It's Terminal:
Architecture of Obsolescense

by

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Authors 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

There's always been one here. There's the one that's here now, there's the one that it replaced, and there's also the first one that didn't last so long. One hundred and sixty odd years there's been one here, in this place.

There's no reason for it to be here anymore though. The traditions and heritage it was a part of are gone. It's the only thing of its kind for a long distance, but it has no purpose. People are torn. Most believe it should stay, even without any use. Others think it's in the way, think something better could be here in its place.

It's the Collingwood Terminals and grain elevator, an old relic hogging the coastline on Georgian Bay. It's an industrial concrete structure that's far outlived its use. It was never meant to be an icon, or a monument, or a landmark, but it's called all of those things now, and nobody can figure out what to do with it. It's halting progress on the waterfront, and the clock is ticking. Soon, something will happen to it, the fear is it will be the wrong thing.

Many people are interested in it, but they want to wreck it. Either by tearing it down, or worse, by butchering it so much that it's unrecognizable. I hope to stop them. Show them a better way. This thesis is meant to show them how.

Aknowledgements

There are far too many of you who forever hold my gratitude and thanks, you know who you are. I'll use this little space to mention but a few.

Val Rynnimeri, thank you for your patience. Without your guidance and understanding I would still be wandering lost. Your support in the idea that a small town and its empty old grain elevator can prove a worthwhile thesis pursuit was invaluable. Thank you for being my supervisor.

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To Robert Jan Van Pelt, thank you for asking the difficult questions. I intend to explore the issues of ownership and inheritance you brought to my attention moving forward in the years to come. Thank you for being my internal reviewer.

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Mom, Dad, Ashley, Geoff; though you may not understand why I pursue this profession at times, you never fail to aid in my pursuit. Thank you for not losing faith over these long years.

For those at Rockside Campbell Design, thank you for your support. Jim, your mentorship has been crucial to my architectural education, thank you for your contagious enthusiasm in all things design.

To the lads back home: if you are reading this, I can finally tell you what I have been working on for this degree. Ben, Evan, Jon, Les, Mike and Turner, you all kept me sane over these past few rocky years. Thanks for coming along for the ride.

To Ashley, Desiree, Faris, Carmen, Graham, Kate, Mark, Roksena, Salim and Suhaib, your friendship and refreshingly different views on the world continue to inspire. Maryam, I am indebted to your never-ending generosity and listening ear. Thank you all for being such amazing friends.

To Grandpa, though you are no longer among us, your memories constantly are. I try to learn from them every day that passes.

To all the rest of you deserving specific mention, I am sorry I ran out of room. Know that I hold each of you dear in my heart, and you played a larger role than you may realize in helping my completion of this degree.

Finally, thank you to the University of Waterloo School of Architecture for my prematurely grey hair. I hope it signifies I have some wisdom to bestow.

Dedication

To all those buildings that nobody knows what to do with

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Prologue
Voices: A Collection

"To those who travel the great highways of the Midwest, silos appear like cathedrals, and in fact are the cathedrals of our times."

- Aldo Rossi [1]

Figure 1.1 [Right] Country Elevators of the Midwest.

"Elevators don't just represent progress. They are monuments to... life. ...people gave them breath and meaning. People built them, ran them, relied upon them, lived in them, and died in them."

- Elizabeth McLaughlan [2]

Figure 1.2 [Right] Man in front of Grain Elevator.


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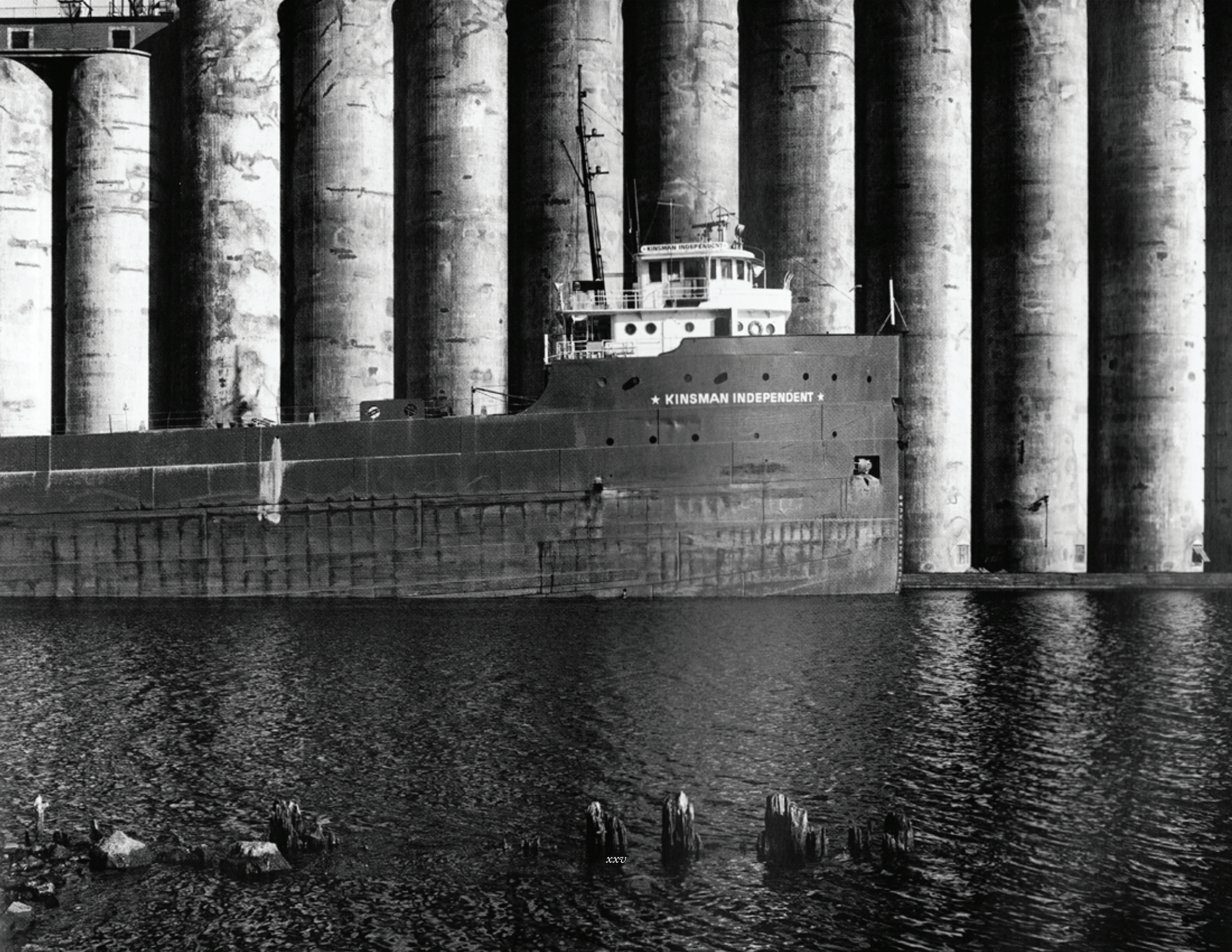
"... a gritty machine, functionally determined; a complex embodiment ... of the ... systems of farm production and transportation; and a symbol, be it for the passing of the family farm, the death of urban waterfronts, or a lost, naive modernism."

- Kevin Lippert [3]

Figure 1.3 [Right] Great Laker at Grain Elevator.


★ KINSMAN INDEPENDENT ★

"Now graying, walls fissured or crumbling, these massive cathedrals of agriculture have become monuments to the golden age of ... farming."

- Kevin Lippert [4]

Figure 1.4 [Right] Cracked Concrete Bins.

"…the world at large, and the world of industry in particular, does not share the architectural historians' belief that there is some moral or cultural obligation to conserve such structures; ... [few]... have been acknowledged by landmark designation *for their architectural significance* or preserved out of any sense of cultural obligation."

- Reyner Banham [5]

Figure 1.5 [Right] Collingwood Terminals.

"That's what a smart person would do – come up with an idea for that"

- My Father
[Pointing at the distant Collingwood Terminals]

Figure 1.6 [Right] Marine Tower from the Wetlands.

Preface

Great Lakes Monuments

The Great Lakes contain some 15, 744km of shoreline if you include the islands. Littered along these lengths, mysterious monuments from a previous century pop up in harbour-fronts and along quaysides. The largest things around, they quietly dominate their shorelines and respective towns.

I grew up a stone's throw south from one of these. As I was learning how to walk and talk and began in earnest my journey of life, it was silently sliding into obsolescence. Since then, over the past two and a half decades, it has sat dark and empty serving little other purpose than to provide a visual marker of the town on my approach from a half-hours drive away.

When it came time to develop a proposal for this master's degree, in naïve optimism I took upon myself the mantle of my father's assertion that something *could*, and *should*, be done to this vacant concrete terminal grain elevator.

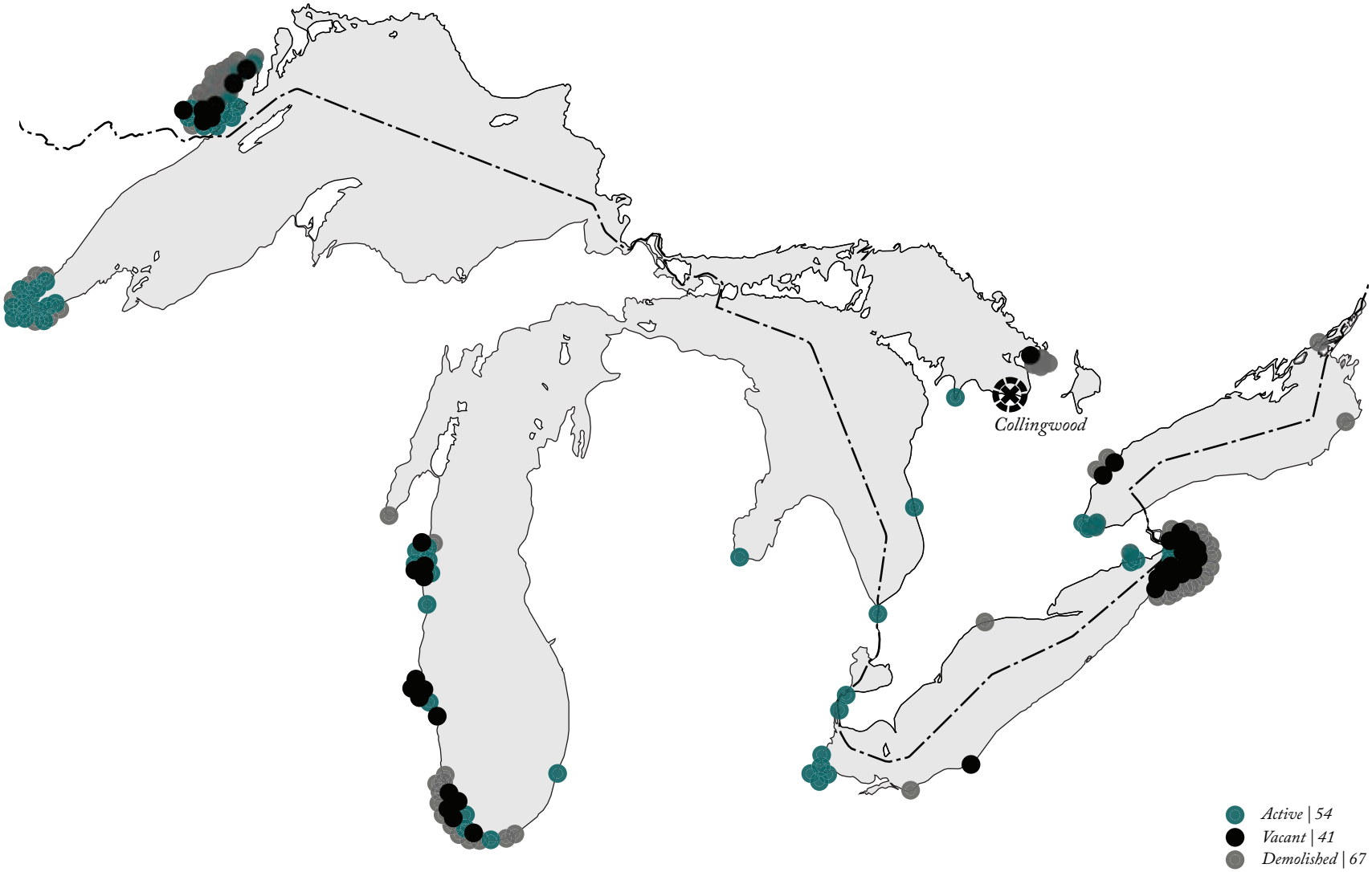
As I delved into the world of modern concrete grain elevators, I quickly discovered that the issues facing the Collingwood Terminals were not isolated phenomena but rather systemic and widely spread throughout the typology. The works related to issues of obsolescence and searches for adaptive re-use. However, these offered up more questions than answers.

Extensive studies and documentation of American and European grain elevators abound, however scant few mention their Canadian Great Lakes counterparts. Curious about this building typology, I decided to map all the concrete terminal grain elevators of the Great Lakes. To my surprise, my general area in Ontario contained the largest concentration of these vacant and demolished grain elevators outside of Thunder Bay, with only the terminal at Owen Sound remaining operational.

Upon learning of the most recent loss of the terminals at Port McNicoll, and mounting pressures for a revitalizing harbour-front master plan, the preservation of and pursuit for a potential adaptive re-use of the Collingwood Grain Elevator and Terminals became paramount in a more practical sense.

The research into this problem posed by a single grain elevator illuminated larger typology spanning multi-national issues. What began as a singular obsession with an unused landmark prominent in childhood memories evolved into a larger discussion and study of postindustrial architecture and its problematic obsolescence.

Figure 1.7 [Right] Map of the Great Lakes urban concrete terminal grain elevators in both Canada and the United States, depicting those still actively in use, vacant, or demolished. The clustering indicates the major grain trading cities of the previous century, and the portage routes of the Southern Georgian Bay Region, of which Collingwood is centrally located. Malting and flour mill facilities were also included, due to their similarities in function, purpose and prominence, while smaller country rural elevators, inland rail-to-rail or rail-to-truck transfer elevators, and concrete mixing silos' were not included. Historic wooden, steel, or tile terminal elevators, the precursor to their modern concrete counterparts, were not included.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Introduction
Victims of Permanence

Dominating the coastline of Collingwood for the better part of the last century, a massive concrete structure sits vacant. A modernist monument of mystery to some, a repository of memories to a few, and an eyesore for many, it once occupied a significant role in the economic vitality of the region. Responsible for the transshipment of grains across the Great Lakes and beyond, from prairie fields and up the St. Lawrence River, from the United States to Europe, this grain elevator moved, sorted and stored the food stuffs to feed millions. Yet, with the advent of new seaways, greater efficiencies in transportation routes and methods, and technological evolutions in grain elevator design, the monument shares the similar fate of thousands of its kind across the globe: obsolescence.

Vacant now some twenty five years, it represents a building typology so expensive to demolish, and so ill-suited to repurposing, that it just… remains. Paint peeling, windows missing, concrete crumbling, it and those like it, clutter up valuable tracts of land on waterfronts in towns and cities. Dereliction and disuse take a toll, and the once prominent vaunted forms cast a cold and vacant regard upon stagnated shorelines, and are accused of stifling growth.

The elevator, once a symbol of the future, stands in defiance of progress, the embodiment of a question now posed by an entire generation of obsolete architecture: *what now?*

Figure 1.8 [Left] Interior of a Tile Silo.

This thesis is a *search* for answers to this question. For some, the quiet terminals stand guard as silent metaphysical sentinels of Romantic inclination, on the boundary of land and water. For others, they are no more than lumps of polluted concrete in the way of monetized new harbour fronts. For the rest of us, they are mysterious objects that are difficult to react to, and remain as puzzling entities.

The work that follows investigates the appropriateness of attempts to imbue an afterlife into a singularly purpose-built and extremely problematic typology. The concrete modernist grain elevator is the most ill suited to adaptive re-use attempts out of an entire catalogue of obsolete industrial architecture and therefore the most necessary to tackle in a thesis. Existing re-use attempts within this typology almost exclusively destroy the intrinsic value of the grain elevator as a monument to the industrial past. This destruction, however, lends a sense of perseverance to these now vanishing leviathans. This thesis engages in a pursuit for a new sense of life that navigates between the destruction of the very essence of a grain elevator, and the fact that something must be done in an attempt to ensure survival for future generations.

Accreting a sense of monumentality distinct and separate from its vast scale, the terminal elevator is analyzed as a pathological permanence as defined by architect and urban theorist Aldo Rossi,[6] persisting beyond any original intended use. Without a purported reason for existence today misguided proposals for demolition, replacement or re-invigoration threaten the buildings' integrity, launching some naïve and altruistic individuals upon a crusade to save their personal landmarks.

Currently employed as an excessively over-engineered mounting bracket and tower for communications equipment of restricted access use, a recent report by Tacoma Engineers has estimated the cost of repairing the Collingwood grain elevator structure to maintain its current use as between $8,000,000-$9,700,000.[7] With a demolition figure half that cost, pro-demolition forces gain another source of ammunition.

Given the financial logic, this author's inherent fascination to *save* this building, this typology, is so passionately fueled by a sense of…what? Nostalgia, preservation, a romanticized ruin aesthetic? As Andreas Huyssen notes, we "… are nostalgic for the ruins of modernity because they still seem to hold a promise that has vanished from our own age: the promise of an alternative future."[8]

And so, the position of this thesis, the documentation and research held within it, offer themselves up as a promise to an alternate future. One wherein the concrete leviathans of the great lakes are ensured the certainty of survival. In this they are offered an enlightenment to their mysterious nature, an openness to the public of their closed off interiors, and a proper understanding of their *architectural significance* and urban narratives. This is a future wherein the sheer perambulatory experience offered by the elevator's concatenation of functionally derived spaces alone justifies its existence. The thesis concludes with an elegiac procession through the building as it stands today, a warning to the Town Council of Collingwood of its fragility. The existence of this alternate future is in your hands; the work within this thesis is intended to aid you in making the right choice.

Figure 1.9 [Above] Head House Tower of the Collingwood Terminals from the roof of the distributing floor. Note the ad-hoc composition of the various telecommunications arrays.

1.2 Grain Elevators and Modern Architecture

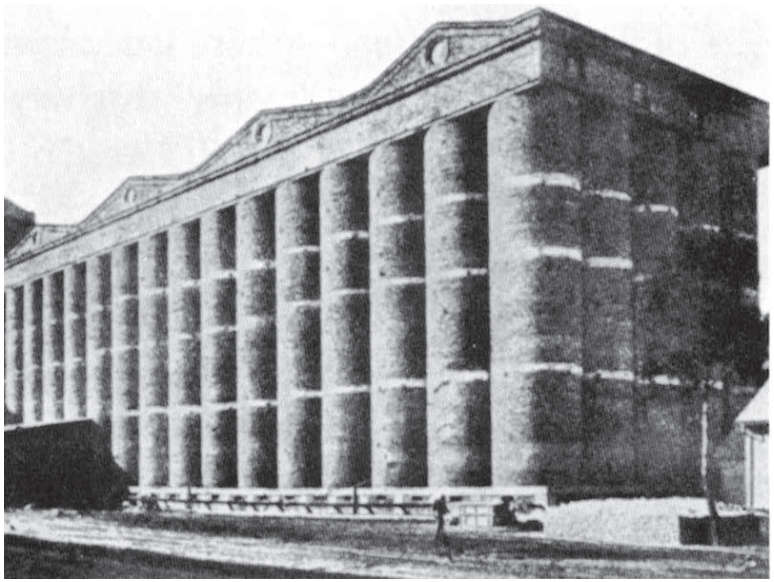
Brutal, stark, dominating, and hauntingly beautiful in their engineered lines and unmistakably prominent forms, the modernist concrete grain elevator has captivated the imaginations of entire generations. For 105 years they have permeated architectural discourse by embodying the ideals of modern architecture[9] as championed by Le Corbusier's mechanized International Style.[10] Consequently they performed a crucial role in introducing post-modernism into architectural rhetoric,[11] and most recently they populate the discourse as lingering permanence's and forces of stagnation upon urban waterfront renewal projects. Today, it seems, every major city is searching for a creative adaptive re-use for their defunct concrete behemoth.

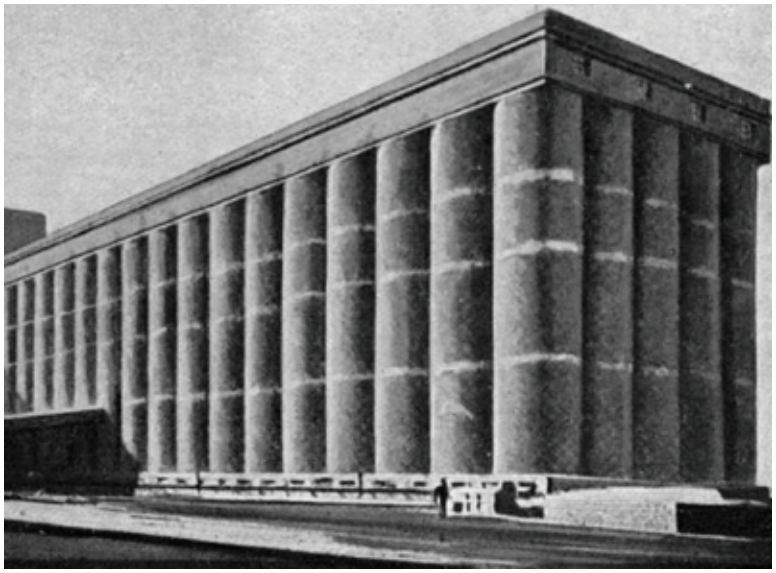
From 1913 to 1969, the concrete grain elevator was considered the paramount icon of modern architecture.[12] At the onset of their creation, the clean lines, pragmatic construction, and unadulterated lack of ornamentation seduced a movement of architects, chief among them Walter Gropius and Le Corbusier.[13] Artists, theorists, and critics followed suit, adding names like Wilhelm Worringer and Vincent Scully to the ranks of admirers.[14] This typology, designed by the 'American Engineer'[15] and dictated by the dollar, created a roar in the European architectural sphere, upheld as the embodiment of modernity.[16]

This designation as the frontispiece for an entire architectural movement was the direct result of the publication of nine mislabeled and edited grain elevator photographs. First introduced by Walter Gropius, and consequently edited by Le Corbusier[17] as a persuasive tool for his mechanized style[18] they remained in circulation for 49 years, persuading a who's who of modern-architect admirers: "…Behrendt, Ginzberg, Mendelsohn, and van Doesburg among others."[19] This critical admiration and influence extended into the world of art and photography, seducing the likes of Louis Lozowick, Charles Sheeler, Dorothea Lange, and countless others.[20]

By the time the last century surpassed its midpoint, however, the discourse shifted dramatically. Once championed as beacons of modernity, monuments to the ideals of the movement, they became the enigmatic poster child of everything as viewed wrong with it.[21] Disillusioned with the failed promises, unrealized dreams, and lingering nightmares in the wake of a collapsed modernism, post-modernists espoused the grain elevator as the physical manifestation of the lies of modernity incarnate.[22]

The vehemence with which the likes of Charles Jencks and Robert Venturi[23] were dismissive of grain elevators was due to the 1971 rediscovery by Paul Turner of Le Corbusier's editing hand[24] in the infamous and wildly circulated grain elevator photographs. Suddenly, what had been purported to be the truth of an industrial machine aesthetic, something truly 'modern' happening on the continent to the west, was revealed as a lie. This discovery provided the ammunition for a new generation of architects to announce that they were *Post* modern.





From Turner's discovery until 2010[25], these doctored photographs, and the lies they were purported to represent, were held as symbolic truth of the falsification of the grain elevator as the icon of modernity. While the photographs' "…last appearance without satire or historicizing commentary was, as far as one can tell, in Vincent Scully's *American Architecture and Urbanism* in 1969,"[26] they continued on, prominently in circulation and in use for post-modern rhetoric, until almost the present day.

Figure 1.10 [Left] Bunge y Born Grain Elevator, Buenos Ares. This was the original image circulated by Walter Gropius in *Jahrbuch des Deutschen Werkbundes*, 1913.

Figure 1.11 [Above] Altered image by Le Corbusier, as appearing in *Vers Un Architecture,* 1925. Notice the removal of the pediments, circular windows, and minimal ornamentation to better enforce his argument for a mechanized International Style. He also mislabeled this a grain silo appearing in Canada.

1.3 Lingering Permanences

However, despite the heated discourse, the reality of the concrete grain elevator remained, and continued to do so long after its original purpose and function disappeared. A victim of its own material permanence and infelxibility of plan, one by one myriad forces slowly coalesced, until in cities across the globe concrete grain elevators began dropping inexorably into obsolescence. Rendered as surplus, unneeded, and problematic building stock, they once again passed into the realm of symbolic icon, this time representing an entire generation of industrial architecture in a post-industrial era.

By the time a new generation of architects took notice, vast swaths of waterfront properties were littered by ruinous industrial parks filled only with polluted water and empty docks, dark in the shadow of hulking grain elevators. By the time Aldo Rossi was comparing the silos of the American Midwest as the 'cathedrals of our times,'[27] or Bernd and Hilla Becher were categorically photographing industrial typologies, or Reyner Banham was crawling around Buffalo's grain elevators, the discourse was becoming one of what to do with an entire generation of an architecture of obsolescence. Banham succinctly outlines the situation:

"In the common run of local politics, it is only as they lapse into picturesque decay that they are found admirable, become the focus of battles over zoning or urban renewal, are admitted to the canons of industrial archeology and, with luck, are sometimes deemed worthy of elevation to the status of Historic or National Parks."[28]

Figure 1.12 [Above] Buffalo Grain Trade, 1990. A once bustling centre of commerce in transition to a surreal grain elevator graveyard.

Fascinated by the decay, these industrial monsters drew a new set of urban explorers, photographers and writers. Grain elevators began entering curated online internet albums of mysterious, 'new world' ruins, and featured as inspiration in settings for literary fiction. As compelling as the idea of ruination is, and writing of the perambulatory experiences in a romanticized and picturesque industrial ruin aesthetic[29] is one thing, the reality of practically addressing the pitfalls of this typology is quite another.

1.4 Searching for a Use

The question of What Now? has become prevalent and endemic, and with no big-picture answer being offered, those who could stomach the exorbitant demolition costs began reclaiming their unused waterfront territory, bin by bin and silo by silo. Today, much of the discussion of what to do with these grain elevators is occupied by a visceral need to save and preserve, and achieve some type of adaptive re-use.

Such is the current discussion surrounding the Collingwood Grain Elevator and Terminals, the focal point of this thesis. Chosen in part for its unofficial landmark status on the shores of Georgian Bay, its closure in the early nineties sparked an ongoing debate that continues unabated. It offers a unique opportunity and difficult set of problems, as one of the few vacant concrete great lakes grain elevators not in a major population zone or city. Thus, the fate of falling victim to an ill-advised and poorly executed development strategy, or, as is more likely, demolition, seems all too likely.

With the current impetus for a waterfront renewal strategy, the 'Monument of Collingwood' has become a lodestone to the debate of preservation verses adaptive re-use verses demolition. To date, the town of Collingwood has authored or hired out three separate waterfront master plans, and numerous assessments and studies, which have all failed to properly address the terminals in any meaningful way. Some of the most popularly lauded adaptive re-use solutions presented in the realm of public opinion involve hacking the cylindrical bins into apartments and hotel rooms. As will be discussed later, these ideas bring to the forefront a larger, typology-effecting question: if not a grain elevator, what then can it become? Or, what *should* it become, *if* anything at all?

Figure 1.13 [Above] The former Quaker Oats storage elevator facility, as converted into a hotel and shopping mall complex in Akron, Ohio. Currently in use as student housing for the University of Akron, the poorly conceived composition represented within this photograph illustrates the potential dangers adaptive re-use can pose to the typology.

1.5 Thesis Structure

The structural composition of this thesis mirrors the author's hard fought and long drawn out experience of gaining access to visit the Collingwood Grain Elevator and Terminals. A year long bureaucratic nightmare of insurance policy obstacles, dropped communications with town officials, and general disbelief in the effective role an architecture student could have on the importance of the subject matter, eventually concluded with an hour long secret tour of the structure. The time preceeding this visit was allotted to research and work that now comprises the body chapters outlined below:

It's Terminal: Architecture of Obsolescence provides a brief history of the grain elevator typology and catalogues and explores its construction, operation, function, evolution and influence throughout the last century. It examines the forces of obsolescence active upon the Great Lakes grain trade and the typology defining questions these forces pose. It illustrates a selective synopsis of the history of the Town of Collingwood, its transition from its mosquito-ridden-swamp origins to shipbuilding hub, its grain commerce centre heyday, and finally into its current guise as healthcare node and tourist destination.

Uselessness of Function delves into the realities of grain elevator conversion and adaptive re-use attempts, its failures and successes. It analyses the general reaction of the public to this typology through the media of its materiality and form. It encapsulates a selective precedent analysis and examines the viability of attempting to repurpose a highly purpose-built industrial architecture.

Compendium of Defeat comprises the myriad attempts and failures to properly address and repurpose the Collingwood Terminals. It is organized into three overarching volumes:

Volume I: The Failure of Adaptive Re-Use is organized as a visual continuation of the projects contained within Uselessness of Function, but visualized at the Collingwood Terminals. It is a collection of illustrations composed by this author of the most prevalently circulated and popular re-use ideas from local individuals and entrepreneurs, as pulled from newspapers, social media sites, and past failed proposals. It concludes with illustrations of this author's more fantastical, and ultimately inappropriate designs completed in the early stages of this thesis research.

Volume II: A Stagnated Waterfront is a catalogue and analysis of the failure of the three waterfront master plan visions prepared for the Town to implement, use or address the Terminals building in any meaningful way.

Volume III: The Last Best Hope contains the most plausible, and ultimately responsible outcome to ensure the future longevity of the building, whilst safeguarding against the damages of the proposals contained within the first volume.

Requiem for an Elevator concludes this thesis with a personal photographic and textual essay of mythological invention, composed as an elegiac walkthrough of the Collingwood Terminals on a cold January morning. It documents the building as it stands today in museum-like stasis, the long awaited reveal offered in memoriam.

1.6 Literature Review

Five authors provided the key instrumental texts without which this thesis would still sit dead on the water, poetically mirroring the state of its subject matter. While countless others provided supplementary information and verification, it was the works of Aldo Rossi, Lisa Mahar-Keplinger, Peter Reyner Banham, Dave Tell and Adrian Forty that provided the basis upon which to develop the theoretical framework and research comprised within this thesis. Precious in this author's personal library collection, out of print local historical books provided first hand accounts and recollections, which bolstered the importance of an obsolete landmark in a small Ontario port town.

Reyner Banham's *A Concrete Atlantis* and *Catacombs of the Modern Movement,* in concert with Lisa Mahar-Keplinger's *Grain Elevators* represent the key foundational texts for the importance of and introduction to the grain elevator typology. When combined with the informal timeline in Dave Tell's T*he Rise and Fall of a Mechanical Rhetoric, or, What Grain Elevators Teach us About Postmodernism*, they provided the structural research basis for much of this thesis. Together, these three texts connect an entire movement of art and architectural fascination with the grain elevator as a simplistic form. They provide an evolutionary catalogue of materiality and form throughout time, and a documentation of the differing types of grain elevators and their impact upon the formation of towns and cities. They outline the shifting influences upon architectural discourses over the course of a century, and illustrate a vastly interconnected and scarcely realized world. In the *Grain Elevators* foreword by Aldo Rossi, he poses that "Lisa Mahar Keplinger has located something that perhaps even she did not expect to find: architecture. In these times of so much mediocrity I rediscover a faith that at times I feel I have lost. This small book teaches us that despite everything, even our profession can participate in the search for truth."[30]

Aldo Rossi's theory of urban artifacts, stagnating pathological permanences, the idea of locus and its representation of collective history acquired throughout time proposed in *The Architecture of the City* became a key structural lens through which to examine the Collingwood Terminals. Their impact upon the collective consciousness and generational transformation of a place is instrumental to this thesis. Adrian Forty's *Concrete and Memory* provides a complimentary counterpoint to the work of Rossi, as offered through examination of the construction material itself. With the persistence through time concrete offers, these texts discuss and analyze various monuments, and their requisition of this stature throughout time.

Supplementary works, such as *Basic Forms of Industrial Buildings* by Bernd and Hiller Becher and *Industrial Landscapes* by David Plowden provided fascination, insight, and lingering inspiration in the form of photographic documentation as a tool that is now prevalent throughout this thesis.

1.7 Thesis Objective

"That's where the Terminals Stood."

In the near future those words escape sorrowed lips, the most tragic statement uttered upon Collingwood's waterfront. In their place, a massive condo block claims the man-made promontory, while black chain-link fences and huge private property signs signify their closure to all but the select few who can pay to live there.

The objective of this thesis is to prevent those words from ever being uttered. While acknowledging the inescapable truth of this author's personal fascination with this alienating ruin, and his bias towards seeking a re-purpose (or at the very least confirmation that demolition will not be considered in the future), the fact that this opinion is shared by so many is a bolstering force of optimism. Indeed, as the first chapter has attempted to portray, these fascinating machine-building hybrids have romanced and entranced generations of countless architects, artists, photographers, writers, and curious individuals alike. For over a century this has been the norm, and if allowed to remain, they will continue to intrigue and inspire the next generations to come.

The work of this thesis is not aimed to propose a singular big-picture answer that will be readily applicable to all concrete modernist grain elevators upon the great lakes. In fact, the research conducted indicates that this would be extremely implausible, and irresponsible to ignore the individual contextual parameters at the least. The aim of this work is to provide insight into why these crumbling concrete husks are so affecting and powerful even

Figure 1.14 [Top] Fram Building Group rendering proposal for the Collingwood Terminals, northwest façade, circa 2005.
Figure 1.15 [Above] Southeast façade rendering, facing downtown. This ill-advised proposal evokes a sense of placelessness within its attempt to re-purpose an iconic landmark. It illustrates the decades of pressure by development interests to capitalize on prime waterfront real-estate that the Terminals currently obfuscates.

in death, to illustrate potential avenues of adaptive re-use and/or preservation, and to provide a responsible guideline for the re-invigoration of the Collingwood Terminals into the local life and economy. At stake is more than just a lone, lingering physical reminder of the now-vanished industrial past, but a foundation of the *raison d'etre* of the Town itself.

Figure 1.16 [Right] Collingwood Terminals as viewed from the fenced off Historic Dry-dock at the foot of Side Launch Way.

Figure 1.17 [Next Page] Safety Fence, Marine Tower, Collingwood Elevators.

Figure 1.18 [Far Right] Private Property Residents Only signs, Cranberry Resort and Yacht Club, Whites Bay. Stopping visitor through-traffic as traversing from the Terminals to the break water.

The propensity with which the Town of Collingwood implements fencing and signage barriers makes for a painful and interrupted perusal of the public waterfront and harbour shoreline. Attempts to perambulate past the less intrusive signage barriers for the purpose of photographing the shoreline will result in unpleasant exchanges with the private property residents.


PRIVATE PROPERTY
Private Property
Residents Only


C O L L E G E

It's Terminal:
Architecture of Obsolescence

The genesis of this chapter was originally conceived as a contextual research piece on the evolution and act of grain storage as well as the intrinsic value posed by the Collingwood Terminals and its predecessors. The aim was that through typological and site-specific facts, design cues and values could be leveraged to inform a final thesis design. As this thesis progressed and transitioned from a strict design thesis into a discussion of obsolescence in architecture, this chapter altered to follow suit. What follows are two intertwined narratives, one of how a concrete typology came to dominate, and then obfuscate 15,774 km of great lakes shorelines, and another of how a cold concrete behemoth became warmly regarded as a small town's most iconic architectural achievement. It begins, as most things do, with what came before.

Three men catch fish in the shadow of Collingwood's twin grain elevators. In the foreground sits a charming wooden construction, its crib-walls, stark tower and sloping rooflines a familiar sight upon the waterfront since the founding of this small Ontario town. In the distance a gleaming white edifice looms, completely alien upon this shoreline. A hammering force announcing the presence of modernity, it is unlike anything to be seen for eighty kilometers in either direction. One of these grain elevators is obsolete and a potential death trap waiting to decimate anything it can reach in an explosive inferno. The other is the newly constructed concrete terminal building, an icon of a modern way of building.

Captured in the rare decade where two grain elevators populated Collingwood's shoreline, this photograph depicts the forces of obsolescence at work. The second of its type to sit in this location, the wooden elevator lingered out of use from the time of this photograph until its demolition in 1937,[31] purportedly in the interests of public safety. Already at the time of this photograph, its days were numbered and its use irrelevant. The freshly built concrete behemoth behind it could safely store more grains and facilitate transshipment from one vessel to another in record speed. In terms of evolutionary criteria, the wooden grain elevator had lost. After its demolition, local townsfolk lamented its disappearance,[32] however, the concept of preserving an obsolete structure on prime real estate in a trade-driven waterfront was evidently not worth considering.

The evolution of grain elevator design represented in this photograph is just a small cross-section of the history of grain storage and handling, and yet the differences in efficiency, safety, materiality, and form over the course of just a mere 60 years clearly depicts the accelerated nature of innovation prevalent in the first three decades of the last century. The technological boom made waves clear across the ocean, and international grain trade profits and indirect trickle-down-economics meant places like the Town of Collingwood flourished.

Figure 2.1 [Left] Collingwood's twin grain elevators. Metal cladding as a fireproofing measure hides the wooden elevator's once-white facade. The modern elevator continues its legacy as a prominent white beacon upon the waterfront.

The historic need for safe and efficient passage of material and people north and westward was so vital that in 1855 the site of the town of Collingwood transitioned from a mosquito-ridden swamp into a northern terminus, practically overnight.[33] Three main pieces of infrastructure were immediately constructed: a town dock, a warehouse, and a grain elevator. Within short order, "…grain from Indiana and Illinois was soon finding its way to the eastern seaboard through …[Collingwood's] …port."[34]

Conceived as the northern portage terminus and connecting point between Lakes Huron and Ontario for the Canadian National Railway or the CNR (formerly the Ontario, Simcoe and Huron Railway),[35] the rail line completed the vital systems within the town of catalyzing infrastructure conducive to a prospering settlement and emergent shipbuilding mecca.

Today, the highly leisure oriented and incompletely planned waterfront sits bereft of any trade warehouses. Gone too are the rails and ties of the train tracks, pulled up and replaced with pea-gravel and tamped with the passage of feet and bicycle tires. The remains of the once famous shipyards are bulldozed under, razed and replaced by a condominium development. The town dock, vastly expanded in 1929 and consequently reformed since into a projecting spit of land sits unrecognizable. Of the original infrastructural elements of the town, only one remains prominently displayed along the shoreline. The modernist concrete grain elevator, the third in its lineage upon this site, occupies the role as the last remaining physical symbol of the continuation of the *raison d'etre* of the town.

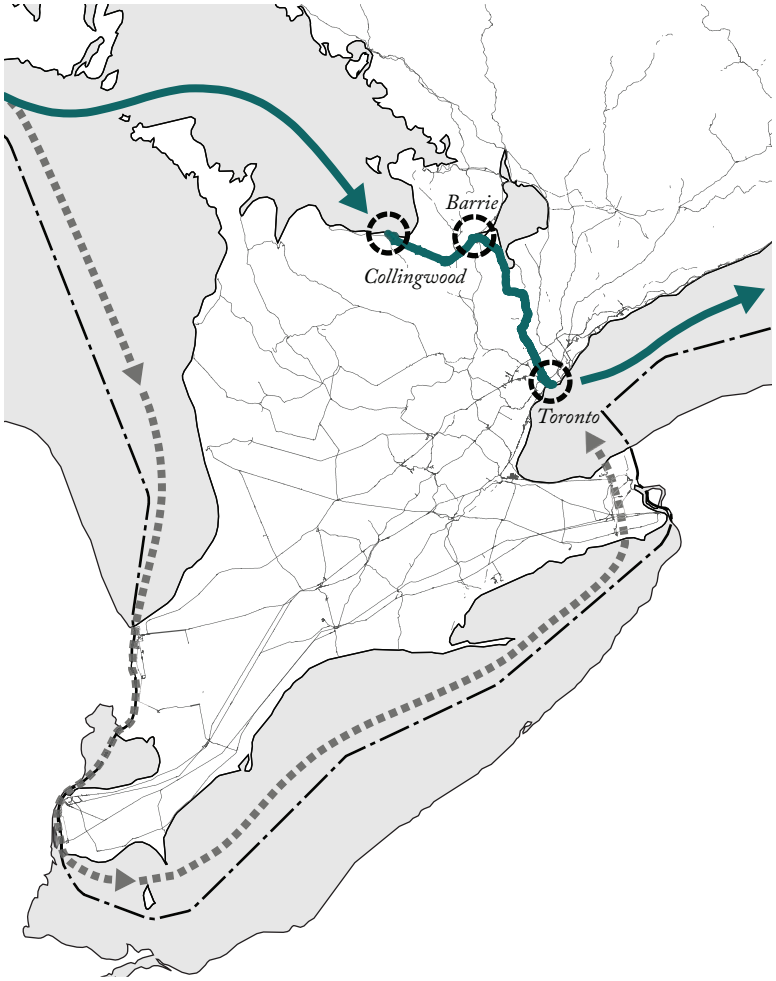


Figure 2.2 [Above] Collingwood as the terminus for the portage railway linking lakes Huron and Ontario.

Due to its vast scale, high visibility, and prominent position as the frontispiece of the harbour, the grain elevator offers itself as an icon of the largely invisible grain trade, itself an extension of the economically vital and yet relatively unseen practices of agricultural production in the region. In his book *First Farmers,* Peter Bellwood argues that:

"The significance of agriculture in history is that it has served as the ultimate economic foundation for the past 10,000 years of population growth amongst the human population, indeed for the phenomenon of civilization as we know it, although there is no intention here to push the chain of causality into the domains of urbanization, state-hood and literacy. We are still reaping the harvest of the several agricultural revolutions in world history in our overcrowded and highly stressed world today."[36]

As Bellwood cautions, the existence of the town, of *civilization,* in this location is not argued to be solely due to the singular presence of a grain elevator upon the shoreline. Over the past two decades without any grain trade presence upon the waterfront, the town economy has not collapsed. However, throughout its existence, the grain trade has provided a key economic propellant for the Town of Collingwood and the region at large. Indeed, the following 1928 petition to the then Dominion Government by the Canadian National Railway outlines the significance and economic advantage the Collingwood terminals posed for the Town:

Figure 2.3 [Top] 1875 Birds eye view, displaying the prominence of the rail line and town dock. Note the white grain elevator.
Figure 2.4 [Left] Aerial Photograph, 1919. Shipbuilding dominates the harbour.

Honourable Sir:-

Your Petitioners, Employees of the Canadian National Railway, in the Collingwood-Allandale Division, hereby respectfully urge that the Dominion Government, through your Department, make provision for the improvement and deepening and such other work as may be necessary, of the harbour at the port of Collingwood.

In support of our request, we hereby submit the following representations, namely:-

1. That at present, owing to the lack of elevator facilities at Collingwood, and other Georgian Bay Ports, millions of bushels of Canadian Grain are being diverted to Buffalo and other Ports in the United States.
2. That this trade is, we firmly believe, lost to the Canadian National Railway, and it is prejudicial to us, in the matter of wages.
3. That were the Collingwood Harbour deepened and improved, and the proposed Elevator erected, much of the present diverted grain traffic, would be, we believe, secured and retained by the Canadian National Railway, both to the advantage and its employees.
4. That if the channel of the said Port of Collingwood were deepened and elevator erected, as proposed, direct as well as indirect benefits would be secured not only by us but by the residents of the Port of Collingwood and the Town of Barrie.
5. That the diversion of traffic to this Division, means increased property values, an increase in the aggregate income of the employees of the company and wage-earners, in general, and the return to Allandale of many employees, owning their homes there, who were forced to go elsewhere to secure employment, and in general, a stabilization of conditions in both Collingwood and Barrie.
6. That any increase that may be brought to the Railway traffic of this division, means indirect benefits to all the Towns and Villages and Rural Districts in this Section.

That our petition may have your favourable attention, we humbly Petition and Pray.

DATED at Barrie in the County of Simcoe, this day of January, A.D. 1928[37]

Today however, this vital economic engine has followed in the path of its wooden predecessors, rendered useless by the forces of progress leading always to obsolescence. As the single last remaining construction representing the original purpose of the Town's existence, the elevator too remains susceptible to the same fate. With its demolition, these ties to the collective history of the town would be cut. Ironically, (as Chapter Three will elaborate) a building constructed of a material beholden for its obliteration and erasure of the past[38] has become the last connection to it. Unlike its wooden ancestors, however, the concrete terminal possesses the longevity able to last for generations to come. For the first time, its inherent material permanence offers the possibility of the perseverance of the icon of the collective truth of the towns existence.

Figure 2.5 [Previous] Scrapbook style excerpt from Barbara Arp's *Reflections.* A 1929 photograph of the track shed under construction coupled with an invitation to attend the ground breaking celebrations a year prior. For such a 'landmark', this remains one of the few times within Arp's tome that the modernist elevator is depicted.

Figure 2.6 [Left] Collingwood Terminals within the winter landscape as witnessed from the top of the Niagara Escarpment, some 25 minutes by car away.

2.2 Elevator Evolution

The act of grain storage itself is an intertwined narrative of human ingenuity and evolution spanning back some 10,000 years and more. In search of a practical sense of scale, this thesis, however, deals only with the innovations directly responsible for producing the ultimate machine-building hybrid, namely the period within the last 200 years with the presence of grains as a traded commodity upon the great lakes.

The journey to the grain elevator, a purpose-built industrial building typology resistant to the distinction between building and machine converged from two independently derived technological innovations. At the basic level, a grain elevator is comprised of a machine to elevate the grain and a space to store it. Joseph Dart of Buffalo pioneered an industrial scale application of the first elevator machine in 1843[39] and the eventual (and almost universal) adoption of it drastically changed the landscape of the global grain trade.

Simultaneously, enterprising minds were exhausting construction material options in the search for a cost-effective, fireproof construction medium. Explorations in wood, brick, tile, and steel of every configuration imaginable[40] were implemented over the next 60 years until Frank H. Peavey's experimental use of concrete for grain storage vessels[41] in Minneapolis in 1899.[42] By the dawn of the 20th century, the union of the elevator machine and reinforced concrete construction combined to form one of the ultimate purpose-built machine-building hybrids in industrial architecture.

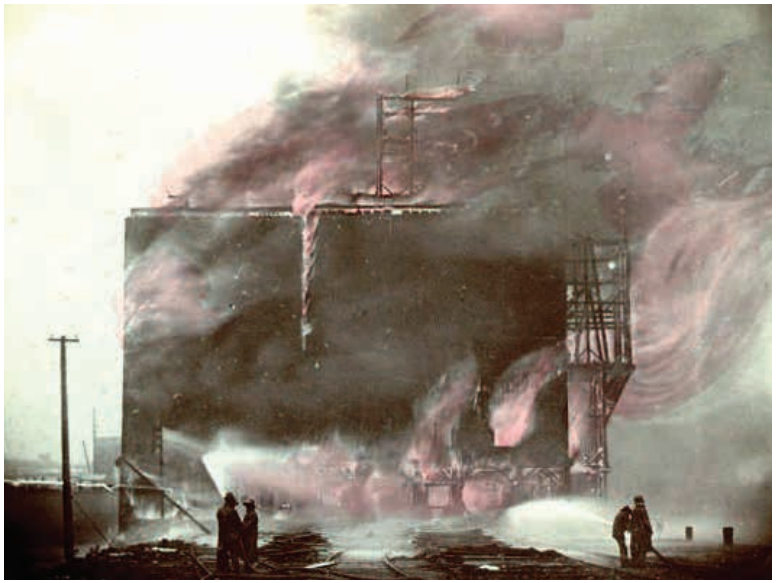


Figure 2.7 Grain elevator engulfed in flames, Midland, Ontario. Extremely volatile, grain dust is prone to fire and explosion despite the best mitigating efforts. Their commonplace occurrence wrought devastation upon towns and cities. The threat posed by the wooden elevators was so large that it drove decades of endless explorations in fireproofing mediums.

2.3 From Vernacular to Modern

The shift from a recognizably vernacular wooden form into an alienating, foreboding massive construction quickly polarized opinions: "'The huge cement structures that are built now for grain deliveries don't excite me," says Verla Nevay, a former grain buyer's wife. "They are gray, cold looking, and mysterious.'"[43]

This marriage of concrete within a system of machine-enclosing spaces abolished any lingering vestigial remains of vernacular form and ornamentation. It was a swift and decisive transition from the quintessentially framed wooden grain elevator to one of banked rows of cylindrical slip formed concrete tubes operating on scales approaching that of a landscape. The economical construction, durability, scale, speed of transshipment, and safety offered by the concrete modernist grain elevator far surpassed that of any other construction system.[44] Complete industrialization now defined the agricultural process of storing and moving grains, and throughout the last century it operated on scales never before realized in human history.

The wholesale abandonment of older vernacular built forms in the new emergent industrial typology resulted in the 'forms assembled in the light' championed by Le Corbusier and other European modernists.[45] The removal of a thermally protective envelope, internalization of the elevator machine, and proliferation and adoption of the grain storage vessels as a structural component,[46] lent the form and not the machines it enclosed as the key-defining characteristic of these monumental constructions.

Figure 2.8 Soil bearing failure at the newly constructed Transcona Grain Elevator, circa 1913. The robust construction defied the stresses of the collapsed foundations and the monolithic storage bins were righted without incident. The elevator remained in use throughout much of the 20th century.

As well, the longevity of reinforced concrete allowed this typology to endure far past its original use. Today, according to Reyner Banham, the "… concrete cylinder elevator is still so omnipresent because it represented an almost excessively good investment when first built. If it was solidly enough made to carry its load, maintain an equable thermal environment, and resist fire for long enough to amortize the original investment, then it had to be well enough made to last more or less forever – and be well enough made to be extremely costly to demolish."[47]

2.4 Between Building and Machine: *A Reconstruction of Historical Process*

The Collingwood terminals represent a great example of the mid-late evolutionary period of modernist elevator design. The complete removal of any non-functional ornamentation or superfluous space scoured the last vestiges of previous building typologies from its structural system. The system was predicated upon speed, not only of function but also of construction. Historical accounts recall the piles being set into bedrock in the winter of 1928. The foundation was poured atop those in April 1929,[48] and the very first shipment of corn delivered that September.[49] As exclaimed in the recent town funded engineering report, this speed is "… remarkable by today's standards, but truly outstanding given that all raw materials were delivered by train, concrete mixed on site and placed by hand."[50]

The unprecedented speed of construction belies the entire industrial ethos of the typology, and mocks the extended later decades in which countless individuals have sought a plausible re-use strategy all to no avail. In contrast to the standard historical approach of years, decades, or even centuries-long construction periods for great monumental work like medieval cathedrals, the construction of the Terminals was a mere blip on the radar of the town's history.

An equally monumental task undertaken by this author was the completion of the only measured, as-built drawings of the elevator that to all indications currently exist in any accessible form. A monumental task due to the lack of any original superstructure drawings. Multiple research inquiries with local museums and other institutions turned up nothing, and access requests to the interior of the building for the purpose of producing a measured set was prohibited.

Ultimately, scanned and distorted copies of the pile and foundation blueprints were painstakingly corrected and redrawn to form the basis upon which the as-built drawings and computer-generated model of this thesis work were constructed. Details from the original, on-site weekly construction progress reports unearthed at the *Simcoe County Museum and Archives* aided the digital construction process. Multiple visits to measure and then verify inferred exterior dimensions of the super structure and trackshed were conducted to the best ability allowed by the restrictive nature of fencing around the site. Finally, the horizontal and vertical negatives of the boards used in the concrete formwork were painstakingly counted to accurately scale the beam, column, wall and window dimensions.

This work was conducted over long hours zooming in on the interior and exterior photographs taken upon the secret tour of the structure, and counting the individual banding created by the standard dimension lumber. Geodetic data from bathymetry reports and the pile-top final elevations were used to locate the building vertically in relation to the site.

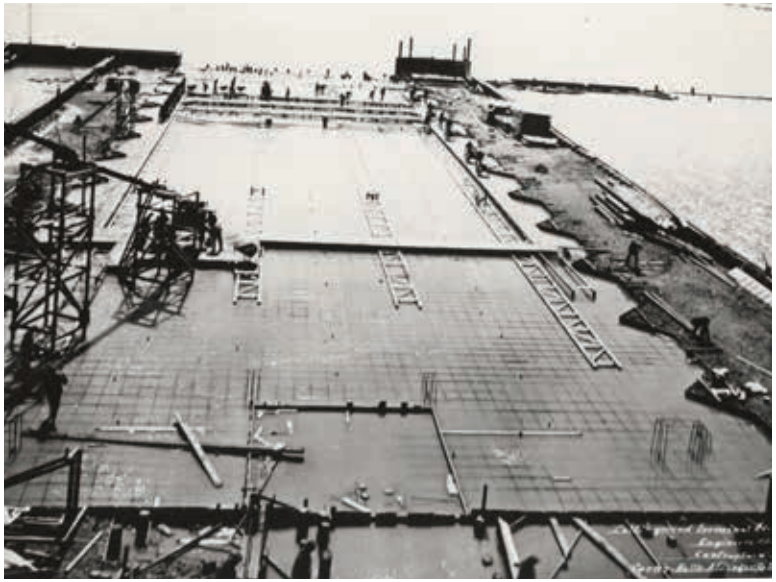
Just as the Terminals have become the Town of Collingwood's great monumental work, the computer-generated model and consequent drawings developed from it have become the monument to this thesis. The following pages have been arranged into a historical construction timeline, to illustrate the hidden

Figure 2.9 [Left] Newly materialized stockyard upon an extended Town Dock. Piles of lumber for the foundation and Work Floor concrete formwork await their use. Hastily erected huts and offices crowd the muddy edges, while the obsolete wooden elevator displays itself prominently.

Figure 2.10 [Above] April 1929. Cylindrical slip forms already constructed; everything is in place and ready to go.

complexities of these machine enclosures, using the focal point of this thesis to illuminate the wider typology.

Historical accounts recall the original rail tracks of the town being laid in water during the frenzied dash to meet the 1855 completion deadline.[51] The construction of the Terminals was no different. Wooden trestle and rail lines, indicated by the original blue print drawings, extended far out into the bay, where a construction stockyard materialized by additive land formation. Just the winter before, a barge had been used to begin driving the piles to the bedrock, as no land had ever existed there.

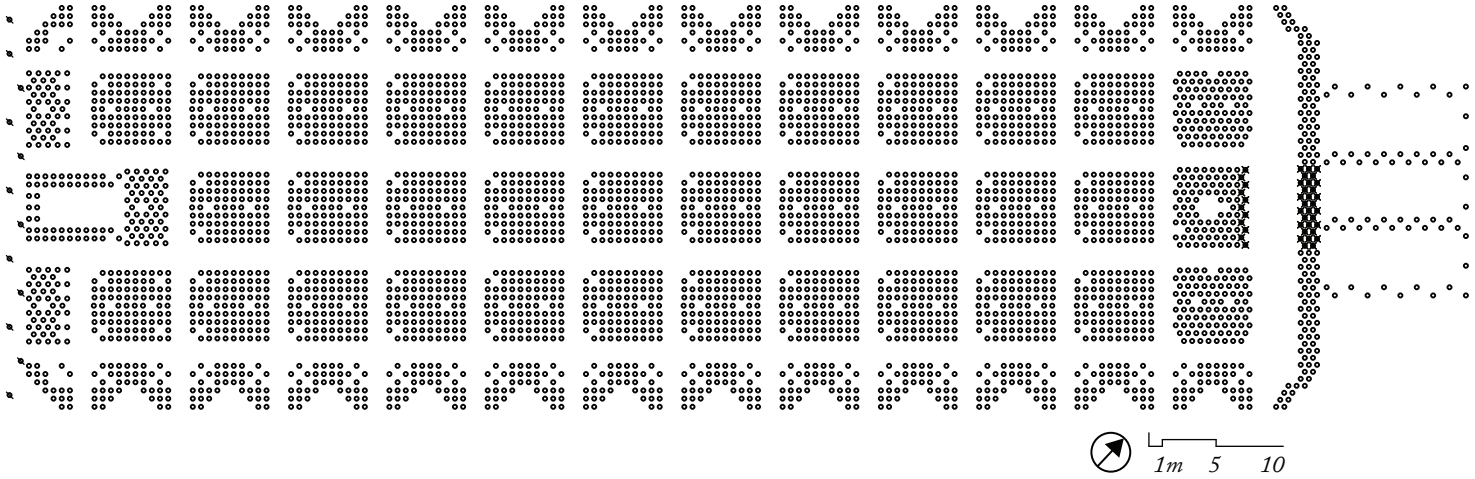


The requirements of deeper water access to shipping and reality of a rocky shallow harbour led to the construction of the Collingwood Terminals 700m from shore far out in the bay. Sitting on 4154[52] wooden piles driven to bedrock, the monolithic foundation slab, wooden crib walls, revetments and railway trestle used for construction of the superstructure created the armatures upon which the development of the Spit land would develop. The town harbour today owes its unique waterfront vantage and reflecting point entirely to the Terminals building and the practice of additive land formation over the last 89 years.

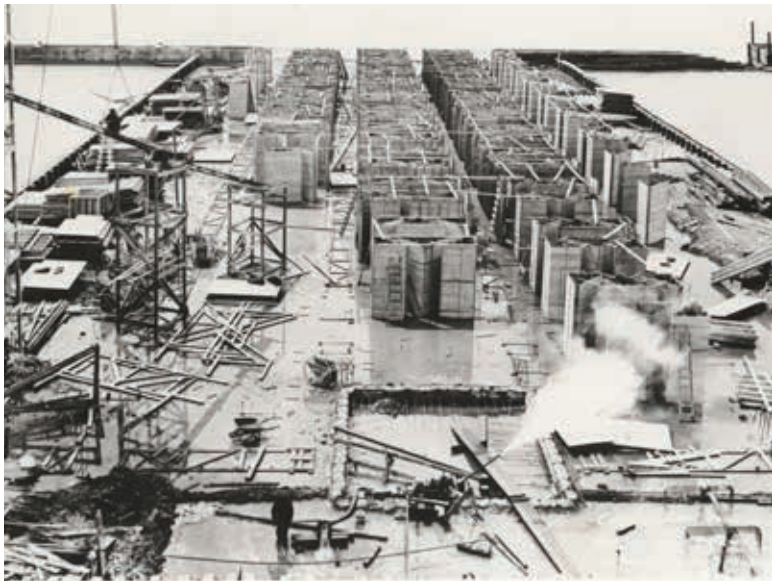
Figure 2.11 [Left] Placing the reinforcing steel before pouring the monolithic foundation slab and pile top cap. Formwork for the elevator pit can be seen in the central foreground.

Figure 2.12 [Above] April 30, 1929. Aggregates, timber for the concrete formwork, and a crane make ready for the continuous concrete pour.

Figure 2.13 [Right] Foundation Pile plan, as reconstructed from the original foundation blueprints.



Wood Pile - Top Elevation 176.84m
Wood Pile - Top Elevation 175.08m
Wood Pile - Top Elevation 177.09m

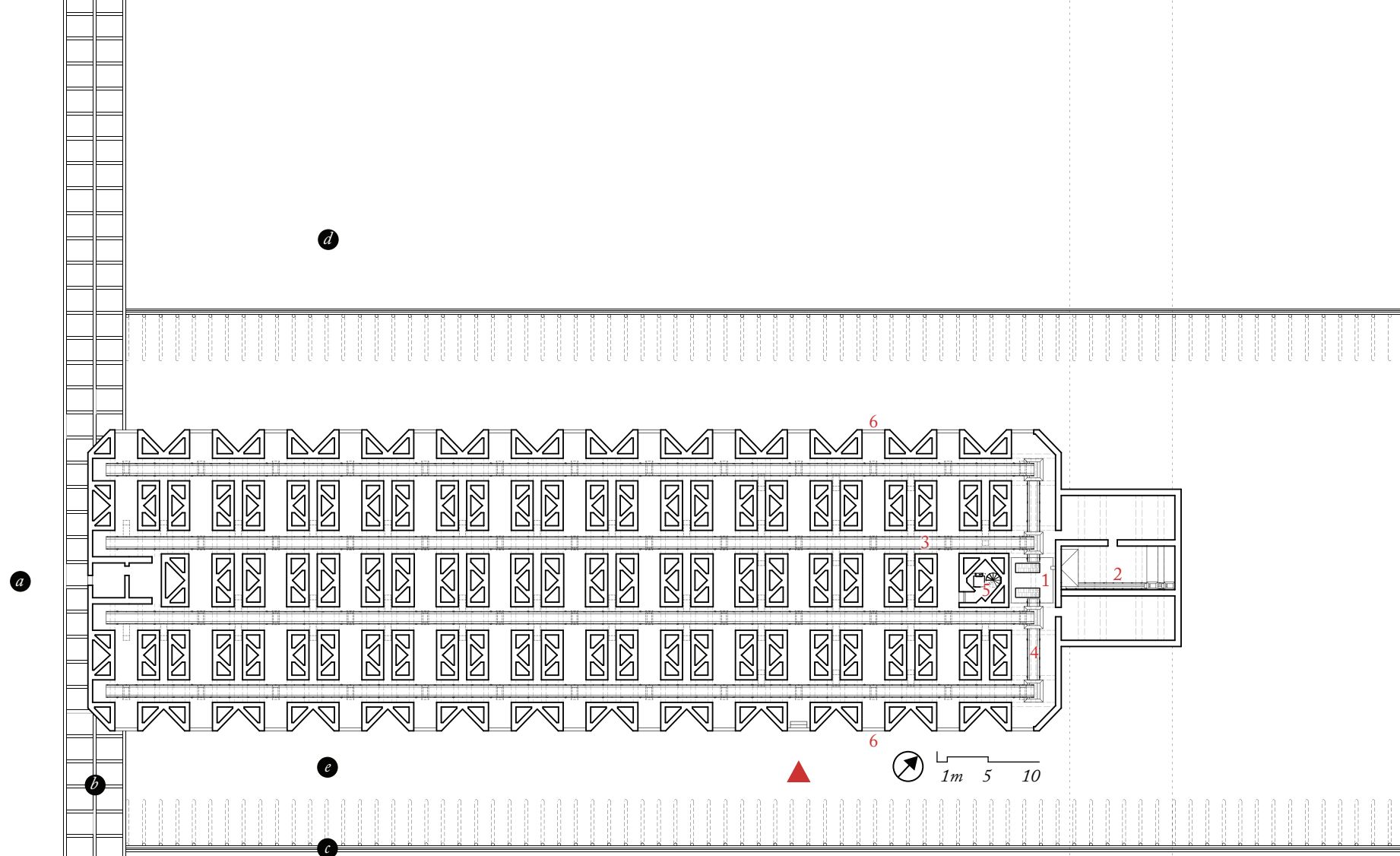


The monolithically patterned repeating series of solid and void of the work floor denote the passages for conveyors centrally located under each cylindrical bin. The smaller openings in the massive foundation blocks house the secondary spouts and chutes of the storage interstitials. Appearing as solid foundation blocks when traversing the passages of the work floor, the blocks are actually hollow, with triangulated walls to carry the load of the cylinders above to the piles below. Heavy north-south oriented cast-in-place beams on each block extend over the conveyor paths. The centrally located pit to the east (foreground of image above), and bowels of the western marine tower mark the only interruptions to the regularized system.

Figure 2.14 [Left] Work Floor formwork, with conveyor hallways oriented under the centreline of the storage bins above.

Figure 2.15 [Above] May 8, 1929. Work Floor formwork nearing completion.

Figure 2.16 [Right] Work Floor Plan, derived to provide passage of grains from the storage vessels to the western base of the elevator machine. Reinforced wood revetments and crib docks literally hold the water at bay.



▲ *Entry*
1 *Elevator Pit*
2 *Trackshed Unloading Conveyor*
3 *Workfloor Conveyor*
4 *Transfer Conveyor*
5 *Elevator and Spiral Stair Core*
6 *Daylight Openings*

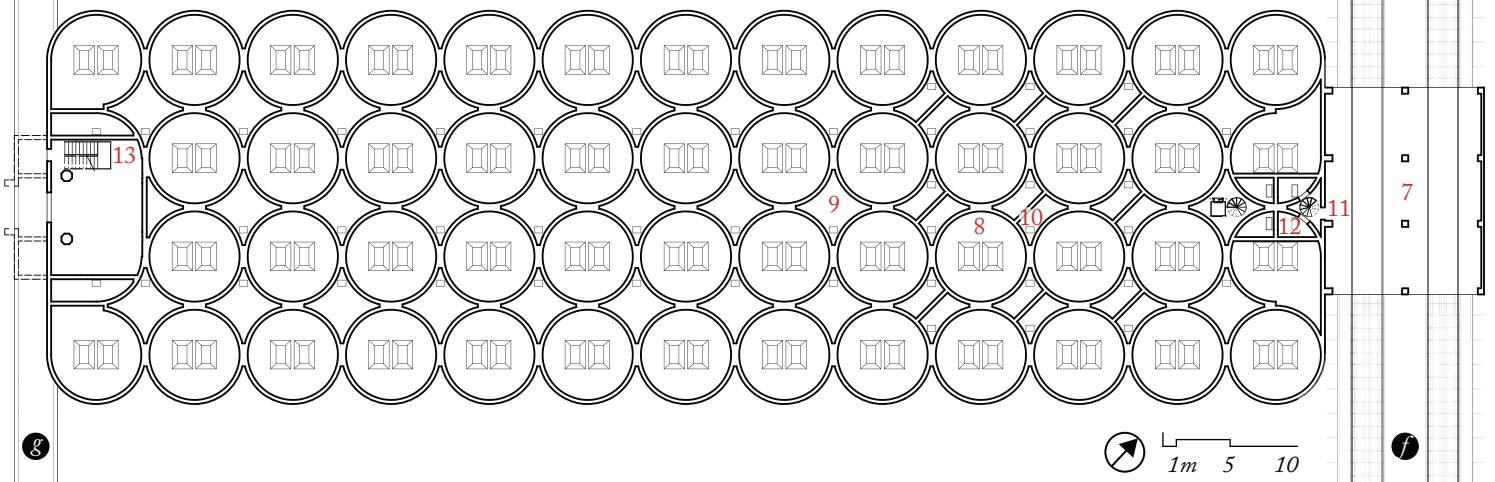
a *Dredged Shipping Channel*
b *Wood Cribbing*
c *Reinforced Revetments*
d *Shallow Water*
e *Aggregate Infill*

In complete denial of the severe rectilinear organization of the work floor below, the slip formed cylindrical bins and their 'star' shaped interstitials appear almost as a separate building. The only departures to the repetitious forms are witnessed in the additional internal dividing walls of the eastern interstitials, and the modified bins of the eastern and western ranges to accommodate the vertical pathway of the elevator machine and the marine leg respectively. The loss of a singular interstitial storage bin accommodates the vertical circulation for workers.

Figure 2.17 [Left] May 17, 1929. Concrete slip forms are placed atop the storage bin floor-slab. Each storage vessel receives two openings for grain passage to the work floor below. Note the further division within the central foreground cylindrical formwork, creating vertical chases to house the grain elevator belts.

Figure 2.18 [Above] May 19, 1929. Formwork is placed and concrete being poured.

Figure 2.19 [Right] Storage Bin Floor Plan. Cylindrical storage bins with their star shaped interstitials, the eastern portion of which is further sub-divided.



7 *Trackshed*
8 *Cylindrical Storage Bin*
9 *Interstitial Storage Bin*
10 *Subdivided Interstitial Storage Bin*
11 *Power Room Spiral Stair Core*
12 *Grain Elevator Chase*
13 *Marine Tower Stair*

f *Elevated Rail Car Trestle*
g *Dock*

The distributing floor forms the long gallery space stretching between the two towers. Dual cast-in-place conveyor systems and their supports distribute the grain arriving upon the conveyors from either the marine tower or head house, and using gravity assistance allocate the grains into their desired storage locations below. The regularized structural grid of columns and beams framing large day-lighting openings clashes violently with the differing structural systems and dimensions of the robust towers at either end.

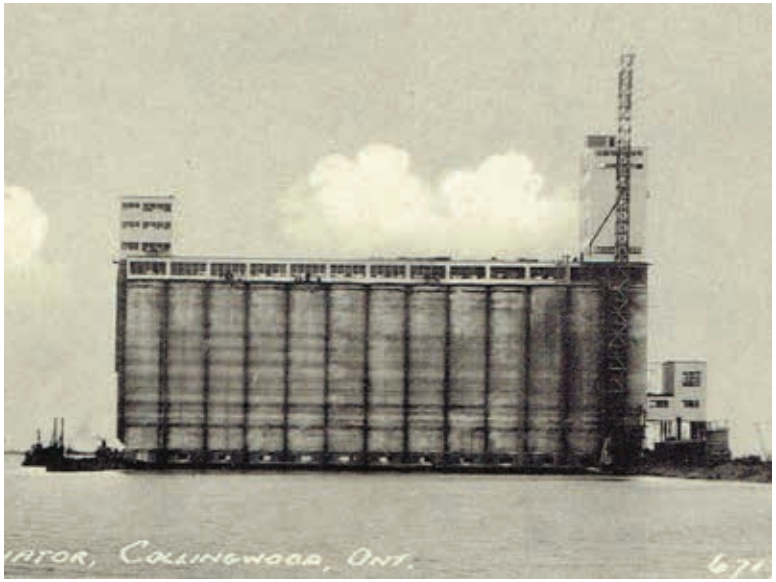
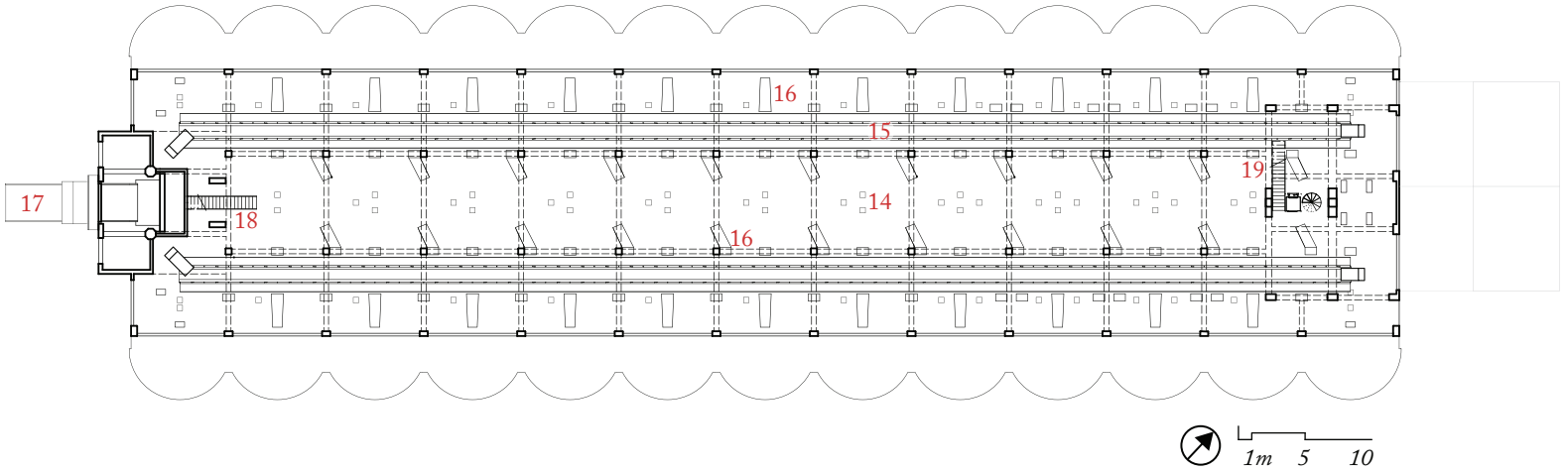


Figure 2.20 [Left] June 19, 1929. Monolithic storage structure concrete pour nearing completion.

Figure 2.21 [Above] Distributing Floor and Marine Tower complete, Head house nearing completion.

Figure 2.22 [Right] Distributing Floor Plan. Grain directory chutes and inspection holes litter the floor slab atop the storage bins.



14 *Storage Bin Inspection Holes*
15 *Elevated Grain Conveyor*
16 *Grain Directing Chutes*
17 *Marine Leg (Below)*
18 *Marine Tower Access Stair*
19 *Head House Tower Access Stair*

The head house (east) and the marine tower (west) are the names commonly attributed to the towering protuberances extending above the distributing gallery. The larger head house dominates over the marine tower due to its additional function and machinery. Once the grains travel upwards to the top of the head house elevator, they are gravity fed into twin cast-in-place holding tanks, which suspend and control the allocation of grain into weigh hoppers below. These hoppers then measure out select quantities and send them via the distributor to the desired storage bins via conveyor. This system allowed for careful mixing and sorting, and sent grain out the headhouse to the track shed and packing room, pouring into railcars for shipment south.

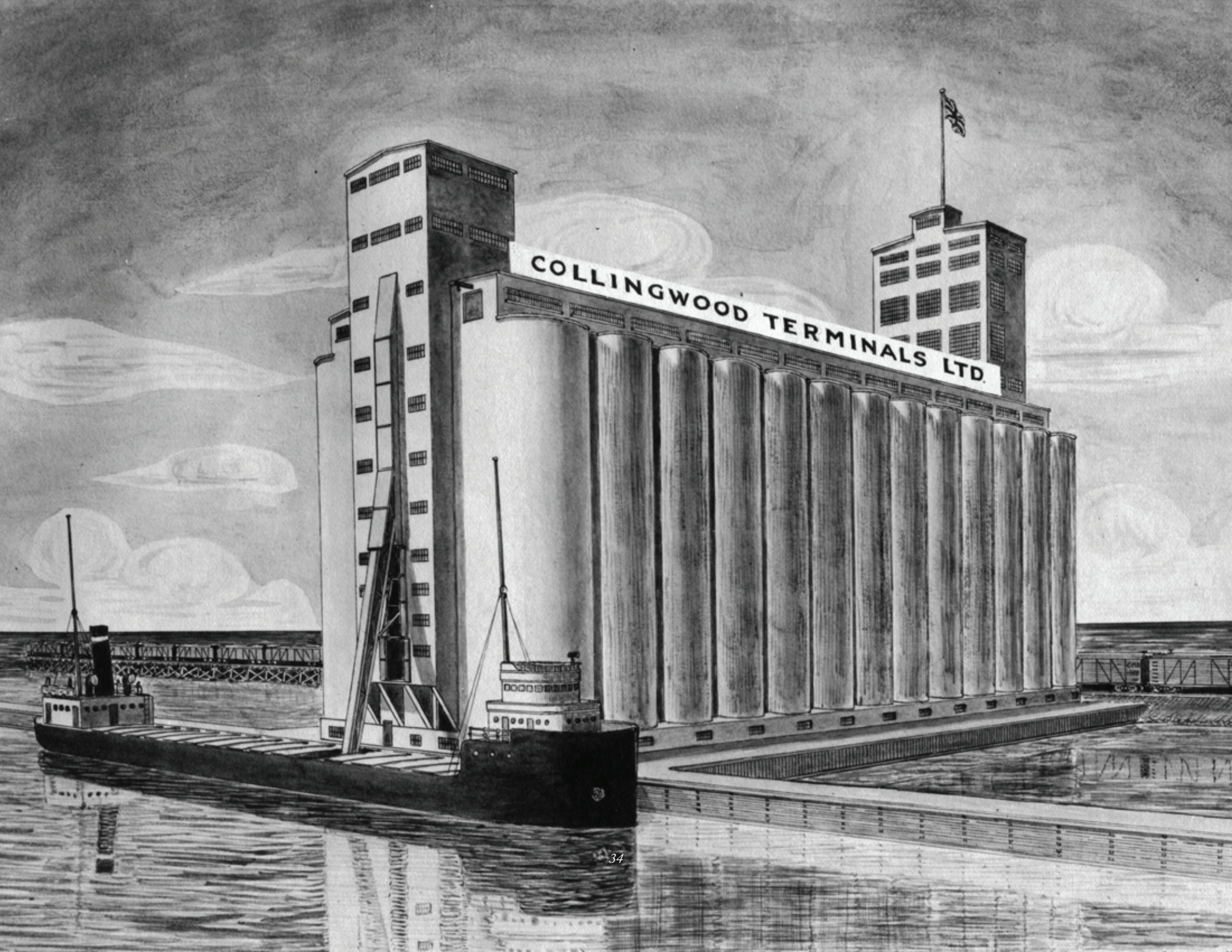
The marine tower performed similar distribution duties, however it did not house any machinery for weighing in-or-outbound grain, as this function was performed within the headhouse and would result in unnecessary and inefficient doubling of machinery and increased enclosure space. It also required machinery to raise and lower the marine leg into ships holds, and a secondary elevator to transport the grains vertically.

Figure 2.23 [Right] Tower Floor Plans, composite. Marine Tower to the west and Head House Tower to the east.

20 *Grain Distributor Array*
21 *Weigh Hopper and Storage Tank*
22 *Grain Elevator Chase*
23 *Grain Elevator Head (Above)*
24 *Marine Grain Elevator Head*
25 *Marine Leg Lifter (Above)*

The following 1928 Engineers rendering depicts the marine leg in action, extracting the grains from a great lakes vessel to be processed, stored and shipped south via rail. The accuracy of this rendering to the final construction further belies the matter-of-fact industrial ethos of the typology, with the minute exceptions of the location of the signage, and the rectilinear as opposed to hexagonal foundation block. Presumably, these changes were implemented as cost saving measures on reducing excess concrete, and extraneous signage structures when paint would suffice. Clearly depicted in the foreground is the new wood-crib dock, and the infilled revetments along the building. The rendering depicts a built-up stone and aggregate rail-bed base that would eventually replace the original, temporary wooden elevated rail trestle.

Figure 2.24 [Right] 1928 Rendering by C.D. Howe & Co. Consulting Engineers of Port Arthur, Ontario for the Grain Elevator for the Collingwood Terminals.


COLLINGWOOD TERMINALS LTD.

The problem, as anyone who is familiar with terminal grain elevators will know, is that even a step-by-step, plan-by-plan accounting of these machine derived enclosures as performed in this section still fails to give a holistic view that truly belies the importance of and extent to which the grain handling process and machinery standardized prior to 1928 (in this instance) dictated the ultimate outcome of the building. Sectional renderings were historically employed to illustrate the relationship of the machinery and its function within the enclosing forms, however this is never understood or experienced when within such a structure. As this collection of illustrations is conceived as an accounting of the spaces as they are informed by the machinery requirements, the use of the plan was paramount. Despite this attempt, however, the immutable solidity of the concrete structural system defies any simple accounting to analyze building and machine together.

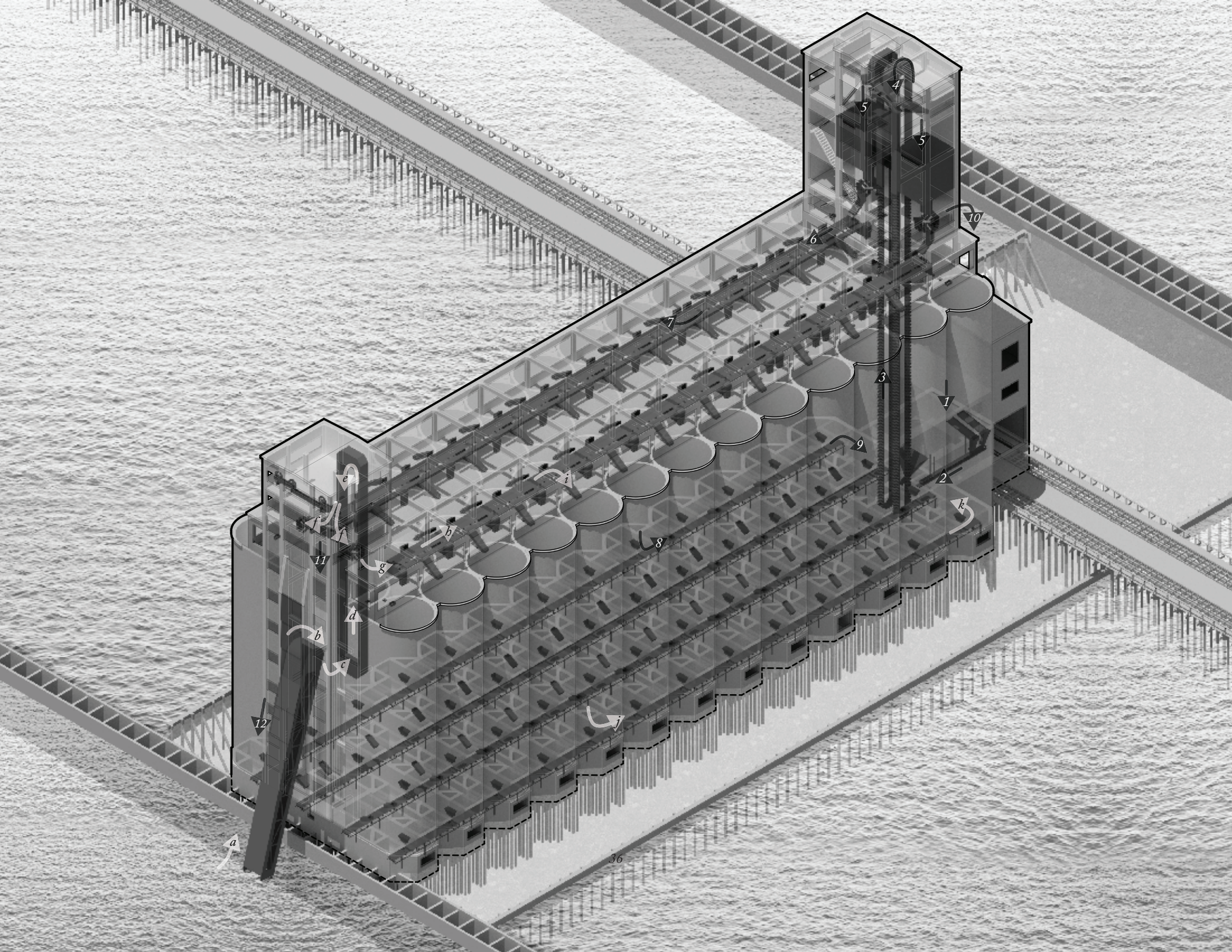
The following illustration attempts to rectify this, and is, to the best of this author's knowledge, the only such drawing of its type, at least in the annals of the Collingwood Terminals Limited. It depicts the machine-building hybrid as originally constructed and pristinely new in September of 1929, before the additions of exterior emergency stairs, hectic communication arrays, or the red brick warehouse eventually added to the eastern end of the track shed. The act of generating this illustration truly imprinted the inadvertantly built in obsolescence of the entire construction. Once the need for a terminal elevator in this location had come and gone, the extended decades of stasis were ultimately inevitable.

Legend | Grain movement as form-defining feature

→ *Indicates path of grain travel*
a *Scooped from hull via Marine Leg*
b *Marine Leg to intermediary pit via gravity*
c *Lifted from pit via Marine Elevator*
d *Up Marine Elevator*
e *Marine Elevator Head Transfer*
f *Distributing Array via gravity*
g *Transfer via pipe to Distributing Floor*
h *Distributing Floor Conveyor*
i *Tipper to selected storage vessel*
j *Storage vessel to Work Floor Conveyor*
k *Transfer conveyor to Elevator Pit*

1 *Dumped from rail car into Hopper Bin*
2 *Trackshed Conveyor to Elevator Pit*
3 *Headhouse Elevator lifts from Pit*
4 *Elevator Head Transfer*
5 *Intermediary Holding Tanks and Weigh Hoppers via gravity*
6 *Distributing Floor Conveyor*
7 *Tipper to selected storage vessel*
8 *Storage vessel to Work Floor Conveyor*
9 *Transfer conveyor to Elevator pit*
10 *Rail Car deposit via pipe from Distributing Array*
11 *Marine Deposit via Distributing Array*
12 *Deposited into Hull via pipe on Marine Leg*

Figure 2.25 [Right] Between building and machine: study of the relationship of function and enclosure.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2.5 Nails in the Coffin Lid

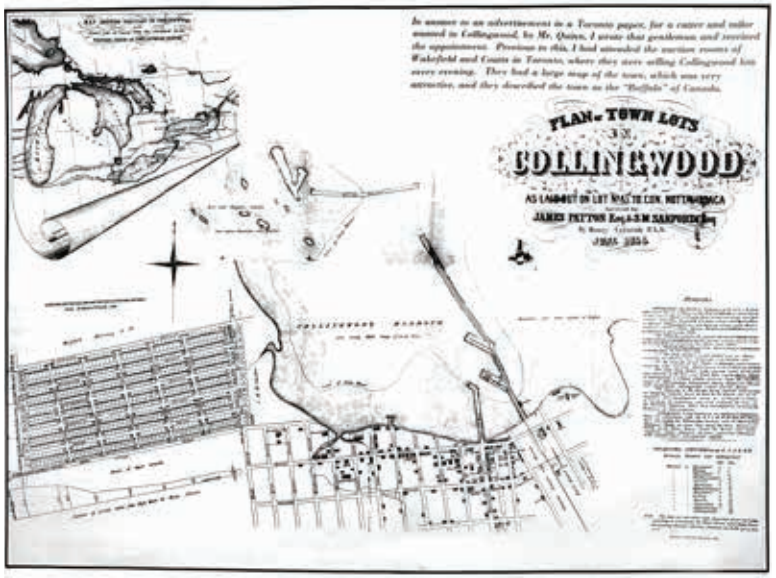
The inexorable slide into obsolescence of the Collingwood Terminals was not an isolated incident, but part of a decades long systemic trend in the Great Lakes regional and global economy and the effects on its building typology. With a confluence of localized and global factors acting together to generate a long and drawn out economic attrition, slowly, now silent and ghostly concrete sentinels began populating the harbour-fronts and river mouths of once bustling grain trading centres. Canadian and American regional economies alike were stretched and strained, until the inefficient and overpriced transshipment of grains through numerous great lakes ports ultimately resulted in vast closures and the peppering of obsolete machine-building hybrids upon their coastlines.

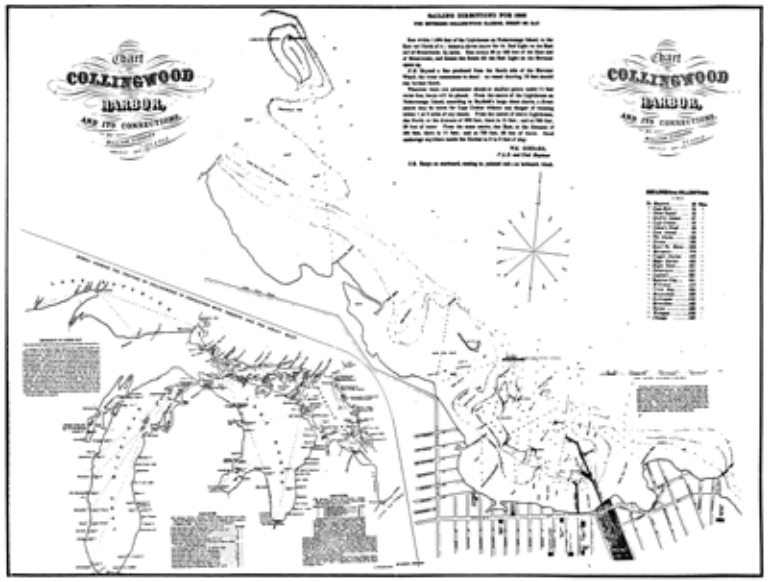
The grain trade left Collingwood in 1993, and is extremely unlikely to return again. The closure of the terminals ended 64 years of service, and 138 years of grain passage through this Lake Erie portage terminus bypass.[53] The departure of the last grain shipment down what is now Heritage Drive spelt the demise for the last lingering holdback to a centralized, industrial harbour. With the shipyards already demolished, and no fiscal reason for operation, housing developments encroached upon the once vital rail line, now solely used as pedestrian footpaths. The Collingwood-Allandale rail route exists today solely as an outmoded infrastructural memory and physical scar bisecting the numerous towns and communities it passes through.

As early as 1899 the Collingwood Council saw the need for a modern, terminal elevator to protect its economy and generate revenue,[54] however this was unrealized until 1929, with the aid of the Dominion government in dredging the harbour to accommodate the large ships vital to such a facility. Even as never-before-seen quantities of grains were sent down the Collingwood-Barrie-Toronto portage railway, the 1932 construction of the fourth – and largest project the Welland Canal[55] marked the slow but irreversible beginning of the end of the need for a Collingwood portage terminus. As ship technology and cargo capacity improved over the century, it became more cost effective to simply travel further rather than go through the energy of transferring grains from ship to rail to ship. The very act of undertaking such a large construction project as the Welland Canal indicates this fact. Eventually, the economic bias for portaging grain and other goods would disappear altogether.

When it was constructed in 1929, the Collingwood Terminals (and its great lakes contemporaries) were constructed for a very specific industrial-agricultural process, and the fact that it functioned relatively unchanged for more than half a century is testament to the longevity and safety of its design. An impressive achievement, given that for its predecessors the "… average life of a wood or brick elevator was reckoned to be around twelve to fifteen years, not because of obsolescence or structural decay, but because of fire or explosion."[56]

However, it was this same longevity and the industrial construction practices of the period that added yet another mounting reason for closure. As recently outlined by Will Teron, P.Eng., of Tacoma Engineers, hazardous materials such as "…asbestos, lead, mercury,





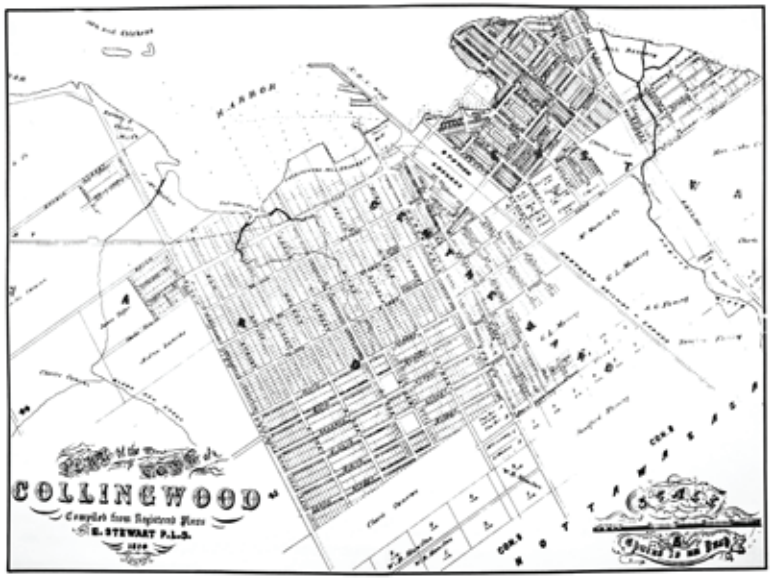


Figure 2.26 [Above] Map of Town of Collingwood 1856, a year after the first delivery by train.

Figure 2.27 [Top Right] Map of Collingwood Harbour, 1858 with sailing directions.

Figure 2.28 [Right] Map of Town of Collingwood, 1874. Town grid bisected and altered by the railway and dock.

These major infrastructure works directly informed the formation of the Town, bearing their mark upon its composition to this day. Note the additive land formation already begun upon the waterfront immediately west of the town pier. Long before the emergence of a shipbuilding mecca, a grain elevator sat upon the shoreline.

silica, PCBs, mould and guano [were identified] within the facility."[57] With the exception of the mould and guano that has accumulated in the decades since its closure, these hazardous substances are indicative of the construction practices of this period of industrial architecture, and require costly expenditures to remediate. No doubt, when faced with these costly demands compared to consecutively diminishing year-end profits, closure of the elevator was all but ensured.

A secondary effect of the longevity offered by the design was its inability to account for evolution in the grain handling process over time. Being exceptionally constructed for such a singular purpose, changes in grain transportation systems became increasingly harder to adapt to. Eventually, what was once a state-of-the-art transshipment facility became an outmoded, outdated and ultimately unneeded terminal elevator with mounting repair and maintenance costs far outstripping the profits of operation.

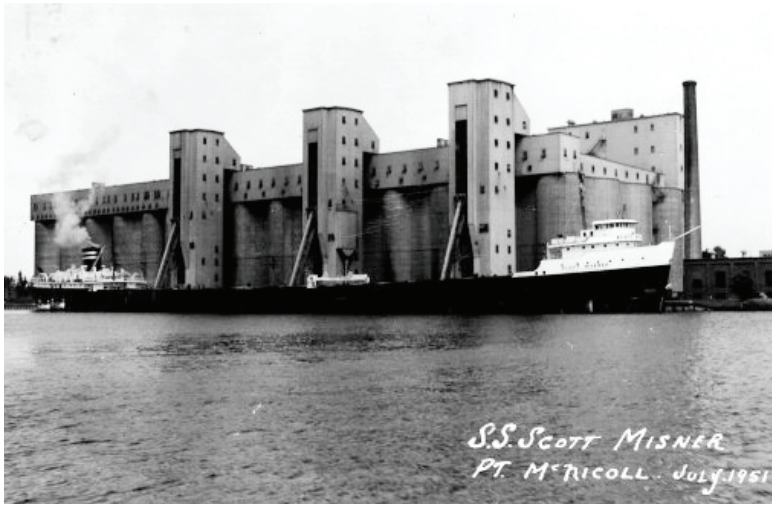
Perhaps the farthest-reaching source of obsolescence, however, was a shift in the direction and demand of the global grain trade. The impact of the World Wars upon the North American grain trade was immense and drove much of the shipping patterns upon the Great Lakes eastward and across the ocean. During World War Two, the city of Buffalo had more grain pass through its port than at any other in the history of civilization up to that point.[58] With the amalgamation of Fort William and Port Arthur in 1970, the newly coined city of Thunder Bay was purported to be the largest grain-trading city on the planet.[59] Sister cities Superior and Duluth, if not rivaling the facilities at Thunder Bay, then a close second to it, completed the gateway grain cities for grain shipped from the breadbasket of the North American west. Continents to the east hungered, and the grain trade of the Great Lakes prospered.

However, this trend did not last forever, as Reg Hawman explains:

"In due time Europe's appetite returned to normal and the St. Lawrence Seaway permitted the transport of grain to flow uninterrupted in one vessel to a single transfer to ocean freighters at Montreal, Three Rivers, Quebec and at Baie Comeau and Seven Islands. Many ocean vessels ascend the seaway to the lakes and load their cargoes for overseas directly."[60]

As seaways and seafaring advancements allowed ships to travel further, the need for storing and transshipping at points along Lakes Michigan, Huron, Erie and Ontario dwindled. The once proud port cities like Buffalo were soon littered with ruinous industrial giants, newly dark and empty.

Further compounding this and eliminating the need for both a portage terminus at the site of Collingwood as well as a large percentage of the great lakes terminal facilities in general is a dramatic shift in the hungering countries of the world. "Grain that had been previously heading east to Europe and Africa has been redirected to accommodate growing demand in Asia, especially China and India, and South America. Ocean freight rates are less than the cost of transit through the St. Lawrence Seaway, contributing to … Port Rupert and Vancouver's recent successes as a grain port. More and more, grain in central Canada moves westward, rather than east."[61]



Twenty-four years after the Terminals' closure, the 2017 construction of a new, $50 million-dollar G3 grain handling facility in Hamilton[62] permanently stamped out any hopes of a resurgent grain trade passage through Collingwood. Recently there has been enough of a small-scale resurgence in the eastwards travel of grains across the Great Lakes to merit such a seemingly large investment in Hamilton's harbour. That state-of-the-art facility belongs to a new generation of grain storage and transshipment facilities, and could possibly lead to the closure of more antiquated modernist concrete grain terminals. Much akin to the wood, brick, tile and steel facilities it once replaced, the Collingwood Terminals itself has been supplanted and rendered obsolete. Simply put, in this new age, the Collingwood Terminals is out of the way in the grain system, and cannot compete.

Figure 2.29 [Top] Grain Barge *S.S. Scott Misner* unloading at Port McNicoll, July 1951. A different composition than found in Collingwood. The slip-formed storage bins present a wavy, undulating surface, due to mirroring a section of the curving formwork to construct the connecting wall between the cylinders. Three mobile marine leg towers on rail tracks pass across the face of the bins to unload the barge. Rectangular Head House Tower in the background indicates the location of the train tracks that service the elevator from land. Built in 1909, demolished 2009.

Figure 2.30 [Left] G3 Grain Handling Facility, Hamilton, Ontario. The new typology of grain storage and transfer facility replacing the modernist style elevators.

2.6 Industrial Icon in the Retirement Era

Obsolescence struck at more than just the Terminals; the loss of manufacturing and industry by the 1980's was a familiar tale across the Province of Ontario. The Collingwood shipyards was arguably the pre-eminent force of employment and image-maker for the 'town with a ship at the end of its street.' The announcement of its closure in 1986 marked the beginning of the demise of the town as an industrial manufacturing hub. The 1993 closure of the Terminals snuffed out the other aspect of Collingwood's 'twin engines of commerce.'[63] Recognizing the need to ensure future economic success and prosperity, the town began to aggressively market and re-brand itself as a destination of recreation, healthcare, leisure, amenity and tourism.

Within a decade of the shipyards closure, already the town of Collingwood and region of southern Georgian Bay in particular were bearing successful fruits of this rebrand. The demographic lured by this plan, whether strategically so or simply a by-product of the confluence of offerings within the area, ia by and large, an older, affluent, Toronto based retired community. As noted in 1998 by Fred Dahms in the Geography Department at the University of Guelph: "… the nucleated settlements and dispersed communities along the shores of Georgian Bay provide a variety of amenities and recreational attractions found in few other areas of the province. Recently, they have attracted retirees and owners or renters of chalets, houses and condominiums."[64]

Dahm's report, by today's standards dated but still indicative of current demographic trends, further outlines the touristic lure of

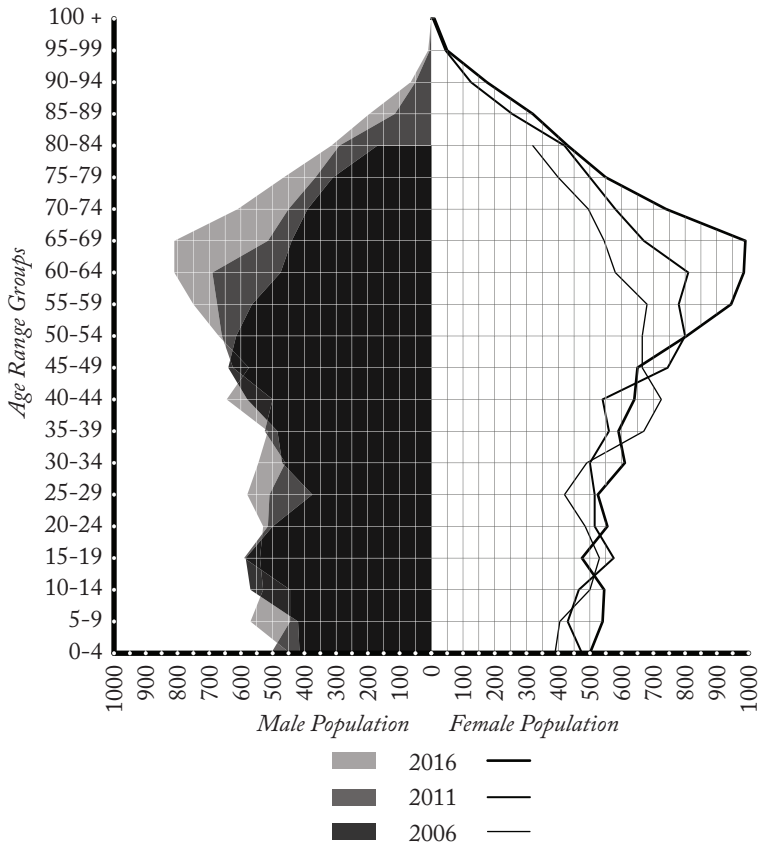


Figure 2.31 [Left] New dock and apartment building at the stalled Fram & Slokker Shipyards Development.

Figure 2.32 [Above] Collingwood's aging demographic, 2006-2016 derived from Statistics Canada Census Data.

the region that so appeals to a [semi] retired twilight generation. "Provincial Parks, conference facilities, golf courses, tennis courts, fishing charters, wind surfing, hunting, local fairs, drama festivals, music, snowmobiling and the largest concentration of downhill ski facilities in the province are all available within a relatively small area."[65]

In the decades since the rebrand, and exceptionally notable within the last ten years, the area has seen a veritable explosion of food and drink amenities, fine dining, a surge of arts and cultural offerings such as antique shops, galleries, historic sites,[66] and many other aspects indicative of a gentrified townscape. According to a 2011 economic development strategic plan for the Southern Georgian Bay Region, "Tourism is the dominant industry driving growth in all sectors of the regional economy and continues to be the fastest growing industry in the region…"[67] The County of Simcoe, of which Collingwood is the dominant population node, "…is ranked 4th in the province for tourism revenues after Toronto, Niagara Falls, and Ottawa."[68]

The report continues, stating that the "… geographical and likely economic and social connections between the South Georgian Bay Region and Toronto are significant."[69] The 2018 Five Year Capital plan forecasts that the next half-decade "…will see unprecedented growth for Collingwood."[70] It notes that the construction of dwelling units is expected to see a 43% increase over the past five years, however, the growth "…trend is more muted with new commercial, industrial and institutional space where forecasted growth is more in line with historical averages at 89,000 square feet annually."[71]

The effect of this relationship upon the physical composition of the town has had drastic consequences. Former industrial complexes, warehouses, factories, etc., without a reason for existence, began to be razed, and in one way or another replaced by condos, marinas, and gated waterfront communities. Co-opting the names of those industrial buildings and complexes they destroyed or replaced as nostalgic tiebacks and marketing strategies by development interests, they have become some of the last remaining remembrances from the towns industrial heritage.

While the loss of these industrial complexes is lamentable from an architectural and cultural conservation point of view, the removal of industrial uses upon the waterfront has had profound beneficial ecological and biodiversity effects. In the early 90's, due to intensive revitalization strategies, Collingwood Harbour was among the first in the province to be de-listed as an area of concern.[72] Since then, the cleanliness of the waters has proved a wellspring of civic pride and a sales point for further development investments.

The new face of the town harbour has been the subject of much speculation and numerous master plans, recognized by the town as a primary pull and *the* marketable asset for investment. Currently acknowledging its poorly planned state, the waterfront has become the boon of investment, with Town Council recognizing the need for a fully accessible, four seasons attractive leisure scape. A perusal today of the once infamous shipyards is littered with small attempts to monetize heritage. Seafaring names adorn street signs while public stairs with flagpoles are formed in not-so-subtle interpretations of ships hulls and masts. Of the purposeful nods to an industrial past however, only the Terminals continue to

blatantly hammer home the message.

John Wiggins, the founder of Creemore Springs, a former mentor to this author and a retiree who daily views the Terminals from across the harbour in his condo window, has grown tired of this message.[73] "'As far as I'm concerned, that little piece of land out there, which I call Harbour Island and everybody else calls The Spit, has that big hunk of concrete on it that's doing absolutely nothing – it doesn't pay taxes, and it's kind of in the way of a huge opportunity," explains Wiggins. "Unfortunately, everyone's in love with it, so whenever I mention knocking it down they want to hang me from the nearest tree.'"[74]

Wiggins' view highlights a persistent obsession with the inhabitants of the region that without an economically productive purpose for existence, something else should replace the terminals as the focal point of the harbour. This idea that the Collingwood Terminals and Grain Elevator must *either* function or disappear is part of a lingering fallacy prevalently shared within the older generation of citizens, a vestigial tieback to the days of an industrial town, an industrial ideal, now almost entirely erased by the post-industrial reality.

Figure 2.33 [Opposite] Flagpole and stair at the Shipyards Development.

Figure 2.34 [Top Left] Side launch mural upon the former Mountain View Hotel, a historic brick building beneath the layers of stucco. Demolished for a Rexall and BMO Bank location. Mural relocated to the Loblaws building.

Figure 2.35 [Left] A Side Launch in action, the infamous method used at the Collingwood Shipyards.

2.7 Politics and Permanence

While the comical remark about opposition to John Wiggins' demolition proposal in favour of a "…very meaningful, world class" arts and convention centre[75] indicates the perceived cultural and industrial heritage importance of the building, the future existence of the Collingwood Terminals remains far removed from certain. Currently listed within the Collingwood Heritage Conservation District and owned by the Town, it has been declared surplus and listed for sale in the past. Its current sale status is unknown.

The Tacoma Engineers *Collingwood Terminals Engineering Condition Assessment* commissioned by Town Council to assess the current structural integrity of the building is part of a due diligence process as the Town moves forward with implementing phase one of the 2016 Brook McIlroy *Waterfront Master Plan*. As Chapter Four's *Compendium of Defeat* will elaborate, the Brook McIlroy plan is absent any mention of options for the future use of the building save for a lighting backdrop and brewpub in the Track shed. The findings of the engineering assessment indicate 4 potential proceedings:

1. Full Remediation and repair – initial estimate for the complete repair is $8,000,000-$9,700,000
2. Phased Remediation and Repair
3. Abandon the Facility
4. Demolition - $5,000,000[76]

The outcome of both option 3 and 4 are the same, wherein abandoning the facility only means delaying the demolition costs to the future once the building is noticeably unsafe. While the report recommends option 1 as the most desirable outcome, and comes with a lower than anticipated estimated cost, the cheaper alternative of demolition bolsters those arguments of people like John Wiggins. A cash-strapped Town with currently $15.4 million of the $22.3 million phase one Waterfront Master Plan budget sitting unfunded,[77] and a council looking to ratify the 5-year budget plan may view the lower demolition cost as a necessary evil. Without any kind of proposal for a use in the building to further catalyze downtown tourism and the higher than demolition cost to maintain the closed-to-public restricted access use as a communications equipment tower, those who fail to view the building as a cultural icon will undoubtedly argue for its demolition.

Compounding this, there exists a very real threat represented by past dealings of the Town's governing body that could implement actions eventually leading to the Terminals' destruction. Due to the reality of small town familiarity 'everybody knows everybody,' and the fact that the following at this date remain as allegations only, a recounting of three CBC news articles will not contain names of individuals involved in potentially criminal dealings with Town owned properties. To withhold the following, however, would be remiss in due diligence to the research of this thesis.

In 2013 allegations came to light of alleged bid tampering in the sale of the Collingwood Terminals and adjacent lands. Without getting into specifics, the OPP anti-rackets branch investigated the Deputy Mayor [at that time] and now former Mayor [as of October 2018] who were implicated as attempting to instruct a

potential buyer to "…bid as high as $15 million – to ensure he won the bidding process."[78] Both parties denied these allegations, which were later dropped and no charges to this date have been laid. The sale did not go through.

The terminal buildings, under the ownership of the Town and within the Heritage District, require the approval of council for demolition.[79] When asked in a 2013 interview, the same former Mayor remarked, "I wouldn't approve it," continuing: "It is an icon."[80] The attempted sale of the terminals, prior to the development of the Brook McIlroy plan, was presumably implemented to secure funding to alleviate the mounting pressure in 2012 for new recreation facilities within the town.[81]

The resultant Sprung Structures inflatable insulated enclosures that were constructed to enclose a hockey rink and community pool at a cost of $12.4 million sparked yet more controversy, as outlined by a 2018 CBC news article. The article alleges a sibling to the former mayor may have used familial and close ties with town officials "…to secure a $756,000 consulting fee [in regard to the pool and hockey rink] that was hidden from taxpayers…" as revealed by police documents.[82]

This same sibling was involved in the January 2012 sale of a 50 per cent share of Collus, Collingwood's public utility company,[83] and has been a lobbying proponent for bringing an OLG Casino to the town. Interestingly, the $15 million sale price of the utility

Figure 2.36 [Top Left] Central Park Arena, Sprung Structures

Figure 2.37 [Left] Centennial Pool, Sprung Structures.

company was the same as the alleged bidding price advice on the sale of the Terminals, all within the same year. These allegations, featured in the June 19, 2018 CBC article alleging fraud and breach of trust within the members of Collingwood town hall,[84] and in combination with an ongoing public judicial inquiry into the handling of the sale of the Collus shares featured prominently within the 2018 political landscape. The former mayor did not seek re-election, and the foremost polling question for town hall candidates (as featured in a fall 2018 *On The Bay Magazine* article) was the question of their position on the future of the Collingwood Terminals.

Of the three mayoral candidates, only one was openly in favour of remediation and repair of the Terminals, while the other two remained undecided. On October 22 2018, a new Mayor, Deputy Mayor, and seven Councillors were elected. Apart from a singular Councillor who is publicly in favour of demolition, and a second who refrained from responding to the poll, the remaining newly elected Town Hall officials are unanimously in favour of remediation and repair.

While this news brought an immediate sense of relief to the author, in perusing the elected candidates' responses to the *On The Bay* poll, the conviction with which each new official holds to their position on the Terminals appears less solidly in place than at first glance. The Mayor elect states he is open "… to look at all possible options…," the Deputy Mayor Elect would "… like to

Figure 2.38 [Right] Centennial Pool, 2018. $12.4 million does not include landscaping or well-placed services. Sags and rips are prevalent in the enclosure membrane.

see a Terminal Steering Committee assembled…" while one of the seven councillors supports "… reasonable efforts to support the Terminals and, like many, feel[s] frustrated that another beloved icon may succumb to "demolition by neglect."[85] In fact, the singular opinion containing the most conviction and least amount of political rhetoric belongs to the councillor in favour of demolition:

"If no white knight comes to the table to create a public-private repurposing option, then the Terminals will have to be demolished. The good news is that our community will gain a large piece of land to add to the public spaces in the Millennium Park and Collingwood Pier area, and the wonderful uses… in the Waterfront Master Plan."[86]

While on the surface this new town hall supports a future containing the Collingwood Terminals as an intact structure and not as a pile of rubble they remain untested, and without a new proposal for the structure they could transition into a decision-making body with views of the Terminals not as an icon but rather a pathological permanence and obstacle to progress. Such a view could inevitably result in a vote in favor of demolition as they move forward with the multi-phased Waterfront Master Plan.

As Aldo Rossi once wrote:

"*Politics constitutes the problem of choices*. Who ultimately chooses the image of a city if not the city itself – and always and only through its political institutions. To say that this choice is indifferent is a banal simplification of the problem. It is not indifferent: Athens, Rome, and Paris are the form of their politics, the signs of their collective will."[87]

While there is every indication that the collective will of the Town of Collingwood is largely in support of allocating the visible past as represented in the Terminals for future generations, the actions of the previous Town Hall in regards to fraud, hidden funds, exorbitant costs in public projects far surpassing appropriate values, and opaque transactions with select few development interests actively shaping the built form and composition of the Town have left a poor taste in the mouth of the residents of Collingwood. The new governing body faces a large obstacle in how they proceed with attempts to successfully and non-detrimentally utilize the Terminals. On the opposing side of the razors edge, a new political face could decide on demolition over the real and perceived problems of repurposing an old grain terminal.

While acknowledging that future potentials in the political realm are outside of the scope and reach of the thesis, the hope is that this work may inspire or sway the opinions of those who are tired of looking at the 'White Elephant' situated outside Wiggins' window.[88] The hope is that the obsolescence of ithe buildings' use as a terminal grain elevator has not transcended to a view that the Collingwood Terminals are now an obsolete icon of a past disconnected from its current residents and best left behind. A plausible, forward thinking plan of implementing the Terminals within the Brook McIlroy *Waterfront Master Plan* as a catalyzing functional component and touristic draw to the region is the best hope to alleviate these concerns.

Uselessness of Function

Purpose Built Industrial Architecture

Dubbed the 'Redneck Pantheon' by the author, the adjacent photo illustrates a comically classical arrangement of architectural forms born from a reclaimed corrugated farm storage bin and some Texan-style ingenuity. It is just one of a proliferation of examples that appear in any online internet *grain elevator* and *adaptive re-use* search query. Setting aside the ramifications of attempting to forcefully merge rectilinear living arrangements within a circular geometry, an entire host of and subculture relating to repurposing vernacular farm bins and silos into apartments and rental units dominates many online internet 'trendy' living discussions and blogs. Despite the poorly resulting compositions the obstacles facing these attempts at adaptive re-use are small and easily overcome. The same cannot be said of adaptive re-use attempts for the industrial scale Great Lakes terminal grain elevator building typology.

Asbestos, lead, mercury, silica, polychlorinated biphenyls, mould and guano[89] – this list represents a selection of hazardous substances prevalent within the industrial architecture of the last century. Each substance is a powerful deterrent and health hazard preventing the safe occupation of a space in their own right; when combined with building and fire code non-compliance issues, regional economic downturns and purpose-built-spaces bereft of their intended purpose, the safe and energizing re-occupation, re-invigoration, adaptive re-use, or whatever misnomer seems applicable all become problematic in the least. All of these issues affect the Collingwood Terminals, and continually contribute to the dereliction of the Great Lakes modern concrete terminal grain elevator building typology.

Enterprising North-Americans abound in decommissioned industrial harbours attempting to each answer the tantalizing question driving this thesis: *What Now?* The leviathans of the Great Lakes have transitioned into obsolete landmarks, questioning in their dereliction everything they once embodied: "The forms of factories and grain elevators were an available iconography, a language of forms, whereby promises could be made, adherence to the modernist credo could be asserted, and the way pointed to some kind of technological utopia."[90] Their utopian dreams crushed - crumbling concrete shells now reflecting scenes from a dystopian nightmare – nevertheless this thesis is far from the first to ponder, or attempt to address these obsolete concrete grain terminals.

This chapter analyses existing proposals for a use after uselessness, beginning with Great Lakes examples, expanding outward to cover the North American continent and eventually across the oceans in search of satisfactory case studies. As this chapter will elaborate on, the expansion in the search of any type of grain elevator re-use away from the specificity of the Great Lakes is required in order to offer the broadest scope of examples. To date, the entrepreneurial minds of the Great Lakes all similarly flounder in the face of the magnitude of the obstacles placed before them.

Figure 3.1 [Left] Gruenne Homestead Inn, Texas.

3.2 A Use after Uselesness?

The problems represented by the Great Lakes Terminals are so daunting and systemically challenging that it begs the question of just what specifically lures people into admiration? Is it the impressive scale, or a sense of mystery? Is it the aesthetics of ruination or a nostalgia through a sense of imagined history? Perhaps it's the illusion of permanence by persisting throughout time? Is it all of the above, or something untouched as of yet in the thesis? Each of these Great Lakes grain elevators have become monuments in a sense separate from their physical presence, performing the role of urban artifacts as imagined by Aldo Rossi. The select grain elevators that still function in their original guise remain as propelling permanence's in trade driven port cities. Others like the Collingwood Terminals are pathological in their obsolete states and inhibit any type of perceived progress in the surrounding urban fabric.

The accretion of history and perseverance throughout time is key to Rossi's understanding of an urban artifact. It begins to explain the fascination of so many individuals with this concrete building typology. The barrier imposed by time removes the ability to criticize the architectural style of the work[91] and lends a sense of credibility to the building; it has lasted this long after all. The new G3 grain handling facility in Hamilton boasts an even more impressive storage capability and scale than most of the antiquated modern terminal grain elevators however scant few would protest its demolition on the basis of its cultural value. While G3 Hamilton is basically a functional collection of agricultural storage infrastructure in as much the same way as the modern concrete terminals are, it has not persisted long enough to collect an imagined sense of history to a forever-inaccessible past.

For Rossi, "…it is that richness of its own history…,"[92] which so endears an urban artifact. This concept is not lost on those who seek a use after uselessness for their pathological landmarks, drawn by the individual nature of their corresponding entry in the Great Lakes modern grain terminal building typology. Not all urban artifacts are grain elevators, and not all grain elevators are urban artifacts. Very few modern concrete grain terminals have transitioned past pathology in an obsolete state and catalyzed the surrounding urban fabric in the propelling manner indicative of urban artifacts as defined by Rossi. The vast majority simply linger in time. This characteristic is key to the Rossian understanding of these entities:

"Where does the individuality of such a building begin and on what does it depend? Clearly it depends more on its form than on its material, even if the latter plays a substantial role; but it also depends on being a complicated entity which has developed in both space and time."[93]

Casting aside materiality for a moment to focus on the idea of building form as a progenitor of importance, there is something inescapably captivating in the towering curves and lines that once drew Rossi to liken the grain elevator as a cathedral of agriculture.[94] While the building form is ultimately derived from engineering requirements, material characteristics and cost-saving measures, it is not strictly reserved for the grain elevator typology. Recently Zaha Hadid Architects were awarded honourable mention for

Figure 3.2 [Top] Munich Concert Hall Proposal, Zaha Hadid Architects.

Figure 3.3 [Below] Garrison Church of St. Martin, New Delhi.

their design proposal of the Munich Concert Hall, which bears more than a passing resemblance to the cylindrical storage containers of an urban grain elevator. The stark and powerful massing of the Garrison church of St. Martin in New Delhi, India inspires a strong comparison to the Head-House Tower and Distributing Floor of the Collingwood Terminals. Constructed at the same time, out of different materials, and separated by half a world, the resemblance between the church and grain elevator illustrates that the machine-building hybrids of the industrial past hearken to more than just a capitalist dream.

The Rossian interpretation of form further illustrates examples in old world cities where urban artifacts have been buried and changed within the city fabric and developed into armatures upon which the city builds. It is here that the obsolete modern grain elevator diverges as a static and unchanging entity throughout time, hence its pathological nature. This is due to its reinforced concrete materiality, a topic requiring further exploration in order to understand the non-universality of the assertion that this typology deserves to be saved and preserved.

Adrian Forty has explored the material of concrete in-depth, particularly its uniquely paradoxical nature as amnesiac to the past, beholden for its "… erasure and obliteration of memory…,"[95] while containing the inherent ability to last almost forever. According to Forty, as a concrete monument persists throughout time and acquires its own history and mythos, by its very nature it is seen to reject that which it acquires. In his essay *Concrete and Memory*, Forty examines the inherent "…presumption that concrete has no history – it is always new, always fresh…,"[96] while acknowledging

that concrete as a building material itself has been implemented for over a century now. All modernist terminals concerned with this thesis have persisted past the lives of their creators and builders.

The architectural style moniker of *modern* mimics this sense of newness and perpetuates the idea of a lack of history embedded within concrete. As Forty explains, "Those who make things out of concrete generally discourage us from seeing it as a historical material, a material that by now has a very considerable past. Its constant newness is one of the more persistent myths that attach to concrete.[97] As with the many criticisms of the modern style that these terminal grain elevators signify, the material of concrete is ultimately perceived as an alienating[98] non-natural tabula rasa, its impermeable surface refusing the same Romantic inclinations to nostalgia which are attached to hand laid brick or stone building constructions of the same age.

This explains the relative ease with which many aging buildings are almost automatically assigned the designation of culturally valuable and important to preserve while the modern terminal grain elevators flounder in purgatorial existence. Structures such as the Nottawasaga Island Imperial Lighthouse which is located just offshore to the northwest of Collingwood are undergoing restorative work based on public funding. As with the Collingwood Terminals, the lighthouse serves no purpose in this day and age and is inaccessible to the public. Despite this there has been no hesitation in the efforts to save and preserve it as a cultural icon. The lighthouse joins the illustrious group of historic schoolhouses,

Figure 3.4 [Right] Nottawasaga Island Imperial Lighthouse before repair initiative.

town halls, religious buildings, and downtown commercial heritage districts among others that the province of Ontario deems as valuable cultural currency.

On the flipside of this issue Richard Williams identifies the contemporary trend of converting industrial warehouses and factories into museums and other popular gentrified uses. For Williams, "No aspiring city is without its converted warehouse museum, a badge of cultural respectability signifying its accension to a realm of sophisticated, international urbanity."[99] The warehouse and other industrial detritus contemporary in age and style with the terminal grain elevator owe their ease of adaptability to their robust and open concrete construction. While the historical functions may be obsolete and gone, the industrial warehouse and factory building as an open shell can easily accommodate a new use for which it was not built. Unlike the grain elevator, its spaces were not so functionally determined that appropriate adaptive re-use appears an illusive dream. The curse of the modern concrete grain elevator and the success of the industrial factory are both due to their materiality: "With concrete, there is no going back. Its indestructability is both one of its most valued, and at the same time most reviled features."[100]

Despite the expansive environmental and hazardous material remediation costs, the apparent inability to adapt functionally derived spaces to new uses, the negative public perceptions of the building as an unknown and unknowable object, and its alienating form and materiality, the fact remains that the modern concrete terminal is a historical permanence that embodies an important aspect of the past. The simple truth is, it has survived this long, and on just that basis alone one can argue it deserves the proper care to continue in its permanence. The obstacle to this is that the concrete grain terminal can be viewed as the embodiment of modernity, a movement "…that dare not speak its name after acknowledging the catastrophes of the twentieth century and the lingering injuries…"[101] it played a significant role in. To those who cherry-pick the past it is one of those constructions best left forgotten. To those who feature in this chapter, it is something significantly important to be addressed.

The first step towards a new future for the modern concrete terminal grain elevator relies upon actively changing these preconceived notions of concrete, modernity, and alienation, illustrating the history, mythology, and allure to a perceptive public. Programs like the one instituted at *Silo City* are gaining traction in their efforts to champion the industrial beauty and cultural value of what was once considered waste-scapes littered with towering detritus. For the general public at large however, these instances of education and persuasion are few and relatively unknown.

Whatever the myriad reasons, whether the ones discussed above or something different entirely altogether, the fact of the matter is that numerous creative individuals and groups alike have all recognized something important or valuable within these leviathan constructions. Selections of their work offer themselves as a precedent study, indicating the vastly different approaches to addressing obsolescence in architecture. These projects range from beautiful and thoughtful interventions to wholesale butchery in the name of profit.

3.3 No Use, No Function, [No] Problem?

Silo City consists of a collection of grain terminals, warehouses, and a malting house and facility upon the derelict wasteland that was once Buffalo's grain trading centre. Historically the industrial pride of the city, the site dominates an island port on the highly polluted Buffalo River. Surreal and haunting, trees and scrub brush crop up through the remains of rail beds, flanked by cliffs of undulating concrete and stark towers punctured through with now dark day-lighting apertures. Together they form an industrial landscape mirroring natural wonders in a modern industrial interpretation. *Silo City* faces all the same hazardous obstacles of the Collingwood Terminals magnified five-fold. Undaunted by the scale of these issues, owner Rick Smith presses on with his plans for the site.

When first purchased, Smith and fellow business partners invested upwards of three million dollars to convert the existing grain terminals into an ethanol production facility.[102] Ultimately, the investment pursuit was a failure, one of the elevators on the site was sold to recoup some of the losses, and the complex was deemed incompatible with ethanol production. This failure left Smith in the familiar state of others who have tried and failed to use a building made for storing grains into a storage vessel for something else. It also left him scrambling to find a means to regain his losses and invariably led to a pioneering artistic free-for-all approach.

Self styled as a "…chaotic, slow-burn regeneration, not a restoration,"[103] Smith has implemented a freeform interpretation

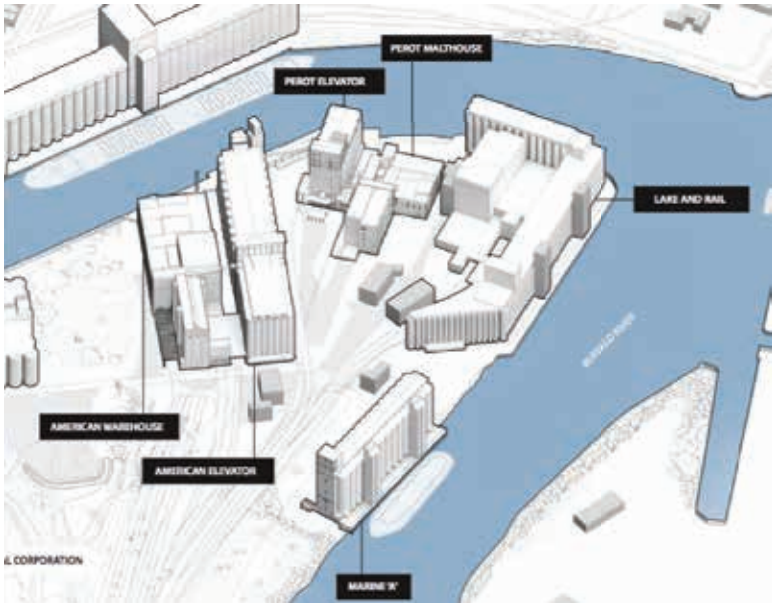


Figure 3.5 Silo.city Website Wayfinding Axonometric Diagram.

and use of the industrial building detritus he possesses. Taking full advantage of the different experiences offered, Smith encourages the use of the site as a testing ground for interventions, installations, and technological experimentation to alter and improve the experiences of visitors within the site. His free-for-all attitude is pervasive throughout, with any and all suggestions and hypotheses as offered by visitors and interested patrons able to gain full approval. As Smith explains, the interventions are exploratory in nature and there "…are no limitations because there are no definitions."[104]

Figure 3.6 Winter Installation, Silo City.

Currently, the *Silo City* website lists a plethora of experiences including historic grain elevator tours, Buffalo river history tours, kayaking and boating rentals, arts and culture offerings such as poetry readings within the work floors of grain elevators, live music festivals, theatre performances, film locations, photography workshops, and private event space rentals for weddings and other occasions amongst others.[105] The opening of the *Cantina* to sports fans looking to imbibe during the 2018 FIFA World cup represents the newest offering of the widely arrayed attempts to lure people to the site.[106] The amount and type of experiential offerings is augmented by partnering with various existing Buffalo history groups and tours in an effort to offer a truly dynamic and freeform use of the site.

Silo City appears to offer unbridled opportunity and a celebration of the unknown, mysterious, and functionless. The purposeless grain elevators and mills are interacted with in the guise of industrial ruins. This approach revels in the pursuit of finding a new sense of life in a space that was never meant to have a public face. At the same time it still continues to suffer from the same terminal

aspects of other great lakes grain elevators, and fails to provide for any long term lasting implications. The temporary and fleeting nature of the *Silo City* approach begs the question: is the renewed interest just a localized trend subject to the whims of the visitors or does the method provide a model for the very initial stages of re-invigoration whilst pursuing funding for a more grandiose scheme? This pervading question and attitude toward the site is best summed up in the closing remarks by Smith in an interview conducted by Lynn Freehill Maye:

[The] "American Elevator had gone up in a few months, I reminded him; figuring out what to do with it was taking exponentially longer. As he considered the timeline, Smith sat back and took another swig of beer. "I'll never finish it," he said. "I'm just trying to leave it better than I got it."[107]

While this sense of altruism may just be a cloaking device on an attempt to recoup financial loss, the recent addition of the Lake and Rail elevator which was previously sold to alleviate the financial burden of the ethanol blunder indicates otherwise. In summation the *Silo City* approach is an experiment in blanketing, interacting only with the existing visible constructed surfaces and spaces in a mostly intangible, temporal and easily erasable manner. Fleeting as the diminishing echoes of poetry with each reverberation down the elevator's work floor, the non-invasive and non-altering methodology is a relatively commonly applied approach within this building typology.

Figure 3.7 [Opposite] *American* and *Marine A* Elevators from *Perot*.

Figure 3.8 [Left] Mushroom Capital columns and grain spouts of the Perot Grain Elevator Work Floor, built 1907. Showing the differences and evolution in grain elevator design when compared to the Work Floor of the Collingwood Terminals, for example.

3.4 Billboard Space

The city of Omaha, Nebraska, possesses an obsolete inland grain elevator that is simply 'too big to demolish.'[108] Described as "visual white noise to 76,000 daily passing commuters on I-80…"[109] it was the subject of two temporary installations between 2010 and 2012. Titled *Stored Potential* and meant as a critique of contemporary urbanism[110] it was displayed upon the prominent face of the obsolete grain elevator. The work featured 26 temporary fabric mesh banners affixed to each concrete bin. Thirteen of these 20x80' displays addressed Land Use, Food, and Agriculture as the unifying theme in the projects' inaugural year, while the remaining bins were implemented in 2012 and thematically explored Transportation.[111]

Overall, the project garnered over 1000 submissions and featured a number of well-known architects, artists, designers, professors and planners on the two juror committees. Meant as a catalyzing agent to engage residents with the collision of suburban and rural edges, and address an obsolete monument of globalized agriculture, the temporary display resulted in further events addressing the concerns and conditions the works brought to light.

As a static, non-invasive artistic intervention, the objectives clearly outline a public engagement with the grain elevator not as an object of interest by its own design but rather as blank billboard space. Those interacting with *Stored Potential* were primarily the 76,000 commuters passing by at speed, witnessing a new banner in the short seconds of each morning and evening pass. While it was successful in its premise to question, illuminate and engage

not only the grain elevator but also the clashing infrastructures of Omaha's planning policies, the ultimate outcome is still one of unanswered questions.

Underwritten but inherently stated nonetheless is the presumption that despite this grain elevators' monumental scale it is not viewed as a monument in the same way others of the typology have acquired the status. Emerging Terrain, the firm behind Stored Potential, has today quietly disappeared along with the banners once proudly displayed upon the concrete curvature of the bins.

While questions about the city were raised and interests in the implications of these questions were piqued, ultimately the result is one of temporary intervention with no solid results rooted in the physical constitution of the city. The grain elevators still loom lifeless and empty, another bleary industrial artifact to those traversing the concrete snake that is I-80.

Figure 3.9 [Opposite] Monumental architecture as a means of communication to the masses.

Figure 3.10 [Top] Stored Potential in action. Twenty six banners portraying artistic interpretations of issues around Land Use, Food, Agriculture, and Transportation.

3.5 Interactive Facades

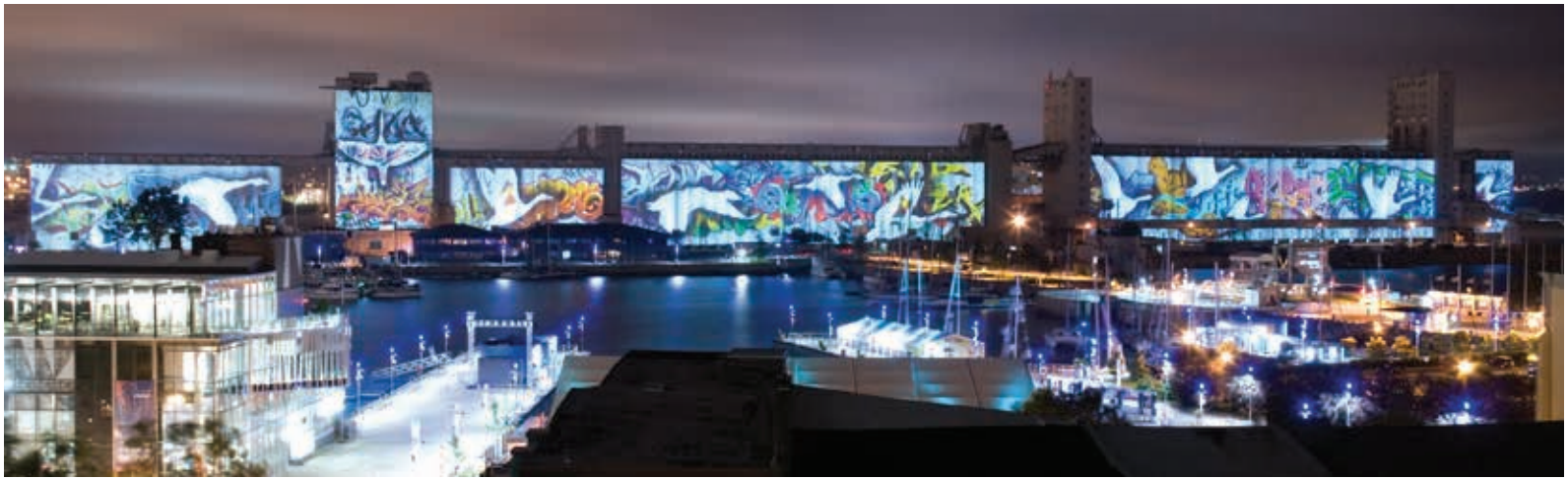
The G3 grain handling facility of Quebec City, Quebec, is extremely massive, fresh in its paint, and still in use. This lack of obsolescence has not stopped progressive minds from creating the world's largest outdoor multi media projection show, using the 600m long and 30m tall grain elevator as the projection screen.[112] Debuting in 2008 to celebrate the 400th anniversary of Quebec City, *The Image Mill* routinely drew near capacity crowds approaching 5000 people throughout its 66-day run.[113] Rain or shine, silent and reverent city-goers flooded to the little visited Bassin Louise to witness a multi-media narrative showcasing the City's collected history portrayed through slides, paintings, photographs, film, computer generated graphics and sound.[114]

This groundbreaking showcase of city identity shattered the previous Guinness world record for largest outdoor architectural projections upon Egypt's Great Pyramids.[115] Portrayed across an infrastructural monument with trade routes as far spread as the Mediterranean and Middle East,[116] it became a semi-permanent facet of touristic offerings in the Old Port. Throughout its 5 year run it inspired *Aurora Borealis*, a continued projection of 'northern' lights upon the Terminal' façade each day after sundown.[117]

The multimedia display of identity and 'illuminated sculpture'[118] of *The Image Mill* and *Aurora Borealis* are a continuation in the same vein as witnessed in both the *Silo City* approach and *Stored Potential*, namely a noninvasive interaction with the visible surfaces completed this time in a more technologically literate manner. Intangible and temporary, it concludes the triumvirate of non-destructive experiential offerings. The prevalence of these types of re-use are in large part instituted due to their relative ease of implementation when compared to more physical and invasive alterations. The similar characteristics between each of these projects despite the large geographical spread between each beg the question of what else can be done with monumental grain terminals? It appears that in each instance the same intangible conclusions were drawn by different minds and within relatively the same time period.

Figure 3.11 [Opposite Top] Image Mill.

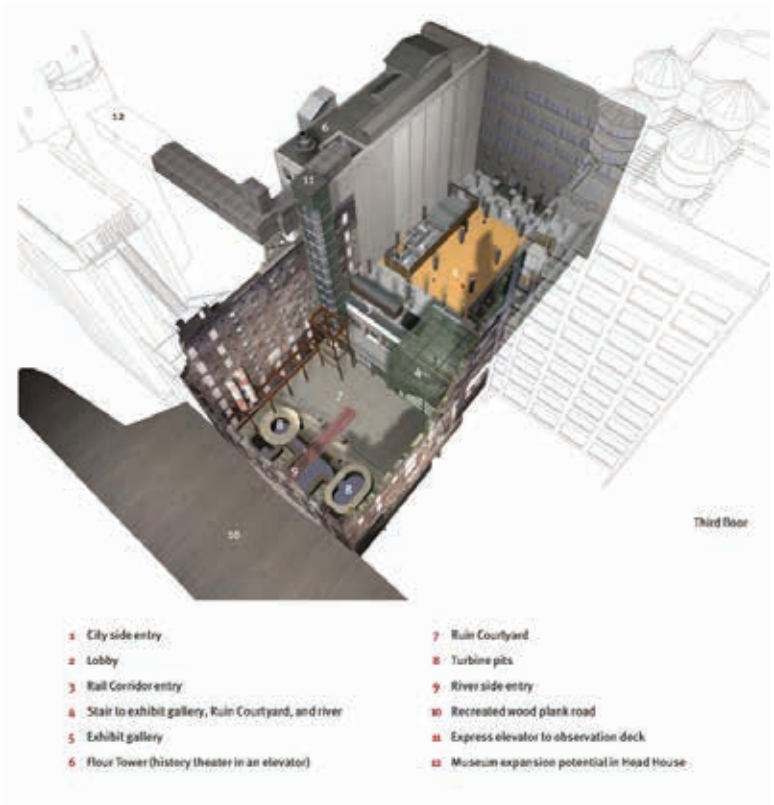
Figure 3.12 [Opposite Bottom] Aurora Borealis.



3.6 [Ad]Dressed Ruins

The design of the *Guthrie Theatre* by Jean Nouvel keeps the alienating concrete storage bins of the *Mill City Museum* in Minneapolis at arms reach as if afraid the severe austerity of the towering forms and its obsolete nature might spread. An effort in containment and adjacency, the theatre provides a public promenade and exterior spill space framed between its blue metal façade and the patched and dull, curving concrete. Leapfrogging the modern storage bins of the flourmill, the northern Mill Ruins Park is housed inside the rusticated limestone shell of the original Washburn A Mill.[119] The multiple sets of modern ancillary concrete storage bins and flourmill headhouse are almost identical in form and historically similar in function to their grain elevator counterparts and remain vacant and unused within the redeveloped Mill complex. Still standing, the problematic structures have at least been allowed to remain.

The fault is not due MS&R Architects of Minneapolis with their award winning renovation and conversion of the mill complex into a thoughtful program of children's educational museum and mixed supplementary uses.[120] The design actively interacts with the past through its treatment of the limestone shell as an artifact enclosing a garden of ruination with etched glass facades indicating the original locations of the antiquated millwork machinery.[121] The site strategy reserves the modern flourmill headhouse with the sole function as a bolting point for the proud '*Gold Medal Flour*' signage. With the concrete storage bins labeled as reserved for cooled water storage and energy retention, and the headhouse relegated to future expansion, the efforts to utilize the



modern structure are abundantly clear. The problem, as with all in this building typology lays in the difficulty in adapting any of the spaces when ample other structures are easier to renovate or understand and are readily available within the complex.

What initially appears as the first instance in this chapter of a physically altering adaptive re-use attempt in an obsolete modern grain elevator is in fact an act of subterfuge. Beyond the subtle difference that the structure is a flourmill and not a grain elevator, at first glance it appears to have been repurposed within the complex while in reality it remains in unused stasis. The National Historic Landmark status of the site prohibits the demolition of the concrete structure. When comparing the enormous costs of implementing the modern concrete spaces versus the design value and capital returns they would yield, the perpetually static nature of this structure remains ensured. The relegation for future use keeps it as part of the complex but passes the problem on to the next generation. Since the museum has operated the last 15 years without need or mention of expansion, the promise of future use reveals itself as a cloaking device to address the problematic nature of the structure without actually having to do anything.

Figure 3.13 [Opposite Top] Mill City Museum. The modernist flour mill and storage structure appear to be incorporated within the ruins of the original stone mill.

Figure 3.14 [Opposite Bottom] Jean Nouvel's Guthrie Theatre, separated from the museum and flour mill complex by a public promenade/piazza space.

Figure 3.15 [Left] Birds Eye perspective rendering of the museum complex, indicating that while the modernist flour mill appears utilized within the museum, it is in fact vacant and allocated for future use.

3.7 Armature

In contrast to the subterfuge and stasis of *Mill City Museum's* flourmill, *Frosilo* by MVRDV Architects and the *STAKES* and *Senate Properties* Office Buildings by Heikkinen-Komonen Architects dramatically alter the composition, building form and programmatic use of their respective industrial remains. *Frosilo* consists of a set of two cylindrical concrete storage bins converted into private housing units, while *STAKES* and *Senate Properties* repurpose a former grain and root vegetable storage facility within an industrial complex into office space.

The two projects take a similar approach to the concrete structures they convert. Utilizing the towering bins as vertical circulation cores, each project treats the industrial storage architecture as a solid armature around which to construct their program. In *Frosilo,* the effect and treatment is immediately apparent, while in *STAKES* and *Senate* the effect seems less of a purposely bold and deliberate move and more of a problem solving application of re-appropriating the existing space.

The MVRDV website blurb for *Frosilo* indicates the ongoing European trend of industrial waterfront conversion into high-end residential areas. It outlines the "…excellent views, waterside location and proximity to the [city] centre…"[122] as the primary driver for this trend. Restricted by the structural capacity in the amount of permitted openings through the existing concrete bins, the ingenious solution was to cantilever the residential units on the exterior. According to MVRDV, chopping up the interior of the bins with walls and slabs would be sacrilegious to "…the

most exciting aspect of its present state: its emptiness."[123] The glass dome ceiling bathes the high-contrast space in light.

The Heikkinen-Komonen offering on the other hand resembles at first glance the *Mill City Museum*, with its collision of differing industrial architecture types. Unlike *Mill City Museum*, the cylindrical storage containers are actually featured within the use of the building, if only as containing shells for stairs, elevators, and what appear to be restrooms. In opposition to *Frosilo*, the architects here had no issue with dividing up the cylindrical spaces with walls and floor slabs.

Ultimately, these two projects are quite far removed from the modern grain elevator building typology of the Great Lakes. While the storage bins are still a defining feature they are few in number and easily adapted as circulation armatures. In the extreme instance of *Frosilo* they are the only features. In the more standard long and thin oriented rows of storage bins found upon the Great Lakes, these approaches can inform and satisfy a use for a few of the empty bins, but fail in a proper accounting for the multitude of others.

Figure 3.16 [Opposite Top] Frosilo by MVRDV from the exterior. Two former industrial storage silo's provide the armature for cantilevered apartments.

Figure 3.17 [Opposite Bottom] Interior circulation within the silo space.

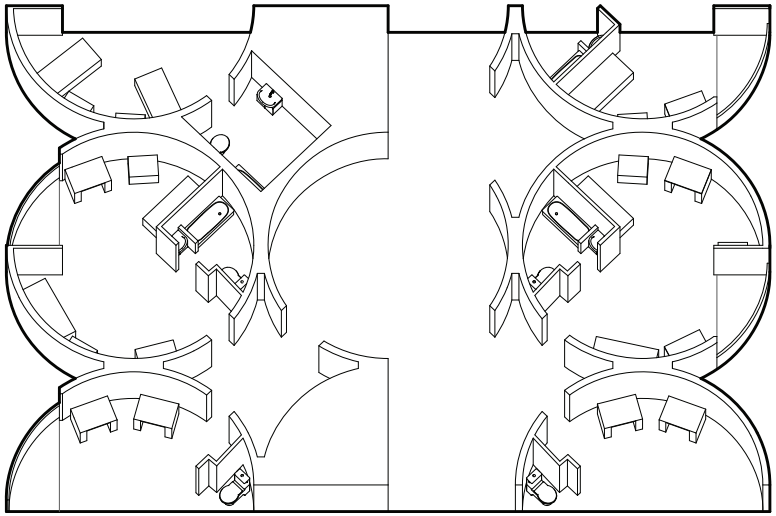
Figure 3.18 [Left] A modernist storage structure breaks up the brick facades of the STAKES and Senate Building. Utilized as vertical circulation cores and mundane storage and water closet enclosing shells.

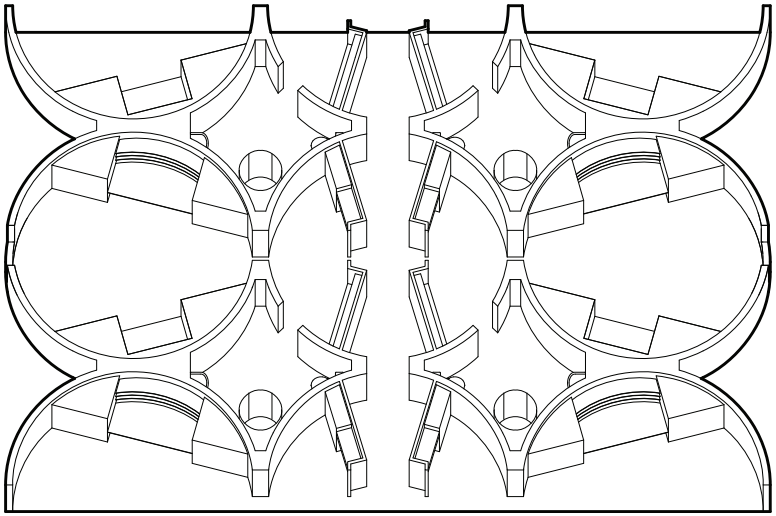
3.8 Forced Retrofits

The former *Quaker Oats* Storage Facility of Akron, Ohio, reserves a special position in this thesis in that its 1970's conversion into a hotel, restaurant, and mall[124] was executed to such a ill-conceived and deplorable state that it merits mention a second time (Refer to 1.4). Completed decades before MVRDV's notions of sacrilege by dividing up the towering cylindrical storage bin interiors, this unfortunate project unskillfully hacked the 36 storage bins[125] into short and claustrophobic hotel rooms. Today the former hotel functions as a residence hall for some 400 University of Akron students.[126]

Pie-shaped plan protrusions for the bathroom walls and permanently closed off balconies disect the circular plans, causing awkward collision geometries and unfortunate resultant spaces. This project represents the model standard for showcasing the inherent problems of marriage attempts between rectilinear partitions and curving enclosures. The treatment of the exterior fares no better. The aesthetic desecrations of the awkward balconies to the curving storage bins and the decorative façade treatments effectively erase the identity of this once-industrial storage complex, and instead loudly shout to the world that it is nothing more than a hotel conversion. Presumably completed with a profits-over-aesthetic composition mantra, this project features prominently in grain elevator conversion and adaptive re-use literature.

Similarly, when HRTB Arkitekter took on the role of retrofitting the former Nedre Foss Mill[127] grain elevator and corn storage facility into student housing, it shared like-minded aspirations





and re-use strategy with *Quaker Square*. Fortunate to not carry the additional onus of 70's American hotel design-chic, the 226 room,[128] 19 storey *Grunerlokka Studenthus* of Oslo, Norway[129] features prominently along the river banks. A late addition to the industrial building typology, the elevator functioned from its construction in 1953 until the early 90's[130] when the now familiar tale of obsolescence driving forces struck home.

The *Grunerlokka Studenthus* represents a better example of resolving problematic geometries in plan. The strategy allocated space within the central bins to create a double loaded corridor and also provide a kitchenette and storage space for each suite. It uses the star-shaped leftover interstitial spaces between the bins for washroom facilities, and relies upon custom made furniture to alleviate the awkwardness of the curving enclosure. The overall strategies represent good practice and problem solving skills. Unfortunately, despite the good intentions the oppressive nature of the dimly lit, concrete encased spaces begs the question: should a space only designed to house grains be used to house people?

Figure 3.19 [Opposite Top] Quaker Square isonometric projection, illustrating the approach to repurposing the cylindrical storage structure into hotel rooms (now university dorms).

Figure 3.20 [Opposite Bottom] Quaker Square from the exterior, an L-shaped collection of 3-wide storage bins.

Figure 3.21 [Top Left] Grunerlokka Studenthus isonometric projection, illustrating the more thoughtful approach to repurposing the cylindrical storage structure into student housing.

Figure 3.22 [Bottom Left] Grunerlokka Studenthus, a 3-wide cylindrical storage structure adjacent the Headhouse.

3.9 Erasure in Search of Profits

Turner Development Group and Parameter Inc. aggressively market their luxury condominium and mixed-use development project branded *Silo Point,* in Baltimore, Maryland.[131] Towering upon the Patapsco River,[132] the mass of 228 high-end condominium units with 20,000 square feet of requisite spa, salon, restaurants, retail and office space[133] dominates the upper tier of the city's housing market. Indistinguishable from similar condominium projects found in most major North American cities, upon first glance a casual visitor perusing the riverfront would never know the building is a partially converted terminal grain elevator.

The 1924 mass of reinforced concrete once boasted a 3.8 million bushel storage capacity and was popularly lauded as one of the 20th centuries largest ocean bound grain transshipment facilities.[134] Formerly the Baltimore & Ohio Locust Point terminal grain elevator, it featured a 220' tall rectangular workhouse with an adjacent collection of storage bins, each 16' in diameter and arrayed in a 13x14 bin grid.[135] Originally topped with a double-height distributing gallery, the complex of storage bins and towering workhouse differs in drastically in composition to the Collingwood Terminals. Of the original 338 concrete storage containers (182 bins and 156 interstitials) a paltry 13 survived the wrecking ball. Demolished to make way for the parking garage, the lonely survivors congregate in small groups at the corners, their patchwork ruin lost amid the visual noise of the *Silo Point* composition.

Extending from the garage up the back of the workhouse tower,

three metal clad protuberances appear to house elevator cores and stairs, possibly meant as historic reminders of mobile marine legs although the buildings' distance from the shore renders their historic use an impossibility. Together with minimal examples of aged concrete or exposed mushroom capitals on columns in the interior, they represent the select few historical references to the building stock and were most likely kept as marketing ploys. The incorrect moniker of *Silo Point* bears the largest semblance to any purposeful acknowledgement of the building's heritage. At some point, this project raises the question of why keep any of the original building stock at all when any visible semblance of the past is removed in such a complete manner?

Figure 3.23 [Opposite Top] *Silo Point* in Baltimore, Maryland. With the exception of the name upon the signage and the small cluster of storage cylinders, the fact this was once a prominent Terminal grain elevator is easily missed.

Figure 3.24 [Opposite Bottom] Apartment clusters framed between storage bins, the rest razed to provide a parking garage.

Figure 3.25 [Left] Aerial view of *Silo Point*. Apart from the aforementioned cylinders, and beige rectilinear protrusion of the Headhouse, nothing else remains to indicate its past use.

3.10 Vertical Recreation

The *North Texas Outdoor Pursuit Centre* of Carrollton, Texas and *Climb Up* of Oklahoma City engage in one of the most popular thought-experiment types applied to the hunt for appropriate adaptive re-uses inherent within such a vertically oriented building stock: rock climbing. Housed inside modern inland urban storage elevators of similar compositions and relatively close proportions, they each purport to contain some of the longest indoor climbing routes of the United States,[136,137] with some claims reaching global aspirations.[138]

Although it is a relatively low-cost re-purposing endeavor and apparently straightforward enough idea in hindsight, the monumental grain elevator of Carrollton, Texas, underwent three decades of differing adaptive re-use program experiments until its final transformation into 'the worlds tallest indoor climbing gym.'[139] Constructed in 1950 as the Blanton Grain Tower,[140] the building was purchased in 1974 and stripped of all interior machinery, and consequently rented out. Over the next decades the former grain storage tower housed everything from "…a sheet-metal fabrication shop, an automated steel cutter, Golden Cab Company, a woodworking shop, and a furniture-staining business."[141] The 1994, $30,000 alterations into a Rock Climbing Gym by Russell and Karen Rand didn't stop the transitional tide, as in the decades since the conversion the gym has changed ownership and management numerous times.[142]

Comprised of a reception area, a training room, lounge, map and study room, weight area, dark climbing trails within two of the

Figure 3.26 [Left] A man scales the interior of a storage bin, *North Texas Outdoor Pursuit Centre.*

Figure 3.27 [Top] *Climb Up,* Oklahoma City, formerly Rocktown indoor climbing gym.

interstitial geometries, and varying difficulty climbing trails within the 10 bins, the entire composition is a crude, amateur effort. With confusingly complex navigation routes throughout the facility, holes smashed through the reinforced concrete acting as circulation routes forcing visitors to crawl through, non-complaint stairwells and 'workout spaces' infringing upon circulation paths,[143] the building functions amazingly akin to the real-life cliff faces and cave complexes it is meant to train for. Currently one of three programs run by the *North Texas Outdoor Pursuit Centre*, it is meant to act solely as a training enclosure to prepare for the challenges to be faced in the wild. In stark opposition to its monumental exterior stature, it is not treated as a destination in and of itself, but purely as an intermediary to hone skills and climbing education.[144]

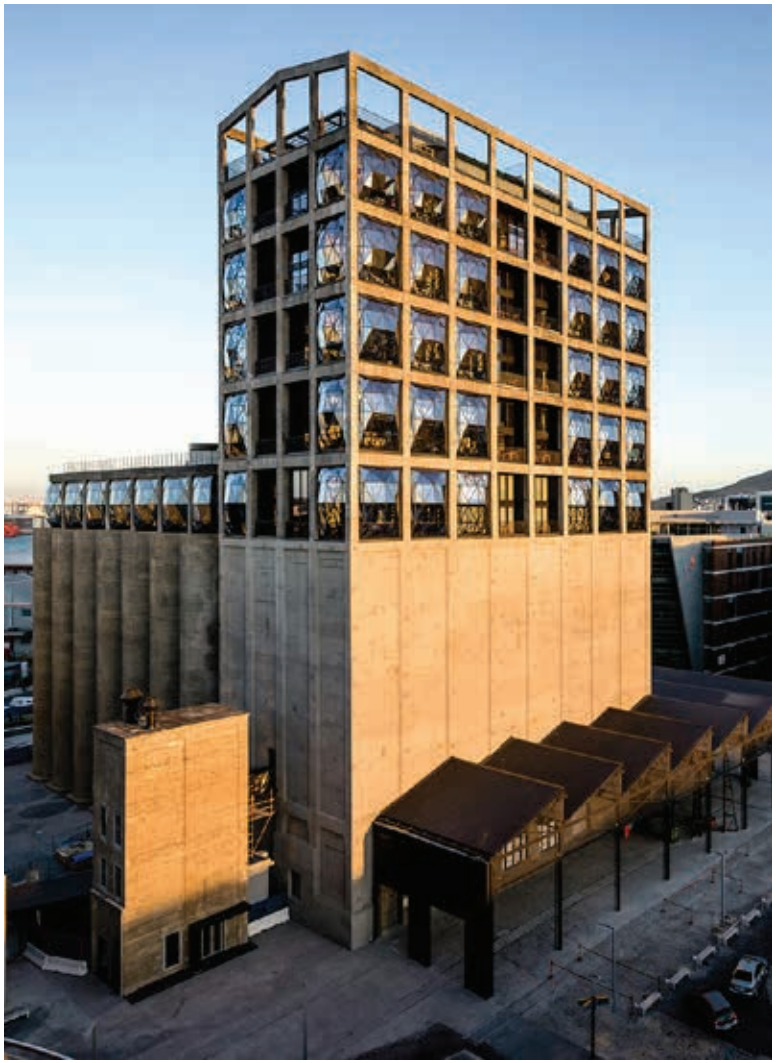
Similarly styled and executed, *Climb Up* shares much in common with its Texan contemporary. Changing names and operators numerous times since its 1999 conversion,[145] the experience is altered slightly with the new addition of geothermal climate control within the building and a winterized area boasting a seasonal ice-climbing offering.[146] The pristine whiteness of the *NTOPC* is replaced here with a psychedelic mural, and the setting within a blasted landscape of industrial sheds, weed-encroached gravel parking lots and unused railways starkly contrasts to the downtown locale of its rival. However, the two projects are identical in their purpose – utilizing a vertical space to generate experiences of exhilaration. The buildings are merely a precondition to the set-up of the foot and handholds of the climbing paths, and little effort apart from the scale of the buildings' verticality has been made to treat these small-scale monuments as anything other than encasing shells to shed adverse weather.

3.11 Cultural Icon & City Image Making

Amidst fanfare and architectural excitement, the *Zeitz Museum of Contemporary Art Africa* opened its doors to the public on September 22, 2017.[147] Renowned as a beautiful and responsible-to-the-typology example of adaptive re-use for an industrial monument akin to a grain elevator, it has garnered praise and publicity the world over. Envisioned as Africa's Guggenheim Bilbao or Tate Modern,[148] the Thomas Heatherwick design aims to become a physical celebration of "… Africa preserving its own cultural legacy, writing its own history and defining itself on its own terms."[149] Prominent within the Victoria and Alfred Waterfront of Cape Town, it stands as the apotheosis of any such institution on the continent.

The current poster child for adaptive re-use within the typology, the historical legacy of the former maize grading tower and storage facility shares all the familiar aspects of obsolete grain elevators. Once the tallest sub-Saharan building on the continent,[150] it dominated the maize trade from its construction in 1926, until its eventual demise due to containerized shipping[151] in 2001.[152] The de-facto point of interchange for the grains from half of the continent, everything produced in the farms to the north was collected and stored in this building to await distribution to the rest of the world. [153]

Vacant for over a decade and centrally located within the monetized Silo District of the V&A Waterfront, numerous re-use proposals were plagued by the harsh realities of the resistive construction typology. Monumental from the exterior, the form-defining



storage bins segregate and dissect the interior to the point that there are no large spaces conducive to almost anything other than grain storage. The success and boldness of the Heatherwick design resulted directly from this problem, as well as a fear that without an awe-inspiring interior, the art museum program would fail in its promise to invite and engage the local African population.[154]

The selective destruction carried out within the fortress-like façade retained the monumentality of the exterior, whilst carving out spaces for the museum displays. The captivating central atrium, Heatherwick's 'heart'[155] of the building, illuminates the dynamism and plasticity inherent but never before realized in the plan of the storage bins. Based upon a 3d scanned and up-scaled grain of corn found within the building,[156] the 10-storey atrium space's irregular geometry creates captivating and awe-inspiring intersections where it surgically excises vast thicknesses of concrete. With the removal of the storage bin structure around the perimeter of the atrium, as well as within the lower levels of the adjacent grading tower, the rest of the design focus was upon "…simple, really high quality, calm spaces with great lighting…"[157] to showcase the art displays. Selective retentions of the historical function, such as the grain chutes now as a ceiling feature within the entrance, allow the history of the building to be explored in synergy with its new use. Capped off with glass ceilings, a 28-room boutique hotel[158] and faceted lantern-like windows, the building truly stands as a beacon to contemporary art upon the waterfront.

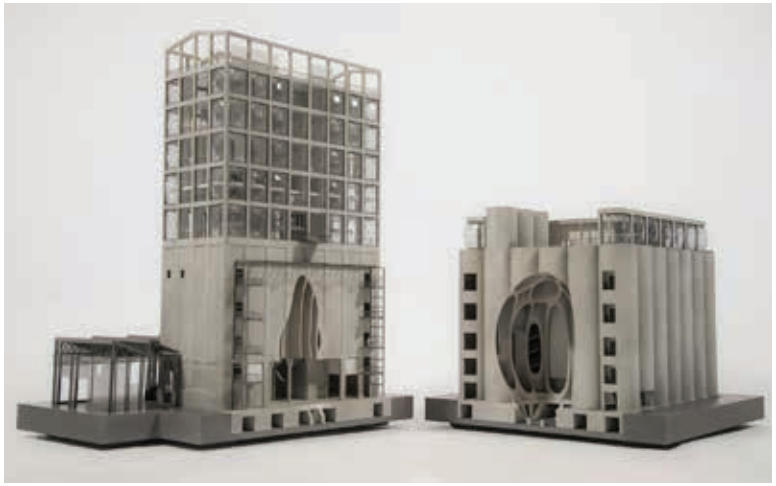
Figure 3.28 [Opposite] Zeitz MOCAA, the lantern-esque windows displayed as a beacon upon the Victoria and Alfred Waterfront.

Figure 3.29 [Left] Central Atrium. Carved in the shape of a corn kernel found within; displaying the inherent dynamism of the storage structures.

David Green, the CEO of V&A Waterfront, a private company which owns 123 hectares[159] and over 250 buildings[160] of Cape Town's coastline, outlined the 5 parameters they perceived as necessary for the conception of such a building: capital to build, a foundation to cover the cost, the publicity associated with a Starchitect, an art collection, and a curator.[161] Constructed on a ridiculously low budget of 38 million USD,[162] the privately owned (By V&A Waterfront) not-for-profit museum combined the celebrity associated with Heatherwick Studios, the private art collection of eccentric Puma millionaire Jochen Zeitz and curator Mark Coetzee. This synergy of players has since has become the subject of numerous criticisms.

As early as two years before its opening, concerns of its opaque acquisitions structure,[163] single person selection system, associations akin to insider trading (with Scheryn Art Fund for example),[164] accidental but unfair influences upon the local art scene,[165] the fundamentally 'Western' execution of a building purporting to be the vessel for Africans to voice their African-ness in what is essentially the least African city upon the continent,[166,167] among many others were raised. The Globe and Mail's Africa Bureau Chief, Geoffrey York, sums up the tense social and cultural issues embodied within the building: "…In a country that remains highly unequal, could it stake off the legacy of apartheid? In a city of tourists and affluent elites, could it reflect a broader pan-African vision? And could it overcome the barriers of poverty and the lingering racial divisions?"[168]

As an architectural example of adaptive re-use as pertains to this thesis, the building is a selection of absolute beauty. As a mission



statement to promote African Voices, African Art, and an African definition of Identity through its contemporary artworks, however, the building remains mired in unrealized aspirations and troubling undercurrents of long-lingering inequality. Built upon former coal sheds with links to funding from slavery,[169] inside a wholly colonial monument in an agricultural-industrial system, in a city where the standard ticket prices are out of reach to the people the museum is aimed at attracting,[170] and where the hotel rooms range in cost from $872 to $10,124 USD a night,[171] the failure of these aspirations is made abundantly clear.

Ultimately, this stunningly illuminated lantern signifying openness and accessibility, and acting as a beacon to African contemporary art is as closed off to the citizens of the African Diaspora as it was in its previous, fortress-like existence. The lie the glass lanterns tell is that the building is open to everyone, while in reality the transparent glass is more solid and impermeable than the concrete façade that was carefully sculpted away.

Figure 3.30 [Opposite Top] Sectional Perspective Rendering, illuminating the hidden extents to which the building was tastefully deconstructed to provide both historic resonance and usable museum display space.

Figure 3.31 [Opposite Bottom] Model of the central atrium as the connective space between the headhouse tower block and the storage bin structure.

Figure 3.32 [Top Left] Under construction aerial photograph. The exterior perimeter wall requires new concrete bracing to provide structural rigidity after removing the interior.

Figure 3.33 [Left] Historic photograph. An imposing, fortress-like monument in a colonial city, an icon to the domination of the grain trade upon the southern half of the continent.

3.12 Functionally Formed and now Functionless

The elusive search for an appropriate use after uselessness that consumes this chapter scoured entire countries and continents, all to seemingly no avail. As recognized in the preface, the problems represented by – and facing – the modernist terminals and grain elevators of the great lakes are systemic throughout the typology, to the point that very few, if any, have had any other successful function or use applied to their remains after enduring the silent ravages of time and obsolescence.

This chapter was forced to step away from the specificity of the great lakes, to explore inland rural and urban elevators, oceanic-linked terminals, different but related industrial-agricultural facilities such as malting or flourmills, and even one instance where the building was not yet obsolete. This search expanded outward from the identified problem of the Canadian great lakes terminals, in the hopes that foreign minds might have solved the inherent problems of the terminally ill typology. The merits, advantages, disadvantages, and cultural value (or degradation thereof) represented by these select few choices were picked to illustrate the widest range of variety and options, to best understand applicable potentials suited for the Collingwood Terminals and grain elevator. This chapter was meant not only as a search in the pursuit of *appropriateness*, but also an architectural discussion around the inherent obstacles caused by the term *obsolete.*

Ultimately, however, each and every example explored within this chapter - and others not included – invariably destroyed that which they were trying to save. Even the *Zeitz MOCAA*, arguably the

only responsible and truly beautiful building within this chapter, engaged in a mission of subterfuge to mask the actual amount of demolition required within the monumental exterior, and was only realizable through a confluence of events and patrons that is quite simply almost virtually impossible to replicate in a small southern Ontario town of some 20,000 residents.

The final possibility of this chapter is one that the elusive search was meant to circumvent: destruction. Eventually, once every other option is exhausted, demolition will come. Either by the slow crunching of concrete with hydraulic claws mounted on excavator booms, or through implosion, wherein holes will be drilled, explosives will be placed, and the charges blown. The event will be a sight to witness, and despair over. The mound of rubble will be crushed into aggregate and recycled into other building projects, the final type of re-use.

That is, assuming every avenue has been thoroughly exhausted.

Figure 3.34 [Opposite] Demolition of the Simcoe Elevator, Midland, Ontario.

Figure 3.35 [Top Left] Dwarfed by comparison, excavators hydraulically peck away at the base of the cylindrical storage bins in Huron, Ohio, 2012.

Figure 3.36 [Left] Perched atop the mounting rubble, the precariously positioned mass of concrete defies best efforts to knock it down.

Compendium of Defeat

Volume I: The Failure of Adaptive Re-Use

A jumble of tangled rubber belting lies contorted around its fixed grain scoops, the heaped mass perched atop the concrete rubble remains of its superstructure in Huron, Ohio. A victim of the now familiar obsolescent forces, this one-time grain elevator serves as the perfect visual aide to illustrate the perceived need for adaptive re-use within the typology. The projects discussed in the previous chapter represent just a small cross-sectional analysis of the multitudes of grain elevator conversions and adaptive re-use projects. With few exceptions, they each destroy that which they are intrinsically attempting to save and preserve. This chapter brings these failures home, applying the various strategies and program typologies to the Collingwood Terminals and Grain Elevator, visually demonstrating the destructive potentials across the range of examples.

Drawing from a list of failed proposals, stalled re-use projects that never escaped idea stage, and popularly expressed opinions in social media content, newsprint, and online articles collected throughout the duration of this thesis, these illustrations range from inspired on a comically insane level to the insensitive and the absurd. They were generated for this thesis based upon this author's fairest interpretation of each re-use strategy, as in the initial stages of research they were viewed as possible future avenues to 'save' the Terminals. It became abundantly clear, however, despite best efforts to compose visually striking illustrations of these proposals that each one, no matter how compelling, was ultimately inappropriate to the building and everything it has come to represent.

Included within this volume are a selection of this author's failed proposals. As with the other visualizations, for some the influences of precedent projects are abundantly clear, while others appear as curveballs from left field. Each of these were informed and developed as the research unveiled the hidden complexity and defiance of re-use by the immutable construction of the machine-derived enclosure and pushed the proposals further afield. Due to the hunt for appropriateness, these designs invariably found their way into this section not because of tangible impossibilities of implementing each, but because time and again, they inevitably destroyed the essence of what they sought to preserve.

What follows is a collection of possibilities; each defeated in a different manner by the single most problematic and iconic landmark upon the shores of southern Georgian Bay. Resolute in its stature, it commands an entire compendium of defeated proposals, a testament to its singularly stubborn defiance to the concept of adaptive re-use. The ideas expressed within these proposals overlap with one another and can be viewed as complementary to each other.

Figure 4.1 [Left] Grain Elevator Mechanism removed during demolition of the Huron grain elevator.

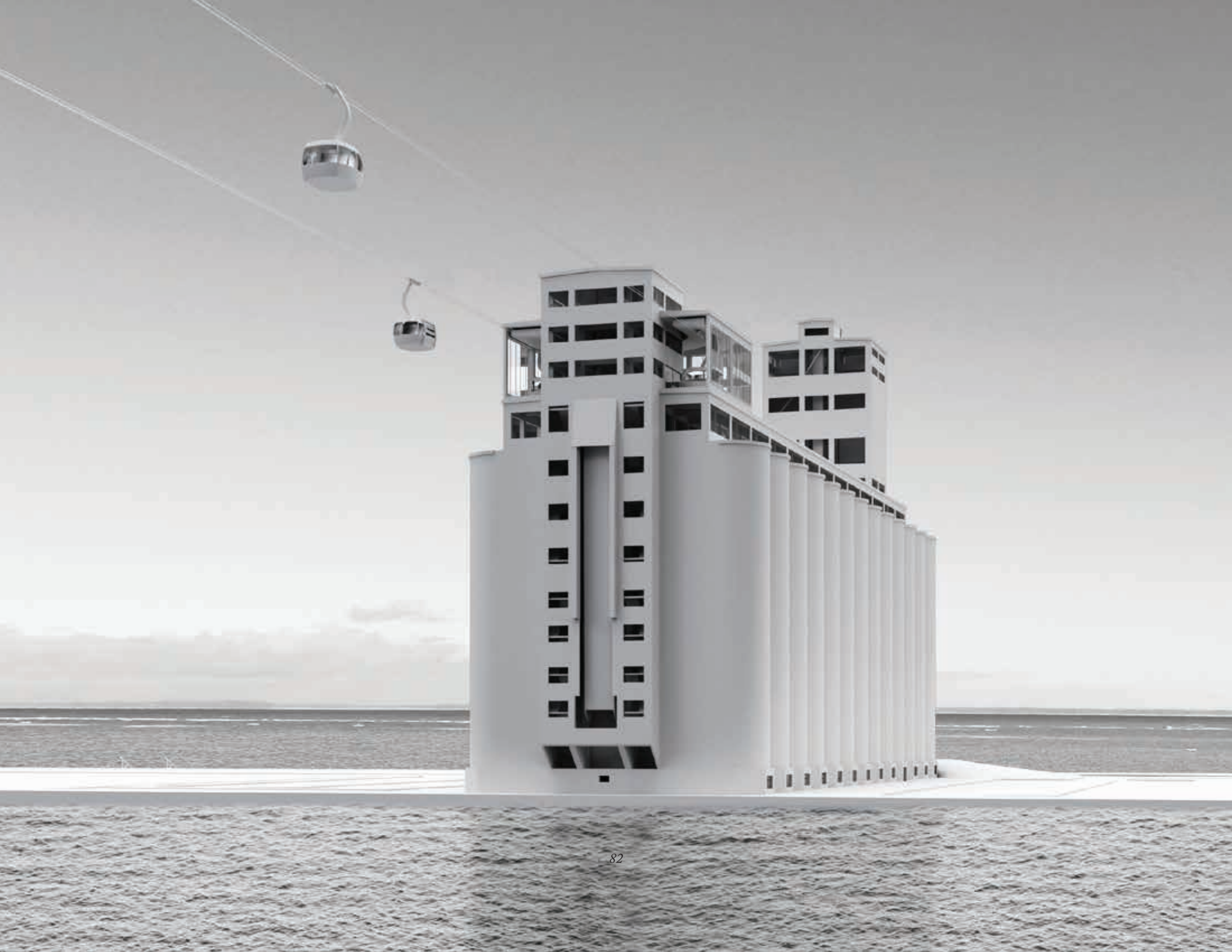
4.2 Collingwood Aerial

The brainchild of a local engineering firm,[172] this concept focuses on using the existing building stock as a launching platform for an aerial gondola extending to the top of Blue Mountain Resort. Scant details were forthcoming in online inquiries, so artistic license was used in the depiction.

A logical application of this idea utilizes the marine tower as the structural anchor and point of departure. Initial concepts explored using the interior of the upper three levels and removing a small portion of the southwest façade, however the dimensions are too restrictive to facilitate the turning radius of the passenger cars. The scheme depicted uses loading and unloading platforms affixed to the north and south sides of the Marine tower, with the cars revolving around it. The most likely path of travel to the distant escarpment would extend across the harbour and turn northwest to follow the former Collingwood-Meaford Rail line (now part of the Georgian Trail) until turning southwest to extend up the escarpment at Blue Mountain Resort.

Despite using the existing right of way of the Georgian trail, large portions of the pathway would require leasing or purchasing of the land to erect towers, and there exists the potential for public outcry about the visual clutter the passenger cars would add to the harbour view. This proposal would require remediating the marine tower, particularly updating the existing stairwell as well as erecting an elevator and secondary means of egress. Issues of ownership, funding and ridership numbers present some of the largest obstacles to the realization of this scheme.

Figure 4.2 [Right] Collingwood Aerial Visualization.



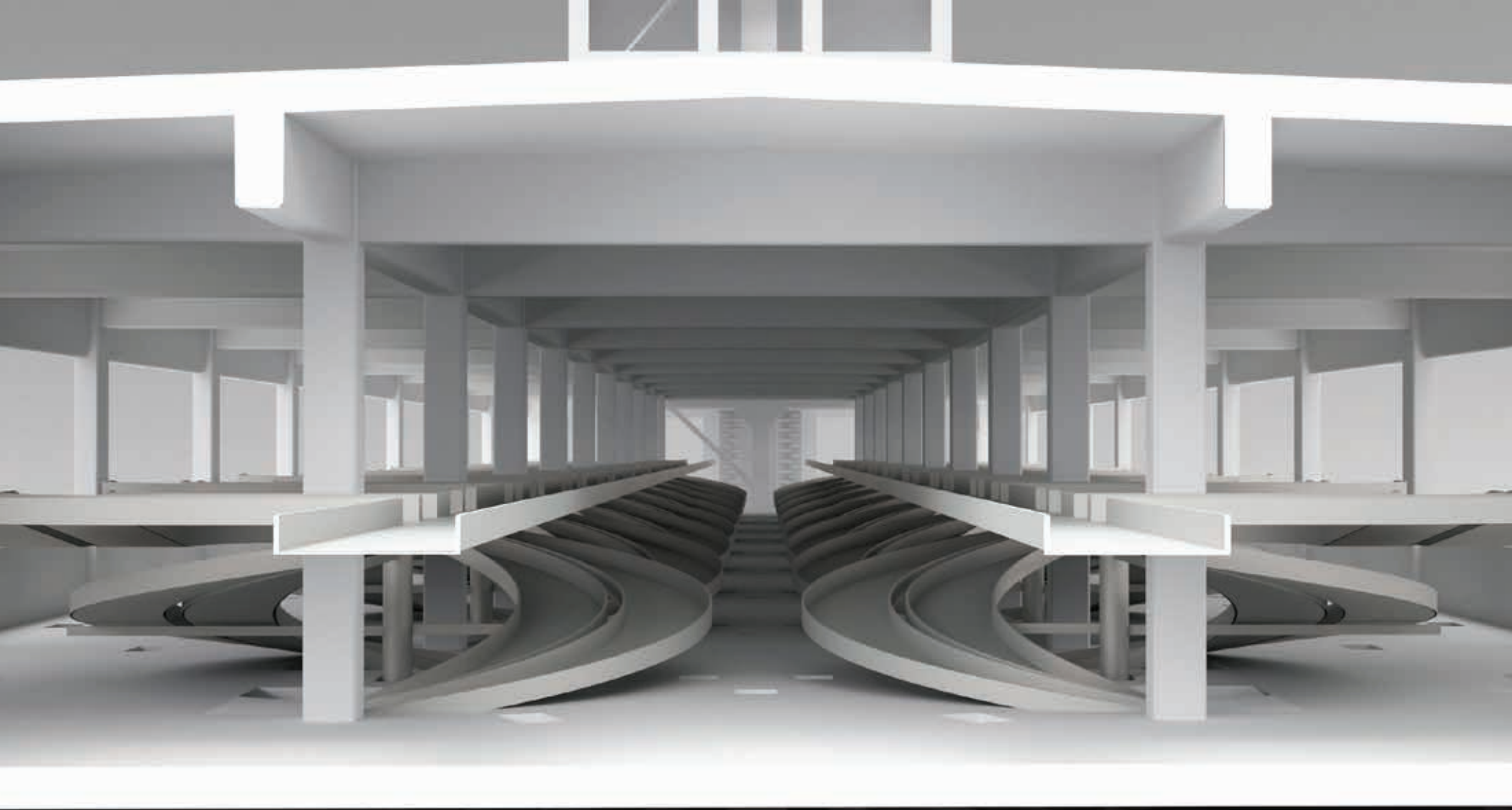
4.3 Fungal Funnel

This 2012 proposal by two residents[173] sought to use the ample dark spaces within the structure to grow something that thrived in similar conditions: mushrooms. Ultimately, the logistics of using a series of 100' tall vertical cylinders was not conducive to a profitable enterprise, and apart from a small, closed off test area in the northeast corner of the work floor, no plans ever came to fruition.

Anecdotally related to this author by an anonymous tour guide of the Terminals, one intriguing concept uses the cylinders as funnels, wherein the mushrooms slowly rotate downwards as they grow, appearing at the bottom ready to be picked and sold. This is the basis for the rendering, which envisions the distributing gallery as the preparation station for trays of mycelium growing-medium. Industrial spiral conveyors slowly rotate the trays down within the bins in accordance with the growth cycle of varying types of mushrooms. Harvesting occurs within the work floor where the mushrooms are made ready for sale, while the growing medium are sent vertically to be re-used.

As a fantasy this concept provides a captivating idea, but the reality of the exorbitant cost to design and implement such a system while also remediating the existing hazardous substances within the structure to reach the safety levels required for food cultivation deems such a concept impossible as a viable business model, especially since a plethora of far easier mushroom cultivation methods currently exist.

Figure 4.3 [Right] Fungal Funnel Visualization.



4.4 Mixed Bag of the North American Dream

Much akin to *Silo Point* in Baltimore, this concept features the hodgepodge collision of restaurants, shops and services, hotel, condominium and office building programming within the existing structure, in an accidentally monstrous resultant conglomeration. A combination of the most commonly lauded adaptive re-use solutions together with this author's concept of using the building stock as a foundation to construct a residential block between the Headhouse and Marine Towers, the sacrilege pictured here bolsters the arguments of the previous chapter. The image is an attempt to portray an artistic imagining of the most likely outcome scenario of a profits-over-culture proposal, informed by the formal architectural motifs as witnessed in new constructions elsewhere in the town.

This rendering completely disregards the iconic façade of the building and was envisioned purely as a what if scenario in which the Terminals were removed from the governance of the heritage district and sold to the highest bidder. Setting aside the public outcry such a scenario would generate, it represents the most destructive re-use concept posed to the intrinsic value the Terminals offer as an industrial relic to the past. Similar to Fram Development Groups' 2005 proposal, and taken a step further, the resulting sense of placelessness forced upon this landmark is barely more favourable than demolition.

Figure 4.4 [Right] Mixed Bag of the North American Dream Visualization.

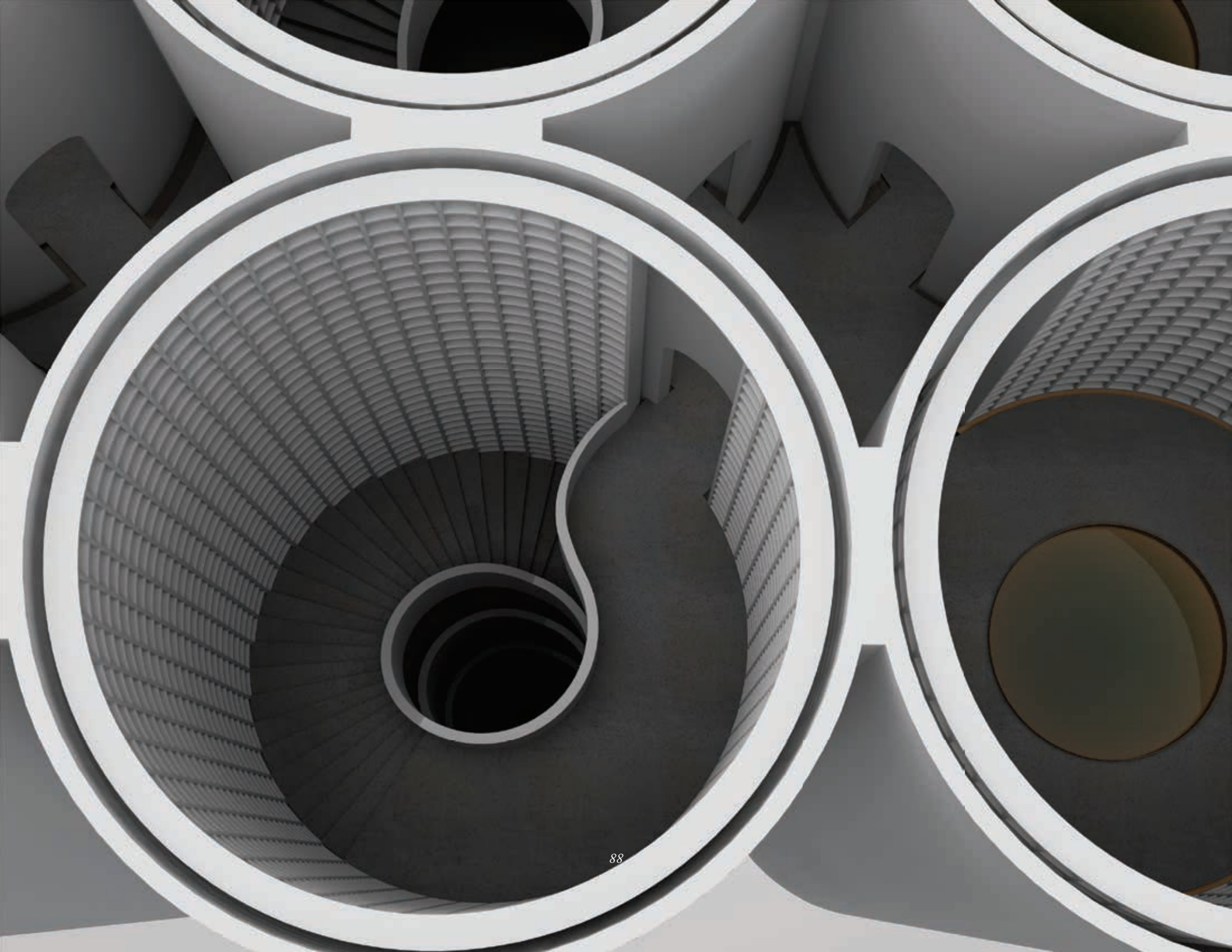
4.5 Memorial and Sky Burial

Derived from the current 'ruined' aesthetic possessed by the Terminals, and anthropomorphic projection of the structure as a vessel capable of experiencing life and death, this concept is an exploration of using a building already intimately associated with its own death and current afterlife as a storage vessel and memorial to those who wish an alternative to existing internment practices.

The concept envisions using the cylindrical structure as a storage vessel containing shrines to honour those held within, illuminated by the ephemeral refractions of light upon a central reflection pool. As the metaphysical boundary between land and sea – the confrontation of the subconscious and sublime, the transition point between two states of being, and the simultaneity possessed by the building as being the end of the line and a departure point, it was deemed a fitting repository for the earthly remains of those who have undergone the transition from life to memory.

As an idea premised upon the poetics of its natural and constructed setting, it presents itself as a virtually permanent memorial to the lives of Collingwood's citizens held within. However, this proposal as a thought concept faces scrutiny by the taboo nature of its new use and may be viewed as an inappropriate re-purpose for such an iconic construction within the daily view of the occupants of the town, potentially impacting visits to a town harbour desperately marketing itself as a destination.

Figure 4.5 [Right] Memorial and Sky Burial Visualization.



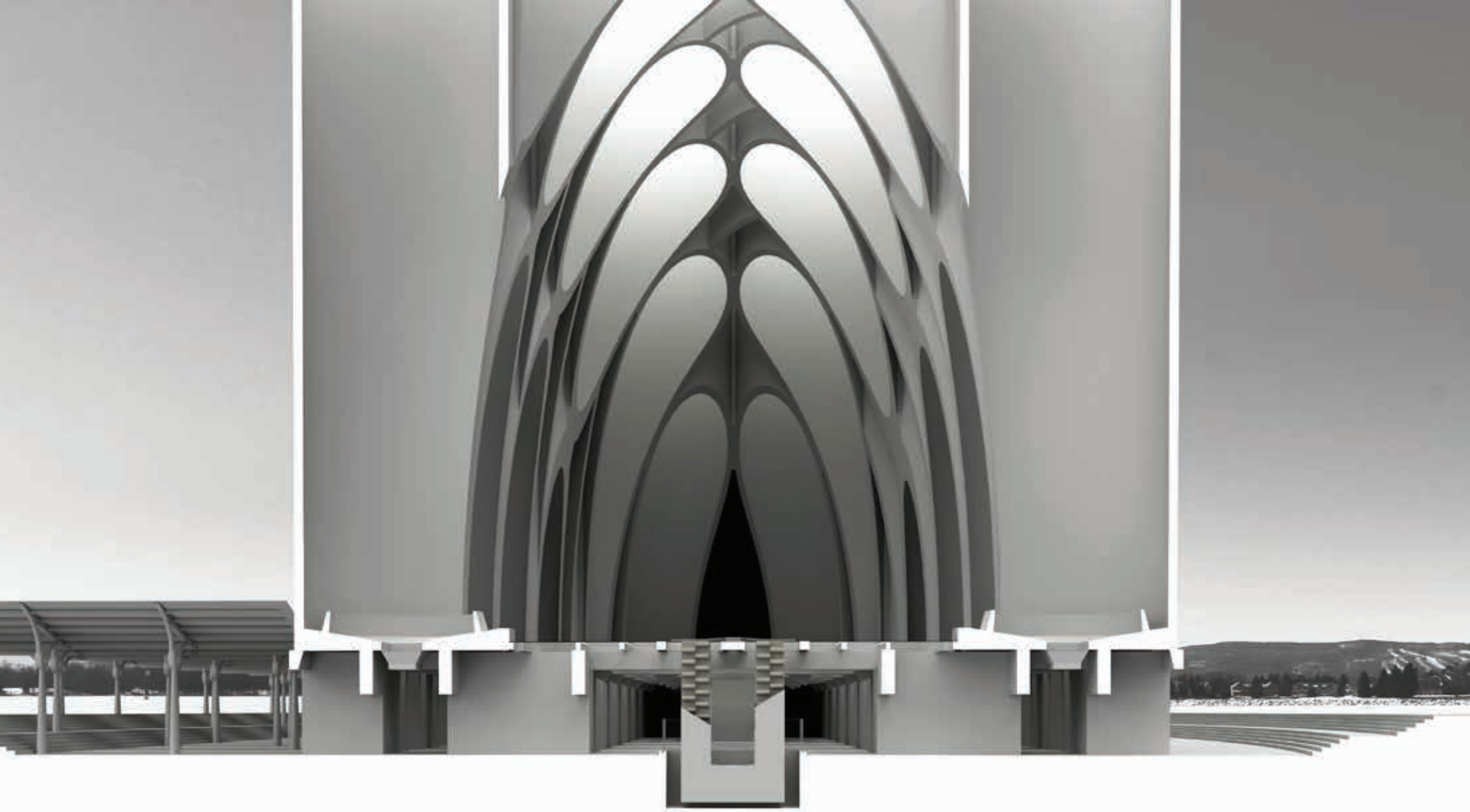
4.6 Marine Market and Museum

Images of the captivating carved-out atrium of the *Zeitz MOCAA* currently dominate any discussion of adaptive re-use pertaining to concrete grain elevators and proliferate within numerous social media content dedicated to celebrating and adapting the Collingwood Terminals. The concept of hollowing out a central atrium space bears a long history not only within this thesis, but also in many other student projects. Heatherwick bears the notoriety of becoming the first to realize such a scheme, and rightly so, as it is an accomplishment previously thought too wild to succeed.

This concept explores what a similarly composed intervention might look like in the hinterland of southern Ontario. Unifying the concept of Collingwood's 'twin engines of commerce: shipping and grain,' the proposal visualizes a central atrium carved from the storage bins in a shape reminiscent of an overturned ships hull and prow. The labyrinthine work floor becomes a permeable market space, seamlessly integrating with the exterior ground plane. A Marine museum celebrates all things Great Lakes heritage, while sculpture and artworks hide amongst dusty and rust covered industrial and mechanical remains.

The largest obstacle to the fruition of such a scheme depends upon replicating a similar recipe for success as found in the *Zeitz MOCAA*, reliant upon an unlikely confluence of events in this small southern Ontario town.

Figure 4.6 [Right] Maine Market and Museum Visualization.



4.7 The List Goes On

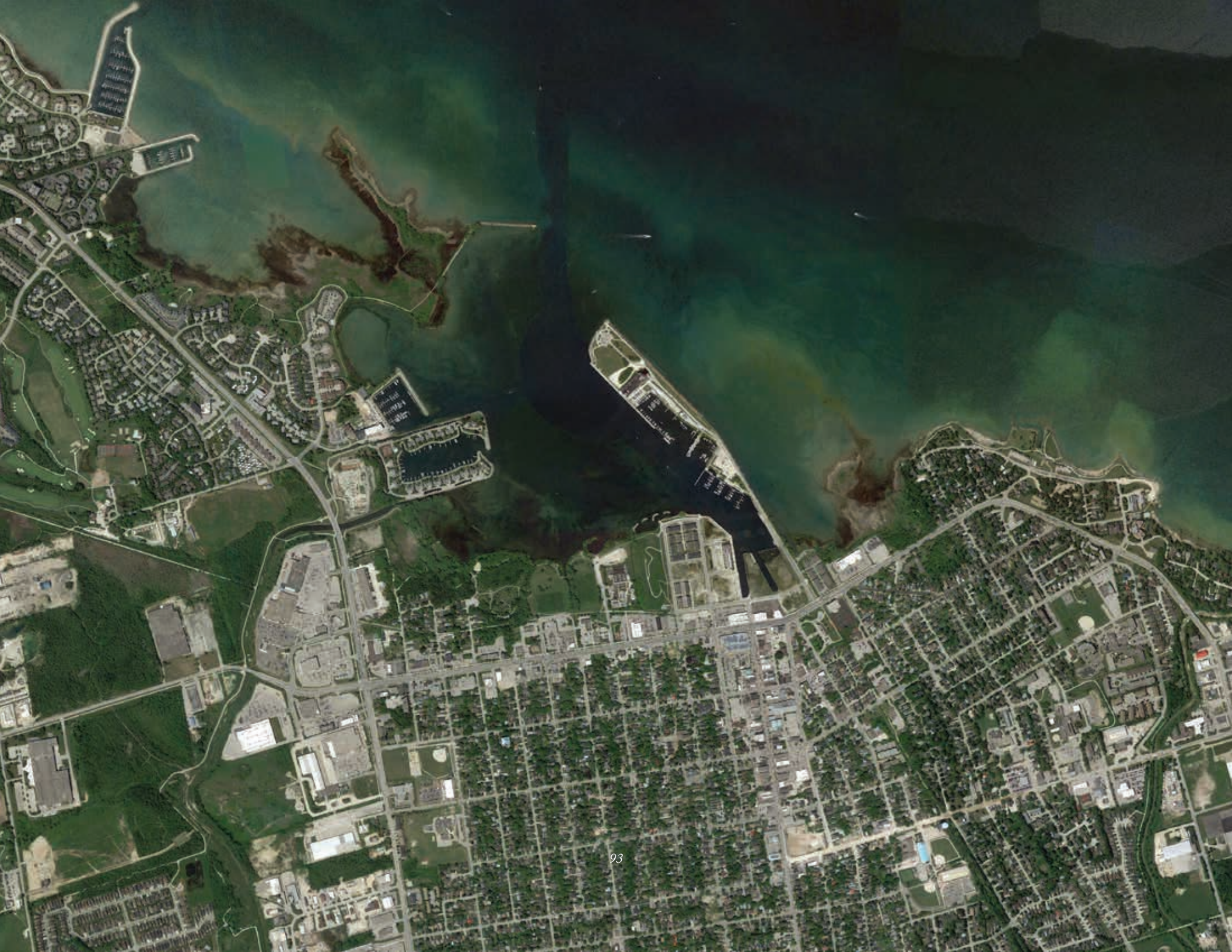
Just as with the precedent projects listed in chapter three, this selection of adaptive re-use proposals for the Collingwood Terminals represents merely the smallest topical scattering of examples either explored or come across over the duration of this thesis. This portion of the work could extend almost indefinitely, and yet the inherent message would remain the same.

Further thought experiment transformation examples of the Terminals include creating Southern Ontario's tallest rock-climbing gym, or its deepest scuba dive-training school. Collingwood harbour bungee jumping or Ontario's highest diving board. Canada's largest independent brewery or distillation destination, an entire island spit commandeered to keep up with the alcohol production of 2 million stored bushels of grains. Skyview restaurant or resort cruise ship terminal. Low quantity, high-tier loft apartments within the towers and distributing gallery, an indoor paintball arcade or horror movie film location. The concepts to be explored are as numerous as the people who set their gaze upon the building. And yet, this fascination with inventing a new use, a new purpose, completely obscures the larger problem, missing the forest for the trees so to speak. The roots of this problem stretch backwards a generation or more and are the reason for the existence of the next volume in this compendium of defeat.

4.8 A Note on Rendering

The act of generating renderings for this volume was a difficult balancing act. On the one hand was the author's personal and ingrained aspirations to produce beautiful drawings, and on the other a fear that the production of beautifully crafted images could compel readers towards one of the adaptive re-use proposals and detract from the main argument.

The preceding renderings represent the strongest attempt to remove the author's bias and depict in a fair manner visual interpretations of adaptive re-use solutions as proposed by others for the Collingwood Terminals. While completing those renderings in tandem with the adaptive re-use proposals generated by the author, the paramount worry was that if any of the renderings were completed to a highly compelling manner and removed from the context of the thesis, they may become prevalently circulated in online internet media platforms as a local person's solution to save the Collingwood Terminals. The decision to depict each image as a static exploration of architectonic spaces devoid of people and activity was a mitigation measure against this fear.



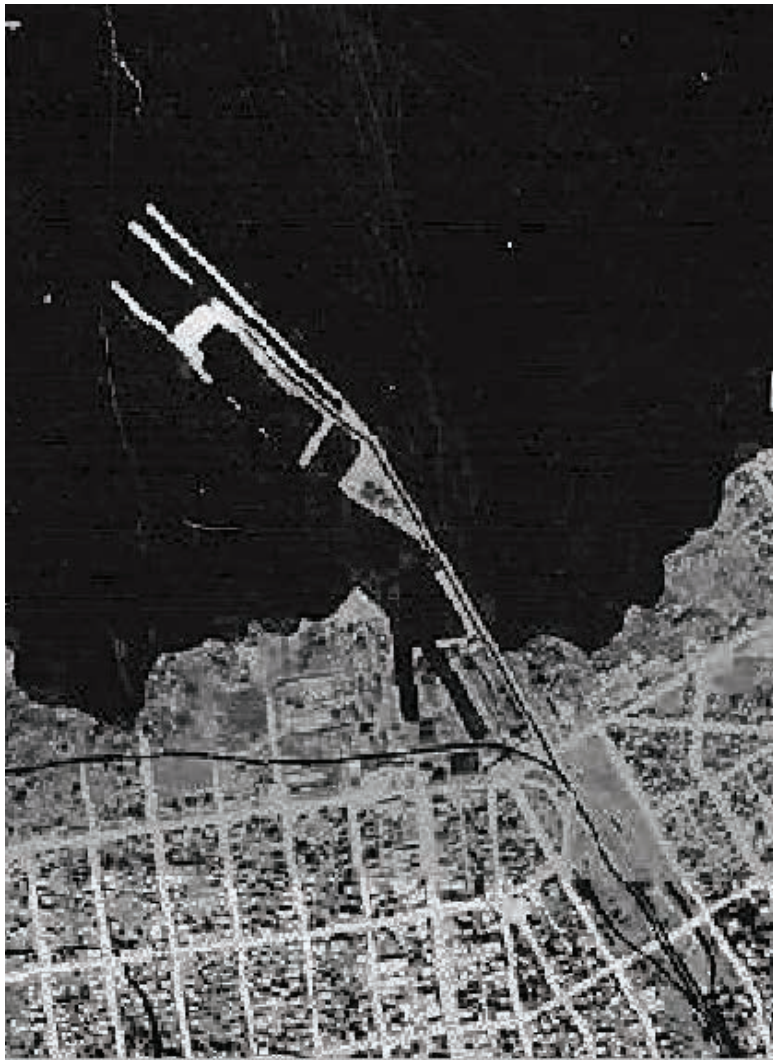
Compendium of Defeat

Volume II: A Stagnated Waterfront

The decline of industrial Collingwood left a vacuum of use upon its most productive industrial landscape: the harbour and waterfront. In the rise of a new town identity predicated not upon manufacturing and production, but on recreation, leisure, amenity, healthcare and tourism, speculation of how to address these reclaimed lands and structures has resulted in thirty years of discourse. Numerous master plans and reports collect dust on shelves, while slowly small-scale interventions provide incremental alterations and improvements as complacency measures for residents whilst waiting for the 'Grand Scheme' to be developed.

Figure 4.7 [Opposite] Town of Collingwood, 2016.

Figure 4.8 [Right] Collingwood Harbour, 1954. Decades prior to any non-industrial uses upon the waterfront, the Terminals are inaccessible to the public and surrounded by water.



4.9 The Waterfront Master Plans

The first attempt at a grand unifying scheme was the *Town of Collingwood Waterfront Master Planning Study* by M.M. Dillon Ltd, Natale Scott Browne Architects, and MIE Consulting Engineers Ltd., in 1988.[174] Conducted just a few short years after the closure of the Collingwood Shipyards and during the decline of waterfront business at the Terminals, chief among its focus was the downtown relationship between its main street (Hurontario) and the former Shipyard docks, a relationship that remains a missed opportunity to this day. Possibly recognizing the decline of the use of the Terminals, the plan allocated a public path and lookout point at the tip of the spit, and implies a pedestrian parkland guarded over by the grain elevator. This idea of a lookout and path has today been co-opted for use by vehicles and serves as a popular weekday lunchtime destination. Most of the planning study's remaining suggested activities upon the spit revolve around the Collingwood Yacht Club and various water-related recreational activities.

Curiously, the allocation of parking and access for the yacht club never materialized in the manner indicated, instead opting for the less than ideal composition of the present day. The idea for incrementally increasing the amount of docks and boat berths failed to match the plan, remaining a key problem to be addressed in subsequent master plan visions. This plan marks the first instance in a long successional line of defeated and improperly realized visions for the harbour and waterfront, the town's relationship with

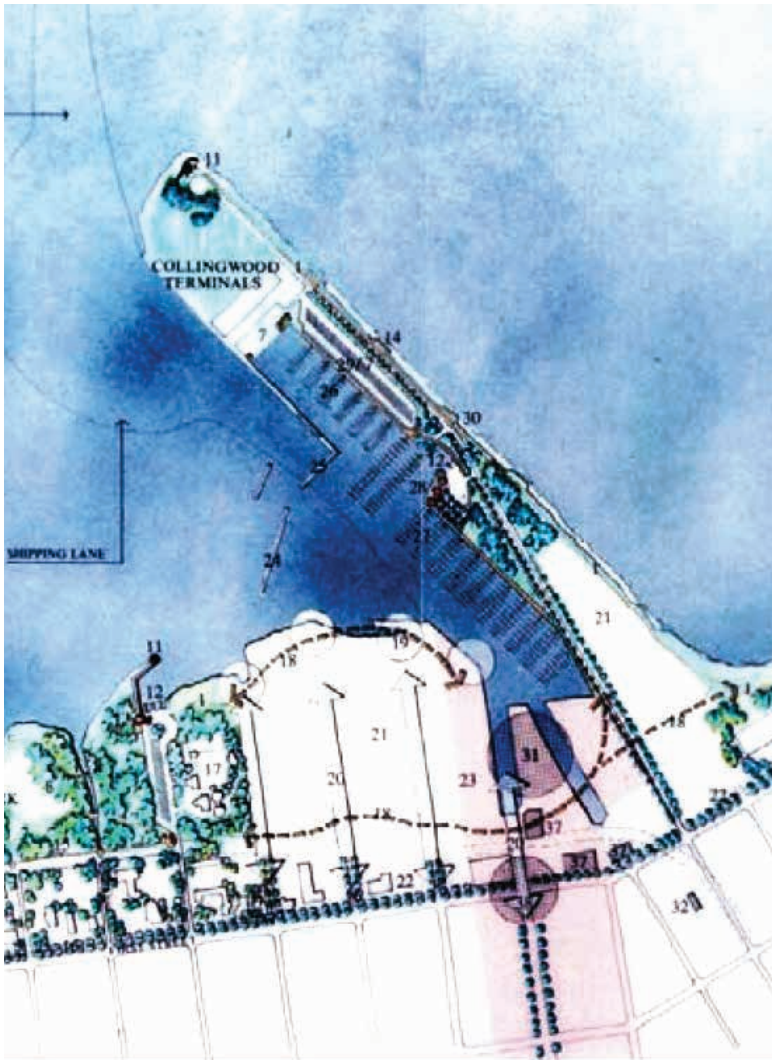
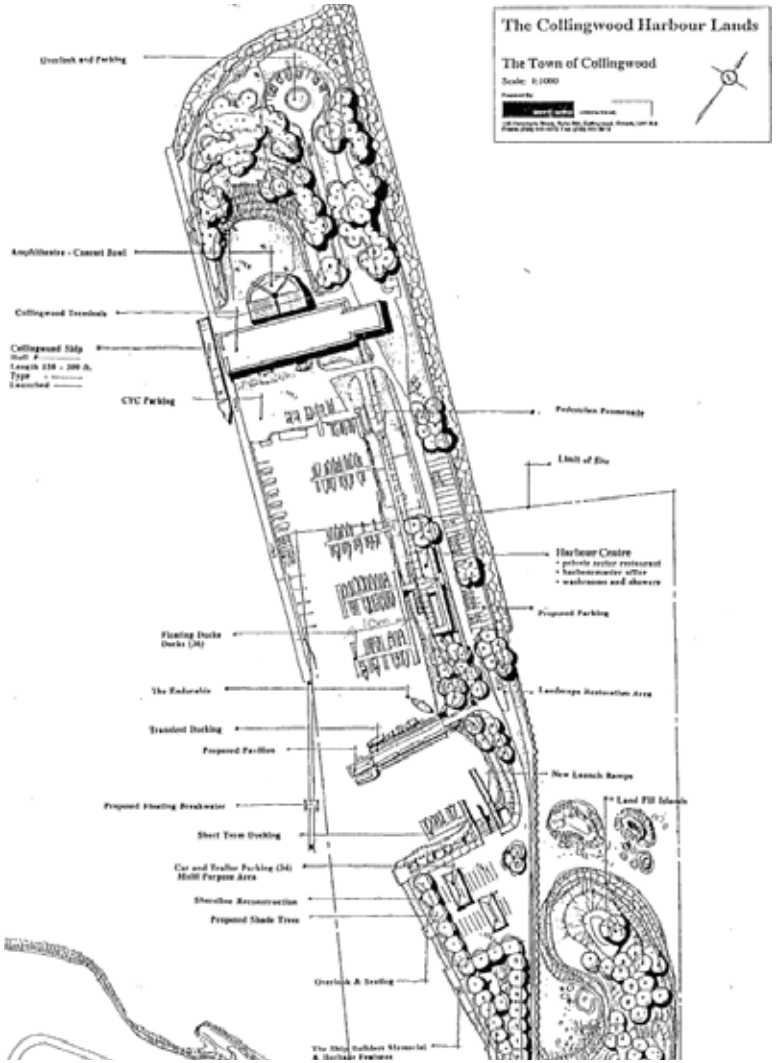


Figure 4.9 [Right] Town of Collingwood Waterfront Master Planning Study, 1988.



it, and the key dominant features of the spit. It is the only master plan conducted in which the Terminals were still operational, however speculation over the concept of allocating pedestrian park space north of the elevator could indicate an inherent anticipation of its eventual closure.

In 1996, two years after the waterfront's delisting as an area of concern,[175] and three years after the town's acquisition of the obsolete elevator, the *Town of Collingwood Harbour Lands Master Plan* by Moore George Associates Inc., Bruce McCann Architect, and Ainley & associates Ltd., was conducted.[176] The second master plan, it primarily focused on the spit land immediately surrounding and adjacent the elevator and remains the largest influence upon the composition of these lands as experienced today. It specifically denotes the overlook and parking, with the key difference compared to reality in that the roadway and a pedestrian promenade pass directly through the trackshed, using the terminals as a monumental threshold to the parklands to the north. In keeping with the defeatist theme of this compendium, sadly this attempt to use the terminals (in however minimal a way) remains unrealized, and instead the flood-prone mish-mash of potholes, gravel and asphalt that is Heritage Drive skirts around the trackshed and warehouse on its way to the overlook parking.

The Terminals, despite no other intent indicated to utilize the superstructure, are understood as the key prominent feature of the plan. Where today a collection of scrub brush, trees, pothole-ridden gravel and concrete barriers denote an ad-hoc parking lot

Figure 4.10 [Left] Town of Collingwood Harbour Lands Master Plan, 1996.

smashed against the north façade, the Moore plan calls for an outdoor Amphitheatre and concert bowl. Framed by the expansive mass of concrete, the failure of the Town to properly realize this area as a cultural venue invites alternative imaginings of what could have been. Docked at the Marine Tower in a perpetual display of a now-forgotten scene, a retired ship built at the shipyards completes the historic resonance of the Town's previous duality of identity. Presumably repurposed into a marine and shipyards museum and/or restaurant, it, too, remains a missed (albeit camp) opportunity.

The CYC parking at the south façade of the Terminals bears a most striking resemblance to its current condition today, a rather unfortunate inclusion negating the thoughtful effort addressed to the other three sides of the elevator structure. The pedestrian promenade, parking, and Harbour Centre containing a restaurant, harbourmaster's office, washrooms and showers failed to materialize. To the southern end of the spit, the plan marks the genesis of today's projecting dock and pavilion, as well as new boat launch ramps and parking area upon the original site of the wooden grain elevators. The unrealized presence of shade and wind-breaking trees and foliage would have by today produced a more-utilized leisure scape, mitigating the biting cold and buffeting wind longer into the winter months, and providing relief from the baking sun in the ever-intensifying heat of the summer. Today, it takes a determined and resilient individual to avoid the allure of sitting inside their thermally controlled vehicle when taking in the captivating views in less than ideal weather conditions.

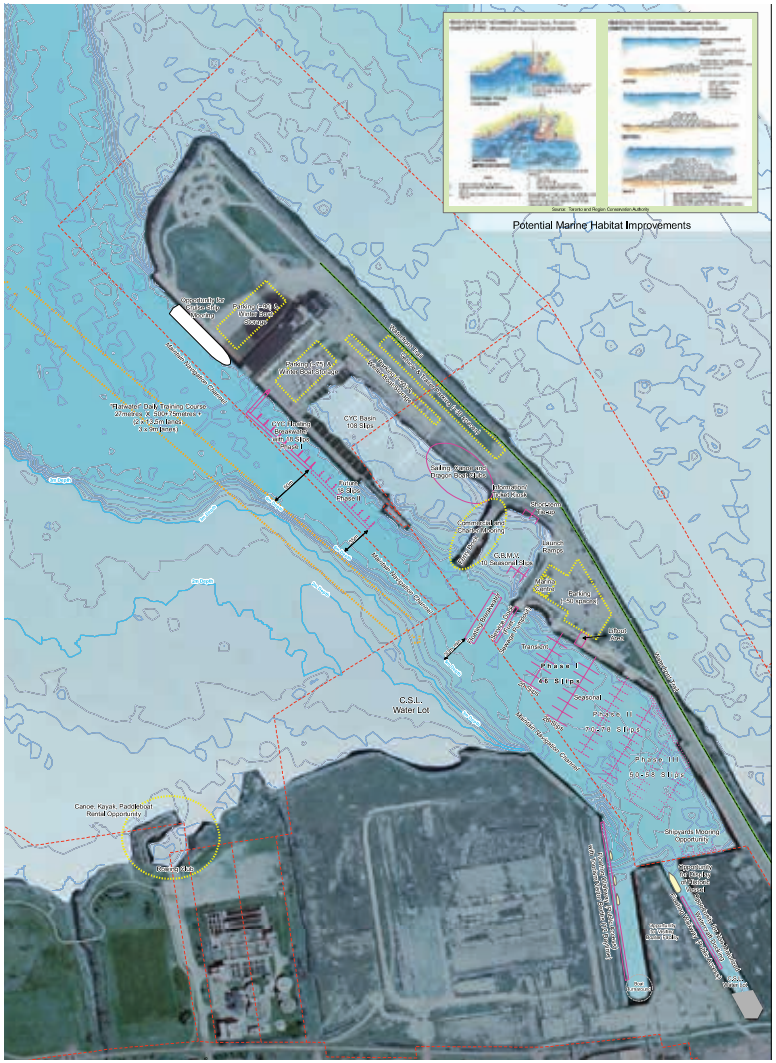


Figure 4.11 [Right] W.F. Baird Draft Collingwood Harbour Plan, 2009.

In April of 2009 W.F. Baird & Associates Coastal Engineers Ltd., prepared a draft *Collingwood Harbour Plan* with the anticipated goals of improving the use and access of the Harbourlands area, ensuring this growth positively effected the marine habitats and water quality all the while setting up an opportunity for commercial enterprises and "…sustainable economic growth."[177] It provided a comprehensive inventory of the existing user groups of the spit, the conditions of the harbour and its water-edge infrastructure and identified key areas to be addressed with interventions.

The plan focuses entirely on the water-based aspect of the usage of the site at the expense of and detriment to the other 3-season visitor experience. The singular mention of the Terminals is a recommendation to provide fencing and security measures around a proposed Yacht Club winter storage area in a repurposed existing parking lot abutting the north façade,[178] effectively encasing the elevator on three sides within a chain-link and barb wire fence. While it does stipulate that an unknown amount of land abutting the elevator will be required in any future redevelopment of it, the depressing segregation of the notion implies the complete disregard of the elevator and the terrestrial aspects of the spit land as avenues of opportunity. The inaction of implementing this proposal marks one of the few instances where the unrealized plan resulted in a far more favourable condition.

Figure 4.12 [Left] Collingwood Terminals and adjacent lands as of 2016.

Figure 4.13 [Top] Collingwood Waterfront Master Plan, 2016.

The November 2016 *Collingwood Waterfront Master Plan* final report by the multidisciplinary firm of Brook McIlroy was greeted by this author with a mixture of consternation and contentment. On the one hand, a quick perusal showed that it tackled all the issues concerned with this thesis at that date and forced a re-evaluation of this work and its content. It in no small part aided the redirection of this thesis back to the Collingwood Terminals as the frontispiece of the work, as due to spinning wheels on adaptive re-use solutions and expert advice from professors, this thesis had transitioned away from Collingwood's grain elevator to a design initiative aiming to explore and improve the Harbourlands area, the town's relationship with it, and larger regional scales of connectivity and access – the first two of which were more or less found to be contained within the Brook-McIlroy vision.

The emergence of contentment was a result of the implicit notion that hiring a prominent firm showcased a dedication to adhering and implementing a vision based not upon the status quo of profits and developer gain but on the best interests of the future prosperity of the town and its citizens. Similarly critical of the mismanagement of the connective tissues between the historic commercial district on Hurontario street and the former drydocks upon the waterfront; namely the obstruction caused by new a Rexall drugstore and BMO bank location, as well as a catastrophically missed opportunity for a pedestrian oriented commercial, retail, and tourism district upon Side Launch Way, the Master Plan provides polite suggestions in how to update current waterfront planning policies and approvals processes.

Figure 4.14 [Top] Missed opportunity for the waterfront-downtown connection
Figure 4.15 [Below] Improved Waterfront connectivity

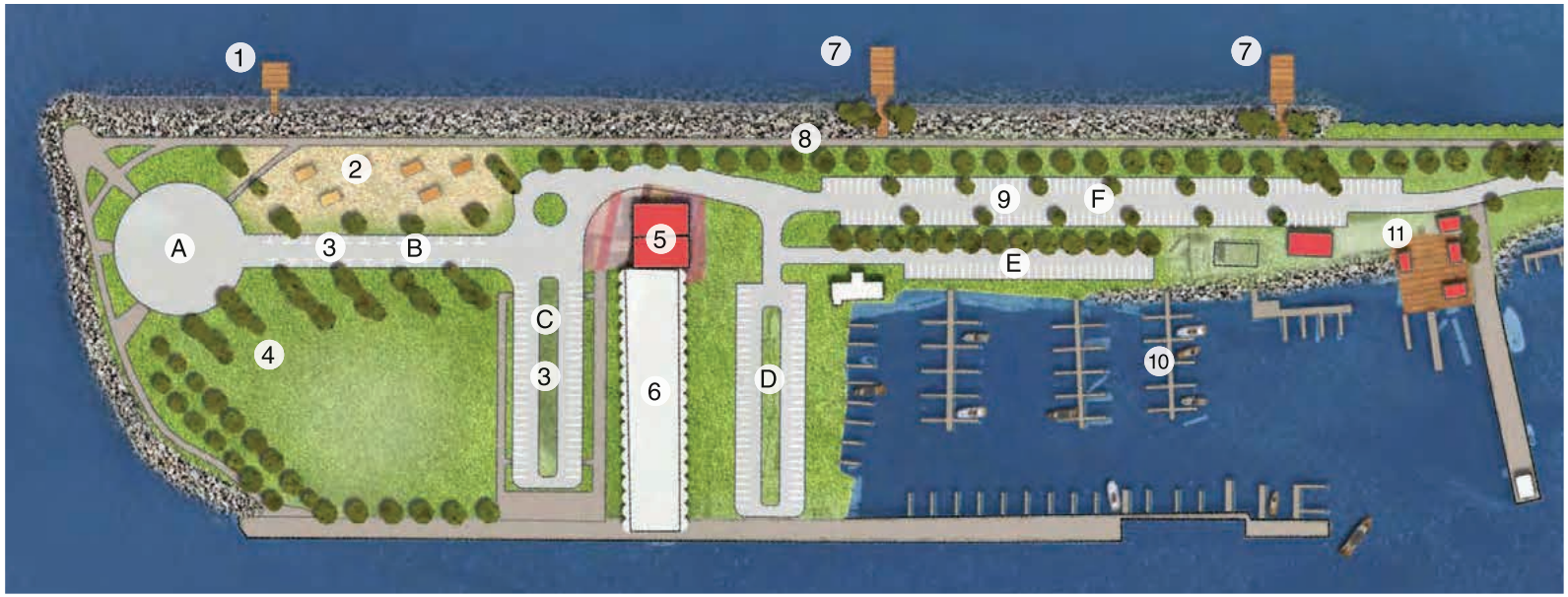


Figure 4.16 [Top] Collingwood Waterfront Master Plan, 2016.

The community involved, comprehensive masterplan outlines detailed implementation guidelines, multi-tiered phasing suggestions, and budgetary and funding solutions to enable the likely realization of the suggested upgrades and interventions along the 8km of Town owned shoreline.[179] First hand review of previous works by the firm, notably a visit to the waterfront redevelopment of Thunder Bay in 2017 illustrated the likelihood for a successful revitalization of the waterfront under this masterplan's tutelage. Further study of the multi-phased, community involved comprehensive report reinforced these notions in all but one aspect: the treatment of the Terminals building.

The Pier, as so dubbed within the masterplan, is referred to as "… Collingwood's landmark feature, with the Terminals and marina signaling arrival to the Town from land or water."[180] Despite this implicitly stated importance, the masterplan treats it only as an illuminated object like *Aurora Borealis* or *The Image Mill,* otherwise ignoring the superstructure altogether by focusing on a proposal for a brewpub within the ancillary trackshed and warehouse buildings – an addition to an already saturated craft beer and gastropub market. Improvements to the north and south parking lots result in a (not-so) white monument that protrudes from a grassy plane – inviting uneasy allusions to the Corbusien idea of

'Towers in the Park.' The final suggestion within the masterplan calls for a detailed structural assessment, which was completed in June 2018.

Within the Phase 2 (2023-2028) estimated budget allowance, the parking lots at the Terminals and Yacht Clubs are to receive upgrades and improvements in the manner of $190,000 and $230,000 respectively; infrastructural investments for electrical lighting and art displays upon the Terminals have an allowance of $1,000,000, with an additional $500,000 for structural and repair work; and the upgrade of the warehouse and track shed into a brew pub is budgeted up to $960,000 with another $136,000 for exterior hard paving and surfacing.[181]

These estimated higher-end expenditures (as per 2016) provide perspective upon the increasingly reasonable seeming remediation and repair cost estimates provided within the Tacoma Engineers structural assessment. As the most recent report issued regarding the future use of the Terminals, it provides detailed estimates and guidelines to maintain the building as an inaccessible-to-the-public infrastructural mounting tower for communications equipment – and nothing more. While the report outlines that regardless of the outcome, demolition or repair, environmental abatement of the hazardous substances found throughout the structure must be completed at an anticipated $1,5000,000 - $2,000,000 cost,[182] the high-end estimate of $9,700,000 to effectively preserve the building in stasis has proven detrimental in the argument against the short sightedness of the pro-demolition party.

Figure 4.17 [Top] Illuminated Display upon the Terminals.
Figure 4.18 [Below] Re-purposed warehouse and Trackshed.

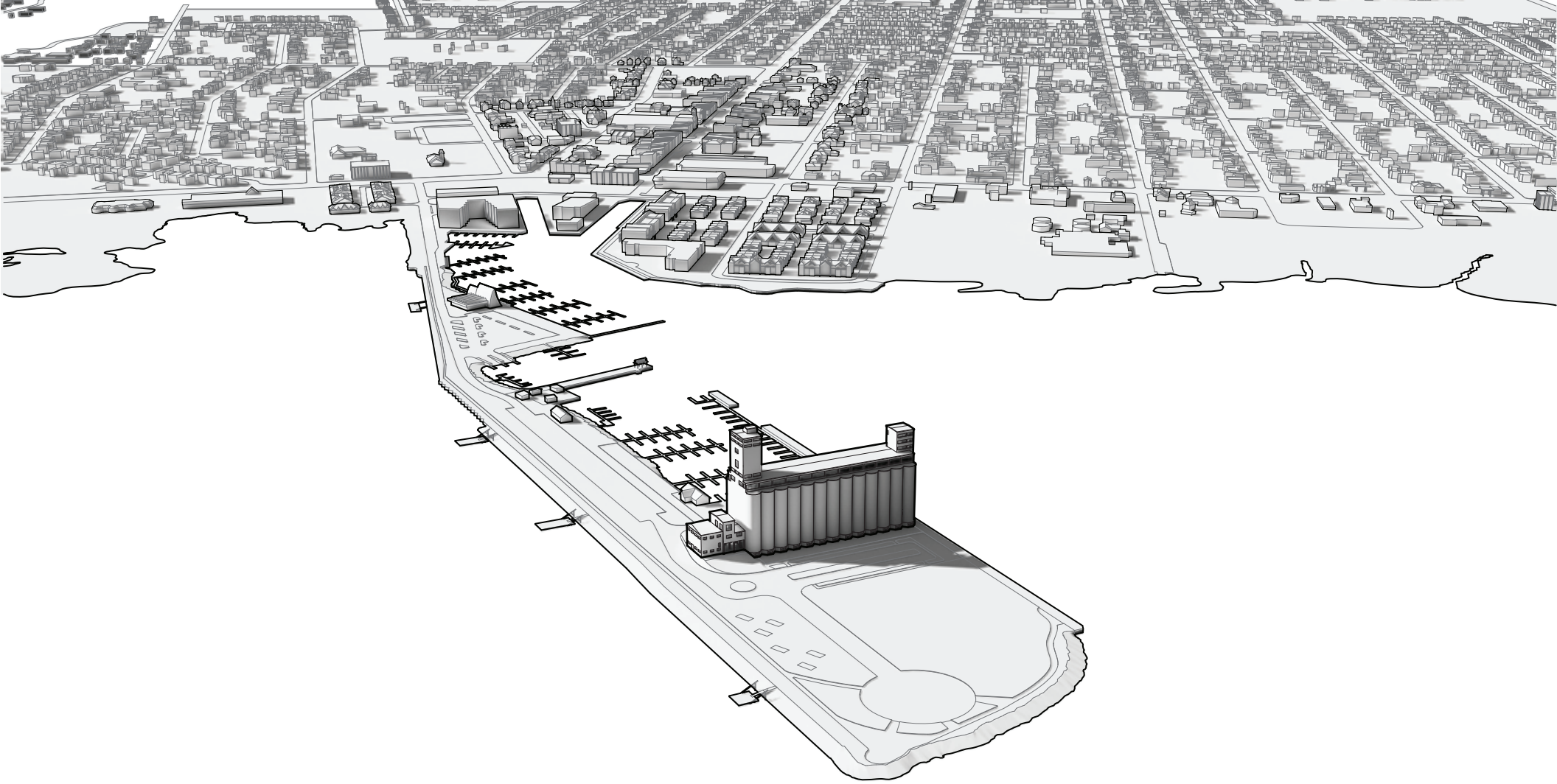
4.10 Monument of Defeat

The refusal of a plausible, implemented re-use strategy for the Terminals, either due to inaction resulting in unrealized aspirations within now-outdated masterplans, or the apparent acceptance of the inability to convert an obsolete grain elevator into anything else over the past 25 years has cemented the legacy of the building as an immutably stubborn monument to defeated proposals and deflated egos.

The allusion at the end of *Volume One* within this compendium that the failure of any and all re-use strategies was indicative of the problematic trend of focusing on the building as an isolated object, and not as a key architectural edifice within a much larger socio-political, cultural and economic landscape now illuminates an even larger trend of defeat and failure. The duality of this conclusion indicates that the Terminals' adaptive re-use was failed by each waterfront masterplan, while simultaneously becoming the mechanism of failure for each masterplan in turn. The result is an ongoing cyclical system of cause and effect repeating throughout an entire generation.

Whether through the purposeful intention of delaying the strategic re-use of the Terminals to the future and its 'better minds', or the acquiescence of the building as an unacceptable candidate for re-use due to any one of the multitude of reasons discussed, the pessimistic notion that the Terminals will remain forever as a monument of defeat seems inescapable. This, however, is not the position of this thesis.

Figure 4.19 [Right] Monument of Defeat, 2016. Beneath the crusted and peeling roofing membrane the Terminals remain a projecting derelict husk, wasting and wasted by the surrounding land use. In spite of the best efforts over thirty years of master planning proposals and studies, it remains a defiant object on a grossly underutilized waterfront asset.



Compendium of Defeat
Volume III: The Last Best Hope

The refusal of this typology to become anything other than what it was designed for is something Professor Lynda Schneekloth from the University of Buffalo School of Architecture and Planning is aware:

"I personally have an idea that, I think you just leave them. They don't tear down castles in Europe just because there's no use for them, you know, they leave them. One could argue is that maybe their use is just that they stand there and remind us."[183]

The referral throughout this thesis to the Collingwood Terminals as a monument is not a simple turn of phrase: a monument serves no additional purpose separate from its existence. It has no other program or onus to be anything else other than what it is. The last, best hope is simply this: leave it alone, clean it up, but most importantly *allow people inside*. This last tenet is entirely absent from the *Tacoma Engineering Condition Assessment*, and as previously discussed has proven a perceived detrimental arguing point against the future prosperity of the structure.

The estimated cost to remediate and repair the current deteriorations that 25 years of neglect and inoccupancy has wrought upon the building has proven cheaper than the construction cost of the Sprung Structures inflatable enclosures discussed in section 2.7. Overall, structural review of the terminals shows the prognosis is indicative of the permanence of its construction: apart from localized envelope failures due to the cancerous mounting practices of the communications equipment companies,[184] and the failure of 89-year-old windows and other likewise to-be-expected components,[185] there is no indication of any insurmountable structural reason to warrant demolition.

The obstacles to opening the Terminals to the public after completing the hazardous substances remediation primarily relate to issues of fire code non-compliancy and means of egress, which in the larger scheme are practically non-issues. If absolutely deemed necessary, sacrificial paths of vertical egress through co-opting a storage cylinder or its interstitial down to the work floor and to exterior grade present themselves as a small price to pay to ensure visitor access to the distributing floor and lower levels of the head house and marine tower. Curiously, the guided tours of Buffalo's *Silo City* indicate no mention of upgraded circulation or pathways, and the adoption of their insurance policies provides a possible ready-made solution.

Should the newly elected Town Council proceed with the Brook-McIlroy *Waterfront Master Plan* vision, the town will enjoy increased waterfront activity and prosperity. The pier, and the Terminals will continue to remain a manifestation of the *other,* a space distinctly separate from Collingwood's downtown character and life. A place to step away from the town, to view and reflect upon it. The draw to perambulate the last unmolested monument to Collingwood's industrial past will prove the basis for increased tourism and indirect economic benefits, a supplemental offering enhancing a richly integrated leisure-scape.

Figure 4.20 [Left] The Last, Best Hope Visualization.

4.12 Conclusion

When people seek to champion the demolition of the Collingwood Terminals in favour of remediating a 'missed opportunity'[186] they indicate that it is they who have missed the point entirely. Imagine for a moment Toronto's skyline without the iconic spire of the CN Tower, a Rome without the Colosseum, Athens without the Parthenon, or a Paris without its Eiffel Tower. It's impossible: for better or worse these iconic constructions embody their respective cities and collective identity. The Terminals are the intrinsic placemaking identifier of Collingwood. In the east Wasaga has its freshwater beach, Blue Mountains to the west has the escarpment, and in the centre of the bay Collingwood has its once-white industrial monument.

The reason the Terminals struggle to be understood as something worth acknowledgement and future perseverance is a lingering remnant due to its industrial heritage and the vestigial connotations that it must therefore provide an economic purpose in order to remain. This is an assertion wholly in ignorance of the waterfront today as a place of leisure and recreation and Collingwood's transformation of economic identity over the last thirty years. These machine-building hybrids are the castles of this new world.

This thesis has always inextricably been tied to a personal investment in the subject matter, to deny this would be to deny a central tenet of the work. The decision to preface this thesis by stating this author's inescapable sense of attachment to the subject matter was more than a bias-informing tool – it was a first pass attempt to understand just why a ruined mass of concrete held such a captivating and lingering presence in this author's mind.

The years-long endeavor of this thesis, it's extremely challenging duration, are a direct result of the built-in obsolescence of the structure. The refusal to admit that a purpose-built grain elevator cannot easily, but more importantly in the context of the Collingwood Terminals, *should not* adopt any secondary programmatic re-use proved this author's most struggling learning curve. Afterall, the fame and success of the *Zeitz MOCAA* proved that architectural beauty lurks within these deathly quiet masses of concrete.

Whilst conducting the research that became the *Uselessness of Function* chapter, there was an overriding sense of personal failure and inadequacy of design skill – a sense that like every other individual to wonder at an alternative future for Collingwood's latest grain elevator, the proposals generated for this thesis lacked any merit; a sense that as with it had for everyone else over the past 25 years, this work in the end would amount to nothing as well.

Do you clean and culturally perambulate? Curate the detritus as a depository of inaccessible memories, and thus imagined? Is there some adaptive re-use achievable without the full-blown bastardization and obliteration of all previous meaning? Or do you set up the token farmers market, craft beer garden, artist gallery space and niche museum that has become the staple of any well cultured, and gentrified townscape? Incessantly plagued by these questions and many others, it took a concentrated effort, and some bravery, to adhere to the notion that it was not a personal failing of design or skill, but an unrecognized search for what was

appropriate to the building and all that it embodies that was the true basis for understanding the Collingwood Terminals and an entire architectural typology of obsolescence.

Ultimately, the most appropriate solution is the simplest: clean it up and let it continue to be what it is. In lieu of a final set of visualizations for the Last, Best hope, this thesis concludes with a procession through the building. Purposefully littered throughout this work, allusions to the inner-workings of the mysterious, closed off interior spaces were included and then obscured, saving the reveal for the end. Just as the first-person narrative of the preface began this thesis journey, the closing of the work returns to this style.


COLLINGWOOD
TERMINALS
LIMITED

Requiem for an Elevator

An Elegy Composed within a Modernist Terminal

"For anybody who has grown up with the architecture of the … [previous]… century the elevators still present one of the possible metaphysics of form. When we look at their exteriors as they tower above prairie or lake, we know it, but the fact that we also know the whole thing is a wishful myth may be the reason why their insides are now even more affecting than the celebrated outsides. To stand in the Electric's echoing vastnesses, to perambulate the circular rooms and interstitial vestibules of other abandoned monsters is to visit the catacombs of the Modern Movement, places haunted not by the men who built them, but by figments of the tribal superstitions of architecture, by a race who never existed, and for that reason had to be invented to satisfy a longing…for what? Hugh Casson once identified the source of that longing that so persistently causes us to make myths: "Architects are not interested in facts, they are interested in certainties.'"[187]

Reyner Banham wrote of modernity's catacombs long before my birth. It was in elevators like the demolished Electric in Buffalo, or its few surviving brethren that today comprise Silo City, in which he first developed the notion. Thirty-Eight years after his writing, I am still able to visit some of the obsolete grain elevators he wrote about. They truly are victims of their own permanence.

From the exterior, I would harken them to mausoleums, hoarding within their mysterious shells the last moments of a historical movement. This thesis has all but brow beaten the accumulated mythos associated with the monumentality of the exterior, and purposefully withheld the mystery within. Until now.

It was on a cold January morning, in a secret tour led by an anonymous tour guide that I finally explored the Collingwood Terminals. My yearlong endeavor of attempts to gain access, find photographs, drawings, anything, of the interior culminated in a mysterious morning phone call and frantically mad dash to meet a stranger who would guide me through the building in the silent morning hours. It was shear luck I still carried a borrowed camera. An entire year of my life spent trying to get inside, and it all came down to a little over an hour and a half, scampering in the wake of a guide and fumbling with a camera I didn't know how to use.

The experience was… disheartening. It was on that morning I first truly learned the magnitude and difficulty of the task I had set before myself. The spaces within, buried in dust and grime and growing green ooze and bird shit, were unusable for anything else than what they were made for. The concrete tubes I was so excited for, had envisioned so many uses over the past year were inaccessible, impossibly dark, and terrifying to stand above, or below. It was on that morning this thesis began to be realized, not as the work that was going to save a building, but as something else. It was later that day this chapter was begun, a lamented passage through rooms cluttered with crap, a funerary procession of fear and disappointment and exhilaration and mythological invention.

But I'll let you see that for yourself. Let's begin.

Figure 5.1 [Left] Collingwood Terminals, January 2016.

5.2 Boatworks Sailing Centre

We enter through the Boatworks Sailing Centre – a horrendously ugly red brick addition to the once pearlescent-white clean lines of the original elevator superstructure. A large central door lies below boarded over windows, itself sporting a not-so-temporary plywood bandage. It gives the impression that we are entering through the gaping maw of a scrunched-up brick face. Even the oversized scale of the red bricks infuriates me.

Figure 5.2 [Right] Oversized Warehouse bricks.
Figure 5.3 [Opposite] Trackshed and Boat Works Sailing Centre.


BOAT WORKS
SAILING CENTRE

5.3 Boatworks Sailing Centre II

The ground floor of the brick fathead building; a bungled together concatenation of concrete block, brick, wood studs and steal I-beams. I wonder if it was a conscious effort to make it this depressing. The Lester E. Hall antique wood boat hull sits propped forlornly to one side. It completes the historic resonance of the now gone shipyards – seafaring vessels amidst a compendium of unplanned ad-hoc structures completed in a boom of progress. Being inside here is akin to standing in front of the later additions to the Roman Forum – hacked and stolen marble friezes and spolia unskillfully and brutally hammered together. A people trying to recreate the grandeur of the past without the know-how, skill or care possessed of their ancestors. It houses the only bathroom.

Figure 5.4 [Right] Spolia as decoration and ornament, Roman Forum, 2013.
Figure 5.5 [Opposite] Lester E. Hall Hull.


LESTER F HALL
THE COLLINGWOOD WA
1880 - 1943 REPLICA PRO

5.4 The Track Shed

Junk, tools, and more steel beams litter the space. Beneath the mien of clutter, engineered simplicity permeates through. The noisy contrast of the recent only serves to further define the quality of the old. The space is a simple enough accounting of structural load paths required to span over rail cars as they load and unload, but it's the scale that impresses. All is concrete: once white. Horizontal ridges and wood grain negatives of 89-year-old concrete forms are still prominent. Massive columns support poured-in place ceiling beams, the board formed floors far above appearing as thin as wood veneer.

Figure 5.6 [Right] Trapdoor for installing and removing machinery.
Figure 5.7 [Opposite] Track Shed Clutter.

5.5 Interstitial Void

We enter the negative interstitial space formed by the rounding concrete silo walls. A metal staircase spirals into the air above. Vertical lines in the formwork draw the eye ever upward; in this tight space up is the only place to look. This claustrophobic space seems to deny the monumentality of the exterior. I had dreamt of grandiose, cavernous rooms and passages, not this rickety stair crammed within the leftover space between storage bins.

Figure 5.8 [Right] Spiral stair within a partial interstitial.
Figure 5.9 [Opposite] Track Shed stair.

5.6 The Grain Elevator

As we stand too-intimately close in the tight interstitial, I spy two small steel doors in the curving concrete wall to the left and right. My guide indicates I should open one. Apprehensive, feeling some monster or horror-movie icon is going to slither out, I gingerly open one of the doors – camera flash at the ready. Rusty hinges creak, a square of grainy abyss opens in the rounded wall in front of me. I set the flash off, snap the photo. Nothing kills me, but there is a creature lurking within. A wide rubber belt with alternating layers of metal scoops bolted to its skin hangs in the darkness. A rather ignominious realization – this still-taught hanging belt is in fact the piece of machinery for the namesake of the building – the grain elevator.

Figure 5.10 [Right] Elevator extending from sight.
Figure 5.11 [Opposite] Grain Elevator machine.

5.7 Track Shed Ancillary

Above the Track Shed, galvanized chutes puncture through the floors and ceilings. Grains tumbled through here from the Head House far above to the rail cars waiting directly below. Behind me to the north, ad-hoc shelving litters the space.

Figure 5.12 [Right] Asbestos Clad walls beyond.
Figure 5.13 [Opposite] Grain loading chutes for rail cars below.

5.8 Remains

The Roman forum has piles of architectonic fragments and pieces of history; the Terminals have what look like electric motors or generators. Too heavy and invaluable to bother moving I presume, so they occupy their scrap refuse corner like a weird art installation awaiting a museum showcase.

Figure 5.14 [Right] Architectural elements, Roman Forum, 2013.
Figure 5.15 [Opposite] Industrial detritus.

5.9 Electrical Room

Black and white ceramic insulators adorn angle-iron supports, precious wiring removed long ago for scrap money. I stand on cast-in-place blocks in the floor, probably the original location of the transformers piled in the other room. This lofted double height space is filled with diffuse light, washing in and over everything in a white cascade. It's the first time my dulled excitement begins to pick up again since the tour began.

Figure 5.16 [Right] Lofted heights.
Figure 5.17 [Opposite] Transformer Room.

5.10 Maintenance

The more we traverse each space, the more I am made aware this building is an accessibility nightmare. I itch to climb the ladder, but my guide has already ambled off. My shoulders might not fit through the opening anyways. What lies above in that space has to be forever left to my imagination. I wonder if the maintenance crews were select picked for their ability to squeeze through tight spaces. Behind me under this loft sit the archaic electrical boxes and circuit breakers.

Figure 5.18 [Right] Circuit Breakers.
Figure 5.19 [Opposite] Access Ladder.

5.11 Showcase

We pass back into the upper level of the brick addition. It's more of a cobbled together admixture of red brick columns, poured concrete posts, exposed wood stud framing and steel I-beams. Three wooden sailboats congregate, masts and sails raised, no doubt gossiping amongst themselves about the decrepit state of their lowly relative the Lester E. Hall wood hull a floor below. The remnants of an effort to drywall the exposed stud walls comprises the first 8' feet from the floor. They must have run out of ladders or budget.

Figure 5.20 [Right] More Hulls.
Figure 5.21 [Opposite] Unfinished Show Case Room.


EXIT
6655

5.12 Purity vs. Functionality

Well-worn wood floors, rectangular pane windows, and threaded pipe guardrails betray the age of this addition. I view it as an insult to the purity of the superstructure, but it's been here a long time, and by my very own arguments that means it should be allowed to persist. Used now for the Boatworks clubhouse, I think it was originally constructed for packaging or as a warehouse. It's an ironic reminder of the absolutely purpose-built nature of the Terminals, requiring this addition to be built in order to house a new function. Where I see a degradation and insult provided by this red brick addition, in reality it closely follows the mantra of the building's purpose: quick and economical construction whose form is derived solely from its use and dictated by the dollar.

Figure 5.22 [Opposite] Trapdoor and hoist space.


EXIT

5.13 The Superstructure

The tour of the Track Shed and its addition now complete, we venture back out into the brisk morning sunlight. Piles of rusting scrap detritus litter the corner where the curving concrete silo descends to meet the Track Shed. Rusting barbwire droops lazily between posts along the top of the aging page wire fence. We pass through the open gates of the private yacht club, a source of unwelcome-ness on this projecting Spit. Walking down an avenue between forlorn winterized hulls and projecting masts, I notice regularized openings puncturing through the hexagonal foundation walls of the terminal cliff face. Boarded over, they echo the yacht club's message.

Figure 5.23 [Opposite] Barb wire statement: you are not welcome here.

5.14 Into the Bowels

We approach the base of the fourth silo. The opening here is lower, barricaded with rusting steel and a low door. My guide shuffles through his massive ring of keys to find the right one; grunts with exertion to pull the door open. Darkness envelops the opening; he steps within, and descends.

Figure 5.24 [Opposite] Ignominious entrance to the superstructure.


NO
PARKING

5.15 The Work Floor

I stand within a labyrinth of seemingly never-ending hallways. Massive foundations intersect the halls at regular intervals. The play of light and shadow, the regular pattern of void and solid immediately transports me back to Cuma, to the cave of the Sybil. A tunnel carved from the living tufa, fleeting patches of intense sunlight guiding the path through the darkness, towards prophetic illumination. But what waits at the end of this tunnel? Will some ephemeral being scatter fragments of prophecy in the ancient grain dust? A single letter per grain spilt below a gaping bin perhaps. The prophecy of the terminals, its future destiny possibly pieced together, letter-by-letter, grain-by-grain.

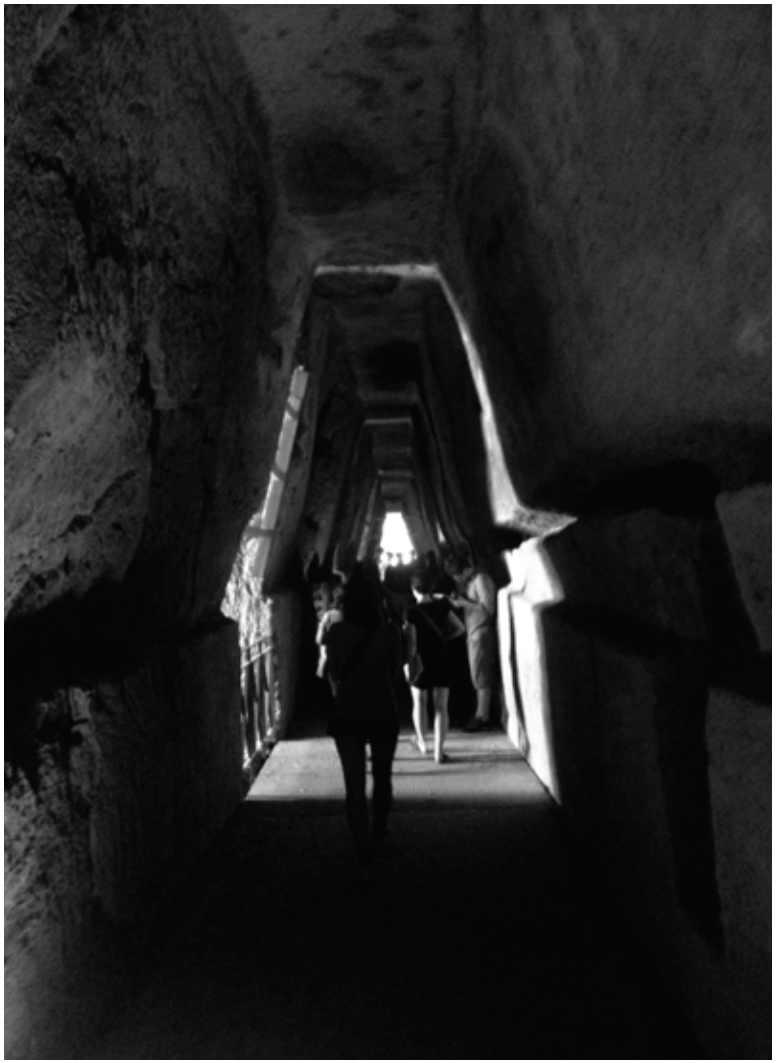


Figure 5.25 [Right] Cave of the Sybil, Cuma, Italy, 2013.
Figure 5.26 [Opposite] Man Walks Down the Work Floor.

5.16 Storage Bins

Decaying galvanized chutes regularly intersect the ceiling. I pause below one, peering into the darkness. My flash settings barely pick up the space, but I know what lies above. One hundred vertical feet of slip-formed cylindrical concrete encasing absolute emptiness. A tiny square of light punches through the slab of the distributing floor so far above. I peer for the first time up the centre of the storage bin. Smooth curving walls cascaded in murky black. The defining characteristic of the entire building – banked rows of cylindrical concrete – the 'forms assembled in the light' encase darkness within. The grains' repository, its vault, storage container, home. A space never meant for a human to occupy. The emptiness above is imposing, and with a chill I move on.

Figure 5.27 [Right] Interstitial storage chute spout within cavity.
Figure 5.28 [Opposite] Storage bin interior extending above rusted spout.

5.17 The Pit

A rusting, rotting metallic monster sits within a depression in the floor. The lowest point in the entire building, this is the bottom of the elevator machine. Inside the crumbling metal, the rubber belt and scoops sit dormant. All the grains were sent to this point, to begin their ascent via elevator to the lofty heights above. The missing conveyors of the work floor passages I traverse would have aimed to this point, as well as the grain chutes of the track shed to my right.

Figure 5.29 [Right] Mounting brackets for transfer conveyors.
Figure 5.30 [Opposite] Base of the Elevator Machine.

5.18 Remaining Conveyor

Above, rail cars once dumped their grains into grates in the floor. Here, under the track shed, a lone conveyor of the work floor survived the final hours of previous ownership before the town bought the building. In an eleventh hour frenzy any machinery of value was unceremoniously stripped and removed. The floor here has a hollow resounding thud, faint sound of lapping water. In the catacombs deep beneath such a mass of concrete and steel, it's a terrifying sensation.

Figure 5.31 [Right] Mysterious machine, below trackshed.
Figure 5.32 [Opposite] Conveyor below trackshed.

5.19 A Human Elevator

Here in my first glimpse of a star shaped interstitial void, a spiral staircase accompanies the metal cage work of the elevator, both evidently original to the buildings construction date. We step into the elevator, slide the metal grille across. The ascent begins, slowly moving upwards. White curving concrete slides past, a singular ascent with no stops, all the way up the 100' tall bins. Handwritten names periodically appear on the concrete, written by those stranded from past elevator malfunctions, forced to leap over gaping emptiness to the spiral stair. As we come to a dangling stop, I'm informed the emergency breaks are malfunctioning.

Figure 5.33 [Opposite] Human Elevator and Stair inside star shaped interstitial.

5.20 The Distributing Floor

We step into a space bathed in light. A long gallery space stretching the length of the building, bridging the gap between the two towers. A simplistic grid of board formed columns, beams, and slabs sets the repetitious theme of the space. Cathedral-esque glow of white light permeates the entirety of the space, dispersing virtually all shadow. Down the central aisle, inscribing cross-shaped quartets, small metal doors litter the floor slab. Inspection holes for each void below. I suddenly wonder at the strength of the 89-year-old concrete slab, eyes wide and frantic following the trails of cracks crisscrossing the surface.

Figure 5.34 [Opposite] Central Distributing Floor, looking west.


24A
24B
35
NO SMOKING

5.21 Dust Control

I stand amused at how something as simple as repetition can invoke a sense of beauty, reminded of some of my favourite Calatrava works, or the arcades of the *Palazzo della Civilta Italiana*. Instead of white curvilinear forms, I stare at the sweeping curves of dust control piping, the regularity of hard-edged grain chutes, the repeating collections of rectangular windowpanes, all overlaid amidst the structural uniformity of concrete beams and posts within this deceptively tall space.

Figure 5.35 [Right]Arcade and Statuary, Pallazo Della Civilta Italiana, E42, Rome, 2013.
Figure 5.36 [Opposite] South Gallery, Distributing Floor.


12B
12A
21

5.22 Tipper

Twin sets of conveyors run the gamut between the two towers, elevated to shoulder height on a system of repeating concrete piers and rails. A hulking machine still mounts each, stripped of belting and rusted in place on its sliding train-track rails atop the conveyor. Once they trundled back and forth, back and forth, tipping and depositing grain from the conveyor to the waiting bins below.

Figure 5.37 [Right] Conveyor rollers and grain chutes.
Figure 5.38 [Opposite] Tipper Machine atop the distributing conveyors.


55
55

5.23 Bin Map

Partway down the distributing floor I find a large inventory chalkboard. This bin map betrays the cloaking mystery of the construction, indicating the dynamic plan of the spaces hidden beneath my feet. Regularized with small anomalies at either end: the marine tower and head house. The map indicates 127 bins, my counting reveals 96. As with the anomalies below, the repetitious grid of columns and beams of this space dissolve violently at each end, colliding with the regularized and differing structural system of the flanking towers. The elevated rails slide past the collision point; extend through.

Figure 5.39 [Right] Distributing Conveyors beyond Headhouse stair.
Figure 5.40 [Opposite] Bin Map.


MARINE
TOWER
65

5.24 Distribution

Chutes and holes in the ceilings at the head house tower invited me upwards, to this space. The Distributor. Symmetrical in plan, twin semicircular arrays of galvanized chutes sit below rotating funnels. Cast iron sliding beam scales and standing desktops indicate the function of the space. Carefully measured and recorded grains fell from above, their future destination dictated by which chute they were directed into. Ship, storage, or rail, these gravity fed distributors controlled the movement of product within the building.

Figure 5.41 [Right] Distribution Array
Figure 5.42 [Opposite] Scale Station.


13
2

5.25 Grain Elevator II

Four rectangular galvanized sleeves encase the grain elevator, extending upwards in this triple height space. Following the path of the grains' vertical ascent as it carves out its own central atrium in this tower, it's a reminder of the variety of concrete encased spaces the grains once passed through.

Figure 5.43 [Right] Daylight atrium space.
Figure 5.44 [Opposite] Encased grain elevator between hoppers and holding tanks.

5.26 Weigh Hoppers

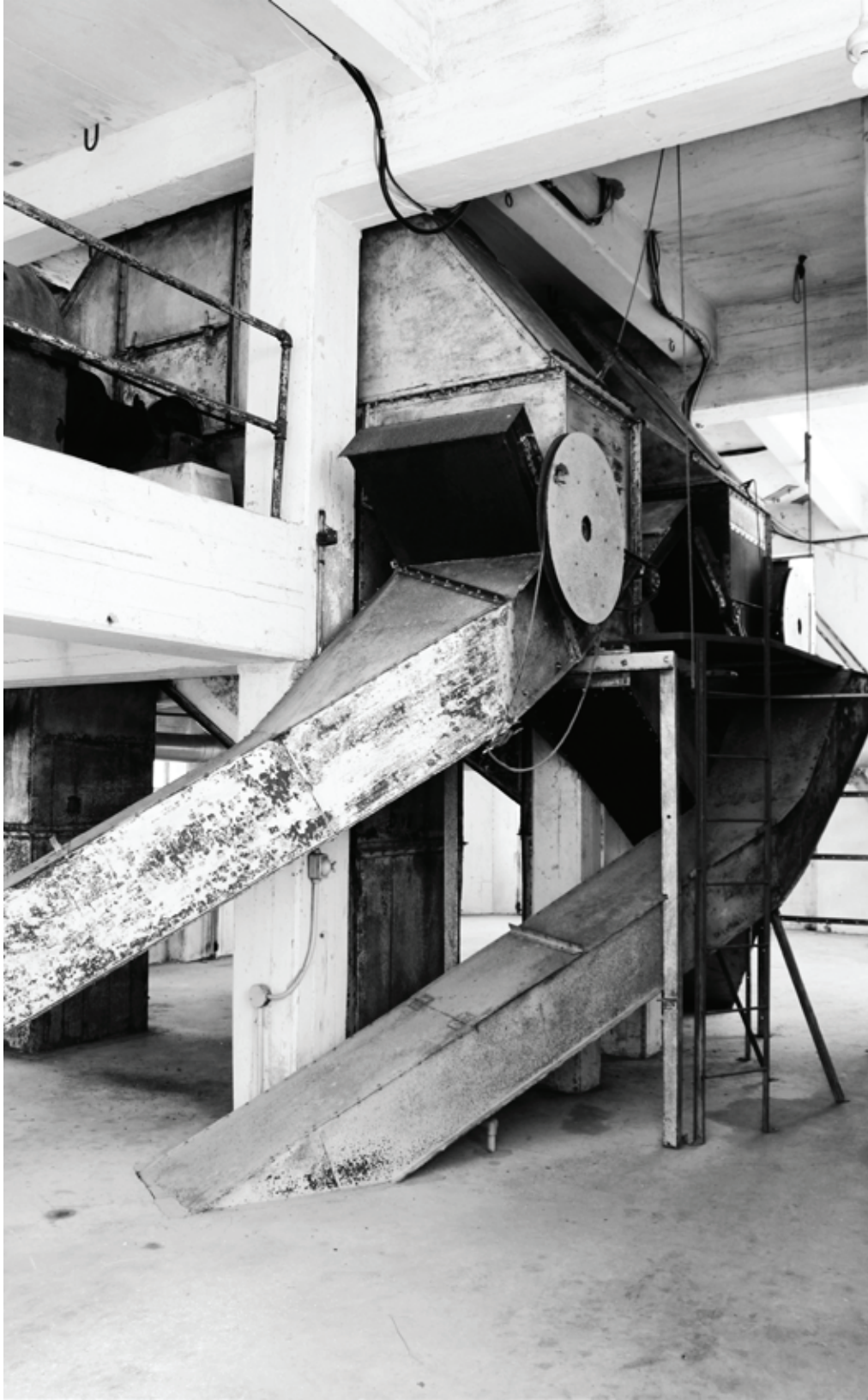
Flanking to either side, twin riveted weigh-hoppers occupy the north and south corners. They extend a storey in height, with cast-in-place concrete holding tanks perched above. This is the reason for the towering height of the head house. Facades of almost pure glazing bathe the soaring white columns and beams, and this gravity-fed system of grain counting.

Figure 5.45 [Right] Non-compliant access stairs and catwalk.
Figure 5.46 [Opposite] Riveted weigh hopper.

5.27 Elevator Head

I stare at the elevator head, and have the feeling it stares back. As with the pit so very far below, the machinery resembles some kind of monster. The starting point for the grain process down through the machinery to be weighed, sorted, distributed and stored. Two columns dissect the space, dividing it into thirds. Half height lofts occupy each corner, transformers and motors perched atop. In the centre hulks the swirling galvanized monster, its tentacle chute arms wrapping around and past the columns, slamming through the floors to access the grain hoppers below. Its static colossal form belies a poised readiness, as if at any moment it may surge to life. The human elevator terminates here as well.

Figure 5.47 [Right] Motors and transformers to turn the grain elevator.
Figure 5.48 [Opposite] Grain Elevator Head machinery.



5.28 Health and Safety Nightmare

The elevator maintenance shed punctures through the roof of the head house. We ascend it through a steep stair and trapdoor. My guide shows me the elevator motor with the malfunctioning emergency brake, a small lumpy thing I trusted my life with. A door leads to the roof; I ask if we can step outside. No harness, no safety gear, my boots sharply crunch snow into the tar coating of the low sloped concrete slab. I stand on the tallest accessible roof on the tallest building in the town and gaze outwards. A network of crisscrossing tubes supporting the town's communications equipment obstructs my view, but I don't mind. It's the only pseudo safety barrier between a long plummet and myself.

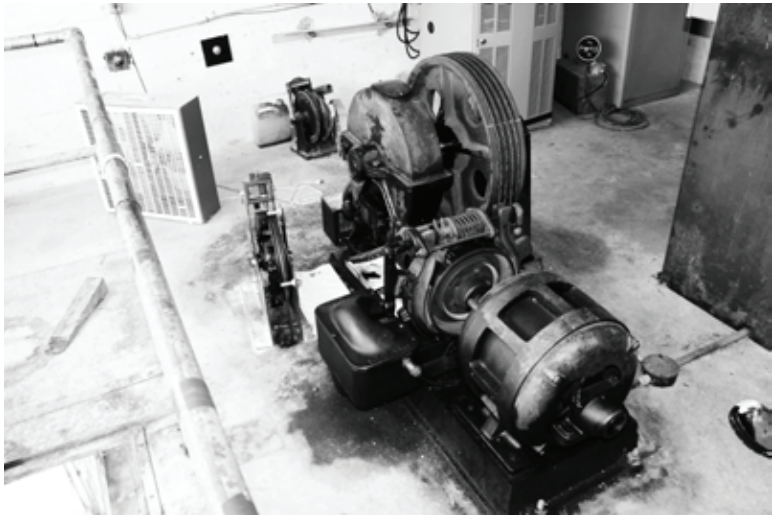


Figure 5.49 [Right] Human elevator electric motor.
Figure 5.50 [Opposite] View of Collingwood through communications array.


Cell-1 RRU 0
2100
Cell-1 RRU 1
1900

5.29 Panoramic Views

We use the roof of the Distributing Floor to access the Marine Tower. We're lower than atop the headhouse, but I don't mind. The roof is so wide and long, I imagine a skating rink atop it. Nothing disrupts the panoramic views, I pause and for the first time truly appreciate the view so very few people get to see. From Town, to escarpment, to harbour, to open water, it is breathtaking.

Figure 5.51 Panoramic views from atop the Distributing gallery

5.30 Guano

The open-air marine tower evidently functions as a bird sanctuary. Accumulated bird droppings over the past decades jam the steel door, require both our weight to scrape open. Whatever lies down below this stair, I don't get to see. The mounds of guano make it unsafe to traverse; we try another access level to the marine tower.

Figure 5.52 [Opposite] Carpet of Guano.

5.31 Repose

Despite the overwhelming smell and crunching layers of bird shit beneath my feet, the accidental beauty of this intermediary level in the marine tower sinks home. Breathing through my mouth, I pause for a time. Past the railing, nothing but open-air columns and beams all the way to the water, so very far below.

Figure 5.53 [Right] A Long Way Down.
Figure 5.54 [Opposite] Marine Tower.

5.32 Marine Distributors

As with the head house, this tower has a grain elevator. Encased within the galvanized chutes of the foreground, a rubber belt and scoops sits dormant. Directly below my feet, and over in the far end, marine distributor bins sit in a familiar circular array, fed by the chutes to my left and crashing through the roof of the distributing floor onto the awaiting conveyors below.

Figure 5.55 [Right] Atop the Marine Leg.
Figure 5.56 [Opposite] Marine Elevator and distributing array.

5.33 Marine Leg

The guano makes it difficult to explore the tower safely in a sequential manner. We move where we are able, and I take pictures of what I can. I capture the top of the marine leg, the giant sliding conveyor machine, which through cables and tracks lowered and extended itself into ships holds, its buckets greedily gobbling up the grain. Somewhere below me, it deposited into a marine elevator pit, and mimicked the process of the other tower.

Figure 5.57 [Right] Marine Leg from below.
Figure 5.58 [Opposite] Top of the Marine Leg, vertical position.

5.34 Marine Elevator Head Machinery

In the top of the marine tower, we find giant steel cables and wheels, and the second grain elevator head. Confused by the decrepit machinery, I forget to photograph the stunning views. After a short while, we turn to leave.

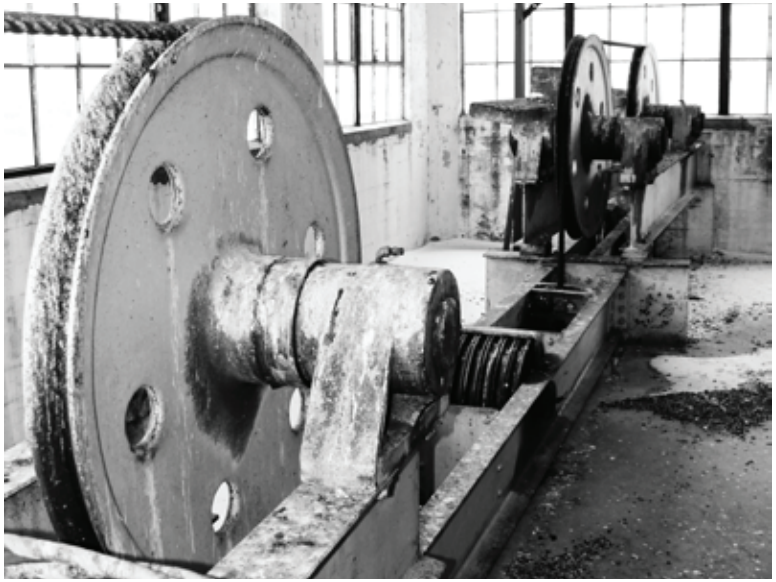


Figure 5.59 [Right] Marine Leg lifting cables.
Figure 5.60 [Opposite] Marine Elevator head machinery.

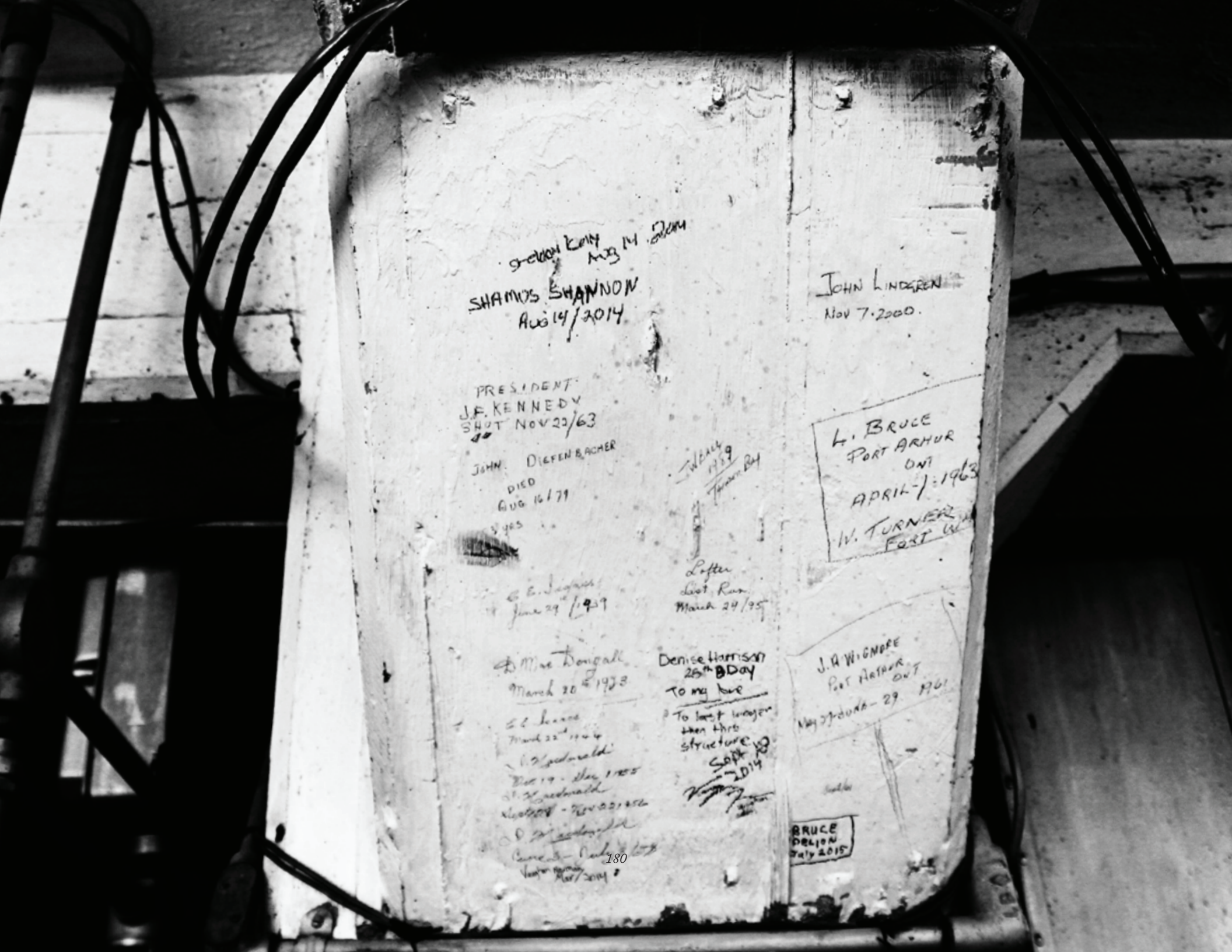
5.35 Messages Through Time

It's as we're leaving, dangling in that small metal birdcage, my guide pauses the elevator and reverses it. There's one last thing I still need to see. I'm led back to the headhouse, over to a couple unremarkable and forgotten columns. As I get closer, I see faint pencil etchings in the white lead-based paint. Apart from the standard name-graffiti of '*Drew was here*' and other such typical defacing's common in derelict buildings, some names and dates began to stand out. Ignoring the one column of names and phone numbers my guide informs me were for those 'looking for a good time,' [I am still unsure if this was a joke] I notice recordings of important historical moments and other deposits of time.

The recurring visits over decades of a man from Port Arthur, the place where this building was designed. Others like him, visiting from grain elevator port towns and cities upon the great lakes, denoting their place of origin and year of their visit. The convenience of travel today trivializes some of the distances these names were recorded from, a reminder of the evolution of the Canadian industrial landscape, and the forces that rendered this building obsolete.

Recordings of historical moments prop up amongst the names: '*Lofter Last Run March 24/95*,' '*President J.F. Kennedy Shot Nov 22/63*,' and '*John Diefenbacher Died Aug 16/79*.' Reading these, it all hit home. All these different people, who stood in this very same spot, in worlds different from my own, to scribe a personal message, figuratively etch into stone [literally into concrete]

Figure 5.61 [Opposite] Messages Through Time.


SHAMUS SHANNON
Aug 14/2014
JOHN LINDGREN
Nov 7. 2000.
PRESIDENT
J.F. KENNEDY
SHOT NOV 22/63
JOHN DIEFENBACHER
DIED
AUG 16/79
L. BRUCE
PORT ARHUR
ONT
APRIL-1-1963
Mike Dougall
March 20th 1973
Denise Harrison
25th BDay
To my love
To last longer
than this
structure
Sept 20
2014
J.A. WIGMORE
PORT ARTHUR
ONT
BRUCE
DELION
July 2015

important historical moments. Every person who left their mark shared the same understanding of the inherent permanence of this place, intrinsically understood it was a survivor through time and a suitable repository to record these fleeting moments. Even unto obsolescence, as the person who, on September 18, 2014, felt it pertinent and safe to declare '*To my love, To last longer then this structure*.' Even facing an uncertain future, the understanding is clear.

The most important of all the messages, however, was scrawled on another column. Next to the frame of a grimy window, faint and faded, I was able to make out the words '*Peace declared with Germany May 7 1945, 10 am*.' In this alienating icon of modernity, writ literally into its walls, the declaration of the end of the worst atrocities humanity had known. I paused and thought for a long while.

For the longest time, I have laboured under the task of finding a suitable way to end. Inspired by the writings on the wall, I turn to and paraphrase Yuval Noah Harari, and his opening image and message of one of my favourite books. Thirty thousand years ago, in Chauvet Cave, in what is now France, ancient sapiens recorded their world upon the naked stone of cave walls. Some of the oldest known artwork of our species yet discovered. And prominent amongst it, an ancient handprint outlined in red ochre on stone, displaying one of the oldest pervading human traits - an effort to leave a mark, to defy time, to say 'I was here.'[188] It's a comforting thought that millennia later we still do the same, and I witnessed it here, in an old grain elevator.

Figure 5.62 [Below] Hand print in red ochre, *Chauvet Cave*, France.
Figure 5.63 [Right] Peace Declared With Germany.


08 HARDCORE
AUDIT

Epilogue

We don't tear down castles

Visiting the crumbling remnants of buildings and cities leftover from a bygone time and civilization is a rite of passage – it forms at least part of the lure of the eponymous 'Grand Tour' that any individual seeking culture must undergo. By visiting ancient temples, shrines, monuments, castles and more, the entire purpose of the tour is simply to experience these built relics and perhaps learn something along the way.

Today each of these building examples are survivors through time. They fulfill no other purpose or function other than education and existence purely for the sake of the past. Various trusts, organizations and institutions preside over these microcosms of culture and heritage to ensure their perseverance for the next generation.

The Collingwood Terminals and grain elevator building represents a perfect example of a survivor through time. It is a living museum, locking away within its concrete shell the last echoes of the Town's industrial past, unfettered by hokey re-imaginings and gimmicky attempts at historic authenticity.

In a landscape considered relatively new in its built heritage, within a country where our oldest buildings are only passingly accepted as not-quite-young in the old-world timescale, the mysterious grain elevators upon the Great Lakes offer themselves as some of this country's most endurable structures.

The modern concrete grain elevators are the castles of the post-industrial Canadian landscape we inhabit today – their time of use has come and gone, and now their sole purpose serves to remind us from where we came, and possibly where we are going. They are permanence's through time and only need the permission to continue to be so.

Figure E.1 [Left] Grit caked windows, and the world beyond.

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Chapter Five

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Appendix
Definitions and Clarifications

While mapping the presence and prevalence of urban concrete grain terminals upon the great lakes, and in particular while scanning plan view aerial photography of the Canadian and American cities occupying the shore lines, the ease of confusion of grain elevators with other silo-esque industrial architecture became abundantly clear. Even to the initiated, as this author discovered, mistaking for example a LaFarge cement factory silo complex for a terminal grain elevator is exceptionally easy at first glance. Suffice it to say that for simple economics and engineering, a concrete cylinder is the easiest and strongest practical method for vertical bulk storage,[189] and is not reserved solely for the grain elevator typology.

To the un-initiated, differentiating between the terminologies of the parts of a grain elevator, especially considering the commonality of function-as-name and name-as-function, while also throwing in the differing grain elevator types, can be a daunting and confusing task. This is in no small part due to the fascination spurred by Gropius and Le Corbusier's mislabeled photographs, as well as a mish-mash of vernacular terms. As such, some clarification between the common terms is in order:

Grain Elevator is the first instance where the function has mistakenly been interchanged for the name of the building. Quite simply, "…what makes an elevator an elevator is not that it occupies a particular building form, but that it has machinery for raising the grain to the top of the storage vessels." [190]. The forms of grain elevators were a series of ever evolving exercises in material explorations and cost saving simplifications, dictated by fire proofing needs, storage capabilities, and above all the dollar. Storage vessel shape, size, and layout drastically changed throughout each subsequent generation, and as structural and material efficiency were met, other industrial types began occupying similar forms. Hence the easy confusion of Charles Sheeler, mistaking the sludge collecting silo's of Fords River Rouge plant in his painting *Classic Landscape* for a grain elevator.[191] For the typology of grain

Figure A.1 Classic Landscape, Charles Sheeler. The sludge collecting silos to the left-hand side of the painting possess such a similar form that they can forgivingly be mistaken for a grain elevator.

elevator dealt with in this thesis, the elevator machine itself was most commonly a simple series of wooden, and later metal or composite scoops, bolted to a vertical conveyor belt, which would scoop and lift the grain delivered by trucks, train cars, and ship holds. The grain would then travel vertically into the head house, where it could go through the processes of weighing, cleaning, sorting and being stored for transshipment. Due in large part to the mysterious nature of the internal functioning systems involved in the grain handling process, the name for the machinery housed inside became synonymous with the form on the outside. Today, to the unfamiliar, an elevator is both machine and building.

The many differing elevator types operate on a scalar system, the largest of which is referred to as a *Terminal*. Beginning at the small farmer, they store their grain onsite in predominantly metal bins, and then ship to a larger capacity rural elevator via truck or historically wagon. These rural elevators would collect, store and then feed via rail into larger urban terminal elevators, which litter the great lakes and performed the vital role of facilitating the international grain trade. They would weigh, sort, store, clean, and transship the grains from land to water based transport (and vice versa), which would move up the St. Lawrence to the Atlantic Ocean and abroad. As such, any major trading city on the great lakes commonly had at least one concrete terminal elevator. Thunder Bay, Duluth and Superior, the gateway cities to the west, contain some of the most impressively large concrete terminal elevator collections upon the great lakes. The Collingwood Terminals' two million-bushel storage capacity, large and competitive at the time of construction is a relatively meager sum in comparison today.

Silo and *Bin* are two other commonly misused terms. In strict farm vernacular, the two function almost identically for storage, but differ in that a silo is a sealed vessel used for wet silage commonly for feeding animals, while a bin is vented and reserved for dried grains for human consumption. Typically on the farm, silos are much taller, and are of tile or concrete construction. The same farm will house bins that are shorter, squatter, and larger in diameter, and built out of corrugated metal. It's likely early concrete rural elevators, similar enough in appearance to strike a more than casual resemblance to the small-scale monument of the dome topped farm silo, were mistook for such and through time have adopted the name, a mistake still prevalent today. In contrast to their small farm metal counterparts, the concrete storage vessels of terminal elevators are referred to as bins. These are the banked rows of cylindrical slip formed concrete and the interstitial voids formed between each.

Architecture of Obsolescence is used as an encompassing term for varying typologies of an entire generation of industrial architecture still prevalent in the post-industrial landscape of today. All types of factories, plants, refineries, grain elevators, etc., qualify for inclusion in this term. Each contain recognizably similar characteristics, purpose, function, and constructed forms that are no longer needed in their current guise. Indeed, the key-identifying factor across each standard industrial type is an inability to easily transform, or provide or satisfy another purpose other than for which it was built. Typically, since these hardly ever required any type of public spaces or amenities, and are currently closed off to

the public due to safety concerns, they come to dominate their surroundings as objects of mystery and intrigue. Easily the most iconic and problematic of all the types included within this term, the concrete modernist grain elevator once again finds itself the paramount image of a larger categorization. Due to the relatively inseparableness of function from form, machine from building, space from service, this purpose-built complexity is readily available only to perform a now unneeded purpose, indicative of the larger problem.