

CITY OF MACKINAC ISLAND

AGENDA

PLANNING COMMISSION

Tuesday, March 12, 2024 at 1:00 PM

City Hall – Council Chambers, 7358 Market St., Mackinac Island, Michigan

- I. **Call to Order**
- II. **Roll Call**
- III. **Pledge of Allegiance**
- IV. **Approval of Minutes**
 - a. [February 13, 2024 Minutes](#)
- V. **Adoption of Agenda**
- VI. **Correspondence**
 - a. [Cloverland Response Letter from Brian Lavey](#)
- VII. **Staff Report**
 - a. HDC Meeting Summary
 - b. REU Update
- VIII. **Committee Reports**
 - a. Master Plan Update
- IX. **Old Business**
- X. **New Business**
 - a. [R124-019-010 Spitzer Porch Railing Replacement](#)
 - b. [R123-025-030 Steve Murray New Dock](#)
 - c. [R424-043-011 GFAK LLC Special Land Use](#)
- XI. **Public Comment**
- XII. **Adjournment**

MINUTES

PLANNING COMMISSION

Tuesday, February 13, 2024 at 1:00 PM

City Hall – Council Chambers, 7358 Market St., Mackinac Island, Michigan

I. Call to Order

The meeting was called to order at 1:02 PM.

II. Roll Call

PRESENT

Trish Martin

Jim Pettit

Michael Straus

Anneke Myers

Ben Mosley

Mary Dufina

Lee Finkel Staff: Erin Evashevski

III. Pledge of Allegiance

IV. Approval of Minutes

a. January 9, 2024 Minutes

Motion made by Martin, Seconded by Mosley.

Voting Yea: Martin, Pettit, Straus, Mosley, Dufina, Finkel

V. Adoption of Agenda

Motion to adopt as written. Jurcak will provide a project update during public comment

Motion made by Martin, Seconded by Straus.

Voting Yea: Martin, Pettit, Straus, Myers, Mosley, Dufina, Finkel

VI. Correspondence

None

VII. Staff Report

a. HDC Meeting Summary

Finkel summarized the February 13th HDC meeting.

Pettit asked about the panels on the Sheplers dock. Dombroski stated he intended to impose the fine for doing work without a permit, but that is still being worked out. Dufina confirmed that a fee is in place right now for work done without a permit.

b. REU Update

Burt shared pictures of the progress at the water plant. Walls are beginning to go up. The building permit issues are all resolved. Mosley asked about work in the summer. Burt stated they will do as little movement as possible. Any movement that needs to be done will be at night or very early morning. There is no REU update.

VIII. Committee Reports

a. Master Plan Update

Myers stated the committee met yesterday and reviewed the first draft of the master plan. Not all chapters were updated. The Committee is working towards the goals and policies chapter and working to get other stats on cruise ships and other topics. The next meeting is March 11 at 4pm.

IX. Old Business

a. R121-038-017 May Dock Permit Extension Request

Nancy May requested that her permit be extended for her dock. Straus read the letter aloud. The extension will be for a year from today. Motion to approve for one year.

Motion made by Finkel, Seconded by Martin.

Voting Yea: Martin, Pettit, Straus, Myers, Mosley, Dufina, Finkel

b. HB23-002-024 Masco Cottage Reno Zoning Permit Extension Request

Straus read a letter aloud requesting that their permit be extended for one year. Motion to approve the extension for one year from today.

Motion made by Dufina, Seconded by Mosley.

Voting Yea: Martin, Pettit, Straus, Myers, Mosley, Dufina, Finkel

c. MD23-067-023(H) Corner Cottage Reno Permit Extension Request

Straus read a letter aloud requesting that their permit be extended for one year. Motion to approve for one year.

Motion made by Martin, Seconded by Dufina.

Voting Yea: Martin, Pettit, Straus, Myers, Mosley, Dufina, Finkel

d. C23-083-019(H) Gatehouse Reno Permit Extension Request

Straus read a letter aloud requesting that their permit be extended for one year. Motion to approve for one year.

Motion made by Mosley, Seconded by Finkel.

Voting Yea: Martin, Pettit, Straus, Myers, Mosley, Dufina, Finkel

X. New Business

a. R324-011-003 Barnwell Fence Replacement

The applicant would like to replace the existing wood fence with a vinyl fence. Dombroski does not know if the fence is on the property line or in the property. Dombroski recommends getting a site plan showing the property line, but could approve contingent that it is on the property line. There is question on allowing the vinyl. The style is also in question. Gates are depicted on the sketch but the size is not noted. Myers suggested tabling for a sample of the product. Erin said the material it up to the discretion of the commission. There are a couple vinyl fences in the same area that are grandfathered in. The concerns are: material, sample and reasoning for vinyl, size of gates, which style, classic or manchester, picture of current fence and location on property line. Motion to table based on concerns.

Motion made by Myers, Seconded by Martin.

Voting Yea: Martin, Pettit, Straus, Myers, Mosley, Dufina, Finkel

b. R124-025-006 Murray James New Dock

Jim Murray stated he would like to install a wood dock. EGLE has approved it. Straus asked if there are plans for pylons for tie-ons. Murray stated no. Myers asked if there will be any storage on the dock? Murray stated no. There may be an outlet. He doesn't plan on any lights but some pedestals come with lights installed that angle down. Dufina confirmed the dock will be 10' off the east side. Dufina noted that the

EGLE permit was not signed by Murray. Murray stated the dock builder signs the EGLE permit. Motion to approve.

Motion made by Finkel, Seconded by Mosley.

Voting Yea: Martin, Pettit, Straus, Myers, Mosley, Dufina, Finkel

c. C24-019-007(H) Coal Dock Improvements

Andrew McGreevy summarized the project as redoing the footings, adding a load bearing wall that goes down the center of the building reinforcing the whole structure, adding a new flooring system for 2nd floor with a stairway, adding an addition on to the existing hardware building, adding a new window for egress and adding a door on the east side of the building to access 2nd floor. The South end will have an extra sliding door on 2nd story. Martin asked about the sliding doors. McGreevy stated it is a sliding door on a track. Straus asked about the future ramp and having enough room. McGreevy stated there is quite a bit of room there. Myers confirmed they are seeking approval for phase I only. There was a favorable review by Neumann. Pettit asked where the money is coming from. McGreevy stated we have grant money from MEDC. It will probably be a little short and MITA will probably ask the City for money. The improvements will allow for rentals therefore generating income for MITA. Motion to approve phase I.

Motion made by Myers, Seconded by Martin.

Voting Yea: Martin, Pettit, Straus, Myers, Mosley, Dufina, Finkel

d. R123-080-093 Lounsbury Convert Existing Lot to Site Condo

Evashevski stated this isn't a new change. With a site condo we have to approve per article 24. Evashevski has not been able to reach Lounsbury's attorney, Neal Marzella. She has questions on it with the current non-compliance converting in to a condo. Dombroski said Hill spent a lot of time and came up with the condo plan. The obvious issue is it is a small lot with 2 primary structures. Lounsbury got a piece of the school property for her house but it still is not enough to meet setback. Nothing about this is conforming except for clearances between the structures. The rationale on the lot lines is that if anything happens to either house they will have to get shifted when rebuilt to make them more conforming. There is enough room to built them back. Myers stated that by changing to site condo, the two buildings can have separate owners. A lot split would not work because so many variances would be involved. Evashevski would like the item to be tabled so she can talk with Neal Marzella. Straus would like to see a picture of the property as well. Myers believes they are on file. Evashevski thought this was an R1 zoning, but it is actually R3. This needs to be corrected on the application. Dufina asked if the common elements should be shown on the survey. None are noted. Evashevski wants to see the impervious lot coverage shown on the survey. Additionally Section 7.04 questions need to be answered. Evashevski has a couple of other questions for the applicants attorney. Motion to Table for section 7.04 questions and the additional questions for

Marzella, and amending the application zoning.

Motion made by Myers, Seconded by Pettit.

Voting Yea: Martin, Pettit, Straus, Myers, Mosley, Dufina, Finkel

XI. Public Comment

David Jurcak gave an update on the facade and retaining wall projects. Jurcak showed a slide show of improvements. Including the 3rd level windows, work around the princess balconies, the columns and the new retaining wall. Straus asked that they run the landscape plan for the retaining wall by the commission.

Pettit stated that trash was a topic in the last Streets and Sidewalks Committee meeting. Pettit stated that City employees aren't following the City Ordinance regarding downtown trash. Michael Ruddle is going to work with Ray Card to limit the amount of time trash is on the city sidewalks.

XII. Adjournment

Motion to adjourn. The meeting was adjourned at 2:29 PM.

Motion made by Martin, Seconded by Pettit.

Voting Yea: Martin, Pettit, Straus, Myers, Mosley, Dufina, Finkel

Michael Straus, Chairman

Katie Pereny, Secretary



February 27, 2024

Mr. Michael Straus
Chairman – Planning Commission
City of Mackinac Island
7538 Market Street, PO Box 455
Mackinac Island, MI 49757

Dear Mr. Straus,

This letter is in response to your letter of February 14, 2024 inquiring on behalf of the City of Mackinac Island Planning Commission about any information on where the City of Mackinac Island “stands in terms of capacity”, in the process of updating your Master Plan on future electric capacity needs.

Mackinac Island is electrically served by the mainland St. Ignace area distribution and transmission systems of Cloverland Electric Cooperative (CEC) and the American Transmission, LLC (ATC) respectively. On behalf of CEC’s systems, Mackinac Island is served directly by a substation located in St. Ignace via overhead, submarine, and underground distribution electrical systems. Presently, CEC observes the overall peak demand of Mackinac Island, including the City of Mackinac Island, is ordinarily just above 12 MW (Megawatts) during spring and fall periods.

The CEC system electrical capacity to serve Mackinac Island is approximately 20 MW’s.

We would certainly appreciate any information the planning commission can return and share with us; particularly any identifiable information or suggestive of future needs and/or elements within your master plan objectively related to the infrastructure necessary to serve our Members on Mackinac Island and the City of Mackinac Island.

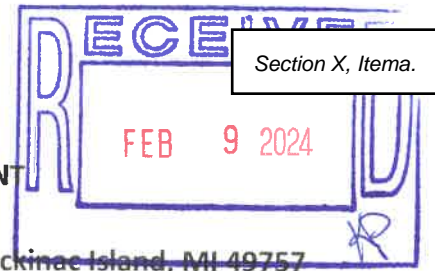
Sincerely,

Brian Lavey

Brian Lavey – Director of Engineering

Cc: Mike Heise, Paul Warner, Katie Pereny (via email correspondence/transmittal)

**CITY OF MACKINAC ISLAND
 PLANNING COMMISSION & BUILDING DEPARTMENT
 APPLICATION FOR ZONING ACTION**



www.cityofmi.org kep@cityofmi.org 906-847-6190 PO Box 455 Mackinac Island, MI 49757

APPLICANT NAME & CONTACT INFORMATION:

Alexander Robert Spitzer
 8350 Cedar Ct. PO Box 1434
 Mackinac Island, MI 49757
 248-505-2525 brainee@icloud.com
 Phone Number Email Address

Please complete both sides of application.
 The Fee and five (5) copies of the application, plans and all required documents must be submitted to the Zoning Administrator fourteen (14) days prior to the scheduled Planning Commission Meeting.

Property Owner & Mailing Address (If Different From Applicant)

- Is The Proposed Project Part of a Condominium Association? No _____
- Is The Proposed Project Within a Historic Preservation District? No _____
- Applicant's Interest in the Project (If not the Fee-Simple Owner): _____
- Is the Proposed Structure Within Any Area That The FAA Regulates Airspace? No _____
- Is a Variance Required? No _____
- Are REU's Required? How Many? No _____/_____

Type of Action Requested:

- Standard Zoning Permit _____ Appeal of Planning Commission Decision
- Special Land Use _____ Ordinance Amendment/Rezoning
- Planned Unit Development _____ Ordinance Interpretation
- Other _____

Property Information:

- A. Property Number (From Tax Statement): 051-775-019-00 _____
- B. Legal Description of Property: _____
- C. Address of Property: 8350 Cedar Court _____
- D. Zoning District: RI _____
- E. Site Plan Checklist Completed & Attached: _____
- F. Site Plan Attached: (Comply With Section 20.04 of the Zoning Ordinance) _____
- G. Sketch Plan Attached: _____
- H. Architectural Plan Attached: _____
- I. Association Documents Attached (Approval of project, etc.): _____
- J. FAA Approval Documents Attached: _____
- K. Photographs of Existing and Adjacent Structures Attached: _____

Proposed Construction/Use:

- A. Proposed Construction: _____

File No. RI24-019-010
 Exhibit A
 Date 2.9.24
 Initials KP

Alexander Robert Spitzer
Signature

SIGNATURES _____
Signature

Alexander Robert Spitzer
Please Print Name

Please Print Name

Signed and sworn to before me on the 9th day of February, 2024.

Kathryn Pereny
Notary Public



Mackinac County, Michigan
My commission expires: 8-7-30

FOR OFFICE USE ONLY

Zoning Permit Issued: _____

Inspection Record:

	Inspection	Date	Inspector	Comments
1.				
2.				
3.				

Occupancy Permit Issued _____

Revised October 2023

OFFICE USE ONLY

FILE NUMBER: R124.09.010

FEE: \$150 -

DATE: 2.9.24

CHECK NO: 1316

INITIALS: KP

Revised October 2023

City of Mackinac Island

7358 Market Street
P.O. Box 455
Mackinac Island, MI 49757

Site Plan Review Checklist Please Submit With The Application for Zoning Action

As a minimum, the following information shall be included on the site plan submitted for review and processing; more complex plans may require additional information as noted.

NOTE: The engineer, architect, planner and/or designer retained to develop the site plan shall be responsible for securing a copy of the City of Mackinac Island Zoning Ordinance (Ord. No. 479, effective November 12, 2013), which can be obtained via the City’s website at www.cityofmi.org.

Site plan review requirements are primarily found within Article 4, General Provisions, and Article 20, Site Plan Review of the City Zoning Ordinance. References are provided whenever possible for the section of the Zoning Ordinance that deals with a particular item. When in doubt, refer to the Zoning Ordinance directly for required information.

For further information, contact Mr. Dennis Dombroski, City Building Official/Zoning Administrator, at (906) 847-4035.

Optional Preliminary Plan Review Informational Requirements (Section 20.03)

<u>Item</u>	<u>Provided</u>	<u>Not Provided or Applicable</u>
1. Name and address of the applicant or developer, including the names and addresses of any officers of a corporation or partners of a partnership	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Legal description of the property	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Sketch drawings showing tentative site plans, property boundaries, placement of structures on the site, and nature of development	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Site Plan Informational
Requirements (Section 20.04, B and C)**

<u>General Information</u>	<u>Provided</u>	<u>Not Provided or Applicable</u>
1. Name and address of the applicant or developer, including the names and addresses of any officers of a corporation or partners of a partnership. For condominium subdivision project site plans, also include the name and address of the planner, design engineer or surveyor who designed the project layout and any interest he holds in the land.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Name and address of the individual or firm preparing the site plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Scale of not greater than one 1 in = 20 ft for a development of not more than three acres and a scale of not less than 1 in = 100 ft for a development in excess of three acres	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Legend, north arrow, scale, and date of preparation	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Legal description of the subject parcel of land	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Lot lines and general location together with dimensions, angles, and size correlated with the legal description of the property	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7. Area of the subject parcel of land	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Present zoning classification of the subject parcel	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. Written description of the proposed development operations	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. Written description of the effect, if any, upon adjoining lands and occupants, and any special features which are proposed to relieve any adverse effects to adjoining land and occupants	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. A freight hauling plan shall be shown to demonstrate how the materials, equipment, construction debris, and any trash will be transported to and from the property, what, if any motor vehicles may be needed for the project. (Applicant is responsible for ensuring frost laws do not delay necessary actions of this plan).	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- | | | | |
|---|-------------------------------------|-------------------------------------|--|
| 12. A construction staging plan shall be shown to demonstrate where and how materials, equipment, construction debris, trash, dumpsters and motor vehicles will be stored and secured during construction. This plan shall ensure the site is kept clean, show how construction debris and trash will be controlled, and how safety issues will be secured including any necessary fencing or barriers that will be needed. | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 13. Proposed construction start date and estimated duration of construction. | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |
| 14. Other information pertinent to the proposed development, specifically required by the Zoning Ordinance, and/or as may be determined necessary by the City Planning Commission | <input checked="" type="checkbox"/> | <input type="checkbox"/> | |

Natural Features

Provided

Not Provided or Applicable

- | | | | |
|---|--------------------------|-------------------------------------|--|
| 15. Location of natural features such as wood lots, streams, wetlands, unstable soils, bluff lines, rock outcroppings, and similar features (see also Section 4.26) | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 16. Topography of the site with at least two- to five-foot contour intervals | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 17. Proposed alterations to topography or other natural features | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 18. Earth-change plans, if any, as required by state law | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

Physical Features

Provided

Not Provided or Applicable

- | | | | |
|---|--------------------------|-------------------------------------|--|
| 19. Location of existing manmade features on the site and within 100 feet of the site | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 20. Location of existing and proposed principal and accessory buildings, including proposed finished floor and grade line elevations, height of buildings, size of buildings (square footage of floor space), and the relationship of buildings to one another and to any existing structures on the site | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| 21. For multiple family residential development, a density schedule showing the number of dwelling units per acre, including a | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |

dwelling schedule showing the unit type and number of each such units

- 22. Existing and proposed streets, driveways, sidewalks and other bicycle or pedestrian circulation features
- 23. Location, size and number of on-site parking areas, service lanes, parking and delivery or loading areas (see also Section 4.16)
- 24. Location, use and size of open spaces together with landscaping, screening, fences, and walls (see also Section 4.09 and Section 4.21)
- 25. Description of Existing and proposed on-site lighting (see also Section 4.27)

Utility Information

Provided

Not Provided or Applicable

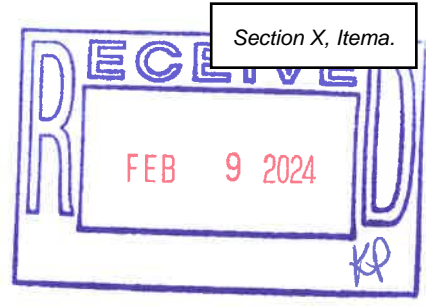
- 26. Written description of the potential demand for future community services, together with any special features which will assist in satisfying such demand
- 27. Proposed surface water drainage, sanitary sewage disposal, water supply and solid waste storage and disposal (see also Section 4.13)
- 28. Location of other existing and proposed utility services (i.e., propane tanks, electrical service, transformers) and utility easements (see also Section 4.13)
- 29. Written description and location of stormwater management system to be shown on a grading plan, including pre- and post-site development runoff calculations used for determination of stormwater management, and location and design (slope) of any retention/detention features (see also Section 4.

**Site Plan Informational (Demolition)
Requirements (Section 20.04, D)**

<u>Demolition</u>	<u>Provided</u>	<u>Not Provided or Applicable</u>
1. Site plan of property where demolition is going to take place. This plan shall include structure(s) being demolished, location of utilities, septic tanks, an itemized statement of valuation of demolition and restoration work to be performed, or other such items as may be required by the building official.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Copy of asbestos survey if required by EGLE or other state department.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Results of a pest inspection and, if necessary, a pest management plan.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Plans for restoring street frontage improvements (curb closure, sidewalk replacement, street patch, or other items as required by the building official). These items will not be required if building permits for redevelopment have been applied for or if redevelopment is planned within six months. In such case, the cash bond will be held until building permits for redevelopment are issued or improvements are complete. Completion shall not be deferred more than six months. Temporary erosion control and public protection shall be maintained during this time.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. A written work schedule for the demolition project. Included in this may be, but are not limited to, street closures, building moving dates, right-of-way work, or other items as required by the building official.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Acknowledgment that if any unknown historic or archeological remains discovered while accomplishing the activity authorized by a permit granted by the City, all work must immediately stop and notification of what was discovered must be made by the applicant to the City as well as any other required offices. The City will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Architectural Review
Informational Requirements (Section 18.05)**

<u>Item</u>	<u>Provided</u>	<u>Not Provided or Applicable</u>
1. Name and address of the applicant or developer, including the names and addresses of any officers of a corporation or partners of a partnership	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Legal description of the property	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Drawings, sketches and plans showing the architectural exterior features, heights, appearance, color and texture of the materials of exterior construction and the placement of the structure on the lot, and any additional information determined necessary by the planning commission to determine compliance with the architectural standards (see also Section 18.06)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Photographs of existing site conditions, including site views, existing buildings on the site, streetscape views in all directions, and neighboring buildings within 150 feet of the site.	<input checked="" type="checkbox"/>	<input type="checkbox"/>



railing replacement at 8350 Cedar Court:

Existing wooden railing is rotten. Attachment to porch is not fully secure.

The proposal is to replace the railing with a steel cable railing system that is much more secure, with very high safety railing.

The railing is mostly facing the lake side, and not visible to any neighbors or the road. The house is at the end of the cut de sac on Cedar Court, not visible from the road. The cable railing system is very low visibility.

The main difference is the much higher safety of the cable railing system, and resistance to future breakdown due to rot.

*second floor porch, connected to house
not in yard*

*delivered by drag, dumpster to remove
old fence*

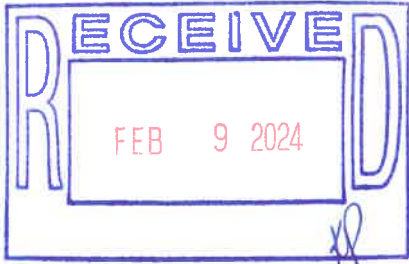
starting KRP

File No. R124 019.010

Exhibit B

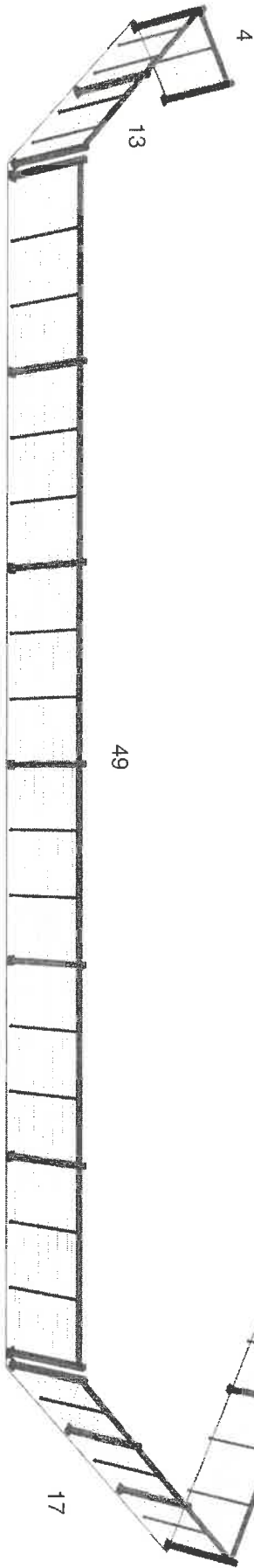
Date 2.9.24

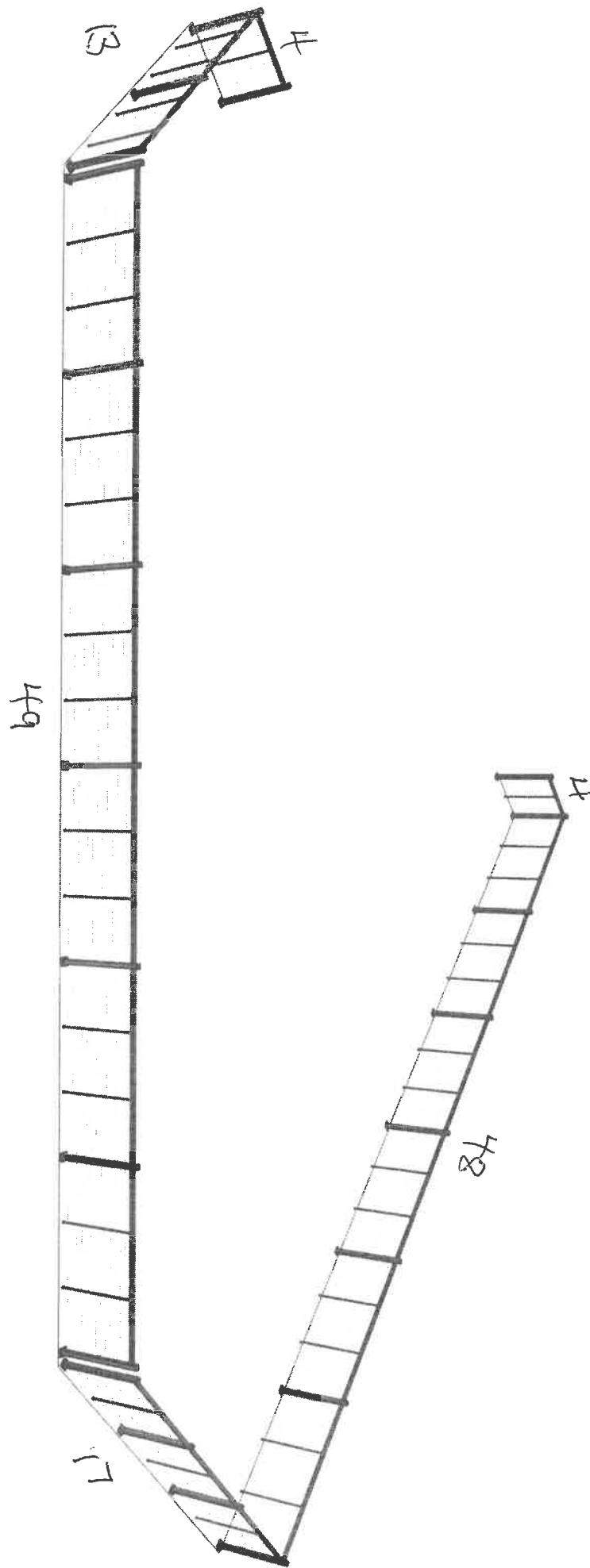
Initials KP

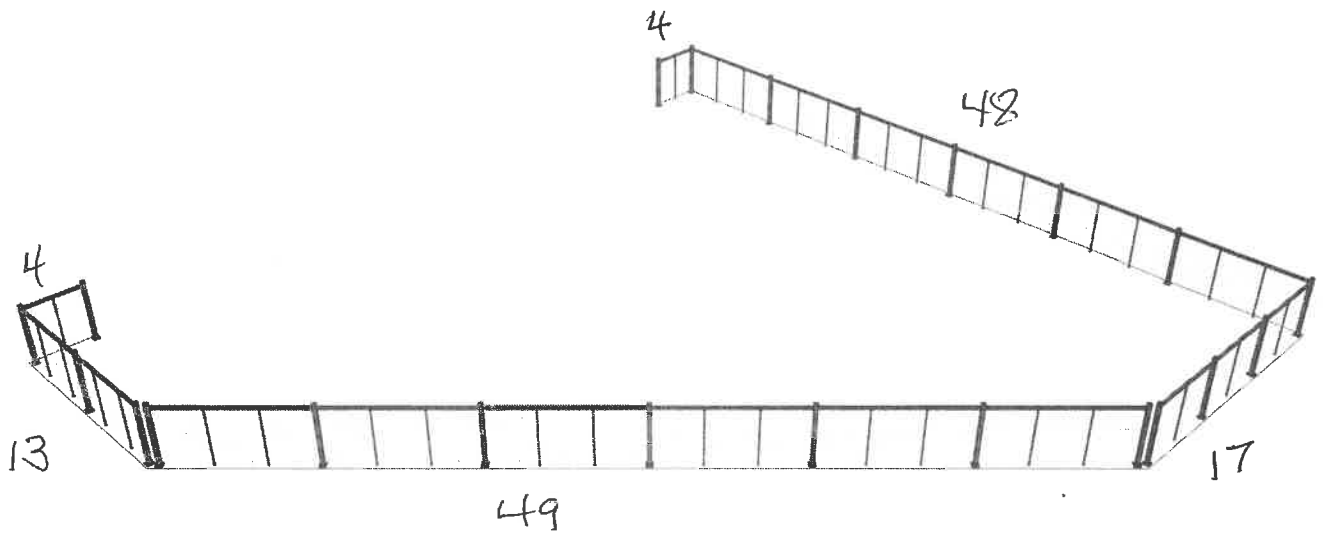


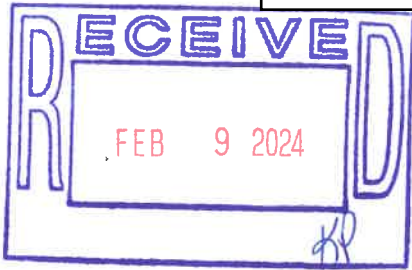
File No. R124-019-010
Exhibit C
Date 2.9.24
Initials KP

44" tall

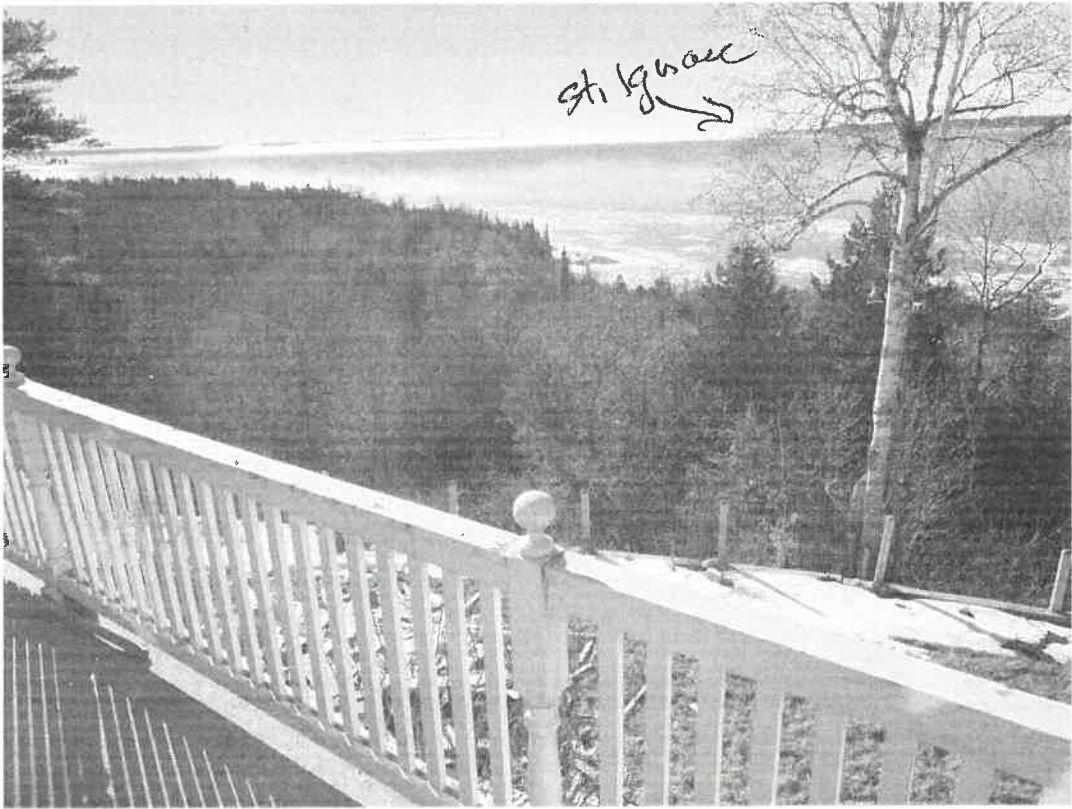








view from porch



File No. R124-09-010
Exhibit D
Date 2.9.24
Initials KP

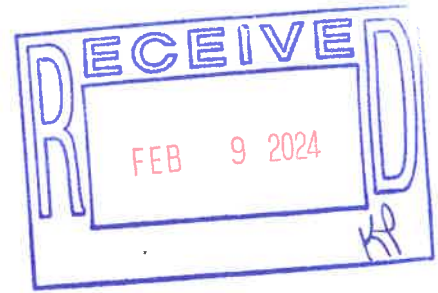


sample installations





example manufacturer's pictures, KeyLink railing



TEST REPORT

REPORT NO.: 12306.04-110-23
RENDERED TO: SUPERIOR PLASTIC PRODUCTS
New Holland, Pennsylvania

File No. R124-019-010
Exhibit E
Date 2-9-24
Initials KP

PRODUCT TYPE: American Level Railing with Horizontal Cable Infill

SERIES / MODEL: American Level Railing 84" x 36"

This report contains in its entirety:

- Cover Page: 1 page
- Body of Report: 20 pages
- Photographs: 3 pages
- Drawings: 14 pages



2023.07.20 14:20:33 -04'00'

Test Date: 4/13/2023
Report Date: 7/19/2023



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CLIENT INFORMATION: SUPERIOR PLASTIC PRODUCTS
260 Jalyn Drive
New Holland, Pennsylvania 17557

TEST LABORATORY: Molimo, LLC
1410 Eden Road
York, Pennsylvania 17402
717-916-6300

PROJECT SUMMARY:

PRODUCT TYPE: American Level Railing with Horizontal Cable Infill

SERIES / MODEL: American Level Railing 84" x 36"

PROJECT SUMMARY:

Molimo, LLC was contracted to perform structural testing in accordance with the 2021 IRC on the above referenced product. The results are tested values and were secured by using the designated test methods.

All testing was performed by representatives of Superior Plastic Products at the Superior Plastic Products test facility in New Holland, Pennsylvania. All test specimen construction, installation, and testing was witnessed by a representative of Molimo. The calibration of all equipment utilized for testing was verified prior to the start of testing.

The purpose of the testing is to prove that the product tested meets the code requirements listed in the appropriate version of the Building Code. Testing was not performed for use in conjunction with a Code Compliance evaluation report. All testing was performed in accordance with the following criteria:

ICC-ES™ AC273 (approved June, 2017), *Acceptance Criteria for Handrails and Guards*
2021 international Residential Code®, International Code Council

SUMMARY OF RESULTS:

The specimens tested met the 2021 IRC design load performance requirements for all mounting conditions, limited to use in One- and Two-family Dwellings (IRC).

PROJECT DETAILS:

Test Dates: 4/13/2023

Test Record Retention End Date: 4/13/2027



GENERAL INFORMATION:

LIMITATIONS:

All tests performed were to evaluate the structural performance of the railing assembly to carry and transfer imposed loads to the supports (posts). The test specimens evaluated included the balusters, rails, rail brackets and attachment to the supporting structure. The support posts were conventional construction and not within the scope of the evaluation. Posts were therefore not a tested component and were included in the test specimen only to facilitate anchorage of the rail bracket.

Anchorage of support posts to the supporting structure is not included in the scope of this testing and would need to be evaluated separately.

QUALIFICATIONS:

Molimo, LLC in York, Pennsylvania has demonstrated compliance with ISO/IEC International standard 17025 and is consequently accredited as a Testing Laboratory (TL-678) by International Accreditation Service, Inc. (IAS). Molimo is accredited to perform all testing reported herein.

PRODUCT DESCRIPTION:

The aluminum railing systems are comprised of aluminum rails and posts produced by an extrusion process. Horizontal wire cable balusters were attached to the adjacent posts. The railing systems consist of all Keylink color offerings including but not limited to textured black, white, bronze and gloss black, white, bronze, beige, kona, hunter green, speckled walnut, brownstone, redwood, silver. As the color of the aluminum does not have effect on the performance of the product, the black color product was selected for testing.

Drawings are included in Appendix B to verify the overall dimensions and other pertinent information for the tested product, its components, and any construction assemblies.



GENERAL INFORMATION: (Continued)

PRODUCT SAMPLING:

Sampling of the test specimens was not performed as the testing was not requested to be used for Code Compliance Evaluation Report. All test specimens were selected by Superior Plastic Products personnel.

WITNESSES:

The following representatives witnessed all or part of the testing.

Name	Company
Mike Alexander	Superior Plastic Products
Michael D. Stremmel, P.E.	Molimo, LLC
Robert J. Beatty	Molimo, LLC

CONDITIONS OF TESTING:

Unless otherwise indicated, all testing reported herein was conducted in a laboratory set to maintain temperature in the range of 68 ± 4°F and humidity in the range of 50 ± 5% RH. All test specimen materials were stored in the laboratory environment for no less than 40 hours prior to testing.

REFERENCED STANDARDS:

ASTM E 935-13, *Standard Test Methods for Performance of Permanent Metal Railing System and Rail for Buildings*

ASTM E 985-00(06), *Standard Specification for Permanent Metal Railing Systems and Rails for Buildings*

2021 *international Residential Code*®, International Code Council



TEST SPECIMEN DESCRIPTION:

GENERAL:

Railing assemblies were tested in a self-contained structural frame designed to accommodate anchorage of a rail assembly and application of the required test loads. The specimen was loaded using an electric winch mounted to a ridged steel test frame. High strength steel cables, nylon straps, and load distribution beams were used to impose test loads on the specimen. The applied load was measured using an electronic load cell located in-line with the loading system. Deflections were measured to the nearest 0.01 in using electronic linear displacement transducers.

RAILING ASSEMBLY DESCRIPTION:

The guardrail systems consisted of extruded aluminum top rails with spaced steel horizontal cables between the rail members. Top rails were attached to 2-1/2" square aluminum posts via cast aluminum brackets. Component details, description, and a fastening schedule for connection details can be found in the following tables. See photographs in Appendix A and drawings in Appendix B for additional details.

COMPONENT DESCRIPTIONS:

The scope of testing performed and reported herein was intended to evaluate the American Series Level Rail system consisting of the following components, (Reference Appendix B for drawings).

Top Rail	Two-piece, snap-fit assembly measuring 1-3/4" wide by 1-7/8" high overall, with an internal PVC insert.
Balusters	1/8" diameter horizontal stainless-steel wire cable, spaced 2-7/8" on center with 3/4" square aluminum tube vertical supports spaced a maximum of 30" on center. The vertical supports utilized a clip at the bottom that was secured to the simulated deck surface.
Rail Connection Condition	Cast aluminum socket brackets contoured to accept the top or bottom rail. Connection details found in Fastening Schedule Section of this report.
Support Post	2-1/2" x 2-1/2" x 3/16" thick square extruded aluminum post with welded base plate



TEST SPECIMEN DESCRIPTION: (Continued)

FASTENING SCHEDULE:

Connection	Fastener
Top Rail Bracket to Post	Four - #12 x 1" pan head, self-drilling, square driver, stainless steel screws
Top Rail Bracket to top rail	Two - #10-16 x 3/4" (0.142" minor diameter) pan head, self-drilling, square driver, stainless steel screws
Horizontal Cables	Each post utilized a cable tensioner for each horizontal cable.
Vertical Support to Test Deck	One - #10 x 1-1/2" pan head wood screw
Post to Test Frame	Four - 3/8" diameter bolts with nuts and washers

TEST PROCEDURE:

TEST SETUP:

The railing assembly was installed and tested as a single railing section by directly securing the 2-1/2" square aluminum posts to a rigid test frame, which rigidly restrained the rail system. The 2-1/2" square aluminum posts were included only to facilitate anchorage of the test specimen and were not tested components. Transducers mounted to an independent reference frame were located to record movement of reference points on the railing system components (ends and mid-point) to determine net component deflections, (reference photographs in Appendix A).

TEST PROCEDURE:

The test specimen was inspected prior to testing to verify size and general condition of the material, assembly, and installation. No potentially compromising defects were observed. One specimen was used for all load tests which were performed in order reported. Each design load test was performed using the following procedure:

1. Zeroed transducers and load cell at zero load.
2. Increased load to specified test load at a steady, uniform rate. The load shall be achieved in no less than ten seconds.
3. Record the testing time of load application from the application of the load until the specified test load was achieved.
4. All test loads were maintained for a duration of 1 minute prior to releasing the test load.
5. If required, deflection of the railing was measured as a component displacement relative to their endpoints.



TEST EQUIPMENT:

The specimens were tested in a self-contained structural frame designed to accommodate anchorage of a rail assembly and application of the required test loads. The specimen was loaded using an electric winch mounted to a ridged steel test frame. High strength steel cables and nylon straps were used to impose test loads on the specimen. The applied load was measured using an electronic load cell located in-line with the loading system. Deflections were measured to the nearest 0.01 in using electronic linear displacement transducers.

The railings were secured to 12" structural steel "C" Channels. The structural steel "C" Channels were secured to the steel test frame with 1/2" bolts.

The following table lists the equipment used for testing:

Equipment	Calibration Due
Load Cell (3000 lb)	11/2023
Computer Acquisition System	Calibrated as part of the load cell and transducers
50" Linear Transducer (502-50 by TE)	Verified Prior to Testing
50" Linear Transducer (502-50 by TE)	Verified Prior to Testing
50" Linear Transducer (502-50 by TE)	Verified Prior to Testing
Test Fixture	--



GUARDRAIL END-USE ADJUSTMENTS:

The direction of all loads and displacement measurements are listed for each test. The test results apply only to the railing assembly between supports and anchorage to the support. The test loads adjustment factor was 2.5 x design load for all test loads.

STRUCTURAL PERFORMANCE TEST RESULTS:

**84" by 36", American Aluminum Level Guardrail
(In-line Application) with Horizontal Cable
IRC – All Use Groups / ICC-ES AC273**

Unless otherwise noted all loads and displacement measurements were normal to the rail (horizontal). The test results apply only to the railing assembly between supports and the anchorage to the support.

Key to Test Results Table

- Load Level: Target test load
- Test Load: Actual applied load at the designated load level (target)
- Elapsed Time (E.T.): The amount of time into the test with zero established at the beginning of the loading procedure.

Allowable Deflection Criteria (for all tests)

Allowable Deflection Criteria (per ICC ES AC273)
Horizontal Deflection Limit per AC273: $\left(\frac{l}{96}\right) = \left(\frac{84}{96}\right) = 0.875"$
Vertical Deflection Limit per AC273: $\left(\frac{l}{96}\right) = \left(\frac{84}{96}\right) = 0.875"$

General Note: All center deflections were measured at the point of load application in the direction of the applied load. All end deflections were measured at the center of the support. The Net Deflection is the rail deflection at the load application point relative to the support.



STRUCTURAL PERFORMANCE TEST RESULTS: (Continued)

Test Specimen No. 1:

Test No. 1 – Infill Load Test Test Date: 4/13/2023 Design Load: 50 lb / 1 Square Ft. of Infill				
Load Location	Load Level	Test Load	E.T. (min:sec)	Result
Center of Cables	125 lb (2.5 x D.L.)	131 lb	00:12	Withstood load equal to or greater than 125 lb without failure

Test No. 2 – Uniform Load Test (Horizontal) Test Date: 4/13/2023 Design Load: 20 lb / Ft. Uniform Load on Top Rail (20plf x (84 in ÷ 12 in/ft) = 140lb)						
Load Level	Test Load	E.T. (min:sec)	Deflection (inches)			
			Left	Center	Right	Net
140 lb (Design Load)	148 lb	00:18	0.16	0.45	0.14	0.30"
350 lb (2.50 x D.L.)	364 lb	01:42	No Damage to Railing System			
Deflection Evaluation: Deflection Limit per AC273: $\left(\frac{l}{96}\right) = \left(\frac{84}{96}\right) = 0.875" \geq 0.30" \therefore \text{meets requirement}$						

Note 1: Horizontal uniform load was simulated with quarter point loading.

Test No. 3 – Uniform Load Test (Vertical) Test Date: 4/13/2023 Design Load: 20 lb / Ft. Uniform Load on Top Rail (20plf x (84 in ÷ 12 in/ft) = 140 lb)						
Load Level	Test Load	E.T. (min:sec)	Deflection (inches)			
			Left	Center	Right	Net
140 lb (Design Load)	158 lb	00:21	--	0.10	--	0.10"
350 lb (2.50 x D.L.)	369 lb	01:39	No Damage to Railing System			
Deflection Evaluation: Deflection Limit per AC273: $\left(\frac{l}{96}\right) = \left(\frac{84}{96}\right) = 0.875" \geq 0.10" \therefore \text{meets requirement}$						

Note 2: Vertical uniform load was simulated with quarter point loading.



STRUCTURAL PERFORMANCE TEST RESULTS: (Continued)

Test Specimen No. 1: (Continued)

Test No. 4 –Concentrated Load Test (Midspan of Top Rail) (Horizontal)						
Test Date: 4/13/2023						
Design Load: 200 lb Concentrated Load at Midspan of Top Rail						
Load Level	Test Load	E.T. (min:sec)	Deflection (inches)			
			Left	Center	Right	Net
200 lb (Design Load)	212 lb	00:17	0.23	1.00	0.24	0.77"
500 lb (2.50 x D.L.)	507 lb	01:40	Result: No Damage to Railing System			
Deflection Evaluation:						
Deflection Limit per AC273: $\left(\frac{l}{96}\right) = \left(\frac{84}{96}\right) = 0.875" \geq 0.77" \therefore \text{meets requirement}$						

Note #3: End deflections were measured at the center of the support. The Net Deflection is the rail deflection relative to the support.

Test No. 5 –Concentrated Load Test (Midspan of Top Rail) (Vertical)						
Test Date: 4/13/2023						
Design Load: 200 lb Concentrated Load at Midspan of Top Rail						
Load Level	Test Load	E.T. (min:sec)	Deflection (inches)			
			Left	Center	Right	Net
200 lb (Design Load)	224 lb	00:18	--	0.10	--	0.10"
500 lb (2.50 x D.L.)	520 lb	01:38	Result: No Damage to Railing System			
Deflection Evaluation:						
Deflection Limit per AC273: $\left(\frac{l}{96}\right) = \left(\frac{84}{96}\right) = 0.875" \geq 0.10" \therefore \text{meets requirement}$						



STRUCTURAL PERFORMANCE TEST RESULTS: (Continued)

Test Specimen No. 1: (Continued)

Test No. 6 –Concentrated Load Test (Both Ends of Top Rail) (Horizontal)						
Test Date: 4/13/2023						
Design Load: 200 lb Concentrated Load at Both Ends of Top Rail						
Load Level	Test Load	E.T. (min:sec)	Deflection (inches)			
			Left	Center	Right	Net
400 lb (Design Load)	412 lb	00:21	0.52	0.59	0.51	0.08"
1000 lb (2.50 x D.L.)	1007 lb	01:39	Result: No Damage to Railing System			
Deflection Evaluation:						
Deflection Limit per AC273: $\left(\frac{l}{96}\right) = \left(\frac{84}{96}\right) = 0.875" \geq 0.08" \therefore \text{meets requirement}$						

Note #4: Load was imposed on both ends of the rail using a spreader beam; therefore, the load was doubled.

Test No. 7 –Concentrated Load Test (Both Ends of Top Rail) (Vertical)						
Test Date: 4/13/2023						
Design Load: 200 lb Concentrated Load at Both Ends of Top Rail						
Load Level	Test Load	E.T. (min:sec)	Deflection (inches)			
			Left	Center	Right	Net
400 lb (Design Load)	418 lb	00:22	--	0.01	--	0.01"
1000 lb (2.50 x D.L.)	1014 lb	01:45	Result: No Damage to Railing System			
Deflection Evaluation:						
Deflection Limit per AC273: $\left(\frac{l}{96}\right) = \left(\frac{84}{96}\right) = 0.875" \geq 0.01" \therefore \text{meets requirement}$						

Note #5: Load was imposed on both ends of the rail using a spreader beam; therefore, the load was doubled.



STRUCTURAL PERFORMANCE TEST RESULTS: (Continued)

Test Specimen No. 2:

Test No. 1 – Infill Load Test				
Test Date: 4/13/2023				
Design Load: 50 lb / 1 Square Ft. of Infill				
Load Location	Load Level	Test Load	E.T. (min:sec)	Result
Center of cables	125 lb (2.5 x D.L.)	130 lb	00:12	Withstood load equal to or greater than 125 lb without failure

Test No. 2 – Uniform Load Test (Horizontal)						
Test Date: 4/13/2023						
Design Load: 20 lb / Ft. Uniform Load on Top Rail (20plf x (84 in ÷ 12 in/ft) = 140 lb)						
Load Level	Test Load	E.T. (min:sec)	Deflection (inches)			
			Left	Center	Right	Net
140 lb (Design Load)	146 lb	00:19	0.17	0.49	0.12	0.35"
350 lb (2.50 x D.L.)	359 lb	01:41	Result: No Damage to Railing System			
Deflection Evaluation:						
Deflection Limit per AC273: $\left(\frac{l}{96}\right) = \left(\frac{84}{96}\right) = 0.875" \geq 0.35" \therefore \text{meets requirement}$						

Note 1: Horizontal uniform load was simulated with quarter point loading.

Test No. 3 – Uniform Load Test (Vertical)						
Test Date: 4/13/2023						
Design Load: 20 lb / Ft. Uniform Load on Top Rail (20plf x (84 in ÷ 12 in/ft) = 140 lb)						
Load Level	Test Load	E.T. (min:sec)	Deflection (inches)			
			Left	Center	Right	Net
140 lb (Design Load)	156 lb	00:21	--	0.07	--	0.07"
350 lb (2.50 x D.L.)	370 lb	01:48	Result: No Damage to Railing System			
Deflection Evaluation:						
Deflection Limit per AC273: $\left(\frac{l}{96}\right) = \left(\frac{84}{96}\right) = 0.875" \geq 0.07" \therefore \text{meets requirement}$						

Note 2: Vertical uniform load was simulated with quarter point loading.



STRUCTURAL PERFORMANCE TEST RESULTS: (Continued)

Test Specimen No. 2: (Continued)

Test No. 4 –Concentrated Load Test (Midspan of Top Rail) (Horizontal) Test Date: 4/13/2023 Design Load: 200 lb Concentrated Load at Midspan of Top Rail						
Load Level	Test Load	E.T. (min:sec)	Deflection (inches)			
			Left	Center	Right	Net
200 lb (Design Load)	212 lb	00:19	0.24	1.06	0.25	0.82"
500 lb (2.50 x D.L.)	507 lb	01:41	Result: No Damage to Railing System			
Deflection Evaluation:						
Deflection Limit per AC273: $\left(\frac{L}{96}\right) = \left(\frac{84}{96}\right) = 0.875" \geq 0.82" \therefore \text{meets requirement}$						

Note #3: End deflections were measured at the center of the support. The Net Deflection is the rail deflection relative to the support.

Test No. 5 –Concentrated Load Test (Midspan of Top Rail) (Vertical) Test Date: 4/13/2023 Design Load: 200 lb Concentrated Load at Midspan of Top Rail						
Load Level	Test Load	E.T. (min:sec)	Deflection (inches)			
			Left	Center	Right	Net
200 lb (Design Load)	222 lb	00:18	--	0.10	--	0.10"
500 lb (2.50 x D.L.)	518 lb	01:36	Result: No Damage to Railing System			
Deflection Evaluation:						
Deflection Limit per AC273: $\left(\frac{L}{96}\right) = \left(\frac{84}{96}\right) = 0.875" \geq 0.10" \therefore \text{meets requirement}$						



STRUCTURAL PERFORMANCE TEST RESULTS: (Continued)

Test Specimen No. 2: (Continued)

Test No. 6 –Concentrated Load Test (Both Ends of Top Rail) (Horizontal)						
Test Date: 4/13/2023						
Design Load: 200 lb Concentrated Load at Both Ends of Top Rail						
Load Level	Test Load	E.T. (min:sec)	Deflection (inches)			
			Left	Center	Right	Net
400 lb (Design Load)	413 lb	00:21	0.51	0.61	0.52	0.10"
1000 lb (2.50 x D.L.)	1005 lb	01:42	Result: No Damage to Railing System			
Deflection Evaluation:						
Deflection Limit per AC273: $\left(\frac{l}{96}\right) = \left(\frac{84}{96}\right) = 0.875" \geq 0.10" \therefore \text{meets requirement}$						

Note #4: Load was imposed on both ends of the rail using a spreader beam; therefore, the load was doubled.

Test No. 7 –Concentrated Load Test (Both Ends of Top Rail) (Vertical)						
Test Date: 4/13/2023						
Design Load: 200 lb Concentrated Load at Both Ends of Top Rail						
Load Level	Test Load	E.T. (min:sec)	Deflection (inches)			
			Left	Center	Right	Net
400 lb (Design Load)	423 lb	00:22	--	0.01	--	0.01"
1000 lb (2.50 x D.L.)	1012 lb	01:38	Result: No Damage to Railing System			
Deflection Evaluation:						
Deflection Limit per AC273: $\left(\frac{l}{96}\right) = \left(\frac{84}{96}\right) = 0.875" \geq 0.01" \therefore \text{meets requirement}$						

Note #5: Load was imposed on both ends of the rail using a spreader beam; therefore, the load was doubled.



STRUCTURAL PERFORMANCE TEST RESULTS: (Continued)

Test Specimen No. 3:

Test No. 1 – Infill Load Test Test Date: 4/13/2023 Design Load: 50 lb / 1 Square Ft. of Infill				
Load Location	Load Level	Test Load	E.T. (min:sec)	Result
Center of cables	125 lb (2.5 x D.L.)	129 lb	00:11	Withstood load equal to or greater than 125 lb without failure

Test No. 2 – Uniform Load Test (Horizontal) Test Date: 4/13/2023 Design Load: 20 lb / Ft. Uniform Load on Top Rail (20plf x (84 in ÷ 12 in/ft) = 140 lb)						
Load Level	Test Load	E.T. (min:sec)	Deflection (inches)			
			Left	Center	Right	Net
140 lb (Design Load)	148 lb	00:19	0.17	0.50	0.26	0.46"
350 lb (2.50 x D.L.)	359 lb	01:31	Result: No Damage to Railing System			

Deflection Evaluation:

Deflection Limit per AC273: $\left(\frac{l}{96}\right) = \left(\frac{84}{96}\right) = 0.875" \geq 0.46" \therefore \text{meets requirement}$

Note 1: Horizontal uniform load was simulated with quarter point loading.

Test No. 3 – Uniform Load Test (Vertical) Test Date: 4/13/2023 Design Load: 20 lb / Ft. Uniform Load on Top Rail (20plf x (84 in ÷ 12 in/ft) = 140 lb)						
Load Level	Test Load	E.T. (min:sec)	Deflection (inches)			
			Left	Center	Right	Net
140 lb (Design Load)	158 lb	00:21	--	0.10	--	0.10"
350 lb (2.50 x D.L.)	372 lb	01:41	Result: No Damage to Railing System			

Deflection Evaluation:

Deflection Limit per AC273: $\left(\frac{l}{96}\right) = \left(\frac{84}{96}\right) = 0.875" \geq 0.10" \therefore \text{meets requirement}$

Note 2: Vertical uniform load was simulated with quarter point loading.



STRUCTURAL PERFORMANCE TEST RESULTS: (Continued)

Test Specimen No. 3: (Continued)

Test No. 4 –Concentrated Load Test (Midspan of Top Rail) (Horizontal)						
Test Date: 4/13/2023						
Design Load: 200 lb Concentrated Load at Midspan of Top Rail						
Load Level	Test Load	E.T. (min:sec)	Deflection (inches)			
			Left	Center	Right	Net
200 lb (Design Load)	212 lb	00:19	0.25	1.03	0.18	0.82"
500 lb (2.50 x D.L.)	507 lb	01:35	Result: No Damage to Railing System			
Deflection Evaluation:						
Deflection Limit per AC273: $\left(\frac{l}{96}\right) = \left(\frac{84}{96}\right) = 0.875" \geq 0.82" \therefore \text{meets requirement}$						

Note #3: End deflections were measured at the center of the support. The Net Deflection is the rail deflection relative to the support.

Test No. 5 –Concentrated Load Test (Midspan of Top Rail) (Vertical)						
Test Date: 4/13/2023						
Design Load: 200 lb Concentrated Load at Midspan of Top Rail						
Load Level	Test Load	E.T. (min:sec)	Deflection (inches)			
			Left	Center	Right	Net
200 lb (Design Load)	222 lb	00:22	--	0.09	--	0.09"
500 lb (2.50 x D.L.)	519 lb	01:42	Result: No Damage to Railing System			
Deflection Evaluation:						
Deflection Limit per AC273: $\left(\frac{l}{96}\right) = \left(\frac{84}{96}\right) = 0.875" \geq 0.09" \therefore \text{meets requirement}$						



STRUCTURAL PERFORMANCE TEST RESULTS: (Continued)

Test Specimen No. 3: (Continued)

Test No. 6 –Concentrated Load Test (Both Ends of Top Rail) (Horizontal)						
Test Date: 4/13/2023						
Design Load: 200 lb Concentrated Load at Both Ends of Top Rail						
Load Level	Test Load	E.T. (min:sec)	Deflection (inches)			
			Left	Center	Right	Net
400 lb (Design Load)	412 lb	00:24	0.51	0.58	0.49	0.08"
1000 lb (2.50 x D.L.)	1006 lb	01:49	Result: No Damage to Railing System			
<u>Deflection Evaluation:</u>						
Deflection Limit per AC273: $\left(\frac{L}{96}\right) = \left(\frac{84}{96}\right) = 0.875" \geq 0.08" \therefore \text{meets requirement}$						

Note #4: Load was imposed on both ends of the rail using a spreader beam; therefore, the load was doubled.

Test No. 7 –Concentrated Load Test (Both Ends of Top Rail) (Vertical)						
Test Date: 4/13/2023						
Design Load: 200 lb Concentrated Load at Both Ends of Top Rail						
Load Level	Test Load	E.T. (min:sec)	Deflection (inches)			
			Left	Center	Right	Net
400 lb (Design Load)	423 lb	00:19	--	0.05	--	0.05"
1000 lb (2.50 x D.L.)	1015 lb	01:38	Result: No Damage to Railing System			
<u>Deflection Evaluation:</u>						
Deflection Limit per AC273: $\left(\frac{L}{96}\right) = \left(\frac{84}{96}\right) = 0.875" \geq 0.05" \therefore \text{meets requirement}$						

Note #5: Load was imposed on both ends of the rail using a spreader beam; therefore, the load was doubled.



ASSEMBLY FASTENER TESTING:

GENERAL:

The purpose of this testing was to simulate a 90° bracket loading condition for the in-line application, which addresses a situation when the guardrail system is to be installed with the top rails in a corner condition.

TEST SPECIMENS:

Short sections of the top rail were attached in accordance with Key-Link installation instructions to short sections of posts. Specimens were assembled by a Molimo technician. The rail brackets were attached to the aluminum posts as described in the Test Specimen Description – Fastening Schedule section of this test report, unless otherwise noted.

TEST SETUP:

For all specimens, the test machine was fitted with the post section secured to the base plate and a second post section secured to the machine's crosshead to accommodate anchorage of the rail and brackets. A rail section, approximately 8" – 12" long was secured to each post section using a bracket at each post section. The bottom post section was rigidly secured to the base of the test machine and the top post section was rigidly secured to the crosshead of the test machine. Using this test setup, two bracket assemblies were tested at the same time. Reference Photographs in Appendix A for test setup.

TEST PROCEDURE:

Testing was performed in accordance with ASTM D1761 using a computer-monitored and controlled Test Resources, Model 312, Universal Testing Machine. Tests were run at a crosshead speed of 0.10 in/min. All specimens were tested in tension to its ultimate load capacity.



ASSEMBLY FASTENER TESTING: (Continued)

TEST RESULTS: Assembly fastener testing was previously conducted and reported in Molimo Report No. 2871.02-106-12 and is summarized below.

American Series Top Rail Assembly Fastener Test Results

Test Specimen	Ultimate Load (lb)	Deviation from Average	Mode of Failure
1	1102.24	-13.09%	Bracket Failure
2	1245.38	-1.80%	Bracket Failure
3	1456.96	14.88%	Bracket Failure
Average	1268.19		
Allowable Capacity ¹	422.7	≥ 200 lb ∴ OK ²	

¹ Average Ultimate Load divided by a Factor of Safety of three (3.0).

² Acceptance Criteria determined from the concentrated load test: 200 lb.

SUMMARY AND CONCLUSIONS:

The maximum design load rating required for guardrail systems for use in IRC – One- and Two-Family Dwellings for guardrails up to 7 ft is 200 lbs. Therefore, fasteners / connectors reported herein meet the performance requirements of ICC-ES™ AC273 for use in corner conditions.



CONCLUSION:

The railing assemblies reported herein meet the structural performance requirements of Section 4.2 of ICC-ES™ AC273 as installed between adequate supports with guardrail details for use in One- and Two-family Dwellings as listed in the 2021 IRC.

The railing supports were not included within the scope of this testing and these conclusions would apply only for a railing that is provided with adequate supports that provide equal or better substrate material for the fasteners used to anchor the rail brackets.

Anchorage of the support posts to the supporting structure is not included in the scope of this testing and would need to be evaluated separately.

A copy of this report, detailed drawings, datasheets, representative samples of test specimens, or other pertinent project documentation will be retained by Molimo, LLC for the entire test record retention period. At the end of this retention period, the service life of this report will expire.

Results obtained are tested values and were secured by using the designated test methods. This test report does not constitute certification of this product nor an opinion or endorsement by this laboratory. It is the exclusive property of the client so named herein and relates only to the specimen(s) tested. This report may not be reproduced, except in full, without the written permission of Molimo, LLC.

For MOLIMO, LLC:

Robert J. Beatty
Project Manager

Michael D. Stremmel, P.E.
Senior Project Engineer

MDS:alb

Attachments (pages): This report is complete only when all attachments listed are included.

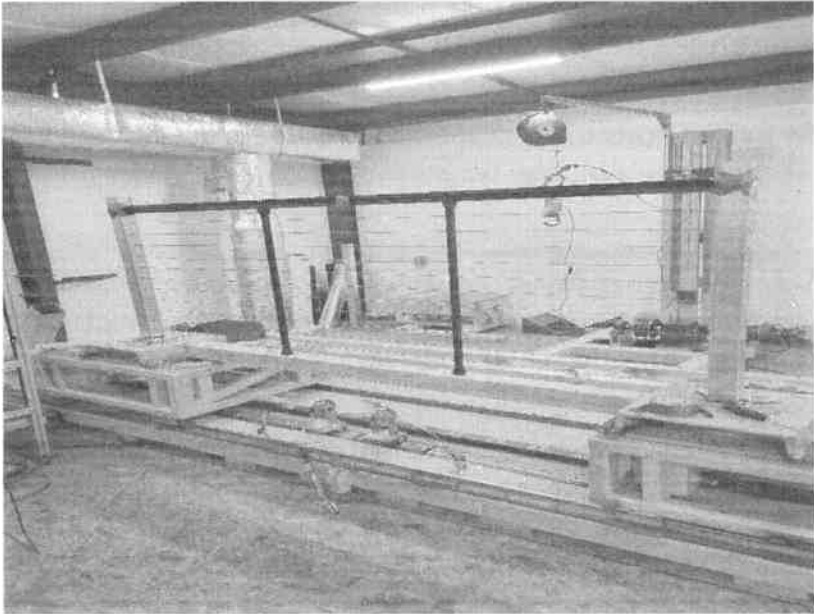
Appendix-A: Photographs (3)

Appendix-B: Drawings (14)

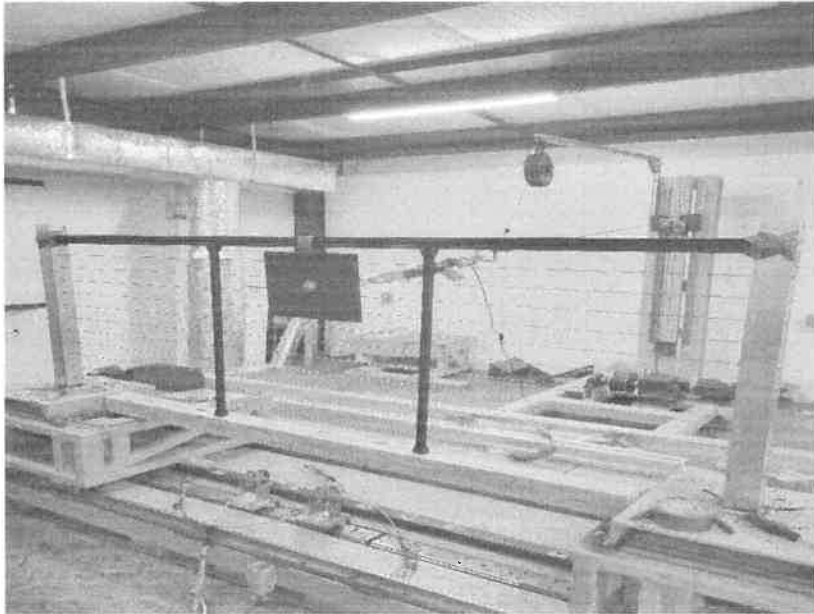
This report was produced from controlled document template MMG 00031, Rev 0, 11/27/2018.

Appendix A

Photographs



**Photo No. 1
Test Specimen**



**Photo No. 2
Test No. 1 – Infill Load Test (Top)**

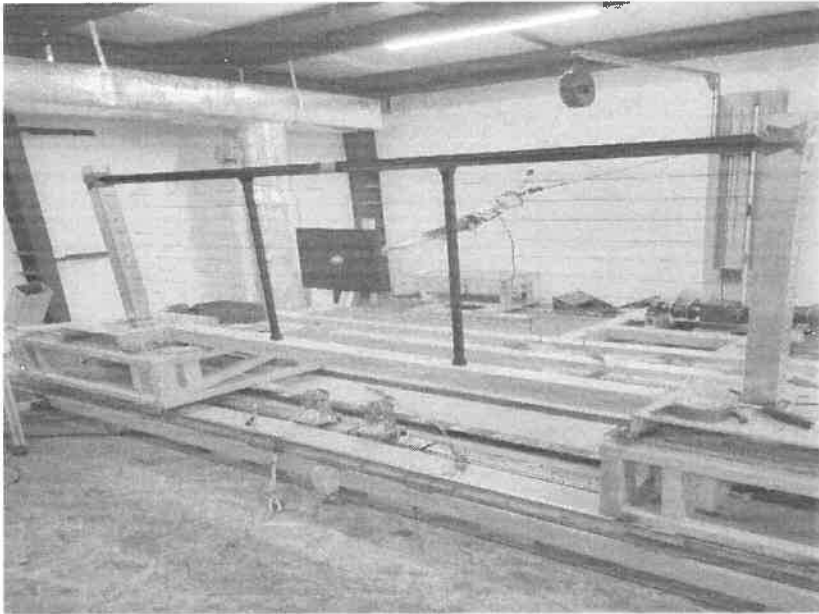


Photo No. 3
Test No. 1a – Infill Load Test (Center)

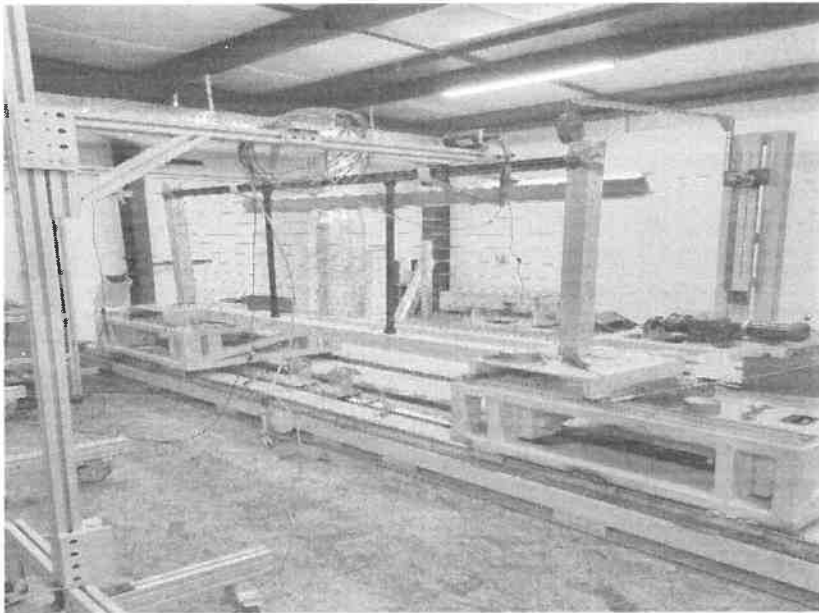


Photo No. 4
Test No. 2 – Uniform Load Test (Horizontal)

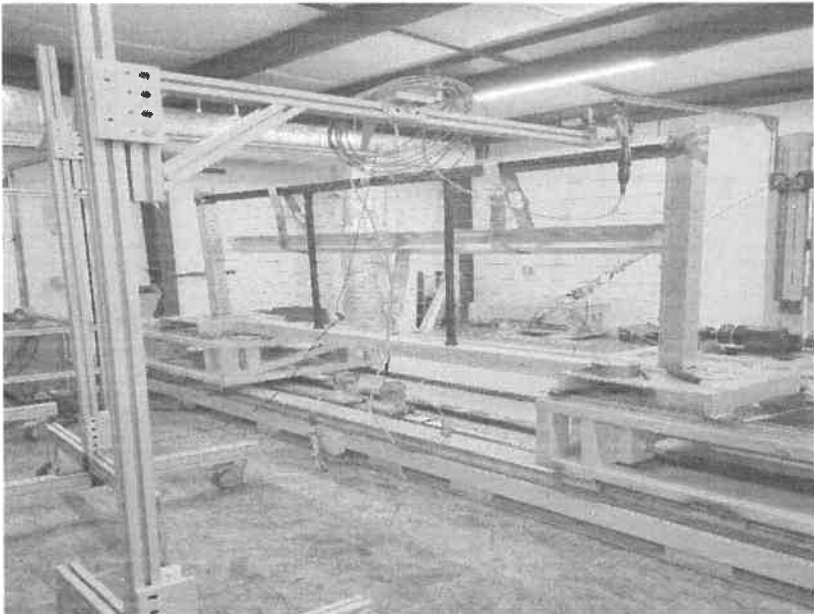


Photo No. 5
Test No. 3 – Uniform Load Test (Vertical)



Appendix B

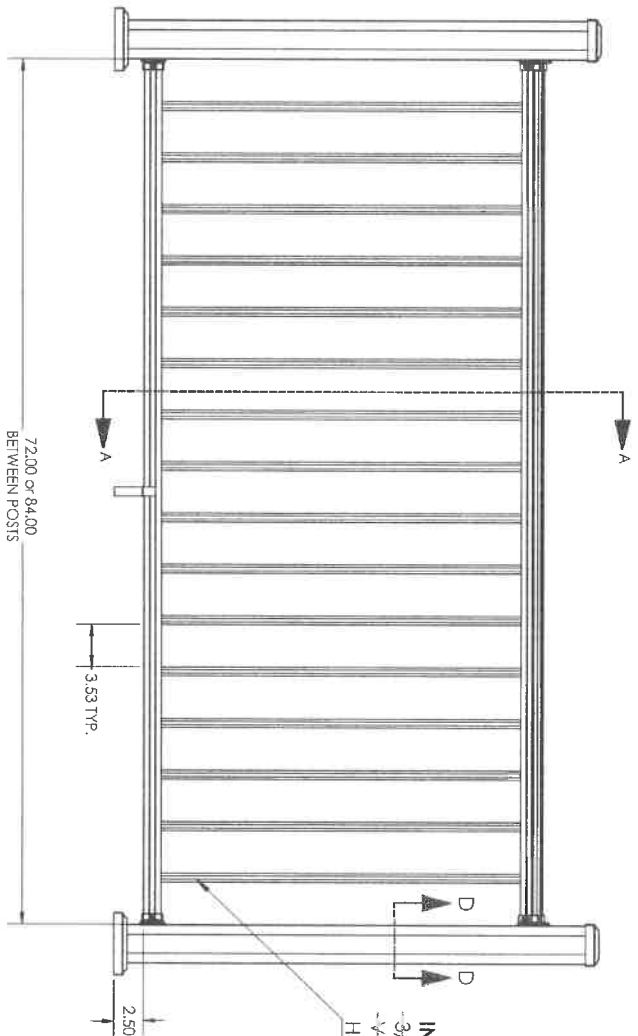
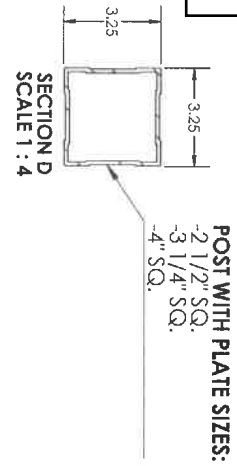
Drawings

Section X, Itema.

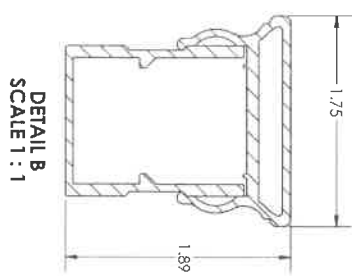
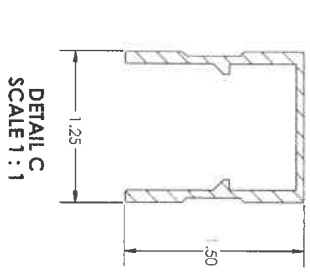
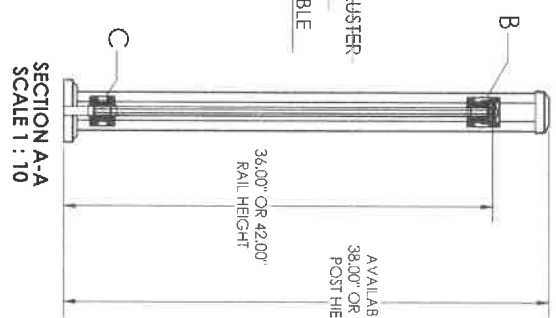
4 3 2 1

IN DESIGN

REVISIONS		
REV.	DESCRIPTION	DATE
87		4/20/2023



INFILL OPTIONS:
-3/4" SQUARE BALUSTER
-VERTICAL CABLE
-HORIZONTAL CABLE



Molimo
A Division of Federal Products, Inc.
Report #: 12306-04-110-23
Date: 7/19/2023
By: M. Stremmel, P.E.

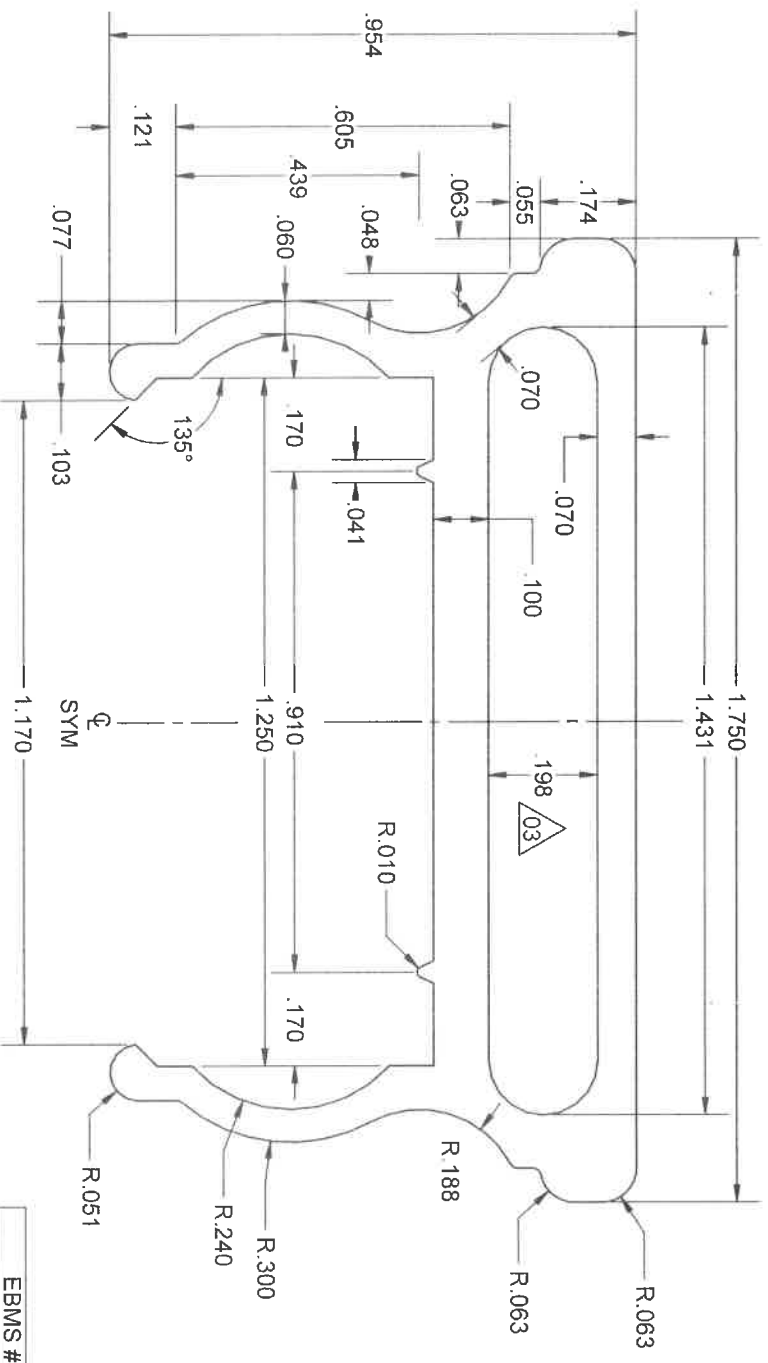
EBMS #:	LAST SAVE DATE	4/20/2023
DESIGNED BY	DRAWN BY	APPROVED BY
DATE	DATE	DATE
THE INFORMATION CONTAINED HEREIN IS THE PROPERTY OF FEDERAL PRODUCTS, INC. AND IS UNCLASSIFIED UNLESS OTHERWISE SPECIFIED 1. DIMENSIONS ARE IN INCHES 2. BREAK ALL SHARP EDGES 3. TOLERANCES: ANGULAR ±0.1° HOLE ±0.005" HOLE WITHOUT THE WRITTEN PERMISSION OF SUPPLIER PLASTIC PRODUCTS IS PROHIBITED.		
DO NOT SCALE DRAWINGS	FINISH	N/A
SEE BILL OF MATERIALS	SCALE	1:16
WEIGHT	15.14	
TITLE	Key-Link Fencing and Railing	
PROJECT NO.	110 Pellets Road, New Holland, Pa. 17557	
DATE	4/20/2023	
SCALE	1:16	
WEIGHT	15.14	
REV	1	

4 3 2 1

2

1

REVISIONS			
REV.	DESCRIPTION	DATE	BY
01	Changed material from 6061-T6 to 6105-T6	11/15/2020	GE
02	UPDATED MATERIAL FROM 6105-T6 TO 6005-T5	11/16/2020	GE
03	UPDATED HOLLOW SECTION TO ROUNDED CORNERS	4/1/2022	JC



EBMS #	CUT LENGTH TOL.
COAMSTC6RW	+/- .010"
COAMSTC8RW	+/- .010"

A

B

A

B

Molimo
 Architectural Product Testing
 Report #: 12306.04-110-23
 Date: 7/19/2023
 By: M. Stremmel, P.E.

LAST SAVE DATE
4/1/2022

PROPRIETARY AND CONFIDENTIAL
 THE INFORMATION CONTAINED
 IN THIS DRAWING IS THE PROPERTY
 OF SUPERIOR PLASTIC PRODUCTS.
 ANY REPRODUCTION IN PART OR IN
 WHOLE WITHOUT THE WRITTEN
 PERMISSION
 OF SUPERIOR PLASTIC PRODUCTS IS
 PROHIBITED.

NAME	DATE
MODELED BY: E.HUNT	8/4/2020
DRAWN BY: E.HUNT	8/4/2020
APPROVED BY: A.NOCÉ	04/04/2022

PROJECTION:

DO NOT SCALE DRAWING

FINISH: N/A

MATERIAL: 6005-T5 Aluminum

UNLESS OTHERWISE SPECIFIED:
 1. DIMENSIONS ARE IN INCHES
 2. BREAK ALL SHARP EDGES
 3. TOLERANCES:
 FRACTIONAL ± 1/64"
 ANGULAR MACH ± 1.0° BEND ± 1.0°
 TWO PLACE DECIMAL ± 0.01"
 THREE PLACE DECIMAL ± 0.005"

TITLE:
Key-Link Fencing and Rolling
110 Peters Road, New Holland, Pa 17557

SCALE: 1:4 WEIGHT: 0.47408 SHEET 1 OF 1

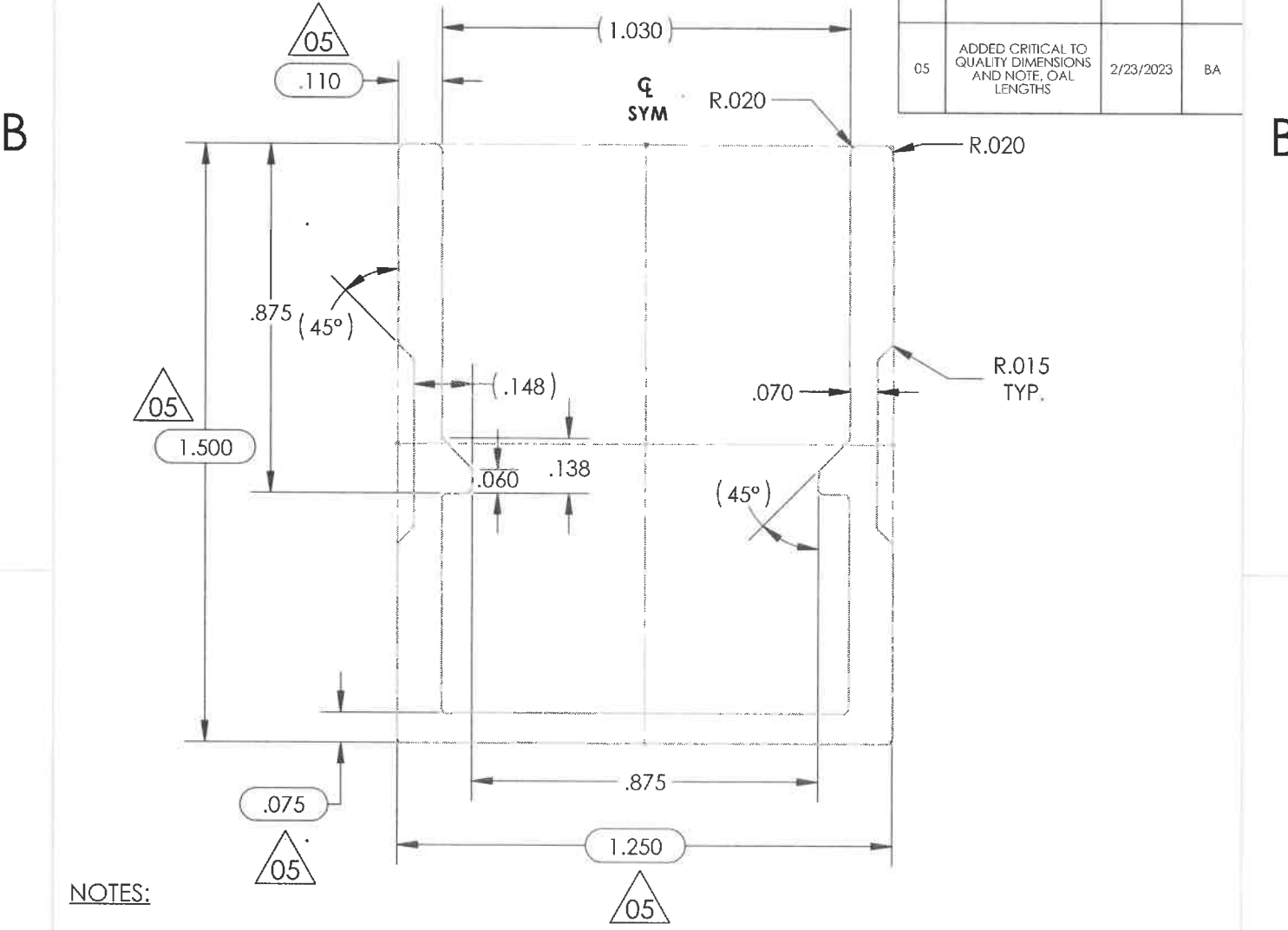
SIZE DWG. NO. 110029 REV 03

2

1

Molimo
 Architectural Product Testing
 Report #: 12306.04-110-23
 Date: 7/19/2023
 By: M. Stremmel, P.E.

REVISIONS			
REV.	DESCRIPTION	DATE	BY
01	INITIAL RELEASE	1/18/2019	F. T.
02	ADD CUT LENGTH TOL.	5/29/2019	F. T.
03	.110" WALL WAS .100", & .075" WALL WAS .060". DID NOT MATCH VENDOR DWG	11/16/2021	EH
04	Moved Fencing 4000 to end of description	6/14/2022	JH
05	ADDED CRITICAL TO QUALITY DIMENSIONS AND NOTE, OAL LENGTHS	2/23/2023	BA



NOTES:

- BREAK ALL SHARP EDGES
- ALL RADIUS R.010" EXCEPT WHERE SPECIFIED
- CRITICAL TO QUALITY DIMENSIONS

EBMS #	OAL	CUT LENGTH TOL.
COARBR8RW	8'	+1/8" / -0"

PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF KEY-LINK FENCING & RAILING. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF KEY-LINK FENCING & RAILING IS PROHIBITED.	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/64" ANGULAR: MACH ± 1.0° BEND ± 1.0° TWO PLACE DECIMAL ± 0.01" THREE PLACE DECIMAL ± 0.005"	NAME DATE DRAWN BY: F.Torres 05/16/2019 MODELED BY: F.Torres 05/16/2019 CHECKED BY: 02/23/2023 APPROVED BY: 02/23/2023
	INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5-2009 MATERIAL: 6063-T6 FINISH: N/A DO NOT SCALE DRAWING	COMMENTS:
PROJECTION 	SIZE: A	DWG. NO.: 081101 REV: 05

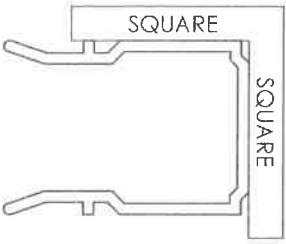
SCALE: 2.5:1	WEIGHT: 0.000	SHEET 1 OF 1
--------------	---------------	--------------

2

INFORMATION OF PROFILE

TOTAL WEIGHT PER FOOT	0.137668 lbs
TOTAL AREA OF PROFILE	0.21795 sq. in
THICKNESS OF CAP	.06 in
AREA OF CAP	0.21795 sq. in
WEIGHT PER FOOT OF CAP	0.137668 lbs
PERCENT OF CAP	100 %
THICKNESS OF SUB	0 in
PERCENT OF SUB	0 %
AREA OF SUB	0 sq. in
WEIGHT PER FOOT OF SUB	0 lbs

B



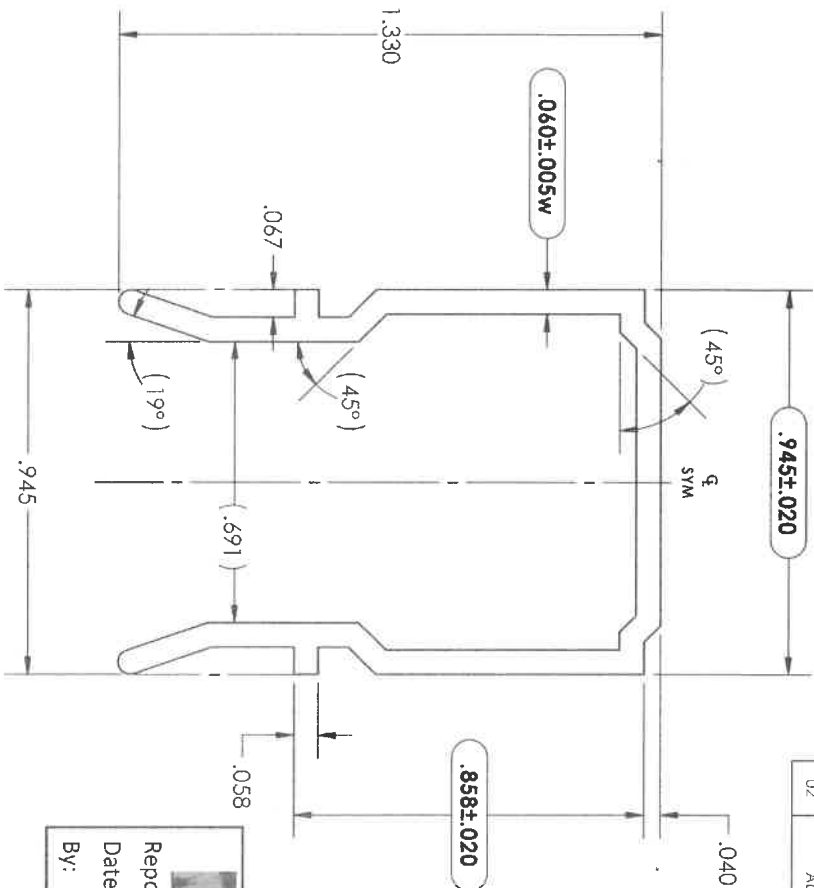
SCALE 1:1
REF. NOTE # 3

A

1. CRITICAL DIMENSIONS
2. ***REPRESENTS KFR COLOR CODE
3. USE A SQUARE TO CHECK FLATNESS ON TOP & BOTH SIDES INCLUDING TABS.
4. EVERY INSERT RAILING MUST HAVE AT LEAST 2 WEEP HOLES

1

REV.	DESCRIPTION	DATE	BY
01	CUT LENGTH TOL. WAS +1/8" / -0"	10/3/2019	F. T.
02	ADDED NOTE 4	3/19/2020	EH



Molimo
Architectural Product Test 'g
Report #: 12306.04-110-23
Date: 7/19/2023
By: M. Stremmel, P.E.

PROPRIETARY AND CONFIDENTIAL	NAME	SP #	EBMS #	CUT LENGTH TOL.
THE INFORMATION CONTAINED IN THIS DRAWING IS THE PROPERTY OF SUPERIOR PLASTIC PRODUCTS. ANY REPRODUCTION IN PART OR IN WHOLE WITHOUT THE WRITTEN PERMISSION OF SUPERIOR PLASTIC PRODUCTS IS PROHIBITED.	DRAWN BY: F. TORRES	SP-1063	PLKFRCOARR1***	±1/8"
	MODELED BY: F. TORRES	DATE: 07/25/2019		
	APPROVED BY: E. HUNT	DATE: 07/25/2019		
	PROJECTION: UNLESS OTHERWISE SPECIFIED: 1. DIMENSIONS ARE IN INCHES 2. BREAK ALL SHARP EDGES 3. TOLERANCES: FRACTIONAL: ± 1/64" ANGULAR: MACH ± 1.0° BEND ± 1.0° TWO PLACE DECIMAL ± 0.01" THREE PLACE DECIMAL ± 0.005"			
	FINISH: DO NOT SCALE DRAWING			
	MATERIAL: SUPERIOR PVC			
	SCALE: 2:1			
	WEIGHT: 0.138			
	SHEET 1 OF 1			

TITLE:
RAILING, AM/AR/KS, INSERT,
1.330" X .945" X .06w

SIZE DWG. NO. REV
A 0977115 02

2

1

B

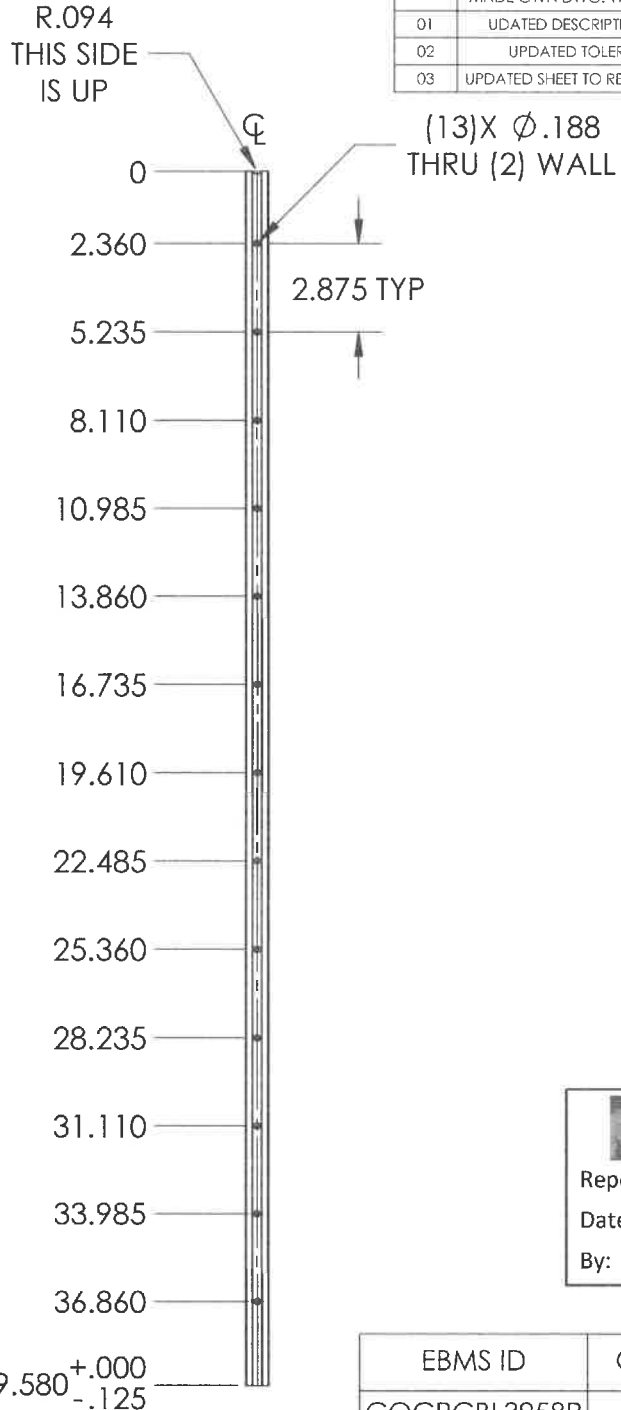
A

2

1

Section X, Itema.

REVISIONS			
REV.	DESCRIPTION	DATE	BY
-	MADE OWN DWG. WAS A PART OF 076481	6/25/2020	EH
01	UPDATED DESCRIPTION IN DATA CARD	3/27/2023	EH
02	UPDATED TOLERANCE AMOUNT	3/27/2023	CL
03	UPDATED SHEET TO REFLECT IQC STANDARD	4/11/2023	C



NOTES:

1. BREAK ALL SHARP EDGES

2. ALL TOLERANCES: +/- .010"

39.580^{+0.000}
-0.125

Molimo™
Architectural Product Testing

Report #: 12306.04-110-23

Date: 7/19/2023

By: M. Stremmel, P.E.

EBMS ID	OAL:	Cut Length Tolerance:
COCRCBL3958R W	39.580"	+0.000 -0.125

PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF KEY-LINK FENCING & RAILING. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF KEY-LINK FENCING & RAILING IS PROHIBITED.	UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/64" ANGULAR: MACH ± 1.0° BEND ± 1.0° TWO PLACE DECIMAL ± 0.01" THREE PLACE DECIMAL ± 0.005"	DRAWN BY: F. Torres MODELED BY: E. Hunt CHECKED BY: APPROVED BY: COMMENTS:	NAME: F. Torres DATE: 6/25/2020 06/25/2020 04/12/2023 04/12/2023	Key-Link Fencing & Railing, Inc 150 Orlian Road, New Holland, PA 17557 TITLE: 3/4" SQ. X 39" LEVEL BALUSTER (FOR 42" HT. RAILING)
	INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5-2009 MATERIAL: 6063-T6 FINISH: POWDER COAT PER KFR STD DO NOT SCALE DRAWING	PROJECTION 	SIZE: A DWG. NO.: 108959 REV: 3	

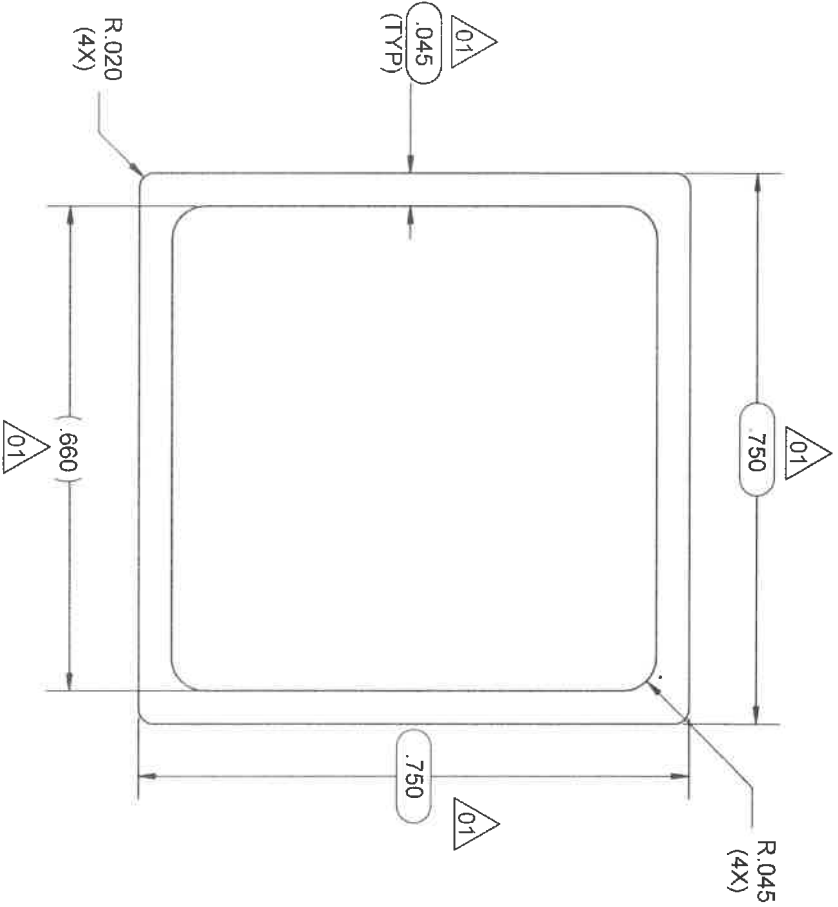
2

1

2

1

REVISIONS			
REV.	DESCRIPTION	DATE	BY
-	INITIAL RELEASE	8/9/2020	IS
01	ADDED CRITICAL TO QUALITY DIMENSIONS AND NOTE: OAL LENGTHS	2/22/2023	M.A.



1. CRITICAL TO QUALITY DIMENSIONS

NOTE:



LAST SAVE DATE	2/22/2023
PROPRIETARY AND CONFIDENTIAL	
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MODELED BY	F. Torres
DRAWN BY	F. Torres
APPROVED BY	J. Detweiler
DATE	07/20/2020
DATE	07/20/2020
DATE	02/22/2023
PROJECTION	UNLESS OTHERWISE SPECIFIED: 1. DIMENSIONS ARE IN INCHES 2. BREAK ALL SHARP EDGES 3. TOLERANCES: FRACTIONAL ± 1/64" ANGULAR: MACH ± 1.0° BEND ± 1.0° TWO PLACE DECIMAL ± 0.01" THREE PLACE DECIMAL ± 0.005"
FINISH	DO NOT SCALE DRAWING
MATERIAL	6063-T6

Molimo
Architectural Product East '76

Report #: 12306.04-110-23

Date: 7/19/2023

By: M. Stremmel, P.E.

EBMS #	OAL CUT LENGTH TOL.
COARSP46RW	46" +/- .010"
COARSP39RW	39" +/- .010"
COARSP35RW	35" +/- .010"
COARSP33RW	33" +/- .010"
COARSP31RW	31" +/- .010"
COARSP29RW	29" +/- .010"

TITLE:
RAILING, BALUSTER, THIN,
0.75" SQ. X .045W

SIZE	DWG. NO.	REV
A	102834	01
SCALE: 4:1	WEIGHT: 0.1502	SHEET 1 OF 1

A

B

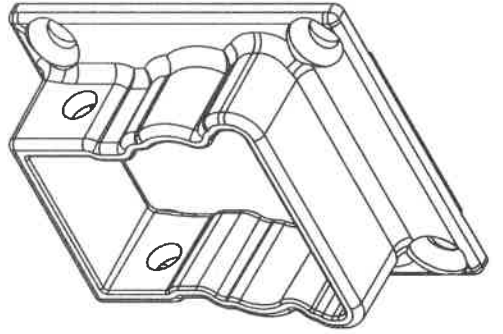
A

B

2

1

2

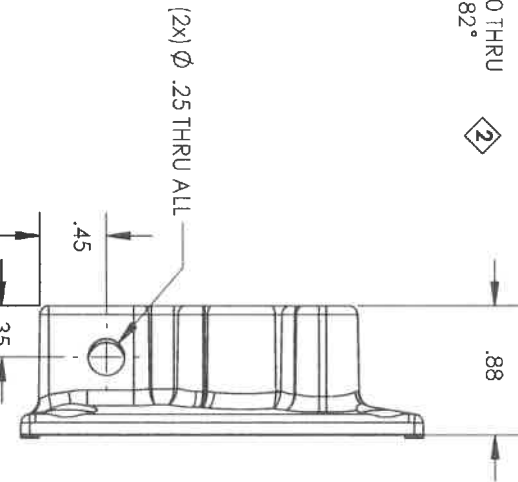
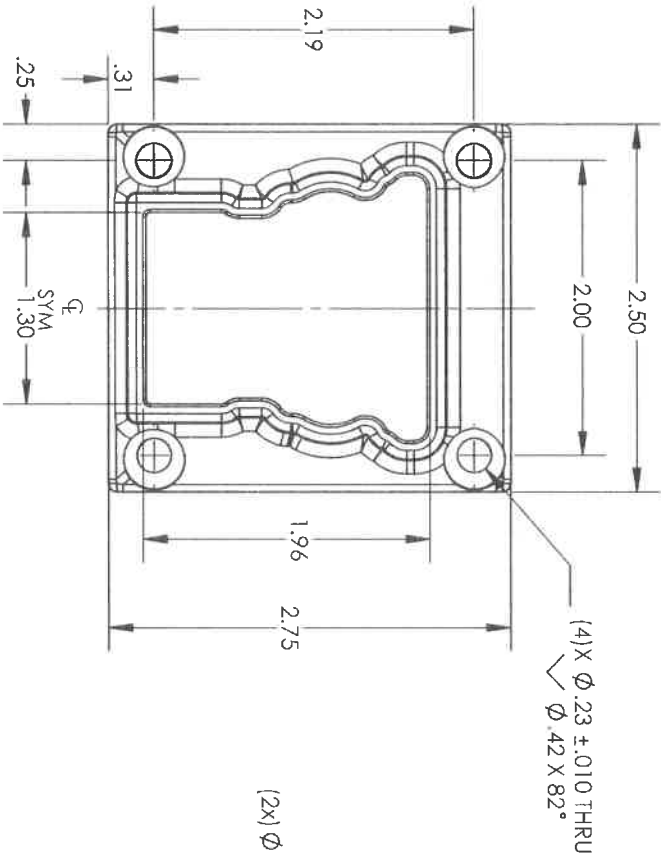


B

Molimo
Architectural Product Testing
Report #: 12306.04-110-23
Date: 7/19/2023
By: M. Stremmel, P.E.

REVISIONS			
REV.	DESCRIPTION	DATE	BY
-	See 076815 SHEET 1		

1



B

NOTES:

- BREAK ALL SHARP EDGES
- HOLES MUST BE CHECKED WITH #12 FHMS, THE SCREW MUST SIT FLUSH OR SLIGHTLY BELOW SURFACE
- REF. DWG CAD #076815 FOR DIE CAST DIM.

A



PROJECTION: FIRST ANGLE
UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES: FRACTIONAL ± 1/64"
ANGULAR: MACH ± 1.0° BEND ± 1.0°
TWO PLACE DECIMAL ± 0.01"
THREE PLACE DECIMAL ± 0.005"
INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5-2009
MATERIAL: A360-1 Die Cast
FINISH: N/A
DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES: FRACTIONAL ± 1/64"
ANGULAR: MACH ± 1.0° BEND ± 1.0°
TWO PLACE DECIMAL ± 0.01"
THREE PLACE DECIMAL ± 0.005"
INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5-2009
MATERIAL: A360-1 Die Cast
FINISH: N/A
DO NOT SCALE DRAWING

PROPRIETARY AND CONFIDENTIAL	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF KEY-LINK FENCING & RAILING. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF KEY-LINK FENCING & RAILING IS PROHIBITED.
DRAWN BY	J. COON
MODELED BY	J. COON
CHECKED BY	J. COON
APPROVED BY	J. COON
DATE	01/27/2022
DATE	01/27/2022

TITLE:
Key-Link Fencing & Railing, Inc
150 Orlan Road, New Holland, PA 17555
AMERICAN SERIES MOUNTING BRACKET, TOP, LEVEL

EBMS#
COAMLBTW

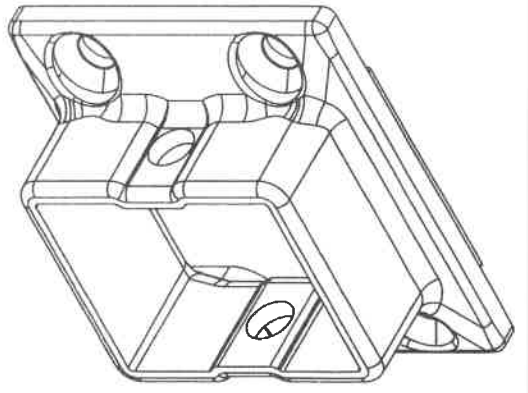
A

SIZE	DWG. NO.	REV
A	078161	
SCALE: 4:5	WEIGHT: 0.114	SHEET 2 OF 2

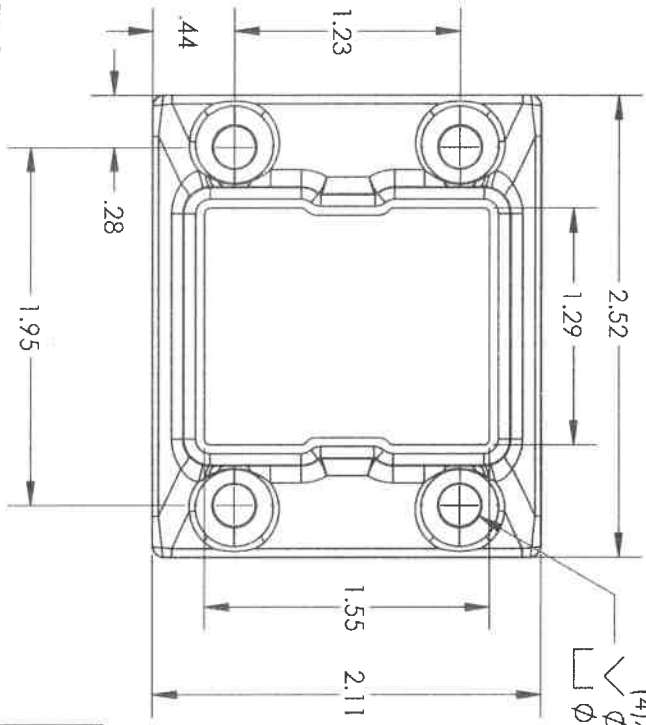
2

1

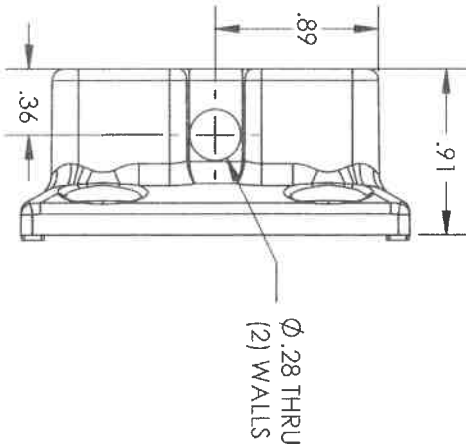
2



B



(4) X ϕ .23
 \surd ϕ .42 X 82°
 \surd ϕ .42 X \sqrt .01



B

1

REVISIONS			
REV.	DESCRIPTION	DATE	BY
01	INITIAL RELEASE	9/21/2018	F.T.
02	EBMS ID WAS INCORRECT, UPDATED DESCR.	12/21/2018	EH
03	CHANGE MATL FROM A380 TO A360-1	2/8/2022	JC

- NOTES:
- BREAK ALL SHARP EDGES
 - HOLES MUST BE CHECKED WITH #12 FHMS. THE SCREW MUST SIT FLUSH OR SLIGHTLY BELOW SURFACE
 - REF. DWG CAD #076833 FOR DIE CAST DIM.

A



PROPRIETARY AND CONFIDENTIAL	
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UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL: ± 1/64" ANGULAR: MACH ± 1.0° BEND ± 1.0° TWO PLACE DECIMAL ± 0.01" THREE PLACE DECIMAL ± 0.005"	INTERPRET: GEOMETRIC TOLERANCING PER: ASME Y14.5-2009
MATERIAL: A360-1 Die Cast	FINISH: N/A
DO NOT SCALE DRAWING	

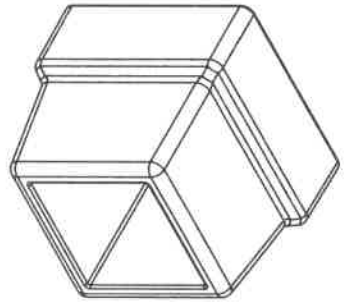
Molimo
 Architectural Product Testing
 Report #: 12306.04-110-23
 Date: 7/19/2023
 By: M. Stremmel, P.E.

A

NAME	E. HUNT	DATE	9/26/18
DRAWN BY	E. HUNT	MODELED BY	9/26/18
CHECKED BY	M. Alexander	APPROVED BY	8/4/2020
APPROVED BY	A. Rodriguez	COMMENTS:	
TITLE: MOUNTING BRACKET BOTTOM, LEVEL (AM/AR/KS) (DRILLED) Key-Link Fencing & Railing, Inc 150 Orlan Road, New Holland, PA 1755 COARLBRRW EBMS# SIZE: A DWG. NO.: 079359 SCALE: 1:1 WEIGHT: 0.093 SHEET 1 OF 1			

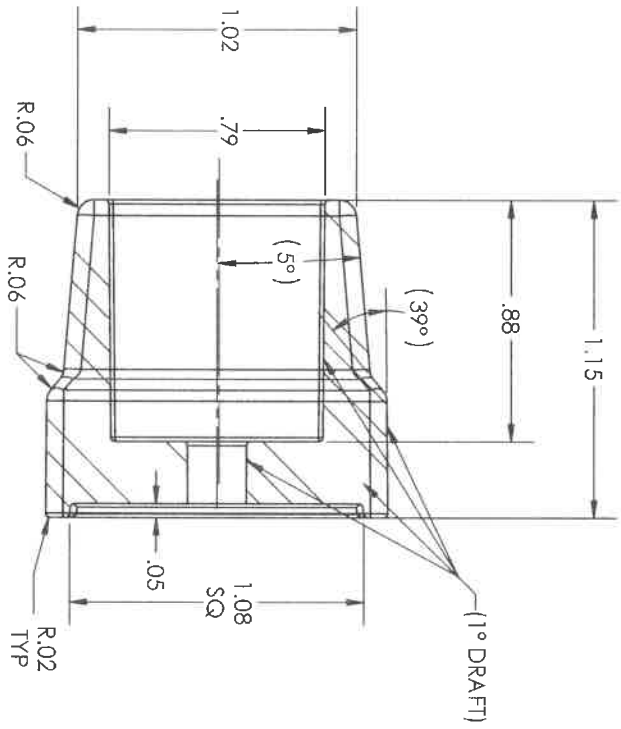
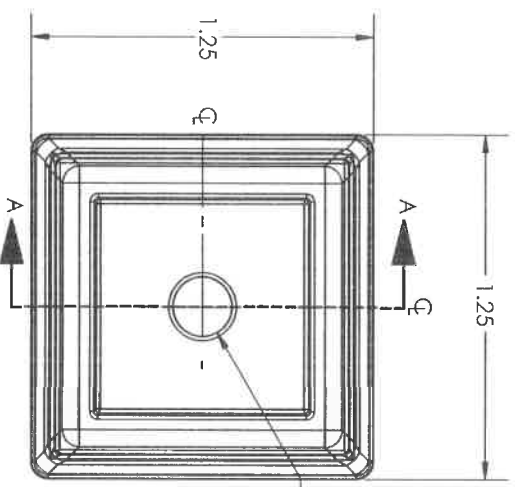
2

1



Molimo
 Architectural Product Testing
 Report #: 12306.04-110-23
 Date: 7/19/2023
 By: M. Stremmel, P.E.

REV.	DESCRIPTION	DATE	BY
01	INITIAL RELEASE	3/26/2019	F.T.
02	MEASUREMENT DESCRIPTION UPDATE	8/5/2022	DC



SECTION A-A

NOTES:

1. BREAK ALL SHARP EDGES

PROJECTION 		UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL: 1/64" ANGULAR: MACH ± 1.0° BEND ± 1.0° TWO PLACE DECIMAL ± 0.01" THREE PLACE DECIMAL ± 0.005"		NAME F. Torres C. Weidner	DATE 5/1/2019 8/4/2018	TITLE: Key-Link Fencing & Railing, Inc 150 Orihan Road, New Holland, PA 17555	EBMS # COARRBMRW	
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF KEY-LINK FENCING & RAILING. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF KEY-LINK FENCING & RAILING IS PROHIBITED.		INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5-2009		COMMENTS: APPROVED BY	SIZE A			DWG. NO. 0822432
MATERIAL A360-1 Die Cast		FINISH N/A		DO NOT SCALE DRAWING		SCALE: 3:2	WEIGHT:	SHEET 1 OF 1

2

1

Section X, Itema.

BOM TABLE			
ITEM NO.	CAD NUMBER	DESCRIPTION	QTY.
1	075350	CABLE PULL LOCK CARTRIDGE	1
2	075596	3.25" END POST RECEIVER (HORZ. CABLE)	1
3	075362	CABLE PULL LOCK WEDGE	2
4	111827	PULL LOCK CARTRIDGE SPRING	1
5	075881	END POST RECEIVER CAP (HORZ. CABLE)	1

REVISIONS			
REV.	DESCRIPTION	DATE	BY
-	INITIAL RELEASE	1/31/2023	EH
01	REMOVED OBSOLETE CARTRIDGE CAP	1/31/2023	DN

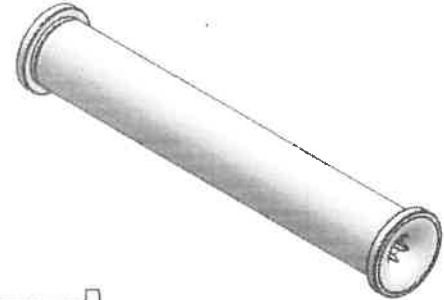
B

Molimo
Architectural Product Testing

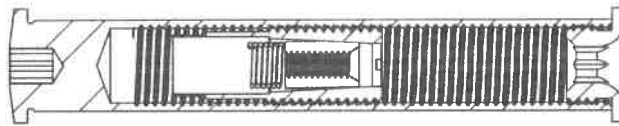
Report #: 12306.04-110-23

Date: 7/19/2023

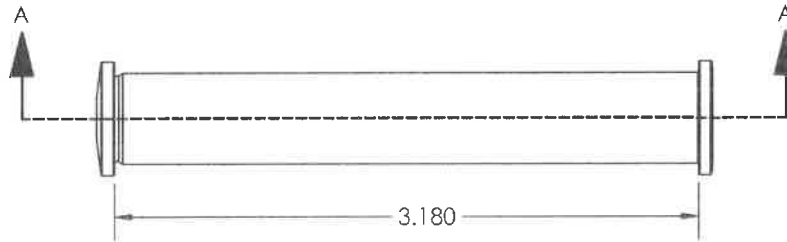
By: M. Stremmel, P.E.



B

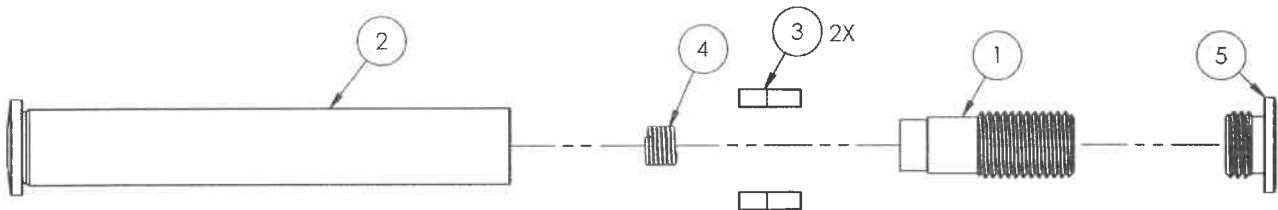


SECTION A-A



EXPLODED VIEW

A



A

PROPRIETARY AND CONFIDENTIAL

THE INFORMATION CONTAINED IN THIS DRAWING IS THE PROPERTY OF **KEY-LINK FENCING & RAILING**. ANY REPRODUCTION IN PART OR IN WHOLE WITHOUT THE WRITTEN PERMISSION OF **KEY-LINK FENCING & RAILING** IS PROHIBITED.

DRAWN BY	NAME	DATE
MODELED BY	E.Hunt	11/9/2020
APPROVED BY	E.Hunt	11/9/2020
	E.Wenger	02/01/2023

PROJECTION

UNLESS OTHERWISE SPECIFIED:

- DIMENSIONS ARE IN INCHES
- BREAK ALL SHARP EDGES
- TOLERANCES:
 - FRACTIONAL $\pm 1/64"$
 - ANGULAR: MACH $\pm 1.0^\circ$ BEND $\pm 1.0^\circ$
 - TWO PLACE DECIMAL $\pm 0.01"$
 - THREE PLACE DECIMAL $\pm 0.005"$

DO NOT SCALE DRAWING

FINISH N/A

MATERIAL SEE BILL OF MATERIALS

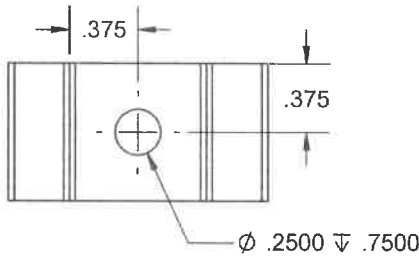
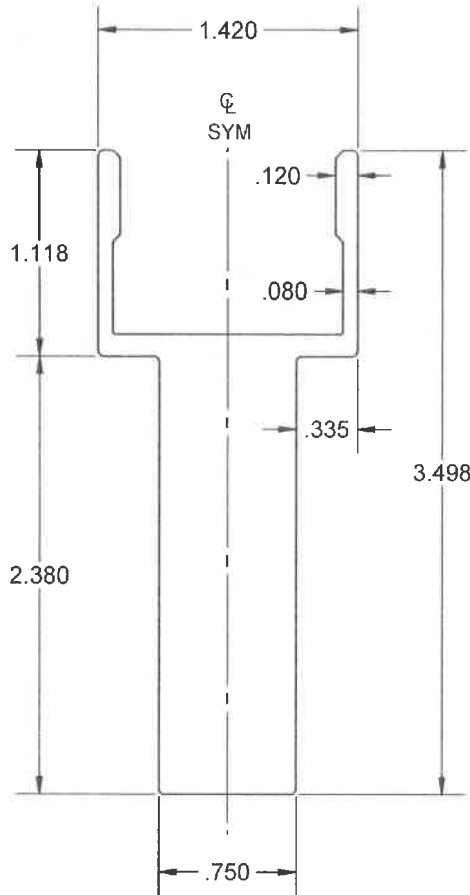
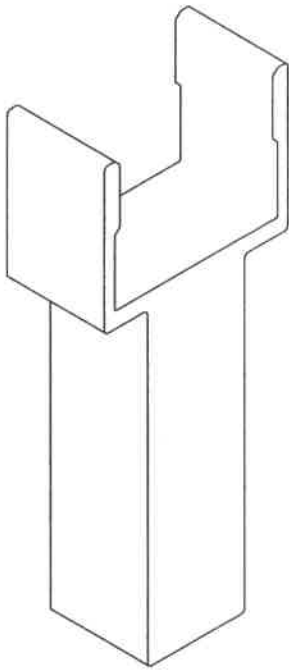
EBMS ID	CRPFKE314X1
Key-Link Fencing & Railing, Inc 150 Orlan Road, New Holland, PA 17557	
TITLE: HORIZONTAL CABLE END POST RECIEVER, ASSY	
SIZE	DWG. NO.
A	111709
REV	01
SCALE: 1:1	WEIGHT: 0.105
SHEET 1 OF 1	

2

1

Molimo
 Architectural Product Testing
 Report #: 12306.04-110-23
 Date: 7/19/2023
 By: M. Stremmel, P.E.

REVISIONS			
REV.	DESCRIPTION	DATE	BY
-	INITIAL RELEASE	8/6/2020	IS



EBMS #
COARSOSSRW

LAST SAVE DATE 6/7/2021	MODELED BY E.Hunt	NAME E.Hunt	DATE 10/29/2019	Superior Plastic Products, Inc. 260 Jalyn Dr, New Holland, PA 17557
	DRAWN BY I.Shenk		10/29/2019	
	APPROVED BY E.Hunt		08/07/2020	
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE PROPERTY OF SUPERIOR PLASTIC PRODUCTS. ANY REPRODUCTION IN PART OR IN WHOLE WITHOUT THE WRITTEN PERMISSION OF SUPERIOR PLASTIC PRODUCTS IS PROHIBITED.	PROJECTION 	UNLESS OTHERWISE SPECIFIED: 1. DIMENSIONS ARE IN INCHES 2. BREAK ALL SHARP EDGES 3. TOLERANCES: FRACTIONAL ± 1/64" ANGULAR: MACH ± 1.0° BEND ± 1.0° TWO PLACE DECIMAL ± 0.01" THREE PLACE DECIMAL ± 0.005"		TITLE: SNAP ON SECTION SUPPORT, AM/AR/KS
	DO NOT SCALE DRAWING	FINISH N/A	MATERIAL 6063-T6	SIZE A DWG. NO. 100664 REV -
		SCALE: 1:1		WEIGHT: 0.15363 SHEET 1 OF 1

2

1

B

B

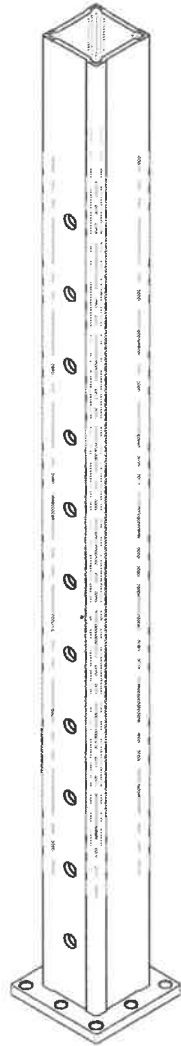
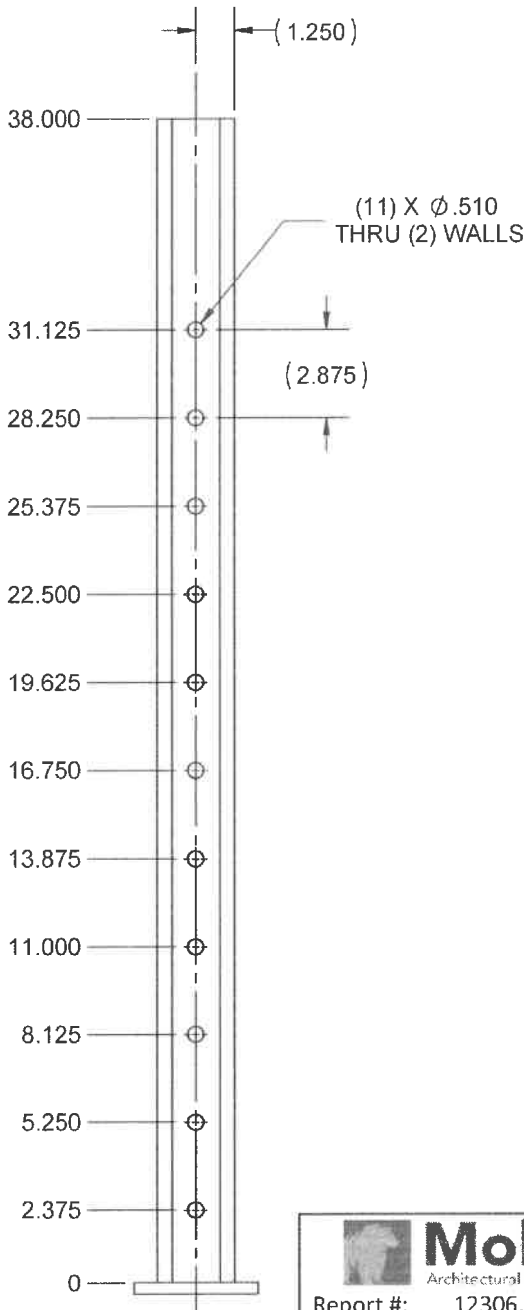
A

A

2

1

REVISIONS			
REV.	DESCRIPTION	DATE	BY
-	INITIAL RELEASE	3/23/2023	JM



Molimo
Architectural Product Testing

Report #: 12306.04-110-23

Date: 7/19/2023

By: M. Stremmel, P.E.

LAST SAVE DATE
3/23/2023

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WHOLE WITHOUT THE WRITTEN
PERMISSION OF SUPERIOR PLASTIC
PRODUCTS IS PROHIBITED.

MODELED BY	NAME	DATE
J.Marlin	J.Marlin	1/17/2023
DRAWN BY	J.Marlin	1/17/2023
APPROVED BY	J.Coon	03/23/2023

PROJECTION

UNLESS OTHERWISE SPECIFIED:

1. DIMENSIONS ARE IN INCHES
2. BREAK ALL SHARP EDGES
3. TOLERANCES:
FRACTIONAL ± 1/64"
ANGULAR: MACH ± 1.0° BEND ± 1.0°
TWO PLACE DECIMAL ± 0.01"
THREE PLACE DECIMAL ± 0.005"

DO NOT SCALE DRAWING

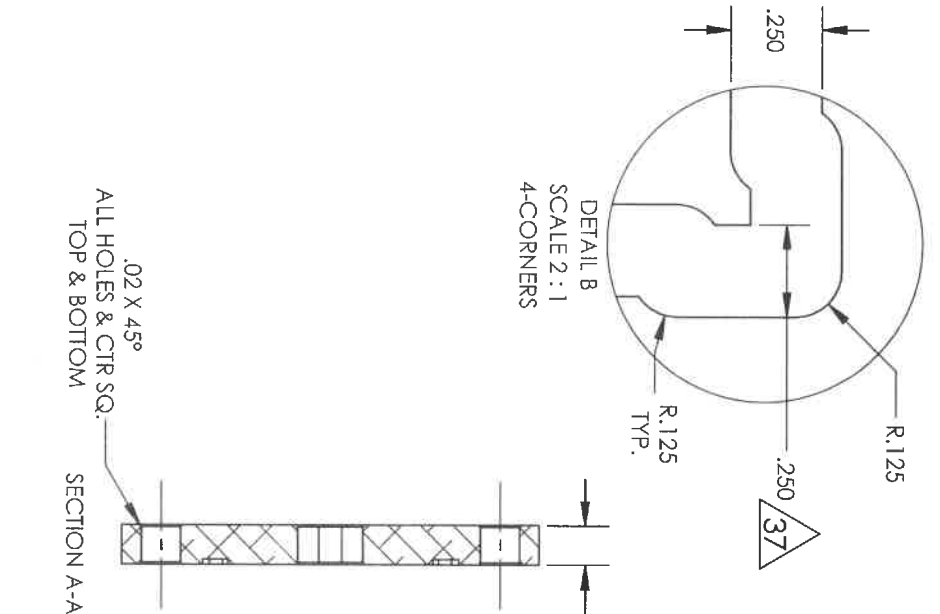
FINISH: N/A

MATERIAL: SEE BILL OF MATERIALS

EBMS#: PWP8CEL2X38TBL		
Key-Link Fencing and Railing 110 Peters Road, New Holland, Pa 17557		
TITLE: 2.5" x 38" CABLE LEVEL END POST W/PLATE (FOR 36" HT. RAILING)		
SIZE A	DWG. NO. 140001	REV -
SCALE: 1:8	WEIGHT: 6.509	SHEET 1 OF 1

2

B



DETAIL B
SCALE 2 : 1
4-CORNERS

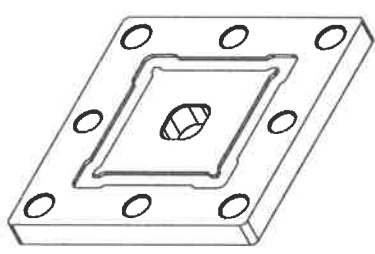
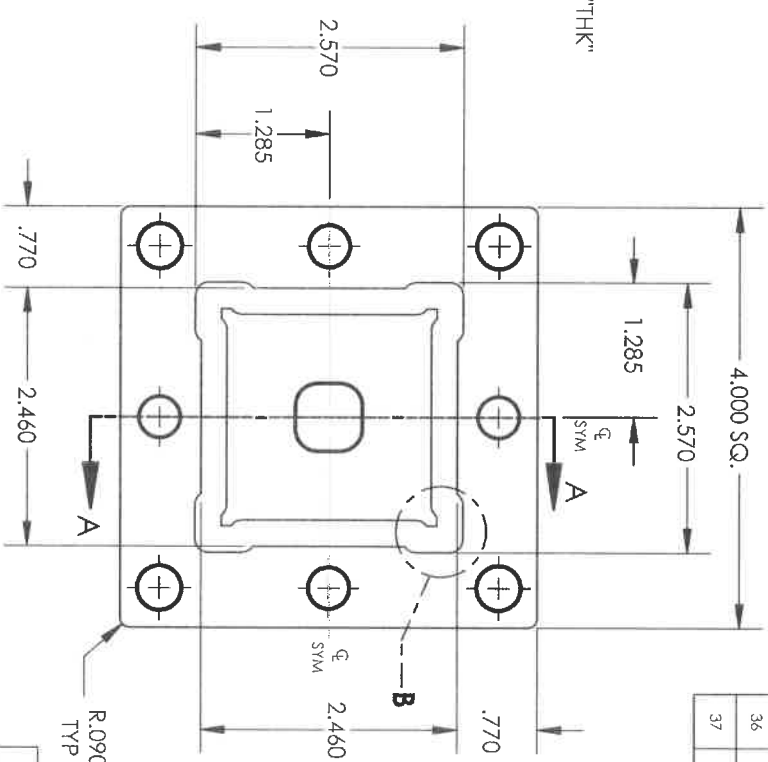
.02 X 45°
ALL HOLES & CTR SQ.
TOP & BOTTOM
SECTION A-A

NOTE:

1. BREAK ALL SHARP EDGES

1

REVISIONS			
REV.	DESCRIPTION	DATE	BY
33	DATA MIG. TO PROD. VAULT	9/6/2018	F. T.
34	WAS 3.88" SQ. IS NOW 4" SQ. WAS 3.115" NOW .38"	9/6/2018	F. T.
35	REVISED MILL PATH, ADDED DETAIL B	11/10/2020	Prod. G W
36	DESCRIPTION FIELD SPELLING ERROR	12/14/2020	EH
37	Changed mood to new 0.25" wide single tool path	8/24/2022	JM



A

B

A

Molimo
Architectural Product Testing
Report #: 12306_04-110-23
Date: 7/19/2023
By: M. Stremmel, P.E.

LAST SAVE DATE	1/17/2023
PROPRIETARY AND CONFIDENTIAL	
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MODELED BY	J. MARTIN	DATE	01/17/2023
DRAWN BY	J. COON		
APPROVED BY			
PROJECTION	UNLESS OTHERWISE SPECIFIED: 1. DIMENSIONS ARE IN INCHES (MM) 2. BREAK ALL SHARP EDGES 3. TOLERANCES: FRACTIONAL: ± 1/64" ANGULAR/MACH ± 1.0° BEND ± 1.0° TWO PLACE DECIMAL ± 0.01" THREE PLACE DECIMAL ± 0.0005"		
FINISH	N/A	MATERIAL	6061 Alloy

EBMS #	EBMS #
.375"	COARAPP38X4RW
.50"	COARAPP12X4RW

Key-Link Fencing and Railing
110 Peters Road, New Holland, Pa. 17557
TITLE:
.375"-.5" X 4" SQ. POST PLATE
FOR 2.5" POST

SIZE	DWG. NO.	REV
A	069808	37
SCALE: 1:1.75 (WEIGHT: 0.525 lbs.)	SHEET 1 OF 2	

2

1



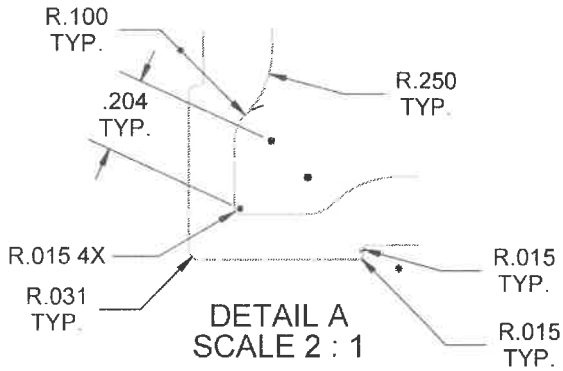
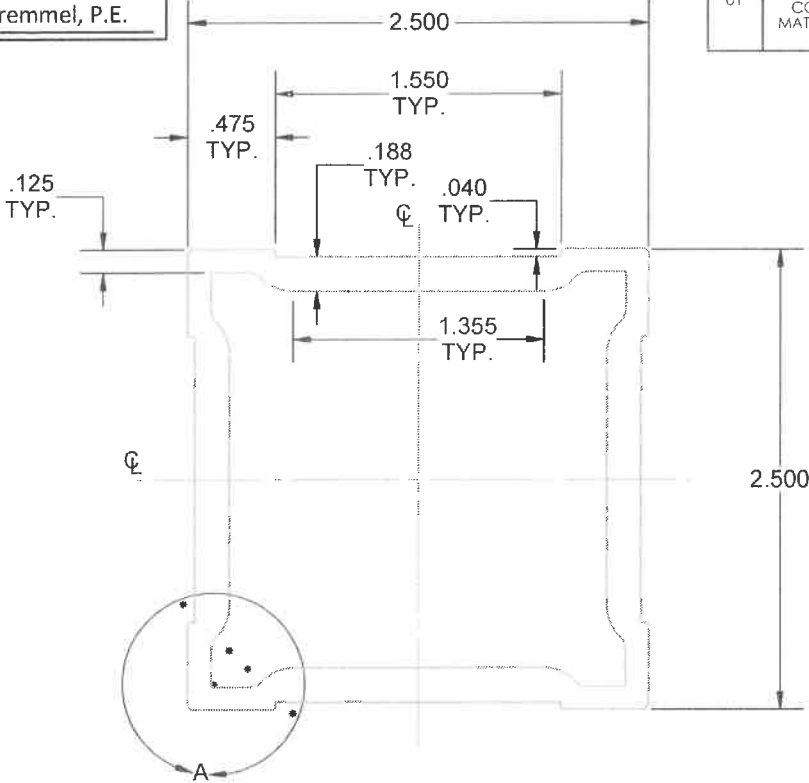
Molimo
Architectural Product Testing

Report #: 12306.04-110-23

Date: 7/19/2023

By: M. Stremmel, P.E.

REVISIONS			
REV.	DESCRIPTION	DATE	BY
0	INITIAL RELEASE FOR QUOTING	1/28/2022	JD
01	CHANGED INSIDE CORNER RADIUS TO FIT INTERNALLY MOUNTING CAPS. THE INSIDE CORNER RADIUS NOW MATCHES THE 0.125" WALL POST.	10/28/2022	JM



NOTES:

- BREAK ALL SHARP EDGES

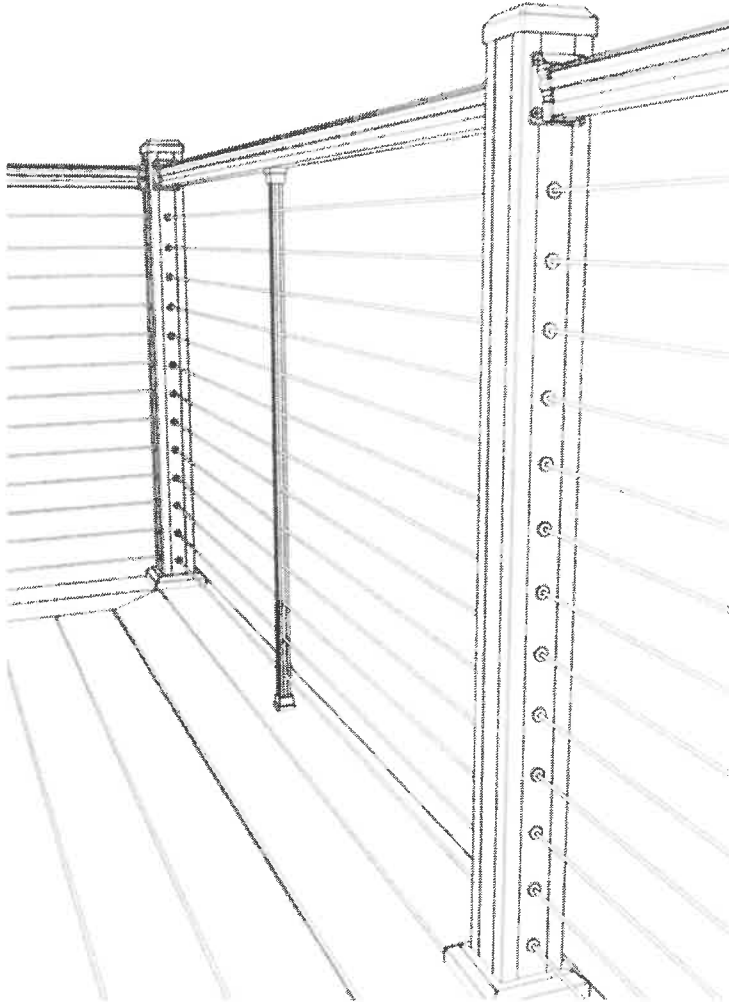
LAST SAVE DATE 11/1/2022		MODELED BY: J.Delweiler 1/31/2022		NAME: J.Delweiler DATE: 1/31/2022		EBMS#:		
DRAWN BY: J.Delweiler 1/31/2022		APPROVED BY: A.Nace 11/01/2022		TITLE:		Key-Link Fencing and Railing 110 Peters Road, New Holland, Pa 17557		
PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE PROPERTY OF SUPERIOR PLASTIC PRODUCTS. ANY REPRODUCTION IN PART OR IN WHOLE WITHOUT THE WRITTEN PERMISSION OF SUPERIOR PLASTIC PRODUCTS IS PROHIBITED.		PROJECTION 		UNLESS OTHERWISE SPECIFIED: 1. DIMENSIONS ARE IN INCHES 2. BREAK ALL SHARP EDGES 3. TOLERANCES: FRACTIONAL ± 1/64" ANGULAR: MACH ± 1.0° BEND ± 1.0° TWO PLACE DECIMAL ± 0.01" THREE PLACE DECIMAL ± 0.005"		RAILING, POST MOUNT, STD, 2.5" SQ. X .1875w		
DO NOT SCALE DRAWING		FINISH: N/A		MATERIAL: 6063-T6		SIZE: A	DWG. NO.: 123845	REV: 01
				SCALE: 1:1		SHEET 1 OF 1		



HORIZONTAL CABLE INFILL

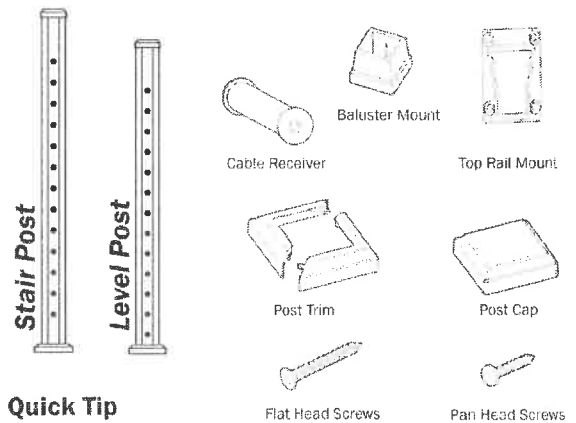
American & Arabian Series

*Reference Local Building Codes for Railing and Cable Installation requirements



What's Included

- Top Rail & Baluster(s)
- Mounting Brackets & Screws
(Predrilled Posts, Caps, & Trim packaged separate)
- Stainless Steel Cable Roll *(optional)*



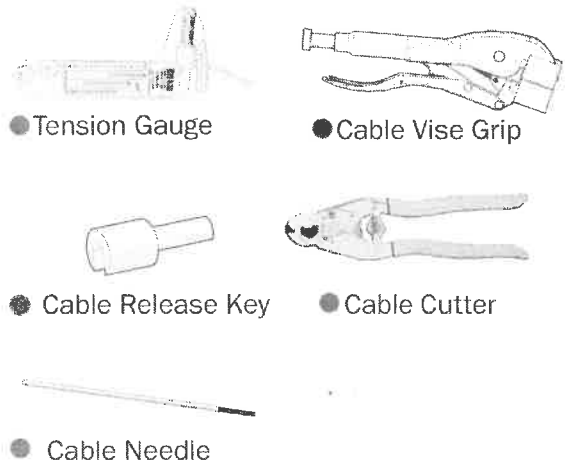
Quick Tip

Wear clean, new gloves when handling stainless steel parts to prevent corrosion from oil and dirt.

Recommended Tools

- Safety Glasses
- Tape Measure & Pencil
- Level
- Drill & Bits ($\frac{1}{4}$ ", $\frac{3}{16}$ ", $\frac{1}{32}$ ")
- Hammer Drill (if concrete)
- Circular Saw w/ Fine-Tooth Aluminum Cutting Blade
- Rubber Mallet

● Available from Key-Link



- These directions are only a guide and may not address every situation.
- Always wear proper safety equipment while assembling and installing.
- The installer should obtain all required building permits and follow all installation procedures in accordance with applicable building code requirements.
- Key-Link Fencing and Railing Inc. shall not be held liable for improper or unsafe installations.
- Applying paint, other than Key-Link's touch up paint, will void your warranty.
- To ensure proper coverage by our warranty please visit our website and complete the warranty form and mail to: Key-Link Fencing & Railing, Inc., 150 Orlan Road, New Holland, PA 17557

Post, Baluster, and Top Rail Installation

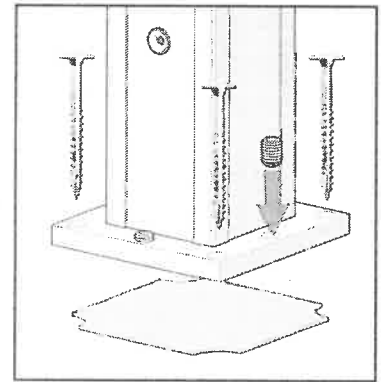
Section X, Itema.

1 Install Railing Post & Post Trim

Space Posts according to *application and Top Rail length. A structural member must be placed between top of Posts to ensure proper cable tensioning. Place leveling plate (*highlighted*) between Post and mounting surface.

Attach to structural surface using bolts or lags (*not included*). Partially Tighten prior to levelling. Using $\frac{3}{16}$ " Allen wrench, turn set screws to level Post. Then fully tighten structural screws.

*Check your local building codes to determine structural mounting requirements for Post.

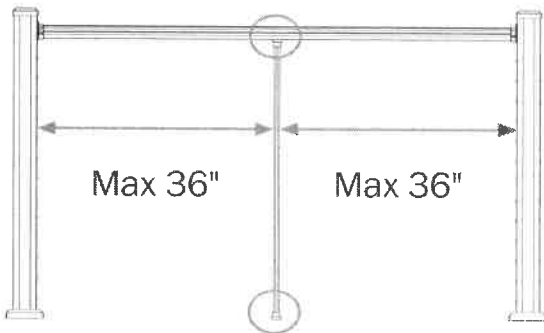


2 Attach Baluster Mount

*(If Needed) Cut Rail to proper length

Attach a Baluster Mount (*circled*) centered on the bottom surface of the Top Rail and another to the deck aligned with the baluster mount on the Top Rail. Fasten the Baluster to the Mount.

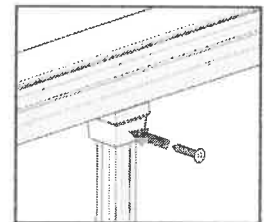
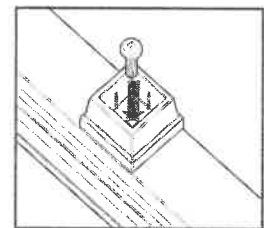
Baluster Spacing



Balusters should be spaced evenly and no more than 36" apart

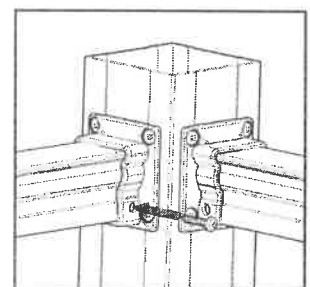
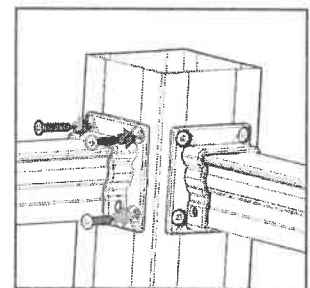
! Cutting Tip

Be sure to use a **fine-tooth blade approved for cutting aluminum** and rest rails on a piece of **non-abrasive material** to protect from scratches.



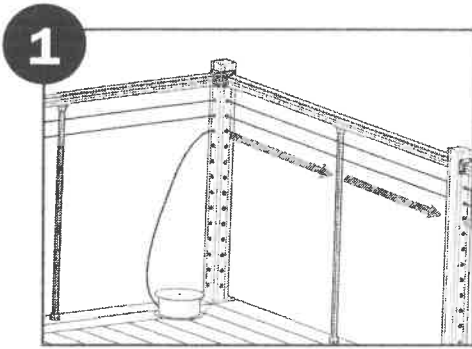
3 Attach Top Rail

Slide the Bracket over the Rail, then put the Rail in place, and slide the self-centering Bracket against the Post. Fasten Bracket to Post using #12 screws, and secure Bracket to Rail using #10 pan-head screws.

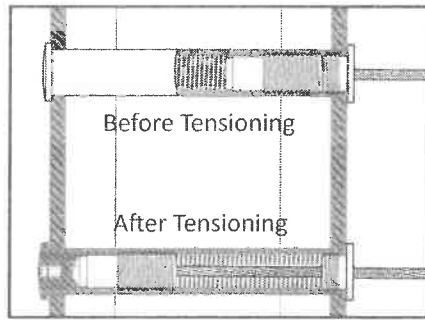


Cable Rail Installation

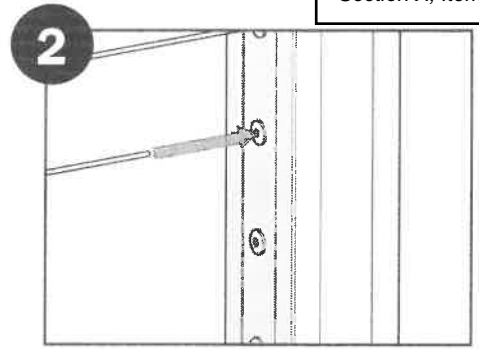
Section X, Itema.



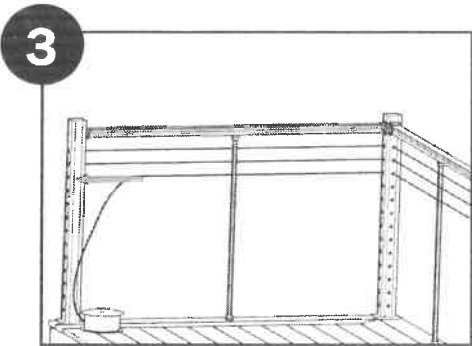
Thread the cable through all the Posts and balusters starting from one end Post to the next end Post.



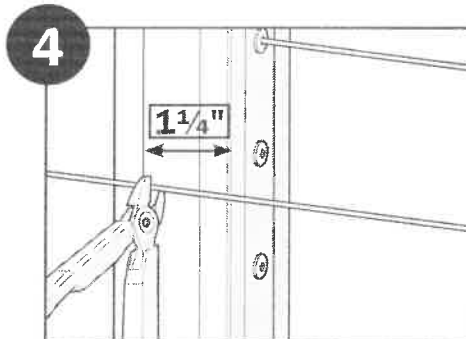
Check to make sure the Lock Jaw housing (*highlighted*) is threaded all the way out to the cap to maximize tensioning capacity.



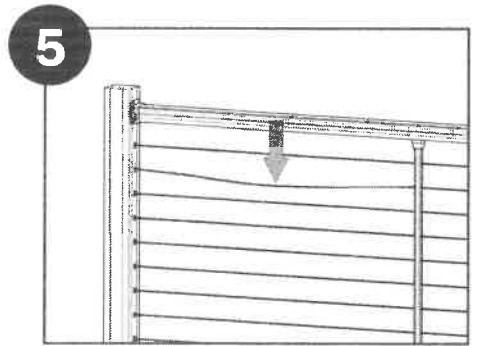
Insert the cable into the end Post Receiver as far as it will go. Gently twist clockwise on the cable to until it is secure.



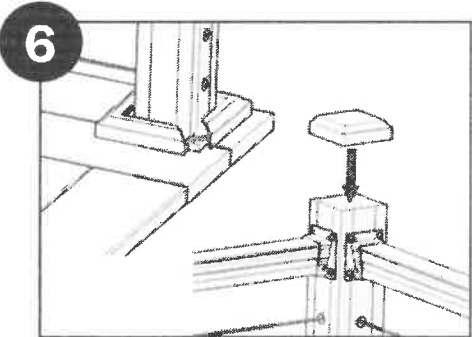
Unwind enough cable to reach to the opposite end Post and pull tight. Removing all slack from each section.



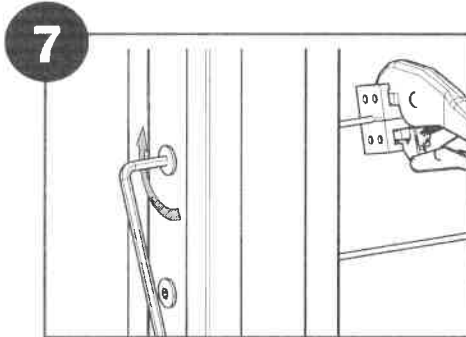
Remove Cable Slack and cut 1 1/4" longer than inside face of the end Post Receiver. Insert Cable into the Receiver by twisting in a clockwise direction. (*Optional use Cable Vice Grip Tool*)



Once both cable ends have been inserted; place body weight onto each cable to set/ anchor them firmly inside Receivers. (*Before continuing to Step-7*) Repeat previous steps for the remaining Post and Baluster rows.



Place Post Cap on Post and use soft or rubber mallet to set in place. Snap the Post Trim halves together around the bottom of each Post.



Use a 3/16" Allen Wrench, to tighten
Tip: Tighten every other row first, working away from the center.

A Tension Gauge (*available from Key-Link*) can be used to tighten the cable to the desired tension.

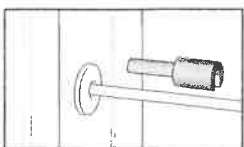
When tightening cable; watch to ensure the cable is not spinning which could indicate the receiver is fully tightened.

Do not overtighten!

Cable can release if over tightened

Check with your local building inspector about local codes regarding cable tension.

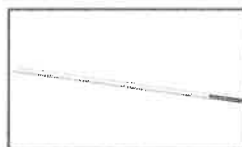
Cable Release Key



To use the **Cable Release Key**, slide it over the

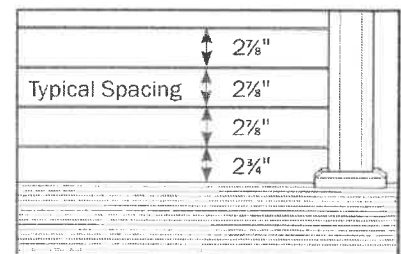
cable into the receiver, and push to release the cable. For use before the cable is fully tightened.

Cable Needle



The **Cable Needle** is used for

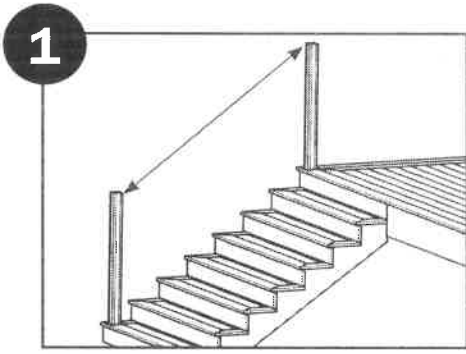
threading the cable through balusters & posts that do not have fittings.



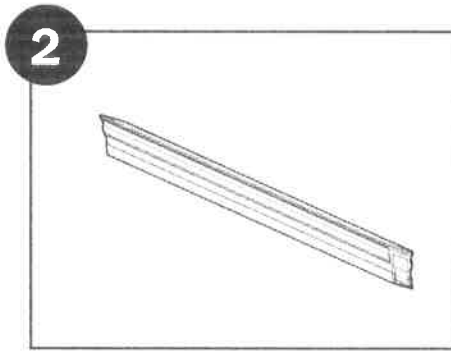
Check with your local building inspector on how close the cables should be if drilling the Post yourself.

Stair Rail Installation

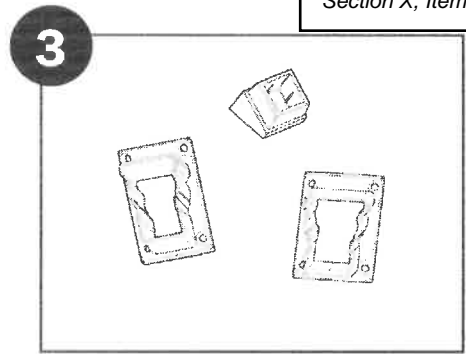
Section X, Itema.



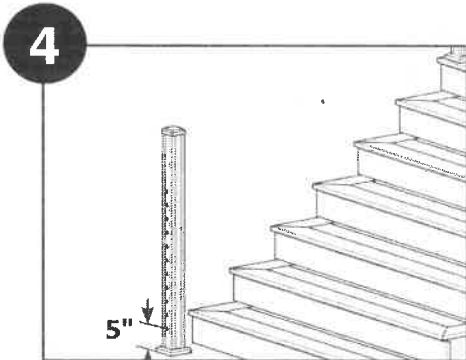
1 Measure from inside edge between Posts (then subtract ¼")



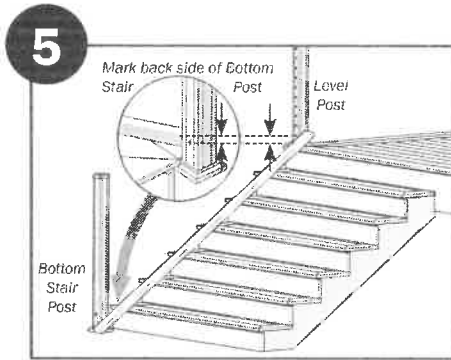
2 Cut Upper and Lower ends of Top rails at opposite angles. To ensure Rails align properly. (Standard stair angle is 34°)



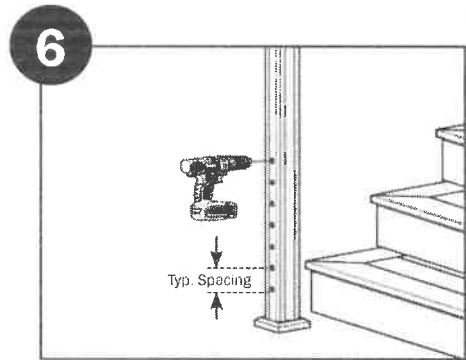
3 Attach both Baluster stair mounts, and Up and Down Top rail mount (Refer to pg.2 Step 2 & 3)



4 On stairs; use the Post with 5" spacing to the bottom receiver. Standard Posts can only be used on stairs when stair angle is 34°. For all other angles, blank Posts will need to be used and custom drilled.

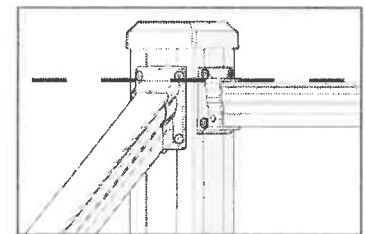
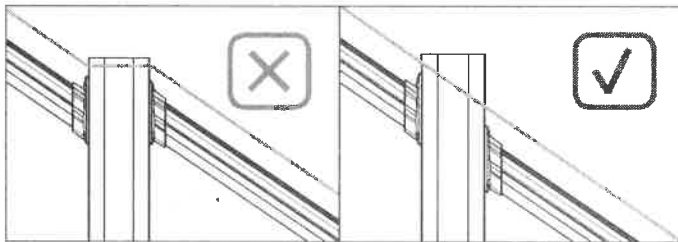


5 To determine first hole placement; use a straight edge laid flat on the nose of the stairs, and measure off the surface to the first hole on the Level Post, and translate that measurement to each Post/ Baluster.



6 Use typical spacing (2½") to mark each additional hole on both sides of the Bottom Stair Post, and drill a 1½" level hole at each mark. **Note:** On a Line Post, or Baluster; ¾" holes should be drilled at the appropriate stair angle.

! When doing stair sections, mount them as shown below:



Ensure that the stairs' Top Rail doesn't exceed the level rail height of the opposite Rail.

! **NOTE: How to Loosen Stuck Jaws**

In the event that the jaws of the post receiver become stuck.

Insert an Allen Wrench into the open end of the cable receiver, and press until you can feel the internal spring release.



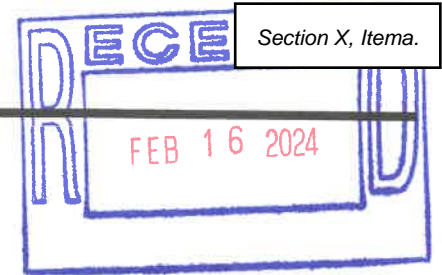
Section X, Itema.







Katie Pereny



From: A Spitzer <brainee@icloud.com>
Sent: Thursday, February 15, 2024 7:18 PM
To: Katie Pereny
Subject: Fwd: Proposed fence

File No. R124.019.000
Exhibit 6
Date 2-16-24
Initials XP

Begin forwarded message:

From: Bob&Pam French <springhouse812@gmail.com>
Subject: Proposed fence
Date: February 15, 2024 at 6:06:48 PM EST
To: A Spitzer <brainee@icloud.com>

Bob — as Chair of the Woodbluff Architectural Review Committee, I'm pleased to inform you that the committee approved your proposal for the fence around the second floor deck of your home.

As always, the scope of this approval covers only neighborhood requirements contained in the Woodbluff Uniform Plan of Restrictions, and does not include building code or zoning compliance which is under the purview of city officials.

A copy of this email should be adequate evidence for city authorities that you have received neighborhood approval for your plans. However, should they require a formal letter from the neighborhood association, it will be provided upon request.

**CITY OF MACKINAC ISLAND
 PLANNING COMMISSION & BUILDING DEPARTMENT
 APPLICATION FOR ZONING ACTION**

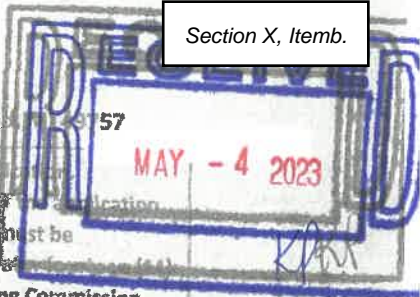
Section X, Item B.

www.cityofmi.org kep@cityofmi.org 906-847-6190 PO Box 455 Mackinac Island, MI 49757

APPLICANT NAME & CONTACT INFORMATION:

Steve Murray
609 Bay St Petoskey MI 49770
231-881-7039 sppmurray@gmail.com
 Phone Number Email Address

Please complete both sides of application form.
 The Fee and fourteen (14) copies of application
 plans and all required documents must be
 submitted to the Zoning Administrator
 _____ days prior to the scheduled Planning Commission
 Meeting.



Property Owner & Mailing Address (If Different From Applicant)
Lot 71, 525-025-20

- Is The Proposed Project Part of a Condominium Association? no
- Is The Proposed Project Within a Historic Preservation District? no
- Applicant's Interest in the Project (If not the Fee-Simple Owner): _____
- Is the Proposed Structure Within Any Area That The FAA Regulates Airspace? no
- Is a Variance Required? no
- Are REU's Required? How Many? no / _____

Type of Action Requested:

- Standard Zoning Permit
- Special Land Use
- Planned Unit Development
- Other dock
- Appeal of Planning Commission Decision
- Ordinance Amendment/Rezoning
- Ordinance Interpretation

Property Information:

- A. Property Number (From Tax Statement): 525-025-20 **File No.** R123-025-030
- B. Legal Description of Property: see attached **Exhibit** A
- C. Address of Property: vacant
- D. Zoning District: _____
- E. Site Plan Checklist Completed & Attached: yes **Date** 5.4.23
- F. Site Plan Attached: (Comply with Section 20.04 of the Zoning Ordinance) yes **Initials** KP
- G. Sketch Plan Attached: yes
- H. Architectural Plan Attached: n/a
- I. Association Documents Attached (Approval of project, etc.): n/a
- J. FAA Approval Documents Attached: n/a
- K. Photographs of Existing and Adjacent Structures Attached: n/a

Proposed Construction/Use:

- A. Proposed Construction:
 New Building Alteration/Addition to Existing Building
 Other, Specify dock

- B. Use of Existing and Proposed Structures and Land:
 Existing Use (If Non-conforming, explain nature of use and non-conformity): _____

Proposed Use: _____ **File No.** _____

- C. If Vacant:
 Previous Use: sunning **Date** _____
 Proposed Use: same
 Length of Time Parcel Has Been Vacant: 2000 yrs **Initials** _____

OFFICE USE ONLY			
FILE NUMBER:	<u>R123-025-030</u>	FEE:	<u>150 -</u>
DATE:	<u>5.4.23</u>	CHECK NO:	<u>2008</u>
		INITIALS:	<u>KP</u>
Revised Oct 2018			

AFFIDAVIT

The applicant agrees that the permit applied for, if granted, is issued on the representation made herein and that the permit issued may be revoked without further notice on any breach of representation or conditions.

The applicant further understands that any permit issued on this application will not grant any right of privilege to erect any structure or to use any premises described for any purposes or in any manner prohibited by the Zoning Ordinance, or by other codes or ordinances or regulations of the City of Mackinac Island.

The Applicant further agrees to furnish evidence of the following before a permit will be granted:

- A. Proof of ownership of the property; and/or other evidence establishing legal status to use the land in the manner indicated on the application.
- B. Proof that all required federal, state, county, and city licenses or permits have been either applied for or acquired.
- C. Other information with respect to the proposed structure, use, lot and adjoining property as may be required by the Zoning Administrator in accord with provisions of the Mackinac Island Zoning Ordinance.

The Applicant further agrees to notify the Zoning Administrator when construction reaches the stage of inspection stated on the permit, if granted. Upon completion of construction to the structure(s) or land the Zoning Administrator shall inspect the premises for compliance with the Mackinac Island Zoning Ordinance and the terms of this permit. Upon determination of compliance, an occupancy permit may be issued. It is further understood that pursuant to the City of Mackinac Island Zoning Ordinance, No. 479 and amendments, adopted November 2013, unless a substantial start on the construction is made within one year, unless construction is completed within one and one-half years from the date of issuance of the permit, this permit shall come under review by the Planning Commission and may either be extended or revoked.

The undersigned affirms that he/she or they is (are) the applicant and the _____ (specify: owner, Lessee, Architect/Engineer, Contractor or other type of interest) involved in the application and that the answers and statements herein attached are in all respects true and correct to the best of his, her or their knowledge and belief. The applicant hereby further affirms that he/she or they has read the foregoing and understands the same. If the applicant is other than the owner, then a notarized affidavit from the owner, giving the applicant permission to seek the requested zoning action on their behalf, shall also be submitted with this application.


Signature

SIGNATURES _____
Signature

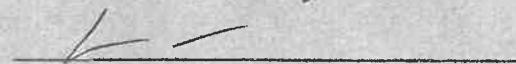
Steve MURRAY
Please Print Name

Please Print Name

Signed and sworn to before me on the 16 day of February, 2023.



IRYNA BARKLEY
Notary Public - State of Michigan
County of Emmet
My Commission Expires Jan 8, 2026
Acting in the County of Emmet


Notary Public
Emmet County, Michigan
My commission expires: 01-08-2026

FOR OFFICE USE ONLY

Zoning Permit Issued: _____

Inspection Record:

	Inspection	Date	Inspector	Comments
1.				
2.				
3.				

Occupancy Permit Issued _____

Revised October 2018

City of Mackinac Island

7358 Market Street
P.O. Box 455
Mackinac Island, MI 49757

Site Plan Review Checklist

Please Submit With The Application for Zoning Action

As a minimum, the following information shall be included on the site plan submitted for review and processing; more complex plans may require additional information as noted.

NOTE: The engineer, architect, planner and/or designer retained to develop the site plan shall be responsible for securing a copy of the City of Mackinac Island Zoning Ordinance (Ord. No. 479, effective November 12, 2013), which can be obtained via the City's website at www.cityofmi.org.

Site plan review requirements are primarily found within Article 4, General Provisions, and Article 20, Site Plan Review of the City Zoning Ordinance. References are provided whenever possible for the section of the Zoning Ordinance that deals with a particular item. When in doubt, refer to the Zoning Ordinance directly for required information.

For further information, contact Mr. Dennis Dombroski, City Building Official/Zoning Administrator, at (906) 847-4035.

Optional Preliminary Plan Review Informational Requirements (Section 20.03)

<u>Item</u>	<u>Provided</u>	<u>Not Provided or Applicable</u>
1. Name and address of the applicant or developer, including the names and addresses of any officers of a corporation or partners of a partnership	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Legal description of the property	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Sketch drawings showing tentative site plans, property boundaries, placement of structures on the site, and nature of development	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Site Plan Informational
Requirements (Section 20.04, B and C)**

<u>General Information</u>	<u>Provided</u>	<u>Not Provided or Applicable</u>
1. Name and address of the applicant or developer, including the names and addresses of any officers of a corporation or partners of a partnership. For condominium subdivision project site plans, also include the name and address of the planner, design engineer or surveyor who designed the project layout and any interest he holds in the land.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Name and address of the individual or firm preparing the site plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Scale of not greater than one 1 in = 20 ft for a development of not more than three acres and a scale of not less than 1 in = 100 ft for a development in excess of three acres	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Legend, north arrow, scale, and date of preparation	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Legal description of the subject parcel of land	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Lot lines and general location together with dimensions, angles, and size correlated with the legal description of the property	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Area of the subject parcel of land	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Present zoning classification of the subject parcel	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. Written description of the proposed development operations	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. Written description of the effect, if any, upon adjoining lands and occupants, and any special features which are proposed to relieve any adverse effects to adjoining land and occupants	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. Other information pertinent to the proposed development, specifically required by the Zoning Ordinance, and/or as may be determined necessary by the City Planning Commission	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Natural Features</u>	<u>Provided</u>	<u>Not Provided or Applicable</u>
12. Location of natural features such as wood lots, streams, wetlands, unstable soils, bluff lines, rock outcroppings, and similar features (see also Section 4.26)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
13. Topography of the site with at least two- to five-foot contour intervals	<input type="checkbox"/>	<input checked="" type="checkbox"/>
14. Proposed alterations to topography or other natural features	<input type="checkbox"/>	<input checked="" type="checkbox"/>
15. Earth-change plans, if any, as required by state law	<input type="checkbox"/>	<input checked="" type="checkbox"/>

<u>Physical Features</u>	<u>Provided</u>	<u>Not Provided or Applicable</u>
16. Location of existing manmade features on the site and within 100 feet of the site	<input checked="" type="checkbox"/>	<input type="checkbox"/>
17. Location of existing and proposed principal and accessory buildings, including proposed finished floor and grade line elevations, height of buildings, size of buildings (square footage of floor space), and the relationship of buildings to one another and to any existing structures on the site	<input checked="" type="checkbox"/>	<input type="checkbox"/>

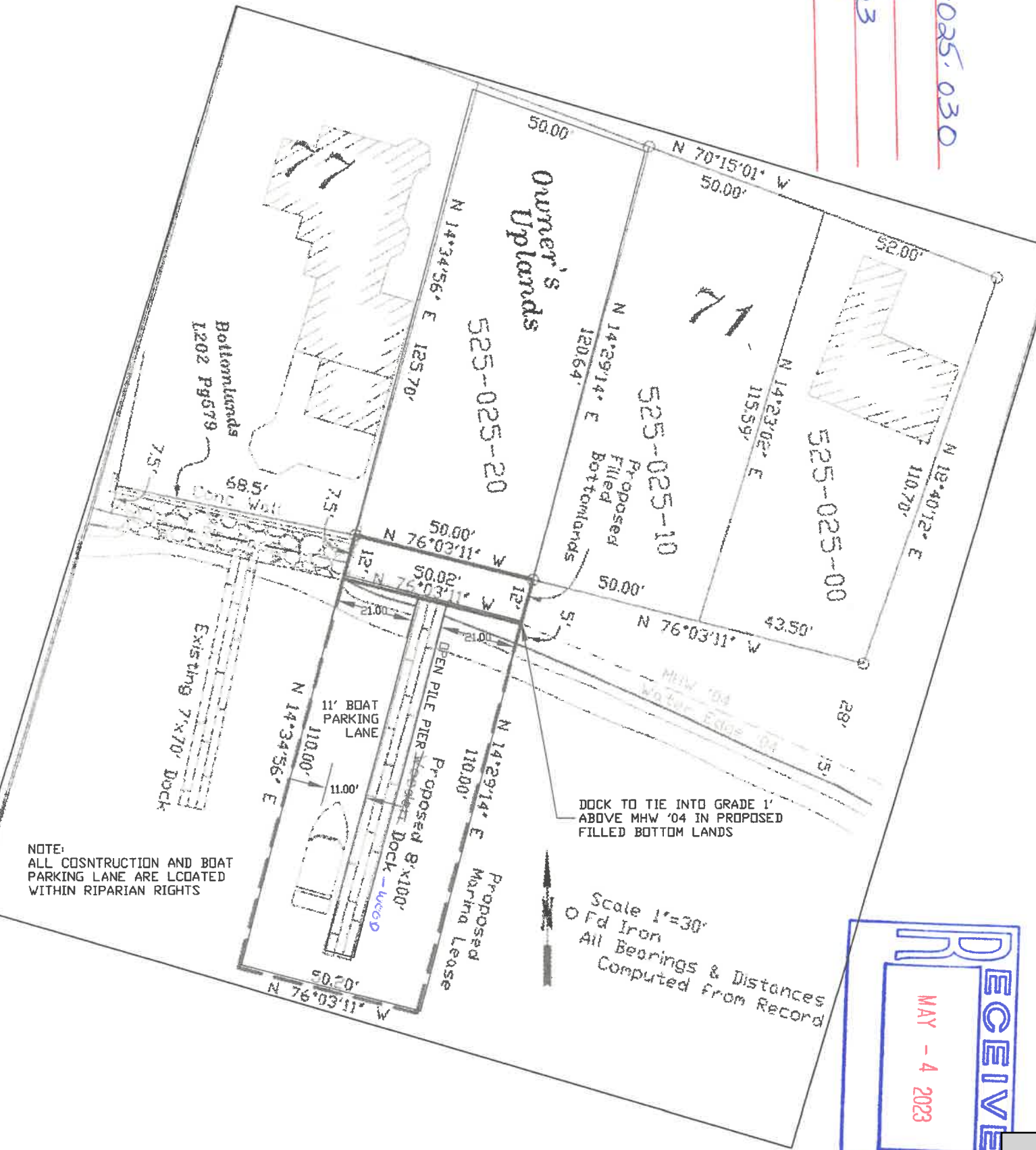
- 18. For multiple family residential development, a density schedule showing the number of dwelling units per acre, including a dwelling schedule showing the unit type and number of each such units
- 19. Existing and proposed streets, driveways, sidewalks and other bicycle or pedestrian circulation features
- 20. Location, size and number of on-site parking areas, service lanes, parking and delivery or loading areas (see also Section 4.16)
- 21. Location, use and size of open spaces together with landscaping, screening, fences, and walls (see also Section 4.09 and Section 4.21)
- 22. Description of Existing and proposed on-site lighting (see also Section 4.27)

<u>Utility Information</u>	<u>Provided</u>	<u>Not Provided or Applicable</u>
23. Written description of the potential demand for future community services, together with any special features which will assist in satisfying such demand	<input type="checkbox"/>	<input checked="" type="checkbox"/>
24. Proposed surface water drainage, sanitary sewage disposal, water supply and solid waste storage and disposal (see also Section 4.13)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
25. Location of other existing and proposed utility services (i.e., propane tanks, electrical service, transformers) and utility easements (see also Section 4.13)	<input type="checkbox"/>	<input checked="" type="checkbox"/>
26. Written description and location of stormwater management system to be shown on a grading plan, including pre- and post-site development runoff calculations used for determination of stormwater management, and location and design (slope) of any retention/detention features (see also Section 4.26)	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Architectural Review
Informational Requirements (Section 18.05)**

<u>Item</u>	<u>Provided</u>	<u>Not Provided or Applicable</u>
1. Name and address of the applicant or developer, including the names and addresses of any officers of a corporation or partners of a partnership	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Legal description of the property	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Drawings, sketches and plans showing the architectural exterior features, heights, appearance, color and texture of the materials of exterior construction and the placement of the structure on the lot, and any additional information determined necessary by the planning commission to determine compliance with the architectural standards (see also Section 18.06)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Photographs of existing site conditions, including site views, existing buildings on the site, streetscape views in all directions, and neighboring buildings within 150 feet of the site.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

File No. R123.025.030
Exhibit B
Date 5.4.23
Initials KP



NOTE:
ALL CONSTRUCTION AND BOAT
PARKING LANE ARE LOCATED
WITHIN RIPARIAN RIGHTS

DOCK TO TIE INTO GRADE 1'
ABOVE MHW '04 IN PROPOSED
FILLED BOTTOM LANDS

Scale 1"=30'
Of Iron
All Bearings & Distances
Computed from Record

RECEIVED
MAY - 4 2023



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, DETROIT DISTRICT
SAULT STE. MARIE FIELD OFFICE
312 WEST PORTAGE AVENUE
SAULT STE. MARIE, MICHIGAN 49783



February 7, 2024

Regulatory Branch
File No. LRE-2003-163390

Steve Murray
609 Bay Street
Petoskey, Michigan 49770-2504

File No. R123.025.030
Exhibit E
Date 2.14.24
Initials KP

Dear Mr. Murray:

This is in response to your request to extend the expiration date of Department of the Army Permit Number LRE-2003-163390. Based upon our review of your situation, this office has no objection to extending the expiration date to December 31, 2024. However, if the proposed work is not completed by the expiration date, we will require that you apply for a new permit. For your convenience, the applicable permit application can be found on our website at <https://www.lre.usace.army.mil/Missions/Regulatory-Program-and-Permits/>.

We remind you that the original conditions of Permit Number LRE-2003-163390 remain in full force and effect. This authorization does not relieve you of the obligation to secure any other necessary Federal, State and/or local approval that may be required.

Should you have any questions, please contact me at the above address, by E-Mail at Rachel.H.Antieau@usace.army.mil, or by telephone at (906) 395-1432. In all communications, please refer to File Number LRE-2003-163390.

Sincerely,

Rachel H. Antieau
Biologist, Project Manager
Sault Ste. Marie Field Office

CITY OF MACKINAC ISLAND
PLANNING COMMISSION & BUILDING DEPARTMENT
APPLICATION FOR ZONING ACTION

FEB 27 2024

www.cityofmi.org kep@cityofmi.org 906-847-6190 PO Box 455 Mackinac Island, MI 49757

APPLICANT NAME & CONTACT INFORMATION:

Corey Omey Katy Rise
KALEIDO STUDIO ARCHITECTURE, LLC KS
971.256.3744 COmey@KaleidoPNW.com
Phone Number Email Address

Please complete both sides of application.
The Fee and five (5) copies of the application, plans and all required documents must be submitted to the Zoning Administrator fourteen (14) days prior to the scheduled Planning Commission Meeting.

Property Owner & Mailing Address (If Different From Applicant)

GFAK LLC - Katy Rise
5114 Welsheimer Road,
Harbor Springs, Mi 49740

- Is The Proposed Project Part of a Condominium Association? NO
- Is The Proposed Project Within a Historic Preservation District? NO
- Applicant's Interest in the Project (If not the Fee-Simple Owner): ARCHITECT
- Is the Proposed Structure Within Any Area That The FAA Regulates Airspace? YES, EXISTING STRUCTURE
- Is a Variance Required? NO
- Are REU's Required? How Many? NO /

Type of Action Requested:

- Standard Zoning Permit
- X Special Land Use
- Planned Unit Development
- Other _____
- Appeal of Planning Commission Decision
- Ordinance Amendment/Rezoning
- Ordinance Interpretation

Property Information:

- A. Property Number (From Tax Statement): 051-630-043-00
- B. Legal Description of Property: 236/23 300/21 358/246 359/513 438/653 ASSESSOR'S PLAT OF HARRISONVILLE LOT 43
- C. Address of Property: 7547 7TH STREET 2827 Cadotte Avenue
- D. Zoning District: R-4 HARRISONVILLE
- E. Site Plan Checklist Completed & Attached: REFER TO A0.5
- F. Site Plan Attached: (Comply With Section 20.04 of the Zoning Ordinance) REFER TO A0.6
- G. Sketch Plan Attached: REFER TO PLANS
- H. Architectural Plan Attached: REFER TO SHEETS A1.1-A1.4 & A2.1 **File No.** R424.043.011
- I. Association Documents Attached (Approval of project, etc.): NA **Exhibit** A
- J. FAA Approval Documents Attached: NA
- K. Photographs of Existing and Adjacent Structures Attached: YES **Date** 2-27-24

Initials KP

Proposed Construction/Use:

- A. Proposed Construction:
 - New Building
 - X Alteration/Addition to Existing Building
 - Other, Specify _____

B. Use of Existing and Proposed Structures and Land:

Existing Use (If Non-conforming, explain nature of use and non-conformity):

RESIDENTIAL APARTMENT RENTALS & EXISTING HOME

Proposed Use:

RETAIN APARTMENT RENTALS AND CONVERT EXISTING HOME INTO EMPLOYEE HOUSING

C. If Vacant:

Previous Use: N/A

Proposed Use: N/A

STATE OF MICHIGAN)
COUNTY OF MACKINAC) ss.

AFFIDAVIT

The applicant agrees that the permit applied for, if granted, is issued on the representation made herein and that the permit issued may be revoked without further notice on any breach of representation or conditions.

The applicant further understands that any permit issued on this application will not grant any right of privilege to erect any structure or to use any premises described for any purposes or in any manner prohibited by the Zoning Ordinance, or by other codes or ordinances or regulations of the City of Mackinac Island.

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Signature *KR*

KATY RISE
Please Print Name

SIGNATURES *June Campbell*
Signature

June Campbell
Please Print Name

Signed and sworn to before me on the 27 day of February, 2024.

K. RICKLEY, Notary Public
Mackinac County, State of Michigan
Acting in the County of Mackinac
My Commission Expires: 10/21/2025

K Rickley
Notary Public

Mackinac County, Michigan
My commission expires: 10/21/2025

FOR OFFICE USE ONLY

Zoning Permit Issued: _____

Inspection Record:

	Inspection	Date	Inspector	Comments
1.				
2.				
3.				

Occupancy Permit Issued _____

Revised October 2023

OFFICE USE ONLY

FILE NUMBER: _____

FEE: \$1000.00

DATE: 2.27.24

CHECK NO: _____

INITIALS: KD

Revised October 2023

City of Mackinac Island

7358 Market Street
P.O. Box 455
Mackinac Island, MI 49757

Site Plan Review Checklist Please Submit With The Application for Zoning Action

As a minimum, the following information shall be included on the site plan submitted for review and processing; more complex plans may require additional information as noted.

NOTE: The engineer, architect, planner and/or designer retained to develop the site plan shall be responsible for securing a copy of the City of Mackinac Island Zoning Ordinance (Ord. No. 479, effective November 12, 2013), which can be obtained via the City's website at www.cityofmi.org.

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For further information, contact Mr. Dennis Dombroski, City Building Official/Zoning Administrator, at (906) 847-4035.

Optional Preliminary Plan Review Informational Requirements (Section 20.03)

<u>Item</u>	<u>Provided</u>	<u>Not Provided or Applicable</u>
1. Name and address of the applicant or developer, including the names and addresses of any officers of a corporation or partners of a partnership	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Legal description of the property	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Sketch drawings showing tentative site plans, property boundaries, placement of structures on the site, and nature of development	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**Site Plan Informational
Requirements (Section 20.04, B and C)**

<u>General Information</u>	<u>Provided</u>	<u>Not Provided or Applicable</u>
1. Name and address of the applicant or developer, including the names and addresses of any officers of a corporation or partners of a partnership. For condominium subdivision project site plans, also include the name and address of the planner, design engineer or surveyor who designed the project layout and any interest he holds in the land.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Name and address of the individual or firm preparing the site plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Scale of not greater than one 1 in = 20 ft for a development of not more than three acres and a scale of not less than 1 in = 100 ft for a development in excess of three acres	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Legend, north arrow, scale, and date of preparation	<input checked="" type="checkbox"/>	<input type="checkbox"/>
5. Legal description of the subject parcel of land	<input checked="" type="checkbox"/>	<input type="checkbox"/>
6. Lot lines and general location together with dimensions, angles, and size correlated with the legal description of the property	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Area of the subject parcel of land	<input checked="" type="checkbox"/>	<input type="checkbox"/>
8. Present zoning classification of the subject parcel	<input checked="" type="checkbox"/>	<input type="checkbox"/>
9. Written description of the proposed development operations	<input checked="" type="checkbox"/>	<input type="checkbox"/>
10. Written description of the effect, if any, upon adjoining lands and occupants, and any special features which are proposed to relieve any adverse effects to adjoining land and occupants	<input type="checkbox"/>	<input checked="" type="checkbox"/>
11. A freight hauling plan shall be shown to demonstrate how the materials, equipment, construction debris, and any trash will be transported to and from the property, what, if any motor vehicles may be needed for the project. (Applicant is responsible for ensuring frost laws do not delay necessary actions of this plan).	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- | | | |
|---|--------------------------|-------------------------------------|
| 12. A construction staging plan shall be shown to demonstrate where and how materials, equipment, construction debris, trash, dumpsters and motor vehicles will be stored and secured during construction. This plan shall ensure the site is kept clean, show how construction debris and trash will be controlled, and how safety issues will be secured including any necessary fencing or barriers that will be needed. | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 13. Proposed construction start date and estimated duration of construction. | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 14. Other information pertinent to the proposed development, specifically required by the Zoning Ordinance, and/or as may be determined necessary by the City Planning Commission | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Natural Features

Provided

Not Provided
or Applicable

- | | | |
|---|--------------------------|-------------------------------------|
| 15. Location of natural features such as wood lots, streams, wetlands, unstable soils, bluff lines, rock outcroppings, and similar features (see also Section 4.26) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 16. Topography of the site with at least two- to five-foot contour intervals | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 17. Proposed alterations to topography or other natural features | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 18. Earth-change plans, if any, as required by state law | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Physical Features

Provided

Not Provided
or Applicable

- | | | |
|---|-------------------------------------|--------------------------|
| 19. Location of existing manmade features on the site and within 100 feet of the site | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 20. Location of existing and proposed principal and accessory buildings, including proposed finished floor and grade line elevations, height of buildings, size of buildings (square footage of floor space), and the relationship of buildings to one another and to any existing structures on the site | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 21. For multiple family residential development, a density schedule showing the number of dwelling units per acre, including a | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

dwelling schedule showing the unit type and number of each such units

- | | | |
|--|-------------------------------------|-------------------------------------|
| 22. Existing and proposed streets, driveways, sidewalks and other bicycle or pedestrian circulation features | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 23. Location, size and number of on-site parking areas, service lanes, parking and delivery or loading areas (see also Section 4.16) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 24. Location, use and size of open spaces together with landscaping, screening, fences, and walls (see also Section 4.09 and Section 4.21) | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 25. Description of Existing and proposed on-site lighting (see also Section 4.27) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

Utility Information

Provided

Not Provided or Applicable

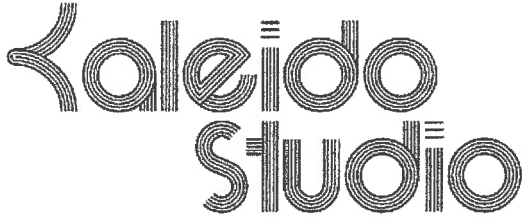
- | | | |
|--|--------------------------|-------------------------------------|
| 26. Written description of the potential demand for future community services, together with any special features which will assist in satisfying such demand | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 27. Proposed surface water drainage, sanitary sewage disposal, water supply and solid waste storage and disposal (see also Section 4.13) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 28. Location of other existing and proposed utility services (i.e., propane tanks, electrical service, transformers) and utility easements (see also Section 4.13) | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 29. Written description and location of stormwater management system to be shown on a grading plan, including pre- and post-site development runoff calculations used for determination of stormwater management, and location and design (slope) of any retention/detention features (see also Section 4. | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

**Site Plan Informational (Demolition)
Requirements (Section 20.04, D)**

<u>Demolition</u>	<u>Provided</u>	<u>Not Provided or Applicable</u>
1. Site plan of property where demolition is going to take place. This plan shall include structure(s) being demolished, location of utilities, septic tanks, an itemized statement of valuation of demolition and restoration work to be performed, or other such items as may be required by the building official.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Copy of asbestos survey if required by EGLE or other state department.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Results of a pest inspection and, if necessary, a pest management plan.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Plans for restoring street frontage improvements (curb closure, sidewalk replacement, street patch, or other items as required by the building official). These items will not be required if building permits for redevelopment have been applied for or if redevelopment is planned within six months. In such case, the cash bond will be held until building permits for redevelopment are issued or improvements are complete. Completion shall not be deferred more than six months. Temporary erosion control and public protection shall be maintained during this time.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. A written work schedule for the demolition project. Included in this may be, but are not limited to, street closures, building moving dates, right-of-way work, or other items as required by the building official.	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6. Acknowledgment that if any unknown historic or archeological remains discovered while accomplishing the activity authorized by a permit granted by the City, all work must immediately stop and notification of what was discovered must be made by the applicant to the City as well as any other required offices. The City will initiate the Federal and state coordination required to determine if the remains warrant a recovery effort or if the site is eligible for listing in the National Register of Historic Places.	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Architectural Review
Informational Requirements (Section 18.05)**

<u>Item</u>	<u>Provided</u>	<u>Not Provided or Applicable</u>
1. Name and address of the applicant or developer, including the names and addresses of any officers of a corporation or partners of a partnership	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Legal description of the property	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Drawings, sketches and plans showing the architectural exterior features, heights, appearance, color and texture of the materials of exterior construction and the placement of the structure on the lot, and any additional information determined necessary by the planning commission to determine compliance with the architectural standards (see also Section 18.06)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
4. Photographs of existing site conditions, including site views, existing buildings on the site, streetscape views in all directions, and neighboring buildings within 150 feet of the site.	<input checked="" type="checkbox"/>	<input type="checkbox"/>



LETTER OF INTENT FOR WORKER HOUSING

February 23, 2024

Dear Dennis,

We are writing to present the project narrative outlining our intention to legalize a portion of the existing structure located at 7547 7th Street and 2827 Cadotte Ave into code-compliant employee housing through the Planning Commission & Building Department application for zoning action, per attached.

The residences have historically served as employee housing by the previous owner, but without proper planning approval, potentially with non-permitted or non-inspected work and unknown licensure. Following the planning committee review and approval, we intend to apply for a building permit for completion of the conversion of the residence at 2827 Cadotte Ave into two apartments and for the addition of a bedroom in the one-story cottage at 7547 7th Street for conversion to employee housing.

The new current co-owner of the site intends to continue to be a year-round resident of the upper-level apartment, and the lower-level apartment will be rented to a long-term year-round employee. The intent is to have up to four seasonal employees housed in the one-story cottage with a basement shown in the attached plans.

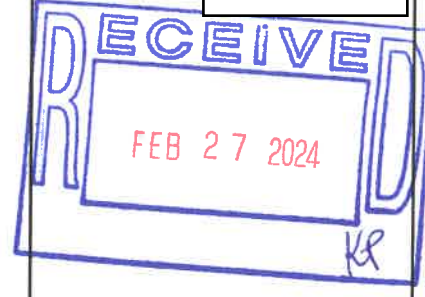
We believe the proposed use will meet the intent of all relevant zoning codes and regulations as shown in the attached drawings.

We understand the planning commission review is the first step to obtaining a license for these uses per section 10-134 of Mackinac Island Zoning Code. Thank you for considering our proposal. We look forward to the next steps and presenting virtually at the upcoming planning meeting.

Sincerely,

Corey Omev & Scott Dufreche
Kaleido Studio Architecture, LLC
Formerly Known as EMA Architecture, LLC
1661 SE 3rd Avenue, Suite D #201
Portland, OR 97214
503.224.1282

File No. R424-043-011
Exhibit B
Date 2-27-24
Initials KP



File No. R424-043-011
Exhibit C
Date 2-27-24
Initials KP

CODE SUMMARY

SITE
ADDRESS: 7547 7TH STREET
MACKINAC ISLAND, MI 49757

PARCEL NUMBER: 051-630-043-00

ZONING: R-4 HARRISONVILLE RESIDENTIAL
OVERLAY: N/A

BUILDING SETBACKS:
FRONT: 25 FT MIN
SIDE: 5 FT MIN / 10 FT MIN OTHER
REAR: 25 FT MIN

SITE AREA: 12,590 SF
BUILDING COVERAGE: 16%

BUILDING & AREA SUMMARY

(E) COTTAGE AREA
1ST FLOOR: ±870 SF
UNFINISHED BASEMENT: ±850 SF
TOTAL: 1720 SF

(E) APARTMENT AREA
1ST FLOOR: ±764 SF
2ND FLOOR: ±780 SF
LOFT: ±140 SF OCCUPIABLE
UNFINISHED GARAGE: ±153 SF
TOTAL: 1837 SF

(E) IMPERVIOUS AREA: ± 2000 SF (17% SITE AREA, 40% MAX)
NO CHANGE PROPOSED

CONSTRUCTION TYPE: VB

FIRE PROTECTION SYSTEM: NONE EXISTING
NFA 13-R FOR FLOW PROPOSED
NFA 13 FOR COVERAGE IN ATTIC

STORIES: 1 BELOW GRADE PLANE, 1 ABOVE GRADE PLANE
2 ABOVE GRADE PLANE + MEZZANINE LOFT (2.5)

HEIGHT: 35 FT MAX / 2 1/2 STORIES MAX
PROPOSED HEIGHT PER A3.1

NO PROPOSED CHANGES TO SITE
DRAINAGE, UTILITY SERVICES, OR
WASTE STORAGE & DISPOSAL

PROPOSED 3' - 0" WIDE
LANDSCAPE BUFFER W/
(E) 6' - 7" TALL FENCE

LANDSCAPE BUFFER
PER SECTION 4.09

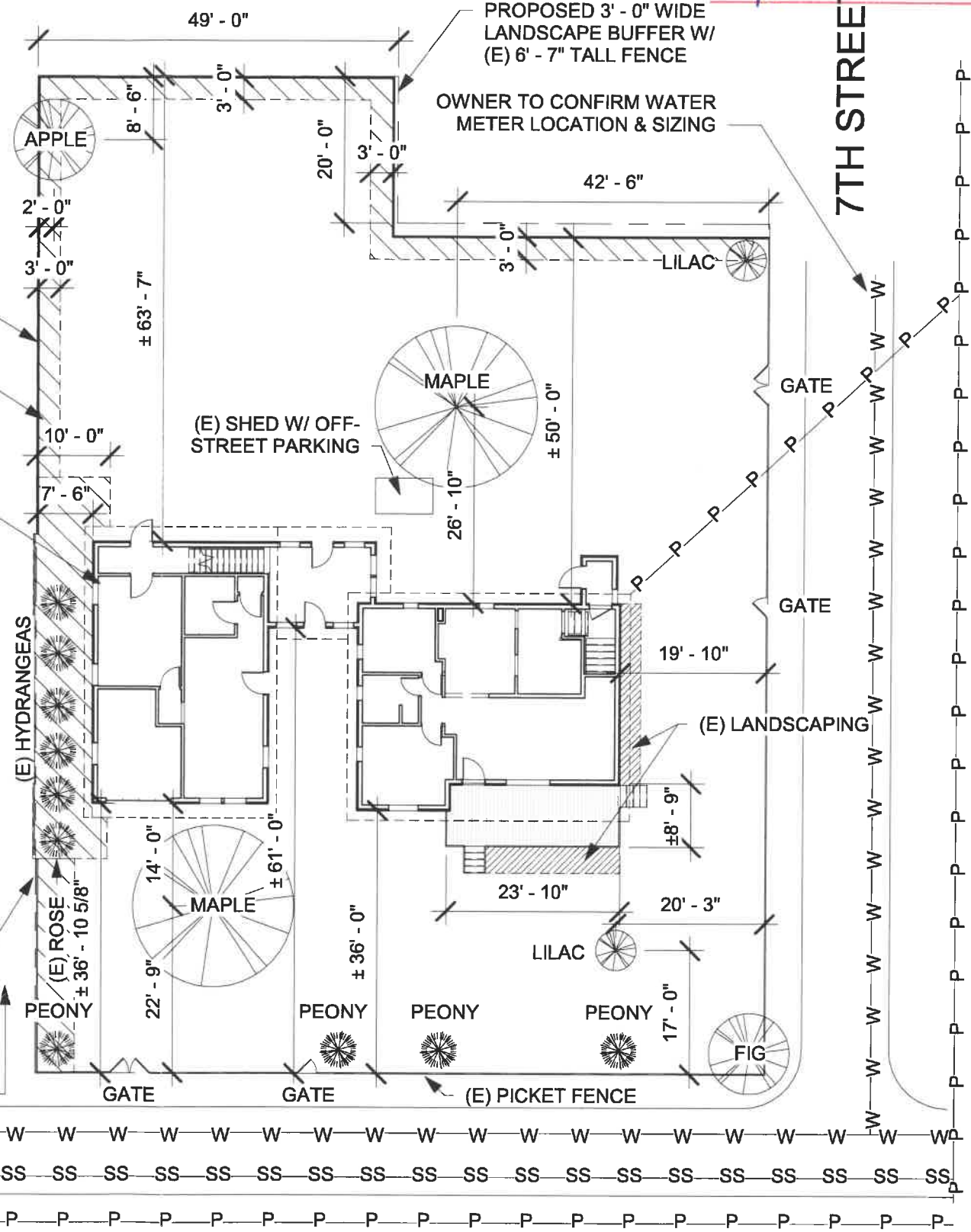
(E) TWO-STORY
STRUCTURE IS IN BUFFER
ZONE

ADJACENT HOME

INCLUDE BUFFER W/
PROPOSED PLANTING &
(E) FENCE

ACCESS FOR ADJACENT HOME

CADOTTE AVENUE



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1 SITE PLAN PROPOSED
1" = 20'-0"

02/23/24

A0.0 92

OWNERS
 GFAK LLC
 5114 WELSHEIMER ROAD
 HARBOR SPRINGS, MI 49740
 june.hetman@gmail.com

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CONTRACTOR
 TBD

STRUCTURAL ENGINEER
 TBD

MEP
 BIDDER DESIGN

ATTACHMENTS:

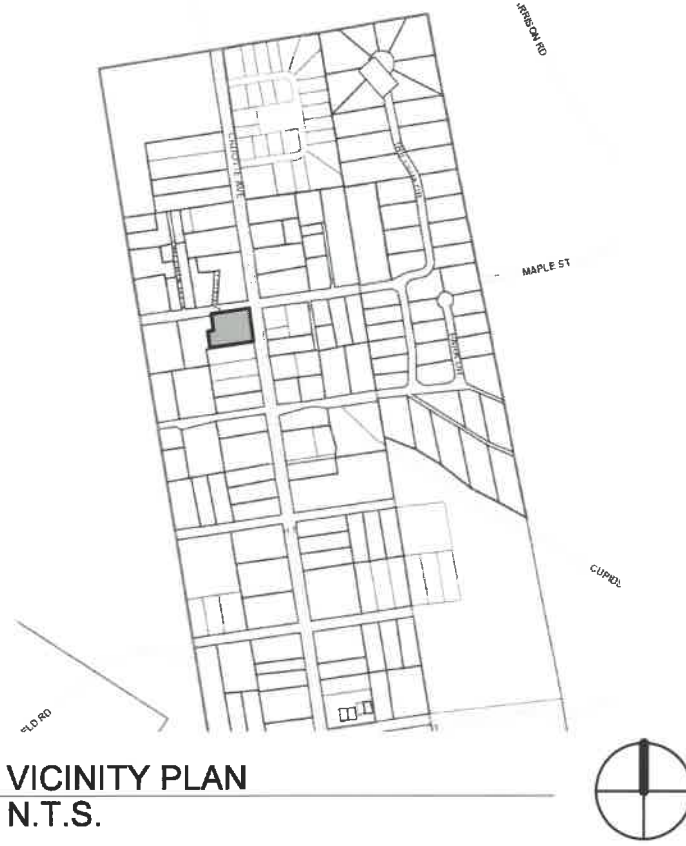
- N/A

BIDDER DESIGN BY SEPARATE TRADE PERMIT

THE FOLLOWING WILL BE DESIGN BUILD BY DESIGN/BUILD CONTRACTORS TO BE SELECTED. CONTRACTOR SHALL ISSUE FOR SEPARATE PERMIT AFTER REVIEW AND APPROVAL OF DESIGN CONCEPT BY ARCHITECT AND OWNER: DESIGN BUILD CONTRACTOR IS RESPONSIBLE FOR DESIGN, DRAWINGS, AND CALCULATIONS AS REQUIRED FOR PERMIT AND CODE COMPLIANT INSTALLATION / CONSTRUCTION.

- ELECTRICAL - ELEC METER, TYP OUTLETS, SWITCHES, LIGHTING
- PLUMBING - NFPA-13 R SPRINKLER SYSTEM

1 VICINITY PLAN
 N.T.S.



SCOPE

FINALIZE AND CONVERT (E) COTTAGE HOME TO CODE-COMPLIANT WORKER HOUSING.

File No. R424-043-011

Exhibit D

Date 2-27-24

Initials HP

SHEET INDEX

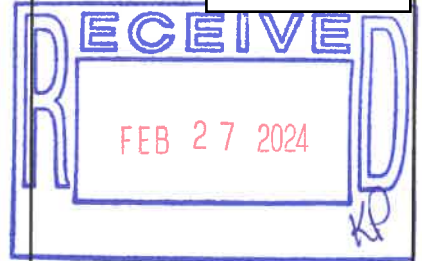
ARCHITECTURAL

- A0.0 COVER
- A0.1 GENERAL NOTES & ABBREVIATIONS
- A0.2 LIFE SAFETY
- A0.3 LIFE SAFETY
- A0.4 LIFE SAFETY
- A0.5 CODE SUMMARY
- A0.6 SITE PLAN
- A1.1 EXISTING FLOOR PLANS
- A1.2 EXISTING FLOOR PLANS
- A1.3 EXISTING FLOOR PLANS
- A1.4 EXISTING FLOOR PLANS
- A2.1 PROPOSED FLOOR PLANS
- A4.1 EXTERIOR ELEVATIONS
- A4.2 EXTERIOR ELEVATIONS
- A4.3 EXTERIOR ELEVATIONS
- A9.0 EXTERIOR IMAGES
- A9.1 LANDSCAPING
- A9.2 COTTAGE INTERIOR
- A9.3 NEIGHBORING PROPERTIES

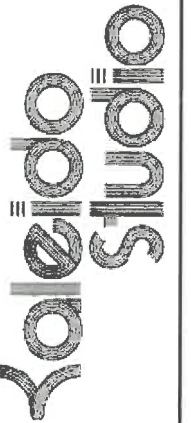
REFERENCED CODES

- STATE 2015 MICHIGAN RESIDENTIAL CODE
- LOCAL MACKINAC ISLAND CODE OF ORDINANCES

Section X, Itemc.



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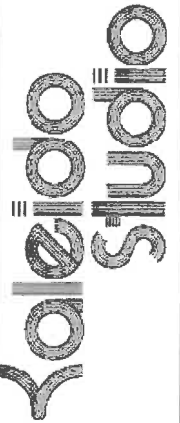
GENERAL NOTES

1. BEFORE CONSTRUCTION IS TO BEGIN, THE CONTRACTOR IS TO VERIFY THAT ALL REQUIRED APPROVALS & PERMITS HAVE BEEN OBTAINED. THE CONSTRUCTION OR FABRICATION OF ANY BUILDING COMPONENT MAY BEGIN ONLY AFTER THE CONTRACTOR HAS RECEIVED PLANS & ANY ADDITIONAL DOCUMENTS FROM THE PERMITTING & OTHER REGULATORY AGENCY. IF THE CONTRACTOR FAILS TO DO SO, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY RESULTING MODIFICATION OF WORK REQUIRED BY ANY REGULATORY AGENCY.
2. IF DISCREPANCIES OR INCONSISTENCIES ARE FOUND WITHIN THE DOCUMENTS, THEY SHALL BE REPORTED TO THE ARCHITECT & RESOLVED BY THE ARCHITECT PRIOR TO PROCEEDING WITH WORK IN THE AFFECTED AREA.
3. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY IN THE FIELD ALL DIMENSIONS, ELEVATIONS, & EXISTING CONDITIONS PRIOR TO PROCEEDING WITH THE WORK, ORDERING OR FABRICATION OF ANY MATERIALS. IF DISCREPANCIES ARE FOUND BETWEEN THE CONSTRUCTION DOCUMENTS & EXISTING CONDITIONS, THEY SHALL BE REPORTED TO THE ARCHITECT & RESOLVED BY THE ARCHITECT PRIOR TO PROCEEDING WITH WORK IN THE AFFECTED AREA.
4. DIMENSIONS ARE TO FACE OF STRUCTURAL OR FRAMING MEMBERS, U.N.O.
5. WHERE IT IS CLEAR THAT A DRAWING REPRESENTS ONE ITEM OF A NUMBER, OR ONLY A PART OF AN ASSEMBLY, THE OTHER WORK SHALL BE CONSTRUCTED REPETITIVELY.

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	MAX	MAXIMUM
ALUM	ALUMINUM	MECH	MECHANICAL
ANOD	ANODIZED	MEMBR	MEMBRANE
BOT	BOTTOM	MIN	MINIMUM
B.O.	BOTTOM OF	NIC	NOT IN CONTRACT
CJ	CONTROL JOINT	NO	NUMBER
CLNG	CEILING	NOM	NOMINAL
CLR	CLEAR	OC	ON CENTER
COL	COLUMN	OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
CONC	CONCRETE	PL	PROPERTY LINE
DBL	DOUBLE	PLY	PLYWOOD
DIA	DIAMETER	PT	PRESSURE TREATED
DIM	DIMENSION	PTD	PAINTED
DN	DOWN	RB	RUBBER BASE
DS	DOWNSPOUT	RCP	REFLECTED CEILING PLAN
DWG	DRAWING	RD	ROOF DRAIN
EA	EACH	REQD	REQUIRED
EJ	EXPANSION JOINT	RM	ROOM
EL	ELEVATION	SIM	SIMILAR
ELEC	ELECTRICAL	SPEC	SPECIFIED OR SPECIFICATION
EP	ELECTRICAL PANEL	SS	STAINLESS STEEL
EQ	EQUAL	STL	STEEL
EXIST OR (E)	EXISTING	STRUCT	STRUCTURE OR STRUCTURAL
EXT	EXTERIOR	T&G	TONGUE AND GROOVE
FD	FLOOR DRAIN	T.O.	TOP OF
FIXT	FIXTURE	TOC	TOP OF CONCRETE
FLR	FLOOR	TOS	TOP OF STEEL
FO	FACE OF	TYP	TYPICAL
FDN	FOUNDATION	UNO	UNLESS NOTED OTHERWISE
GA	GAUGE	VIF	VERIFY IN FIELD
GALV	GALVANIZED	W/	WITH
GWB/GYP BD	GYPSON WALL BOARD	WD	WOOD
HB	HOSE BIB		
INSUL	INSULATION		
INT	INTERIOR		

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MACKINAC ISLAND CODES

SEC. 10-112. - REQUIRED EQUIPMENT AND FACILITIES.

(A) WATER CLOSET; LAVATORY BASIN; BATHTUB OR SHOWER. AT LEAST ONE FLUSH WATER CLOSET, LAVATORY BASIN AND BATHTUB OR SHOWER, PROPERLY CONNECTED TO A WATER AND SEWER SYSTEM APPROVED BY THE HEALTH OFFICER AND IN GOOD WORKING CONDITION, SHALL BE SUPPLIED FOR EACH EIGHT PERSONS OR FRACTION THEREOF RESIDING WITHIN A ROOMINGHOUSE, INCLUDING MEMBERS OF THE OPERATOR'S FAMILY WHENEVER THEY SHARE THE USE OF SUCH FACILITIES, PROVIDED:

- (1) IN A ROOMINGHOUSE WHERE ROOMS ARE LET ONLY TO MALES, FLUSH URINALS MAY BE SUBSTITUTED FOR NOT MORE THAN HALF THE REQUIRED NUMBER OF WATER CLOSETS AND PROVIDED THAT THERE SHALL BE AT LEAST ONE WATER CLOSET.
- (2) ALL SUCH FACILITIES SHALL BE SO LOCATED WITHIN THE DWELLING AS TO BE REASONABLY ACCESSIBLE TO ALL PERSONS SHARING SUCH FACILITIES AND FROM A COMMON HALL OR PASSAGEWAY AND PROVIDED THAT SUCH FACILITIES ARE NOT LOCATED MORE THAN ONE FLOOR ABOVE OR BELOW THE ROOMING UNIT OR UNITS SERVED.
- (3) EVERY LAVATORY BASIN AND BATHTUB OR SHOWER STALL BE SUPPLIED WITH HEATED AND UNHEATED WATER UNDER PRESSURE AT ALL TIMES.
- (4) IF THE ROOMINGHOUSE HAS ONLY ONE BATHROOM FOR USE BY THE OCCUPANTS OF THE ROOMING UNITS, SUCH BATHROOM SHALL NOT BE LOCATED BELOW GRADE.
- (5) EVERY WATER CLOSET MUST BE LOCATED IN A ROOM, OR STALL IN A ROOM, THAT AFFORDS PRIVACY, AND EVERY BATHING FACILITY MUST BE LOCATED IN A ROOM THAT AFFORDS PRIVACY.

(B) HEATING FACILITIES. EVERY DWELLING USED DURING THE WINTER SHALL HAVE HEATING FACILITIES WHICH ARE PROPERLY INSTALLED AND MAINTAINED IN A SAFE AND GOOD WORKING CONDITION AND CAPABLE OF HEATING ALL HABITABLE ROOMS WITHIN THE DWELLING, UNDER ORDINARY WINTER CONDITIONS, TO AT LEAST 70 DEGREES FAHRENHEIT.

(C) WINDOWS. EVERY HABITABLE ROOM OF A DWELLING SHALL HAVE ONE OR MORE WINDOWS WITH A MINIMUM GLASS AREA EQUAL TO AT LEAST TEN PERCENT OF THE FLOOR AREA OF THE ROOM, WITH 45 PERCENT OF THAT MINIMUM GLASS AREA CAPABLE OF BEING OPENED. THE WINDOWS SHALL FACE DIRECTLY TO THE OUTDOORS.

(D) MEANS OF EGRESS. EVERY DWELLING UNIT SHALL HAVE TWO SAFE, UNOBSTRUCTED MEANS OF EGRESS LEADING TO A SAFE AND OPEN SPACE AT GROUND LEVEL.

SEC. 10-113. - MAINTENANCE.

(A) FOUNDATION, WALLS, ROOF, ETC.; SCREENS. EVERY FOUNDATION, FLOOR, WALL, WINDOW, CEILING AND ROOF OF A DWELLING SHALL BE REASONABLY WATERTIGHT, WEATHERTIGHT AND VERMINPROOF; SHALL BE CAPABLE OF AFFORDING PRIVACY; AND SHALL BE KEPT IN GOOD REPAIR. SCREENS SHALL BE PROVIDED AND KEPT IN GOOD REPAIR, FROM APRIL 1 TO NOVEMBER 1, ON ALL OPENABLE DOORS AND WINDOWS.

(B) PLUMBING FIXTURES; PIPES. EVERY PLUMBING FIXTURE OF A DWELLING, AND WATER AND WASTE PIPE, SHALL BE PROPERLY INSTALLED AND MAINTAINED IN GOOD SANITARY WORKING CONDITION, FREE FROM DEFECTS, LEAKS AND OBSTRUCTION.

(C) MAINTAIN IN SATISFACTORY WORKING CONDITION. EVERY SUPPLIED FACILITY, PIECE OF EQUIPMENT OR UTILITY OF A DWELLING SHALL BE SO CONSTRUCTED AND INSTALLED THAT IT WILL FUNCTION SAFELY AND EFFECTIVELY AND SHALL BE MAINTAINED IN A SATISFACTORY WORKING CONDITION.

(D) FITNESS FOR HUMAN OCCUPANCY. NO PERSON SHALL OCCUPY OR LET TO ANY OTHER OCCUPANT ANY DWELLING UNIT UNLESS IT IS CLEAN, SANITARY AND FIT FOR HUMAN OCCUPANCY.

(E) SUBSTANDARD DWELLINGS PROHIBITED. NO ROOMINGHOUSE AND/OR BOARDINGHOUSE SHALL BE A SUBSTANDARD DWELLING, AND NO ROOMINGHOUSE AND/OR BOARDINGHOUSE SHALL BE PERMITTED TO CONTINUE IN BUSINESS WITH CONDITIONS PRESENT, AS DEFINED UNDER SECTION 10-71.

(ORD. NO. 224, ART. VI, § 6, ART. VII, §§ 1—4, 6-2-1976)

SEC. 10-114. - SPACE, USE AND LOCATION.

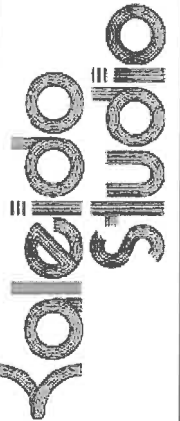
(A) FLOOR SPACE; CEILING HEIGHT; NUMBER OF OCCUPANTS. EVERY ROOMING UNIT SHALL COMPLY WITH ALL THE REQUIREMENTS OF THE FOLLOWING PERTAINING TO A HABITABLE ROOM:

- (1) EVERY ROOMING UNIT OCCUPIED BY ONE PERSON SHALL CONTAIN AT LEAST 85 SQUARE FEET OF FLOOR SPACE; EVERY ROOMING UNIT OCCUPIED BY TWO TO FOUR PERSONS SHALL CONTAIN AT LEAST 50 SQUARE FEET OF FLOOR SPACE PER OCCUPANT; AND EVERY ROOM UNIT OCCUPIED BY FIVE OR SIX PERSONS SHALL CONTAIN AT LEAST 70 SQUARE FEET PER OCCUPANT. NO ROOMING UNIT SHALL CONTAIN MORE THAN SIX PERSONS.
- (2) AT LEAST HALF OF EVERY HABITABLE ROOM SHALL HAVE A CEILING HEIGHT OF AT LEAST SEVEN FEET. NO FLOOR SPACE IN A HABITABLE ROOM THAT DOES NOT HAVE AT LEAST FIVE FEET CLEAR FLOOR-TO-CEILING HEIGHT MAY BE UTILIZED IN DETERMINING MINIMUM FLOOR SPACE.

(B) CELLAR OR BASEMENT SPACE. NO CELLAR OR BASEMENT SPACE LOCATED PARTIALLY OR WHOLLY UNDER GROUND AND HAVING HALF OR MORE THAN HALF OF ITS CLEAR FLOOR-TO-CEILING HEIGHT BELOW THE AVERAGE GRADE OF ADJOINING GROUND SHALL BE USED AS A DWELLING UNIT UNLESS:

- (1) THE FLOORS AND WALLS ARE IMPERVIOUS TO LEAKAGE OF UNDERGROUND AND SURFACE RUNOFF WATER, AND ARE INSULATED AGAINST DAMPNES.
- (2) THE TOTAL WINDOW AREA IN EACH ROOM IS EQUAL TO TEN PERCENT OF THE FLOOR AREA OF SUCH ROOM, WITH 45 PERCENT OF THE MINIMUM GLASS AREA CAPABLE OF BEING OPENED. SUCH WINDOW AREA SHALL BE ENTIRELY ABOVE THE ADJOINING GRADE.

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ARTICLE IV. - RENTAL HOUSING

SEC. 10-131. - PURPOSE.

THE PURPOSE OF THIS ARTICLE IS TO PROVIDE INSPECTION, REGULATION AND LICENSING OF RENTAL HOUSING ACCOMMODATIONS ON MACKINAC ISLAND, INTENDING TO BENEFIT THE OCCUPANTS THEREOF THROUGH BETTER ENFORCEMENT OF BUILDING AND LIFE SAFETY CODE REQUIREMENTS AND BY REGULATION OF THE ACTIVITIES THAT OCCUR WITHIN SUCH HOUSING ACCOMMODATIONS.

SEC. 10-132. - SCOPE.

BRIEF VISUAL INSPECTION OF EACH RENTAL PREMISE WITH THE PRIMARY PURPOSE OF THE INSPECTION BEING THE IDENTIFICATION AND/OR CORRECTION OF VISIBLE CONDITIONS THAT VIOLATE APPLICABLE CITY ORDINANCES AND PRESENT A DANGER TO THE HEALTH, SAFETY AND WELFARE OF THE OCCUPANTS OF THE PREMISES AND THE COMMUNITY IN GENERAL.

SEC. 10-134. - LICENSING.

(A) NO OWNER, OR OWNER'S AGENT, SHALL ALLOW ANOTHER PERSON TO OCCUPY A RENTAL UNIT WITHOUT A LICENSE TO DO SO PURSUANT TO THIS ARTICLE.

(B) ALL RENTAL UNIT LICENSES SHALL EXPIRE ON MAY 1ST OF THE CALENDAR YEAR FOLLOWING ISSUANCE OF THE LICENSE.

(C) ANY OWNER DESIRING TO UTILIZE OR OPERATE A RENTAL UNIT SHALL FILE AN APPLICATION FOR A LICENSE WITH THE CITY CLERK BY WAY OF A WRITTEN APPLICATION ON A FORM APPROVED BY THE CITY COUNCIL AND ANY SAID APPLICATION SHALL BE APPROVED IF ALL OF THE FOLLOWING APPLY:

(1) THE INSPECTOR(S) HAVE COMPLETED THE INSPECTION CHECKLIST ADOPTED BY THE CITY COUNCIL WITH A DETERMINATION THAT THE CONDITIONS COVERED BY THE CHECKLIST ARE SATISFACTORY.

(2) THE OWNER'S PREVIOUS LICENSE IS NOT IN A PERIOD OF REVOCATION PURSUANT TO SECTION 10-136.

(3) OWNER HAS PAID THE APPROPRIATE LICENSE FEE FOR EACH RENTAL UNIT.

(4) THE NAME, ADDRESS AND TELEPHONE NUMBER OF A LOCAL DESIGNATED AGENT WHO SHALL RESIDE WITHIN THE CITY OF MACKINAC ISLAND ON A YEAR ROUND BASIS.

(5) THE APPROPRIATE CITY OFFICIAL(S) HAS INSPECTED THE PREMISES AND DETERMINED THAT ALL ORDINANCES, LAWS, AND BUILDING AND LIFE SAFETY CODE REQUIREMENTS APPEAR TO BE IN COMPLIANCE. THE CITY OFFICIAL SHALL CONSIST OF THE POLICE CHIEF, THE FIRE CHIEF AND THE BUILDING INSPECTOR, OR THEIR DESIGNEES, OR ANY COMBINATION THEREOF. SAID DETERMINATION WILL GENERALLY BE MADE UPON INSPECTION OF EACH RENTAL UNIT, BUT IF THE INSPECTION CANNOT OCCUR WITHIN A REASONABLE TIME DUE TO THE ANTICIPATED SEASONAL INFLUX OF APPLICATIONS, THE CITY COUNCIL MAY ISSUE THE LICENSE BASED ON WRITTEN REPRESENTATION BY THE OWNER THAT THE UNIT IS IN COMPLIANCE WITH ALL BUILDING AND LIFE SAFETY CODE REQUIREMENTS AND THAT SAID REPRESENTATION BE BASED ON CREDIBLE INFORMATION. IN SUCH CASES, THE INSPECTION WILL BE SCHEDULED AND COMPLETED AS SOON AS POSSIBLE WITH PRIOR NOTICE GIVEN TO THE OWNER OF NOT LESS THAN 48 HOURS THAT THE CITY INSPECTION WILL TAKE PLACE. IF THE CITY INSPECTION REVEALS CODE VIOLATIONS OF A NATURE THAT THE INSPECTOR BELIEVES COULD BE LIFE THREATENING, THE LICENSE SHALL BE IMMEDIATELY REVOKED, CONSISTENT WITH THE PROCEDURE SET FORTH IN SECTION 10-136 HEREOF. IF THE VIOLATIONS ARE NOT OF A LIFE THREATENING NATURE, THE LICENSEE SHALL BE GIVEN A REASONABLE TIME PERIOD IN WHICH TO CORRECT THE DEFECTS BEFORE REVOCATION WOULD OCCUR.

(6) THE OWNER HAS PROVIDED A COPY OF A FLOOR PLAN ON 8½ x 11 SIZE PAPER DEPICTING ALL RELEVANT INFORMATION FOR EMERGENCY EVACUATION, INCLUDING BUT NOT LIMITED TO, ROOMS, STAIRWAYS AND PATH OF EGRESS, WHICH WILL BE DISPLAYED IN EVERY SLEEPING ROOM.

(D) ANY LICENSE ISSUED PURSUANT TO THIS ARTICLE SHALL BE NONTRANSFERABLE AND SHALL EXPIRE UPON ANY TRANSFER OF OWNERSHIP.

(E) THE RENTAL UNIT SHALL BE CONSIDERED TO INCLUDE ALL UNITS LOCATED ON A CONTIGUOUS PARCEL OF LAND UNDER COMMON OWNERSHIP AND CONTROL.

SEC. 10-135. - RULES OF OPERATION.

A LICENSEE SHALL OPERATE THE LICENSED RENTAL UNIT IN ACCORDANCE WITH THE FOLLOWING RULES:

(1) NOISE FROM THE LICENSED PROPERTY SHALL BE HELD TO A MINIMUM SUCH THAT NOISE EMANATING FROM CONGREGATIONS OF PEOPLE, MUSIC, FIREWORKS AND OTHER SOURCES MUST BE IN KEEPING WITH RESIDENTIAL NEIGHBORHOODS.

(2) THE LICENSED PREMISES MUST BE MAINTAINED FREE FROM LITTER AND DEBRIS.

(3) THAT THE PREMISES BE UTILIZED ONLY IN COMPLIANCE WITH THE REPRESENTATIONS MADE BY THE OWNER ON THE APPLICATION FOR LICENSE, INCLUDING BUT NOT LIMITED TO THE AREAS OF THE UNIT TO BE OCCUPIED AND THE NUMBER OF OCCUPANTS UTILIZING THE UNIT.

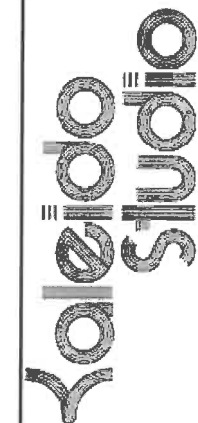
(4) THAT THE PREMISES BE UTILIZED AND MAINTAINED IN COMPLIANCE WITH ALL LOCAL ORDINANCES, STATE AND FEDERAL LAWS, SPECIFICALLY THE NFPA LIFE SAFETY CODE.

(5) EACH LICENSED PREMISES SHALL POST A MAP SHOWING ALL EXIT ROUTES FROM THE BUILDING ON THE INSIDE OF THE DOOR OF EACH SLEEPING ROOM.

SEC. 10-136. - PENALTY.

IN THE EVENT A LICENSEE OPERATES A RENTAL UNIT WITHOUT A LICENSE, THE OWNER SHALL BE RESPONSIBLE FOR A CIVIL INFRACTION AND UPON FINDING OF RESPONSIBILITY BY A COURT OF COMPETENT JURISDICTION, THE VIOLATION SHALL BE PUNISHABLE BY A FINE OF NOT MORE THAN \$500.00 FOR EACH OFFENSE PLUS THE COSTS OF ACTION, INCLUDING ALL DIRECT AND INDIRECT EXPENSES INCURRED BY THE CITY IN THE ADMINISTRATION OF SAID ACTION. EACH DAY OF OPERATION WITHOUT A LICENSE SHALL BE CONSIDERED A SEPARATE OFFENSE.

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MACKINAC ISLAND CODES

ARTICLE 7A. - "R-4" HARRISONVILLE RESIDENTIAL

SECTION 7A.02 - PERMITTED USES R-4.

SINGLE-FAMILY AND TWO-FAMILY RESIDENTIAL DWELLINGS AND ACCESSORY BUILDINGS ARE PERMITTED IN THIS DISTRICT.

SECTION 7A.03 - SPECIAL LAND USES.

THE FOLLOWING USES ARE PERMITTED BY SPECIAL LAND USE APPROVAL OF THE PLANNING COMMISSION, PROVIDED THAT THEY ARE IN COMPLIANCE WITH THE STANDARDS THAT FOLLOW AND THE PROCEDURES AND STANDARDS IN ARTICLE 19:

A.MULTIPLE-FAMILY RESIDENTIAL, PROVIDED:

- 1.THAT A LANDSCAPE BUFFER IS PROVIDED ALONG ALL PROPERTY BOUNDARIES, WHICH ABUT SINGLE-FAMILY OR TWO-FAMILY RESIDENTIAL USES, IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 4.09.
- 2.THAT THE MULTIPLE-FAMILY USE AND/OR STRUCTURE COMPLIES WITH ALL OTHER DISTRICT REGULATIONS.

B.BOARDINGHOUSE, PROVIDED:

- 1.THAT A LANDSCAPE BUFFER IS PROVIDED ALONG ALL PROPERTY BOUNDARIES, WHICH ABUT RESIDENTIAL USES, IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 4.09.
- 2.THAT OFF-STREET BICYCLE PARKING BE PROVIDED FOR EACH TENANT OR GUEST RESIDING AT OR VISITING THE BOARDINGHOUSE DURING THE TOURIST SEASON (MEMORIAL DAY THROUGH LABOR DAY).
- 3.THAT THE BOARDINGHOUSE USE AND/OR STRUCTURE COMPLIES WITH ALL OTHER DISTRICT REGULATIONS.

SECTION 7A.04 - AREA, BULK, HEIGHT, LOT COVERAGE, AND DENSITY REQUIREMENTS.

A.LOT SIZE. 10,000 SF MIN

B.BUILDINGS, AND STRUCTURES SHALL BE SETBACK FROM PROPERTY LINES AS FOLLOWS:

- 1.FRONT YARD. 25' - 0" MIN OR IN LINE W/ ADJACENT
- 2.SIDE YARD. 5'-0" MIN ONE SIDE, 10'-0" MIN OTHER
- 3.REAR YARD. 25' - 0" MIN

C.NO PRINCIPAL BUILDING SHALL BE LESS THAN 12 FEET IN HEIGHT, NOR SHALL ANY BUILDING EXCEED 35 FEET, OR 2½ STORIES, IN HEIGHT.

D. 40% MAX IMPERVIOUS SURFACE

E.MAX 10 DWELLING UNITS PER ACRE.

FOR USE AS A BOARDINGHOUSE, THE MAXIMUM ALLOWABLE DENSITY SHALL BE ONE OCCUPANT PER 500 SQUARE FEET OF LOT AREA WITHIN WHICH THE BUILDING IS PLACED. (12,590 / 500 SF PER OCC = ±25 OCC)

AN OCCUPANT IS A PERSON WHO OCCUPIES A BED OR SLEEPING AREA WITHIN THE BUILDING FOR ONE OR MORE OVERNIGHT PERIODS. IN THE EVENT THE BUILDING CONTAINS BOTH FAMILY RESIDENTIAL USE AND BOARDINGHOUSE USE (NONFAMILY RESIDENTIAL USE), THE ONE OCCUPANT PER 500 SQUARE FEET OF LOT AREA DENSITY LIMITATION SHALL APPLY TO THE ENTIRE BUILDING.

SECTION 4.09 - LANDSCAPE BUFFERS.

UPON ANY IMPROVEMENT FOR WHICH A SITE PLAN IS REQUIRED, A LANDSCAPE BUFFER SHALL BE CONSTRUCTED ALONG ALL ADJOINING BOUNDARIES BETWEEN A PROPERTY ZONED C OR HB DISTRICT AND ANY PROPERTY ZONED R-1, R-3, R-4 OR CD DISTRICT. A LANDSCAPE BUFFER MAY ALSO BE REQUIRED AS A CONDITION OF APPROVAL FOR SITE PLANS, SPECIAL LAND USES, PLANNED UNIT DEVELOPMENTS, OR AS DIRECTLY STATED AS A REQUIREMENT OF A PARTICULAR ZONING DISTRICT. THE FOLLOWING REQUIREMENTS SHALL APPLY:

A.LANDSCAPE BUFFERS SHALL HAVE A MINIMUM WIDTH OF TEN FEET AND SHALL BE PLANTED WITH GRASS, GROUND COVER, SHRUBBERY, OR OTHER SUITABLE PLANT MATERIAL. THE LOCATION, PLACEMENT, SPACING AND TYPES OF PLANT MATERIALS WILL BE SUCH THAT AN EFFICIENT HORIZONTAL AND VERTICAL OBSCURING OR SCREENING EFFECT BETWEEN LAND USES WILL BE ACHIEVED.

B.ALL PLANTS COMPRISING THE BUFFER WILL BE CONTINUOUSLY MAINTAINED IN A SOUND, HEALTHY, VIGOROUS GROWING CONDITION, FREE OF DISEASES, INSECT PESTS, REFUSE AND DEBRIS.

C.MINIMUM SIZES OF TREES AND SHRUBS PLANTED AS A PART OF A LANDSCAPE BUFFER ARE AS FOLLOWS:

- 1.DECIDUOUS SHRUBS. MINIMUM TWO FEET IN HEIGHT.
- 2.DECIDUOUS TREES. MINIMUM TWO INCHES IN CALIPER (DIAMETER).
- 3.EVERGREEN SHRUBS. MINIMUM TWO FEET IN HEIGHT.
- 4.EVERGREEN TREES. MINIMUM FIVE FEET IN HEIGHT.

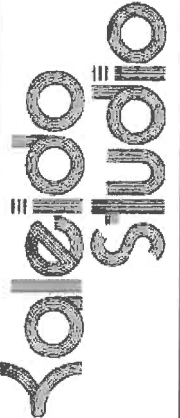
D.THE CHOICE AND SELECTION OF PLANT MATERIALS WILL BE SUCH THAT THE ROOT SYSTEM WILL NOT INTERFERE WITH PUBLIC UTILITIES AND THAT FRUIT AND OTHER PLANT DEBRIS (EXCEPT LEAVES) WILL NOT CONSTITUTE A NUISANCE WITHIN PUBLIC RIGHTS-OF-WAY, OR TO ABUTTING PROPERTY OWNERS.

E.ALL PLANT MATERIALS MUST MEET CURRENT RECOMMENDED MINIMUM STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN.

F.LANDSCAPE BUFFERS SHALL BE IN PLACE AT THE DATE OF OCCUPANCY APPROVAL, AS PROVIDED IN SECTION 21.06, UNLESS AN EXTENSION OF UP TO SIX MONTHS IS GRANTED BY THE PLANNING COMMISSION AND A PERFORMANCE GUARANTEE IS DEPOSITED TO ENSURE COMPLETION OF THE IMPROVEMENTS IN ACCORDANCE WITH SECTION 4.18.

G.BERMS (EARTHEN MOUNDS) AND/OR CERTAIN TYPES OF FENCES MAY BE INSTALLED IN LIEU OF A LANDSCAPE BUFFER FOR THE PURPOSES OF SCREENING WHEN THE PLANNING COMMISSION DETERMINES, BASED UPON A PARTICULAR SITUATION, THAT A FENCE AND/OR BERM WOULD EFFECTIVELY ACHIEVE THE PUBLIC PURPOSES AND PRIVATE BENEFITS INHERENT IN THIS PROVISION. FENCES INSTALLED IN LIEU OF OR IN CONJUNCTION WITH A LANDSCAPE BUFFER WILL BE CONSTRUCTED OF WOOD, STONE OR BRICK TO PROVIDE AN EFFECTIVE SCREEN AND TO MAINTAIN THE NATURAL AND HISTORIC CHARACTER OF THE ISLAND. CHAIN LINK OR OTHER WIRE MESH TYPE FENCES MAY BE PERMITTED ONLY IF COVERED WITH WOOD STRIPS OR PLANT MATERIALS.

NOT FOR CONSTRUCTION



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A0.4 97

MACKINAC ISLAND CODE RESPONSES

ARTICLE 7A. - "R-4" HARRISONVILLE RESIDENTIAL

SECTION 7A.02 - PERMITTED USES R-4.

SINGLE-FAMILY AND TWO-FAMILY RESIDENTIAL DWELLINGS ALLOWED OUTRIGHT.

SECTION 7A.03 - SPECIAL LAND USES.

A.MULTIPLE-FAMILY RESIDENTIAL, PROVIDED:

- 1.LANDSCAPE BUFFERS PROVIDED PER A0.6
- 2.MULTIPLE-FAMILY STRUCTURE COMPLIES WITH ALL OTHER DISTRICT REGULATIONS.

B.BOARDINGHOUSE, PROVIDED:

- 1.LANDSCAPING BUFFERS PROVIDED PER A0.6
- 2.OFF-STREET BIKE PARKING PROVIDED PER A0.3
- 3.BOARDING HOUSE COMPLIES WITH ALL OTHER DISTRICT REGULATIONS

SECTION 7A.04 - AREA, BULK, HEIGHT, LOT COVERAGE, AND DENSITY REQUIREMENTS.

A.LOT SIZE. 10,000 SF MIN

12,950 SF EXISTING

B.BUILDINGS, AND STRUCTURES SHALL BE SETBACK FROM PROPERTY LINES AS FOLLOWS:

- 1.FRONT YARD. 25' - 0" MIN OR IN LINE W/ ADJACENT
- 2.SIDE YARD. 5'-0" MIN ONE SIDE, 10'-0" MIN OTHER
- 3.REAR YARD. 25' - 0" MIN

SETBACK ADHERENCES SHOWN PER A0.6

C.NO PRINCIPAL BUILDING SHALL BE LESS THAN 12 FEET IN HEIGHT, NOR SHALL ANY BUILDING EXCEED 35 FEET, OR 2½ STORIES, IN HEIGHT.

BUILDING HEIGHT SHOWN PER ELEVATIONS

D. 40% MAX IMPERVIOUS SURFACE

IMPERVIOUS SURFACE CALCULATION SHOWN PER A0.6

E.MAX 10 DWELLING UNITS PER ACRE.

FOR USE AS A BOARDINGHOUSE, THE MAXIMUM ALLOWABLE DENSITY SHALL BE ONE OCCUPANT PER 500 SQUARE FEET OF LOT AREA WITHIN WHICH THE BUILDING IS PLACED.

12,590 / 500 SF PER OCC = ±25 OCC

DWELLING DENSITY SHOWN TO THE RIGHT

SECTION 4.09 - LANDSCAPE BUFFERS.

A LANDSCAPE BUFFER SHALL BE CONSTRUCTED ALONG ALL ADJOINING BOUNDARIES BETWEEN A PROPERTY ZONED R-4. A LANDSCAPE BUFFER MAY ALSO BE REQUIRED AS A CONDITION OF APPROVAL FOR SITE PLANS, SPECIAL LAND USES, PLANNED UNIT DEVELOPMENTS, OR AS DIRECTLY STATED AS A REQUIREMENT OF A PARTICULAR ZONING DISTRICT. THE FOLLOWING REQUIREMENTS SHALL APPLY:

A.LANDSCAPE BUFFERS SHALL HAVE A MINIMUM WIDTH OF TEN FEET AND SHALL BE PLANTED WITH GRASS, GROUND COVER, SHRUBBERY, OR OTHER SUITABLE PLANT MATERIAL. THE LOCATION, PLACEMENT, SPACING AND TYPES OF PLANT MATERIALS WILL BE SUCH THAT AN EFFICIENT HORIZONTAL AND VERTICAL OBSCURING OR SCREENING EFFECT BETWEEN LAND USES WILL BE ACHIEVED.

LANDSCAPE BUFFERS SHOWN PER A0.6 PROPOSED TO HAVE THREE FOOT WIDE PLANTED BUFFER WHERE ADJACENT TO EXISTING 6'+ TALL FENCES

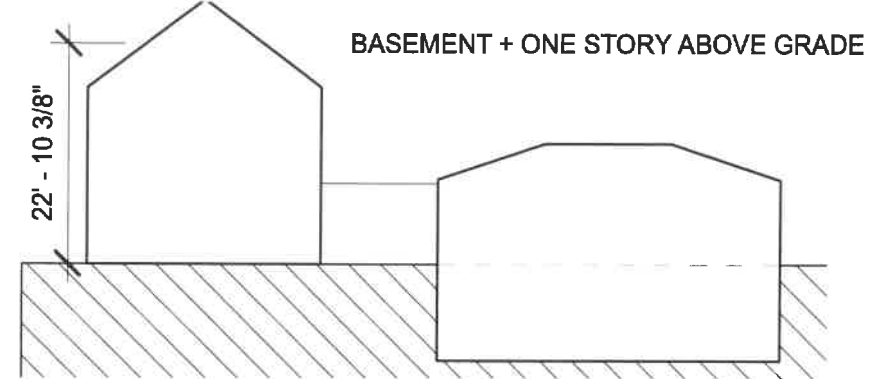
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BERMS NOT PROPOSED

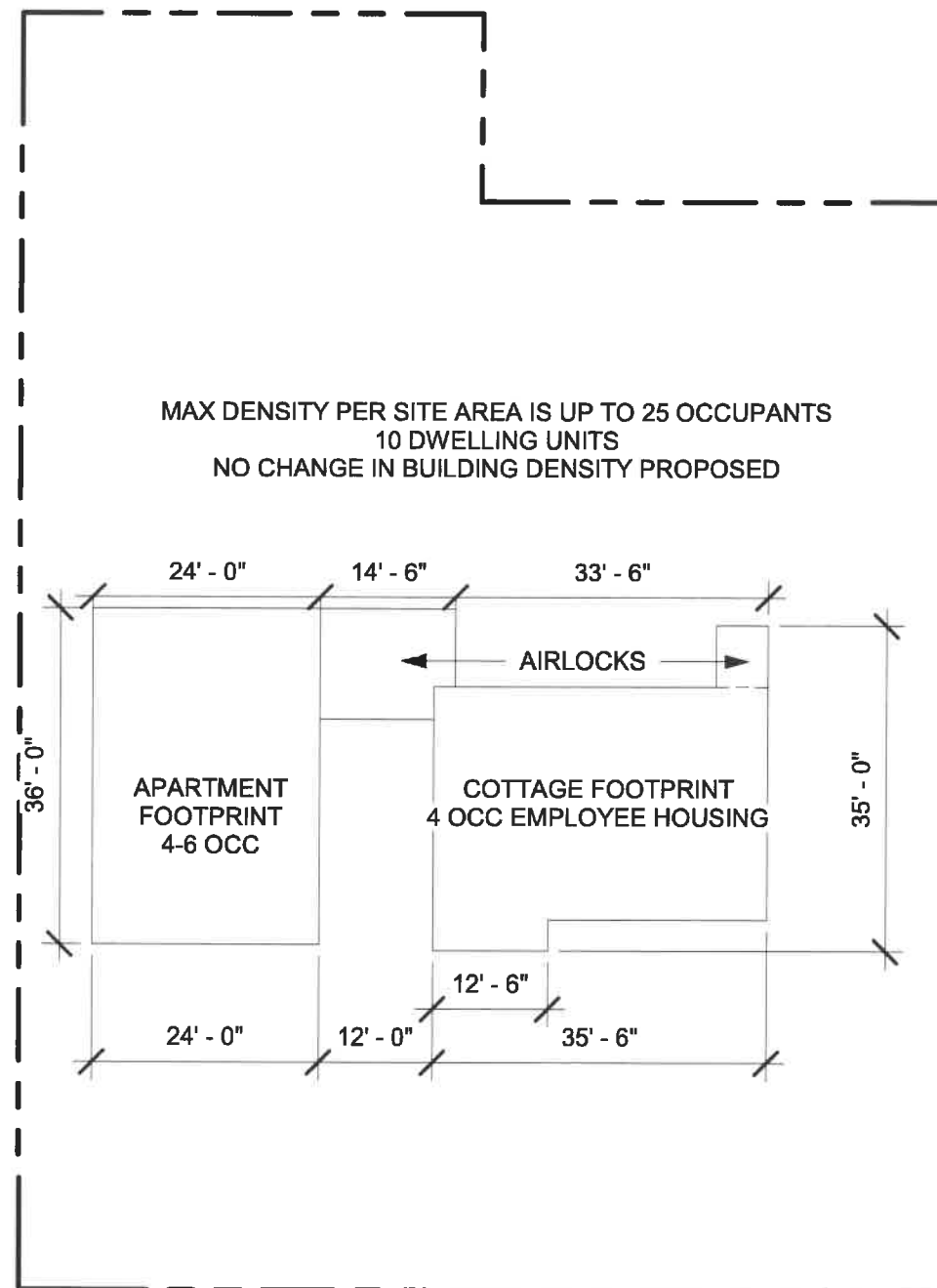
FENCES PROPOSED AS PART OF THE LANDSCAPE BUFFER, NOT IN LIEU OF

THE EXISTING TWO STORY APARTMENT STRUCTURE IS WITHIN THE LANDSCAPE BUFFER ZONE, BUT MEETS SET-BACK REQUIREMENTS ALSO SERVES AS A BUFFER BETWEEN WORKER HOUSING AND ADJACENT PROPERTY.

2 STORIES + 1/2 STORY (MEZZANINE LOFT)
MAXIMUM DENSITY ACHIEVED



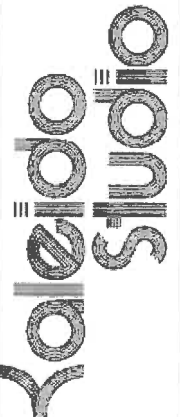
2 DENSITY SECTION
1" = 20'-0"



1 0 - DENSITY DIAGRAM
1" = 20'-0"

NOT FOR CONSTRUCTION

Section X, Itemc.

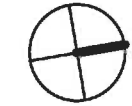
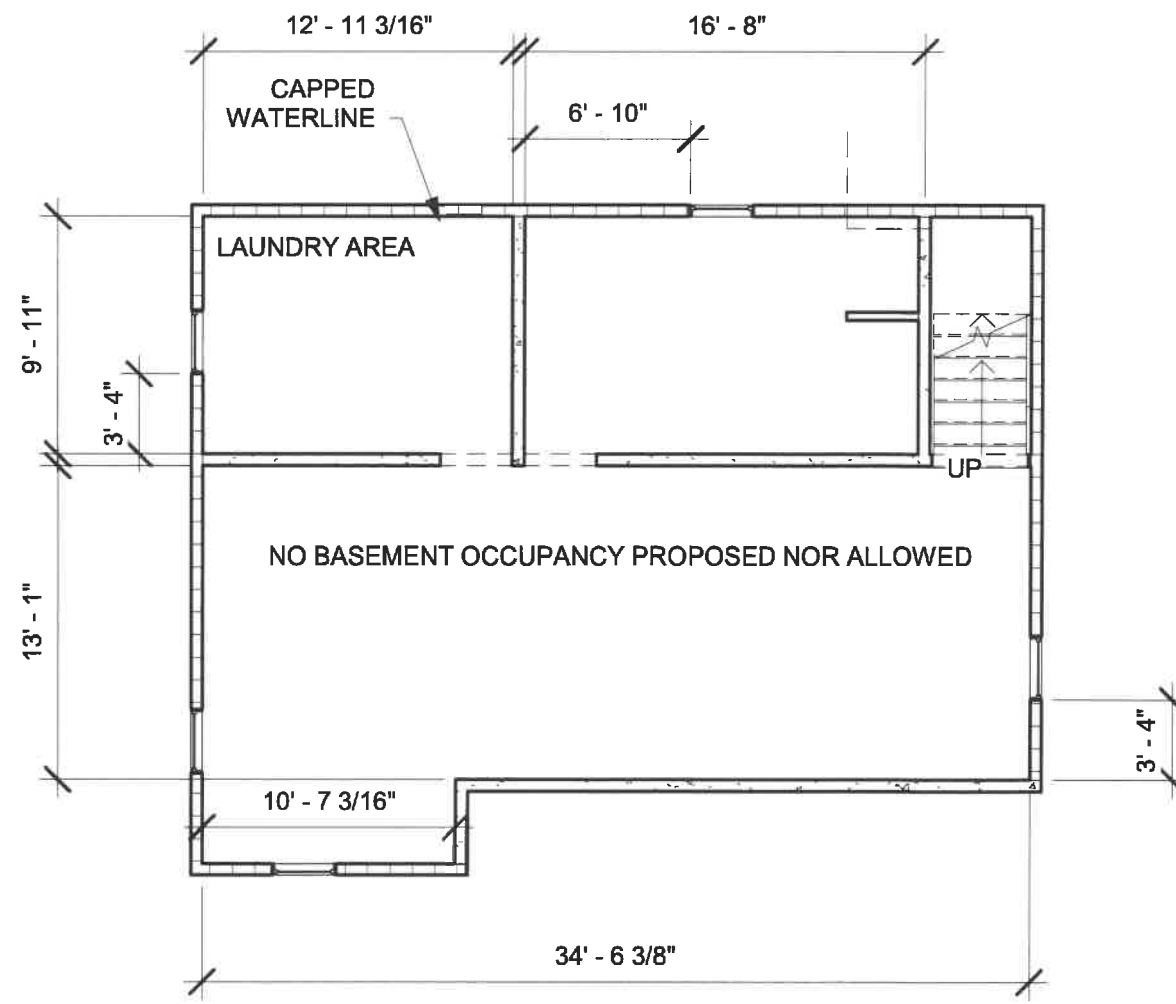


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A0.5 98



LEGEND

-  WALL
-  WALL OR ELEMENT TO BE DEMOLISHED
-  GRID LINE

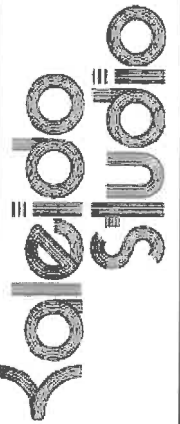
DEMOLITION GENERAL NOTES

1. COORDINATE BUILDING COMPONENT AND FIXTURE SALVAGE AND PROTECTION WITH OWNER.
2. PROVIDE ADEQUATE TEMPORARY SHORING, BRACING, AND SUPPORT PRIOR TO REMOVING EXISTING STRUCTURAL ELEMENTS.
3. WHEN REMOVING EXISTING FRAMING MEMBER USE CARE AND PROTECT FRAMING TO REMAIN.
4. REMOVE ELECTRICAL AND PLUMBING FIXTURE AND LINES AS NEEDED TO ALLOW FOR NEW WORK.
5. REMOVE INTERIOR FLOOR, WALL, AND CEILING FINISHES AS NEEDED TO ALLOW FOR NEW WORK.
6. ALL MATERIALS TO BE REMOVED SHALL BE RECYCLED TO THE GREATEST EXTENT POSSIBLE.

NOTES ON EXISTING CONDITIONS

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NOT FOR CONSTRUCTION



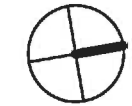
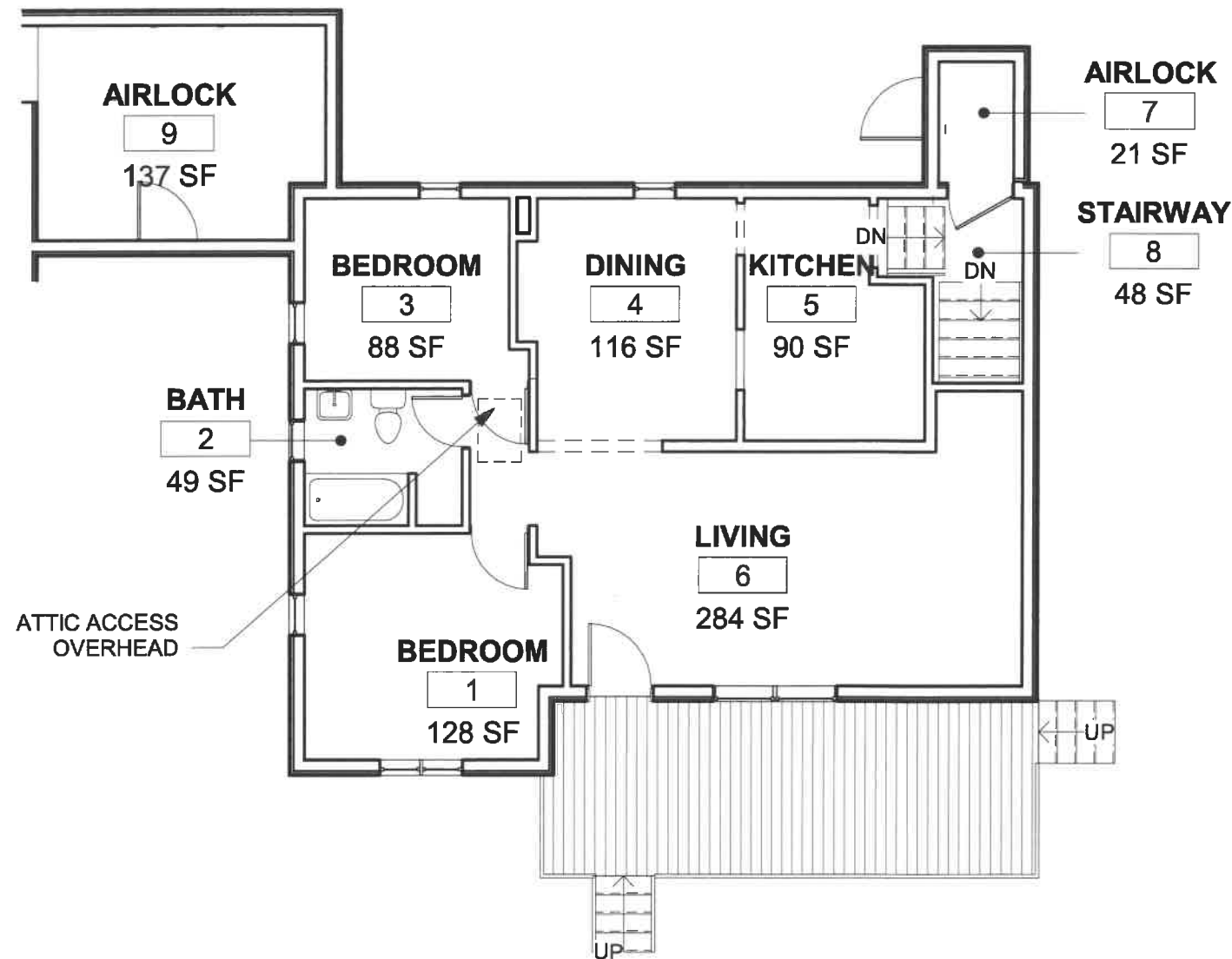
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1 0 - BASEMENT EXISTING/DEMO
1/8" = 1'-0"

02/23/24

A1.1 99



LEGEND

- WALL
- WALL OR ELEMENT TO BE DEMOLISHED
- GRID LINE

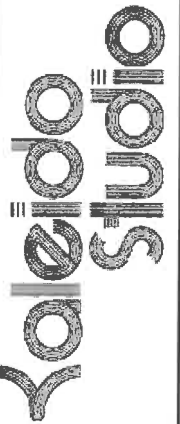
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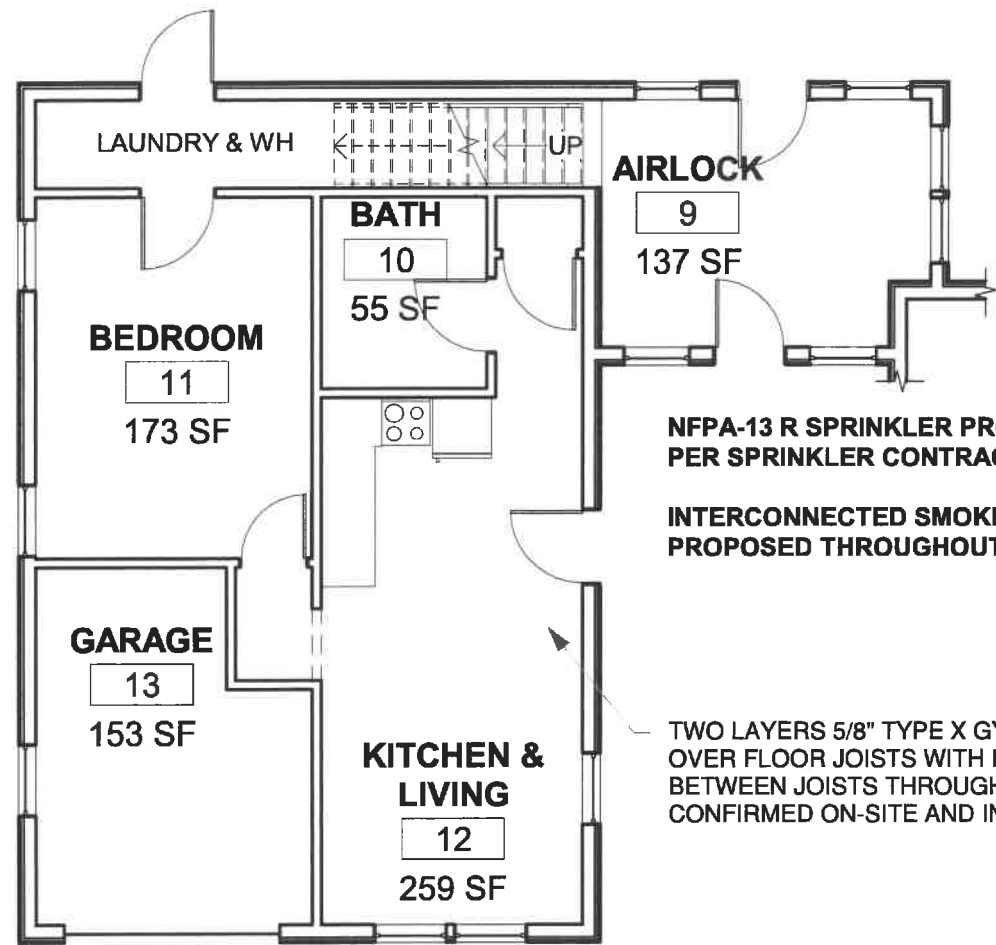
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1 - FIRST FLOOR EXISTING/DEMO
1/8" = 1'-0"

02/23/24

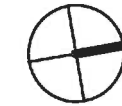
A1. 100



NFPA-13 R SPRINKLER PROPOSED PER SPRINKLER CONTRACTOR

INTERCONNECTED SMOKE DETECTORS PROPOSED THROUGHOUT BOTH STRUCTURES

TWO LAYERS 5/8" TYPE X GYPSUM CELING OVER FLOOR JOISTS WITH INSULATION BETWEEN JOISTS THROUGHOUT TO BE CONFIRMED ON-SITE AND INSPECTED



LEGEND

- WALL
- WALL OR ELEMENT TO BE DEMOLISHED
- GRID LINE

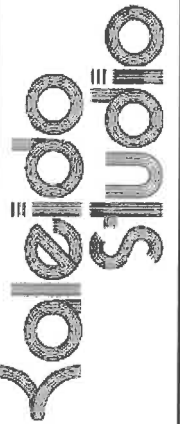
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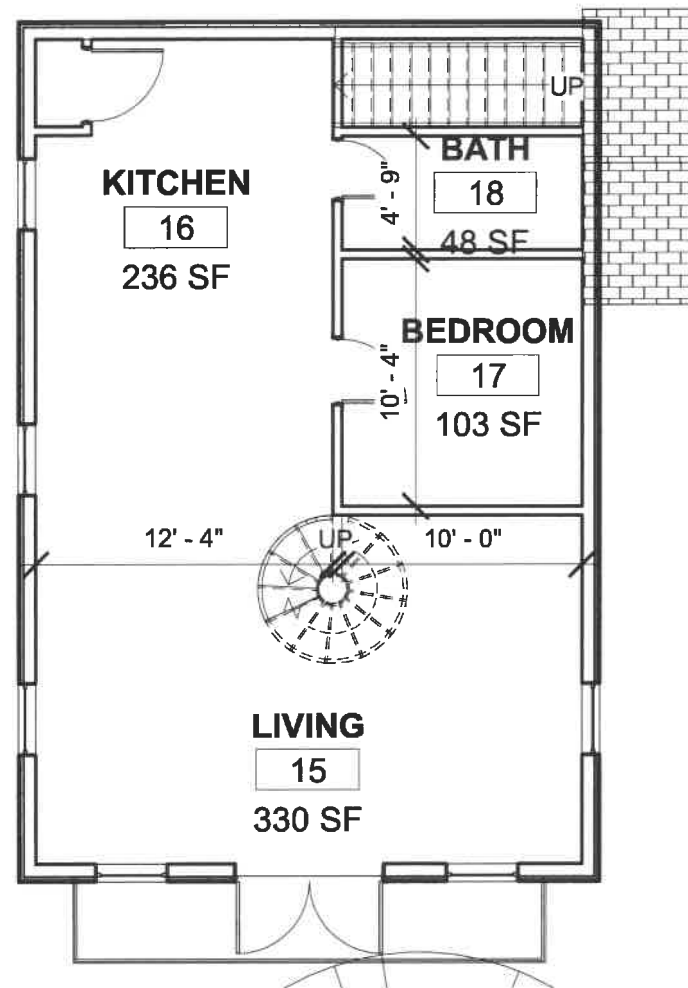
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A4.1 2

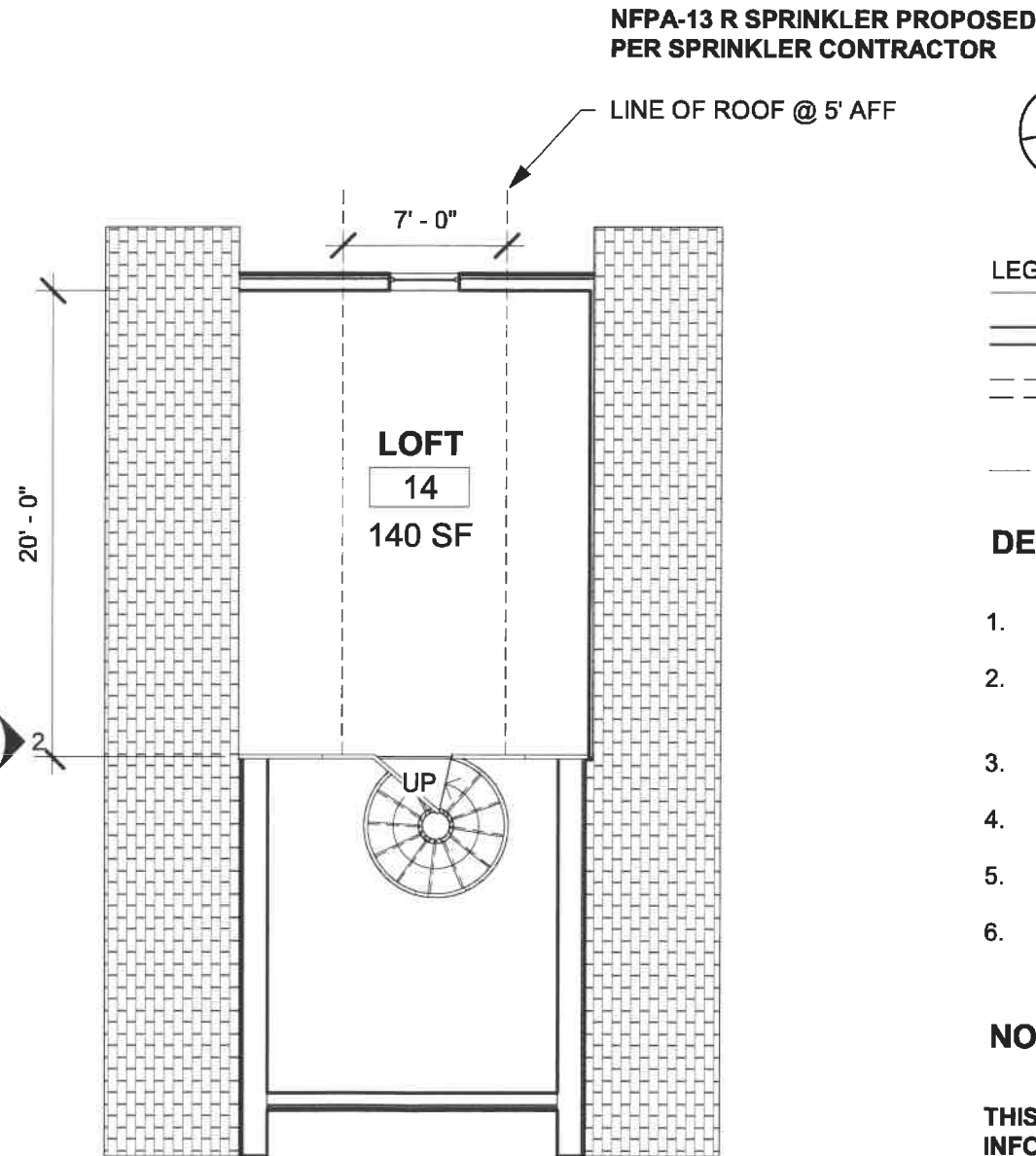
1 0 - APT 101
1/8" = 1'-0"

02/23/24

A1. 101



1 - APT 201
1/8" = 1'-0"



2 - APT 201
1/8" = 1'-0"

NFPA-13 R SPRINKLER PROPOSED
PER SPRINKLER CONTRACTOR

LINE OF ROOF @ 5' AFF



LEGEND

- WALL
- WALL OR ELEMENT TO BE DEMOLISHED
- GRID LINE

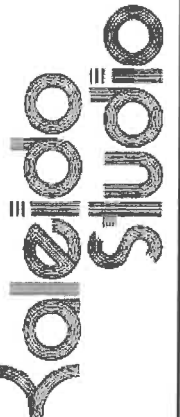
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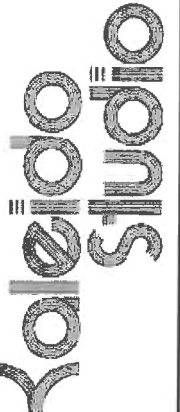
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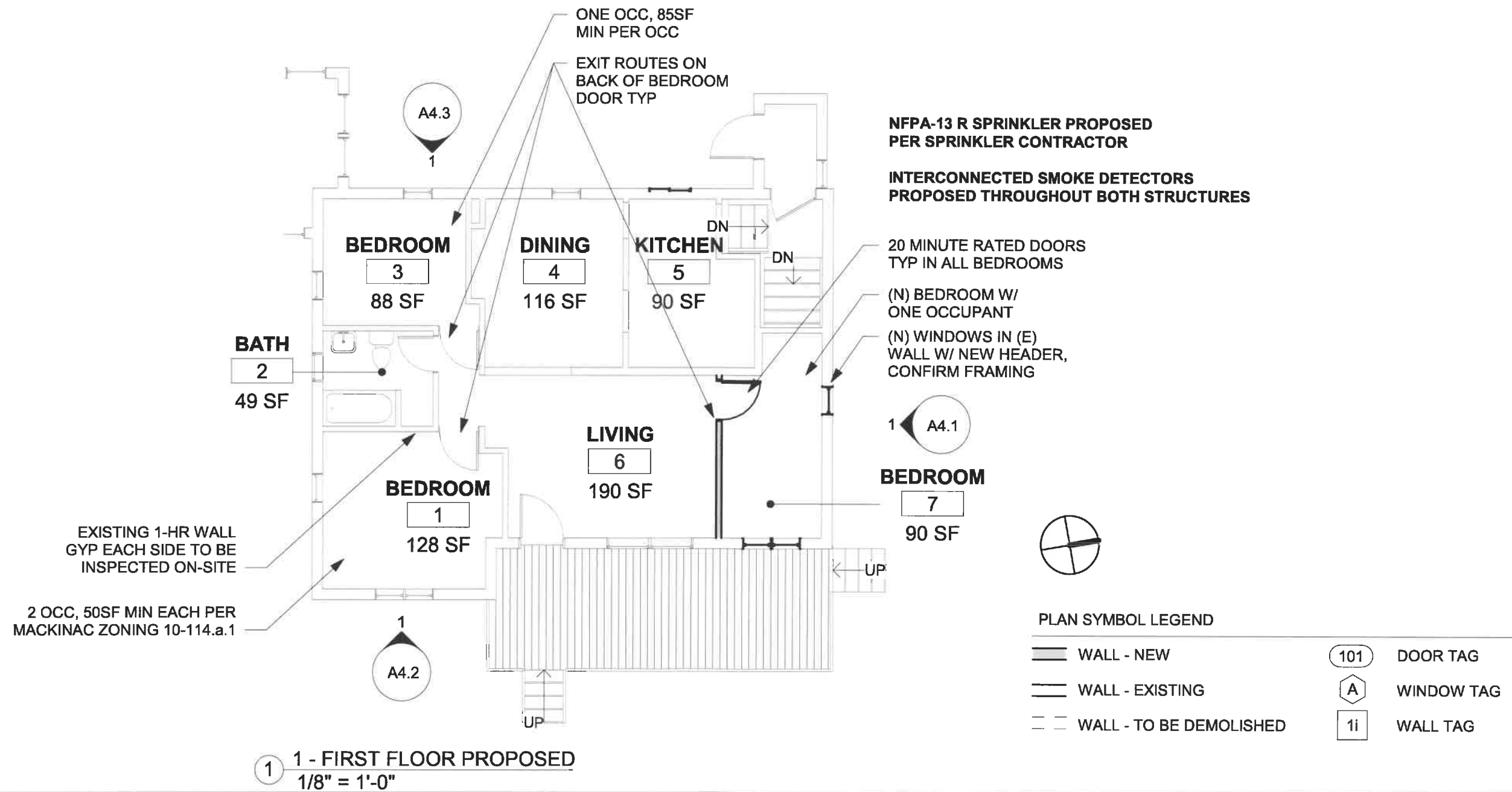
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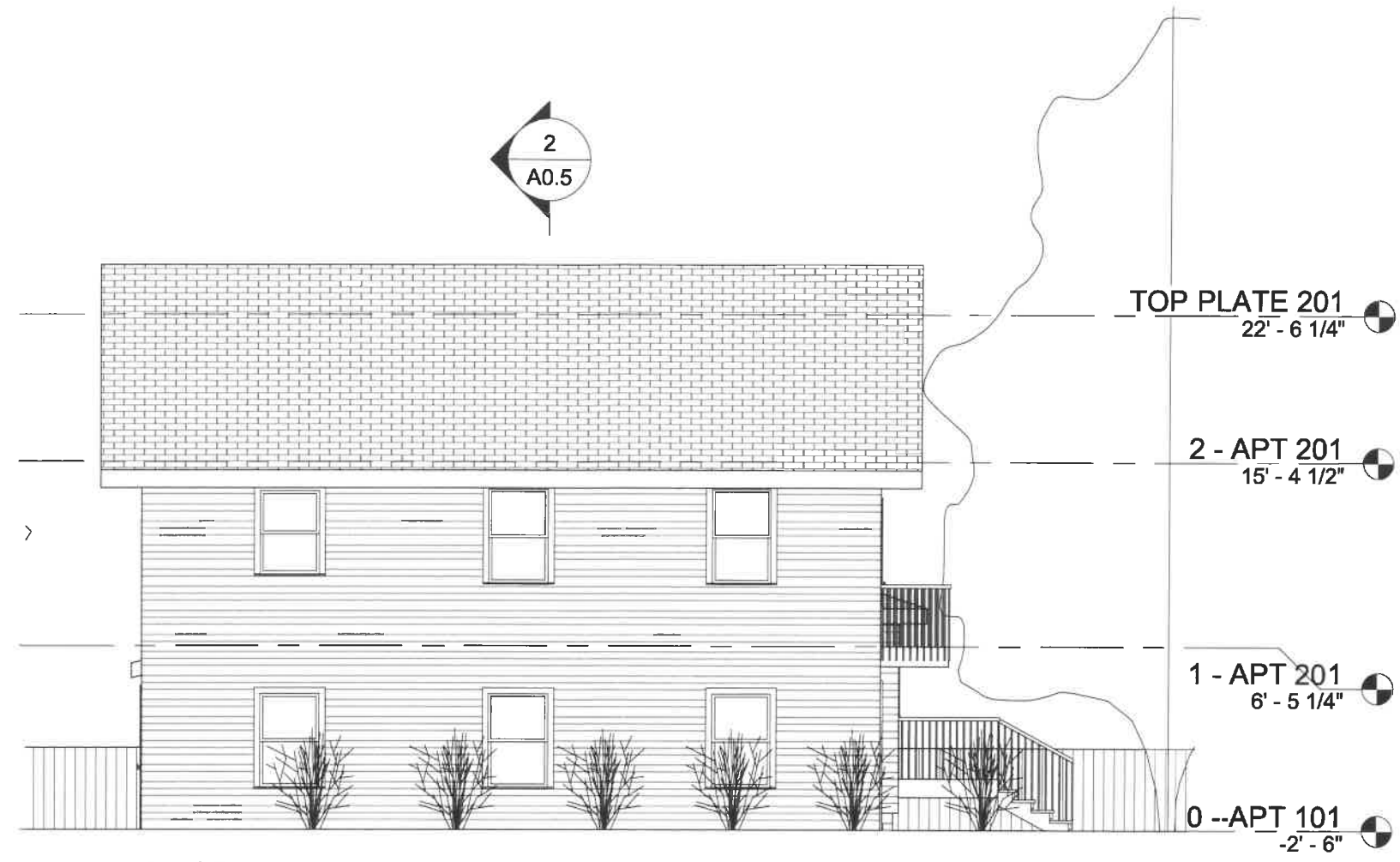
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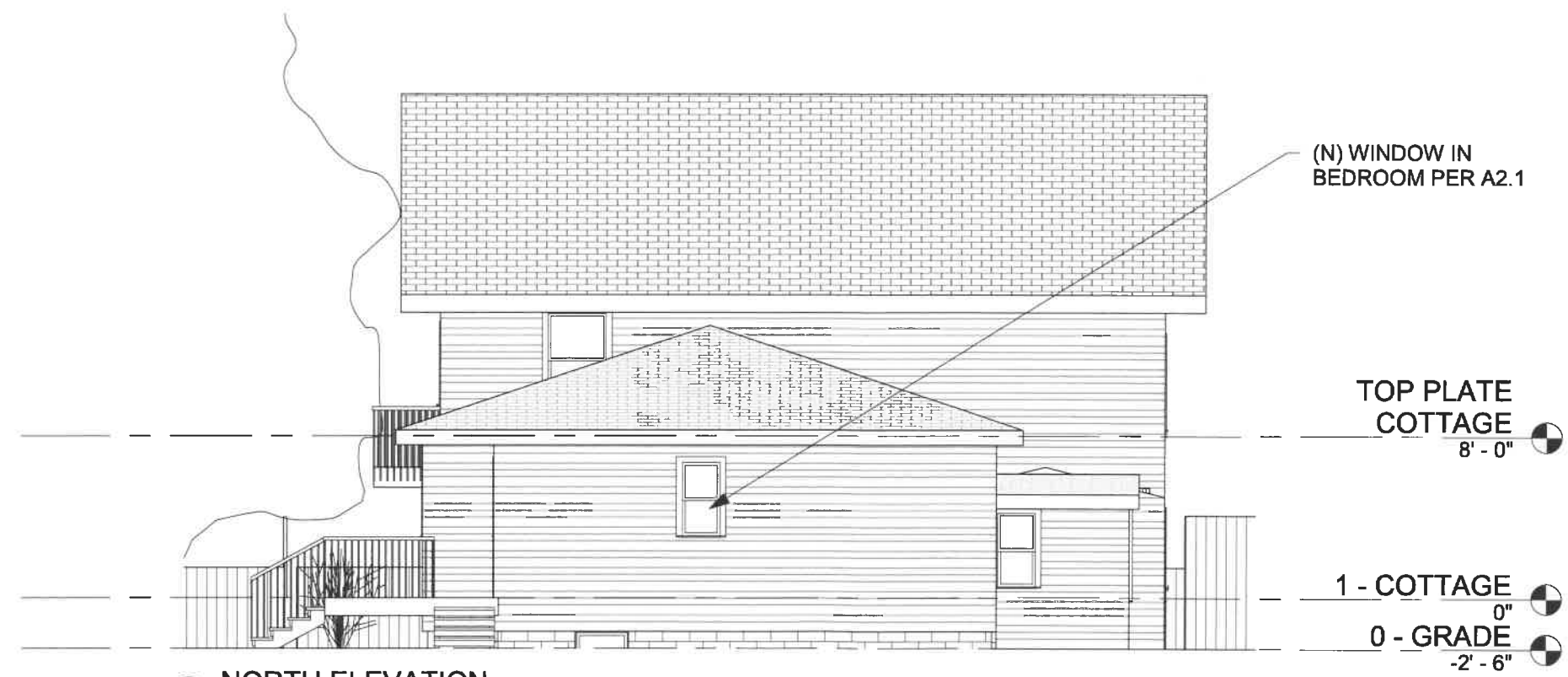
A2. 103

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2 SOUTH ELEVATION
1/8" = 1'-0"



1 NORTH ELEVATION
1/8" = 1'-0"

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TOP PLATE 201
 22' - 6 1/4"
 2 - APT 201
 15' - 4 1/2"
 1 - APT 201
 6' - 5 1/4"
 0 - APT 101
 -2' - 6"



(N) BEDROOM
WINDOWS PER A2.1

TOP PLATE
 COTTAGE
 8' - 0"
 1 - COTTAGE
 0"
 0 - GRADE
 -2' - 6"

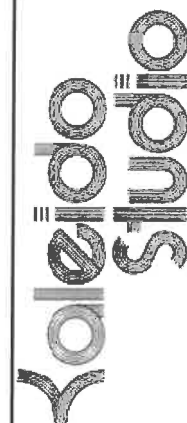
1 EAST ELEVATION
 1/8" = 1'-0"

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1 WEST ELEVATION
1/8" = 1'-0"

02/23/24

A4. 106

RECEIVED
FEB 27 2024
KP



BACK OF HOUSE FROM 7TH STREET



BACK OF HOUSE

File No. R424 043-011

Exhibit E

Date 2-27-24

Initials KP



FRONT OF HOUSE FROM CADOTTE STREET W/ NEIGHBOR ACCESS SHOWN



FRONT OF HOUSE

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A9. 107



LANDSCAPING BACK



LANDSCAPING NORTH



LANDSCAPING EAST

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COTTAGE DINING ROOM



COTTAGE KITCHEN



COTTAGE BEDROOM 1



COTTAGE BEDROOM 2



COTTAGE BATHROOM

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NEIGHBORS (ACROSS CADOTTE STREET)



NEIGHBOR (ACROSS 7TH STREET)



NEIGHBOR'S ACCESS



NEIGHBORS BEHIND

NOT FOR CONSTRUCTION

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