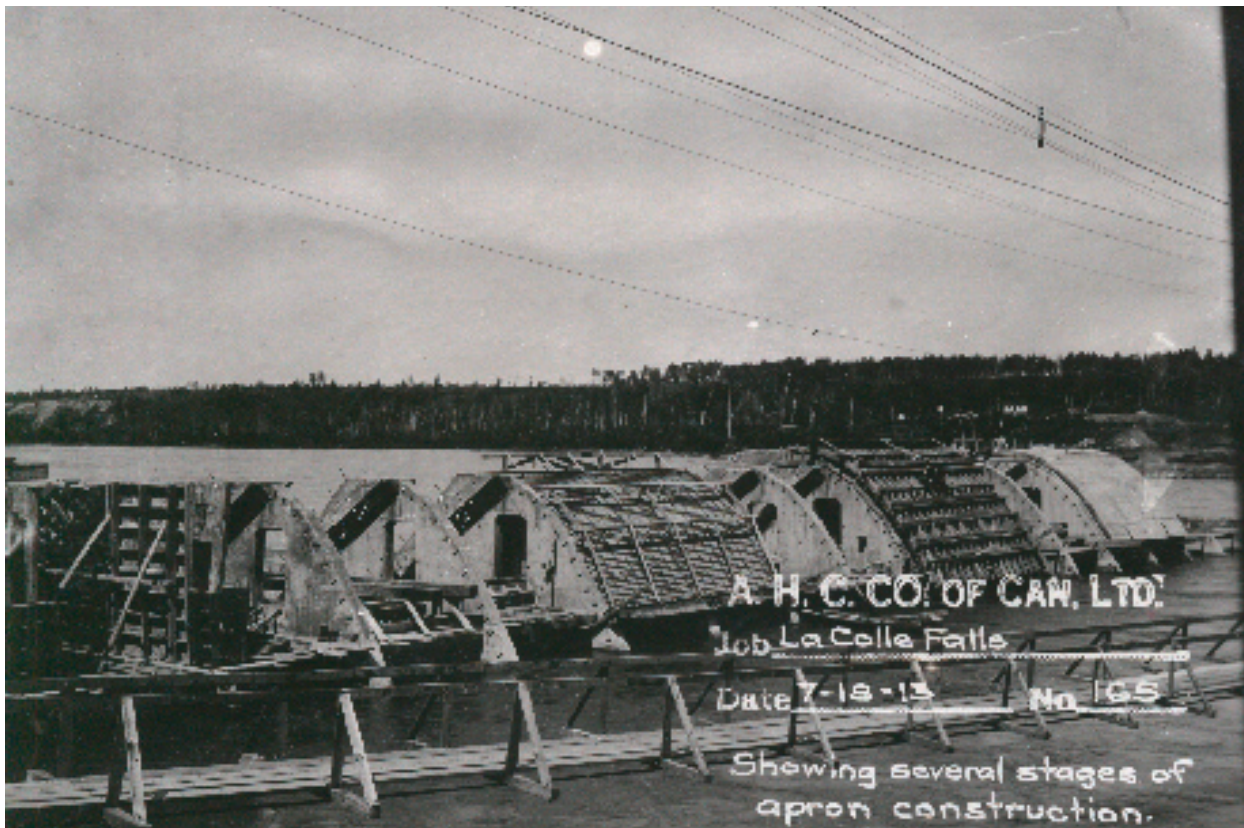
123 Construction Photograph - Panorama - #161, #162, and #163 - Looking Upstream

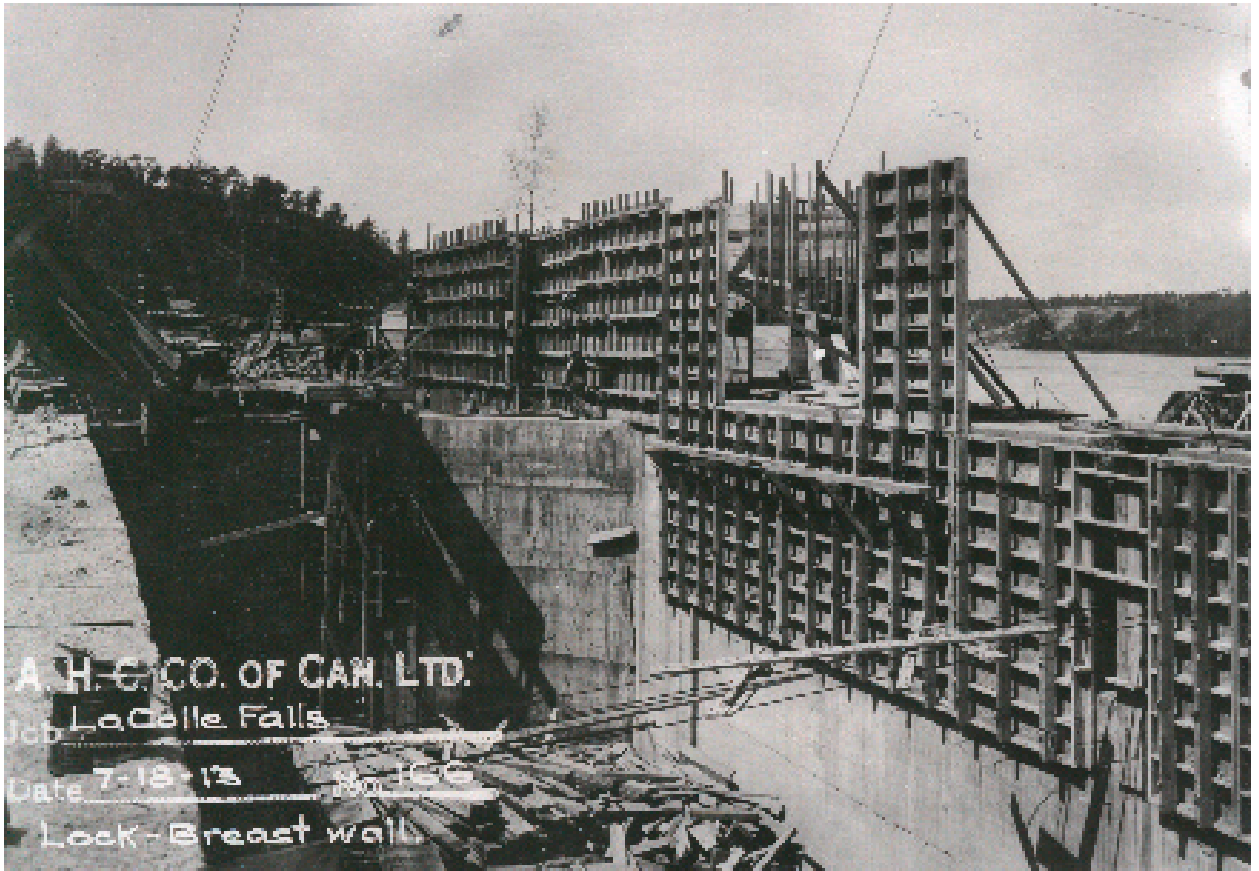




124(Above) Construction Photograph #164 - View of Shipping Lock Walls

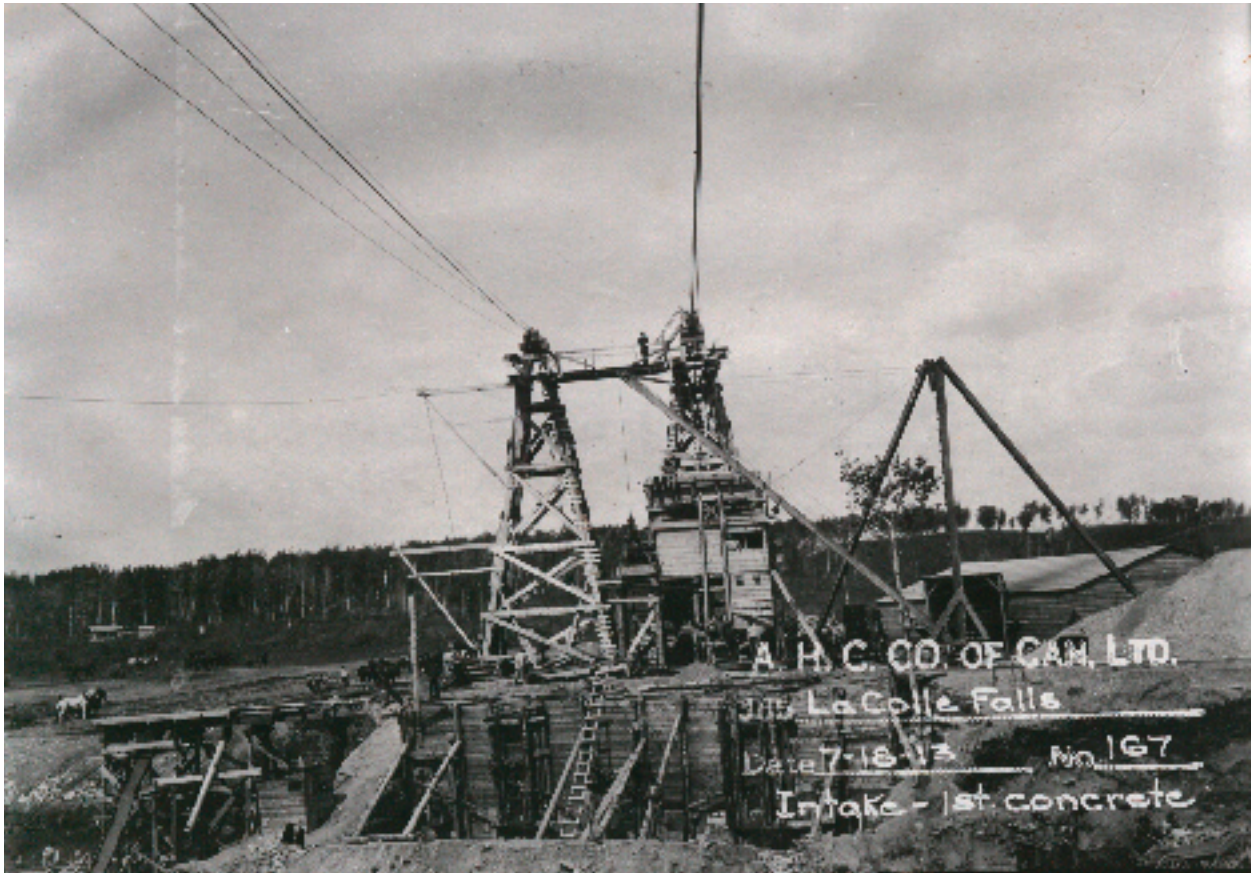
125(Below) Construction Photograph #165 - Showing Several Stages of Weir Apron Crest Construction - Note Cable Suspension Bridge in Foreground





A. H. G. CO. OF CAN. LTD.
Job LaCelle Falls
Date 7-18-13 80-166
Lock-Breast wall

¹²⁶ Construction Photograph #166 - View of Shipping Lock-Breast Wall Showing Formwork for North Wall



127(Above) Construction Photograph #167 - Tail Race (Power Canal) Intake 1st Concrete Pour on North Bank of River

128(Below) Construction Photograph #168 - View of North River Bank Construction Site





129(Above) Construction Photograph #169 - Filling the Tail Race (Power Canal) with River Water

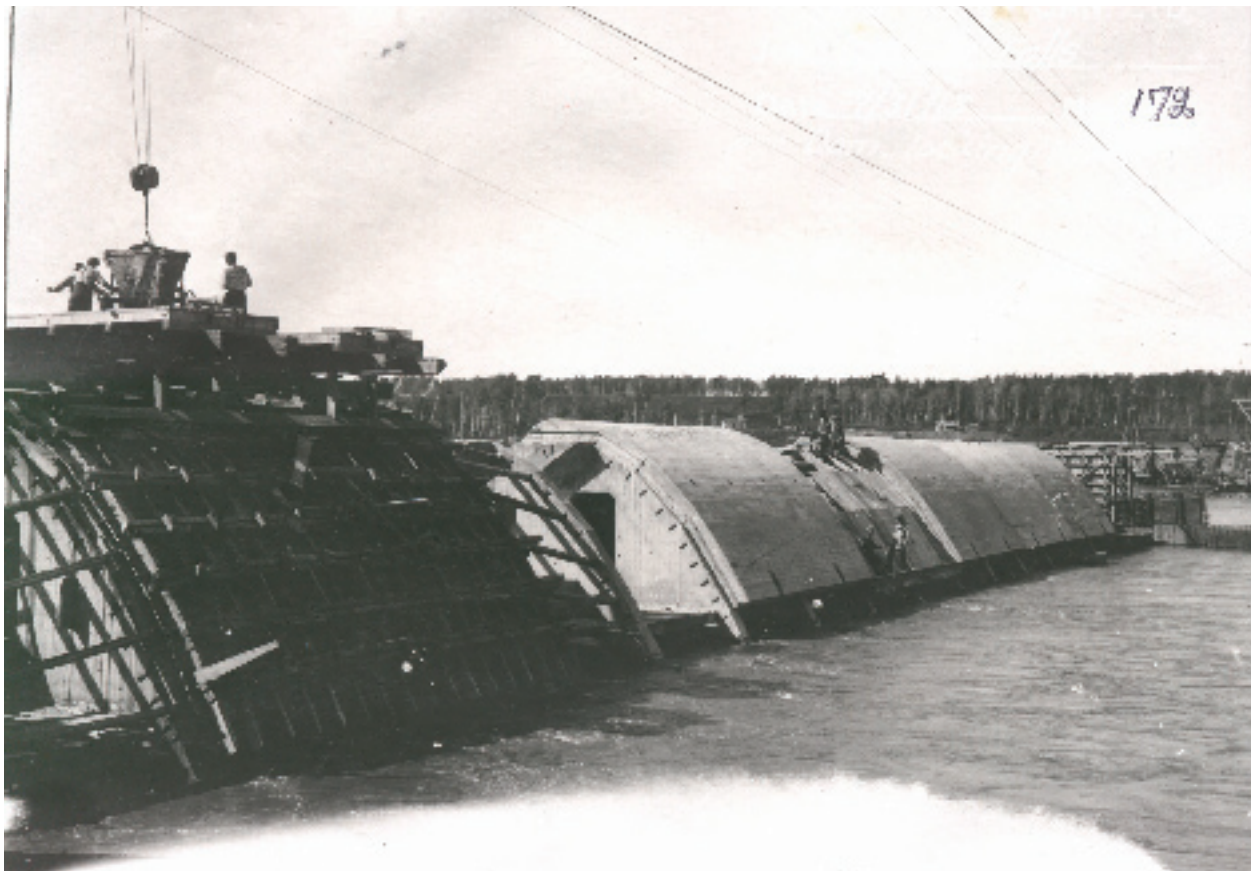
130(Below) Construction Photograph #170 - Two Construction Workers and Dog Floating on Board in Tail Race (Power Canal)

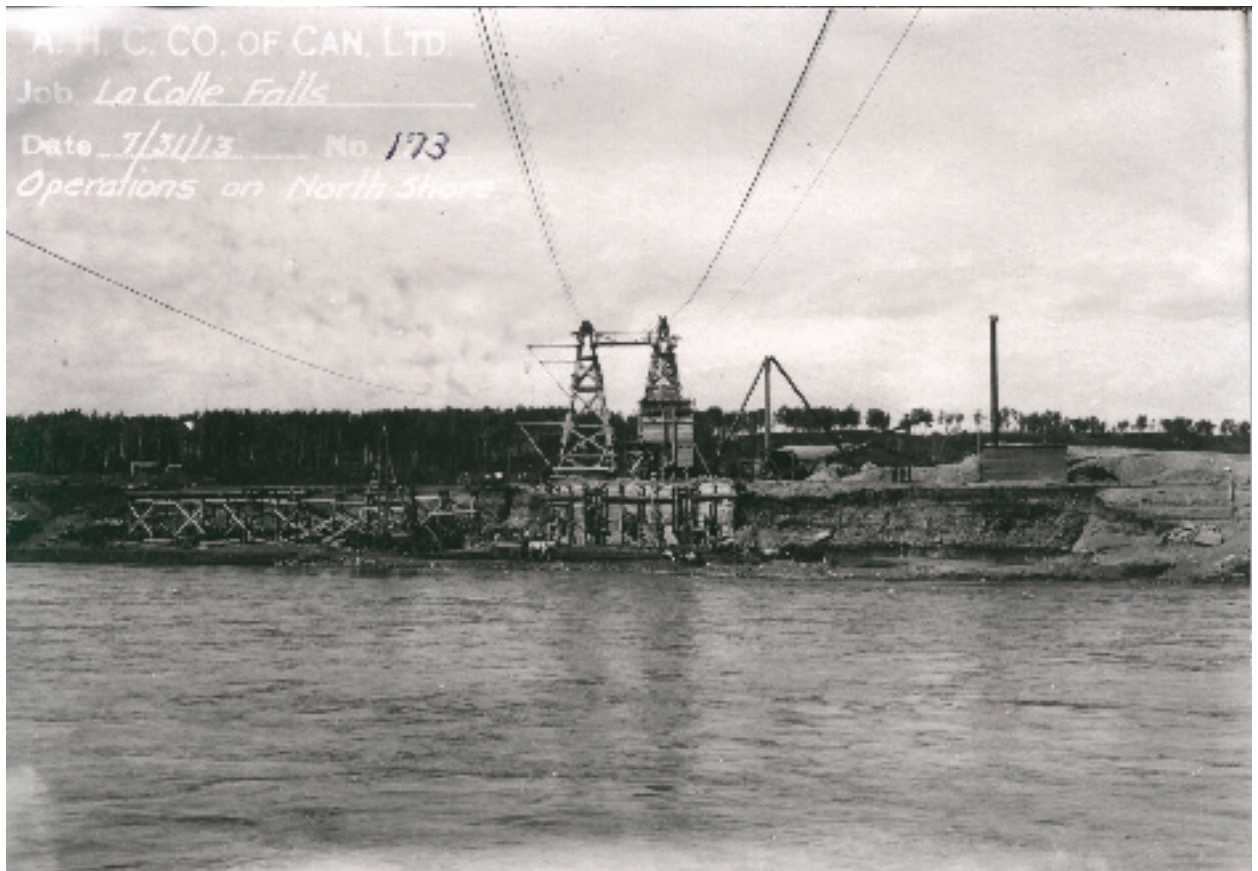




131(Above) Construction Photograph #171 - The Tail Race (Power Canal) Filled with River Water

132(Below) Construction Photograph #172 - Pouring Concrete on the Weir Crest



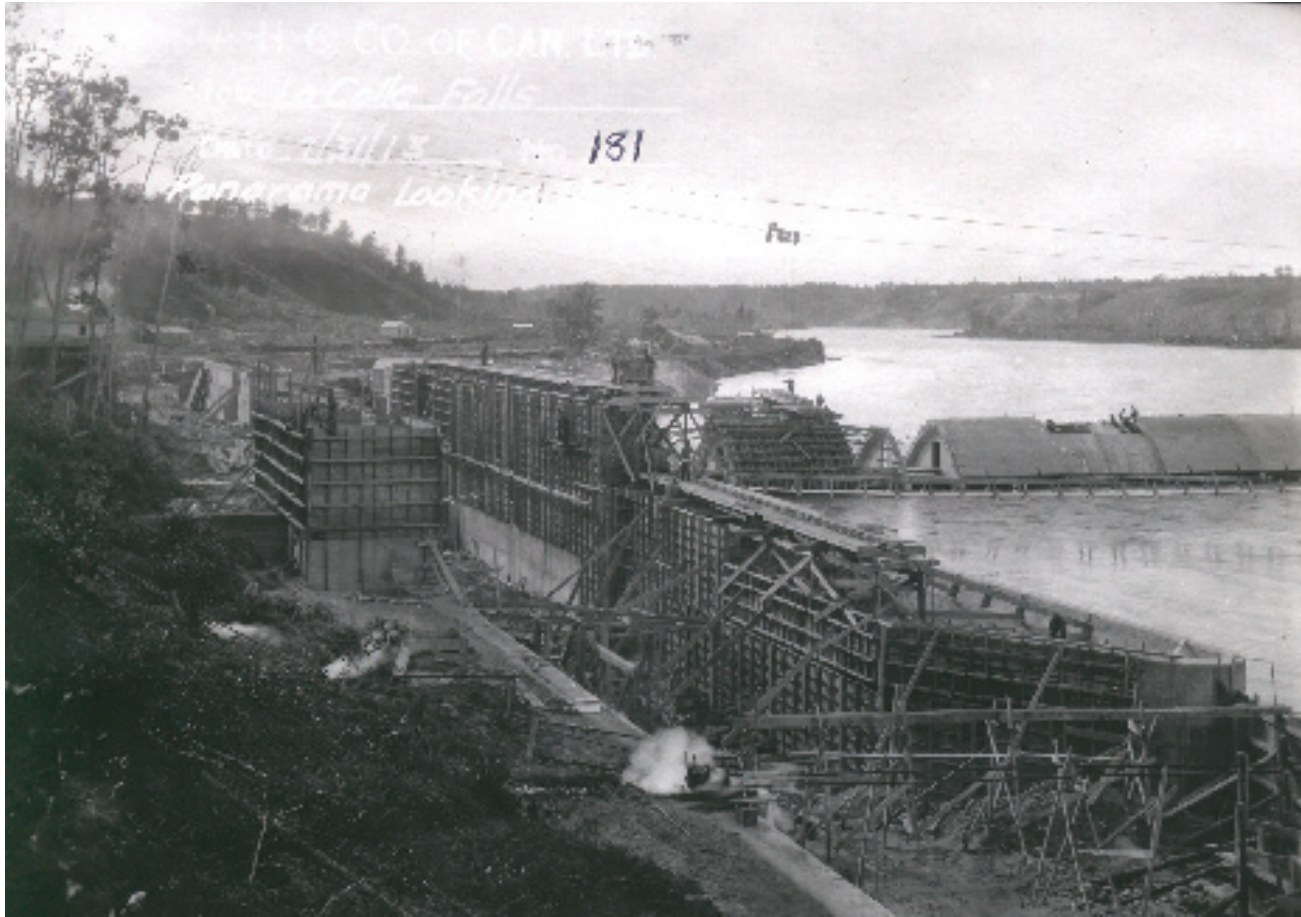


¹³³ Construction Photograph #173 - Operations on North Shore, Showing Cable Pulley System Support Towers



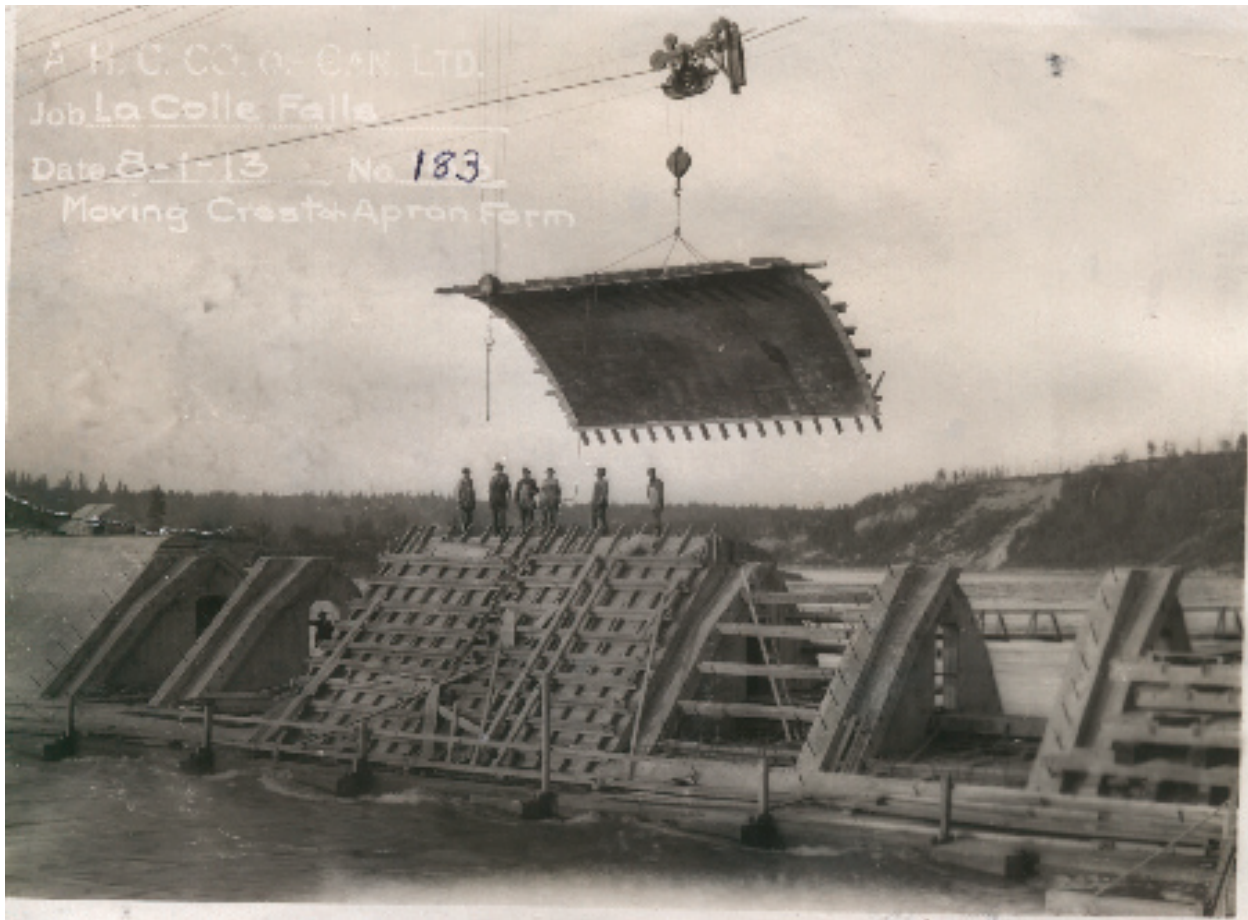
¹³⁴ Construction Photograph - Panorama - #174 - Reinforcement, West Abutment Intake, and #175 - Concrete on Intake Floor





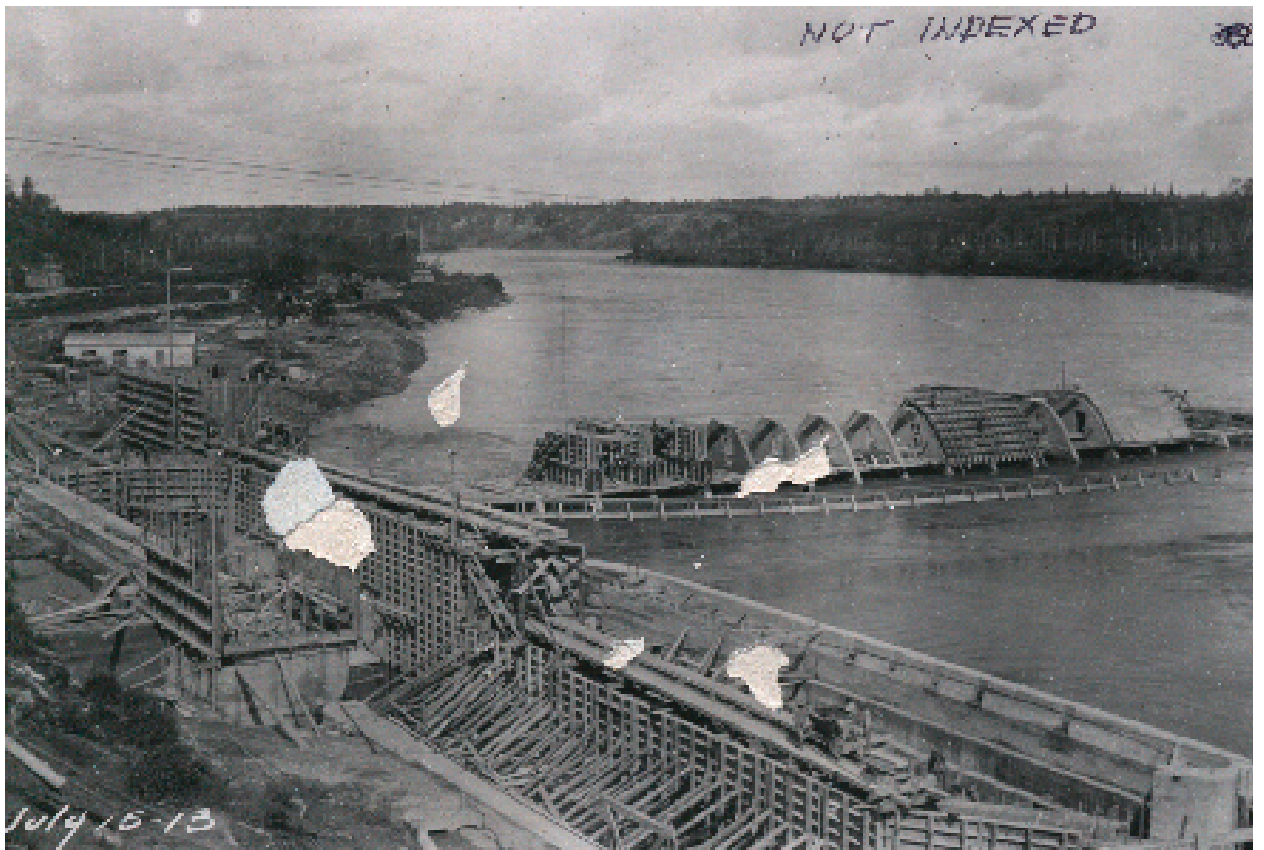
135 Construction Photograph - Panorama - #181, and #182 - Looking Upstream





¹³⁶ Construction Photograph #183 - Moving Weir Crest & Apron Form with Cable Pulley System

137 Construction Photograph - Not Indexed/Numbered

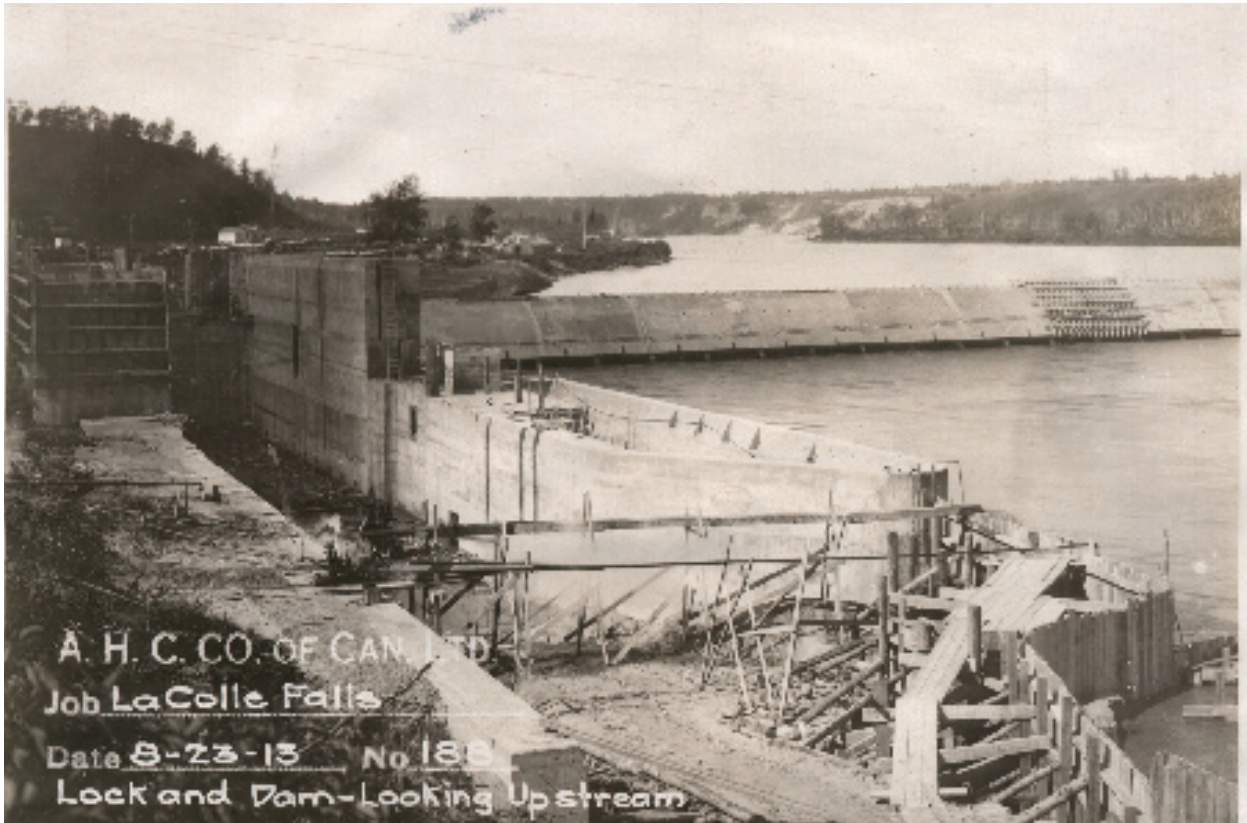




¹³⁸ Construction Photograph - Panorama - #184, and #185 - View Looking Upstream Showing the Nearly Complete Shipping Lock and Weir



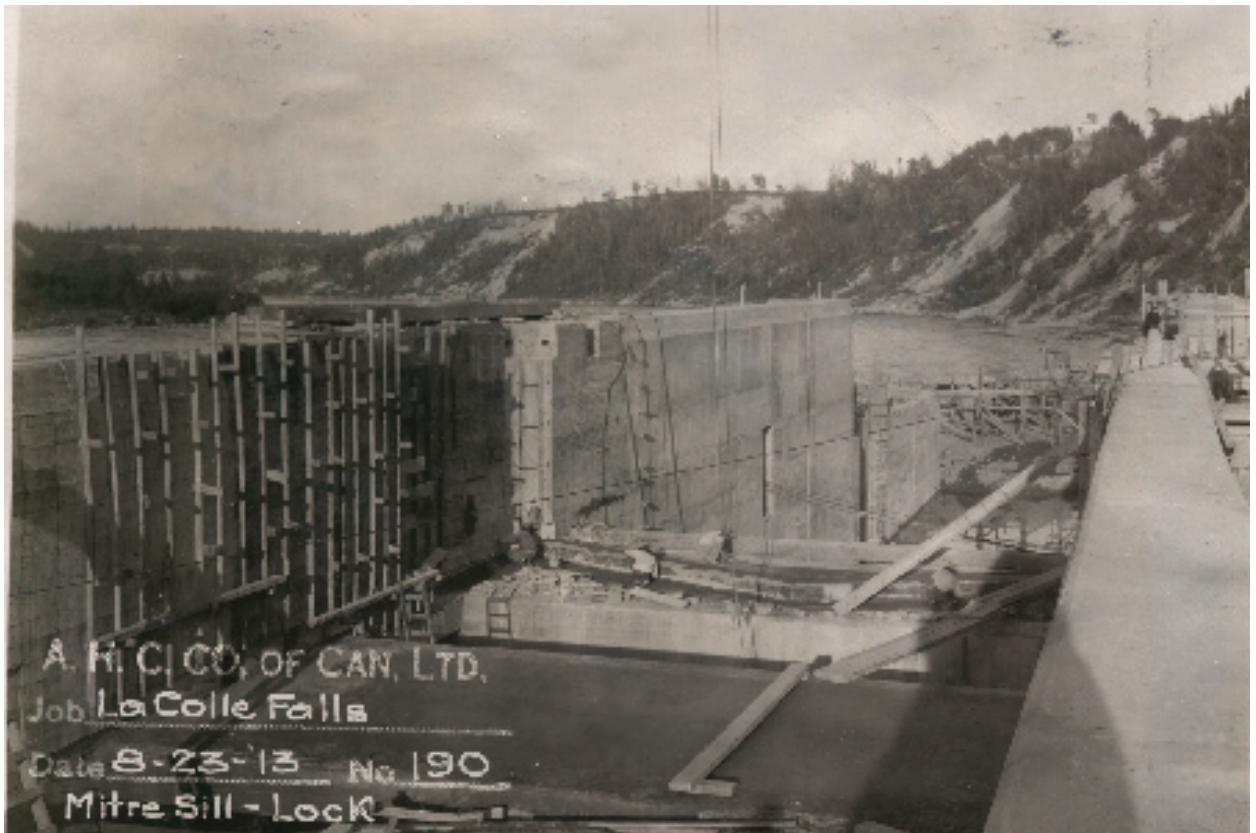
A. H. C. CO. OF CAN, LTD.
Job LaColle Falls
Date 8-15-13 No. 185
Looking Up-Stream



139(Above) Construction Photograph - #188 - View of Shipping Lock & Dam Looking Upstream

140(Below) Construction Photograph - #189 - View of Nearly Complete Shipping Lock Looking Upstream - Note the Scale of the Workers





141(Above) Construction Photograph - #190 - View of the Mitre Sill in the Shipping Lock - The Water-tight Doors of the Lock Would Have Rested Against This Sill During the Lock Operation

142(Below) Construction Photograph - #191A - View of the Construction Site on the South River Bank





¹⁴³ Construction Photograph - Panorama - #191, and #192 - View Showing Weir at South End of Spillway Completed and Shipping Lock Nearly Completed (at Right)





A. H. C. CO. OF CAN. LTD.
Job LaColle Falls
Date 9-26-13 No 193
Entrance to Lock

144(Above) Construction Photograph #193 - View of Nearly Completed Entrance to Shipping Lock

145(Below) Construction Photograph -View of Worker's Camp at Top of South River Bank



La Colle Falls. 10-27



146(Above) Construction Photograph #196 - View of Worker's Camp

147(Below) Construction Photograph - View of Steamboat Carrying Supplies on the River





148(Above) Construction Photograph #198 - View of Worker's Camp at Top of South River Bank Showing Log Building

149(Below) Construction Photograph - View of Worker's Camp Showing the Extent of Trees Cleared





150(Above) Construction Photograph - View of Worker's Camp

151(Below) Construction Photograph #202 - View of Worker's Camp
Showing Log Building





152(Above) Construction Photograph #205

153(Below) Construction Photograph #207 - View of Worker's Camp Showing Wooden Buildings





154(Above) Construction Photograph #208 - View of Worker's Camp Showing Wooden Buildings

155(Below) Construction Photograph - View of the Supplies and Workshop Buildings on the River Flat, South Bank





156 Construction Photograph #210 - View of Worker's Camp Showing Wooden Buildings

157 Construction Photograph - View of Worker's Camp Showing Laundry Hung on Line Between Trees



The projects that were completed in the M1 Studio helped to lay the foundation for the design approach that was taken in the thesis proposition. Project One was an exercise that promoted engagement with, and sensitivity to, found objects. Project Two helped define the approach that the project was going to take in regards to the site. Project Three consisted of three design programmatic proposals, each interacting with a special part of the La Colle Falls site. Ultimately, the thesis proposal emerged as a combination of the work completed in these projects.

The Discrete Charm of Objects: Analysis, Interpretation, Transformation
Rome, Italy

Rome has collection of lesser-known museums that contain an extraordinary complex collection of artifacts, dating from antiquity to modern times. The object of this exercise is to select three artifacts from three museums, record them photographically or by hand and subject them to a series of investigations.

For the purposes of this exercise three museums were selected from a selection of thirty in Rachal Kaplan's 'Little-Known Museums In And Around Rome'. They are: The Museo Criminologico di Roma (13), The Museo delle Navi Romane di Fiumicino (22) and The Palazzo Massimo alle Terme-Museo Nazionale Romano (20)*.

Each artifact selected was illustrated and represented in three distinct categories, of which the first two were primarily text based with illustrations where necessary:

Analysis; a factual, historical material description including means of manufacture.

Interpretation; an associative reading which was a poetic juxtaposition of a text or poem that embodied for me some of the qualities of the work.

Transformation; the representation of the artifact was subjected to a series of transformations, namely: Seriality and Repetition, Reflection, Rotation and Inversion, Scaling and Assemblage

Appendix Two: M1 Studio Projects

Introduction:

Project One:



giovann battista bugatti, known as mastro titta, was the undisputed protagonist of executions carried out in the papal state. born in rome in 1779, he performed no less than 516 executions during his long career as a "master of justice" - all of which are conscientiously detailed in his annotazioni from 23 march 1796 to 17 august 1864 when, at the age of eighty-five, he was retired by pius ix and given a monthly pension of 30 scudi.

before each execution mastro titta made confession and took communion, then donned his red cotton robe and went off to do his work. he performed bludgeonings, hangings, quarterings and beheadings with equal skill and his work often took him to the provinces.

mastro titta

"...the ceremony - including the masqued priests, the half-naked executioner, the bandaged criminals, the black christ and his banner, the scaffold, the soldiery, the slow procession and the quick rattle and heavy fall of the axe, the splash of blood and the ghastliness of the exposed heads is altogether more impressive than the vulgar and ungentlemanly dirty 'new drop' and dog-like agony of infliction upon the sufferers of the english sentence."

lord byron (after witnessing executions)



vibia sabina was born in 86 ce and was the daughter of salonia, daughter of trajan's sister marcia, and her first husband lucius vibius sabinus. hence she was the grand niece of emporer trajan. by the intervention of trajan's wife plotina she married hadrian in 100 ce, thus reinforcing hadrian's claim to the throne.

the marriage was not happy and sabina did not bear any children, in fact it has been rumoured that sabina performed an abortion on herself to avoid producing another "monster". hadrian preferred the company of his young male lover antinous. sabina did however, follow him on his many travels, and she recieved the title of "augusta" in 128 ce. she died in 136 or 137 ce and was dutifully deified after her death as was becoming for an empress. rumours circulated that hadrian had poisoned sabina because she was resentful of his openly homosexual relationships, but this seems unlikely as hadrian was a sick, old man at the time of her death.

this white marble portrait bust of sabina was sculpted circa 136-138 ce. it was discovered during the construction of the vittorio emanuele monument and resides in the palazzo massimo museum, rome.



sabina



"my wife died in her residence at the palatine...surrounded by a small court of friends and spanish realtions, who were all that she cared about. the polite evasions, the proprieties, the feeble efforts towards understanding, had gradually terminated between us, and had left exposed only antipathy, irritation, and rancour, and on her part, hatred...in the last days, sickness had further soured her morose and acid disposition; that interview was occasion for her violent recrimination...she congratulated herself in dying without children: my sons would doubtless have resembled me, she said, and she would have had the same aversion for them as for their father...the death of my wife was less moving than for me than the loss of the good housekeeper at the villa."

hadrian - from "memoirs of hardrian" by marguerite yourcenar



...about 30 kms south of rome, in the alban hills 500 metres above sea level, lies lake nemi. according to the roman historian suetonius, the emporer caligula built two enormous ships at his villa on the lake circa 37-41. the legend of these ships lingered until 1929 when the lake was drained and the ships were recovered from the mud. both ships were over 70 m in length and of light wood construction with a vegetable tar coating to inhibit rot and parasites. it was determined from their construction that they were never intended for sailing on open water ships of this dimension were quite remarkable, far exceeding the size of any known ship until the modern era. among the artifacts found with the ships were interior decorations including a bronze lion, enormous hands, leopard and fox heads, originally fitted to the ends of bollards and beams, hinges, fragments of porphyry, serpentine, mosaics, tesserae and glass.

the discovery of so much material intended for ornament - coupled with caligula's reputation as a libertine - has led archaeologists to believe that the ships were intended simply as pleasure yachts. other theories hold that they were used for mock naval battles, that they were intended for secret naval experiments, and that they connected in some way with the mystery cult of isis to which caligula was adherent - allowing the emporer to be rowed to the middle of the lake to be bathed in the light of the sacred moon. according to this last explanation, the ships were intentionally sunk after the emporer's assassination as part of the policy to eradicate all memory of his rule.

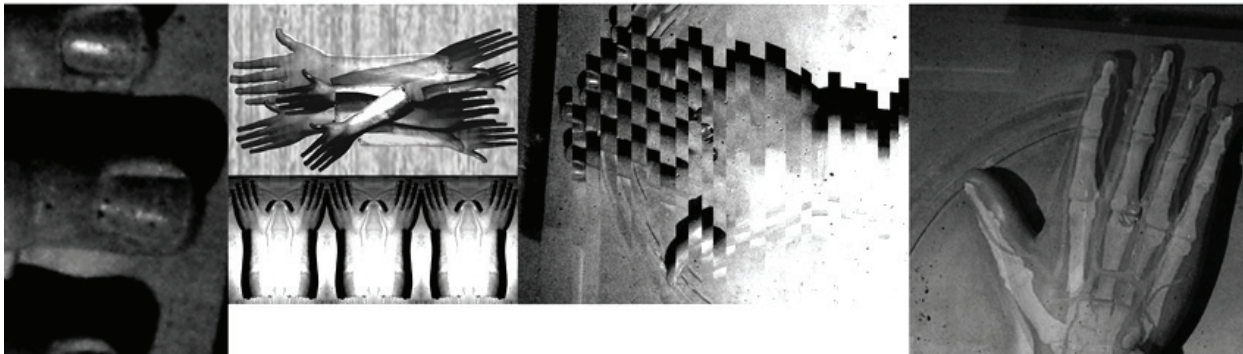
the ships were removed to shore facilities and were the subjects of intense scholarship during the 1930's. during ww2, the ships were burned during the night of may 31, 1944 by retreating nazis during the allied advance on rome.



caligula

"if only all or rome had but one head"

gaius caligula



160 Panel Three - Caligula

House as Thesis - LaColle Falls House
Saskatchewan

Project Two:

The house straddles the threshold zone between the "natural" river valley pine and poplar forest ecosystem and the entirely manmade and manipulated agricultural grain-belt. The river valley below the house appears to be natural, and for all intents and purposes it is a forest region untended by the hand of man, but it is actually second-growth forest - the legacy of the LaColle Falls hydro dam project that brought about the clearing of the valley flora and left only hulking concrete ruins at the foot of the sloping riverbank below the house. The relationship between the house and the ruins is at best unresolved and tenuous.

The sole purpose of the house is to act as a sort of periscope, a device through which to read the important aspects of the landscape surrounding the site. Its position is entirely ambivalent, as it could slide into the river valley and become part of the natural and the ruined - or it could claim lineage with the agricultural buildings of the region. Entry is gained via the centre of the house, the symbolic entrance being the line of division between the two landscapes. To the south, the agrarian vista extends indefinitely into the horizon. To the north, the boreal forest plunges into the North Saskatchewan River valley and rolls endlessly in a continuous carpet of green.

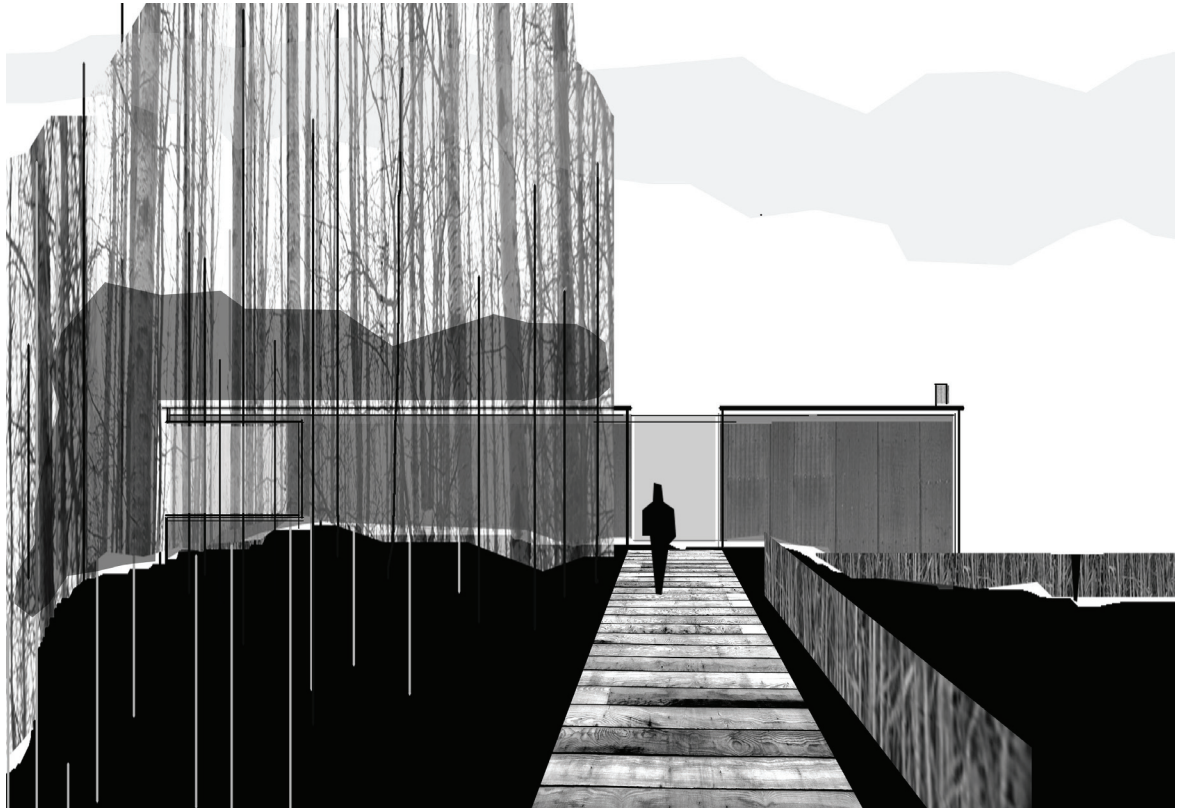
The materials of the house draw on the simple pallet of the prairie industrial vernacular...corrugated metal, weathered pine lumber.







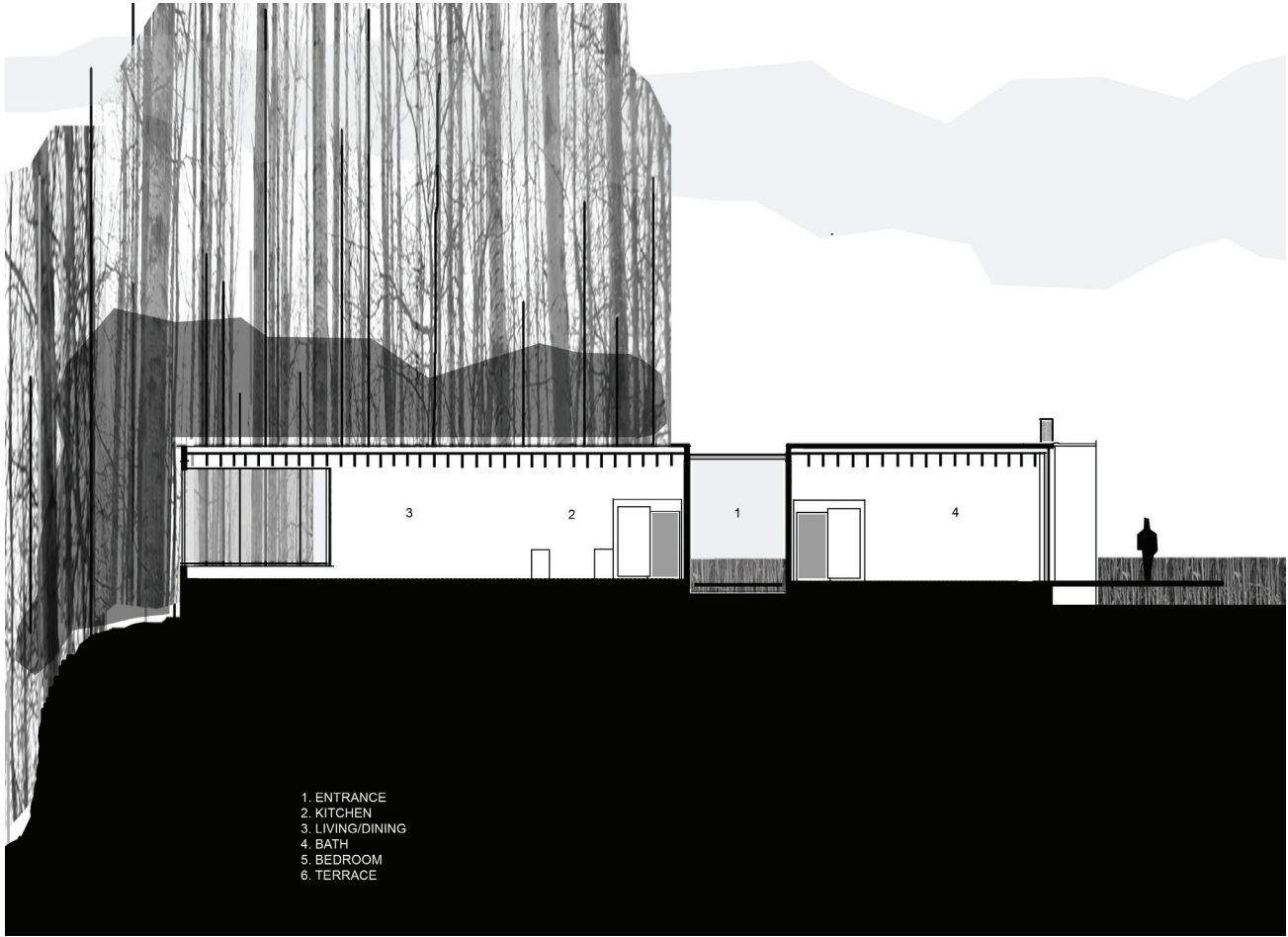
¹⁶³ Site Elevation from River



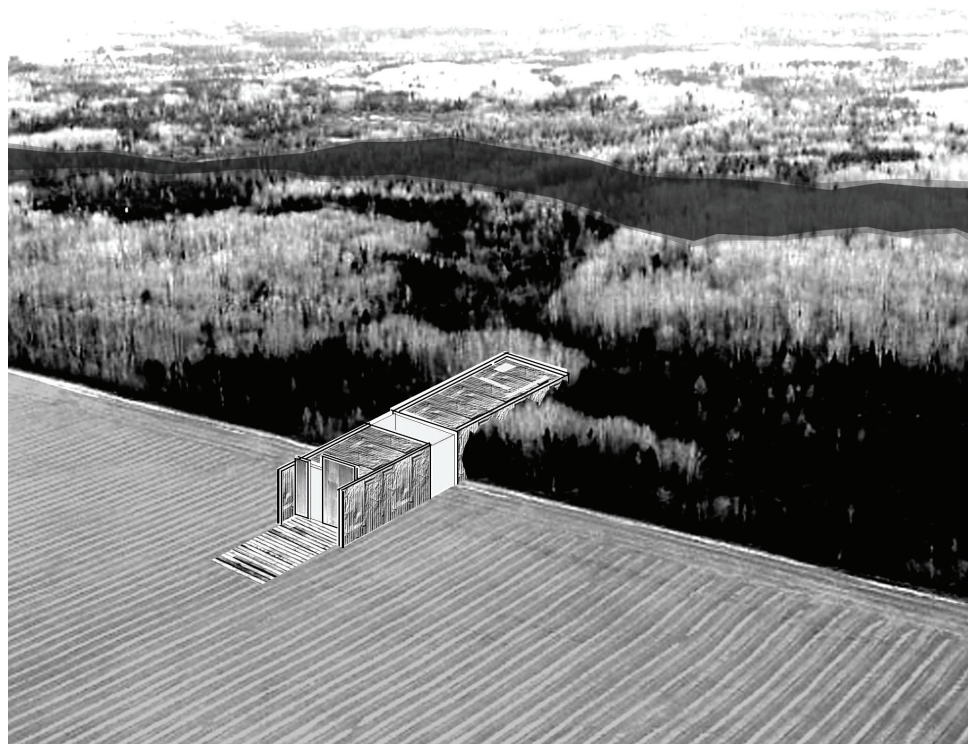
164 West Elevation



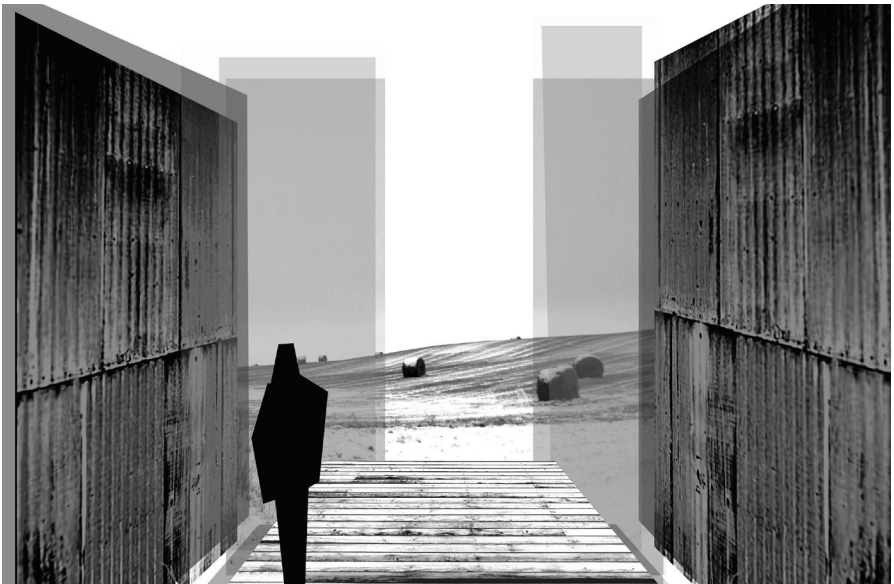
165 South Elevation



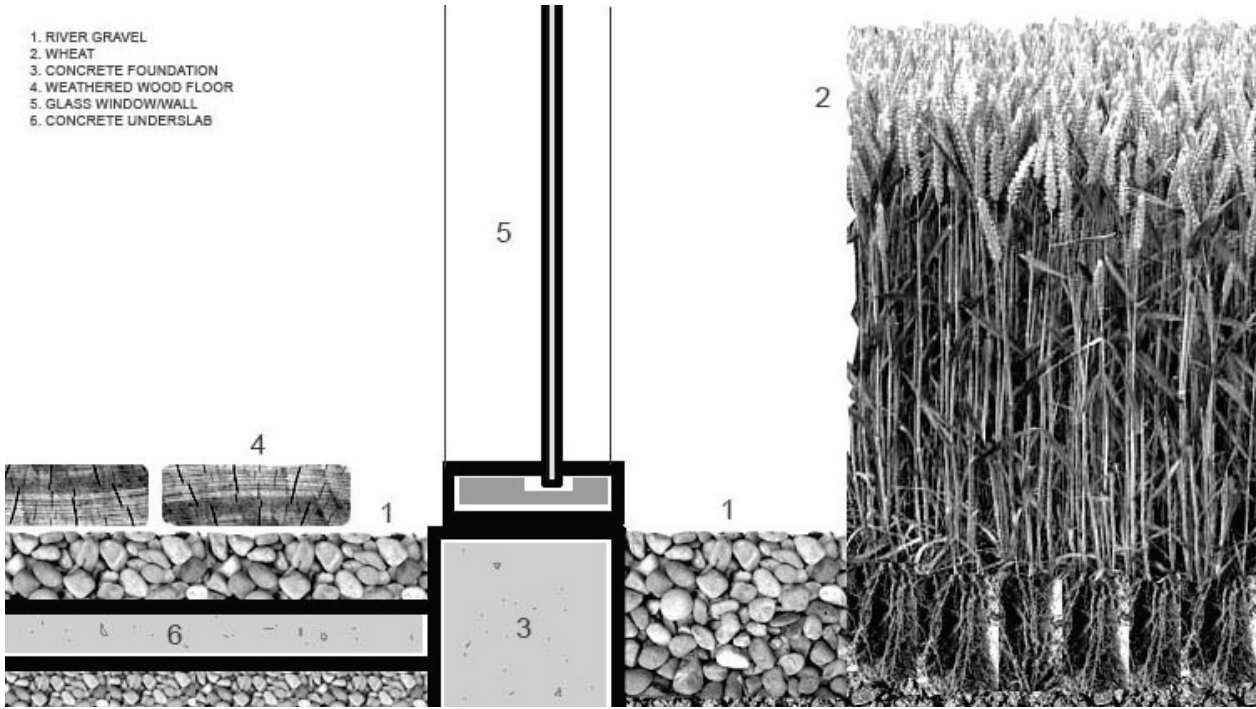
166 Section



167 Bird's Eye View



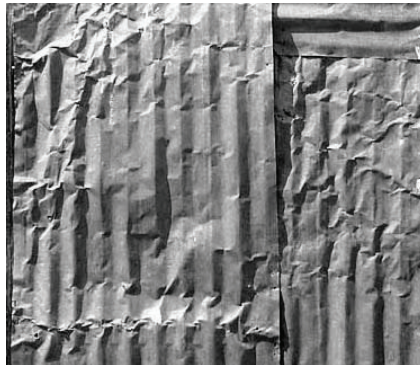
- 1. RIVER GRAVEL
- 2. WHEAT
- 3. CONCRETE FOUNDATION
- 4. WEATHERED WOOD FLOOR
- 5. GLASS WINDOW/WALL
- 6. CONCRETE UNDERSLAB



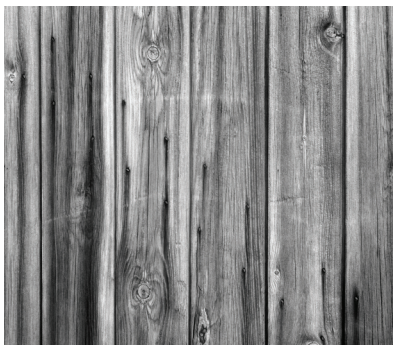
169 Critical Detail



River Stones



Steel



Wood



Wheat

170 Materials Palette

Proposal One: Embedded in the Ground – This proposal imagines a spa situated in the landscape. The application of this type of use would lead to a physical as well as psychological healing of the site.

Project Three:

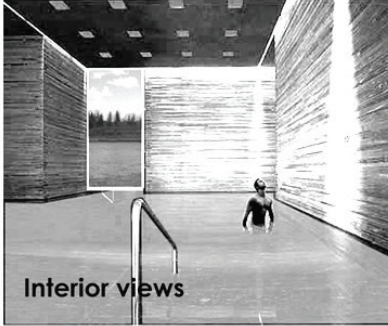
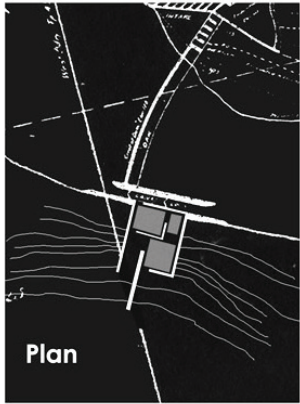
Proposal Two: Hovering Over the Ground – In this proposal the site intervention is imagined as a series of temporary and perhaps seasonally based site installations.

Proposal Three: Vectorial Ground – This proposal hopes to tap into the various forces of energy which have influenced the site, and led to its current condition. This intervention will reflect the dynamism of these forces in its architectonic fluidity.



Embedded in the Ground

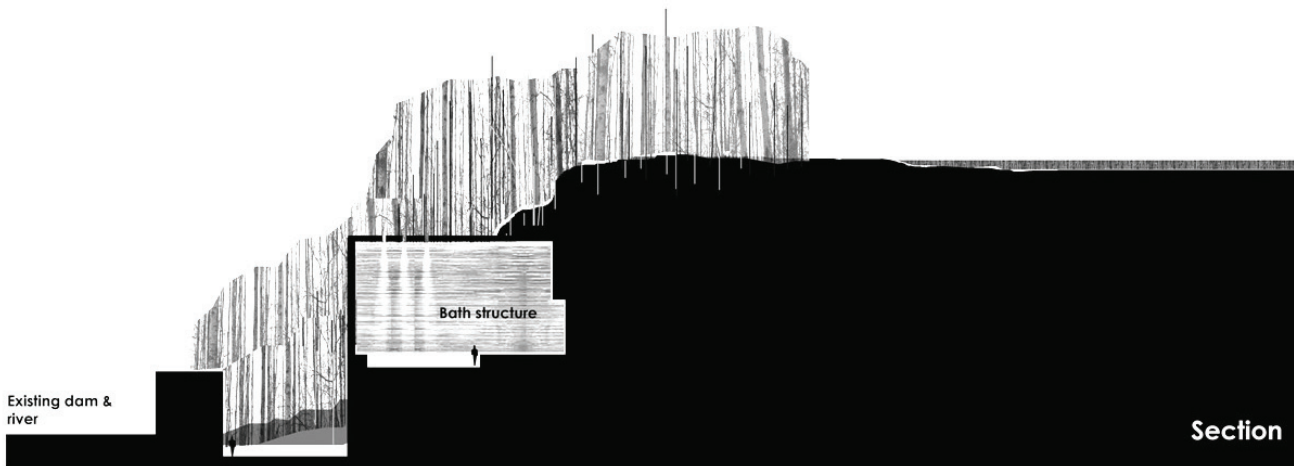
Intervention as Healing Place

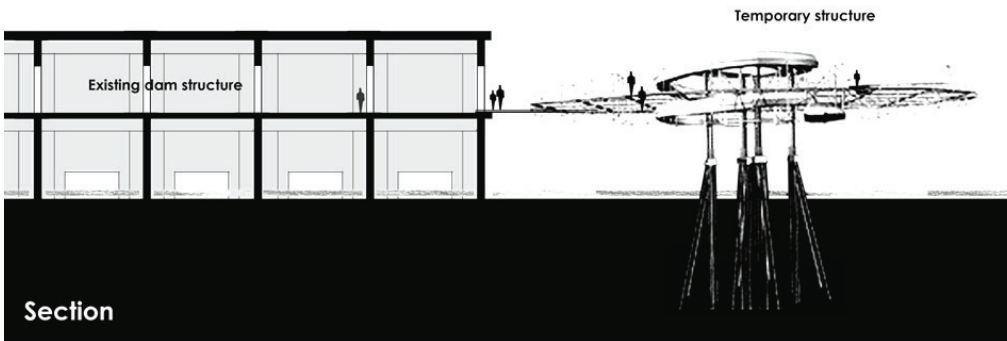


171 Proposal One - Embedded in the Ground - Intervention as Healing Place



This scheme imagines the intervention as a spa
a place of spiritual renewal - also a metaphoric
and symbolic "healing" of the site itself.

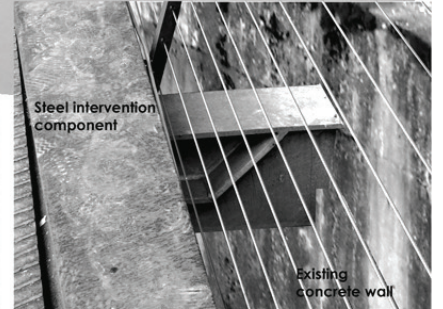
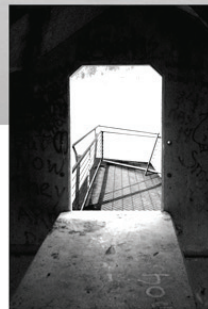




172 Proposal Two - Hovering Over the Ground/Water - Intervention as Spectacle



This scheme imagines the dam as a site for temporary instalations; architectural and otherwise. The existing structure will be a usable backdrop for the ephemeral and seasonal events.

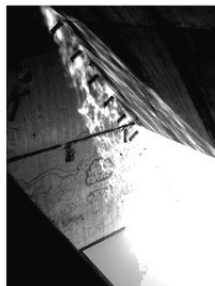


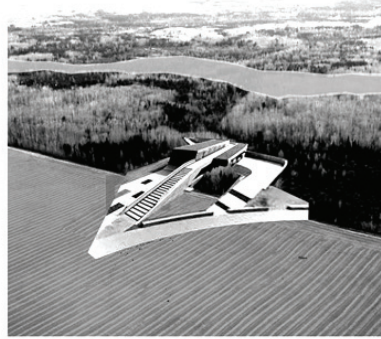
Detail

Hovering over the Ground/Water

Intervention as Spectacle

Transition through the interior space





Aerial view

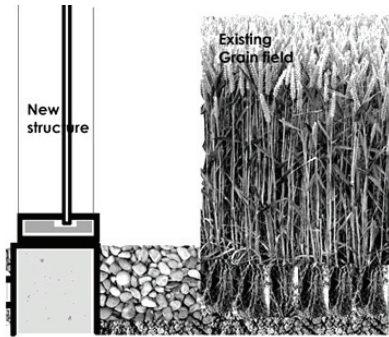


Interior view

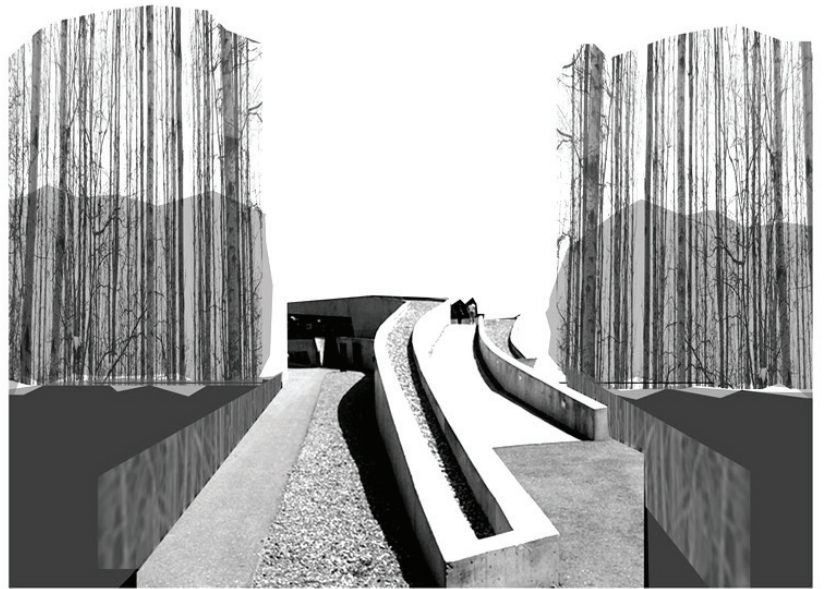
This scheme imagines the site intervention to be the architectonic realization of the "lines of force" running through the site.



173 Proposal Three - Vectorial Ground - Intervention as Site of Convergence



Detail



Vectorial Ground Intervention as Site of Convergence



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| 3. | <i>2 Mitchell Site Plan of Hydro Scheme (Modified by Author)</i> Adam's Bookstore Prince Albert, Saskatchewan |
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^{28B} *Typical American Indian Sweatlodge*
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^{37A} *Lounge Area in Spa at Vals, Switzerland*
Therme Vals Website
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^{37B} *Exterior of Spa at Vals, Switzerland*
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