



# Wayne Industries Site Expansion

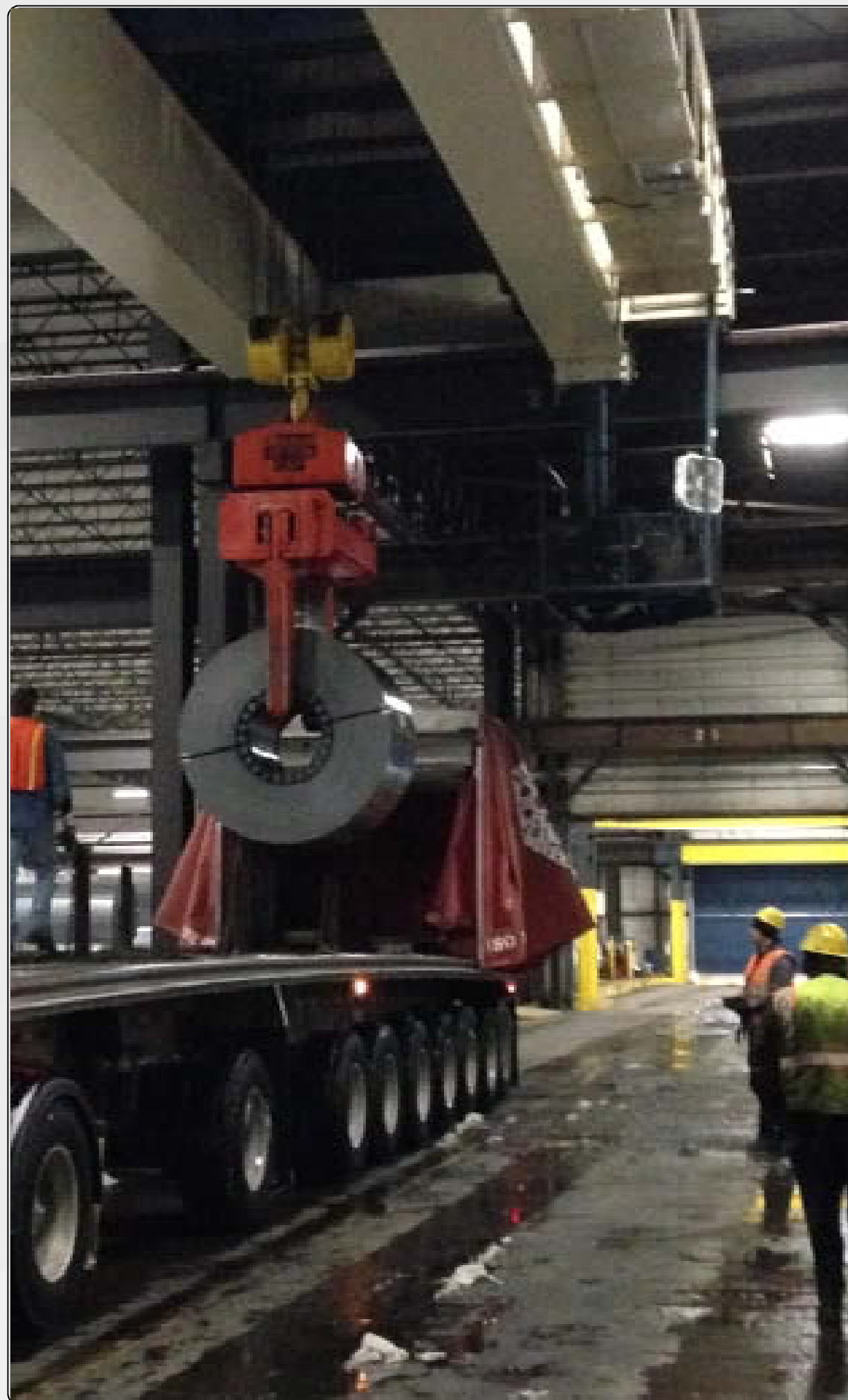
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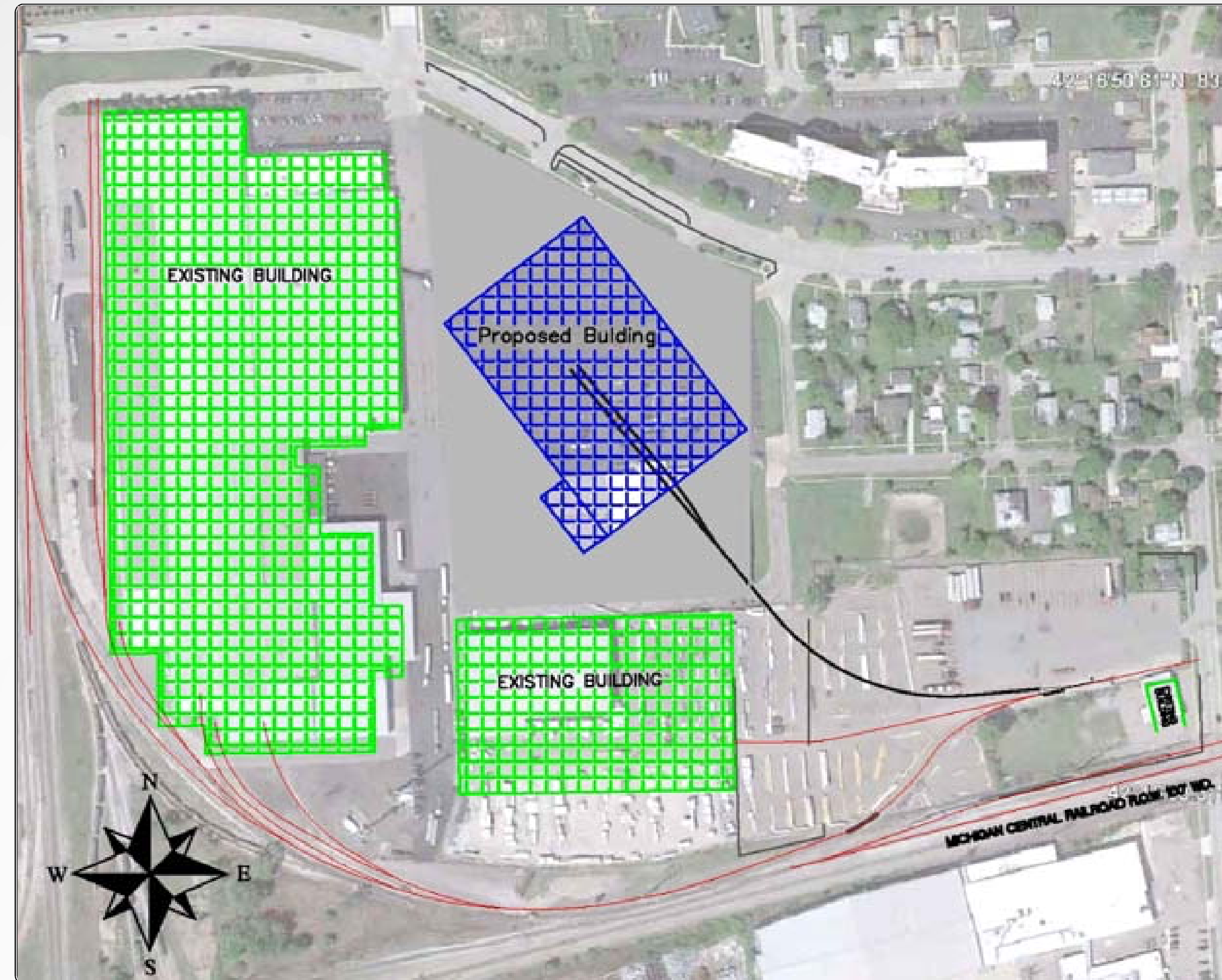
## Project Background

### Introduction

Wayne Industries is a steel and aluminum warehouse and shipping company located on the intersection of two railroad lines in Wayne, MI. Incoming product enters the warehouse via railroad cars, and shipped out on semi-trucks. Due to an impending increase in aluminum business, an additional warehouse is required for the growth of the business. Envision was tasked with creating a new site plan that integrates a new warehouse with the existing operations.



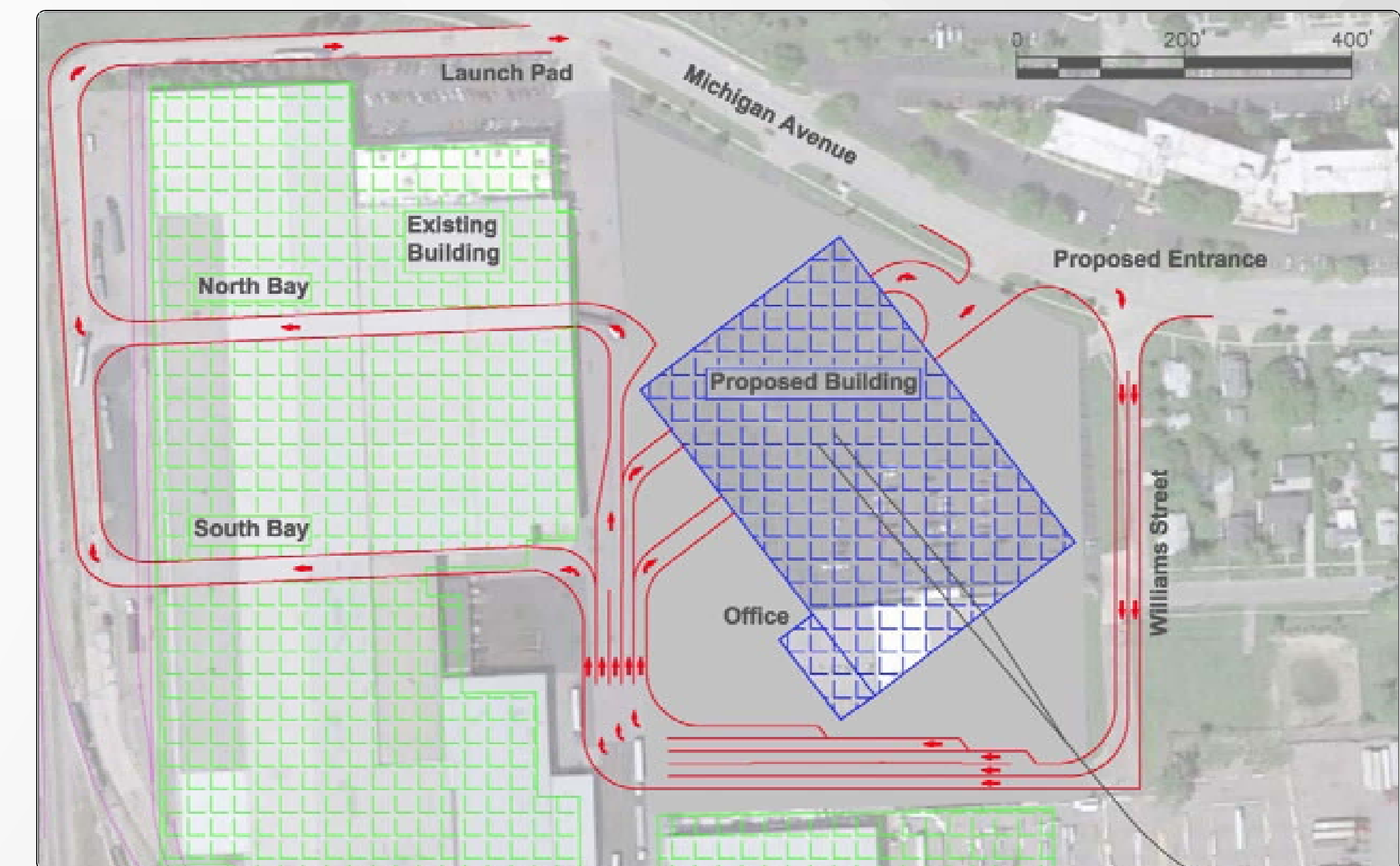
## Master Plan



## Site Specific

### On Site Operations

Truck flow is essential to a quick, smooth operation. The proposed design utilizes one entrance and two separate exits that serve both buildings. This allows trucks to enter and depart the site with ease. Increasing the number of trucks to the site results in a higher profit margin.



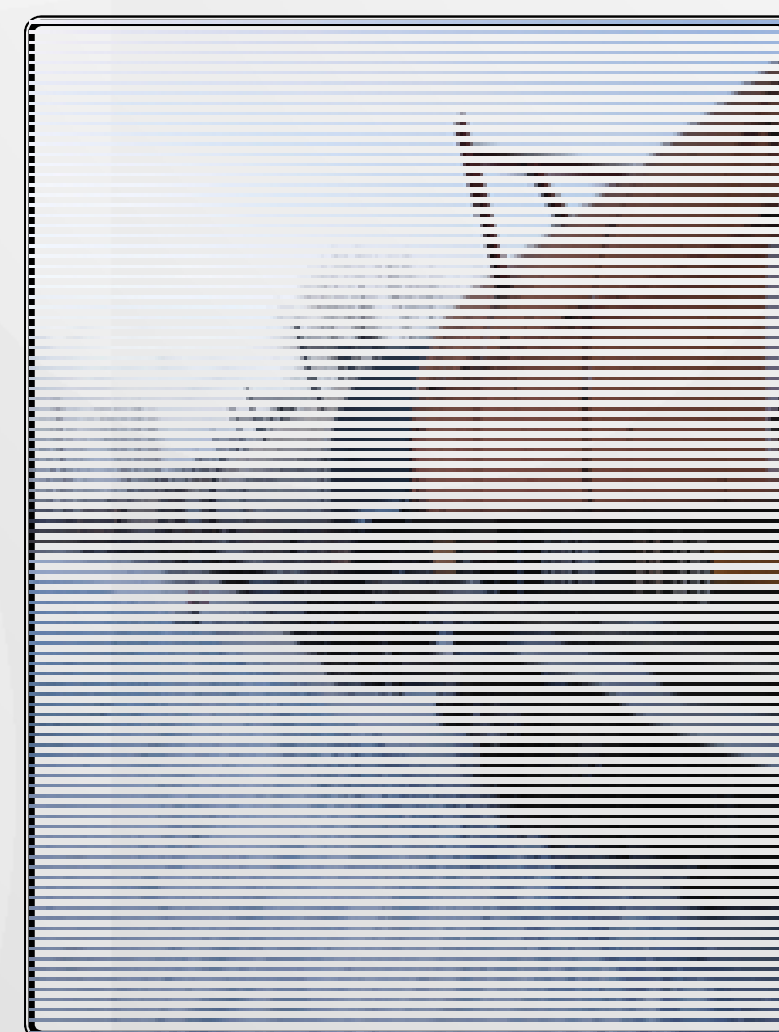
— Proposed Truck Lanes      — Proposed Railroad

### SCOPE

In order to keep the daily operations as they are, the ability to keep truck traffic flowing at a high rate is a chief concern with the new site layout. A warehouse design beneficial for railroad access is of the utmost importance as well, to ensure shipments reach their unloading points. The proposed site of the new warehouse is currently occupied by a small shopping center, making demolition an additional factor in the project.

### Recommended Design

At a glance the unconventional angle of the building is apparent. Envision brought together innovative thinking and engineering reasoning with the angled building in order to optimize warehouse capacity, while incorporating rail and truck access.



Wayne Site Development Cost Estimate	
Utility Relocation	\$47,000
Stormwater Construction	\$30,400
Rail Construction	\$302,000
New Building Construction	\$16,831,000
<b>Total Cost</b>	<b>\$17,210,400</b>

### Resolution

An angled warehouse is most suitable for railroad access within the given site constraints, and also allows for the increased truck volume the site will experience. This was one of many designs considered but was the optimal choice for operational efficiency. Further design and analysis will be needed for total completion of this project due to the preliminary nature of these designs.

