SG-2255

NPS Form 10-900
(Oct. 1990)

OMB No. 10024-0018

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Nat. Reg. of Historic Places
National Park Service

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in *How to Complete the National Register of Historic Places Registration Form* (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer to complete all items.

1. Name of Property

historic name **NIAGARA MACHINE AND TOOL WORKS FACTORY**

other names/site number **Clearing Niagara**

name of related multiple property listing N/A

2. Location

street & number **631 and 683 Northland Avenue** [ ] not for publication

city or town **Buffalo** [ ] vicinity

state New York code **NY** county **Erie** code **029** zip code **14211**

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this [X] nomination [ ] request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements as set forth in 36 CFR Part 60. In my opinion, the property [X] meets [ ] does not meet the National Register criteria. I recommend that this property be considered significant [ ] nationally [ ] statewide [X] locally. ([ ] see continuation sheet for additional comments.)

Ron Daniel
Signature of certifying official/Title

2/6/18
Date

DSHPO
State or Federal agency and bureau

In my opinion, the property [ ] meets [ ] does not meet the National Register criteria. ([ ] see continuation sheet for additional comments.)

Signature of certifying official/Title

Date

State or Federal agency and bureau

4. National Park Service Certification

I hereby certify that the property is:

[X] entered in the National Register
[ ] see continuation sheet
[ ] determined eligible for the National Register
[ ] see continuation sheet
[ ] determined not eligible for the National Register
[ ] removed from the National Register
[ ] other (explain) _____

Signature of the Keeper

date of action
3-26-18

5. Classification

Ownership of Property
(check as many boxes as apply)

[**X**] private
[ ] public-local
[ ] public-State
[ ] public-Federal

Category of Property
(Check only one box)

[ ] building(s)
[**X**] district
[ ] site
[ ] structure
[ ] object

Number of Resources within Property
(Do not include previously listed resources in the count)

Contributing	Noncontributing	
3	**0**	buildings
		sites
3		structures
		objects
6	**0**	**TOTAL**

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing)

N/A

Number of contributing resources previously listed in the National Register

N/A

6. Function or Use

Historic Functions
(enter categories from instructions)

INDUSTRY/
Manufacturing Facility
Industrial Storage

Current Functions
(Enter categories from instructions)

Vacant/Not In Use

7. Description

Architectural Classification
(Enter categories from instructions)

Early Twentieth Century American Movement/
Chicago, Other
Modern Movement/
International Style

Materials
(Enter categories from instructions)

foundation **Stone, Concrete**
walls **Concrete, Brick,**
Glass, Steel, Aluminum
roof **Glass/Steel Sawtooth Monitors,**
Flat Built-Up

Narrative Description
(Describe the historic and current condition of the property on one or more continuation sheets)

Niagara Machine & Tool Works Factory | **Erie County, New York**

Name of Property | County and State

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

[**X**] **A** Property associated with events that have made a significant contribution to the broad patterns of our history.

[ ] **B** Property is associated with the lives of persons significant in our past.

[**X**] **C** Property embodies the distinctive characteristics of a type, period, or method of construction or that represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

[ ] **D** Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations
(Mark "x" in all boxes that apply.)

[ ] **A** owned by a religious institution or used for religious purposes.

[ ] **B** removed from its original location

[ ] **C** a birthplace or grave

[ ] **D** a cemetery

[ ] **E** a reconstructed building, object, or structure

[ ] **F** a commemorative property

[ ] **G** less than 50 years of age or achieved significance within the past 50 years

Areas of Significance:
(Enter categories from instructions)

INDUSTRY

ARCHITECTURE

Period of Significance:

1910 – 1967

Significant Dates:

1910, 1953, 1964, 1967

Significant Person:

N/A

Cultural Affiliation:

N/A

Architect/Builder:

Green & Wicks; H. E. Plumer & Associates;

Jacob Fruchtbaum & Donald E. Swanson, PE

Narrative Statement of Significance
(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

Bibliography
(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS):

[**X**] preliminary determination of individual listing (36 CFR 67) has been requested. **NPS #35,984**
[ ] previously listed in the National Register
[ ] previously determined eligible by the National Register
[ ] designated a National Historic Landmark
[ ] recorded by historic American Building Survey
_____
[ ] recorded by Historic American Engineering Record
_____

Primary location of additional data:

[ ] State Historic Preservation Office
[ ] Other State agency
[ ] Federal Agency
[ ] Local Government
[ ] University
[ ] Other repository: _____

10. Geographical Data

Acreage of Property 11.19 acres

UTM References
(Place additional UTM references on a continuation sheet.)

	Zone	Easting	Northing
1	17	676814	4754083
2	17	676820	4753871
3	17	676698	4753906
4	17	676555	4753969
5	17	676551	4754083

Verbal Boundary Description
(Describe the boundaries of the property on a continuation sheet.)

Boundary Justification
(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Barbara A. Campagna, FAIA, Principal [Edited by Jennifer Walkowski, NYSHPO)

organization Barbara A. Campagna/Architecture + Planning, PLLC date October 26, 2017

street & number 514 Main Street, #201 telephone (716) 768-4062

city or town Buffalo state NY zip code 14202

Additional Documentation

Submit the following items with the completed form:

Continuation Sheets

Maps

Section 10 Continuation Sheet and Section 10 Maps

Photographs

Representative Color Photographs of the site.

Additional items

Section 11A – Photograph Log
Section 11B – Key Maps
Section 11C – Appendix: Background Materials and Chronology of the Niagara Machine & Tool Works Factory

Property Owner (Complete this item at the request of the SHPO or FPO)

Name _____

street & number _____ telephone _____

city or town _____ state _____ zip code _____

Paperwork Reduction Act Statement: This information is being collected for applications to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C. 470 *et seq.*)

Estimated Burden Statement: public reporting burden for this form is estimated to average 18.1 hours per response including time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding this burden estimate or any aspect of this form to the Chief, Administrative Services Division, National Park Service, P.O. Box 37127, Washington, D.C. 20503

Narrative Description of Property

The Niagara Machine and Tool Works Factory Complex, located on the East Side of Buffalo in Erie County, New York, is a large industrial facility designed and constructed between 1910 and 1981 by Niagara Machine and Tool Works. The complex is located on the south side of Northland Avenue, an east-west thoroughfare between Chelsea Place and Longview Avenue, along a highly industrialized core north of a CSX railway line, originally known as the Belt Line. Residential neighborhoods, both south and north of the railroad, surround the factories that line the corridor. The principal elevations of the factory face north onto Northland Avenue and south onto the Belt Line. The complex is best known by the name under which it achieved local prominence: Niagara Machine and Tool Works Factory. The area retains its original industrial feeling and setting, with four other factory buildings and complexes lining Northland and another several factories found along East Ferry Street to the south. Each factory had its own Belt Line Rail Road spur or spurs, remnants of which can still be seen.

The Niagara Machine and Tool Works Factory consists of three distinct buildings related to specific functions of the manufacturing facility and the factory's evolution: 1) **The Headquarters and Main Factory** (built in multiple building campaigns from 1910-1981), 2) **The Pattern Shop** (1913) and 3) the **Metal Fabricating Plant** (1953). Also counted in the resource count are three contributing structures; the extant rail spurs from the Belt Line railroad which are still present on the property. The 11 acres of land is primarily occupied by the Main Factory on the eastern half of the site, stretching from Northland Avenue to the railroad. The Pattern Shed is situated just west of the Main Factory towards the northern edge of the site. The Metal Fabricating Plant hugs the western edge of the site, also stretching from Northland to the rail line. A concrete drive wraps around the site with a ribbon of parking against the east side of the Main Factory. A concrete drive and parking lots separate the Main Factory and Metal Fabricating Plant, with iron gates demarcating the vehicle access.

The Headquarters Office Building, facing Northland Avenue, presents a formal, orderly front elevation signifying its professional purpose. This sophisticated front elevation conceals the random massing of the Main Factory building behind, which was added onto as manufacturing needs and technology evolved, stretching southward to the railroad. The Main Factory includes twelve different building campaigns that were built for interior functionality, not aesthetics, and read as a continuous series of irregular masses and volumes.

The Pattern Shop (in which the wood and metal patterns were stored), is a detached one-story steel and corrugated iron shed to the west of the office wing. Pattern shops were typically separate from the main block of the factory and offices to protect them from any fires in the manufacturing spaces. The Metal Fabricating Plant is a rectangular, International-style steel, glass and concrete manufacturing facility built in one construction campaign in 1953. This is set on the western half of the site, with a work-yard and drive separating it from the

Main Factory and Pattern Shop. The Metal Fabricating Plant was separated from the Main Factory due to the large space it required during the company's post WWII growth.

The period of significance of the district is from 1910 to 1967, during which Niagara Machine & Tool Works developed and operated the site. The company manufactured tools and machines for working with sheet metal, specializing in presses, punches and rotary sheets. The nomination boundaries encompass the three contributing buildings, the Belt Line spur and the surrounding site historically constructed and used for this production. While the final construction occurred on the site in 1976 and 1981, the last building campaign that can be considered architecturally significant was completed in 1967, which also coincides with the final piece of the factory's post-World War II and Cold War expansion. The original buildings of the complex, built between 1910 and 1913, were designed by Green & Wicks Architects, one of the most noted architectural firms to ever practice in Buffalo.

Setting

The Niagara Machine & Tool Works Factory (Niagara Machine) is located on the east side of Buffalo in an industrial and residential neighborhood along the corridor of Northland Avenue, between Grider Street and Fillmore Avenue. Northland Avenue is the spine of the Northland industrial district or corridor, running parallel between East Delavan and East Ferry Streets. The Niagara Machine complex is just north of a CSX railroad corridor, which was the former New York Central "Belt Line," a railroad line that developed throughout the 1870s and created a large loop around much of Buffalo's developed area by the time of its completion in 1883. Along its length, separate industrial districts emerged, and the Northland Corridor was one such node.

The area retains much of the original industrial feel and setting. The complex is adjacent to other former early twentieth century manufacturing complexes and individual manufacturing buildings centered on the Belt Line. These include the Otis Elevator Factory and Foundry/Curtiss-Wright complexes, the Houde Engineering Complex, the Northland Rubber Company and the Buffalo Foundry and Machine Company. Residential blocks composed of modest worker homes fill in the streets between the factories.[1]

Topographically, the Niagara Machine site is almost entirely flat, with at-grade pedestrian entries along Northland Avenue and at-grade access for truck and the rail into the manufacturing spaces. It is surrounded by

[1] While the Niagara Machine & Tool Works Factory merits individual nomination, it is also located within a larger identified potential historic district of other industrial complexes and resources, both north and south of the former Belt Line railroad, which tells a broader story of industrialization in Buffalo's East Side. It is hoped that the successful nomination of the Niagara Machine & Tool Works Factory, along with additional neighborhood workshops and meetings, will lead to the nomination of the larger Northland Avenue industrial node.

concrete drives and parking areas, with limited areas of landscaping. Remnants of the rail lines can be seen in the concrete along the railroad and inside the manufacturing spaces.

The Site

The site is a totally utilitarian industrial site, and its location adjacent to the Belt Line is its most significant cultural landscape feature. The north façade has shrubs planted against the first-floor wall and a city sidewalk which separates it from the street. Two concrete drives separate the Main Factory from the Metal Fabricating Plant. The northern half of the site between the Factory and the Metal Fabricating Plant contains several rectangular lawns, which were former work-yards. Concrete surrounds the Pattern Shed. Steel gates provide access to the two driveways and to secondary freight drives near the Metal Fabricating Plant.

Most of the southern half of the land between the Main Factory and the Metal Fabricating Plant is concrete, which was used for parking and truck access to the buildings. A concrete drive is located at the southern edge of the site along the railway. Concrete pavement surrounds the steel furnace infrastructure on the west side of the Metal Fabricating Plant. Asphalt pavement wraps around the east side of the Main Factory. Another large overhead steel gate is located at the driveway on the eastern edge of the site.

The three Belt Line spurs deserve recognition as contributing structures since they represent one of the key reasons the factory was built here. Rail spurs run off the former Belt Line rail line into both buildings, through Area I in the Main Factory, into the northwestern corner of the Metal Fabricating Plant, which is depressed on the interior to accept the spur and through the center of the western wall of the Metal Fabricating Plant. The rails remain intact in these areas, although they are overgrown with vegetation and have not been used in decades.

The general site is usable, but worn. The exterior furnace equipment located on the west side is moderately corroded. The concrete pavement is usable, in moderate condition, but contains sporadic cracks with vegetation growing in many joints. The asphalt pavement located on the eastside is in very poor condition with numerous cracks and vegetation growing in many joints.

Evolution of Factory[2]

The Niagara Machine & Tool Works Factory developed largely between 1910 and 1981 and, like many factories, including its neighbors, it evolved over time as both technology and manufacturing capacity were

[2] For a full discussion of the evolution of the site, please see Section 8. A series of site plans depicting the chronology of the construction is located in the Appendix, Section 11-C.

expanded and national war and defense needs increased. As a result, the Main Factory building was expanded through many additions. While some of the additions were carefully planned and executed by architects or engineers, others were added as needed and company expansion dictated. There were approximately twelve major building campaigns, which encompass the construction growth represented by the three main buildings: 1. The Headquarters and Main Factory (1910-1981), 2. The Pattern Shop (the 1913 shed) and 3. The Metal Fabricating Plant (1953).

BUILDING DESCRIPTIONS

Component 1: The Headquarters and Main Factory (1910-1981), 683 Northland Avenue.
Architects: Green & Wicks (1910, 1911); Unknown (1920, 1927, 1978); H. E. Plumer & Associates (1946, 1956); J. Fruchtbaum & Donald E. Swanson, PE (1964, 1967, 1981)
Contributing

The approximately 235,000-square-foot factory building is sited on the south side of Northland Avenue between Chelsea Place and Longview Avenue. The building consists of a four-story office area on the north side fronting Northland Avenue, and a series of ten connecting manufacturing spaces, behind the offices to the south and adjacent to the east. It is a rectangular block with the shorter faces along the north and south elevations.

The Headquarters Office Building, facing Northland, presents a formal, orderly front elevation signifying its professional purpose. The Main Factory is comprised primarily of architect or engineer-designed components from twelve different building campaigns, which read as a series of irregular masses and volumes that were added as capacity, technology and manufacturing needs required. The front façade is split between manufacturing spaces on the east and the office building on the west. The eastern manufacturing spaces are three-bays wide, two-stories high with a one- and two-story machine shop and assembling factory attached behind it to the south. The western office building section is a ten-bay-wide, four-story-high structure built in two phases in 1911 and 1912, in a more formal style similar to the Chicago style. The two wings are connected by a two-story hyphen, the Gallery. The remaining building campaigns, composed of a series of ten manufacturing spaces, were added between 1920-1981 as manufacturing growth and expansion warranted, ultimately reaching approximately 235,000 square feet. These manufacturing spaces, purely utilitarian in design, feature lofty, long rectangular spaces topped by a series of sawtooth and clerestory monitors with concrete or clay tile plank roofs.

The four-story office building has an exposed, reinforced-concrete frame, fire-proof construction, concrete and brick walls, reinforced-concrete floors and a flat roof with parapet. The roof systems throughout the building

complex vary in composition, but are generally a flat, built-up bituminous system. The original manufacturing spaces are also exposed, reinforced concrete frame resting on a concrete foundation with concrete and brick walls and a series of steel-framed sawtooth monitors and skylights.

The remaining building campaigns, forming a series of ten manufacturing spaces, were added from 1920-1981 as manufacturing growth and expansion warranted them. The manufacturing spaces, purely utilitarian in design, once again feature a series of sawtooth and clerestory monitor roofs with concrete or clay tile plank panels.

Following, each elevation is described referencing the building section as identified in the map below.

Figure 1 Chronology of Niagara Machine &Tool Works Factory

Exterior

North Elevation (front)

The primary façade of the Main Factory is the north elevation, which fronts onto Northland Avenue and contains a manufacturing block to the east and an office block to the west. It is composed of the original buildings for the factory manufacturing spaces (A2, A-3 and A4) and the original buildings for the office building (A-1 and C-1). While it is composed of both an office building and manufacturing spaces, it reads as a continuous elevation with its use of exposed reinforced concrete and wide expanses of glass and glass block.

The one-story 32-foot-high machine shop and assembling factory (A-4) at the eastern corner of the north elevation is a reinforced exposed concrete frame resting on a concrete foundation. The Machine Shop is three bays wide with each bay separated by a simple concrete pilaster topped by a rectangular concrete capital. Each bay front contains glass block resting on a brick panel, which sits on the concrete foundation. The original windows were steel with fixed sash and some operable hoppers. It is not known when they were replaced. This Machine Shop block contains the original machine shop with five sawtooth monitors. The sawtooth glazing is covered with corrugated metal but the original fixed steel sash remains. A lesser two-story bay or hyphen called the Gallery (A-3) is attached to the east side of the Machine Shop block bridging the machine shop and the office block. The first floor contains glass block resting on a brick panel and a double-hung aluminum window flanked by glass block in the second floor or mezzanine level. The hyphen continues the exposed concrete frame resting on a concrete foundation with a slight parapet and flat built-up asphalt roofing.

Adjacent and west of the Machine Shop is the reinforced concrete frame, four-story office block. The Headquarters Office Building presents a formal, orderly front block signifying its professional purpose and is stylistically like the Chicago style. The original section (A-1) contained four bays and the addition (C-1) contains six bays. Each bay is separated by a simple concrete pilaster topped by a rectangular concrete capital. Each bay at each floor contains symmetrical fenestration with triple aluminum pivot sash windows and decorative brick spandrel panels set in herringbone bond accented by a diamond panel. The original windows were double hung with twelve-over-twelve or one-over-one sash. It is not known when they were replaced. The main office entrance is located on the east end bay of the office block containing a central aluminum and glass door (currently covered with a metal panel) with flanking granite panels and a concrete canopy. The whole office block is topped by a flat built-up asphalt roof.

West Elevation

The side, west elevation stretches almost the entire length of the site from Northland Avenue to the rail line. While it reflects several building eras – the 1912 Office Building Addition (C-1), the 1946 Plant Addition (G-

1), the 1911 Blacksmith Shop (B) and the 1964 Assembly Building (J-1), the consistent use of brick, aluminum and glass at the same plane reads as a continuous wall. The elevation varies in height and construction type according to the era.

The west face of the four-story office block at the northwestern corner of the west elevation is brick inset within the exposed reinforced concrete frame structure, resting on a concrete foundation. The wall is mostly windowless and contains three doors and a picture window on the ground floor. It is four bays wide with a stair tower in its southernmost bay. The block is topped by a flat built-up asphalt roof.

The 1946 Plant Addition (G-1) abuts the southern face of the office block. It is a one-story-high brick wall, resting on a concrete foundation, topped by 32-foot high sawtooth monitors which have been covered with blue corrugated metal. A small one-story block adjacent to the office block projects from the face of the Plant, containing two overhead garage door openings. The southernmost opening has a single pedestrian door in it. The remainder of the wall is windowless but has another overhead garage door with an adjacent pedestrian door at its southern end. A brick storage garage with a steel wire wall projects from the brick wall about half-way along the wall.

Beyond the 1946 Plant Addition is the 1911 Blacksmith Shop (B). Although the Blacksmith Shop has been subsumed within later additions, its original brick construction and clerestory monitor roof are readily visible. The Blacksmith Shop's west face is of brick construction and is 10 bays wide. Each bay is punctuated with a brick pilaster on either end and contains triple steel fixed windows with operable hopper windows at the bottom. The openings in bays six and seven have metal panels. A brick storage garage with a steel wire wall projects at the fourth bay. The main Blacksmith Shop brick wall is topped by a hipped built-up asphalt roof with a clerestory monitor.

The southern end of the west elevation contains the 1964 International Style Assembly Space Addition (J-1). The 1964 addition is the most significant architectural addition built since Green & Wick's original buildings. Located at the rear (south) of the factory adjacent to the Belt Line, it is one of the largest additions of the many campaigns and is an elegant, streamlined International Style one-story 30-foot-high manufacturing assembly space. The exterior walls rest on a concrete foundation and have a brick veneer at the first-floor level with alternating ribbons of green uninsulated aluminum siding and glazing. The first glazing ribbon is glass while the upper two ribbons are plexiglass. The glass "ribbons" are composed of individual fixed aluminum sash with three lights, the bottom one being an operable hopper. The rectangular addition is structural steel with a flat roof supported by steel trusses. Two overhead garage doors are located at the northern edge of the elevation, with one pedestrian door between them. Corners of the 1964 Truck Bay (J-2), 1956 Machine Shop Addition (I) and the 1981 Addition (L) project out behind the 1964 Assembly Building.

South Elevation

The south elevation abuts the CSX rail line (formerly the Belt Line) and is composed of several building eras – the 1964 Assembly Building (J-1), the 1964 Truck Bay (J-2), the 1956 Machine Shop Addition (I) and the 1981 Addition (L). The elevation varies in height and construction type according to the era. The separate building campaigns of this elevation read perhaps as the most distinct of the elevations, but the clean, modern aesthetic tells a consistent expansion story.

The western half of the south elevation contains the 1964 International Style Assembly Addition (J-1). The 1964 addition is the most significant architectural addition built since Green & Wick's original buildings. Located at the rear (south) of the factory adjacent to the Belt Line, it is one of the largest additions of the many campaigns and is an elegant, streamlined International Style one-story 30-foot-high manufacturing assembly space. The exterior walls rest on a concrete foundation and have a brick veneer at the first-floor level with alternating ribbons of green uninsulated aluminum siding and glazing. The first glazing ribbon is glass while the upper two ribbons are plexiglass. The glass "ribbons" are comprised of individual fixed aluminum sash with three lights, the bottom one being an operable hopper. The rectangular building is structural steel with a flat roof supported by steel trusses. A 15-foot-high truck bay projects from the eastern end of the building. It continues the green uninsulated aluminum siding which rests on the concrete foundation. It has an overhead garage door on its western face and two ribbons of glazing at the bottom and top of the structure. Like the bigger addition, it is topped by a flat built-up asphalt roof.

To the east of the Assembly Addition and its related Truck Bay is the 1956 Machine Shop Addition (I). Although a small addition, it has an interesting International Style aesthetic, and was designed by the same architect as the 1953 Metal Fabricating Plant, H. E. Plumer. A rectangular 15-foot high brick block rests on a concrete foundation. A cantilevered steel block with three rows of fixed metal windows with operable hoppers in the second row on the west and south faces of the block rests on the brick block like a plinth. The final railroad spur constructed on the site enters the overhead garage on the west face of this block.

The 1981 wing occupies the eastern end of the elevation and is a one-story 30-foot-high steel structure resting on a foundation of concrete masonry units, with wood frame and metal panel walls and no window openings. Two overhead garage doors are located at the western corner.

East Elevation

Like the west elevation, the east elevation stretches almost the entire length of the site from Northland Avenue to the rail line. The east elevation reflects several building eras – the 1981 assembly space at the southern half (L), the 1912 Iron Shed (C-2) and the east faces of the 1920 Machine Shop Addition (E-2), the 1910 Assembly

Shop (A-4), the 1978 Assembly Space Addition (K) and the 1946 Garage (G). It varies in height and construction type according to the era. The 1981 building occupies the southern half of the elevation and is a one-story 30-foot high-steel structure with concrete masonry units, with wood frame and metal panel walls and no window openings. Two overhead garage doors are located at the southeastern corner. Directly to the north of this structure is the 1912 Iron Shed which projects out on three sides from the 1920 Machine Shop Addition (E-2). There is a small separation between the 1981 and 1912 construction. The Iron Shed has a steel frame and corrugated iron cladding on the walls and roof. The steel structure rests on a random ashlar stone foundation, and has a hip roof topped by a hipped clerestory monitor over steel trusses. One overhead garage door is found in the center of the east face. The cladding now obscures window openings centered in each of the bays on all three sides.

The remaining northern half of the east elevation contains the original building construction of the 1910 Assembly Shop. A 32-foot-high solid brick wall topped by five sawtooth monitors (48 feet high to the top of the sawtooth) extends to Northland Avenue. Two brick blocks project out from the west face of the 1910 Shop – the 1978 Assembly Space addition and the 1946 Garage. The 20-foot-high 1978 block is a plain brick wall topped by a flat roof. The Garage is a one-story-high brick block with six overhead garage doors.

Interior

The interior of this very complicated factory is remarkably homogeneous despite the multiple construction eras. Most of the additions share common structural elements, window and roof features, and style. Unlike the exterior, which clearly reads as separate buildings and additions, the interior, particularly of the machine assembly and manufacturing spaces, reads as a cohesive industrial whole. While the office building is formal and distinct, it also reads as a continuous whole and relates well with the manufacturing spaces. The plan was guided by the assumption that every aspect of the factory, from its form and structure to its loading platforms and railroad spurs, was related to the manufacturing process and that the factory itself served as a tool of production. Indeed, the interrelationship between the factory and the powering of its machinery led to a streamlined functional or utilitarian design. It was essentially built from the inside out, placing internal functionality as a priority over exterior aesthetics.

For a rectangular building of this scale, there are only a few vertical circulation features, as most of the complex is only one story high. A staircase wraps around an elevator within the main front entrance off Northland Avenue, connecting the four stories of the office block (A1) and the Mezzanine level within the Gallery Space (A3). The only industrial vertical circulation feature, a steel spiral stair, connects the 1910 Manufacturing Space with the Gallery/Mezzanine above (A2). A stair tower along the west elevation connects the four floors of the western end of the office block. The only other stair can be found at the southern end of the manufacturing spaces, connecting the two floors of the 1956 addition. Since the interior structure throughout the

entire factory complex is primarily steel frame, the primary manufacturing spaces are entirely open from one end of the building to the other. The only area that is separated is the Blacksmith Shop, which retains its brick walls, separating it visually and physically from the 1946 and 1964 additions.

This description below describes the office building and then the interconnected manufacturing spaces.

The Office Building (A-1 and C-1)

Historically, the first floor of the 1911 office block (A-1) served as a storage and machine shop. The company office was on the second floor. Storage and printing were located on the third floor and the fourth floor had a machine shop. The 1912 block (C-1) had a stock room on the first floor, machine storage on the second floor, packing boxes storage on the third floor, and a machine shop on the fourth floor.

The original office lobby led to a stairway in the easternmost bay of the office block (A-1). The stairway wraps around an elevator, providing access to the four floors of the office block and the second floor of the Mezzanine located within the two-story hyphen that connects the Manufacturing Spaces with the office block. The original main lobby and staircase (A-1) were altered in the late 1960s to accommodate the insertion of this elevator. The stair is poured concrete with terrazzo and a concrete base, which wraps around the elevator, between the elevator shaft and concrete block.

The building's reinforced concrete frame with brick and concrete walls is exposed and visible on each floor along its entire 10 bays. Vinyl asbestos tile or carpeting over concrete remains on each floor. The second and third floors have dropped ceilings and office partitions while the concrete ceiling on the fourth floor is exposed and the space has only a few partitions. The window openings along the south wall of each floor are filled with glass block, which replaced the original double-hung windows. (It is not known when this replacement occurred.)

Today, the first floor reads as a whole and was most recently used as a locker room (on the north side) separated by a corridor and the cafeteria and storage rooms on the south side. The concrete ceiling is exposed over the corridor and locker room, but there are dropped ceilings in the cafeteria and storage rooms. Vinyl asbestos sheets cover the concrete floors here. The second floor remained the executive offices. The executive offices on the second floor of the Gallery Building (A-3) have wood paneling or wallpaper on the four walls, remnants of late 1960s alterations. Carpeting covers the concrete throughout this floor. The top two floors were open office space for engineering and maintenance staff, with vinyl asbestos tile over the concrete. The concrete columns and exposed concrete ceiling give the fourth floor the most industrial feeling of all the office floors.

The Machine & Assembly Shop Spaces

The Original buildings

The original machine shop and assembling areas (A-2 and A-4) consist of semi-fire proof construction with brick walls, steel frame, and clay tile roofs. The steel work is unprotected. The machine shop has a sawtooth monitor roof with five sawtooths, and is 48 feet to the top of the sawtooth. The clear ceiling height is 32 feet. A steel frame skylight resting on a clay tile knee wall runs the horizontal length (east/west) of the Machine Shop (A-2). The diagonal face of the sawtooths are filled with clay tile. The original steel construction and glazing remains in both the sawtooth monitors and the skylight, although both have been covered with wood or metal panels. The floors are slab-on-grade concrete covered with end-grain wood blocks in some places and open to machine pits in others. The wood blocks were made on site and used as a way to soak up oil from the machines and to provide a softer standing surface for the employees. Given their use to soak up oil, the current wood blocks (except for those in the 1981 building – L) are considered contaminated and must be removed as hazardous materials.

The Gallery building or hyphen (A-3) is an extension of the Office Building and contains two floors, connecting the Office Building with the Assembly Shop and Machine Shop. A steel spiral stair connects the Mezzanine Level to the Machine Shop. The first floor and the mezzanine levels of the Gallery building were used as offices for the floor management. The Mezzanine Level is cantilevered on riveted steel columns and extends the full length of the 1910 Assembly and Machine Shop buildings, providing an observation window on the mezzanine level out to the manufacturing spaces. Today that view is one of the most evocative and expansive of all the industrial views in the Main Factory. The following description of the remainder of the factory begins at the northeastern edge of the floor plan on Northland Avenue, moves westward to the west wall, then southward to the edge of the site, wrapping around the rear of the building and then back down north to Northland Avenue, in one large rectangle.

The 1920 and 1927 Machine Shop Additions

Most of the remaining manufacturing spaces are steel-framed structures with a slab-on-grade concrete floor supported on a concrete foundation wall system. The perimeter wall system varies, consisting of brick and metal panels covering the windows. None of the exterior walls are insulated.

Standing at the northeast corner of the Main Factory (A-4), one can view the entire length of the building from Areas A-4 through I, from the original construction of 1910 through the 1956 and 1964 construction periods. This view is probably the most significant view in the factory.

The easternmost 1920 and 1927 additions (E-2 and F-2) continue the riveted steel frame construction seen in the Gallery Mezzanine with a slab-on-grade concrete floor supported on a concrete foundation wall system. The eastern walls are brick infill between the steel columns. The spaces have a clear height of 40 feet to the underside of the roofs, which are flat built-up asphalt over the flat steel framing. The flooring continues the wood block over concrete and machine pits.

The westernmost 1920 and 1927 additions (E-1 and F-1) also continue the riveted steel frame construction with a slab-on-grade concrete floor supported on a concrete foundation wall system. The flooring continues the wood blocking over concrete and machine pits. Both areas have a clear height of 14 feet to the underside of the roofs which are sawtooth monitors. The diagonal face of the sawtooths are filled with clay tile. The steel sash and glazing on the vertical face remains in place although covered with wood or metal panels.

The 1946 Plant Addition

The 1946 Addition (G-1) abuts the 1910 and 1920 Machine Shop spaces on its east face and basically continues the same construction, although oriented to those areas by 90 degrees. The riveted steel frame construction is continued with a slab-on-grade concrete floor supported on a concrete foundation wall system. The flooring continues the wood blocking over concrete and machine pits. Both areas have a clear height of 20 feet to the underside of the roofs which are sawtooth monitors. The diagonal face of the sawtooths are filled with clay tile. The steel sash and glazing on the vertical face remains in place, although covered with wood or metal panels. One very distinct feature of this period was the erection of a steel pattern wall at the southern edge of the 1946 and 1920 additions. This wall was used to hang and store active patterns and was one of the most significant features in the factory.

The 1911 Blacksmith Shop (B)

Continuing to walk south through the machine shop spaces, the Blacksmith Shop connects the 1927 and 1946 additions with the 1964 addition. Originally a detached building, it is the only one of the now-connected machine shop spaces that has a separate and distinct construction system – a concrete frame with brick walls and columns which are still visible along all four walls. The floor was originally brick over concrete and contained a variety of pits and kilns. Some of the original brick flooring remains, while the concrete is revealed throughout the remainder of the space. A steel frame roofing system supports box cranes and a steel clerestory skylight, which extends the full north/south length of the building. The hip construction of the skylight is constructed of concrete panels. The original clerestory glazing remains.

The 1964 Assembly Building & Truck Bay (J-1 and J-2)

The southern edge of the Blacksmith Shop, which contains the boilers, opens into the 1964 International Style Assembly Addition, (J-1). This 1964 addition is the most significant architectural addition built since Green & Wick's original buildings. As a utilitarian structure, the interior reflects the exterior with its elegant, streamlined International Style one-story 30-foot-high manufacturing open space. The walls rest on a concrete foundation and have a brick veneer at the first-floor level with alternating ribbon windows of green uninsulated aluminum siding and glazing. The first ribbon window is glass while the upper two ribbon window are plexiglass. The glass "ribbons" are comprised of individual fixed aluminum sash with three lights, the bottom one being an operable hopper. The floor is concrete on its southern half and wood blocking over concrete on its northern half. The rectangular building is structural steel with a flat roof supported by steel trusses. One of the largest cranes in the factory runs the full length of this space. The tracks from a Belt Line spur are still visible in the southern half of the floor and extend through the adjacent 1956 Machine Shop Addition.

The 1956 Machine Shop Addition (I)

The 1956 addition, also with an International Style aesthetic, was built to house the revised extension of the Belt Line Spur where another of one of the larger cranes in the factory was erected to load and unload the railroad cars. The space reflects the rectangular 15-foot-high brick block which rests on a concrete foundation. A projecting steel frame block with three rows of fixed metal windows and operable hoppers in the second row on the west and south faces of the block rests on the brick block like a plinth. The brick plinth houses the rail spur, while the windows above provide daylight for the operations of the crane. The flooring in the 1964 addition is continued here with wood blocks over the concrete. Riveted steel framing supports the crane and a flat steel ceiling with a built-up asphalt roof.

The 1981 New Building Addition (L) – outside of the period of significance

The 1981 addition expanded the clear assembly space of the 1927 and 1956 spaces. It is a clear, open one-story 30-foot-high steel structure with concrete masonry units, wood frame and metal panel walls and no window openings. Wood blocking over the concrete slab is also found in the flooring here.

The 1912 Iron Shed (C-2)

The shed is one open uninsulated space, with a concrete floor, exposed steel trusses and exposed corrugated iron cladding on the walls and roof/ceiling. A clerestory skylight is centered over the rectangular space. Traveling cranes are situated along the central trusses. The building is in fair to poor condition and is a non-insulated structure. The paint on the metal siding panels is delaminating, many holes and cracks were observed in the walls and at the roof level, and numerous panels are damaged or broken at the foundation level. Some

areas of the stone foundation wall are loose and missing stones and mortar. The structure requires structural retrofitting to meet current snow load codes and will likely require new metal siding and roofing.

Component 2: The Pattern Shop (1913)
683 Northland Avenue.
Architects: Green & Wicks (designed 1912, built 1913)
Contributing

Exterior

On the west side of the Main Factory is a detached one-story front-gable rectangular pattern store house with a shed roof addition on the east side. The primary space is five bays long by three bays wide. The addition on the east extends from the first through fourth bays of the main volume, and extends east almost to the main body of the Main Factory.

The shed has a steel frame with corrugated iron clad walls and roof. The steel structure rests on a random ashlar stone foundation, with corrugated iron siding, topped by a corrugated iron hip roof over steel trusses. An overhead garage door is centered on the north (front) elevation with one door to its west. Two paired one-over-one double-hung windows are centered in each bay on the west, south and east elevations. The windows have been covered with the corrugated siding and are only visible on the interior. A double-leaf wood barn-like door is in the fifth bay of the east elevation.

Interior

The shed is one open uninsulated space, with a concrete floor, exposed steel trusses and exposed iron cladding on the walls and roof/ceiling. Steel shelving fills the eastern half of the shed, where the patterns were stored.

The building is in fair to poor condition. The paint on the metal siding panels is delaminating, many holes and cracks were observed in the walls and at the roof level, and numerous panels are damaged or broken at the foundation level. Some areas of the stone foundation wall are loose and missing stones and mortar. The barn-like door is in poor condition, with most of the wood exhibiting severe deterioration. The building requires structural retrofitting to meet current snow load codes and will likely require new metal siding and roofing.

Component 3: The Metal Fabricating Plant (1953)
631 Northland Avenue. Architects: H. E. Plumer & Associates

Contributing

This 35,000-square foot rectangular industrial factory building is sited on a separate parcel on the south side of Northland Avenue between Winchester and Longview avenues. It is adjacent to the Belt Line railroad corridor and stands to the west of the Main Factory. The building was formerly used for heavy manufacturing and recently to store former industrial equipment.

Exterior

The exterior of the building exhibits features of the International Style, including an absence of ornamentation, a rectangular, box-like shape, expansive strips of ribbon windows, smooth wall surfaces and a flat roof. The building has a steel frame and a slab on-grade concrete floor supported on a concrete masonry unit foundation wall system. Exterior materials include a brick veneer on the first floor (from grade to a height of 15 feet) resting on the concrete foundation, and to the roof level, alternating bands of continuous non-corroding aluminum single- pane windows (three rows) and uninsulated metal panels (two rows). The flat roof is built-up asphalt over precast concrete plank. The building is roughly 88 feet wide (Northland Avenue street frontage) x 400 feet deep x 60 feet high.

North Elevation

The front façade is very simple, exhibiting the brick veneer on the first floor resting on the concrete foundation, topped by the alternating bands of continuous non-corroding aluminum single-pane windows (three rows) and uninsulated metal panels (two rows). The first ribbon of windows above the brick veneer has been covered with a metal panel. Paired single doors with a steel cantilevered canopy are centered at the ground level. A Clearing Niagara sign is installed above the canopy, centered at the top of the brick veneer.

East Elevation

The materials on the north elevation wrap around to the east elevation - brick veneer on the first floor (from grade to a height of 15 feet) resting on the concrete foundation and, to the roof level, alternating bands of continuous non-corroding aluminum single pane windows (three rows) and uninsulated metal panels (two rows).The east elevation houses the main freight entrance near the southern edge of the building with a projecting one-story brick entrance with two overhead doors, and one pedestrian door to the north of the overhead doors. A one and two-story brick block that houses offices, a locker room and bathrooms is located between the garage entrance and the southern edge of the building. The brick blocks have steel awning ribbon windows near the top of each section surmounted with a flat roof like the main block of the factory.

South Elevation

Like the front façade or north elevation, the south elevation is very simple, exhibiting the brick veneer on the first floor resting on the concrete foundation, topped by the alternating bands of continuous non-corroding aluminum single-pane windows (three rows) and uninsulated metal panels (two rows). The first ribbon of windows above the brick veneer has been covered with a metal panel. The south elevation has no other openings or ornament. There is a slight cantilever at the western edge of the elevation, located about 15 feet off the ground. A metal band is affixed to the top of the brick where the cantilever is found.

West Elevation

The materials on the north elevation wrap around to the west elevation - brick veneer on the first floor (from grade to a height of 15 feet) resting on the concrete foundation, and to the roof level, alternating bands of continuous non-corroding aluminum single pane windows (three rows) and uninsulated metal panels (two rows). The west elevation contains the most openings as well as two rail entrances and projecting furnace infrastructure. The original furnace infrastructure and doors, including the stress relieving furnace, are found on the northern half of the elevation. Three pedestrian doors, two overhead doors for rail cars and two overhead garage doors are located along the elevation. A projecting one-story-high brick block with a ribbon of hopper windows at the top of the block's southern face is located near the southern edge of the elevation. The overhead door and rail spur are located between the one-story brick block and the southern edge of the building.

The building's exterior walls are in generally good condition. On the north wall, the steel-framed canopy over the door is corroded and a portion of the roof decking is missing. Minor corrosion was noted on all exterior doors and frames. Step cracking, loss of mortar, and movement were observed in the brick wall adjacent to the railroad overhead door on the west side of the building. Some window panes are missing and covered. The built-up asphalt roof over precast concrete plank is worn and in poor condition. Numerous active water leaks into the building were observed, primarily in the northern half of the building. The masonry walls, doors, and ladders appeared to be in generally good condition.

Interior

While the building is clearly International Style on the exterior, the interior is primarily utilitarian, although it benefits from the ribbon windows that wrap the entire building. The building is rectangular in shape, 400 feet long (on the west and east elevations) x 88 feet wide (on the north and south elevations), with several protruding rectangular spaces along the west and east sides that house related functions. The main portion of the building interior has a 50-foot clear height with exposed steel framing containing a high bay manufacturing area with a truck loading dock area in the southeast side with adjacent locker rooms, a large furnace area on the southwest

side, and a former railroad siding at the southern end of the building. To accommodate the railroad spur, the south end has a depressed floor. The building is essentially one large rectangular open space with narrow mezzanines lining the longer walls, accessed by ladder stairs and used to access the cranes. Grade level doors punctuate the west and east sides primarily.

The building's superstructure consists of steel roof trusses with I-beam roof purlins supporting a concrete plank roof system. The main roof trusses span in an east-west direction and are supported by steel I-beam columns that transfer the roof loads to the foundation system. The main roof trusses are located at each column line at approximately 27 feet on center. The trusses are approximately 9 feet deep and span approximately 86 feet with a 50-foot high clearance above the floor slab.

The trusses consist of back-to-back steel angles, braced at 1/3 points by secondary roof trusses and framed into the steel columns. The typical steel building column section is 34 inches deep with a flange width of 12 inches at the base. The column system also includes a separate 14-1/2-inch-deep x 10-inch flange steel column for the overhead cranes. The building contains three cab-operated overhead cranes, one rated for 40 tons and the remaining two rated at 20 tons. The original furnace infrastructure and doors along the west wall, including the stress relieving furnace, remain intact. The building superstructure is braced in the north-south direction with steel HSS 10 x 10 inch "X braces" located on the east and west perimeter walls. The ceiling-mounted lighting and the window bands provide good natural light. The flooring consists of wood blocking over a concrete slab.

All superstructure steel observed appeared to be in good condition with no visible signs of deterioration or excess deformations. Minor corrosion in the steel was observed. The walls, flooring and fixtures in the Locker Room area are utilitarian, worn, and in need of upgrades. The areas of exposed perimeter foundation walls appear to be in good condition with no visible signs of settlement. The concrete floor, where exposed, appears in generally good condition with no visible signs of settlement; light spalls and sporadic cracks were noted. Numerous areas of wood blocking covering the floors are missing or cracked.

Integrity

The Niagara Machine & Tool Works Factory maintains a high level of integrity and conveys its function as a large and open manufacturing space or "works." It retains many of its original character-defining features including sawtooth and clerestory monitor roofs, large window openings, lofty open volume of the manufacturing spaces, original fireproof construction materials, rectangular plan and assembling layout, and advanced technology such as furnace infrastructure, elevators and cranes. The Main Factory still retains most of its cranes – over fifty – from 1-ton cranes to 200-ton cranes, column mounted jib cranes to overhead traveling cranes.

Since the complex evolved as a manufacturing facility over an active period of 70 years, there have been some alterations, but the changes do not prohibit the understanding of the factory function or interpretation and are indeed representative of the growing factory through its period of significance. Though many original windows of the Main Factory have been replaced, primarily on the north or front elevation, the original openings are still articulated throughout the building. Most of the original sawtooth and clerestory monitor windows and skylights remain intact in fair to poor condition beneath wood or metal boarding. The Metal Fabricating Plant is almost entirely intact in its original design with its original materials and original bands of ribbon windows.

Statement of Significance:

The Niagara Machine & Tool Works Factory, located on Northland Avenue in Buffalo, Erie County, New York is significant as an intact representative example of a large-scale tool and machine factory designed and built during the first half of the twentieth century. The Niagara Machine & Tool Works Factory is significant under Criterion A in the area of Industry as one of the oldest and most important tool and machine manufacturing facilities built and operated in Buffalo in the twentieth century; its products were used nationally and internationally across industries. It is also significant for its contribution to the manufacturing of tools and machines for working sheet metal, specifically specializing in presses, punches, and rotary sheets for government defense contracts. The company had orders from the federal government during World War I and World War II; however, it was during World War II that the company established its role as an important defense contractor. The company had government orders for regular products in addition to equipment for many of the significant international aircraft manufacturers, which included Curtiss-Wright, Bell, Lockheed, Douglass and 23 different foundries, who used the company's presses to manufacture small parts for aircraft assembly, both during and after World War II. The factory complex is further significant for its association with the industrial development of the East Side of Buffalo along manufacturing nodes of the Belt Line railroad in the early twentieth century.

The complex is also significant under Criterion C in the area of Architecture as a good, representative example of evolving industrial architectural and engineering trends, innovations and developments during the twentieth century. The Niagara Machine & Tool Works Factory is an example of early twentieth century factory design with the original buildings designed by the noted Buffalo architectural firm of Green & Wicks and later buildings and additions designed by local civil engineers H. E. Plumer and Jacob Fruchtbaum. The factory incorporates key advances in factory construction of the period such as the use of increased daylight with its large window openings and sawtooth monitor roofs. It also employs modern fireproof construction materials. Advances in early twentieth century factory operations for mass production incorporated management science and the assembly line as evidenced in the layout of the plant and its two primary buildings. It is significant as a largely intact twentieth-century heavy manufacturing facility located in an industrial node of the East Side of the City of Buffalo.

Three business partners formed the company in 1872 in downtown Buffalo to manufacture household items such as refrigerators. As they changed ownership and grew, ultimately the company incorporated and named itself the Niagara Machine & Tool Works Factory in 1901. The new company designed and manufactured an extensive line of machines and tools for working sheet metal, specializing in presses, punches and rotary sheets. First located downtown, it moved to the edge of the Fruit Belt on Buffalo's East Side in 1894 and ultimately to the Northland Corridor in 1910, where large swaths of land and a node of the Belt Line offered the perfect location for expanding industry. The Niagara Machine & Tool Works Factory developed largely between 1910

and 1981 and, like many factories, including its neighbors, it evolved over time as both technology and manufacturing capacity were expanded and national war and defense needs increased. As a result, the Main Factory building was expanded with many additions. While some of the additions were carefully planned and executed by architects or engineers, others were added as needed and expansion dictated.

The period of significance begins with the initial construction of the factory in 1910, when Green & Wicks designed the first buildings on Northland Avenue, and extends through 1967, when the final architecturally significant addition was added to the complex. While the factory continued in operation into the 1990s, this era encompasses all major construction projects by the company and reflects the period during which the company was at its most prominent. Subsequent additions made to the building in 1976 and 1981, after the period of significance, are relatively minor additions in terms of architectural design and are located mostly toward the south end of the Main Factory. The last building campaign that can be considered architecturally significant was completed in 1967, which also coincides with the final piece of the factory's post-World War II and Cold War expansion. The nomination boundaries encompass the three contributing buildings, the three contributing structures of the remaining Belt Line spurs and the surrounding 11-acre site historically developed and used for this production.

DEVELOPMENT OF BUFFALO'S EAST SIDE & THE BELT LINE

Development of Buffalo's East Side

The East Side of Buffalo's growth first occurred on the waterfront and in the Hydraulics neighborhood. As the city expanded from its downtown core, the natural tendency was to move east and north, where farmland, forests and creeks could be manipulated to establish bigger and more complex industries.[3] Following a radial street pattern established by Joseph Ellicott, the major east-west thoroughfares of the East Side began to take shape between 1826 and 1831. Settlements began to appear east and north of the lower downtown area as early as 1826, as streets were surveyed. Immigrants, mostly German, were drawn to the area by cheap housing and workable land. In 1832, the newly incorporated city of Buffalo encompassed four and a half square miles with Jefferson Avenue as the easternmost street. The East Side was surveyed between 1823 and 1854, and its streets laid out four to six rods wide to Jefferson Avenue.[4]

This was a mostly German neighborhood in the mid-1800s through the early 1900s. At one time home to over 10,000 people, this area on the East Side nearest to downtown became known as the Fruit Belt, which takes its name from the large number of orchards the first residents planted in the area. Holding true to their previously

[3] Shane E. Stephenson, *Images of America: Buffalo's East Side Industry (*Charleston, SC: Arcadia Publishing, 2016), 7.
[4] Ibid., 7.

established agrarian nature, the earliest German residents of the area planted large orchards and vegetable gardens in the area. As the population increased, the current streets were laid out in these orchards, the names themselves remaining as a testimony to the early nature of the neighborhood. Much of this area is vernacularly known as the "Fruit Belt" because it included streets named Lemon, Grape, Peach, Cherry and Orange as well as a variety of timber inspired names such as Pine, Ash, Cedar etc. Its establishment is also closely related to the organization of Trinity Old Lutheran Church, initially located on the corner of Michigan and Goodell. [5]

Early residents included Lutherans who had traveled from Southern Germany to escape religious persecution there. Founded in 1839, the original congregation, consisting of a group of 1,000 seeking to settle away from the influences of the established populations, selected the area north of the existing downtown core, on the edge of the Fruit Belt. At the base of the gently rising hill they built their place of worship and settled in the streets surrounding it. Within a decade or two, African Americans started establishing neighborhoods north of the Fruit Belt. Michigan Avenue Baptist Church, built in 1845, became the center of the abolitionist movement. Further east, Polish immigrants began to lay down roots after the original St. Stanislaus Bishop & Martyr Church was constructed in 1874.[6]

The city limits of Buffalo were expanded from four-and-one-half square miles in 1832 (when the city was incorporated), to forty-two square miles in 1854. The number of wards increased from 5 (in 1832) to 13. The expansion included annexation of the city of Black Rock on the west side and nearly all the land beyond Jefferson Street that now encompasses the East Side. At the time of the expansion, the only public transit was an omnibus line which ran the length of Main Street from the Central Wharf to the Cold Spring District.

As the city grew and companies expanded, the nearly empty streets of the East Side past Jefferson Avenue began filling with houses and people, although the lack of ready transportation to the area restricted the commercial and industrial growth. By the time industry made the East Side its home in the 1880s, strong residential neighborhoods of the founding Germans, Lutherans, African Americans and Polish existed side by side.

It was the expansion of the railroads that opened this area to commerce and industry. In 1842, the arrival of the Buffalo & Albany Railroad connected the western part of the state with the expanding cities on the eastern seaboard via rail for the first time. [7] By the 1850s, following Buffalo's railroad connection with points east and south, the East Side's future as an industrialized, immigrant, working-class community, was inalterably fixed.[8]

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[5] James Napora, "History of the Fruit Belt," *Buffalo as an Architectural Museum*, accessed March 10, 2017, http://www.buffaloah.com/h/eastside/fruit.html.
[6] Stephenson, *Buffalo's East Side Industry*, 7.
[7] Ibid., 7.
[8] Reyner Banham, et al, *Buffalo Architecture: A Guide,* (Cambridge, MA: The MIT Press, 1981), 224.

Buffalo's East Side was the first section of the city to become industrialized. The railroads were the most important single initiator of the expansion stage of both American industrialization and Buffalo's industrial growth. The railway networks provided the transportation basis upon which America's modern, specialized, interdependent, urban industrial society rested.[9] The railroad became an indispensable tool for industrial development and for the furtherance of trade. With the new residential neighborhoods came stores providing the necessities of living. In 1890, Buffalo had 76 dry good stores and, of those, 51 were clustered around the major arterials on the East Side.

Prior to the expansion of the railroads, canals and Great Lakes shipping were the most efficient way of transporting freight to other parts of the country. Thus, most of the industry in Buffalo was located near the waterfront or along the canals. But by the late nineteenth century, with the advent of railways, and with cheap hydroelectric power from Niagara Falls, industry no longer needed to be located on water to transport freight. Factories began to spring up along the tracks of one particular railroad, the Belt Line, to take advantage of growing worker communities and direct rail access.[10]

The Belt Line

There was a staggering degree of variety and diversity in the manufacturing sector of Buffalo's economy in the mid-nineteenth century, which shifted irrevocably towards industry after the Civil War, with the city's economy becoming increasingly linked with railroads. Following the Civil War, "works" were placed adjacent to rail tracks.[11] In 1900, Buffalo was, after Chicago, the leading railroad terminus in the US – seven direct lines connecting Buffalo with six different East Coast cities.[12] The *Buffalo Times* reported that, since 1890, there had been 412 new factories built, 300 of which were new concerns.[13]

Prior to 1880, industry was largely concentrated along the canals, the waterfront and the rail lines, leaving much of the city vacant. As a strategy to try to encourage new industrial growth in some of the vacant land in the east and north areas of the newly enlarged City of Buffalo, the New York Central Railroad began laying tracks in a loop around Buffalo in 1871. The Belt Line was completed in 1883 and provided opportunities for industrial

[9] Edward T. Dunn, *A History of Railroads in Western New York,* (Buffalo, NY: Canisius College Press, 2000), 1.
[10] Daniel Zornick, "The Belt Line Railroad: Its Influence on the Development of Buffalo's Neighborhoods," *Buffalo as an Architectural Museum*, accessed March 1, 2017, http://buffaloah.com/h/belt/tc.html.
[11] Mark Goldman, *High Hopes: The Rise and Decline of Buffalo, New York*, (Albany, NY: State University of New York Press, 1983), 68.
[12] Ibid., 129.
[13] Ibid., 132.

development around the city.[14] The rail line connected portions of the former Buffalo and Niagara Railroad, the New York Central and Hudson River Railroad, and the Lake Shore and Michigan Southern Railway to form a complete loop around the city.[15]

During the acquisition of land and the laying of tracks from 1871 to 1883, the new rail line was originally called the Junction Railroad by the New York Central Railroad.[16] By the time it opened in 1883 it was rarely called the Junction Railroad and was almost exclusively referenced by its better-known name of the Belt Line. The Belt Line was an effort to decentralize industrial development and to better link the factories to downtown with both a freight and commuter rail line. It was needed to transport goods produced by the booming industry of Buffalo to the many consumers that relied on the wide variety of manufactured goods and raw materials. At its height, the railroad encircled the City of Buffalo and connected to the national railway system in America, providing both invaluable commuter and freight service.[17] Its planning also addressed the huge acreage of land previously inaccessible to rail, opening up much of the East Side, including the Northland Corridor, for industrial development.

It was called the Belt Line because it formed a belt around the more developed and settled areas of Buffalo. At its height, as both a commuter and freight rail line, it functioned for approximately thirty years, having a tremendous impact on the development of Buffalo's industry and neighborhoods. At its inception, the Belt Line had nineteen stops spaced approximately one mile apart, and by circling the city around the unsettled sections of Buffalo, opened up whole new areas for residential and industrial development.[18] It created a loop of new industrial and residential communities around the city. [19] Its center of activity was the main station at Exchange Street, where trains from all over America arrived and departed. On average, there were 84 arrivals and 86 departures every week day. The Belt Line provided service from any area in the city to any other part for a nickel fare.

Buffalo's Belt Line proved instrumental to the growth of the East Side and its industrialization, when industries realized the potential for cheap transport to other rail lines and began building factories and plants in a cluster along nodes around the line. Companies such as Niagara Machine & Tool Works, Curtiss-Wright Corporation, Otis Elevator, Houde Engineering, and Buffalo Foundry & Machine Company gathered around the Northland-

[14] Derek King, "The American Radiator Company Factory Complex," National Register of Historic Places nomination/Inventory Form, Preservation Studios, Buffalo, April 7, 2015, Section 8, page 2.
[15] *Ibid*., Section 8, page 2.
[16] Dunn, *A History of Railroads in Western New York*, 52.
[17] Zornick, "The Belt Line Railroad: Its Influence on the Development of Buffalo's Neighborhoods."
[18] Goldman, *High Hopes,* 178.
[19] Banham, *Buffalo Architecture: A Guide*, 172.

Grider section of the Belt Line.[20] Here, there were huge swaths of unused land adjacent to the Belt Line and built-in workers in the surrounding German, African-American and Polish neighborhoods.

While older industries pre-Belt Line were grain, steel, and lumber, following the transmittal of the first electric current from Niagara Falls to Buffalo in 1896, which provided cheap and plentiful electric power, and the expansion of railroads, Buffalo became a focus for new industry. The three most significant industries to settle in Buffalo by the 1920s, when the Northland neighborhood was developing, were wartime defense contracts, the chemical industry and the automobile industry.[21]

More than anything however, the railroads remade the local economy and Buffalo's geography. Drawn to Buffalo because of its location at one of the nation's great transfer points, the massive network of factories and railroads that composed the infrastructure of industry had a dramatic influence on neighborhood patterns in Buffalo.[22] In the Northland corridor, nine of the most significant factories to shape the city's industry, especially with involvement and importance in war defense contracting and automotive industries, were located at the Northland-Belt Line node, one of the earliest and most significant being the Niagara Machine & Tool Works Factory

The Belt Line faded out of use as a commuter railroad after World War I as a result of a loss of business due to competition from trolley lines and automobiles, but it remained in heavy commercial and freight use into the 1970s due to the factories lining it.[23] The railroad is still used by CSX to transport freight.

THE HISTORY & BUILDING OF THE NIAGARA MACHINE & TOOL WORKS FACTORY

Two business partners, Adam Heinz and George Munschauer, formed Heinz & Munschauer in 1865 to sell general household articles, refrigerators, ice cream freezers, stoves, and hardware.[24] George N. Pierce joined Munschauer and Heinz in 1872 to form a related company named Heinz, Pierce and Munschauer, which manufactured the household articles they had previously just been selling. Pierce left in 1878, moved down the street and formed his own company to make and sell the same products, then bicycles and eventually the Pierce-Arrow car for which he became famous. After Pierce left, Michael J. Stark joined Heinz and Munschauer in the manufacturing company in 1879. The new partners refocused the business as a metal fabricating company, naming it Niagara Stamping and Tool Company, while the earlier company continued to operate separately. The new company initially manufactured tools and machinery for making tin cans, canning outfits, stamp tin

[20] Stephenson, *Buffalo's East Side Industry*, 8.
[21] Goldman, *High Hopes*, 216.
[22] Goldman, *City on the Edge,* 40-41.
[23] Although many of the factories and industries lining the Belt Line are long gone and many of the buildings vacant, the rail line is still used exclusively by CSX for freight transportation.
[24] Roy Rutherford, "Frontier Industrial Leader – Munschauer Builds Solid Organization*," Buffalo Evening News,* February 2, 1947, b.

and other metals.[25] Their earlier company, Heinz & Munschauer, remained in business until 1940, primarily selling refrigerators and ice cream freezers.

The new company emerged as one of Buffalo's major manufacturers, originally employing approximately 60 people. It operated as the Niagara Stamping & Tool Company until 1901, when the business was incorporated and the name changed to the Niagara Machine & Tool Works (often just called Niagara Machine). Its name remained Niagara Machine & Tool Works for 90 years, with the Munschauer family maintaining ownership throughout this time. The new corporation designed and manufactured an extensive line of machines and tools used for forming, bending, cutting, drawing, embossing, extruding, seaming and similar operations on sheets and plates of steel and other materials such as brass, copper, aluminum, plastics, etc. The machines and tools varied in size from small hand tools, such as those used by the sheet-metal artisan, to large power shears capable of severing large press brakes with a thousand-ton capacity.[26] Buffalo's manufacturing industry was unusual in that many of its companies made things for other companies, not just consumers. This fact was a huge attraction to other national companies such as Otis Elevator and Bell Aerospace, which built their own factories in Buffalo in part because of the ease of access to the machinery they needed to make products such as elevators and airplanes.

Founder George J. Munschauer died in 1890 during a cholera epidemic and co-founder Heinz died in 1894. George Lautz (George Munschauer's brother-in-law) served as president until he retired in 1918. George Munschauer's widow then inherited the two businesses. Her two oldest sons, George R. and Frederick, ultimately ran Niagara Machine and Tool Works and her youngest son, Edwin A. Munschauer, became president of their related company, Heinz & Munschauer.[27] George R. Munschauer became president in 1918 followed by his brother Frederick in 1940. Frederick oversaw the greatest growth of the company during World War II and the Korean War, and his son Edwin continued the expansion through the Cold War era.

Like most manufacturing companies in Buffalo in the late 1800s, Niagara Stamping & Tool was originally located downtown on Elm Street. As it grew and focused its business, the company moved further east in 1894 to follow the growing industrial development in the city to Randall and Superior Streets near William and Jefferson Avenues, at the edge of the Fruit Belt, building a new two-story brick factory and office, valued at $4,600, where they stopped stamping and focused on tool production.[28] Neither of these original buildings remains.

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[25] Henry Perry Smith, *History of the City of Buffalo and Erie County: History of Erie County, Volume 1* (Syracuse, NY: D. Mason & Co., 1884,) II, 256.

[26] "Niagara Machine's Steady Growth," *Buffalo Business,* Vol. 34, 106.

[27] "G. R. Munschauer, Tool Plant Head, Dies at Age of 61: Niagara Machine Works President is Victim of Heart Ailment.," *Buffalo Evening News*, April 24, 1941.

[28] "Niagara Machine & Tool: Airplane, Casket and Toy Manufacturers Among Users of its Numerous Products," *Buffalo Courier Express,* April 12, 1940. Note: Randall and Superior Streets no longer exist. William and Jefferson is the closest existing intersection to where this early factory was located.

With success came constant growth. The factory expanded to a four-story warehouse on Randall, but by 1911 the company relocated from Randall & Superior Streets to its new factory on Northland Avenue. The early industry at the edge of the Fruit Belt and Jefferson Avenue had outgrown the area, which was now surrounded by residential communities. They kept their factory on Jefferson and Superior Streets until 1917 for storage, at which point they sold it for $30,000.

The far East Side offered large swaths of available land and direct access to the Belt Line – for both freight and employees. A nexus of manufacturers who provided items for automotive, truck and airplane industries developed at the Northland node. The new factory was designed by Green & Wicks, one of the most significant architectural firms ever to practice in Buffalo. The Niagara Machine & Tool Works Main Factory (Niagara Machine) opened in 1911 on Northland Avenue with its own Belt Line spur. Its first addition, more office space, opened in 1912, and the Blacksmith Shop, the Pattern Shed and the Iron Storage Shed all opened by 1913. These all compose the original factory buildings designed by Green & Wicks. The Otis Elevator Company built its first Buffalo plant at the same time as Niagara Machine down the block, also designed by Green & Wicks.

Niagara Machine manufactured tools and machines for working with sheet metal, specializing in presses, punches, and rotary sheets. Various manufacturers purchased its products including makers of airplanes, caskets, automobiles, toys, surgical instruments, and others. The Curtiss-Wright, Lockheed, and Douglas companies used the firm's presses for small parts in their aircraft manufacturing operations. Niagara Machine also began to manufacture hardware for automobile bodies, notably General Motors. The factory and company saw huge growth in 1920 and 1927 to accommodate this growing portfolio of products.

By 1940, Niagara Machine offered 1,000 different items in its catalog, ranging from ten-pound tinner's bench machines to large presses weighing 200,000 lbs. They had 650 employees at that time, which necessitated the expansion of the factory again. In 1941, Niagara had a $150,000 order for machine tools with Curtiss-Wright to outfit three new industrial facilities located in Buffalo, Columbus, and St. Louis. While the company had orders from the federal government during World War I and World War II, its large expansion from 1920-1940 gave them the ability to accept significant defense contracts for both other companies and the government directly during World War II.[29] During World War II the War Production Board classified the company as a machine-tool manufacturer. While they mostly sold their products in the U.S., about 10 percent sold internationally, with some pieces going as far as the Soviet Union.

By the late 1940s, upwards of 800 persons were employed - 680 in the plant, and the remainder in administration, engineering, and clerical. All activities except sales were located in Buffalo. Companies who

[29] "The Rise of Niagara Machine," *Buffalo Business,* 1949, Vol. 24, 11-13.

used Niagara Machine equipment included General Motors, Ford, Chrysler, General Electric, Westinghouse, International Harvester, and U.S. Aluminum. During the wars, they manufactured equipment for Curtiss, Bell, Boeing and Goodyear. During both World War I and World War II the company operated 100 percent on war work, supplying its regular machine tool products to the US government as well as to regular customers engaged in war work. It became a major supplier of metal forming equipment during World War II. During the Korean War period, a sizable portion of equipment was furnished directly to the US government for defense-supporting industries.[30] General Motors hardware for automobile bodies came from Niagara Machine presses, as did shears and inexpensive tin toys sold at 5-and-10-cent stores.

The factory continued to expand to meet the requirements of its post-war defense contracts and its involvement with many of the major airplane manufacturing companies in the country such as Curtiss-Wright and Bell. In 1946, under the leadership of President Frederick E. Munschauer, Niagara launched a 20-year expansion plan for the 67-year-old plant that included $100,000 for a new building and $400,000 to outfit the new and existing factory with new equipment.[31] The new extension for the company's forge, heating and treating shop (92' x 254') allowed for the enlargement of their welding and steel fabricating departments to designs by factory designer, H. E. Plumer & Associates.

The 1946 expansion also increased its payroll by 300 workers. The factory held a reported 180,000 sq. ft. of floor space in 1947. [32] At that time, Niagara had five engineers on staff and one floor of the office building was devoted to the Engineering Department, whose duty it was to develop new lines of equipment, and design special machines for special purposes and custom jobs. The department also oversaw alterations to the buildings that were needed to address their growing manufacturing.

The 1946 addition housed a fabricating and welding department that was used to make many of the parts of steel plate fitted and welded together rather than cast. It was equipped with multiple oxygen acetylene cutting torches and automatic welding machines. Fumes and heat were exhausted and carried out of doors by individual suction fans at each outlet. The pattern storage wall at the rear of the 1946 addition stored live patterns. Patterns not used frequently were stored in a Jefferson Avenue warehouse still owned by the company.

The company nearly doubled its manufacturing capacity with the building of a stand-alone metal fabricating plant in 1953, designed again by H. E. Plumer & Associates. The 1953 building was used to fabricate many of the structural parts from steel plate rather than to cast them. This facility was equipped with automatic multiple-oxygen acetylene torches for cutting plate up to 10 inches thick; heavy bending presses and shears; automatic welding machine and large welding positioners. A large automatically controlled furnace was used to

[30] *Buffalo Business,* Vol. 34, 106.
[31] *Buffalo Business*, Vol. 24, 11-13.
[32] Rutherford, *Buffalo Evening News,* February 2, 1947, b.

stress relieve the large weldments. The company received a tax write-off to fund the $855,000 expansion. [33]

Additions in 1956 and 1964-1967 provided further Cold War era growth. With the 1964-67 manufacturing space addition, the company had one of the most modern and fully equipped machine shops in the area to produce all types of machine tools, both large and small for automotive, aircraft, home, industrial appliances, air conditioning, farm equipment, television, radio, radar, and electrical equipment. With offices in Buffalo, Boston, Cleveland, Detroit, Indianapolis, New York City, and Philadelphia and distributors throughout the U.S., the company sold its products throughout the world.

The company continued to see growth through the early 1980s, focusing their manufacturing on patterns and equipment for the airplane and automobile industries and, in 1981, expanded the capacity of the factory even more. The 1964 and 1981 additions, which were some of the largest additions in the factory's evolution, were designed by civil engineer and architect Jacob Fruchtbaum. The company's products were sought by all major automobile, rail and airplane manufacturers, producing an infinite variety of equipment from cradle to grave and having almost 70 patents issued from 1920 to the 1970s.

Frederick Munschauer died in 1955, leaving the company's leadership to his son, Edwin. Edwin was at its helm, overseeing his father's growth plan, until Niagara Machine & Tool Works was sold to a London-based international acquisitions manufacturing company called Verson International Group in 1992. Most of the company's manufacturing activities ceased at the site around 1999.

DEFENSE CONTRACTS WITH THE FEDERAL GOVERNMENT

As one of the oldest factories in Buffalo with one of the longest international reaches, Niagara Machine evolved as both technology and manufacturing capacity were expanded, and national war and defense needs increased. The impact of defense contracts throughout most of its history, led to the continual growth of the factory and its impact on manufacturing throughout the world.

From the Civil War to the Cold War, Buffalo served as an important location for military contracting and production. Buffalo's location as one of the nation's great railroad transfer points and the growth of industry along those railroads contributed to its importance to government manufacturing and war production. The Civil War strengthened the city's dominance as a great inland port and gave birth to its industry.[34] Mechanized warfare, which contributed so much to every aspect of standardized mass-production, became its great justification.[35] The military industrial complex, responsible for ever-expanding technologies and the assembly

[33] *Buffalo Business*, Vol. 24, 11-13.
[34] Goldman, *City on the Edge*, 75.
[35] Lewis Mumford, *Technics & Civilization,* (Chicago: The University of Chicago Press, 1934), 93.

processes to improve manufacturing, was one of the key sources of the development of the modern factory and mass production. In the early twentieth century, the Society of Industrial Engineers launched a plan to "aid the government in war production" and provide a means whereby the best minds working together can promote efficiency and industrial management.[36]

In the years following World War I, Buffalo emerged as an industrial giant, a major center for the production of steel, railroad cars and engines, airplanes and automobiles.[37] The World War II years were the halcyon period of urban industrial society, a time when everybody worked and most people felt good about their community.[38] Thousands of factories and many other buildings were expanded during the war to accommodate President Franklin D. Roosevelt's "arsenal of democracy." During 1944, the peak war year in the U.S., factories had expanded to production of 96,000 military and naval planes, exceeding the combined totals of Germany, Japan and Britain. Privately owned factories converted from civilian to military production, including many in Buffalo. Wartime mobilization not only brought the defeat of the Axis abroad but also ended the Great Depression at home – a dual victory that helps explain why World War II was the "Good War" for many Americans.[39] It was a period of large and lasting change, but the fundamental problem was mobilizing the work force for employment in the defense industry. President Roosevelt ordered all plants with government contracts to lengthen their work week to 48 hours and pay time and a half after 40 hours.[40] With 458,000 people in the labor force, almost half, or 225,000, were working in war-related industries.[41] New opportunities came to women, African Americans, white ethnic groups and workers and they worked in places long denied to them.[42] Washington provided low-cost loans, subsidies, tax write-offs, and generous depreciation rules for corporations expanding plant capacity as well as "cost-plus" contracts guaranteeing the cost of production plus profit.[43]

The war was good for Buffalo economically, and many of its manufacturing companies and factories were integral to the war efforts. Large-scale federal relief funds were directed Buffalo's way. The factories along the Northland Corridor were one of the most significant nodes for defense contracting.

The neighboring factories along the Northland Corridor collaborated by using each other's products, particularly during World War II and the Cold War. The companies that were the most connected, physically

[36] Biggs, *The Rational Factory*, 36.
[37] Goldman, *High Hopes*, 293.
[38] *Ibid*., 293.
[39] Marilyn M. Harper, *World War II and the American Home Front: A National Historic Landmarks Theme Study*, (Washington, DC: The National Historic Landmarks Program, 2007), 4.
[40] Goldman, *High Hopes,* 235.
[41] Goldman, *City on the Edge,* p. 135.
[42] It should be noted that many of these opportunities vanished after the soldiers returned and started looking for work.
[43] Harper, *World War II and the American Home Front*, 12.

and business-wise to Niagara Machine, were the Houde Corporation and Otis, both with their factories on Northland Avenue.

While its neighbors went through various transitions in both ownership and production type during World War II, Korea and the Cold War, Niagara Machine continued the production of its many types of tools and presses, which could easily be used for civilian needs or defense needs. The factory more than doubled in size from 1940 – 1967, much of that due to the strategic plan developed under Frederick Munschauer's leadership to leverage their products for defense, automotive and airplane manufacturing. Niagara Machine was also one of the few Buffalo-based and owned factories in the Northland Corridor. While production remained strong through the mid-1980s, their final large addition in 1980 is outside of the period of significance. The period of significance of the factory ends in 1967, reflecting the era during which the company was at its most prominent.

As the war ended and then the Cold War continued the need for military manufacturing, Buffalo continued in its importance. By 1951, Buffalo was the 11th largest industrial center in the country, the largest inland water port, the 2nd largest railroad center, and the 15th largest city in the country.[44] It had 12 railroad freight terminals that served 45,000 trains a year and 5 passenger terminals serving 50,000 trains a year. More than half a million-people lived in Buffalo and a million and a half in the metropolitan area.

Metropolitan Buffalo was a tremendous manufacturing center in the early 1950s, with possibly the most diversified industry of any American city.[45] However, the increasingly industrialized economy was mostly owned by outsiders and the ebb and flow of international impacts on Buffalo's industry changed the need for the large factories which dotted the city. Beginning in 1952, a small yet significant amount of industries began to leave. In early 1946 Curtiss-Wright announced that it was closing almost all of its Buffalo operations – moving to Columbus, OH. Otis Elevator sold its buildings to Curtiss-Wright in 1951 to accommodate Cold War needs. Ultimately, the Northland corridor would lose most of its manufacturing activity.

While industrial strength continued into the post-War/Cold War era, Buffalo's location on the lakes was negatively impacted by the opening of the St. Lawrence Seaway in 1959, when an all-water route between the Great Lakes and the Atlantic Ocean was opened, bypassing Buffalo and destroying remnants of the once thriving commercial economy of the city.[46] The post-war prosperity that characterized the steel and auto industries was temporary for Buffalo.[47] By the end of the 1960s, Germany and Japan emerged as serious rivals of America's industrial metropolises. By the early 1970s, American industry was suffering badly and American

[44] Goldman, *City on the Edge*, 149.
[45] "Made in Buffalo," *Fortune Magazine*, July 1951.
[46] Goldman, *High Hopes,* 293.
[47] *Ibid*., 294.

industrial cities appeared to be dying.[48] Although Niagara Machine's factory buildings remained in use until 1999, both its large complex and those of Houde and Otis, discussed above, have been largely vacant for almost two decades.

FACTORY DESIGN & GROWTH

Factory Design and History - Manufactured Tools and Machines for Working Sheet Metal

Twentieth century industrial design was guided by the assumption that every aspect of the factory, from its form and structure to its loading platform, was related to the manufacturing process and that the factory itself served as a tool of production.[49] The most striking factor of the modern factory was making the building fit production rather than organizing production to fit into a standard building. The machines were grouped on the plans and the buildings drawn around them. Niagara Machine exemplified this approach.

Changes in three technologies signified the birth of the modern factory: material handling systems, reinforced concrete and power (electricity). [50] Cranes became standard features in the first decades of the twentieth century. By around 1915, electric cranes, monorails and internal railways aided the handling of heavy materials in many factories.[51] The electric-driven traveling crane revolutionized shop construction for heavy work, moving heavy equipment and materials. The traveling crane consisted of a heavy beam extended across the width of the shop, where the end of beams rested on wheels that traveled the length of the floor on rails. Reinforced concrete changed the design and construction of factories. Its strength allowed a building to be supported on its internal columns, relieving the outside walls of bearing the building's weight. It allowed the new factories to accomplish four improvements: reduced floor vibration from machines, making multiple stories or one-story-high bays feasible; required fewer interior columns, opening up space on the shop floor; window areas could be much larger, opening the way for the window-walls of the daylight factory, and the building could be much larger.

Twentieth-century factories incorporated the most modern production methods, held the appropriate machinery and equipment, were large enough and laid out in a rational manner, and could easily be expanded. A tradition of excellence in designing for industry responded to changes in technology, the demands of competition, and the cost of rebuilding as American industry developed. The specific ways that walls and roofs were designed to maximize light and ventilation through window walls filled with sash, monitor roofs and other distinctive

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[48] *Ibid*., 294.
[49]Betsy Hunter Bradley, *The Works: The Industrial Architecture of the United States,* (Oxford: Oxford University Press, 1999), viii.
[50] Lindy Biggs, *The Rational Factory: Architecture, Technology and Work in America's Age of Mass Production)*, (Baltimore: The Johns Hopkins University Press, 1996), 77.
[51] Biggs, *The Rational Factory*, 80.

elements of industrial architecture created factory buildings that were an intriguing combination of building construction and industrial technology. [52]

Factory buildings of the early twentieth century stand in the American landscape as symbols of industry projecting powerful images of the enterprises they once housed. Transformation from multi-story narrow nineteenth century to sprawling single story, concrete and steel factories epitomized modern mass-production industries. Architectural changes represent an important step in American industry – employing architects and engineers to create a new kind of factory. It was a modern and national effort to create a rational factory – one that could run automatically as though it were a grand machine.[53] The layout of the twentieth century factory encouraged efficiency and movement of materials through the factory as a way to control the speed of production.[54] Special purpose machines were helping to fabricate new and larger presses. Handling and assembling technologies were revolutionizing the processing industries. Movement of materials around the shop floor could be managed by mechanization and by better design and organization of the factory.[55] The Niagara Machine factory's sprawling single story concrete and steel building exemplifies this transformation in factory design.

The Niagara Machine buildings demonstrate the implementation of these modern twentieth century advancements. As a factory that fabricated sheet metal, specializing in presses, punches, and rotary sheets, the building and its additions were all planned around the three major metal fabricating activities of cutting, bending and assembling. Below (on the next page) is a summary of the factory's evolution.

[52] Hunter Bradley, *The Works*, ix.
[53] Biggs, *The Rational Factory,* 2.
[54] Ibid., 6.
[55] Ibid., 35.

Evolution of Factory *(See the full set of Evolution Maps in Appendix 11C)*

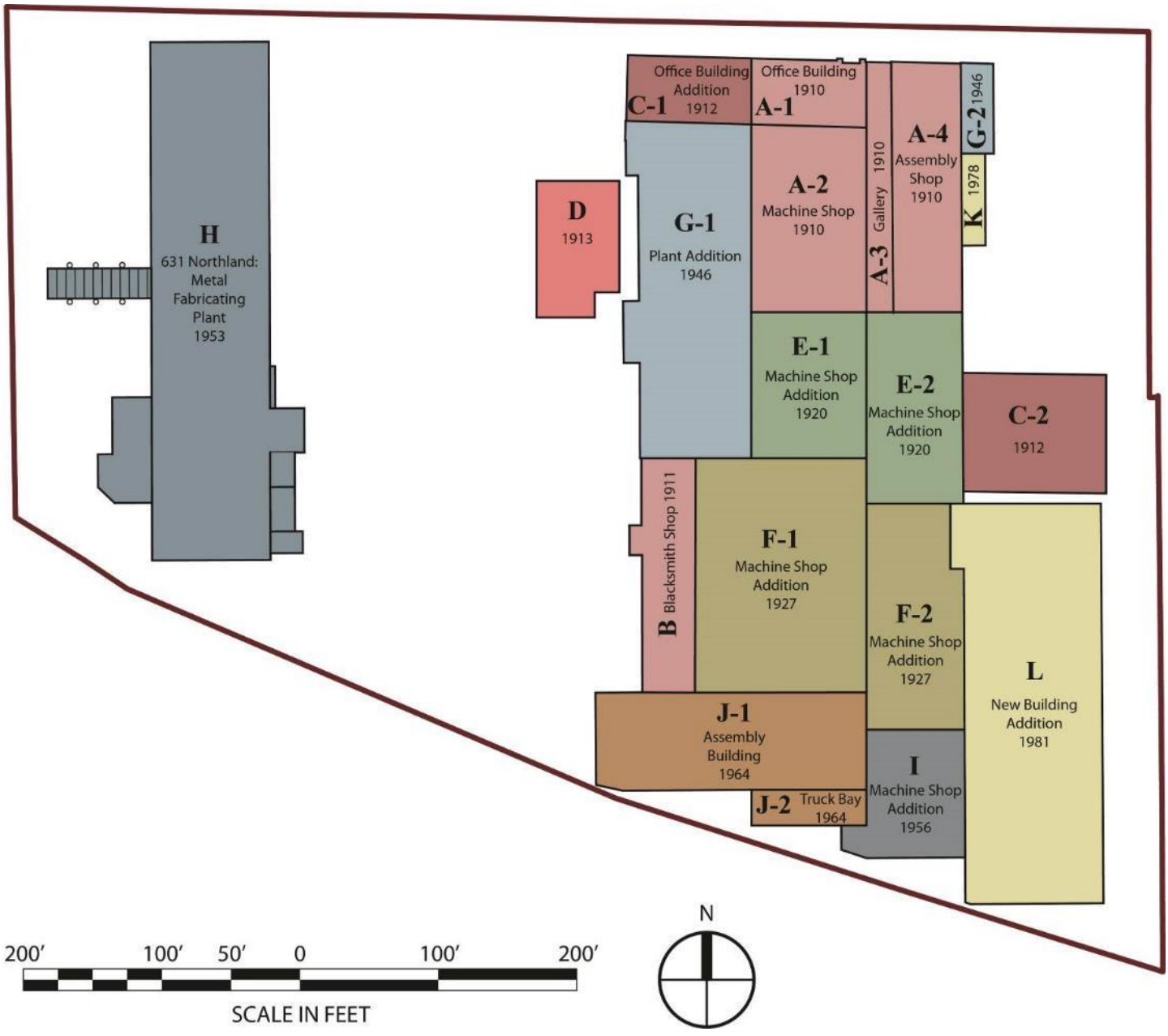

Figure 1 Chronology of Niagara Machine &Tool Works Factory

Design Advancement of the Twentieth Century Factory Works

The Niagara Machine & Tool Works Factory developed largely between 1910 and 1981, and like many factories, including its neighbors, it evolved over time as both technology and manufacturing capacity were expanded, and national war and defense needs increased. As a result, the Main Factory building was expanded through many additions. While some of the additions were carefully planned and executed by architects or engineers, others were added as needed and expansion dictated. Niagara Machine's use of the three primary twentieth-century factory advancements – material handling systems (such as cranes), reinforced concrete and electricity, allowed the complex to expand continuously during its period of significance.

The initial design and construction at the site occurred between 1910 and 1913, designed by Green & Wicks Architects (Areas A, B, C and D*).* The first building campaign (designed 1910, built 1911) included the original office building and Machine and Assembly Shop separated by a Gallery, with the offices fronting Northland Avenue (Areas A1-A4). This original office building construction was exposed reinforced concrete with brick infill walls, reinforced concrete floors and foundation and a flat roof. The manufacturing spaces consist of semi-fire proof construction with brick walls, a riveted steel frame and sawtooth monitors or skylights with clay tile roofs, reflecting the ideal design using early twentieth century factory advancements.

The manufacturing space additions in the 1920s continued the earlier wings' semi-fireproof construction with brick walls, a riveted steel frame and steel sawtooth monitors with clay tile roofs. The building campaign after World War II in 1946 continued the earlier wings' semi-fireproof construction with brick walls, a riveted steel frame and steel sawtooth monitors with clay tile roofs, although the height in this area is much lower. Additions in the 1950s and the separate Metal Fabricating Plant constructed in 1953 had an International Style aesthetic and were steel-frame on a concrete foundation with brick veneer and bands of ribbon windows.

The final architecturally significant building campaign occurred between 1964 and 1967, designed by structural engineer and architect, Jacob Fruchtbaum (Area J*).* A large Assembly Building and Truck Bay were built at the southern end of the Main Factory, up against the Belt Line. Originally built in 1964, it continued to be enlarged until 1967. This wing was constructed of steel frame resting on a concrete foundation with brick veneer, aluminum siding and bands of aluminum-frame windows.

The last major building campaign occurred in 1981, also designed by Fruchtbaum *(Area L).* This massive Assembly space was connected to the southeast corner of the Main Factory. It was the most utilitarian in design of all the building additions, constructed of a steel structure with wood-frame metal panel walls resting on a concrete block foundation.

The factory's growth demonstrated the advancements of the twentieth century factory and exhibits many of the original character defining features which explain the manufacturing process including:

The height, breadth and open volume of the factory spaces expressed the "Factory Works" volume. The 10 to 50-foot high assembling spaces indicated the large pieces of equipment that were assembled in the space.

Mass production and use of the assembly line, which supported the growth of industrial development and World War II industrial manufacturing is represented by the long, linear, rectangular plan layout and the progression of spaces for the cutting, bending and assembling of metal work and equipment.

Key advances in factory design are represented by: 1. Increased daylight with the sawtooth monitor roof, skylight, clerestories and the large window openings (steel frame and sash); 2. Use of fireproof construction materials (reinforced concrete frames, clay tile and concrete ceiling panels, steel framing, concrete floors and masonry (brick) exterior walls and 3. Use of advanced manufacturing technology and equipment such as furnaces and cranes.

The steel structure allows for the lofty open volume of the factory. The main framing systems consist of riveted steel plate girders and triangular steel trusses supporting steel roof purlins that support the sawtooth and clay and concrete plank roofs. Built-up riveted steel columns are supported by concrete piers.

Remnants of the Belt Line railroad spur on the site and into the buildings indicate its association with the industrial development of the East Side of Buffalo and along the manufacturing nodes of the Belt Line. The Belt Line came onto the site and into the factory through the various assembling spaces allowing efficiency in transportation. The final piece of spur construction can be seen in the 1964-era truck bay.

ARCHITECTURAL SIGNIFICANCE

Utilitarian Industrial Design & International Style

The Munschauer family, owners of Niagara Machine, embraced modern and functional design for their factory design and expansions over 70 years, which was representative of the history of the city's forward-thinking industrialists who were noted for adopting new forms and materials and building construction techniques for their factories to reduce construction costs as well as to maximize their efficiency. Investment in popular modern design reflected the success of the manufacturing company.

Twentieth-century industrial design was guided by the assumption that every aspect of the factory, from its form and structure to its loading platform, was related to the manufacturing process and that the factory itself

served as a tool of production.[56] Indeed, the interrelationship between the factory and the powering of its machinery led to a streamlined functional or utilitarian design. The office buildings were often the only buildings with any type of ornament or decoration.

The Niagara Machine factory complex is a good example of a twentieth-century factory, which used first, a utilitarian industrial design and then, the International Style, as the architectural aesthetic to define the buildings' functions, which encapsulated the three major technical features that revolutionized manufacturing and industrial design for the twentieth century – electricity, the powered crane and the steel frame. The early buildings use individual windows on the Northland façade while the later buildings from 1953 through 1964 used streamlined band of ribbon windows which wrapped around the large, rectangular volumes. The interiors of all the spaces, however, used the utilitarian industrial approach, which looked very similar from 1911 – 1967. While the pre-1950 construction utilized skylights and monitors to provide most of the daylighting, the post-1950 buildings used the ribbon windows on the elevations instead.

Green & Wicks

The initial buildings of the Niagara Factory were designed by Green & Wicks between 1910 and 1913. Green & Wicks was founded in 1881 by architects Edward Brodhead (E. B.) Green and William Sydney Wicks, who were graduates of Cornell and MIT. They were masters at working in a variety of historic vocabularies and while the firm is primarily known for their work for society's upper crust, their designs can be found for commercial buildings, institutional, industrial and municipal buildings as well. In 1912, Green's son, E.B. Green Jr., joined the firm and, two years later, his younger son also began working at the firm. Wicks retired from the firm in 1917, at which time the firm became Edward B. Green & Sons. The final iteration of the firm, Green, James & Meadows, was dissolved in 1974.

Green & Wicks was responsible for several of the Northland Avenue factories near Niagara, including the Otis Elevator Company wood shop (1907), the Otis Elevator Company rail and plunger shops boiler house (1907) at 160 Grider Street and the Otis Foundry (1913) at 777 Northland. Additional representative industrial buildings in Buffalo by Green & Wicks include: J.B. Pierce & Company factory (1909) at 785 Hertel Avenue; E.A. Glenny factory (1899) and Barcalo Manufacturing Company (1907) at Kentucky and Tecumseh streets; Barcalo Manufacturing Company addition to factory # 5 (1913) at 6 Republic Street; George W. Maltby & Sons Factory at 21 Maryland Street (1907); Burgess Gun Company Factory (1892) at Military Road and Chandler Street; M.H. Birge & Sons factory (1895) at Niagara, Maryland, and 7th streets; and by Green & Sons, A.F. Oliver Gear and Machine Company, factory and offices (1931).[57] Outstanding accomplishments of the firm include

[56] Hunter Bradley, *The Works*, viii.
[57] Catherine Faust, "Listing of Buildings by E. B. Green." *Buffalo as an Architectural Museum*, accessed March 1, 2017, http://www.buffaloah.com/a/archs/ebg/bp/faust2/index.html.

the Greek-inspired Albright Art Gallery (1904-05) and the downtown Buffalo Savings Bank (1901, later Goldome).

Although the company is known for its use of revival styling, their design for Niagara Machine was incredibly restrained, using a combination of an orderly, balanced, classically inspired architectural grid along Northland Avenue and in the office building, and more utilitarian design for the interior and exterior of the manufacturing and assembly spaces. Minimal concrete and brick decoration can be found on the Northland front façade. Here, the concrete and steel structure, and the large expanses of windows, skylights and monitors replaced the surface ornament of the revival styles in their more well-known buildings.

H. E. Plumer & Associates (Harold Edward Plumer)

H. E. Plumer & Associates designed the 1946 and 1956 expansions of the Main Factory as well as the 1953 International Style stand-alone Metal Fabricating Plant west of the Main Factory. Plumer was a Dartmouth graduate, a civil engineer known as a consulting engineer for factories and warehouses. He worked for Turner Construction Company and was the Chief Engineer of the War and Navy Office Building, in Washington, DC before starting his own firm in the Buffalo area. In addition to his work at Niagara Machine & Tool Works, he is also known for his design of the 1930 Art Deco showroom for Pierce-Arrow affiliated with the Studebaker Corporation. This showroom is a gem of ornamental Art Deco modernism. He was also responsible for the creation of another of Buffalo's great architectural interior spaces – the transformation of the old Cyclorama Building into the reading room of the Grosvenor Library, at the corner of Edward and Franklin Streets. He transformed the interior of the Cyclorama (designed by Cyrus K. Porter circa 1880) from the display of panoramic paintings to become a light-filled reading room for the adjacent Grosvenor Library.

Plumer's firm was located in the Sidway Building on Main Street. According to Arthur J. Smith, who was associated with Plumer in the 1950s, the engineer-architect came to Buffalo in 1919 after serving in the Navy in World War I and retired to Hawaii in 1960.[58] Little else is known about him or his firm.

His affiliation with Niagara Machine provided some of the most expansive spaces of the factory and his utilization of the International Style for the volume and exterior of the 1953 Metal Fabricating Plant indicated both an engineer's and an architect's eye.

[58] John Conlin, "The Pierce Arrow Showroom: An Art Deco Tour De Force," *Buffalo Spree,* (Winter 1998): 63.

Jacob Fruchtbaum

The last major building campaigns of the Main Factory (1964-1967 and 1981) were designed by Jacob Fruchtbaum, who was a civil engineer and architect who graduated from Cornell in 1917. He is known for the design of several buildings for Cornell, including the Physical Sciences Hall (1965) and a variety of industrial factories and warehouses including the Calspan/Cornell Aeronautical Lab in Buffalo (1954). His firm, whose offices were in Tonawanda, NY, closed in 1992. The lofty and light and air-filled 1964 International Style addition to the main factory building is one of the most distinctive architectural elements in the district.

AFTER THE PERIOD OF SIGNIFICANCE

Niagara Machine & Tool Works was sold by its original owners, the Munschauer Family, to a London-based international acquisitions manufacturing company called Verson International Group in 1992. Verson also purchased a Chicago manufacturing company called Clearing, Inc., owned by Hitachi-Zosen of Japan, that same year. Two years later Verson merged Niagara Machine and Clearing, calling it Clearing-Niagara, making it the largest maker and rebuilder of metal forming equipment, parts and components in North America. Four years later, in 1996, Clearing-Niagara was merged yet again with two related companies, E. W. Bliss from Michigan (a press building company) and Parts Plus from Detroit to form CNB International, headquartered in Buffalo. In 2001 Bliss, Clearing, Niagara (BCN) was formed by CIT Lending Services who acquired rights to all proprietary designs and intellectual property from CNB. CIT sold most of the business assets and all intellectual property to Muller Weingarten Group from Germany in 2006 (originally founded in 1863) – and operated as BCN Technical Services. The headquarters of the new company, called BCN Technical Services (Bliss Clearing Niagara) were located in Hastings, Michigan, where they remain. BCN was acquired by Schuler AG (originally founded in 1839 in Germany) in 2007 and in 2012, Schuler was acquired by the Andritz Group of Austria (originally founded in 1852). Bliss Clearing Niagara (BCN Technical Services) is now part of the Andritz Group and still in operation, owning all patents and designs from Niagara Machine & Tool Works. Most of the Clearing-Niagara activities ceased at the Northland site around 1999.[59]

CONCLUSION

The history of the Niagara Machine & Tool Works Factory spans 90 years and represents the rise and fall of Buffalo's industrial history as one of its oldest and most important tool and machine manufacturing facilities built and operated in the twentieth century. A Buffalo-owned company that manufactured equipment for other

[59] "From E. W. Bliss to BCN Technical Services: A History," *Bliss, Clearing, Niagara, Inc. Website*, accessed January 30, 2017, http://www.bcntechserv.com/history-timeline/.

companies, its products were used nationally and internationally across industries. Niagara Machine evolved over time as both technology and manufacturing capacity were expanded, and national war and defense needs increased. The impact of defense contracts throughout most of its history led to the continual growth of the factory and its impact on manufacturing throughout the world. The complex is a good, representative example of evolving industrial architectural and engineering trends, innovations and developments. Its growth demonstrated the advancements of the twentieth-century factory and exhibits many of the original character-defining features which explain the manufacturing process. The complex, originally, designed by renowned architects Green & Wicks, first used a utilitarian industrial design and then, the International Style, as the architectural aesthetic to define the buildings' functions. The factory complex is further significant for its association with the industrial development of the East Side of Buffalo along manufacturing nodes of the Belt Line Rail Road and for its contribution to the expansion of both Buffalo's industry and the East Side. The period of significance begins with the initial construction of the factory in 1910, when Green & Wicks designed the first buildings on Northland Avenue, and extends through 1967, when the final architecturally significant addition was added to the complex, coinciding with the final piece of the factory's post-World War II and Cold War expansion.

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See additional citations for original drawings, maps, catalogs and building permits in Section 11-C.

Verbal Boundary Description

The boundary is indicated with a heavy line on the attached maps with scale.

Boundary Justification

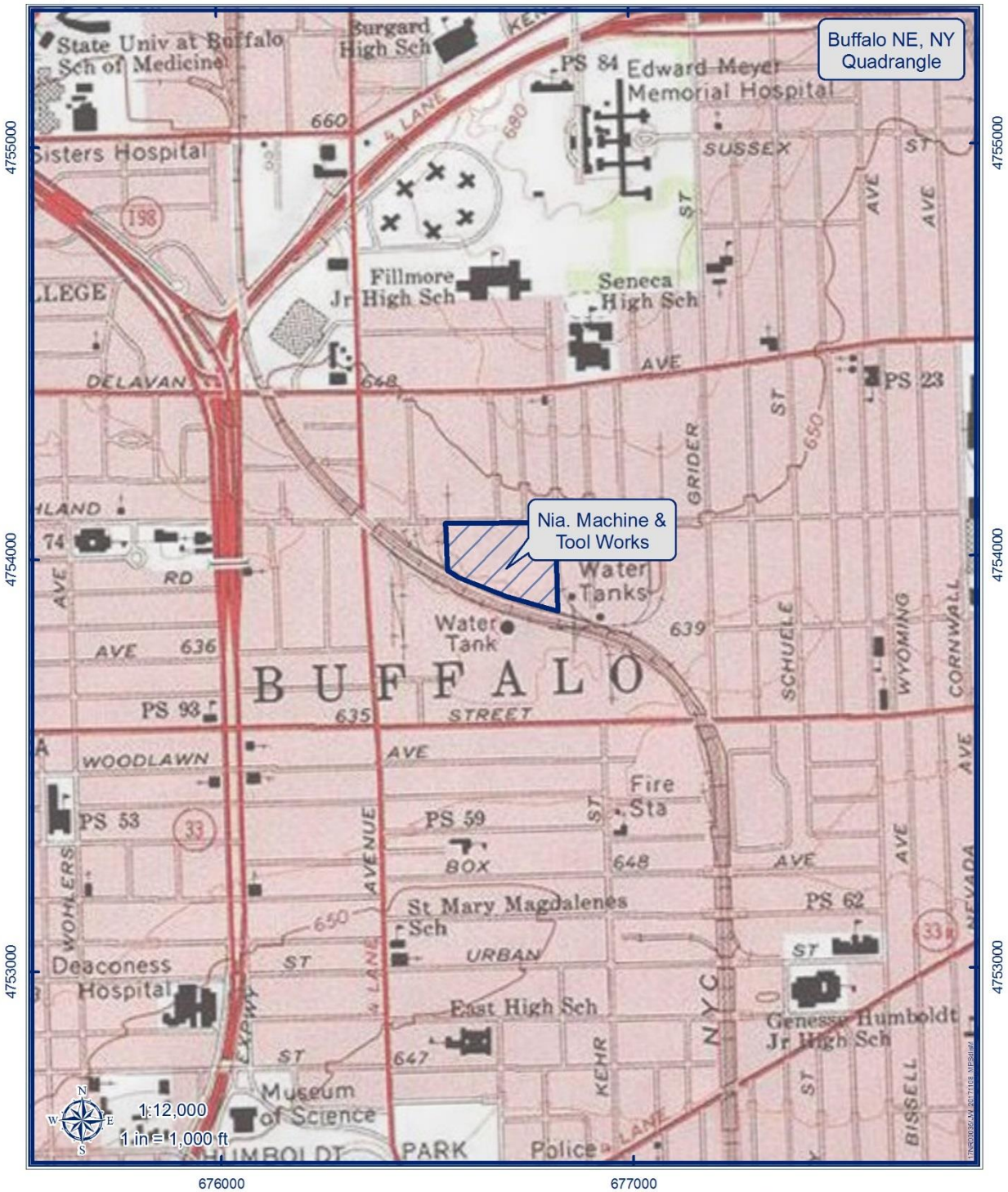
The boundary has been drawn to encompass all resources functionally and historically associated with the Niagara Machine & Tool Works Factory. This boundary reflects the land currently and historically related to the company.

Niagara Machine & Tool Works Factory
City of Buffalo, Erie Co., NY

631 & 683 Northland Avenue
Buffalo, NY 14211

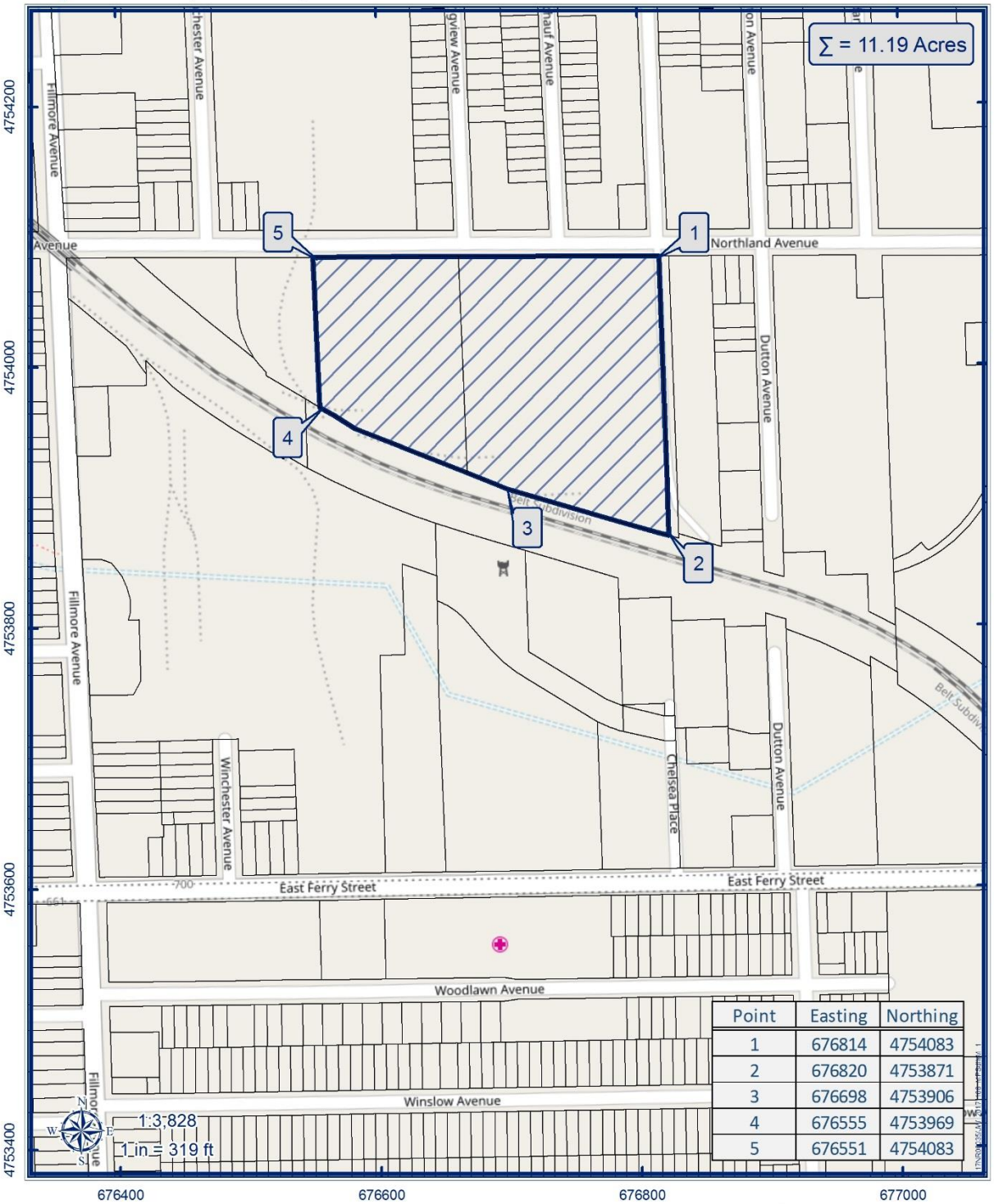
Niagara Machine & Tool Works Factory
City of Buffalo, Erie Co., NY

631 & 683 Northland Avenue
Buffalo, NY 14211



Niagara Machine & Tool Works Factory
City of Buffalo, Erie Co., NY

631 & 683 Northland Avenue
Buffalo, NY 14211



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2	676820	4753871
3	676698	4753906
4	676555	4753969
5	676551	4754083

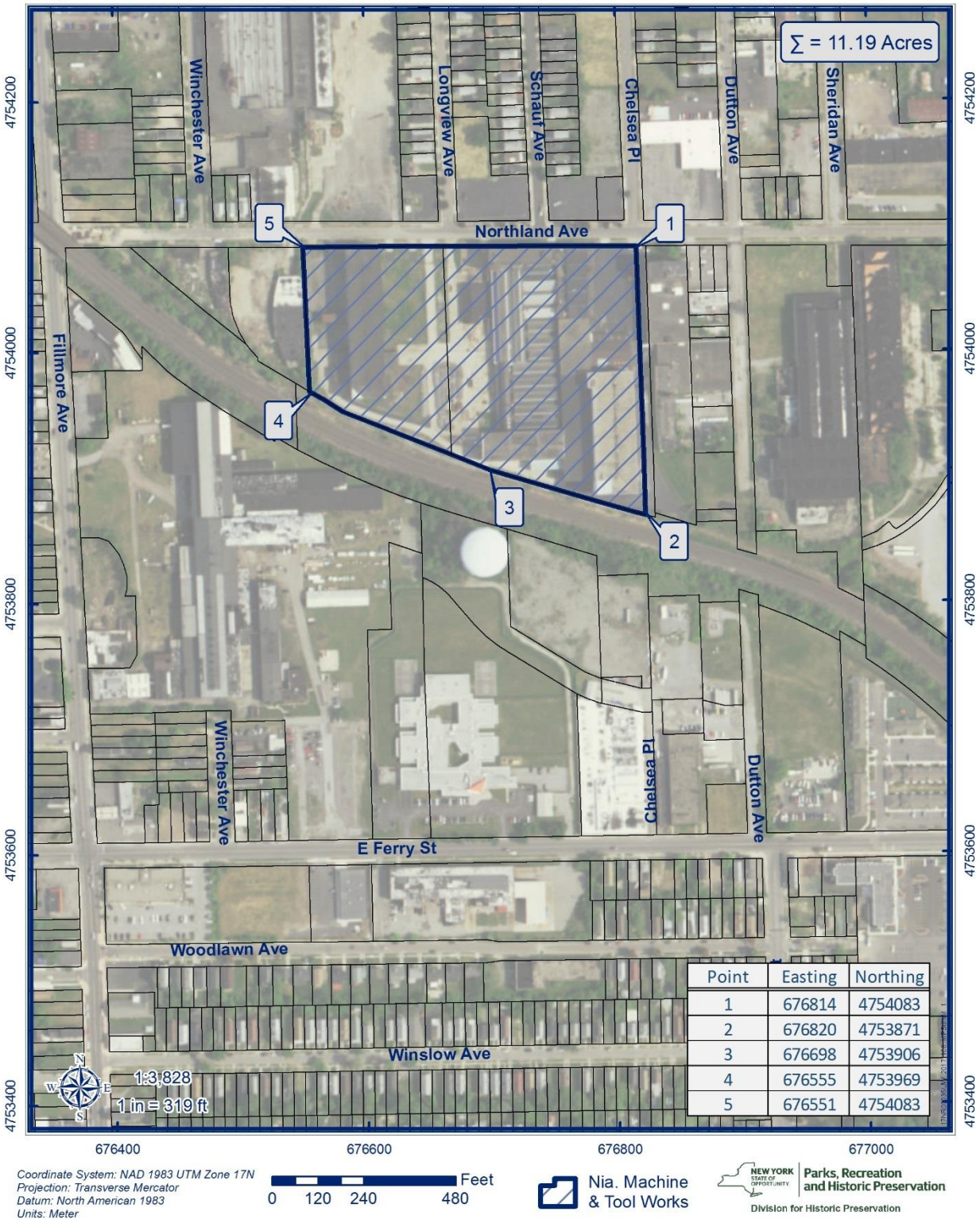
Coordinate System: NAD 1983 UTM Zone 17N
Projection: Transverse Mercator
Datum: North American 1983
Units: Meter

Nia. Machine & Tool Works

NEW YORK STATE OF OPPORTUNITY. Parks, Recreation and Historic Preservation
Division for Historic Preservation

Niagara Machine & Tool Works Factory
City of Buffalo, Erie Co., NY

631 & 683 Northland Avenue
Buffalo, NY 14211



Point	Easting	Northing
1	676814	4754083
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3	676698	4753906
4	676555	4753969
5	676551	4754083

Coordinate System: NAD 1983 UTM Zone 17N
Projection: Transverse Mercator
Datum: North American 1983
Units: Meter

Feet
0 120 240 480

Nia. Machine & Tool Works

NEW YORK STATE OF OPPORTUNITY. Parks, Recreation and Historic Preservation
Division for Historic Preservation

Additional Information

Photo Log

Name of Property:	Niagara Machine & Tool Works Factory
City of Vicinity:	Buffalo
County:	Erie County
State:	NY
Name of Photographer:	Joseph M. Cascio
Date of Photographs:	September 2016 – March 2017
Location of Original Digital Files:	69 Rugby Road, Buffalo, NY 14216
Number of Photographs:	25

NY_Erie County_Niagara Machine & Tool Works Factory_0001
Aerial, (Northland Ave.) Northeast view, camera facing southwest

NY_Erie County_Niagara Machine & Tool Works Factory_0002
North elevation, (Northland Ave.) camera facing south

NY_Erie County_Niagara Machine & Tool Works Factory_0003
West elevation, camera facing East

NY_Erie County_Niagara Machine & Tool Works Factory_0004
West elevation, camera facing Northeast

NY_Erie County_Niagara Machine & Tool Works Factory_0005
West elevation (Blacksmith Shop)

NY_Erie County_Niagara Machine & Tool Works Factory_0006
West elevation, camera facing Southeast

NY_Erie County_Niagara Machine & Tool Works Factory_0007
East elevation, camera facing Northwest

NY_Erie County_Niagara Machine & Tool Works Factory_0008
Assembly Shop 1910, Main Factory Building, Area A-4 thru Area I, camera facing Southwest

NY_Erie County_Niagara Machine & Tool Works Factory_0009
Machine Shop 1910, Main Factory Building, Area A-2, camera facing West

NY_Erie County_Niagara Machine & Tool Works Factory_0010
Plant Addition 1946, Main Factory Building, Area G-1, Monitor and Clerestory details, camera facing South

NY_Erie County_Niagara Machine & Tool Works Factory_0011
Blacksmith Shop 1911, Main Factory Building, Area B, Traveling Cranes overhead, camera facing North

NY_Erie County_Niagara Machine & Tool Works Factory_0012
Assembly Building 1964, Main Factory Building, Area J-1, camera facing East

NY_Erie County_Niagara Machine & Tool Works Factory_0013
Machine Shop Addition 1956, Main Factory Building, Area I, camera facing North

NY_Erie County_Niagara Machine & Tool Works Factory_0014
Plant Addition 1946/Machine Shop 1920, Main Factory Building, Areas G-1/E-1, Pattern Wall, camera facing North

NY_Erie County_Niagara Machine & Tool Works Factory_0015
Machine Shop 1910, Main Factory Building, Area A-2, Spiral Stair, camera facing Southeast

NY_Erie County_Niagara Machine & Tool Works Factory_0016
Office Building 1910, First Floor Main Factory Building, Area A-1, camera facing West

NY_Erie County_Niagara Machine & Tool Works Factory_0017
Office Building 1910, Second Floor Mezz., Main Factory Building, Area A-3, looking out over factory, camera facing South

NY_Erie County_Niagara Machine & Tool Works Factory_0018
Office Building 1910, Fourth Floor, Main Factory Building, Areas A-1/C-1, camera facing West

NY_Erie County_Niagara Machine & Tool Works Factory_0019
Pattern Shed 1913, Pattern Shed, South & West Facades, Area D, camera facing Southeast

NY_Erie County_Niagara Machine & Tool Works Factory_0020
Metal Fabricating Plant 1953, Aerial, Southwest View, camera facing Northwest

NY_Erie County_Niagara Machine & Tool Works Factory_0021
Metal Fabricating Plant 1953, West Facade, camera facing Southeast

NY_Erie County_Niagara Machine & Tool Works Factory_0022
Metal Fabricating Plant 1953, South and East Facades, camera facing Northwest

NY_Erie County_Niagara Machine & Tool Works Factory_0023
Metal Fabricating Plant 1953, Main Plant, camera facing South

NY_Erie County_Niagara Machine & Tool Works Factory_0024
Metal Fabricating Plant 1953, Main Plant, Stress Relieving Furnace, camera facing West

NY_Erie County_Niagara Machine & Tool Works Factory_0025
Metal Fabricating Plant 1953, Main Plant, camera facing Northeast

For historic images, maps and additional information, please see the appendix document: 11B -Photo Key Maps and 11C – Background Material and Chronology.

NPS Form 10-900-a

OMB No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places
Continuation Sheet

Section number 11B Page 1-10

Niagara Machine & Tool Works Factory
Name of Property
Erie County, NY
County and State
Name of multiple listing (if applicable)

BUDC
Buffalo Urban Development Corporation

BAC [A+P]®
Barbara A. Campagna/Architecture + Planning, PLLC

WATTS
ARCHITECTURE & ENGINEERING

Photo by Joe Cascio Photography, 2017

PHOTO KEY MAPS OF NIAGARA MACHINE & TOOL WORKS FACTORY

January 31, 2018

Buffalo Urban Development Corporation
95 Perry Street, Suite 404
Buffalo, New York 14203
716-856-6525
www.buffalourbandevelopment.com

Buffalo Urban Renewal Agency
65 Niagara Square, Room 920 City Hall
Buffalo, New York 14202
716-851-2872
www.buffalourbanrenewal.com

Empire State Development
95 Perry Street, Suite 500
Buffalo, New York 14203
716-846-8200
www.esd.ny.gov

Barbara A. Campagna/Architecture + Planning, PLLC

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514 Main Street, Suite 201
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Watts Architecture & Engineering
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716-206-5100
www.watts-ae.com

CHRONOLOGY OF THE NIAGARA MACHINE & TOOL WORKS FACTORY

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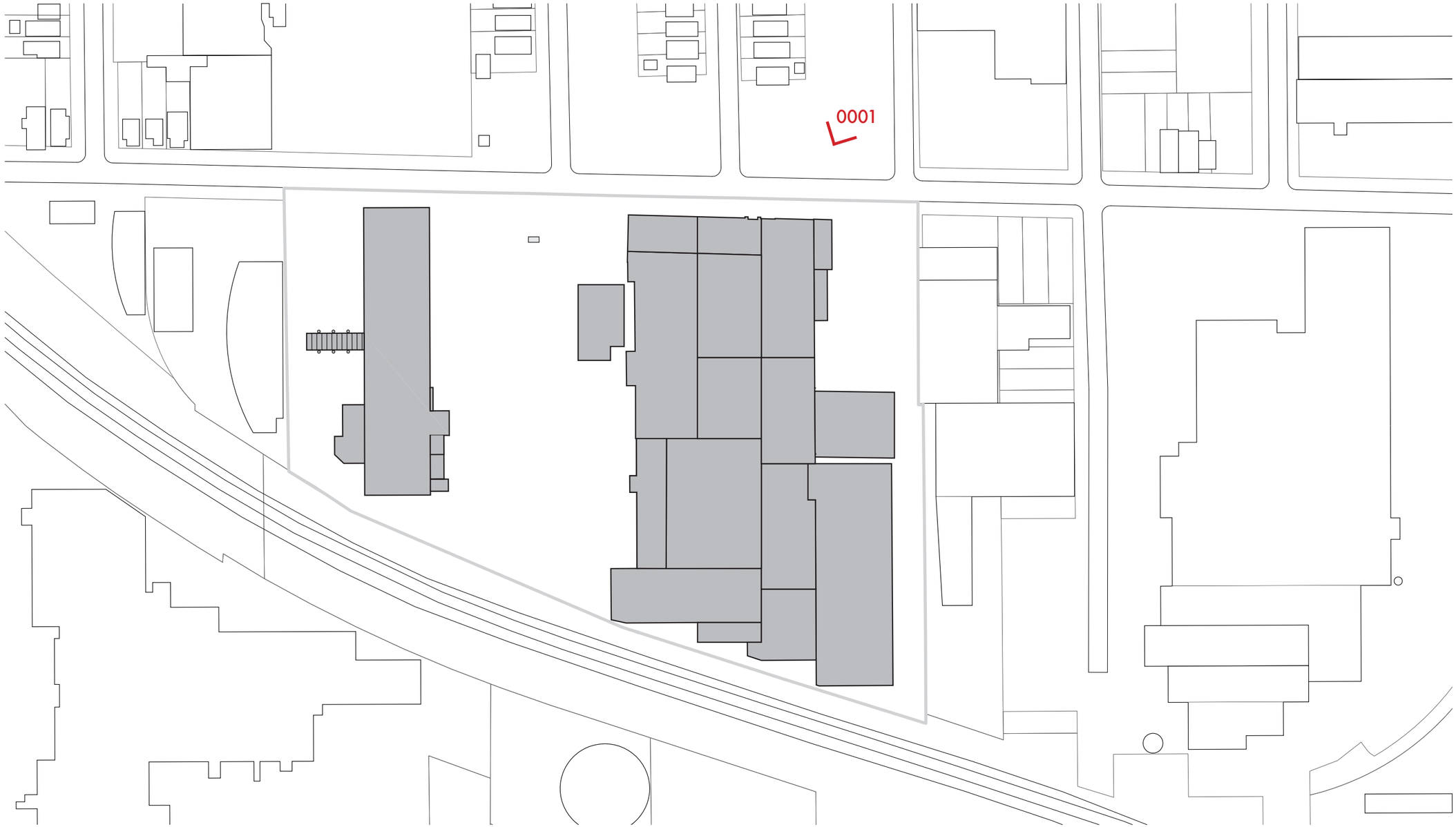
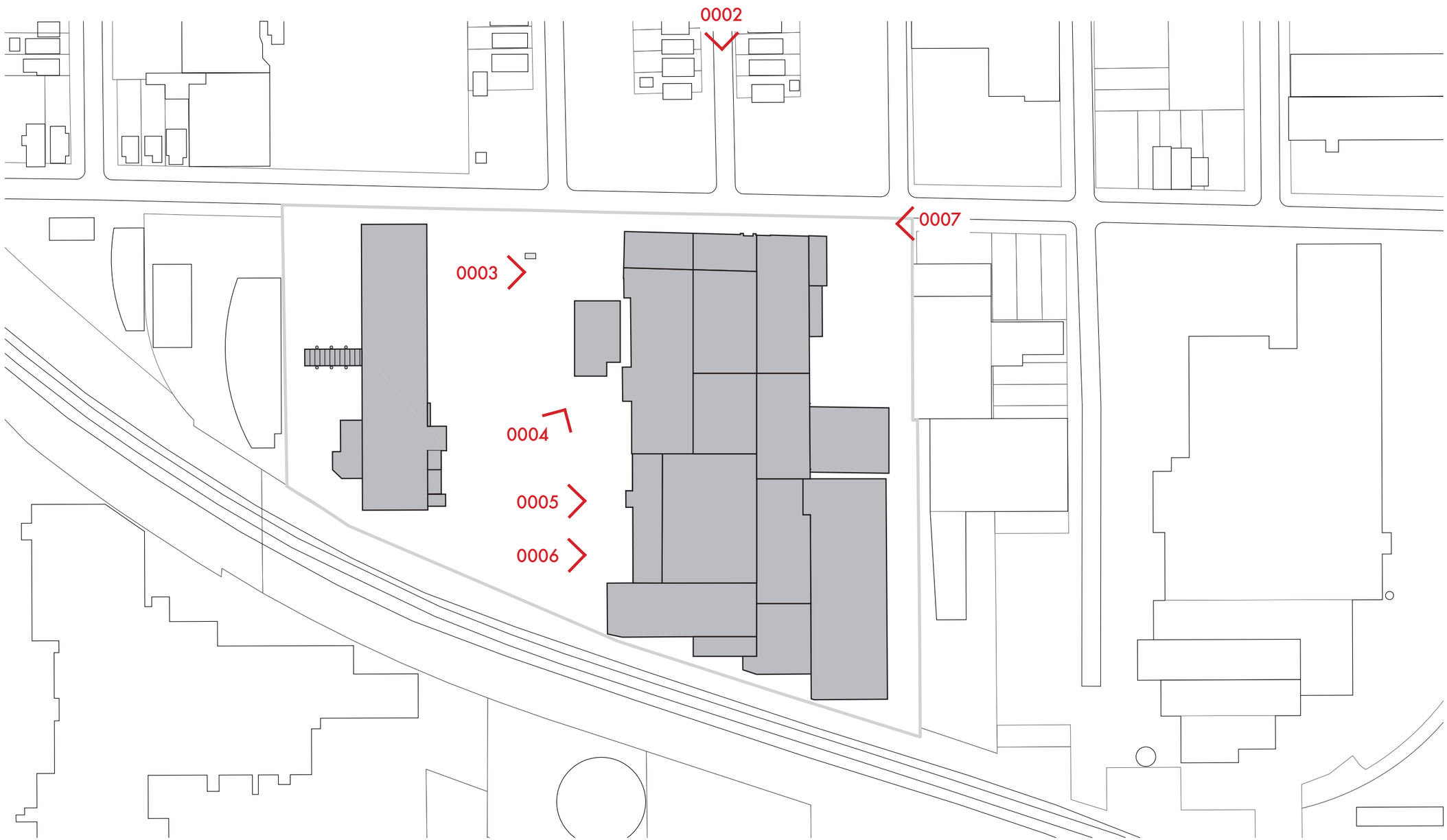


NIAGARA MACHINE & TOOL WORKS FACTORY

EXISTING CONDITIONS 2017

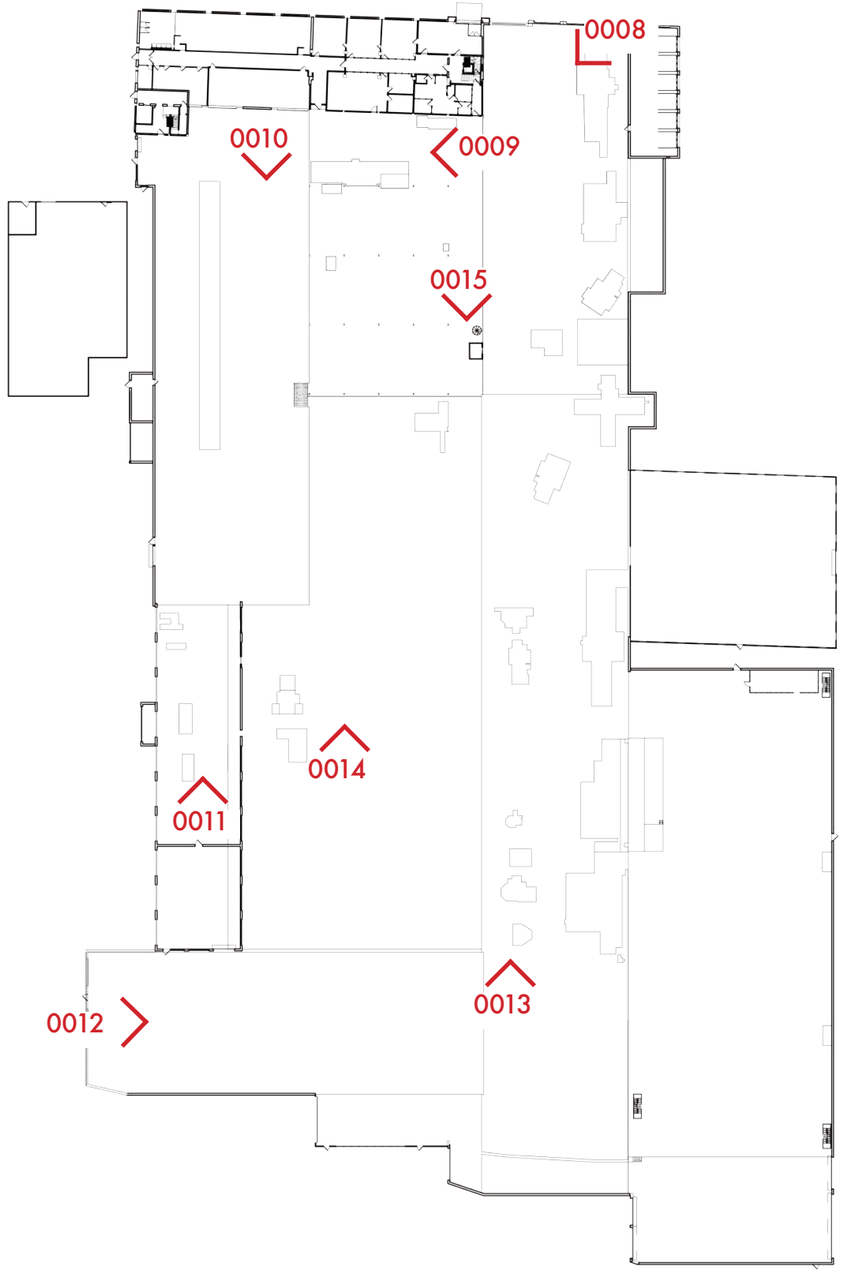
SITE AND LANDSCAPE



NIAGARA MACHINE & TOOL WORKS FACTORY

EXISTING CONDITIONS 2017

MAIN FACTORY BUILDING - EXTERIOR



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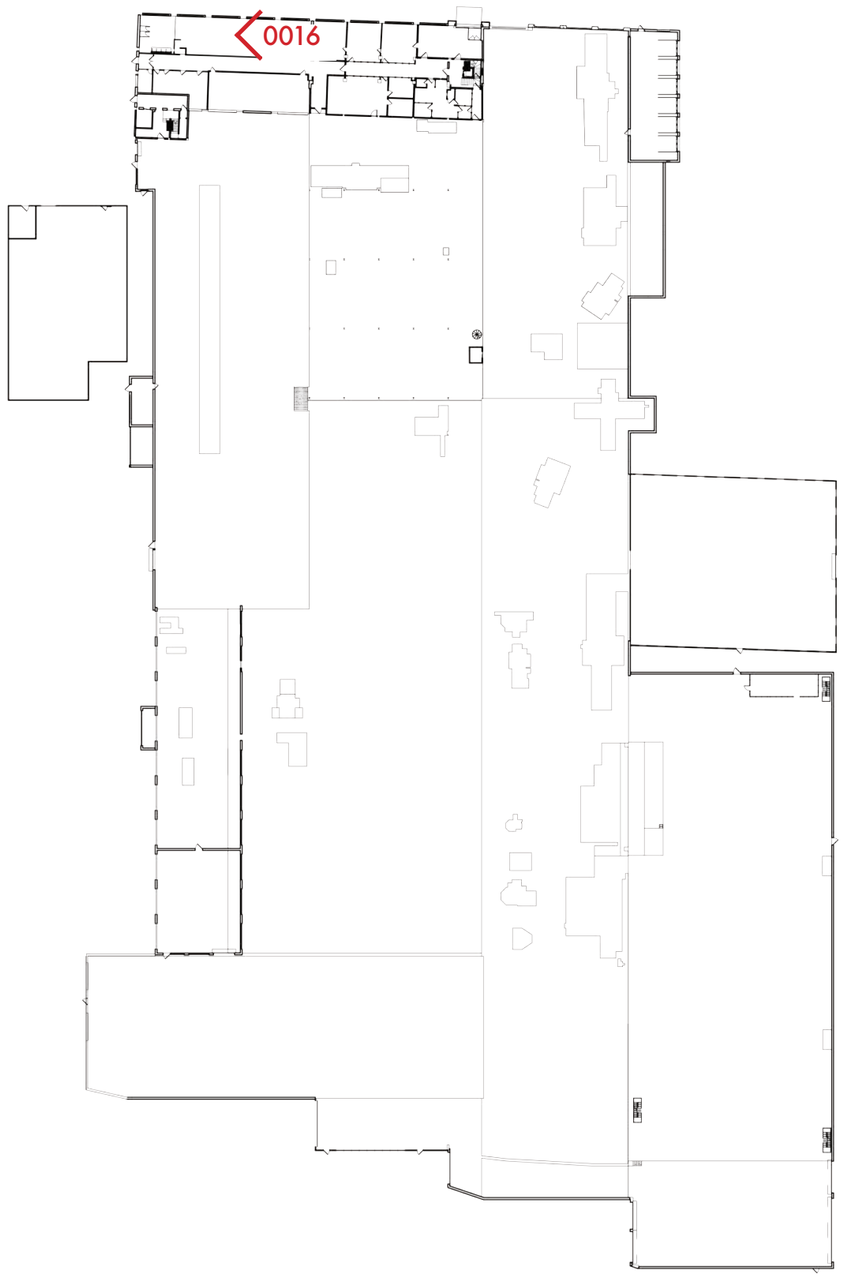
NIAGARA MACHINE & TOOL WORKS FACTORY

EXISTING CONDITIONS 2017

MAIN FACTORY BUILDING - INTERIOR



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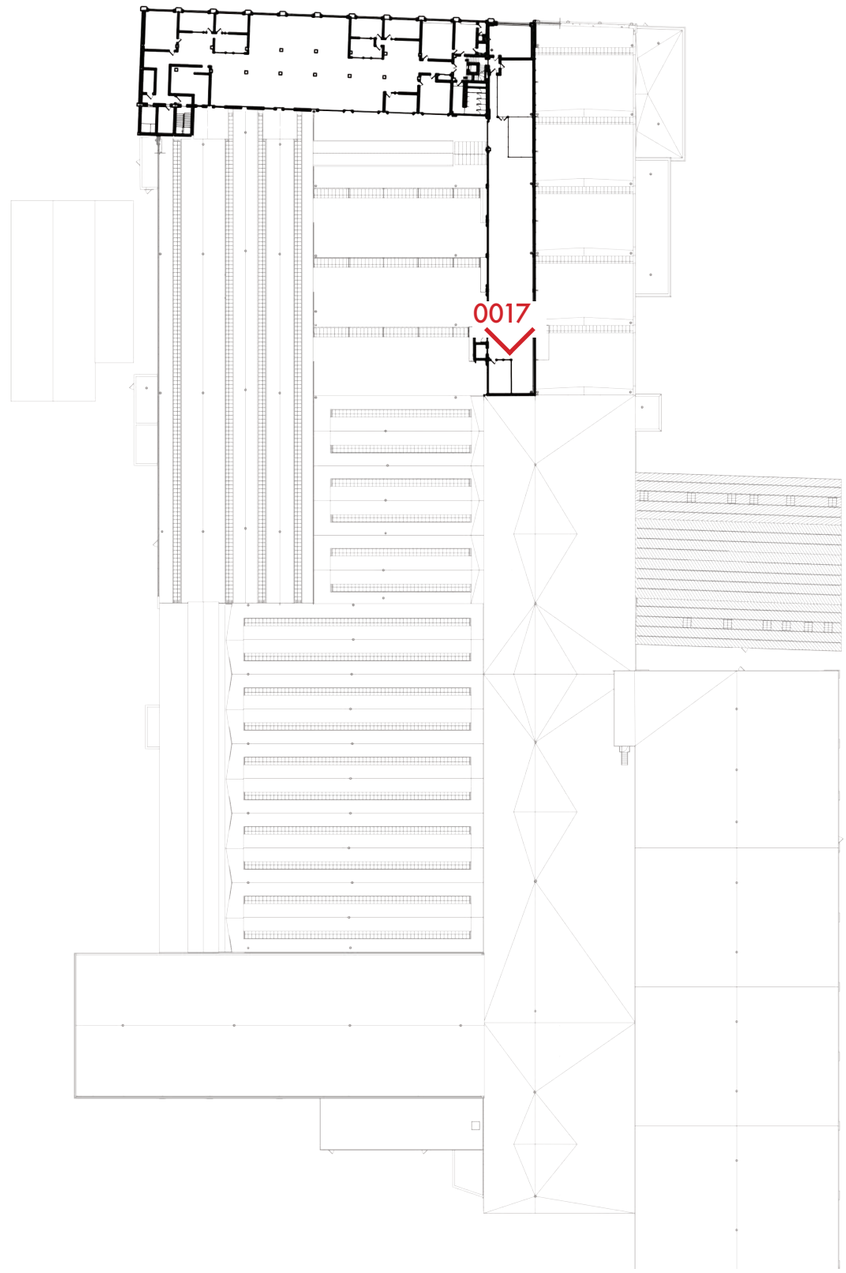
NIAGARA MACHINE & TOOL WORKS FACTORY

EXISTING CONDITIONS 2017

OFFICE BUILDING - FIRST FLOOR - INTERIOR



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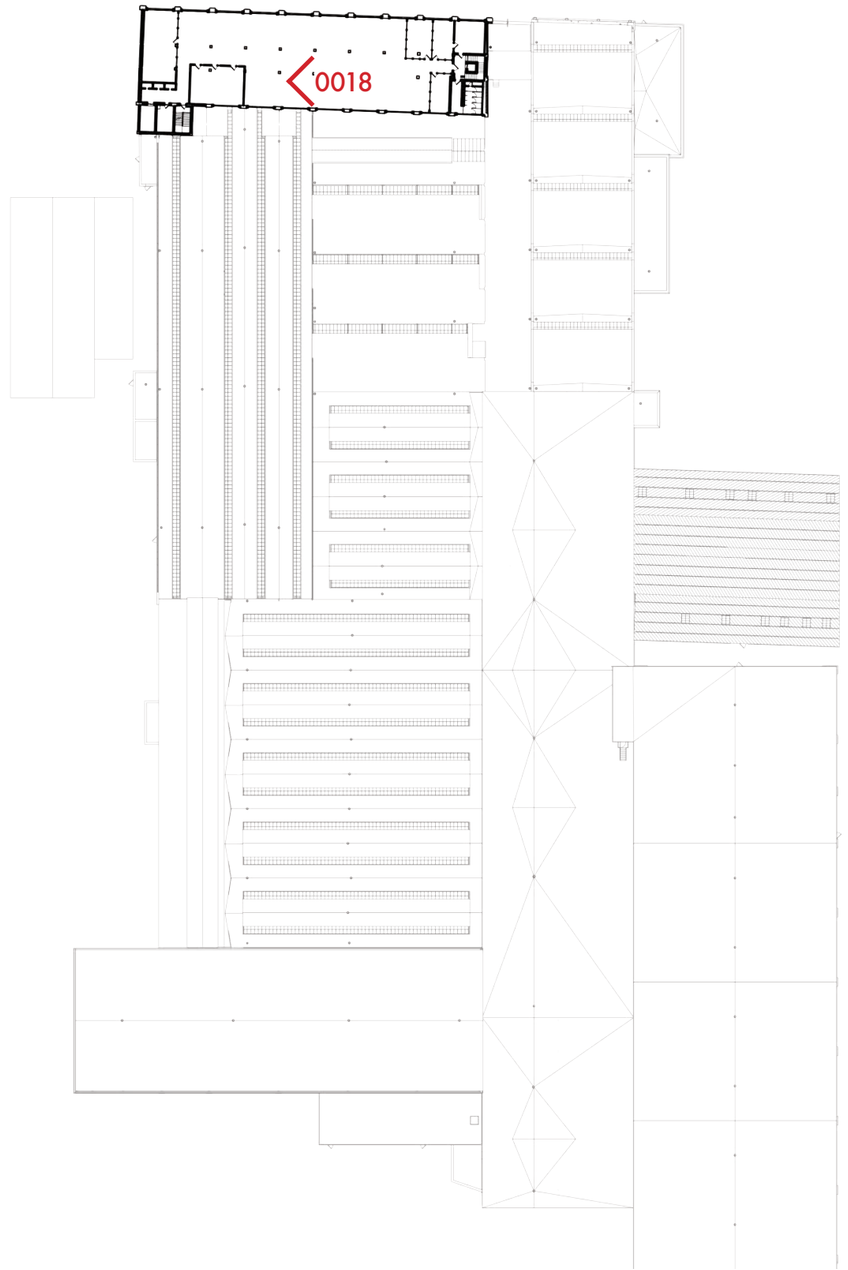
NIAGARA MACHINE & TOOL WORKS FACTORY

EXISTING CONDITIONS 2017

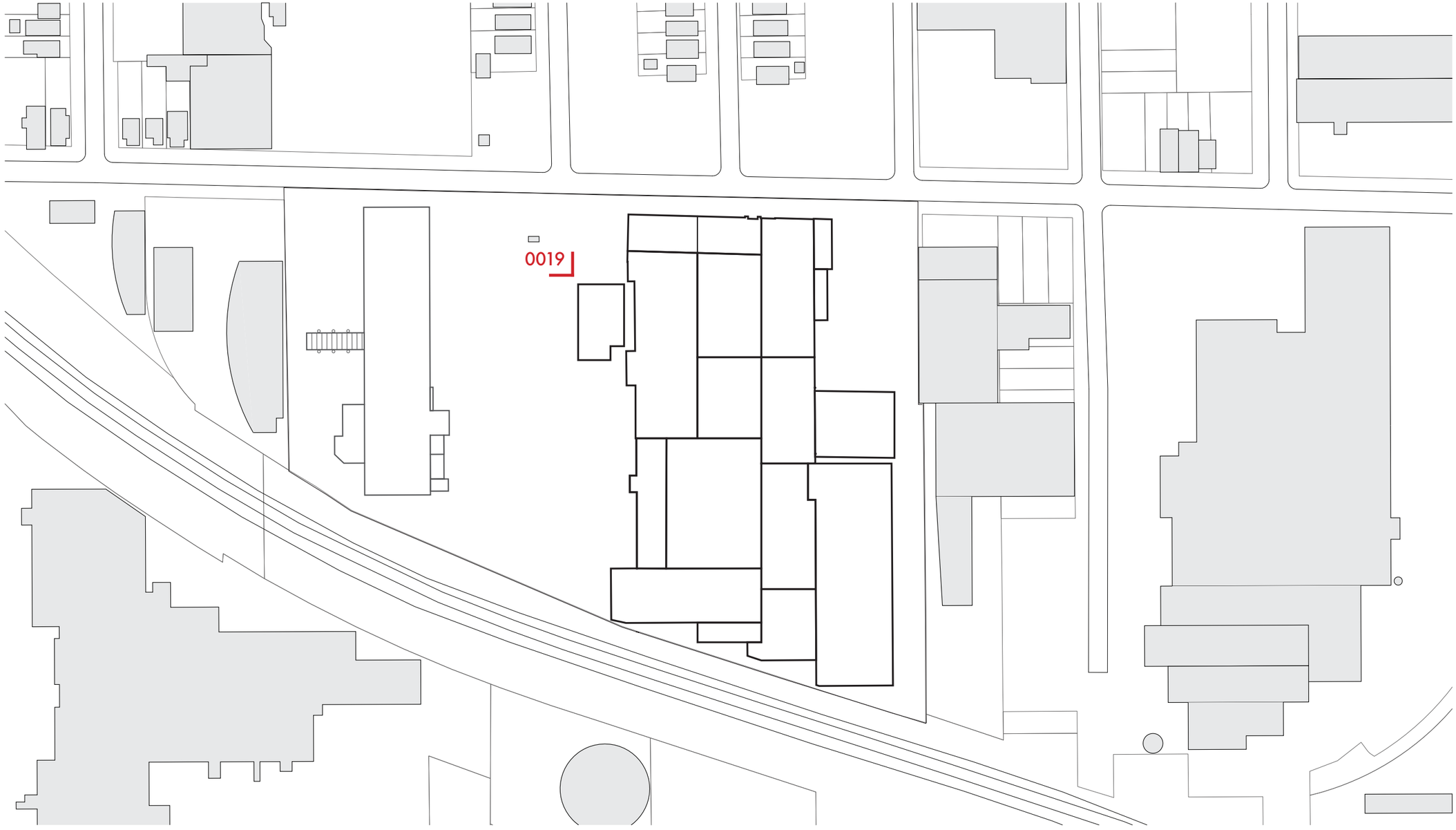
OFFICE BUILDING - SECOND FLOOR - INTERIOR



NIAGARA MACHINE & TOOL WORKS FACTORY

EXISTING CONDITIONS 2017

OFFICE BUILDING - FOURTH FLOOR - INTERIOR



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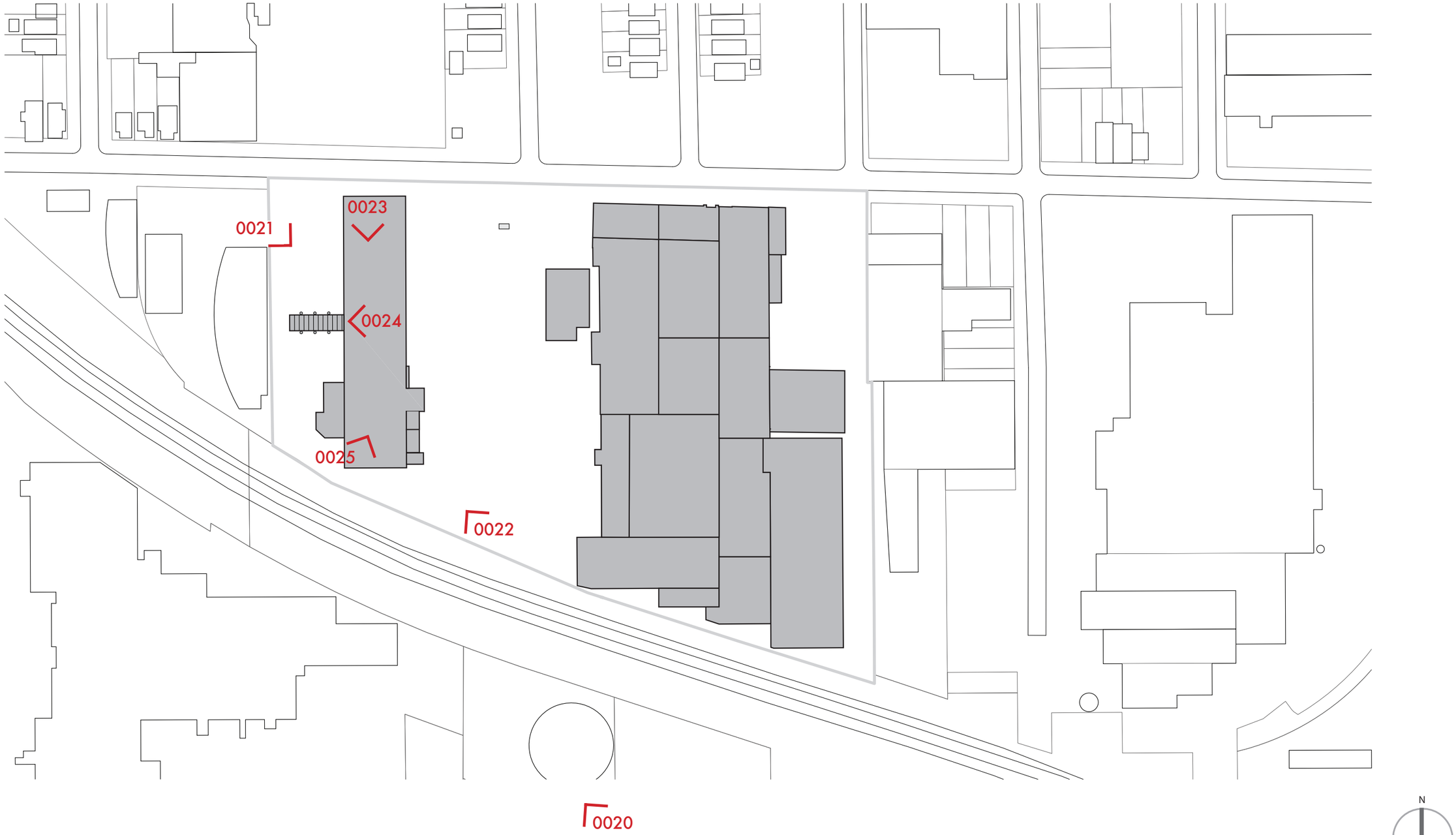
NIAGARA MACHINE & TOOL WORKS FACTORY

EXISTING CONDITIONS 2017

PATTERN SHED



NIAGARA MACHINE & TOOL WORKS FACTORY

EXISTING CONDITIONS 2017

METAL FABRICATING PLANT

Photo by Joe Cascio Photography, 2016

Appendix- Background Materials & Chronology of the Niagara Machine & Tool Works Factory

JANUARY 31, 2018

BUDC
Buffalo Urban Development Corporation

Buffalo Urban Development Corporation
95 Perry Street, Suite 404
Buffalo, New York 14203
716-856-6525
www.buffalourbandevelopment.com

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716-206-5100
www.watts-ae.com

Appendix- Background Materials & Chronology of the Niagara Machine & Tool Works Factory

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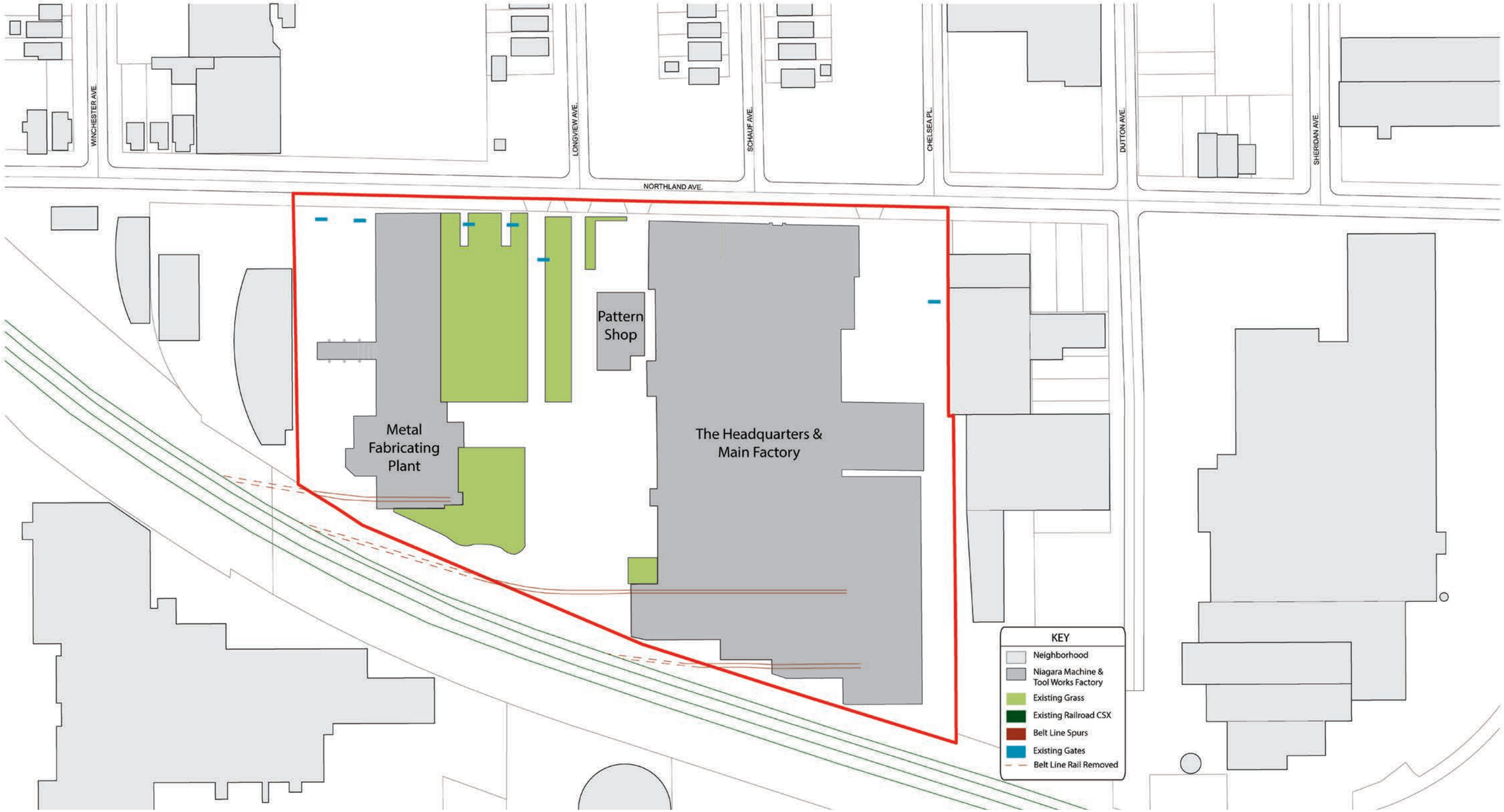
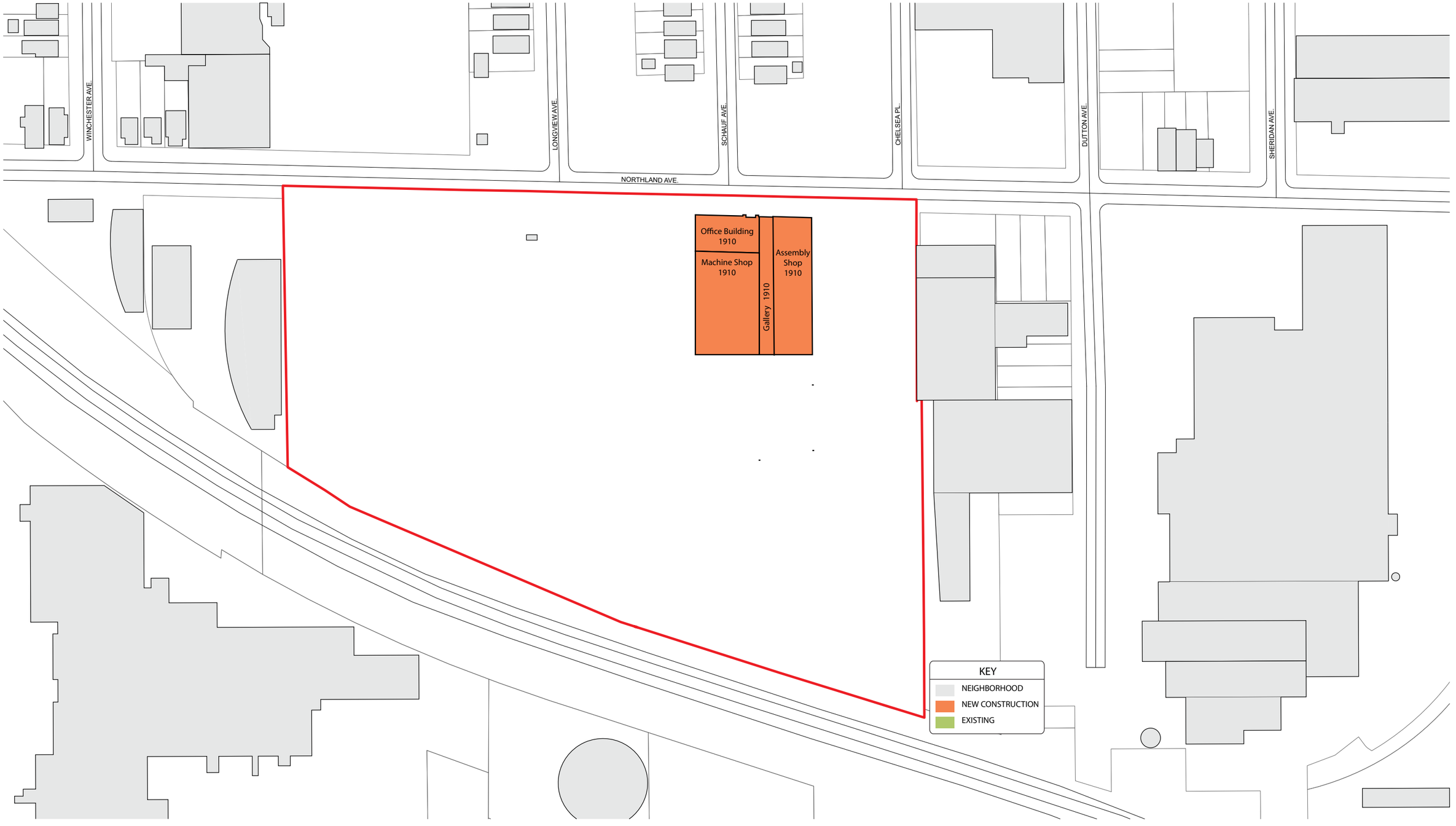
BUILDING CHRONOLOGY & SITE EVOLUTION


WINCHESTER AVE.
LONGVIEW AVE.
SCHAUF AVE.
CHELSEA PL.
DUTTON AVE.
SHERIDAN AVE.
NORTHLAND AVE.
Pattern Shop
Metal Fabricating Plant
The Headquarters & Main Factory
KEY
Neighborhood
Niagara Machine & Tool Works Factory
Existing Grass
Existing Railroad CSX
Belt Line Spurs
Existing Gates
Belt Line Rail Removed

4b



Niagara Machine & Tool Works Factory: Site Plan Evolution -1910: Original Building Construction

1910

Niagara Machine & Tool Works Factory: Site Plan Evolution - 1911: Foundry Construction

1911

Niagara Machine & Tool Works Factory: Site Plan Evolution - 1912: Office Building Addition & Iron Shed Construction

1912

WINCHESTER AVE.
LONGVIEW AVE.
SCHAUF AVE.
CHELSEA PL.
DUTTON AVE.
SHERIDAN AVE.
NORTHLAND AVE.

Office Building Addition 1912
Office Building 1910
Machine Shop 1910
Gallery 1910
Assembly Shop 1910
1913
Iron Shed 1912
Blacksmith Shop 1911

KEY
NEIGHBORHOOD
NEW CONSTRUCTION
EXISTING

Niagara Machine & Tool Works Factory: Site Plan Evolution - 1913: Pattern Shed Construction

1913

Niagara Machine & Tool Works Factory: Site Plan Evolution - 1920: Machine Shop Addition I

1920

Niagara Machine & Tool Works Factory: Site Plan Evolution - 1927: Machine Shop Addition II

1927

Niagara Machine & Tool Works Factory: Site Plan Evolution - 1946: Machine Shop Addition & Garage Addition

1946

Niagara Machine & Tool Works Factory: Site Plan Evolution - 1953: 631 Northland - Metal Fabricating Plant

1953

Niagara Machine & Tool Works Factory: Site Plan Evolution - 1956: Machine Shop Addition III

1956

Niagara Machine & Tool Works Factory: Site Plan Evolution - 1964: Assembly Building Addition

Niagara Machine & Tool Works Factory: Site Plan Evolution - 1978: Garage Addition

1978

Niagara Machine & Tool Works Factory: Site Plan Evolution - 1981: Assembly Building Addition

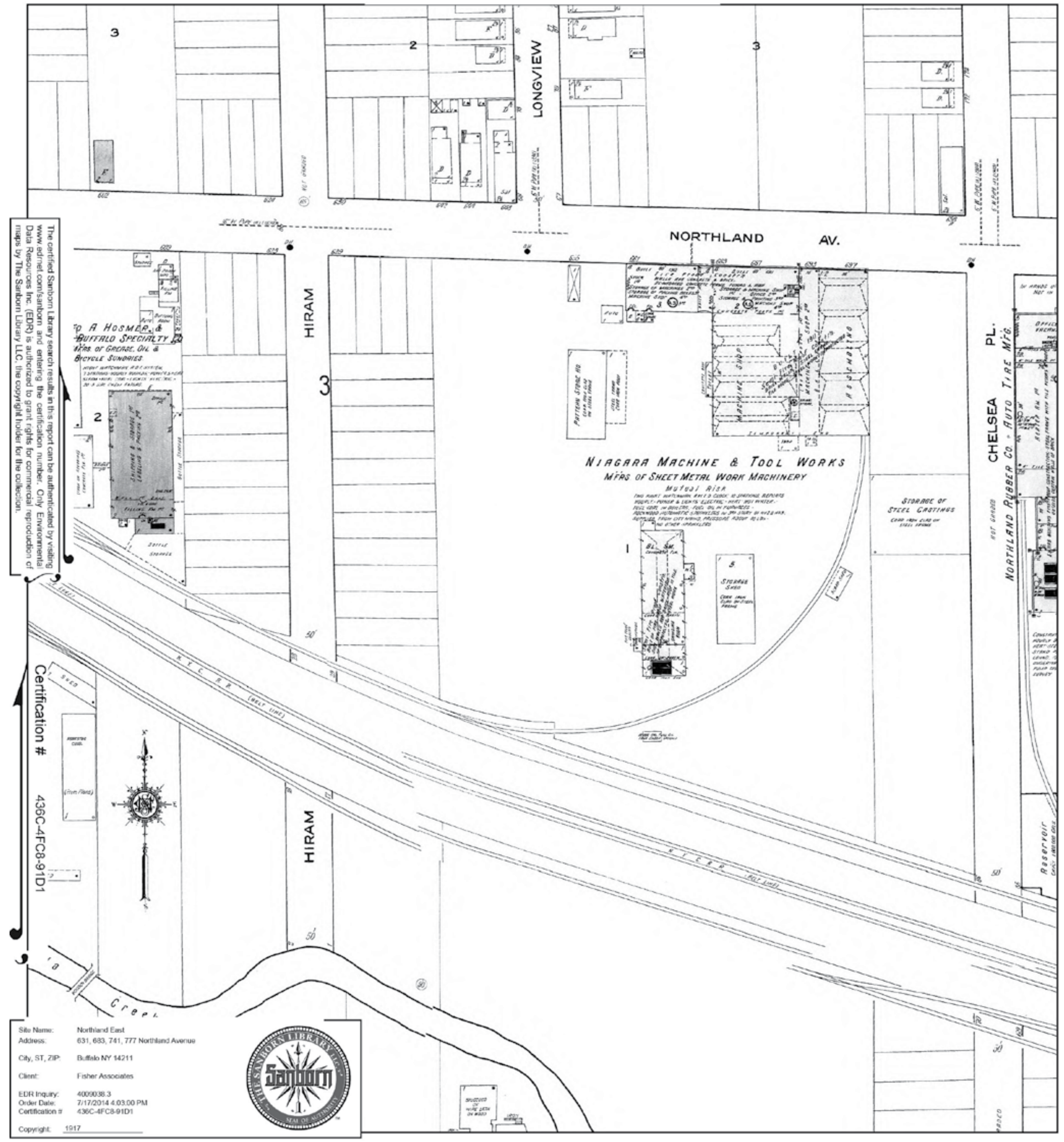
1981

Niagara Machine & Tool Works Factory: Site Plan Evolution - 2017

2017

SANBORN MAPS

1917 Certified Sanborn Map



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Outlined areas indicate map sheets within the collection.

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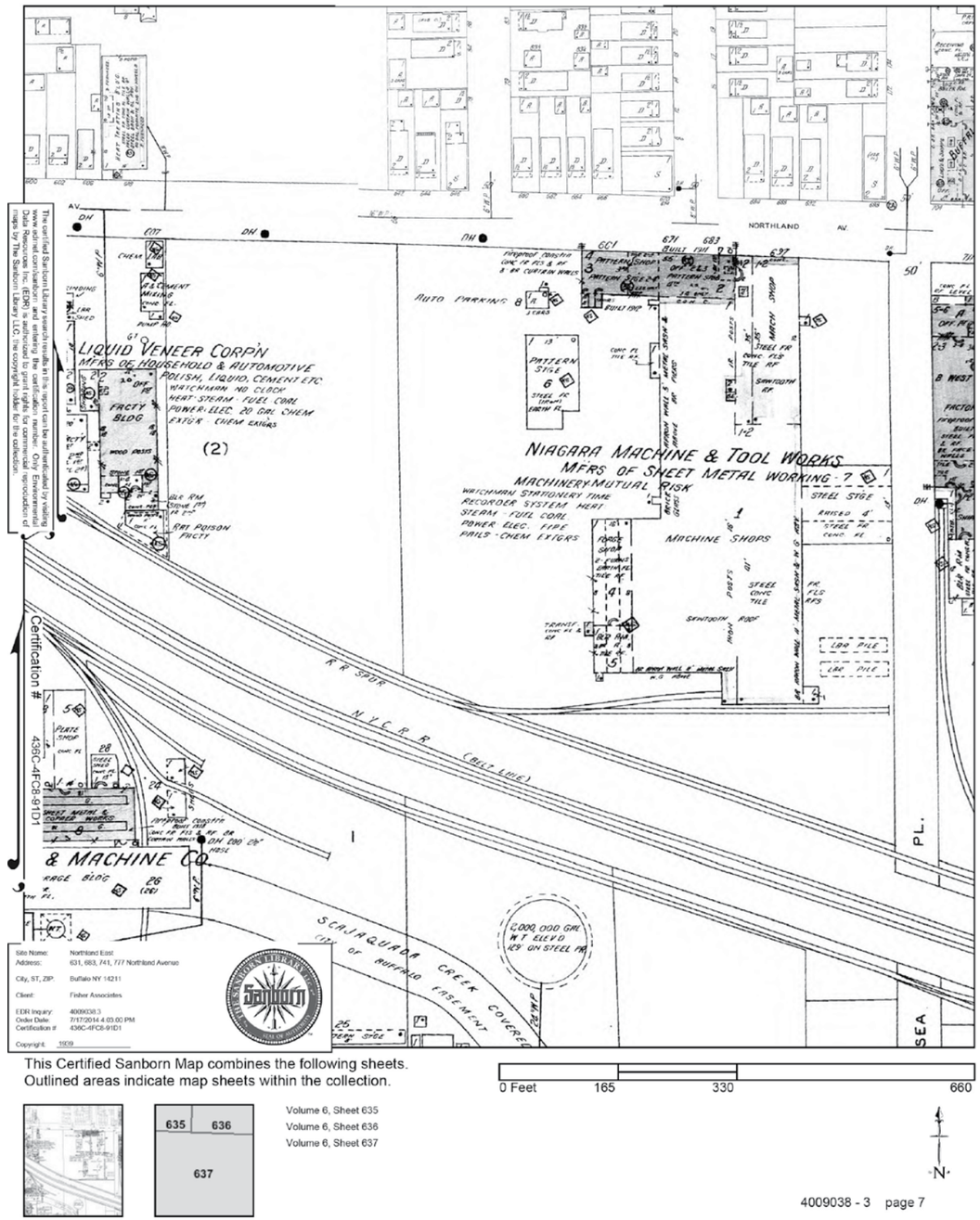
Volume 6, Sheet 553
Volume 6, Sheet 554
Volume 6, Sheet 555
Volume 6, Sheet 556

4009038 - 3 page 8

1939 Certified Sanborn Map



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Volume 6, Sheet 636
Volume 6, Sheet 637

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N

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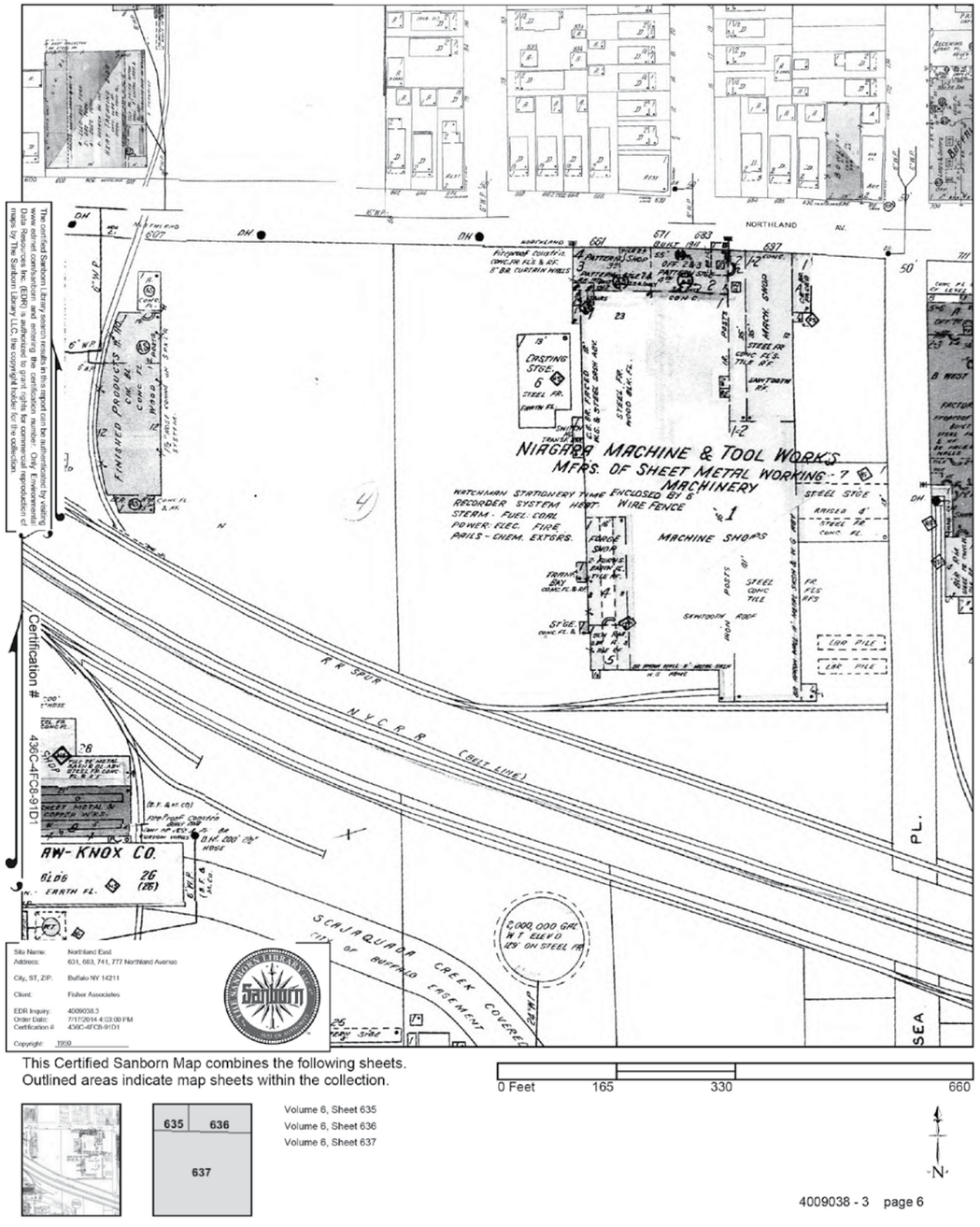
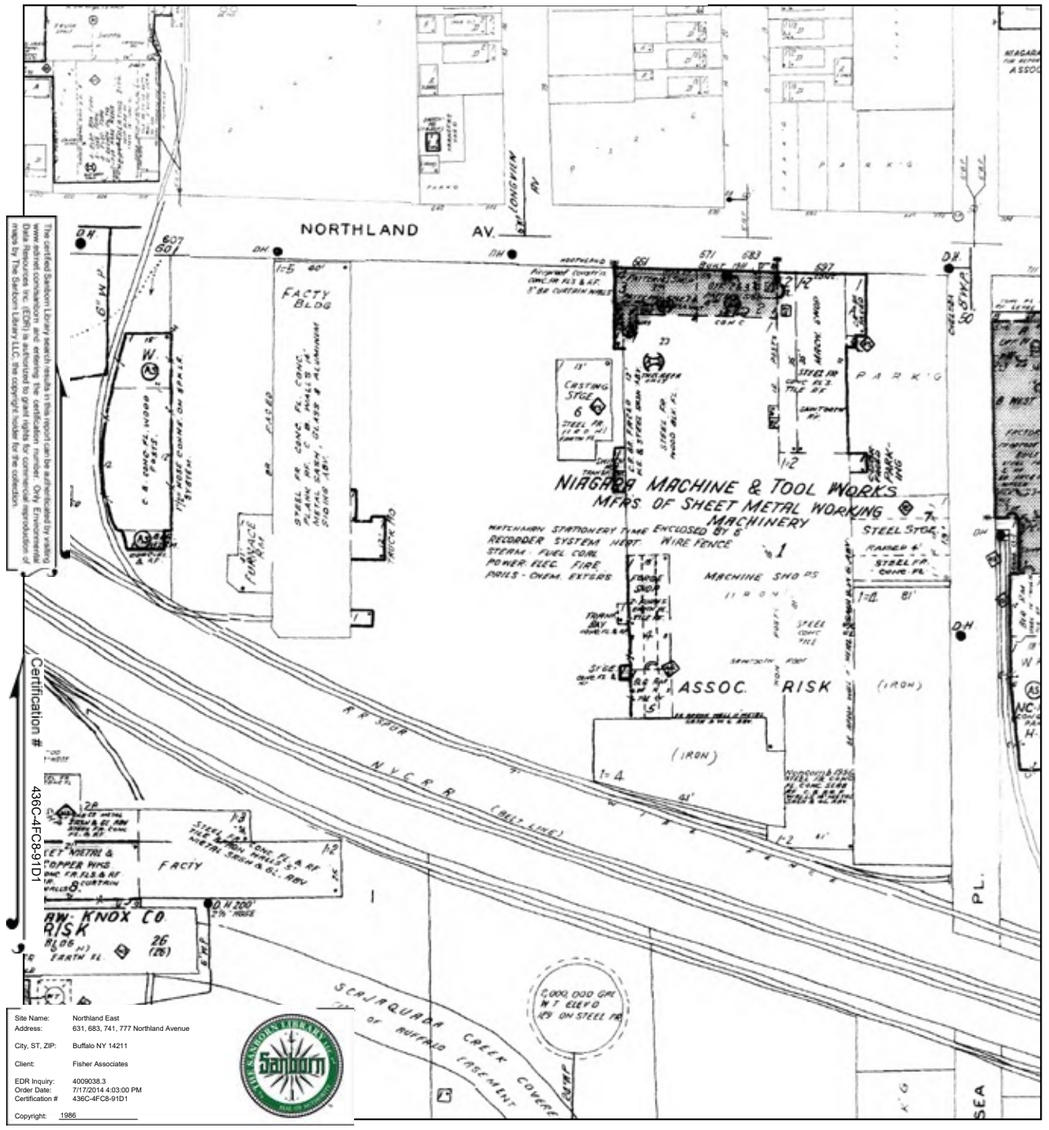
1950 Certified Sanborn Map



4009038 - 3 page 6

1986 Certified Sanborn Map



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Certification # 436C-4FC8-91D1

Site Name: Northland East
Address: 631, 683, 741, 777 Northland Avenue
City, ST, ZIP: Buffalo NY 14211
Client: Fisher Associates
EDR Inquiry: 4009038.3
Order Date: 7/17/2014 4:03:00 PM
Certification #: 436C-4FC8-91D1
Copyright: 1986

This Certified Sanborn Map combines the following sheets.
Outlined areas indicate map sheets within the collection.

Volume 6, Sheet 635
Volume 6, Sheet 636
Volume 6, Sheet 637

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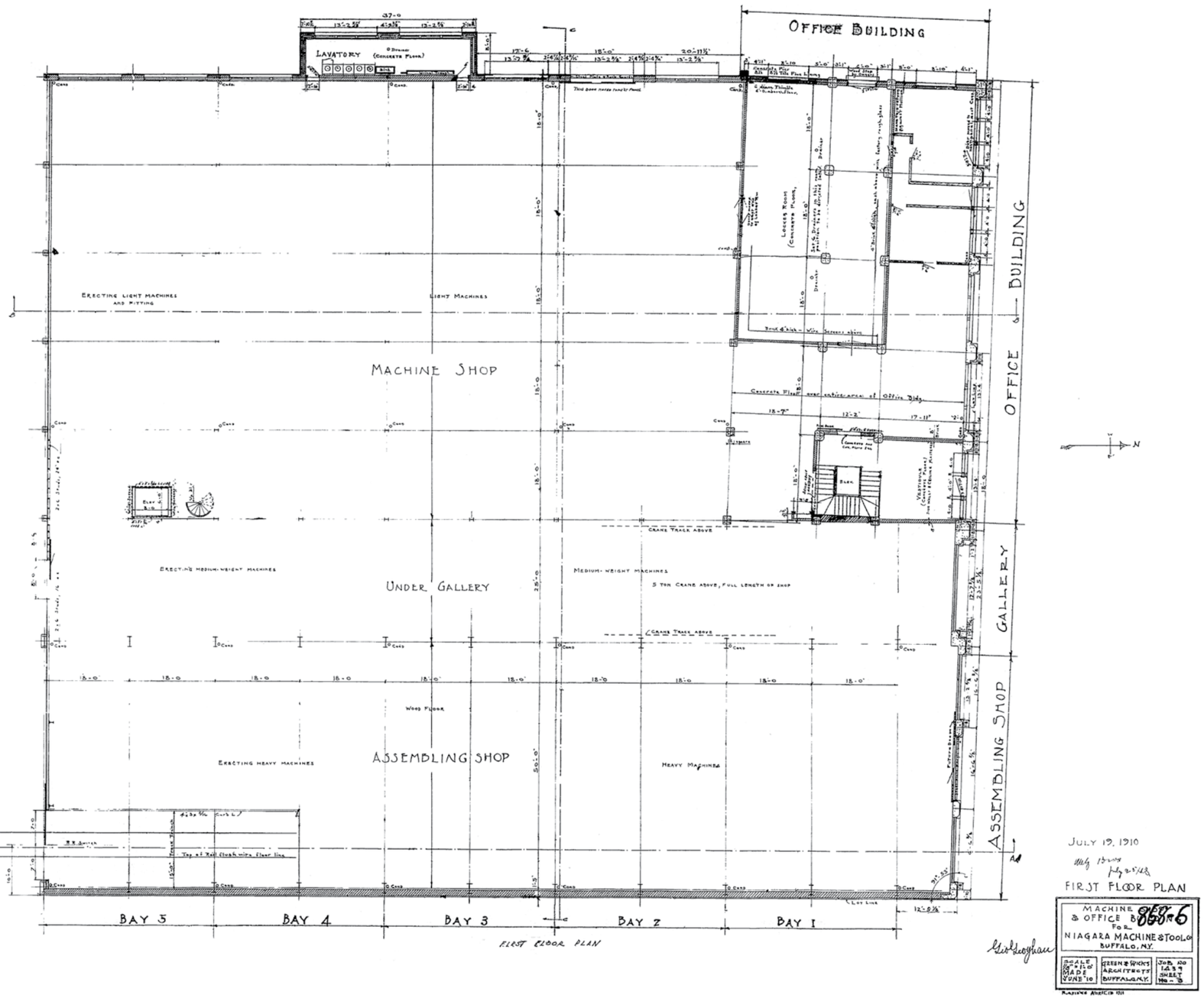
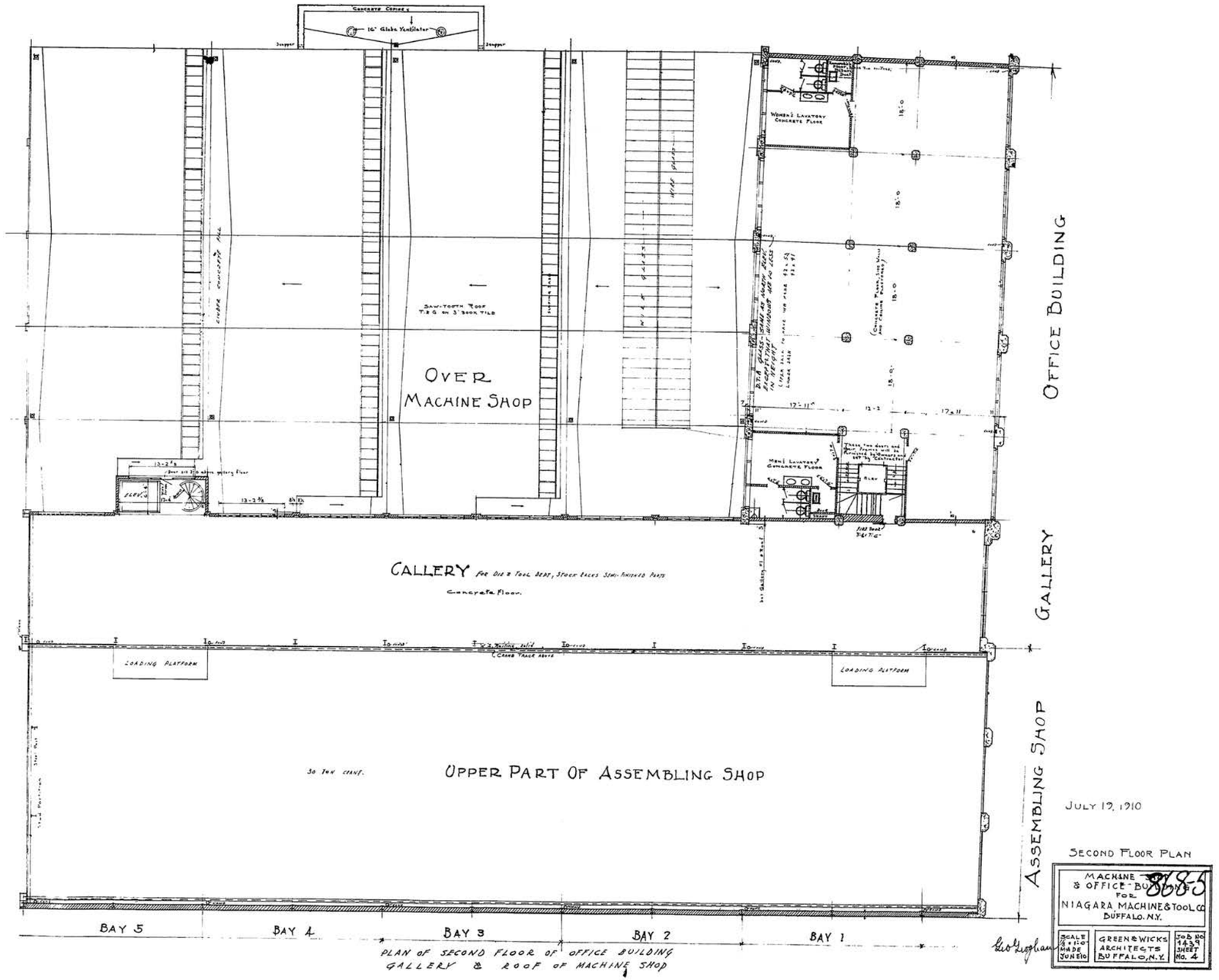
4009038 - 3 page 5

683 NORTHLAND AVENUE HISTORIC DRAWINGS

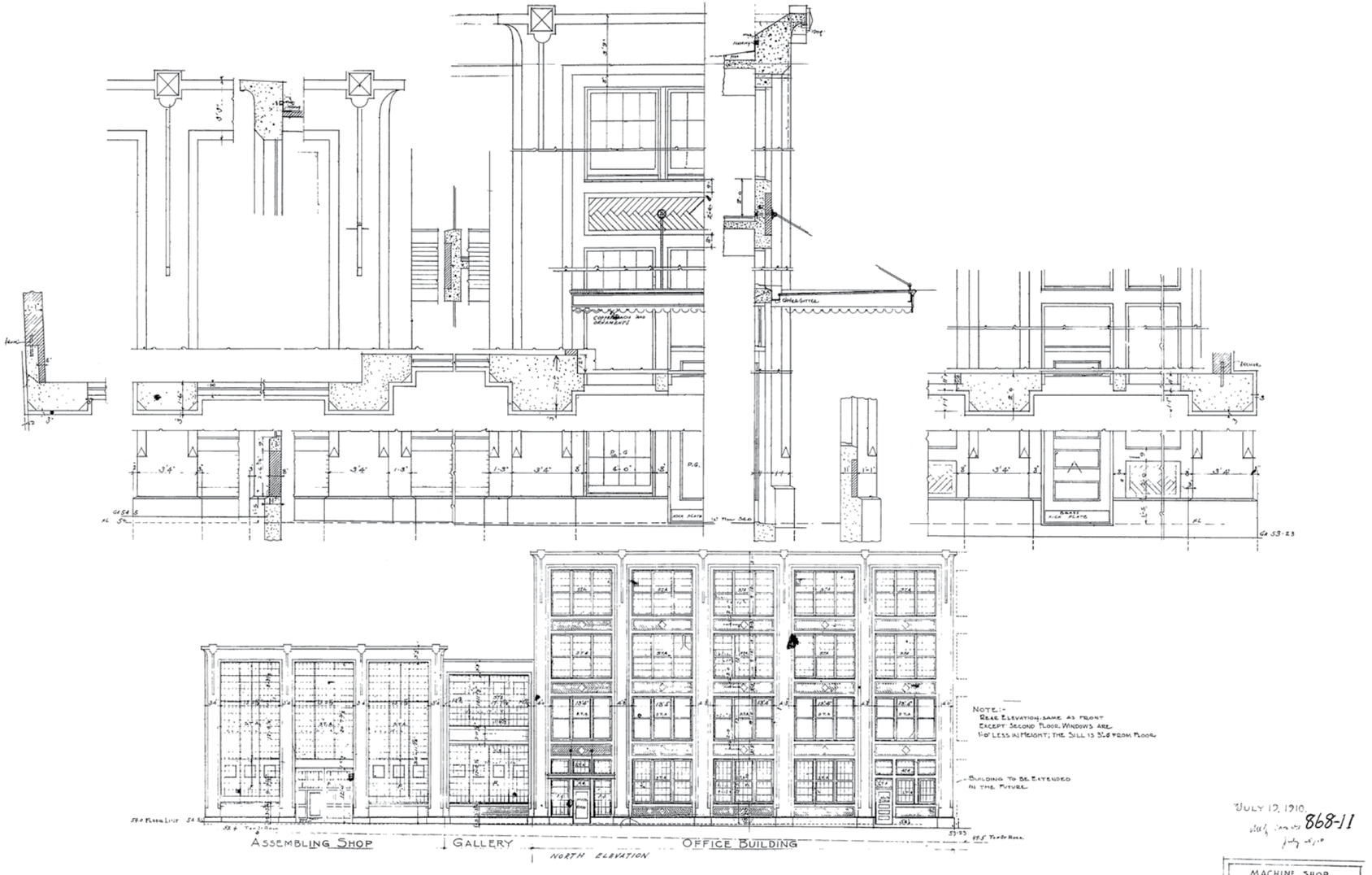
1910-1981


OFFICE BUILDING
LAVATORY
(CONCRETE FLOOR)
ERECTING LIGHT MACHINES AND FITTING
LIGHT MACHINES
MACHINE SHOP
OFFICE BUILDING
GALLERY
ASSEMBLING SHOP
UNDER GALLERY
ERECTING MEDIUM-WEIGHT MACHINES
MEDIUM-WEIGHT MACHINES
5 TON CRANE ABOVE, FULL LENGTH OF SHOP
CRANE TRACK ABOVE
ERECTING HEAVY MACHINES
HEAVY MACHINES
BAY 5
BAY 4
BAY 3
BAY 2
BAY 1
FIRST FLOOR PLAN
JULY 19, 1910
FIRST FLOOR PLAN
MACHINE & OFFICE BLDG. FOR NIAGARA MACHINE & TOOL CO BUFFALO, N.Y.
GREEN & WICKS ARCHITECTS BUFFALO, N.Y.

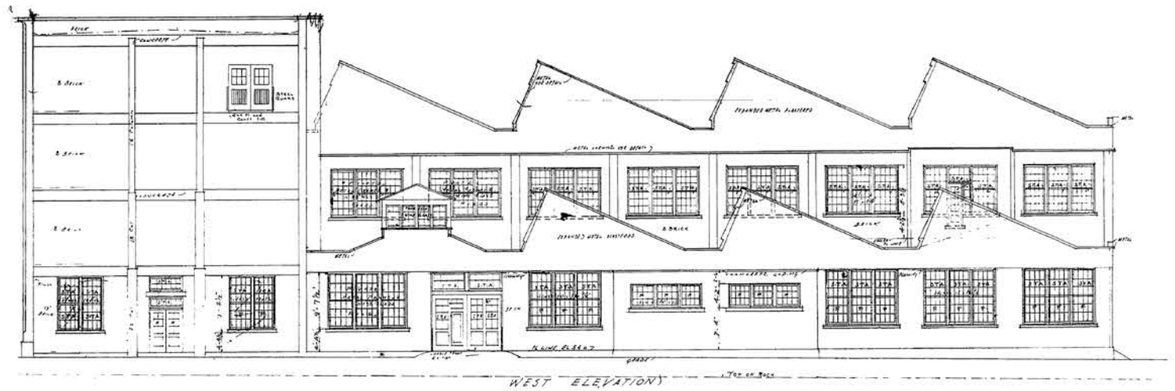


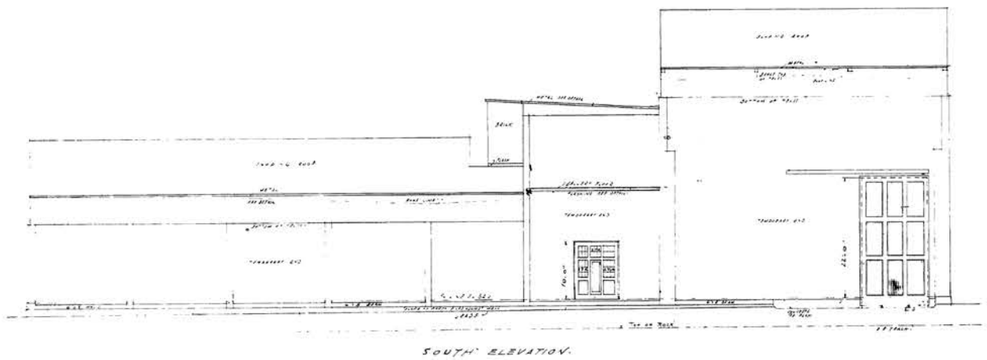
Plan of Second Floor of Office Building Gallery & Roof of Machine Shop

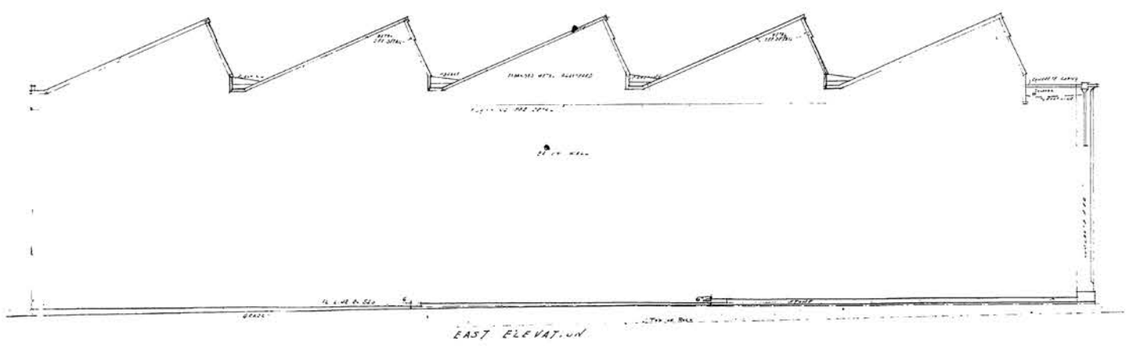
Niagara Machine & Tool Works Factory: Construction Drawings-1910: Machine Shop & Office Building Second Floor Plan
Green & Wicks Architects



Niagara Machine & Tool Works Factory: Construction Drawings-1910: Machine Shop & Office Building North Elevation
Green & Wicks Architects





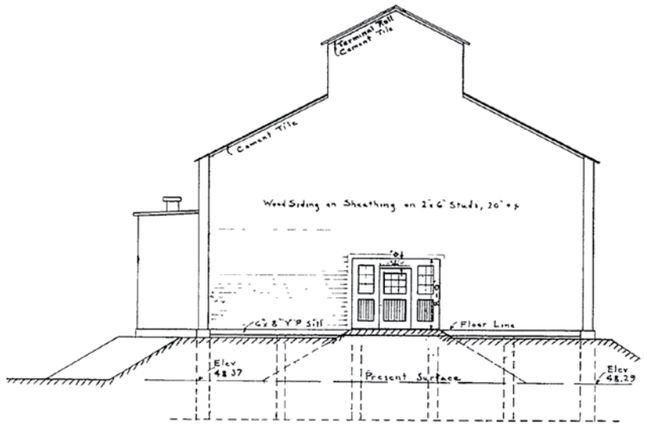


868~20

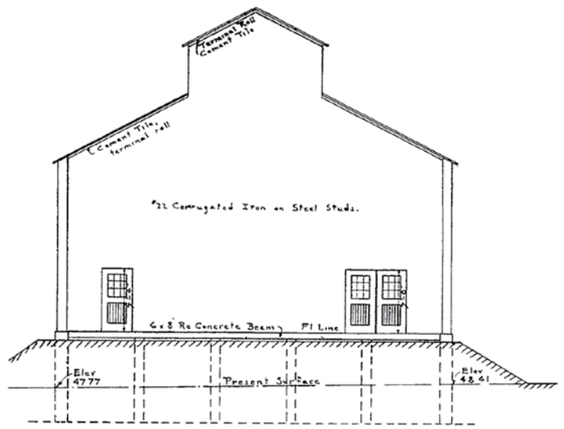
MACHINE SHOP
& OFFICE BUILDING
FOR
NIAGARA MACHINE & TOOL CO
BUFFALO N.Y

SCALE	GREEN & WICKS ARCHITECTS BUFFALO, N.Y.	DRG NO. 1431 SHEET NO. 7
1/8"=1'0" MADE JUNE'10		

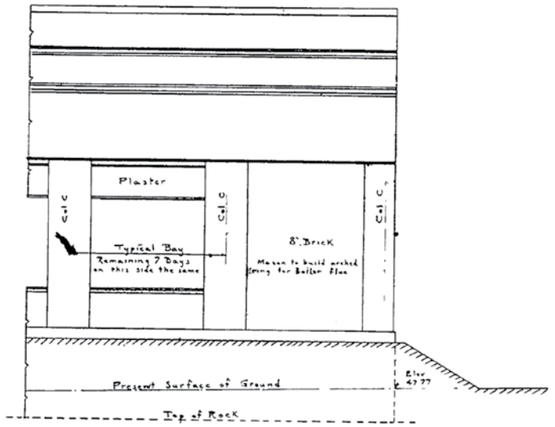
Niagara Machine & Tool Works Factory: Construction Drawings-1910: Machine Shop & Office Building South, East, & West Elevation
Green & Wicks Architects



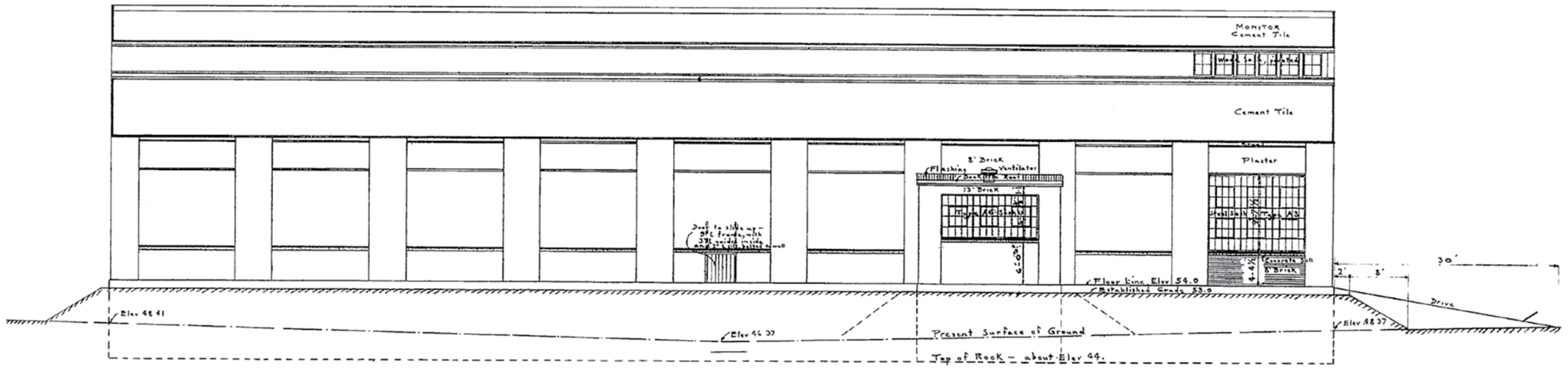
NORTH ELEVATION



SOUTH ELEVATION



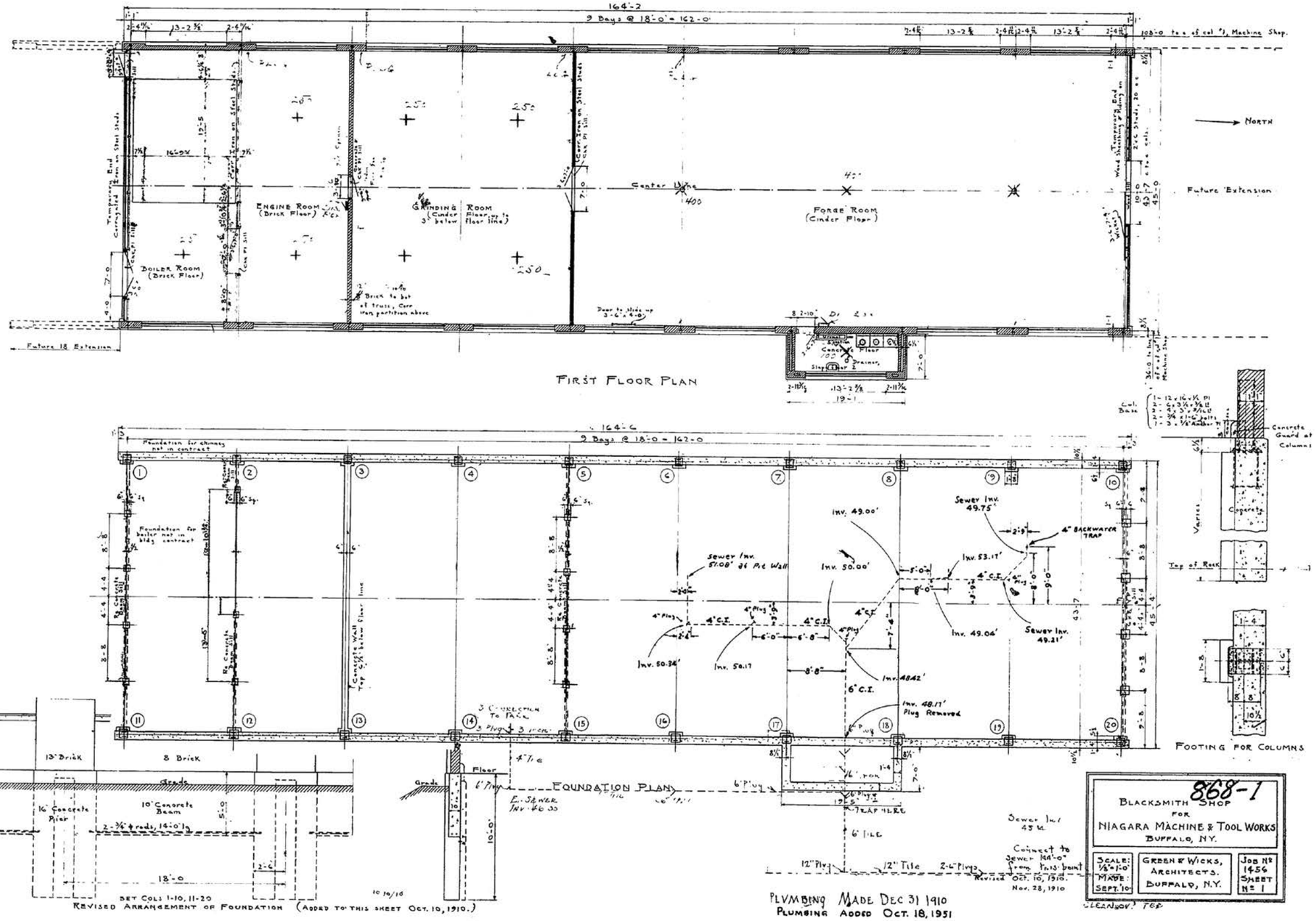
PART-WEST ELEVATION



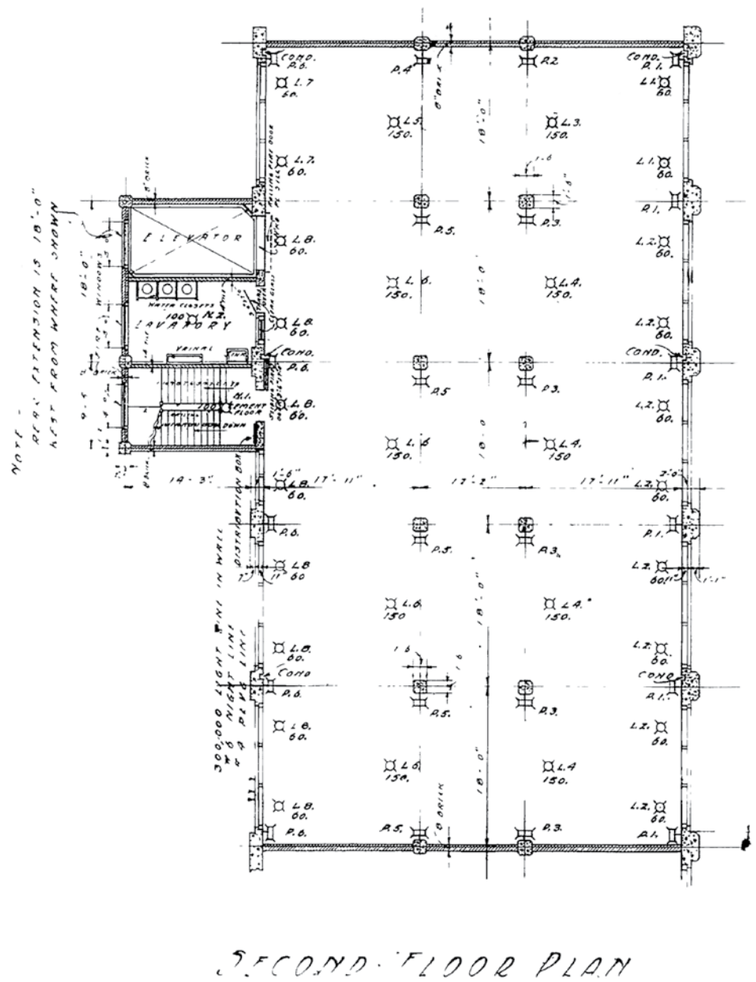
EAST ELEVATION.

BLACKSMITH SHOP 868-2
FOR
NIAGARA MACHINE & TOOL WORKS
BUFFALO, N.Y.

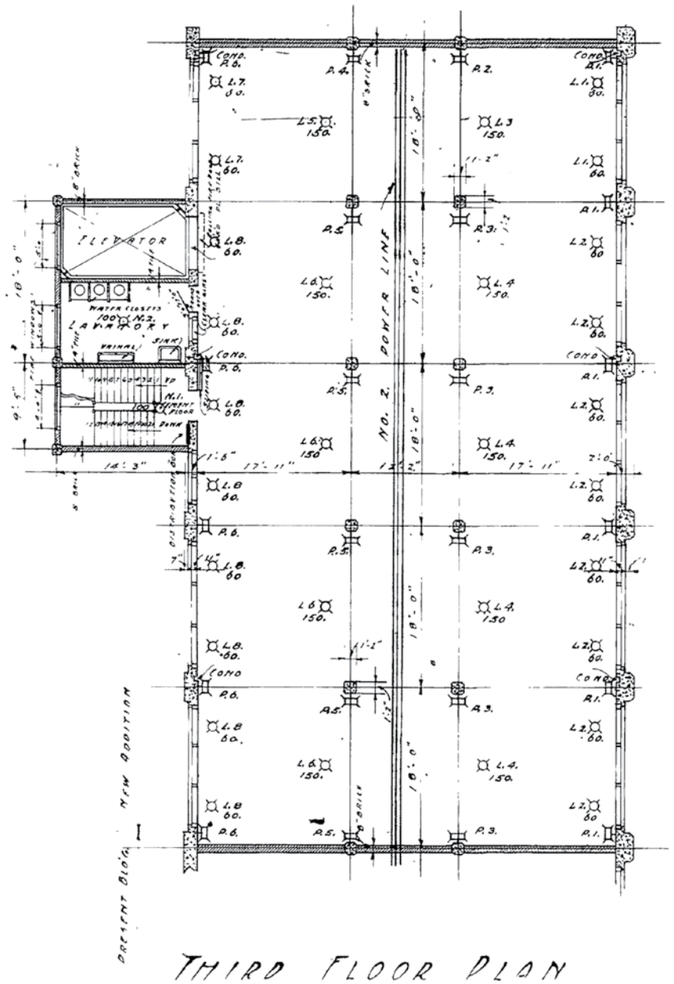
SCALE: 1/8"=1'0" MADE: SEPT. '10	GREEN & WICKS, ARCHITECTS. BUFFALO, N.Y.	JOB NO 1956 SHEET NO 3



Niagara Machine & Tool Works Factory: Construction Drawings-1912: Office Building Addition Foundation & First Floor Plans
Green & Wicks Architects



SECOND FLOOR PLAN

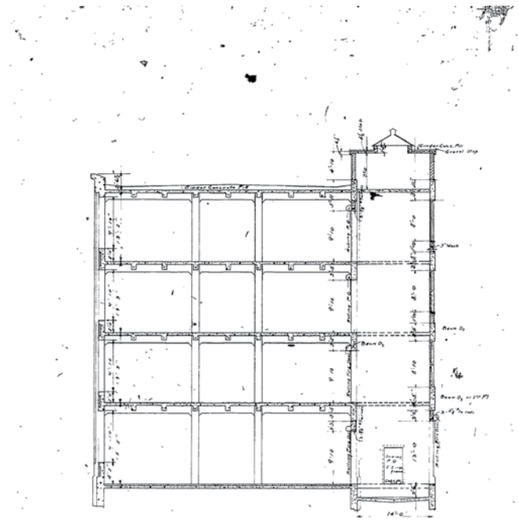


THIRD FLOOR PLAN

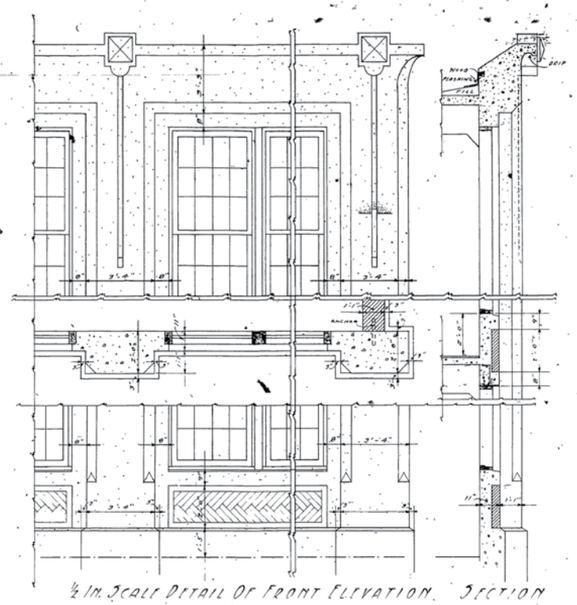
Note:-
LIGHTS PUT ON
OCT. 3 1911.

868-9

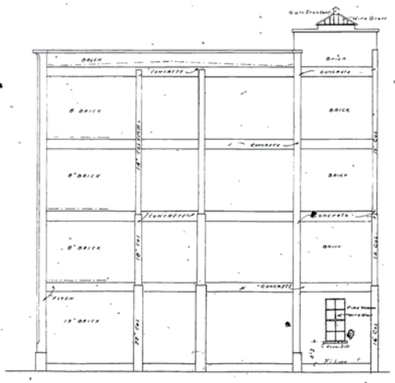
SECOND & THIRD FLOOR PLANS
NIAGARA MACHINE & TOOL CO.
NORTHLAND AVE. ADDITION
BUFFALO N.Y.
GREEN & WICKS ARCHITECTS BUFFALO N.Y.



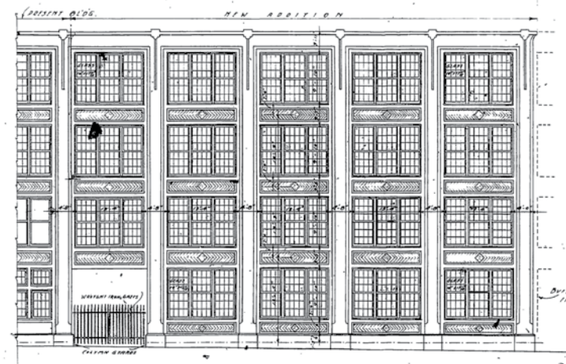
CROSS SECTION



½ IN. SCALE DETAIL OF FRONT ELEVATION. SECTION

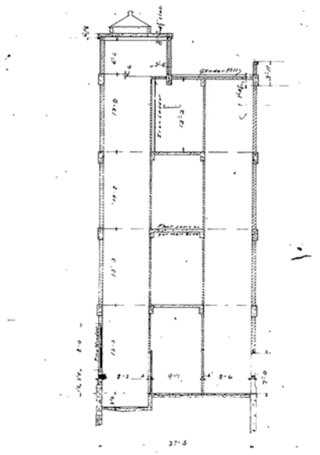


WEST ELEVATION

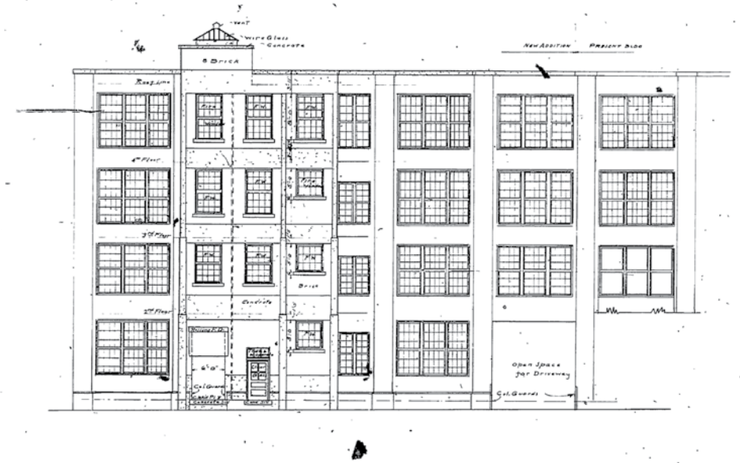


FRONT ELEVATION

Niagara Machine & Tool Works Factory: Construction Drawings-1912: Office Building Addition North & West elevation
Green & Wicks Architects

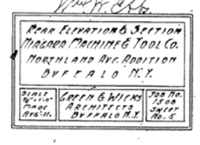


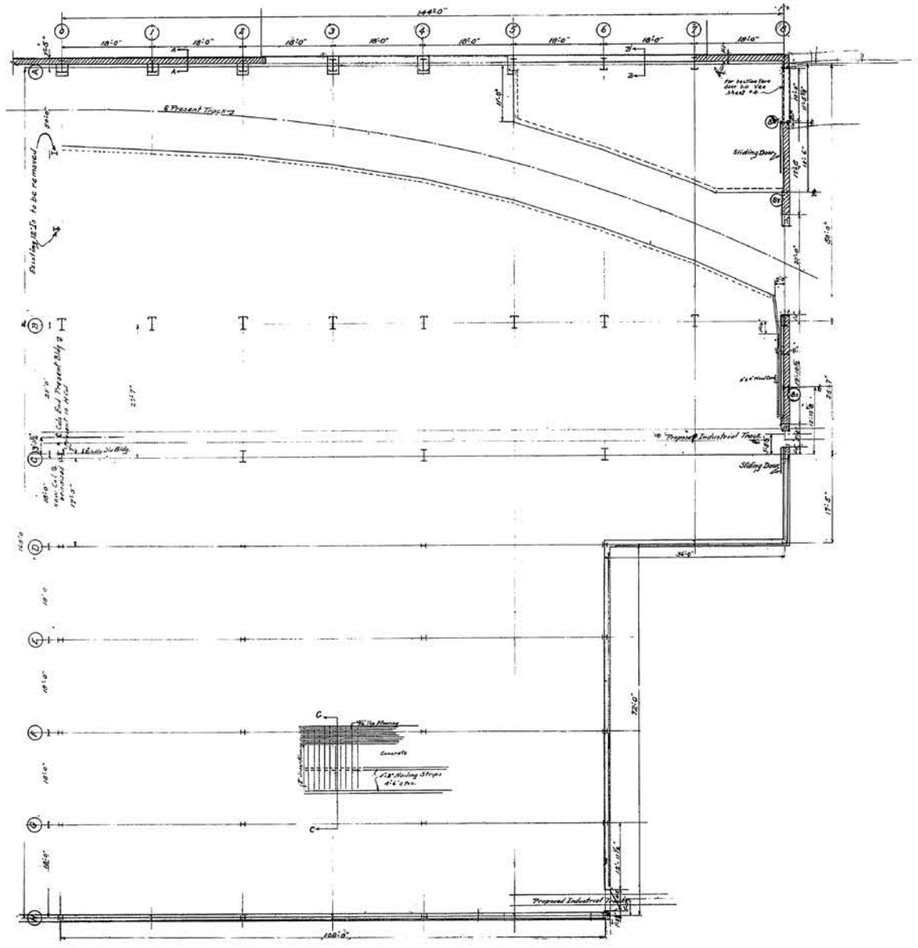
SECTION THRO ELEVATOR HOUSE

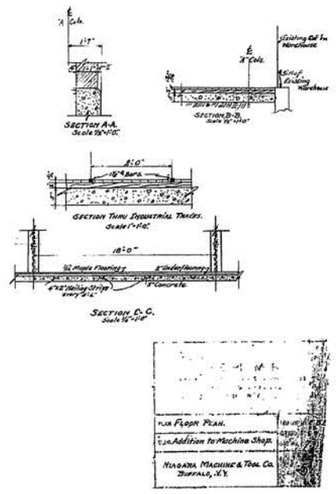


REAR ELEVATION

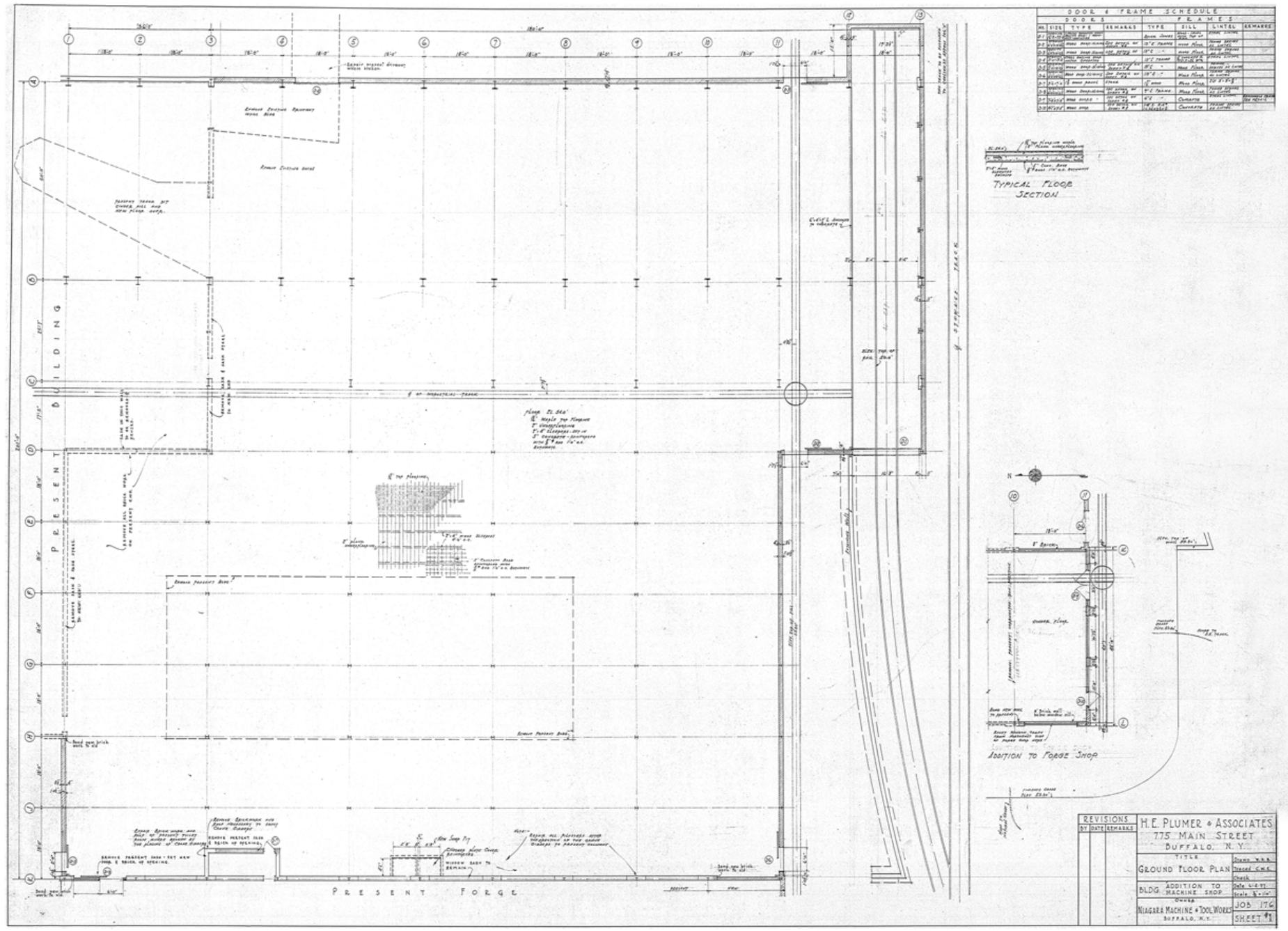
868-27

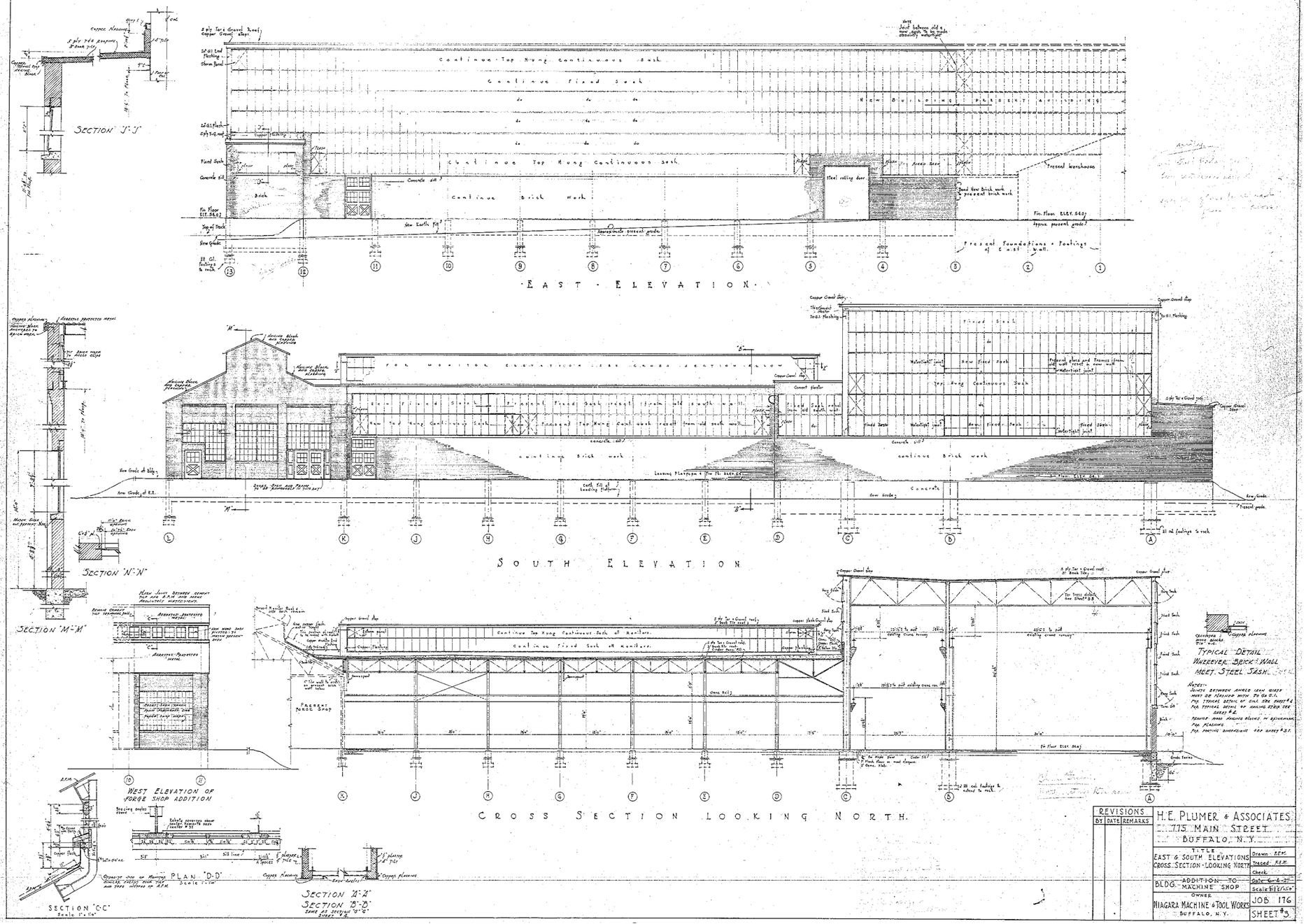




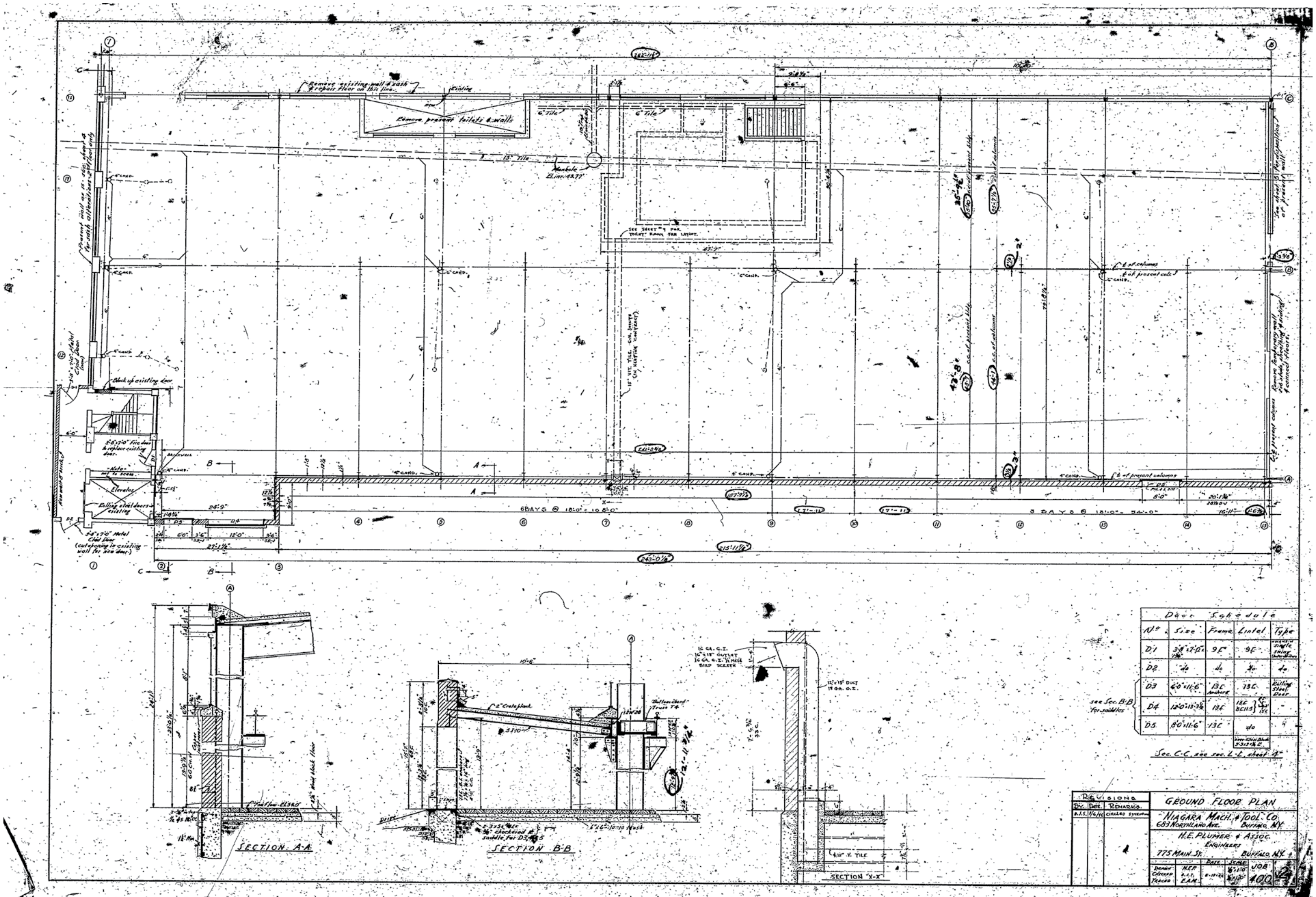


Niagara Machine & Tool Works Factory: Construction Drawings-1920: Machine Shop Addition Floor Plan
H.E. Plumer & Associates

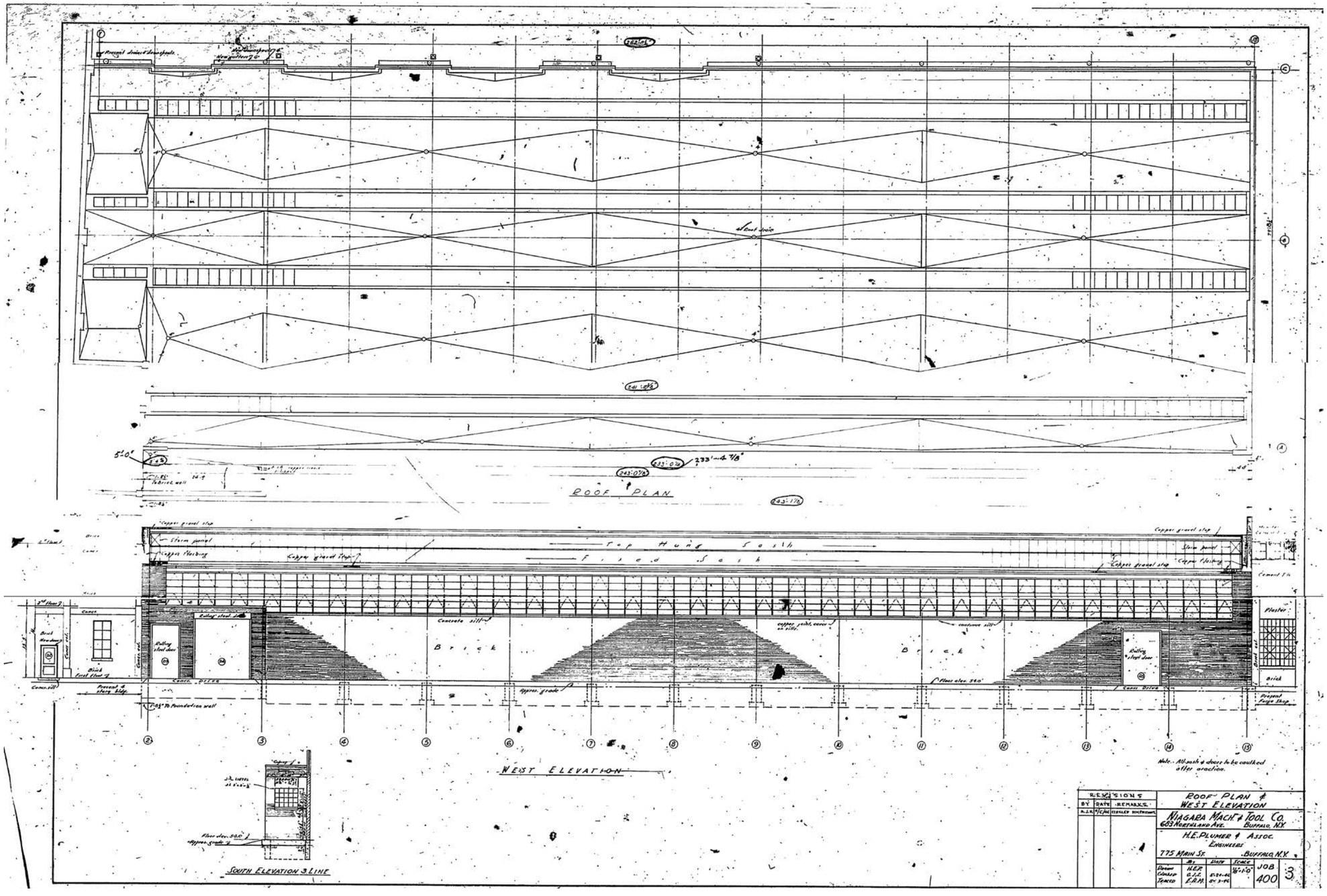

DOOR & FRAME SCHEDULE
DOORS
FRAMES
NO. SIZE TYPE REMARKS TYPE SILL LINTEL REMARKS
PRESENT FORGE
ADDITION TO FORGE SHOP
TYPICAL FLOOR SECTION
REVISIONS
BY DATE REMARKS
H.E. PLUMER & ASSOCIATES
775 MAIN STREET
BUFFALO, N.Y.
TITLE
GROUND FLOOR PLAN
BLDG. ADDITION TO MACHINE SHOP
OWNER
NIAGARA MACHINE & TOOL WORKS
BUFFALO, N.Y.
JOB 176
SHEET #1



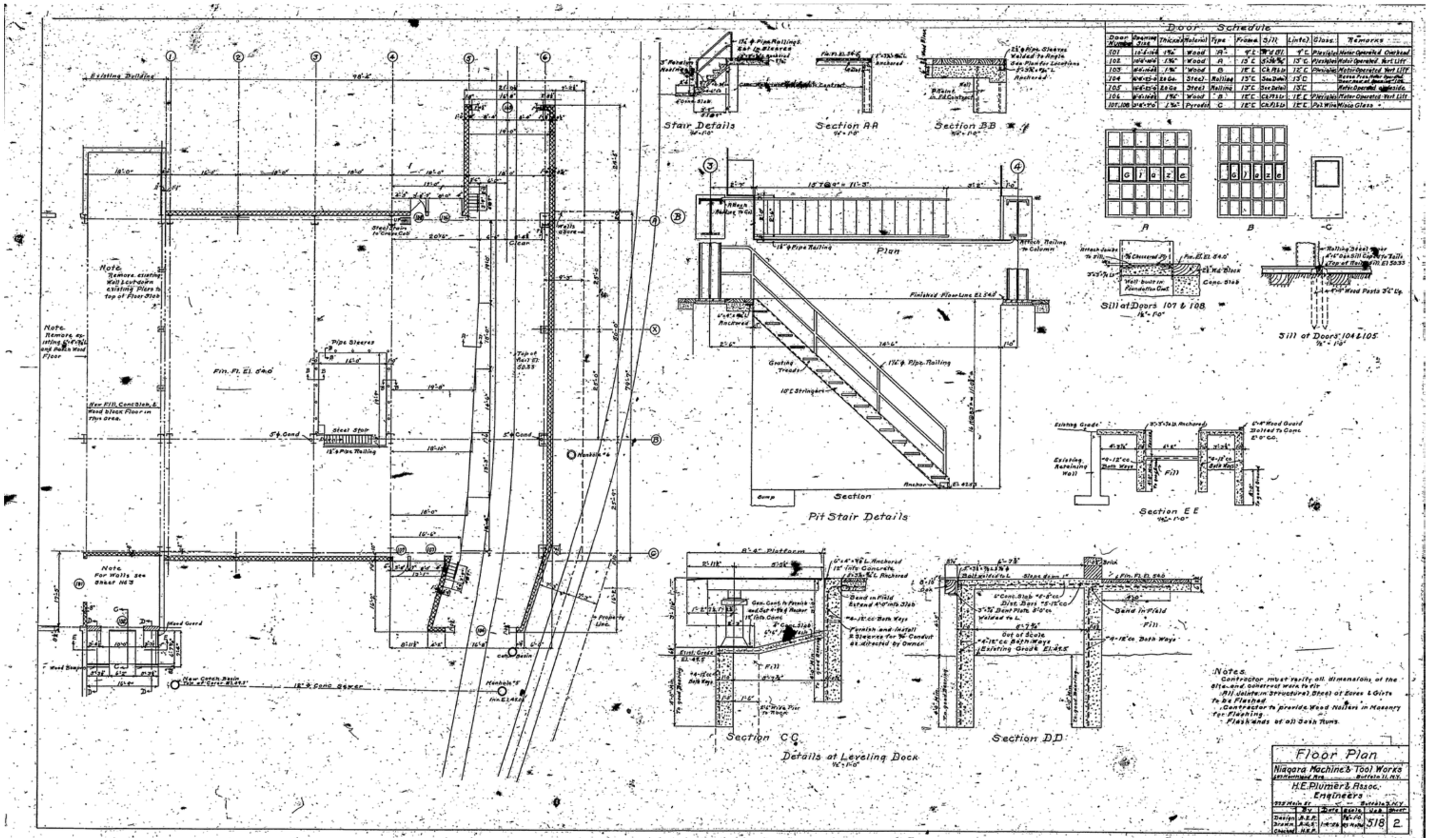
Niagara Machine & Tool Works Factory: Construction Drawings- 1927: Machine Shop Addition South & East Elevations
H.E. Plumer & Associates



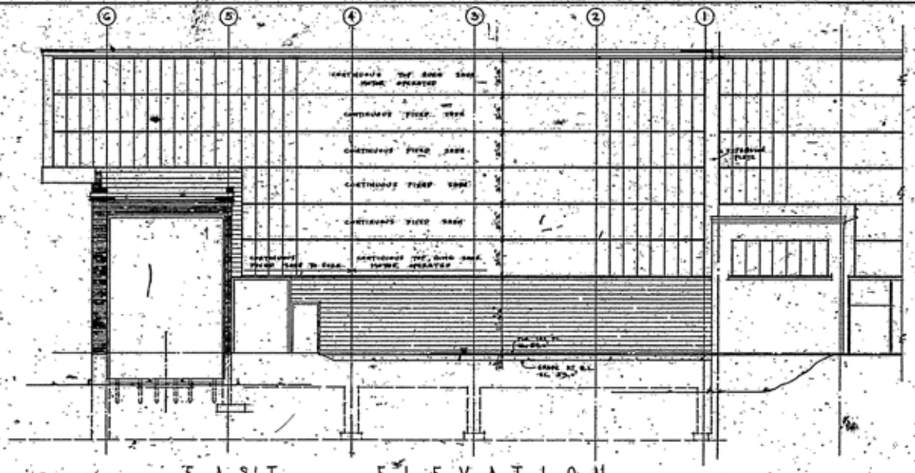
Niagara Machine & Tool Works Factory: Construction Drawings- 1946: Machine Shop Addition Floor Plan
H.E. Plumer & Associates



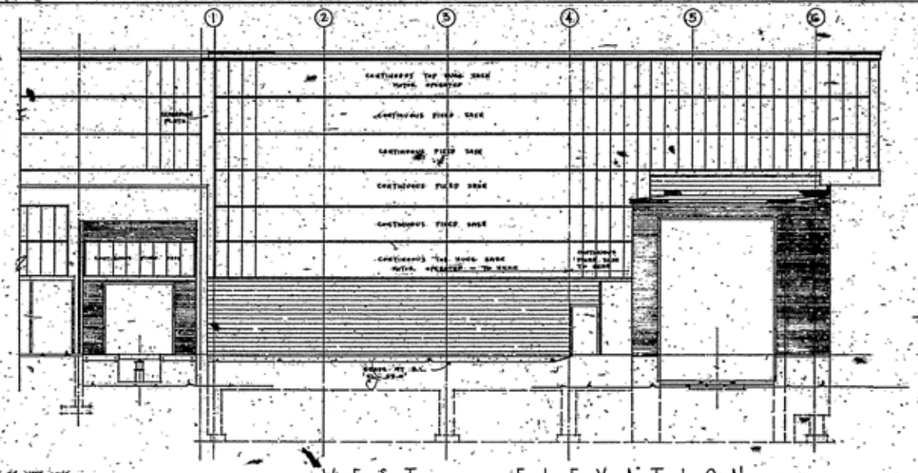
Niagara Machine & Tool Works Factory: Construction Drawings- 1946: Machine Shop Addition Roof Plan & West Elevation
H.E. Plumer & Associates



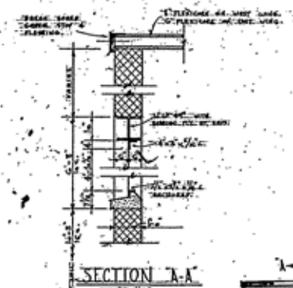
Niagara Machine & Tool Works Factory: Construction Drawings-1956: Machine Shop Addition Floor Plan
H.E. Plumer & Associates



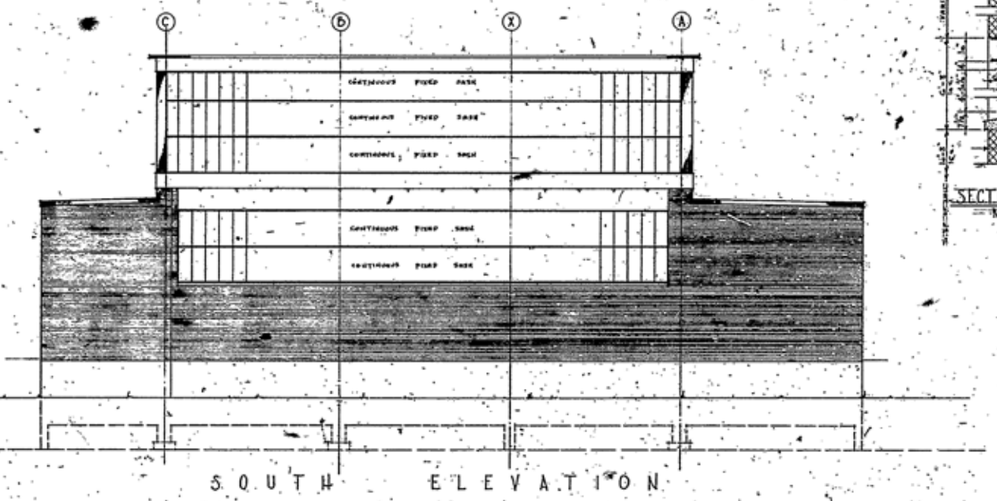
EAST ELEVATION



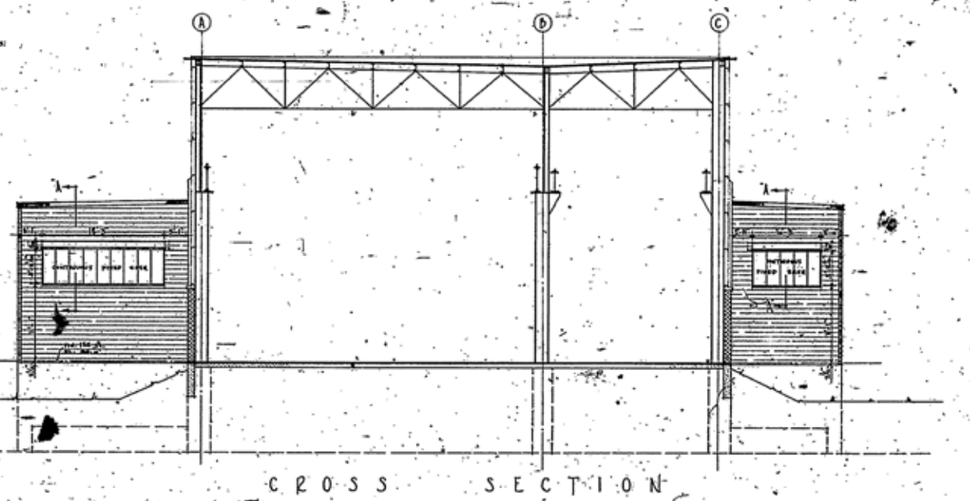
WEST ELEVATION



SECTION A-A

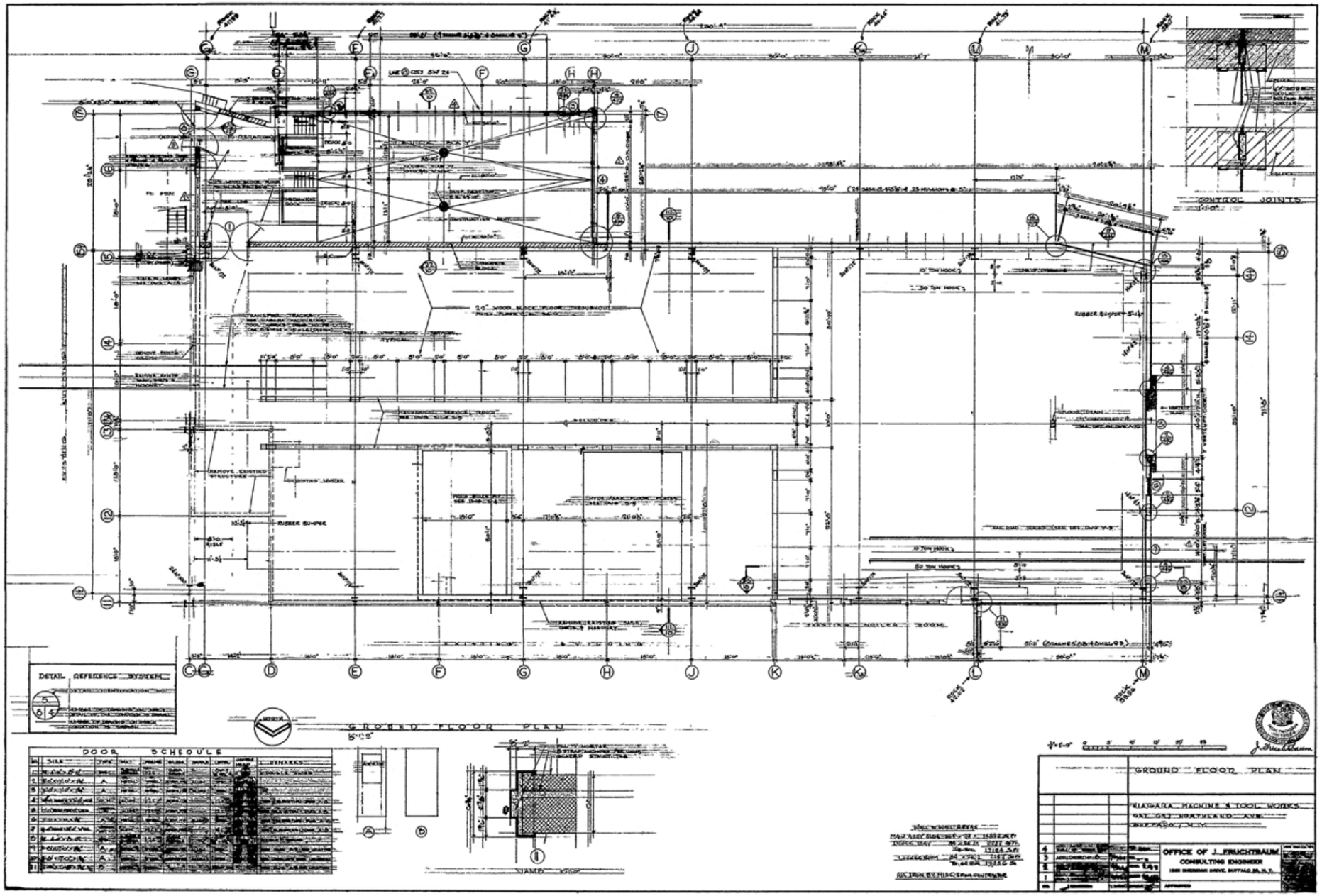


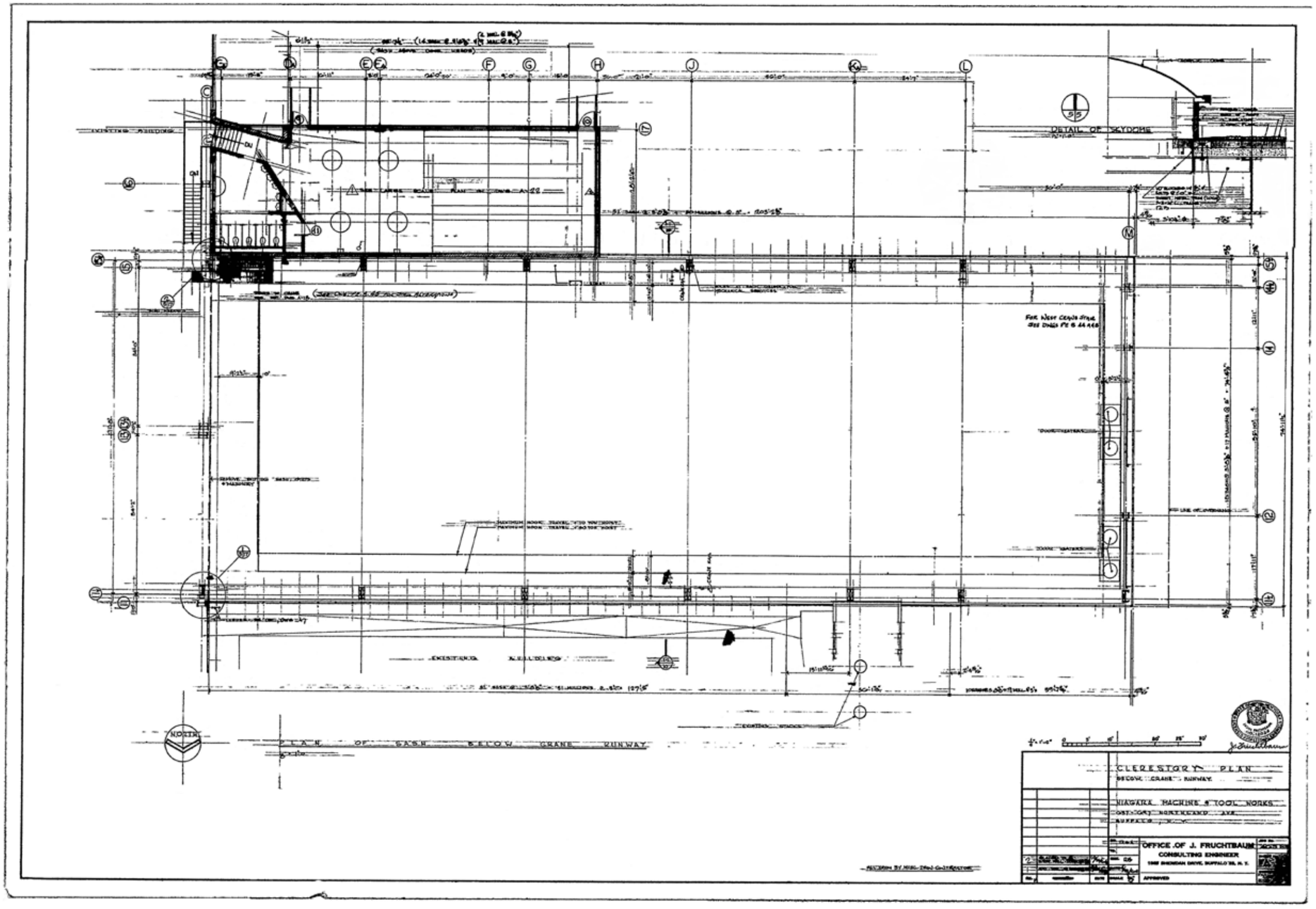
SOUTH ELEVATION



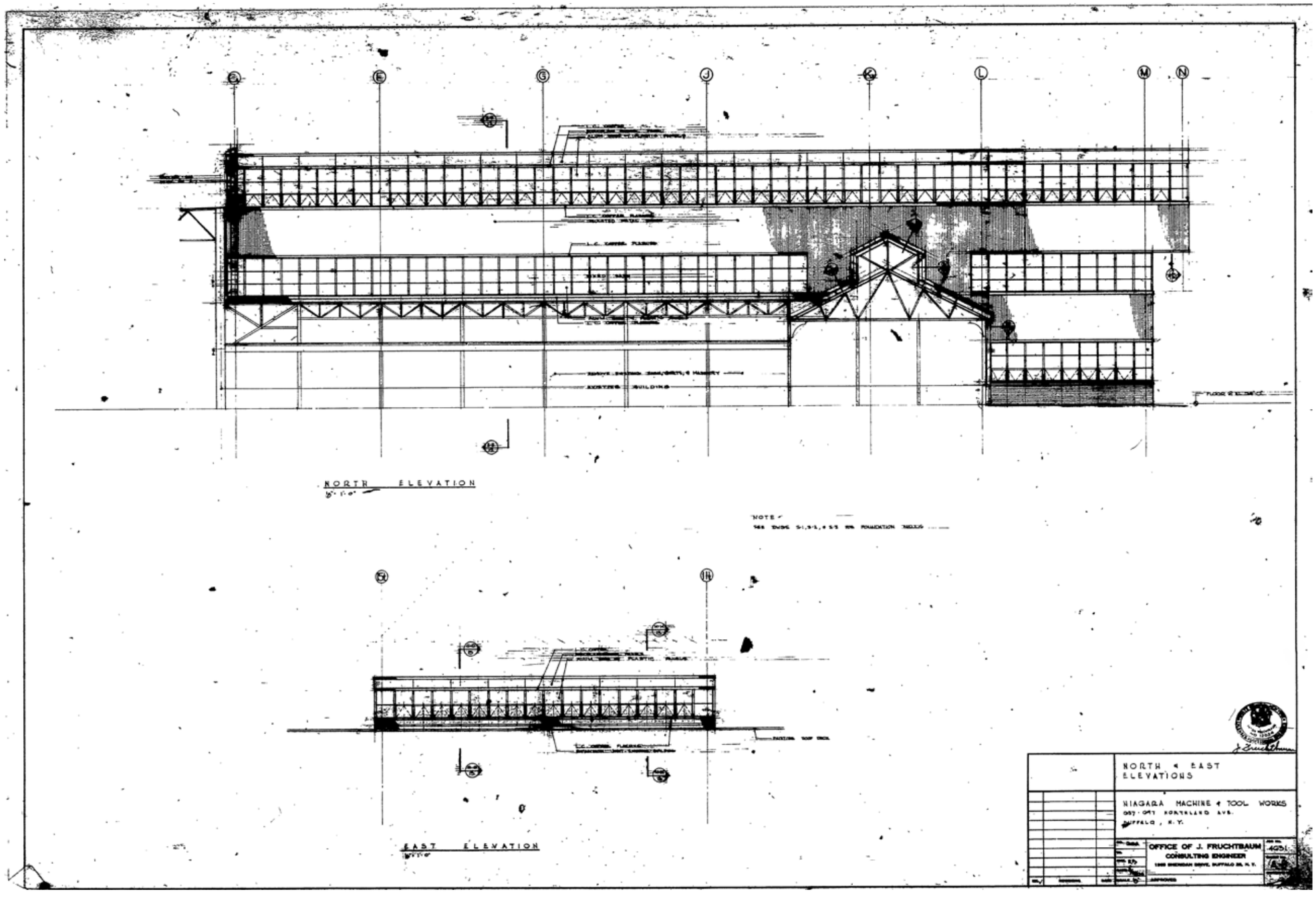
CROSS SECTION

Niagara Machine & Tool Works Factory: Construction Drawings-1956: Machine Shop Addition East, West, & South Elevations
H.E. Plumer & Associates

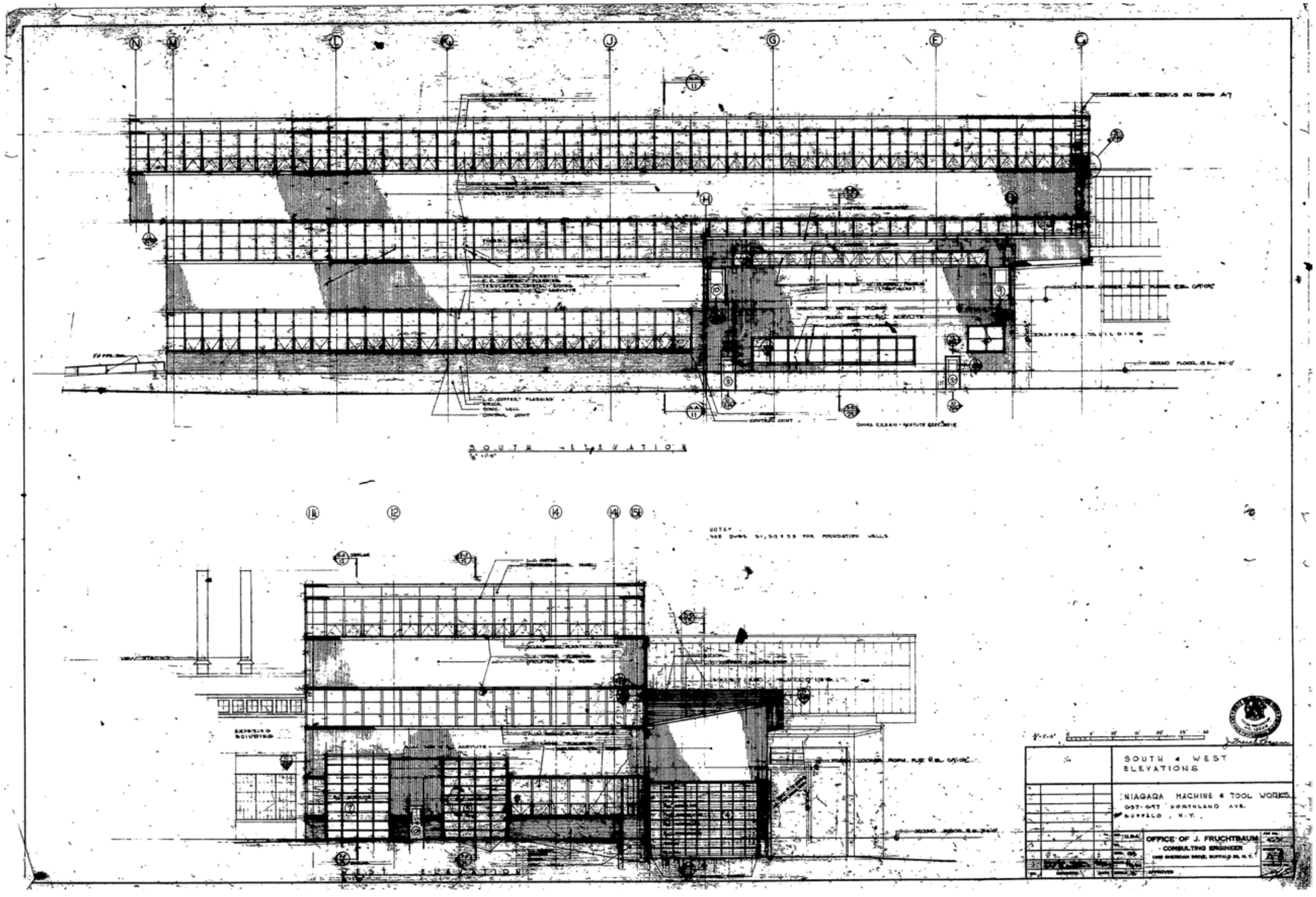

DETAIL REFERENCE SYSTEM
DOOR SCHEDULE
GROUND FLOOR PLAN
GROUND FLOOR PLAN
NIAGARA MACHINE & TOOL WORKS
OFFICE OF J. FRUCHTBAUM
CONSULTING ENGINEER



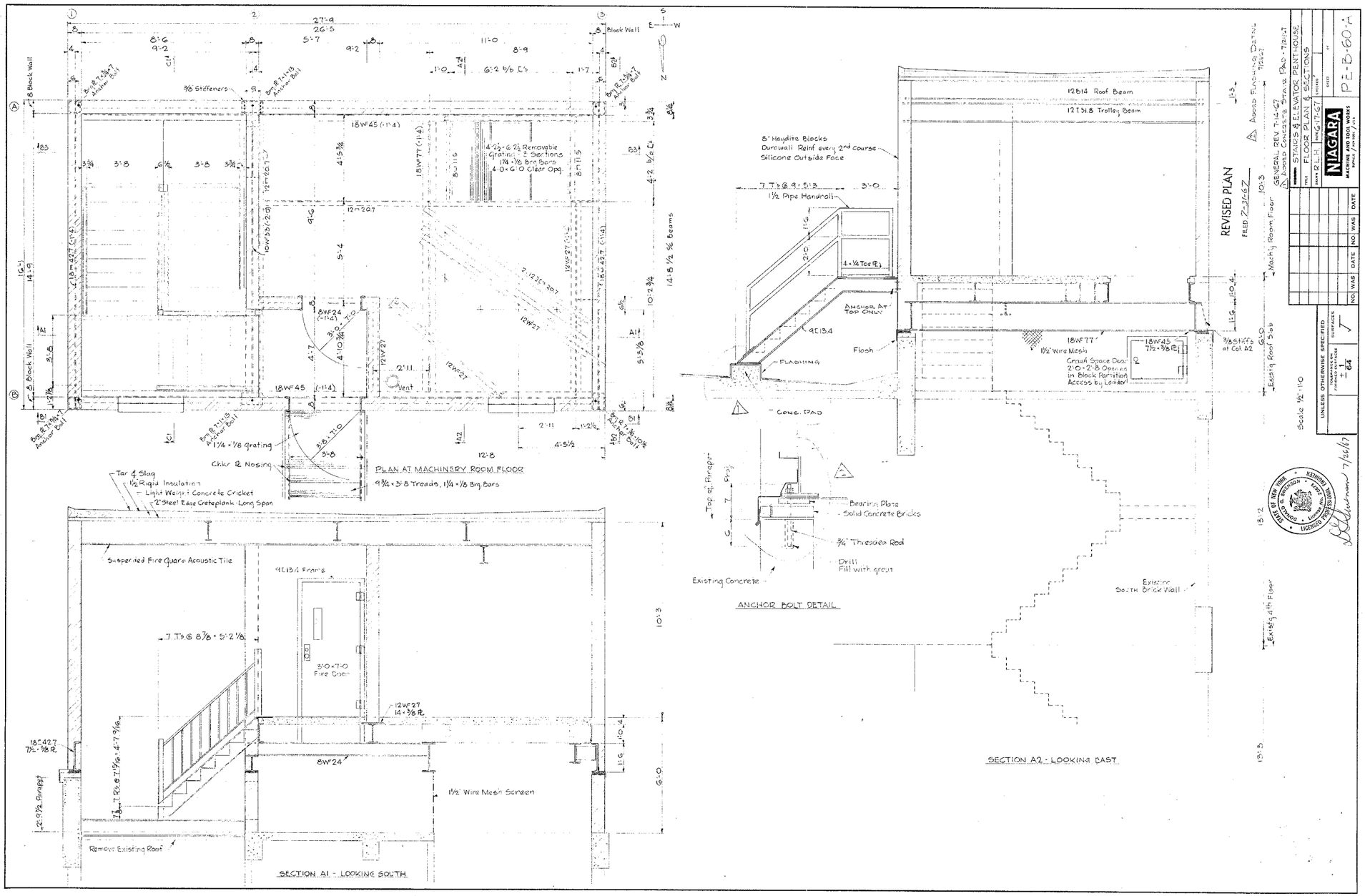
Niagara Machine & Tool Works Factory: Construction Drawings-1964: Assembly Building Clerestory Floor Plan
J. Fruchtbaum Consulting Engineer

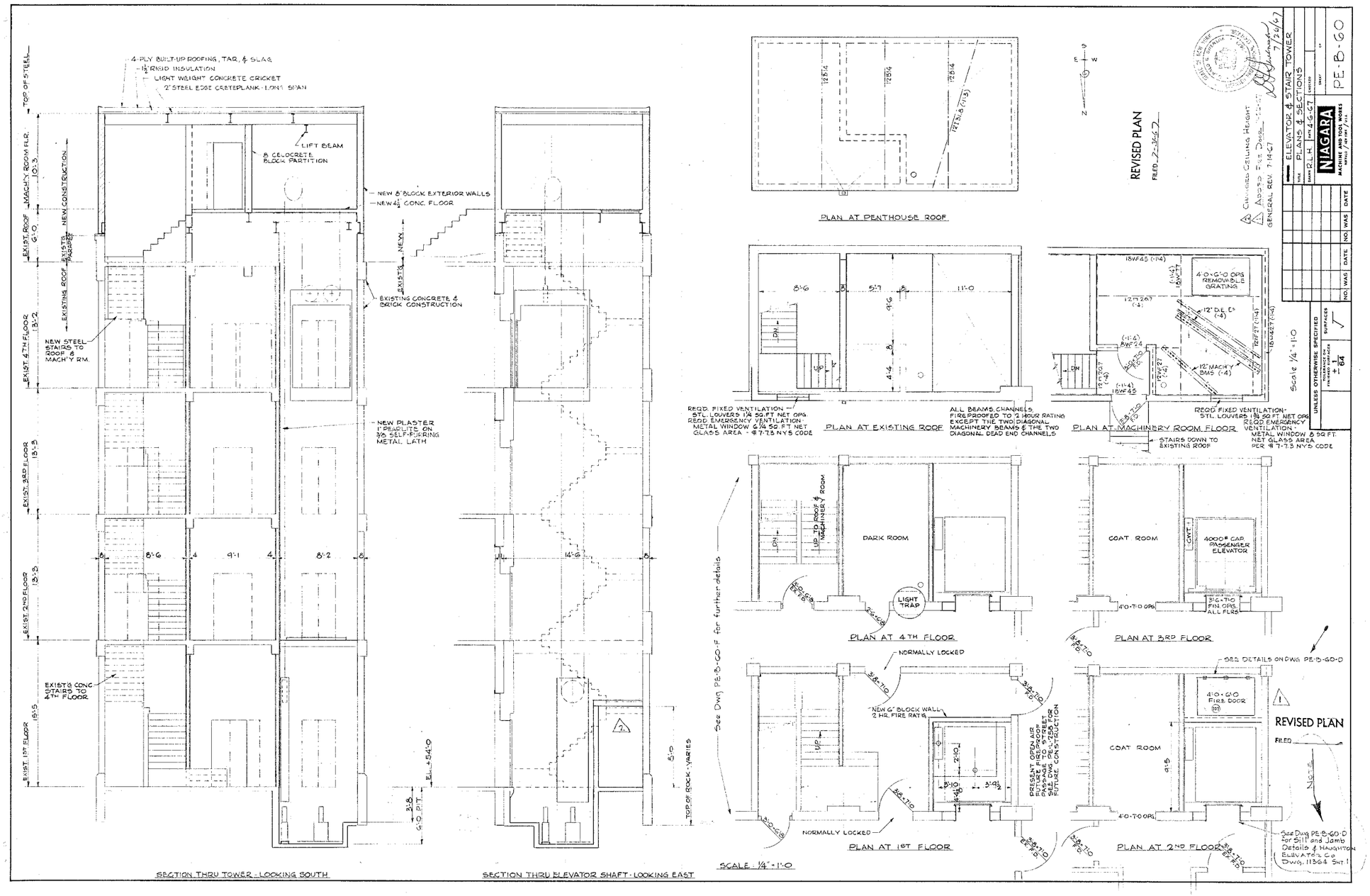


Niagara Machine & Tool Works Factory: Construction Drawings-1964: Assembly Building North & East Elevations
J. Fruchtbaum Consulting Engineer

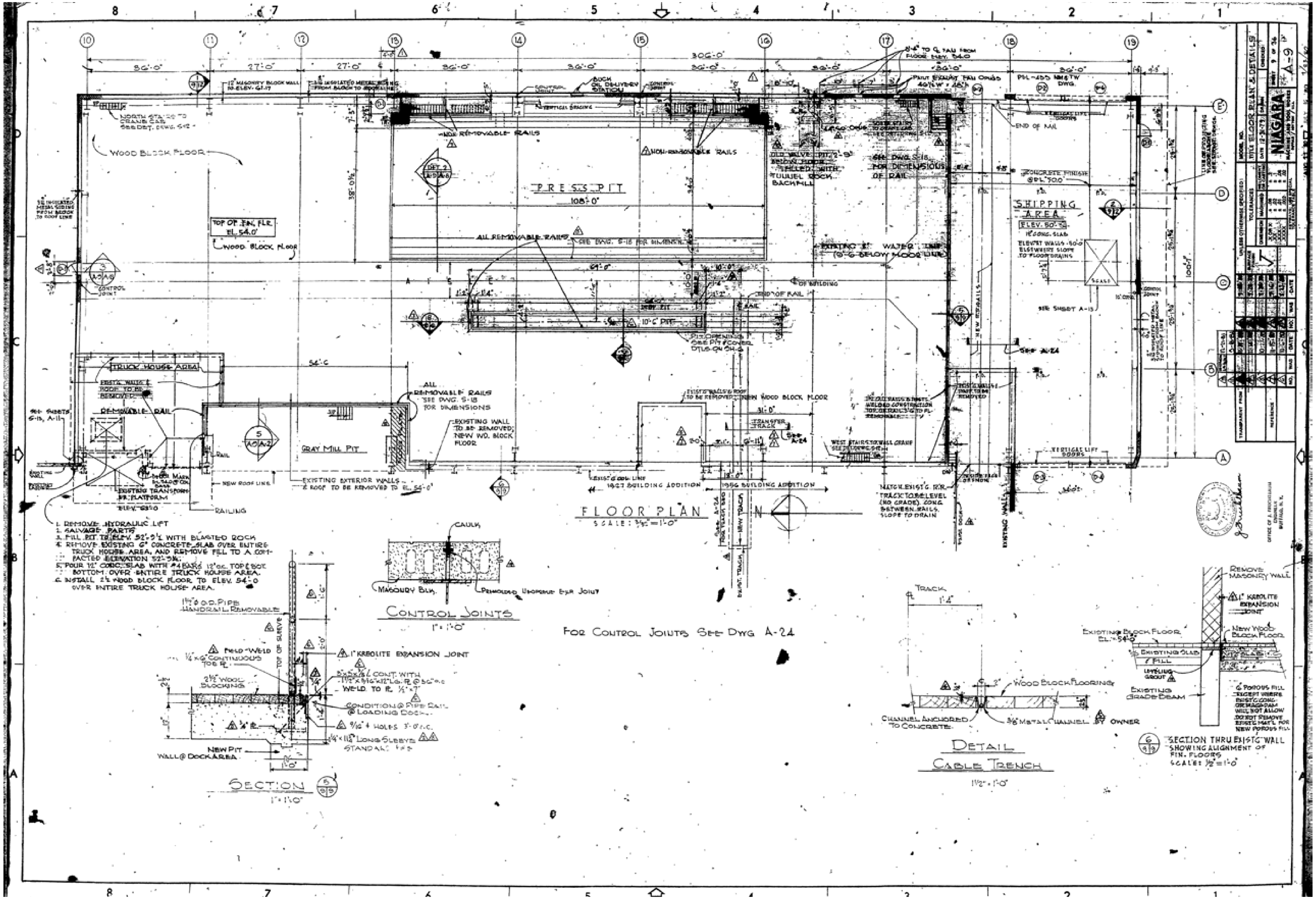


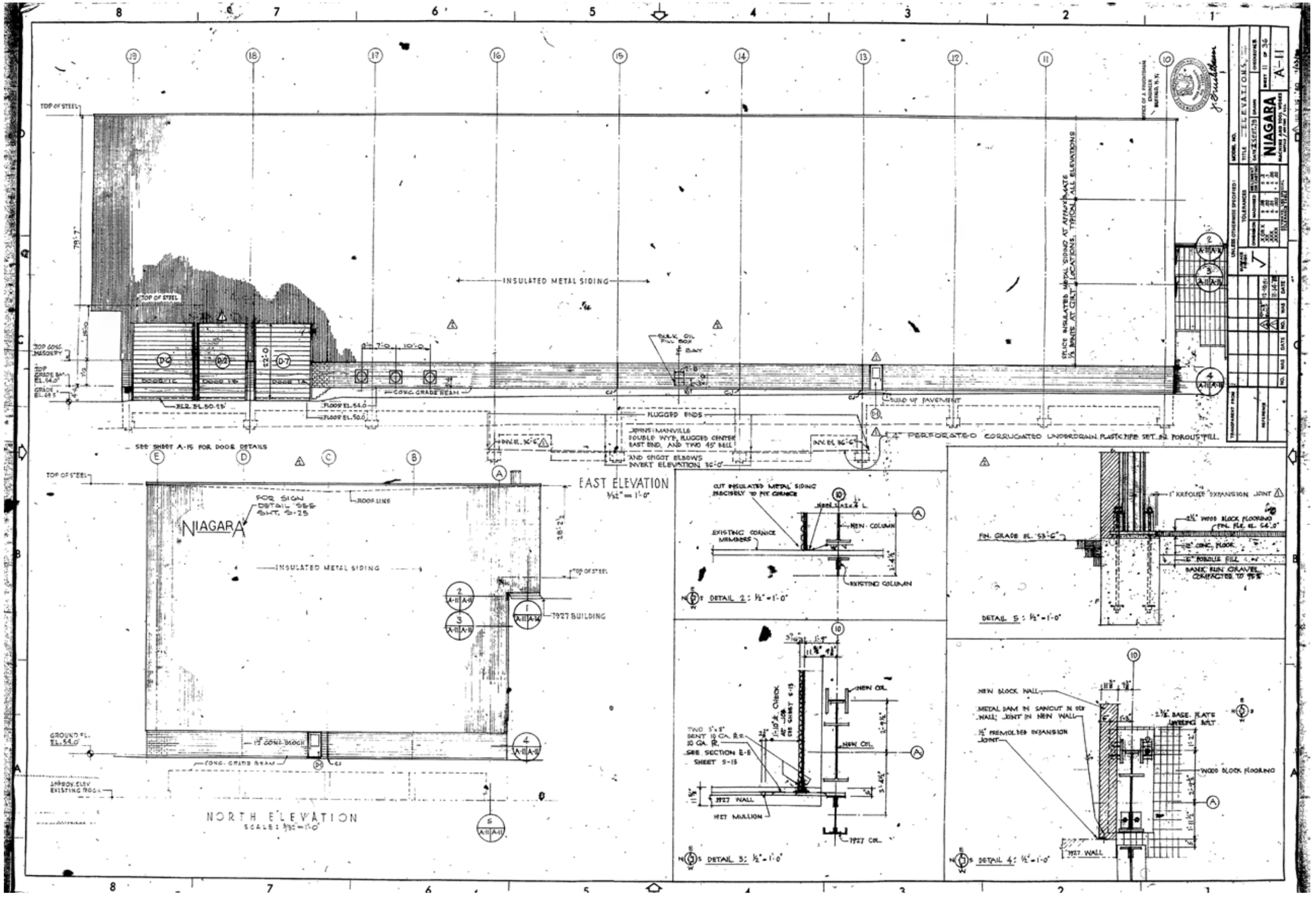
Niagara Machine & Tool Works Factory: Construction Drawings-1964: Assembly Building South & West Elevation
J. Fruchtbaum Consulting Engineer


PLAN AT MACHINERY ROOM FLOOR
9¾ × 3'-8 Treads, 1¼ × ⅛ Brg Bars
SECTION A1 - LOOKING SOUTH
SECTION A2 - LOOKING EAST
ANCHOR BOLT DETAIL
REVISED PLAN
FILED 2-3-67
GENERAL REV 7-14-67
FLOOR PLAN & SECTIONS
NIAGARA
MACHINE AND TOOL WORKS
PE-B-60A
UNLESS OTHERWISE SPECIFIED
SCALE 1/64
7/26/67

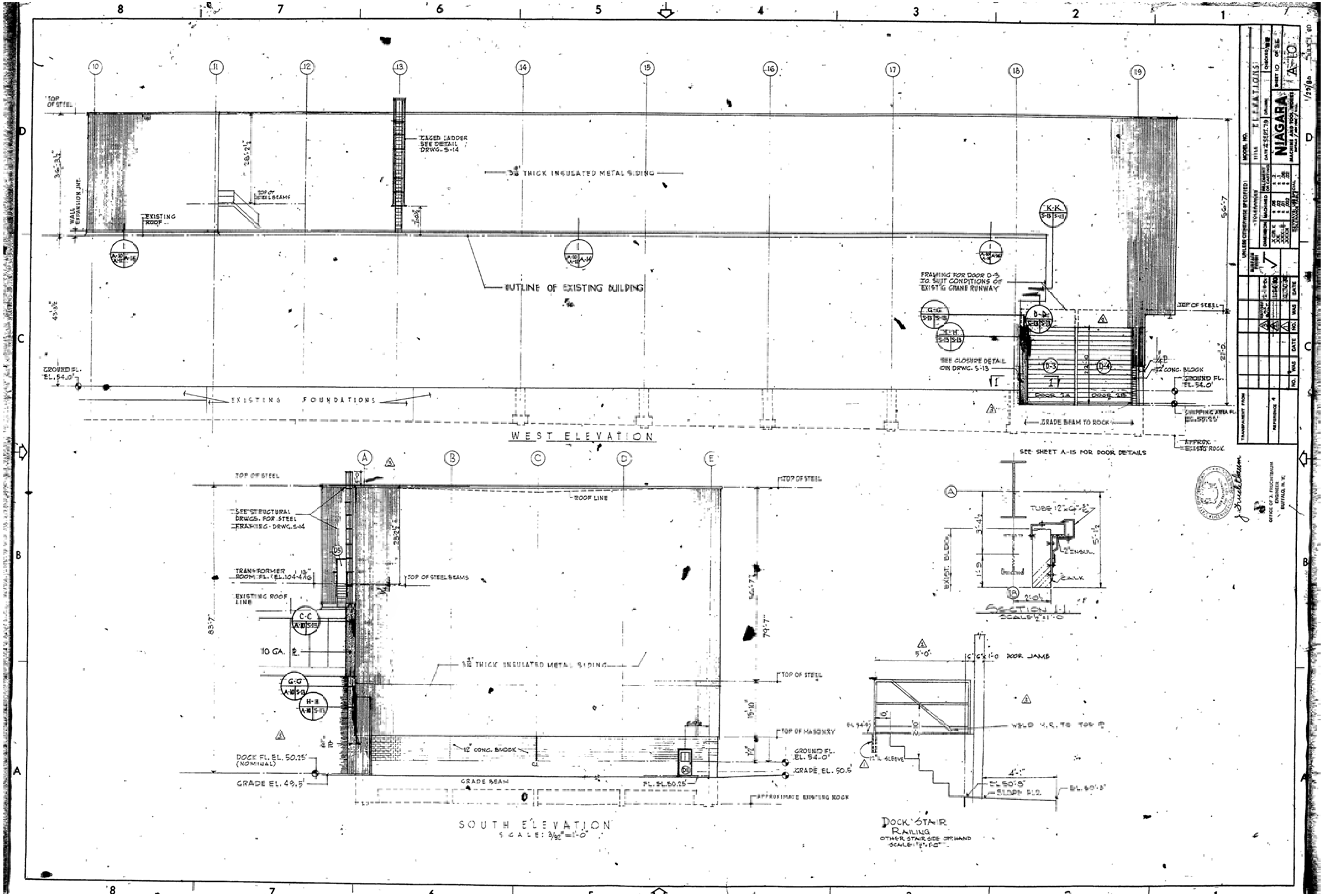


Niagara Machine & Tool Works Factory: Construction Drawings-1967: Office Building Elevator Addition Plans & Sections
Donald G. Swenson


PRESS PIT
SHIPPING AREA
TRUCK HOUSE AREA
FLOOR PLAN
CONTROL JOINTS
FOR CONTROL JOINTS SEE DWG A-24
SECTION
DETAIL CABLE TRENCH
NIAGARA



Niagara Machine & Tool Works Factory: Construction Drawings-1981: New Building Addition East & North Elevations
J. Fruchtbaum Consulting Engineer



Niagara Machine & Tool Works Factory: Construction Drawings- 1981: New Building Addition West & South Elevations
J. Fruchtbaum Consulting Engineer

RESEARCH AND ANNOTATED BIBLIOGRAPHY

PRIMARY RESOURCES:

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- PanAmerican Consultants, Inc. *Cultural Resources Investigation For the Proposed Northland Redevelopment*. Draft Report Prepared for the LiRo Group for the Empire State Development Corporation, September 2015.
- LiRo Engineers, Inc. *Additional Information Requested by New York State Historic Preservation Office, Northland Corridor Redevelopment*. Prepared for Buffalo Urban Development Corporation, December 31, 2015.

Insurance Maps:

- Sanborn Map, Certified Sanborn Maps (from The Sanborn Library), 1900, 1917, 1939, 1950, 1986. Maps attached in previous section.

Original Drawings:

- *Machine Shop and Office Building for Niagara Machine Tool Company*, Green & Wicks Architects, 1910-1912. Sample of drawings attached in previous section. (Scanned drawings in the collection of Buffalo Urban Development Corporation)
- Various Architectural and Engineering Drawings of the major additions to the Factory through 1981. (Scanned drawings in the collection of Buffalo Urban Development Corporation.)

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- "Architect," *Buffalo Business*. Volume 18 (November 1943): 12. (E. B. Green biography)
- Conlin, John. "The Pierce-Arrow Showroom: An Art Deco Tour De Force," *Buffalo Spree*. (Winter 1998): 62-64.
- "F.E. Munschauer, Head of Tool Works, Succumbs at 70," *Buffalo Evening News*. October 24, 1955.
- "G. R. Munschauer, Tool Plant Head, Dies at Age of 61: Niagara Machine Works President is Victim of Heart Ailment," *Buffalo Evening News*. April, 24, 1941.
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- "Niagara Machine & Tool: Airplane, Casket and Toy Manufacturers Among Users of its Numerous Products." *Buffalo Courier-Express*. April 12, 1940.
- "Niagara Machine's Steady Growth," *Buffalo Business*. Volume 34 (1959): 106.
- "The Rise of Niagara Machine," *Buffalo Business*. Volume 24 (April 1949): 11-13.
- Rutherford, Roy. "Frontier Industrial Leader – Munschauer Builds Solid Organization," *Buffalo Evening News*. February 2, 1947, b.

Websites:

- Faust, Catherine. "Listing of Buildings by E. B. Green." *Buffalo as an Architectural Museum.* http://www.buffaloah.com/a/archs/ebg/bp/faust2/index.html
- Zornick, Daniel. "The Belt Line Railroad: Its Influence on the Development of Buffalo's Neighborhoods." Buffalo as an Architectural Museum. http://buffaloah.com/h/belt/tc.html

BUILDING PERMITS:

From the Building Permit Department, Buffalo City Hall, Room 301
<u>From the Building Permit Card Catalogues:</u>

Under Address 665 Northland Avenue

- 9.25.1911, permit #34612. 665 Northland Avenue, 4 story brick & reinforced concrete addition.

Under Address 673 Northland Avenue

- 8.5.1910, permit #31950. 673 Northland Avenue, Office & Factory (4 Story). H-40.
- 11.23.1910, permit #32699. 673 Northland Avenue, 1 Story Brick Blacksmith Shop. H-43.
- 2.24.1914, permit #41271. 673 Northland Avenue, enlarge 1 story steel & corrugated iron shed.

Under Address 675 Northland Avenue

- 9.16.1914, permit #43195. 675 Northland Avenue, 1 story private barn.

Under Address 683 Northland Avenue

- 11.23.1911, permit #35070. 683 Northland Avenue, steel & iron storage shed.
- 12.23.1912, permit #38123. 683 Northland Avenue, steel & corrugated iron pattern storage.
- 8.5.1927, permit #8528. 683 Northland Avenue, enlarge steel machine shop.
- 2.21.1939, permit #R03579. 683 Northland Avenue, alter pent house.
- 10.27.1952, permit #49357. 683 Northland Avenue, enlarge brick & concrete loading shed & garage - factory.
- 6.9.1953, permit #50278. 683 Northland Avenue, construction stone & masonry machine shop & storage.
- 6.25.1953, permit #52108. 683 Northland Avenue, place, use 3-23,380 gallon steel tank for fuel oil storage.
- 4.11.1956, permit #R056306. 683 Northland Avenue, alter floor of gallery adjacent main office, steel masonry building.
- 4.11.1956, permit #55243. 683 Northland Avenue, construct 1 story steel & masonry, assembly room.
- 3.16.1960, permit #81909. 683 Northland Avenue, alter, repair manufacturing building & office - no structural change.

Under Address 683 Northland Avenue - Cont'd.

- 3.16.1960, permit #81909. 683 Northland Avenue, alter, repair manufacturing building & office - no structural change.
- 6.10.1965, permit #95465. 683 Northland Avenue, erect & use 1 story steel frame building, manufacturing of machinery.
- 9.10.1965, permit #99541. 683 Northland Avenue, enlarge & use 1 story steel & brick building, maufacturing of machinery. 8 sheets. F-57.
- 3.17.1967, permit #104285. 683 Northland Avenue, enlarge & use 1 story steel frame office building, machine equipment.
- 9.26.1967, permit #106274. 683 Northland Avenue, alter rep. 1 story masonry & steel building - passenger elevator penthouse, replace existing freight elevator penthouse with passenger elevator penthouse, office building (S. S. Cor.).
- 2.19.1969, permit #114112. 683 Northland Avenue, enlarge & use 1 story masonry & steel building - locker room.
- 6.12.1969, permit #115753. 683 Northland Avenue, place & use (1) 1000 gallon steel gasoline building storage tank.
- 8.4.1976, permit #1011. 683 Northland Avenue, commercial - 1 catch basin.
- 8.9.1978, permit #13295. 683 Northland Avenue, enlarge & use steel & masonry (1 story) building addition - used for manufacturing & storage.
- 6.25.1979, permit #19084. 683 Northland Avenue, enlarge & use 1 story masonry building addition to be used for woman's locker room (2nd floor addition).
- 4.28.1980, permit #22290. 683 Northland Avenue, place & use gasoline storage tank, fire prevention approval 4/24/1980.
- 9.2.1980, permit #14350. 683 Northland Avenue, erect 1 story incombustible steel frame building, to be used for assembly of machines (proposed building is a addition to existing building).
- 10.31.1980. permit #7344. 683 Northland Avenue, industrial - sewer tile C.I.
- 1.14.1981, permit #15048. 683 Northland Avenue, commercial - new 300' x 200' bay building service 1000 amp 480v.

BUILDING PERMITS:

From the Building Permit Department, Buffalo City Hall, Room 301
<u>From the Building Permit Books:</u>

Under Address 642 Northland Avenue

- 9.28.1967, permit #38454. 642 Northland Avenue, Erect and use transformer storage. 7 sheets. G-170.

Under Address 660-666 Northland Avenue

- 11.1.1967, permit #38997. 660-666 Northland Avenue, Erect and use parking lot for employees. 1 sheet. H-170.

Under Address 665 Northland Avenue

- 9.25.1911, permit #34612. 665 Northland Avenue, 4 story brick & reinforced concrete factory addition. 8 sheets, 1 specification. F-38.

Under Address 670 Northland Avenue

- 4.6.1982, permit #32059. 670 Northland Avenue, Parking lot addition. 1 sheet. C-33.

Under Address 673 Northland Avenue

- 8.3.1910, permit #31956. 673 Northland Avenue, 4 Story Factory & Office. 15 sheets, 1 specification. F-37.
- 11.23.1910, permit #32699. 673 Northland Avenue, 1 Story Brick Blacksmith Shop. 4 sheets, 1 specification. F-29.
- 2.24.1914, permit #41271. 673 Northland Avenue, enlarge 1 story steel & corrugated iron shed. 1 sheet, 1 specification. D-51.

Under Address 675 Northland Avenue

- 9.16.1914, permit #43195. 675 Northland Avenue, 1 story private auto barn. 1 sheet, 1 specification. A-54.

Under Address 683 Northland Avenue

- 11.23.1911, permit #35070. 683 Northland Avenue, 1 story steel & iron storage shed. 2 sheets, 1 specification. B-44.
- 12.23.1912, permit #38123. 683 Northland Avenue, 1 story steel & corrugated iron pattern storage. 2 sheets, 1 specification. D-9.
- 8.30.1919, permit #60255. 683 Northland Avenue,1 story brick machine shop. 14 sheets, 1 spec. J-111.

Under Address 683 Northland Avenue - Cont'd.

- 8.5.1927, permit #8528. 683 Northland Avenue, enlarge 1 story structural steel machine shop. 7 sheets, 1 spec. I-109.
- 2.21.1939, permit #R03579. 683 Northland Avenue, alter 4 story concrete block office pent house. 2 sheets. F-163.
- 10.27.1952, permit #49357. 683 Northland Avenue, enlarge 1 story brick & concrete loading shed & garage - factory. A-28.
- 6.9.1953, permit #50278. 683 Northland Avenue, construction stone & masonry machine shop & storage. 7 sheets. B-25.
- 4.11.1956, permit #R056306. 683 Northland Avenue, alter 1&4 story floor of gallery adjacent main office, steel masonry building. 1 sheet, 1 specification. D-16.
- 4.11.1956, permit #55243. 683 Northland Avenue, enlarge & alter construct 1 story steel & masonry, machine shop & assembly room. 8 sheets, 1 specification. D-16.
- 6.10.1965, permit #27100. 683 Northland Avenue, erect & use 1 story steel frame building, manufacturing of machinery. 34 sheets. C-42.
- 9.10.1965, permit #30737. 683 Northland Avenue, enlarge & use 1 story steel & brick building, maufacturing of machinery. 8 sheets. F-57.
- 3.17.1967, permit #35358. 683 Northland Avenue, enlarge & use 1 story steel frame office building, machine equipment. 1 sheet. C-170.
- 9.26.1967, permit #38374. 683 Northland Avenue, alter rep. 1 story masonry & steel building - passenger elevator penthouse, replace existing freight elevator penthouse with passenger elevator penthouse, office building (S. S. Cor.). 4 sheets. E-170.
- 2.19.1969, permit #44649. 683 Northland Avenue, enlarge & use 1 story masonry & steel building - locker room - manufacturing building. 5 sheets. D-172.
- 6.25.1979, permit #19084. 683 Northland Avenue, enlarge & use 1 story masonry building addition to be used for woman's locker room (2nd floor addition). 7 sheets. B-55.
- 9.2.1980, permit #14350. 683 Northland Avenue, erect 1 story incombustible steel frame building, to be used for assembly of machines (proposed building is a addition to existing building). 32 sheets. J-106.

Under Address 690 Northland Avenue

- 8.8.1973, permit #63434. 690 Northland Avenue, Parking lot. 1 sheet. E-173.

Under Address 698 Northland Avenue

- 10.28.1983, permit #39232. 698 Northland Avenue, Enlarge Existing Parking lot. 1 sheet. H-147.

Barbara A. Campagna/Architecture + Planning, PLLC
514 Main Street, Suite 201
Buffalo, New York 14202
716-768-4062
www.barbaracampagna.com

Watts Architecture & Engineering
95 Perry Street, Suite 300
Buffalo, New York 14203
716-206-5100
www.watts-ae.com


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STOP


CAUTION


H5
K5
K6


SHAW-BOX CRANE
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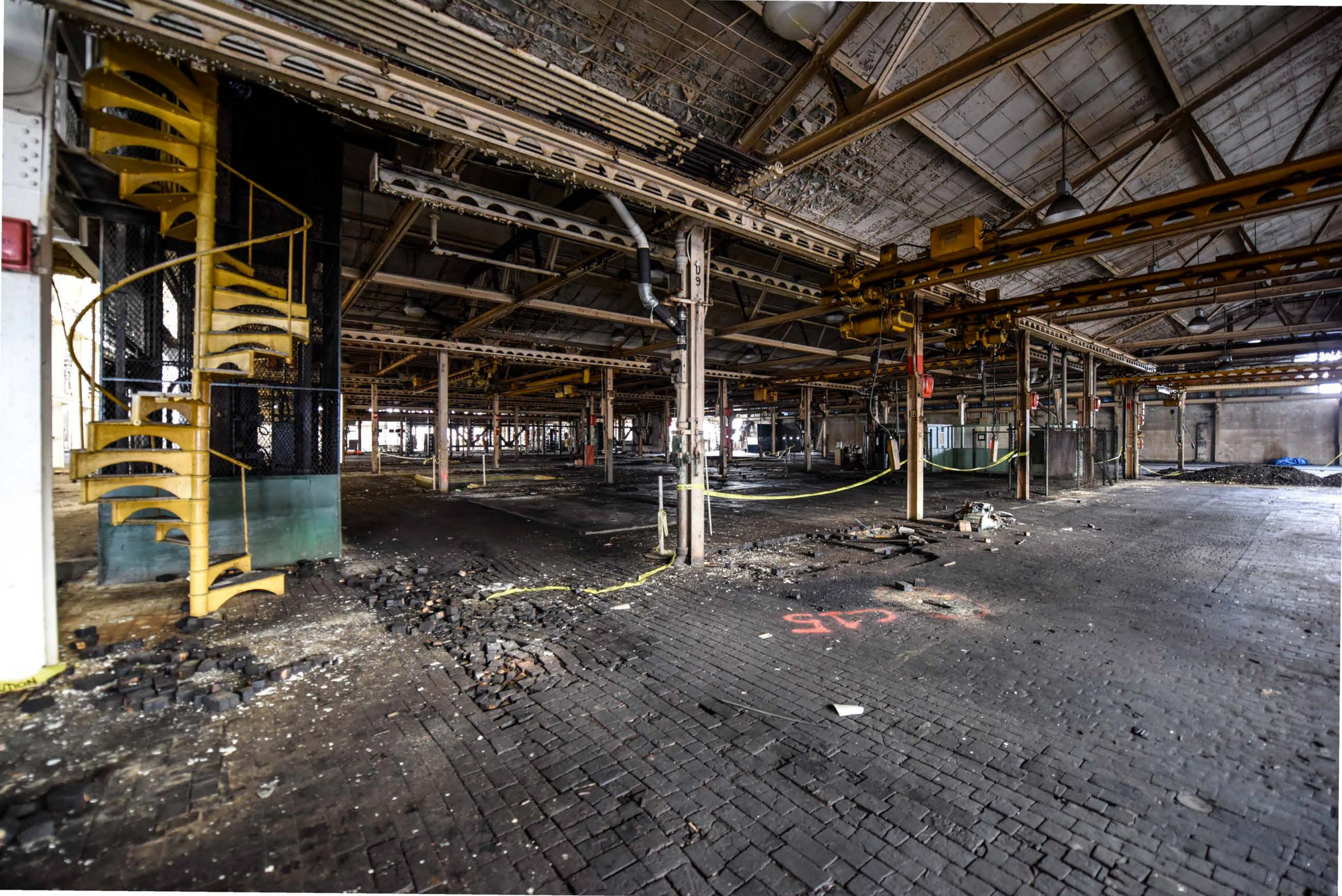
MANNING MAXWELL AND MOORE INC.
MC 8




92 TO 200
141 TO 254
261 TO 328
PUSH


TON


STRESS RELIEVING FURNACE
FORCED AIR CONVECTION TYPE
CAR BOTTOM - GAS FIRED
Removes internal stresses
1. Eliminates distortion maintaining accuracy and permanent alignment of weldments during machining and throughout entire lifetime of service.
2. Imparts maximum strength by removing burden of locked up stresses.
WORK IS SLOWLY HEATED AND SOAKED AT 1150° THEN SLOWLY AND UNIFORMLY COOLED BY AUTOMATIC ELECTRONIC CONTROLS.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UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES
EVALUATION/RETURN SHEET

Requested Action:	Nomination
Property Name:	Niagara Machine and Tool Works Factory
Multiple Name:	
State & County:	NEW YORK, Erie

Date Received:	Date of Pending List:	Date of 16th Day:	Date of 45th Day:	Date of Weekly List:
2/13/2018	3/9/2018	3/26/2018	3/30/2018	3/30/2018

Reference number:	SG100002255
Nominator:	State

Reason For Review:

__ Appeal	**X** PDIL	__ Text/Data Issue
__ SHPO Request	__ Landscape	__ Photo
__ Waiver	__ National	__ Map/Boundary
__ Resubmission	__ Mobile Resource	__ Period
__ Other	__ TCP	__ Less than 50 years
	__ CLG	

X Accept _____ Return _____ Reject **3/26/2018** Date

Abstract/Summary Comments:	A large, local, important industry in Buffalo.
Recommendation/ Criteria	Crit A and C, Industry and Architecture

Reviewer Alexis Abernathy Discipline Historian

Telephone (202)354-2236 Date _____

DOCUMENTATION: see attached comments : No see attached SLR : No

If a nomination is returned to the nomination authority, the nomination is no longer under consideration by the National Park Service.

CITY OF BUFFALO
PRESERVATION BOARD
65 NIAGARA SQUARE, ROOM 901
BUFFALO, NEW YORK 14202-3394

BYRON W. BROWN
Mayor

PAUL McDONNELL, AIA
Chair

November 28, 2017

RECEIVED
DEC - 1 2017
DIVISION FOR
HISTORIC PRESERVATION

Michael F. Lynch
Division Director, New York State Division for Historic Preservation
Peebles Island State Park
P.O. Box 189
Waterford, NY 12188-0189

RE: Niagara Machine & Tool Works Factory, 631 & 683 Northland Avenue

To Mr. Lynch,

I write on behalf of the Buffalo Preservation Board to support the nomination of the Niagara Machine & Tool Works Factory, 631 & 683 Northland Avenue, to the National and State Registers of Historic Places. The Preservation Board reviewed and voted unanimously to endorse the application on October 19, 2017.

The Niagara Machine & Tool Works Factory represents some of the best of Buffalo's industrial heritage, and is one of the finest examples of a constellation of such factories along the New York Central Belt Line—a defining feature of the City of Buffalo along which many similar buildings have been successfully nominated to the National Register.

The Preservation Board concurs with findings that the Niagara Machine & Tool Works Factory meets Criterion A in the area of industry for its role as a nationally significant tool and machine manufacturing facility, and Criterion C in the area of architecture as a representative example of early twentieth century factory design and construction.

This application is in keeping with the Buffalo Preservation Board's role in promoting preservation and economic development as mutually dependent strategies for the city's regeneration. Please convey the Preservation Board's enthusiastic support for this application to the State Review Board at its December 7 meeting. Thank you for your consideration.

Sincerely,

Paul McDonnell, AIA
Chair

Buffalo Urban Development Corporation
95 Perry Street
Suite 404
Buffalo, New York 14203
phone: 716-856-6525
fax: 716-856-6754
web: *buffalourbandevelopment.com*

Buffalo Urban Development Corporation

November 29, 2017

RECEIVED
DEC - 5 2017
DIVISION FOR
HISTORIC PRESERVATION

Michael F. Lynch
Division Director, New York State Division for Historic Preservation
Peebles Island State Park
P.O. Box 189
Waterford, NY 12188-0189

RE: Niagara Machine & Tool Works Factory, 631 & 683 Northland Avenue

To Mr. Lynch,

I write on behalf of the Buffalo Urban Development Corporation to support the nomination of the Niagara Machine & Tool Works Factory, 631 & 683 Northland Avenue, to the National and State Registers of Historic Places.

As a result of being a strong representative of Buffalo's industrial heritage, The Niagara Machine & Tool Works factory is built along the New York Central Belt Line where numerous similar buildings have been added to the National Register.

The Buffalo Urban Development Corporation agrees with the findings that the Niagara Machine & Tool Works Factory plays a major role in the area of as a nationally significant tool and machine manufacturing facility meeting Criterion A. In the area of architecture, Criterion C is reached by being an example of early twentieth century factory design and construction.

This application fits with the Buffalo Urban Development Corporation role of using industrial and economic development as tools for building Buffalo's revitalization. Please express the Buffalo Urban Development Corporation's whole-hearted support for this application to the State Review Board at its December 7th meeting. Thank you for your consideration.

Sincerely,

Peter M. Cammarata
President
Buffalo Urban Development Corp. (BUDC)

Hon. Byron W. Brown, Board Chair • Dennis Penman, Vice Chair • Peter M. Cammarata, President • David A. Stebbins, Executive Vice President
Mollie Profic, Treasurer • Bradley Bach, Assistant Treasurer • Kevin J. Zanner, Secretary • Brandye Merriweather, Vice President

NEW YORK STATE OF OPPORTUNITY. | **Parks, Recreation and Historic Preservation**

ANDREW M. CUOMO
Governor

ROSE HARVEY
Commissioner

RECEIVED
FEB 1 8 2018
Nat'l. Reg. of Historic Places
National Park Service

8 February 2018

Alexis Abernathy
National Park Service
National Register of Historic Places

Mail Stop 7228

1849 C Street NW
Washington DC 20240

Re: National Register Nomination

Dear Ms. Abernathy:

I am pleased to submit the following nomination to be considered for listing by the Keeper of the National Register:

Niagara Machine and Tool Works Factory, Erie County

As you know, this is an important nomination for Buffalo and will support an important development project. It has strong local support. We ask that you expedite its review if possible.

I am also enclosing documentation for a property in the listed Elmwood West Historic District, Erie County, for which we are proposing a change in status.

Please feel free to call me at 518.268.2165 if you have any questions.

Sincerely:

Kathleen LaFrank

Kathleen LaFrank
National Register Coordinator
New York State Historic Preservation Office