Central New York Regional Agricultural Center Expansion Project
Port of Oswego Authority, East Terminal Wharf
Oswego County, New York
July 14, 2020

Background

The Port of Oswego Authority (Authority) is a state agency (as defined in Section 14.03 of State Historic Preservation Act of 1980, as amended) established under Title 2 of Article 6 of the Public Authorities Law with purposes that include development and operation of port facilities and industrial projects with a view to the increase and efficiency of all such facilities and projects and the furtherance of commerce and industry, environmental protection, aesthetics, health, welfare, safety, recreational opportunities, and historical appreciation in the port district.

The site has been a functioning port since the early 1700's used by vessels headed between the Great Lakes and the Atlantic Ocean., and in 1799, the U.S. Congress designated it as an official port of entry into the U.S. from Canada. The Port of Oswego has had a presence as long as Fort Ontario existed. The United States actually owns the land and shoreline where Fort Ontario is located. The shoreline of Fort Ontario was originally under US Military jurisdiction. The eastside of the Oswego River was lined with flour mills and grain elevators. In 1841, seven flour mills were located on the banks of the Oswego River. Oswego competed with Baltimore, Rochester and St Louis, making it one of the most important flour milling centers in the United States at the time. On March 18, 1864, the U.S. government recognized the importance of shipping to commerce and granted to the Oswego and Rome Railway and its successors and assigns the rights and privileges to construct and maintain single or double railway tracks along the northerly and westerly side of the property of the United States. See Photo No. 1 and 2 below.

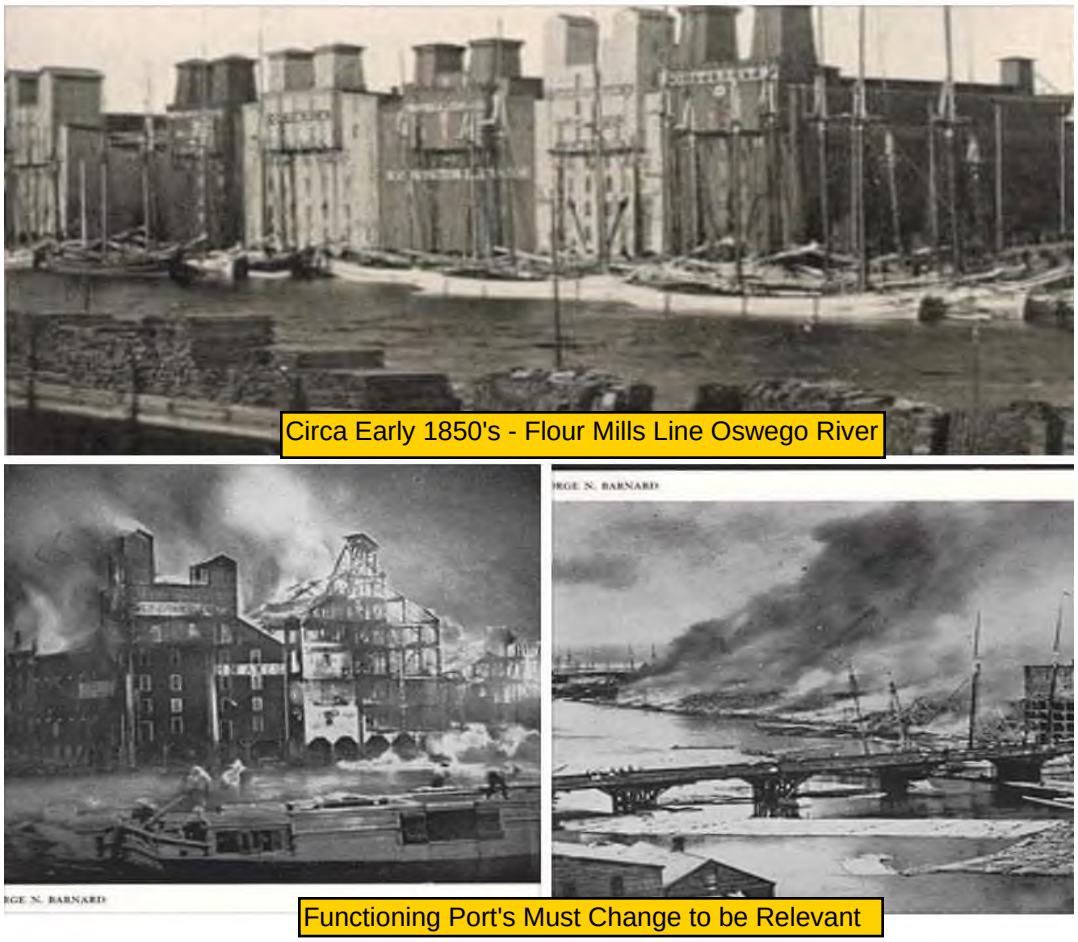


PHOTO 1 – Above “Circa 1850’s” Flour Mills Line the River ; Below Fire destroys 8 City blocks July 5, 1853

Central New York Regional Agricultural Center Expansion Project
Port of Oswego Authority, East Terminal Wharf
Oswego County, New York
July 14, 2020

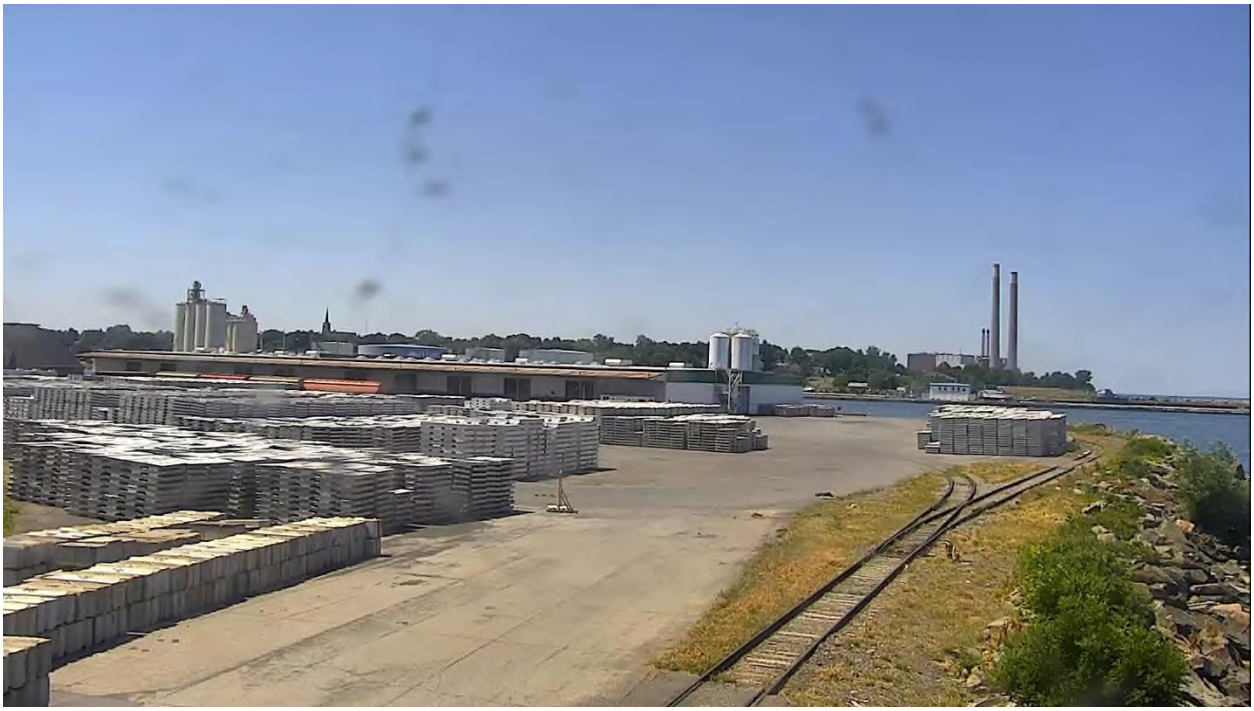


PHOTO 2 – July 6, 2020 View looking West 40' above Railroad Lead at Shore of Lake Ontario

From 1925 to 1986, the Port's West Pier was used for grain operations. This grain elevator had a million-bushel capacity and occupied a footprint of 74' by 217' on the middle of the West pier and stood 189' high. The lower floors were used for loading and unloading by rail and truck into pits. It had two bucket elevators and the 27 circular storage bins were made of concrete. On top of the silos was a large Headhouse. The railroad serving this grain elevator abandoned its tracks in the late 1980's after the grain elevator ceased operation in 1986. The Port shifted operations of grain over to the East Wharf where both rail and truck access was still viable for the existing Domes 1, 2 and 3 along with the Barrel Building. In 1999, the West Pier Grain Elevator was demolished after successful transfer of grain operations to the East Wharf. See Photos Nos. 3 and 4 below.

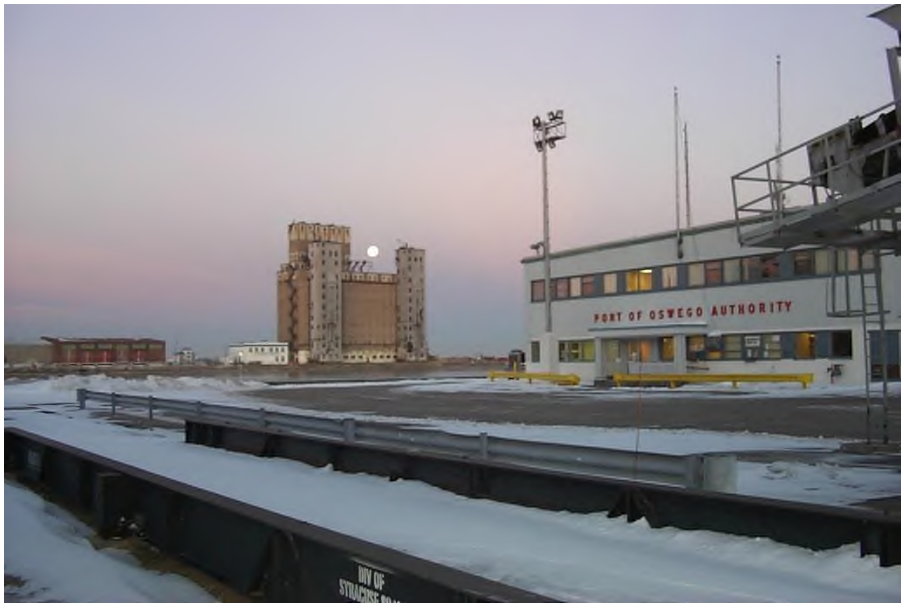


PHOTO 3 – 1998 looking West at West Pier Grain Elevator

Central New York Regional Agricultural Center Expansion Project
Port of Oswego Authority, East Terminal Wharf
Oswego County, New York
July 14, 2020

PHOTO 4 – Aerial Photo Taken before the Demo of West Pier Grain Elevator

The Port of Oswego operated by the Authority has been an economic engine for the area. The Port is located in a low income census tract recently designated as a federal Opportunity Zone by the Secretary of the U.S. Treasury upon recommendation of Governor Cuomo. The Opportunity Zone program is a federal income tax program included in the federal Tax Cuts and Jobs Act of 2017 that incentivizes private investment in designated areas to stimulate economic growth and job creation. The proposed Project will have a beneficial impact on the regional economy. Construction will impact the area immediately. An estimated $6.5 million will be expended in the local economy through approximately 14,200 man-days in construction trades with an average wage rate of $57/hr. over a 7 month period. Equipment and Materials for the project will create many more jobs for fabricators. Follow-on employment is expected to include 8 new full-time equivalent positions. These jobs are considered high paying for the area (2,080 hours a year at $44/hr. all in cost) and will help strengthen the region by providing greater economic stability for individuals and families. Non-Port jobs will also increase as added capacity and import/export capabilities will allow the Port's customers to increase their operations and grow.

The Authority's facilities are federally licensed to handle grain for export. Grain handling operations are subject to regulation by the U.S. Department of Agriculture (USDA) Grain Inspection and Stockyards Administration (GISPA). The Authority has operated under a waiver from USDA with respect to temporary weighing and grading facilities which do not meet current USDA standards. In 2019 USDA advised the Authority that waivers would no longer be granted and permanent weighing and grading facilities must be provided for exports above 15,000 metric tons. As a result, the proposed Project is necessary for the Authority to continue to export grain.

Grain handling accounts for approximately one third of the Authority's total annual revenue. In 2018, approximately 58,000 metric tons of grains were exported overseas from the Port of Oswego, representing a 533% increase from the previous year. The proposed Project would allow for an even greater expansion of approximately 308,000 metric tons

of exported grains per year. The proposed Project allows the Authority to maintain and expand the diversity of commodities stored and shipped through the Port and diversify the Authority's revenue sources.

The current configuration of the Port's East Wharf, as constructed in 1963, is the only location where a Federal jurisdiction dredged channel is maintained for 26.5 feet of *"draft"* capable of accommodating 700' long Salties (ocean going vessels). The East Wharf at Port of Oswego is the only location on the U.S. side of Lake Ontario where Salties and Lakers (bulk carrier vessels, which can carry 28,000 metric tons of agricultural product for export per ship) have this draft along with rail and truck access. The US Army Corp of Engineers is evaluating a proposed Project to increase the draft to 28 feet which will expand the ships and cargo the Port can accommodate.

As contemplated by Section 14.09 of the State Historic Preservation Act of 1980, as amended, the Authority explored and considered all feasible and prudent alternatives to the proposed Project, including no build and potential mitigation, to the fullest extent practicable, consistent with other provisions of the law, adverse impacts to the historic resources includes the Fort Ontario property. See Photos 5 & 6 below.

PHOTO 5 – View Copied from Fort Ontario Website Link

Central New York Regional Agricultural Center Expansion Project
Port of Oswego Authority, East Terminal Wharf
Oswego County, New York
July 14, 2020

PHOTO 6 – AERIAL VIEW

Central New York Regional Agricultural Center Expansion Project

Port of Oswego Authority, East Terminal Wharf

Oswego County, New York

July 14, 2020

Alternatives Analysis

No Action Alternative

The No Action alternative is the scenario in which no physical or facility improvements are made to the East Terminal Wharf at the Authority to facilitate the grain handling operations.

The proposed Project is required for the Authority's continued operation of grain handling, supports and expands shipping and freight movement of goods, and plays an important role in the economic vitality of the region. The proposed improvements in storage, weighing and grading are necessary to satisfy USDA requirements for export grain operations and will increase efficiency in moving products to vessels for shipping.

Under the No Action alternative, the Authority will no longer be able to handle grain for export.

Without the Project, farmers in Central New York would need to seek an alternative way to export crops overseas. This would most likely involve transporting crops overland by rail and truck to the port at Roanoke, Virginia. This would impose greater costs on local farms in transport, and the benefits of reduced air emissions, reduced accidents and road pavement damage would not be realized.

The Build Alternative vastly improves operational and facility deficiencies, ship loading delays at the Port, increasing revenues, and new export opportunities in larger volume for local farmers. The Build Project provides the following public benefits:

- Consistency with the USDOT's Rural Opportunities to use Transportation for Economic Success (ROUTES) initiative, by providing enhanced infrastructure to expedite and enhance farm-to-market travel of goods.
- Creation of jobs, both directly at the Port and indirectly through associated expanded commerce.
- Expanding the market destinations for regional agricultural products.
- Enhanced revenues, employment and activity to the local, regional and State economies.
- A $15 million NYSDOT funding grant will cover the Project.
- A reduction of total air emissions by decreasing both rail and truck traffic to and from export facilities in Virginia.
- A reduction in road repair costs.

Preferred Alternative (the proposed Project – Option 1)

For the grain handling operations, the Port maintains three storage domes (115' W x 46' H), which have a bulk storage capacity of 5,500 tons (grain) – 7,500 tons (fertilizer) tons, and one Barrel Building (365' L x 135' W x 55' high) capable of storing 15,400 tons (grain) with an inline receiving conveyance system.

The Project consists of the following improvements:

- Construction of Dome 4 storage structure
- Construction of Silo 1 in place of existing Dome 1
- Construction of Control Center Lab building
- Construction of Silo 1 bucket elevator and bulk weigher / mechanical diverter
- Construction of track and rail unloading pit
- Replacement of the roof on Dome 3.

Option 1 is the preferred option because most of the proposed new grain handling and storage improvements at the Port are concentrated in the southern portion of the East Terminal Wharf. Development in the southern portion of the East Terminal Wharf would be visible in the westward viewshed from Fort Ontario towards the Oswego River. See the East and West Elevation in the attached Exhibits.

The Project would maintain the Fort's views of Lake Ontario, which are within a northwesterly, northward and northeasterly viewshed. The westward viewshed has included visible structures of long-established industrial activity that occurs at the Port and along the Oswego River. See Photo 7.

PHOTO 7 – View from Fort Ontario looking at East and West Breakwaters and Lighthouse

Other Alternatives Layouts Considered

The Port considered four design options for the proposed grain silo structures (Dome 4 and Silo 1), with each option providing the necessary storage capacity to meet the Project requirements for viable commerce at the Port and satisfaction of USDA's requirements. Due to the East Wharf's physical constraints, there is only 150 feet between the wharf dock and the existing domes. This area is used for laydown, loading and unloading of multiple commodities to and from ships. Loss of this space would render the working dock useless. Between Domes 1, 2 and 3 and the Barrel Building, there is only 90 feet. This area receives and discharges grain and fertilizer via trucks and rail and likewise would be rendered useless if the open space is lost. The only other locations for grain storage are in the Transit Warehouse which is already used for storing grain/fertilizer and the area immediately south where the existing Domes 1, 2 and 3 are located.

Central New York Regional Agricultural Center Expansion Project
Port of Oswego Authority, East Terminal Wharf
Oswego County, New York
July 14, 2020

Currently, Domes 2 and 3 are used for potash storage and transfer while Dome 1, and the Barrel Building are used for grain storage and transfer. In order to build a silo with greater storage capacity and automate the ship loading, weighing and sampling process for export shipments, Dome 1 will be demolished and reconstructed as Silo 1. This allows the shipment of grain from the Barrel Building and Silo 1. However, in order to demo Dome 1 and maintain grain operations, Dome 2 will be cleaned and repurposed to store grain instead of fertilizer. Therefore, Dome 4 must be constructed immediately south of Dome 3 to handle the potash storage in lieu of Dome 2. See Site Layout in the attached Exhibits.

Option #1 (the proposed Project) and Option #2 both involve silos with a 105-foot diameter footprint and a height of 103.5 feet at the pointed peak. In Option #1, a 180-foot tall bucket elevator equipped with downward angled gravity flow fill spout would be used for loading the silos from above. In Option #2, a 140-foot tall bucket elevator equipped with a horizontal motorized fill conveyor would be used for loading the silos from above. See Site Layout in the attached Exhibits.

Option #3 and Option #4 both involve silos with a 90-foot diameter footprint and a height of 129 feet at the pointed peak. In Option #3, a 198-foot tall bucket elevator equipped with downward angled gravity flow fill spout would be used for loading the silos from above. In Option #4, a 165.5-foot tall bucket elevator equipped with a horizontal motorized fill conveyor would be used for loading the silos from above. See Site Layout in the attached Exhibits.

The shorter and wider structures considered in Option #1 and Option #2 are preferred to the taller and more narrow structures in Option #3 and Option #4 because of a height difference of the approximately 25 feet at the cone-shaped peak. Given the location of the proposed silos/domes on the East Terminal Wharf, the 55-foot tall Barrel Building located immediately to the east would partially block views of the lower portions of the silos/domes from off-site viewpoints further east (i.e. Fort Ontario). A larger portion of the taller structures in Options #3 and #4 would be visible, however from off-site viewpoints further east. The Options #1 and #2 structures are also preferred because they require a shorter bucket elevator for loading.

When comparing the loading options, the Authority prefers the gravity flow fill spout for several reasons. The gravity flow requires less maintenance and energy consumption. It has fewer safety concerns because it does not require personnel/maintenance access at a high elevation. The gravity flow fill spout requires a bucket elevator that is approximately 40 feet taller than the motorized horizontal fill conveyor. This added height is not expected to be a major visual concern because it is narrow (a 15 feet x 22.5 feet footprint) and built as a lattice framework structure that can be seen through.

The preferred alternative is Option 1, which has the shorter height and utilizes the gravity flow fill spout for loading from the bucket elevator.

Central New York Regional Agricultural Center Expansion Project
Port of Oswego Authority, East Terminal Wharf
Oswego County, New York
July 14, 2020

Comparisons of Alternatives

Comparison of Alternatives – Design Differences

	No Action	Project (Option1)	Option 2	Option 3	Option 4
Grain Storage Capacity	20,900 tons: Dome 1 & Barrel Bldg	36,100 tons: Silo 1, Dome 2 & Barrel Bldg	36,100 tons: Silo 1, Dome 2 & Barrel Bldg	36,100 tons: Silo 1, Dome 2 & Barrel Bldg	36,100 tons: Silo 1, Dome 2 & Barrel Bldg
Fertilizer Storage Capacity	15,0000 tons: Domes 2 & 3	17,600 tons: Dome 3 & 4	17,600 tons: Dome 3 & 4	17,600 tons: Dome 3 & 4	17,600 tons: Dome 3 & 4
Dome 1/Silo 1 dimensions	46 feet tall 115-foot diameter	105 feet tall 103.5-foot diameter	105 feet tall 103.5-foot diameter	129 feet tall 90-foot diameter	129 feet tall 90-foot diameter
Dome 4 dimensions	N/A	55 feet tall 124-foot diameter	55 feet tall 124-foot diameter	55 feet tall 124-foot diameter	55 feet tall 124-foot diameter
Bucket Elevator Height*	N/A	180 feet	140 feet	198 feet	165.5 feet
*Storage Capacities exclude the Transit Warehouse which is not practical for grain export ship loading.					

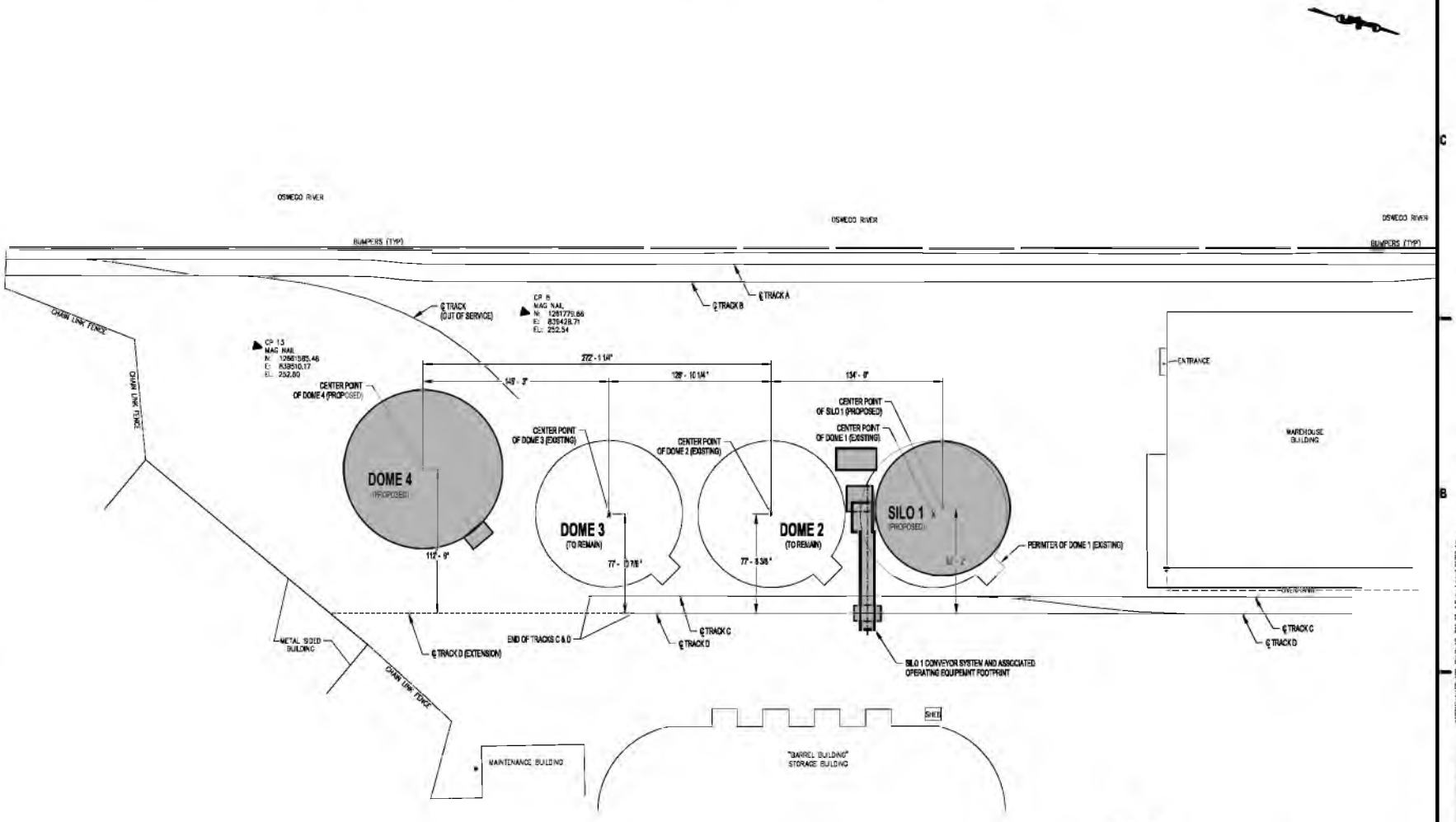
Larger Diameter domes of lower heights that can still contain a half million bushels per dome were considered but determined not feasible because of the need for open space along the wharf for unloading ships with many different commodities such as windmill blades, aluminum billets, heavy transformers, generators. Pushing the domes further east would require severing of Tracks C&D which are crucial to port operations.

EXHIBITS

SITE LAYOUT

COMPARISON OF SILO AND CONVEYANCE ALTERNATIVES

EAST AND WEST ELEVATIONS – BUILD OPTION 1



LEGEND:

SILO 1 & DOME 4 INCLUDING SILO 1 CONVEYOR SYSTEM AND ASSOCIATED OPERATING EQUIPMENT FOOTPRINT.

STRUCTURE LOCATION TABLE

STRUCTURE	CENTERPOINT OF CIRCULAR STRUCTURE		NOTES
	NORTHING	EASTING	
DOME 1 (EXISTING)	1262130.1629	839495.7525	TO BE DEMOLISHED
SILO 1 (NEW)	1262135.6540	839489.3781	TO BE CONSTRUCTED
DOME 2 (EXISTING)	1262007.9095	839529.4549	TO REMAIN & REMOVED IN FUTURE
DOME 3 (EXISTING)	1261865.6053	839503.1215	TO REMAIN
DOME 4 (NEW)	1261736.3260	839568.3242	TO BE CONSTRUCTED

40 0 40 80

A1 PROPOSED LAYOUT PLAN

C&S COMPANIES
C&S Engineers, Inc.
499 Col. Eileen Collins Blvd.
Syracuse, New York 13212
Phone: 315-455-2000
Fax: 315-455-9667
www.cscos.com

PORT OF OSWEGO

PORT OF OSWEGO
GRAIN HANDLING
IMPROVEMENTS PROJECT
OSWEGO, NY

MARK	DATE	DESCRIPTION
REVISIONS		

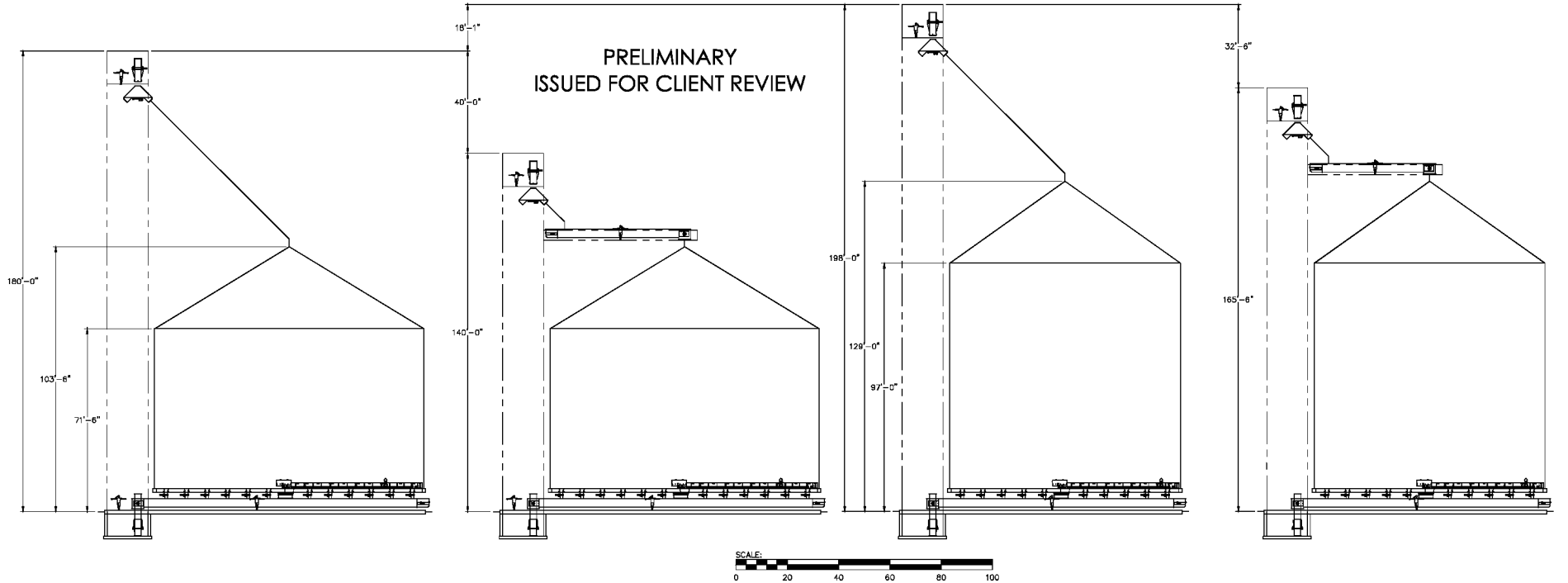
PROJECT NO: 301.091.001
DATE: 09/29/2022
DRAWN BY: XXX
DESIGNED BY: XXX
CHECKED BY: CWR

CIVIL

PROPOSED
LAYOUT PLAN

C-201

PRELIMINARY
ISSUED FOR CLIENT REVIEW

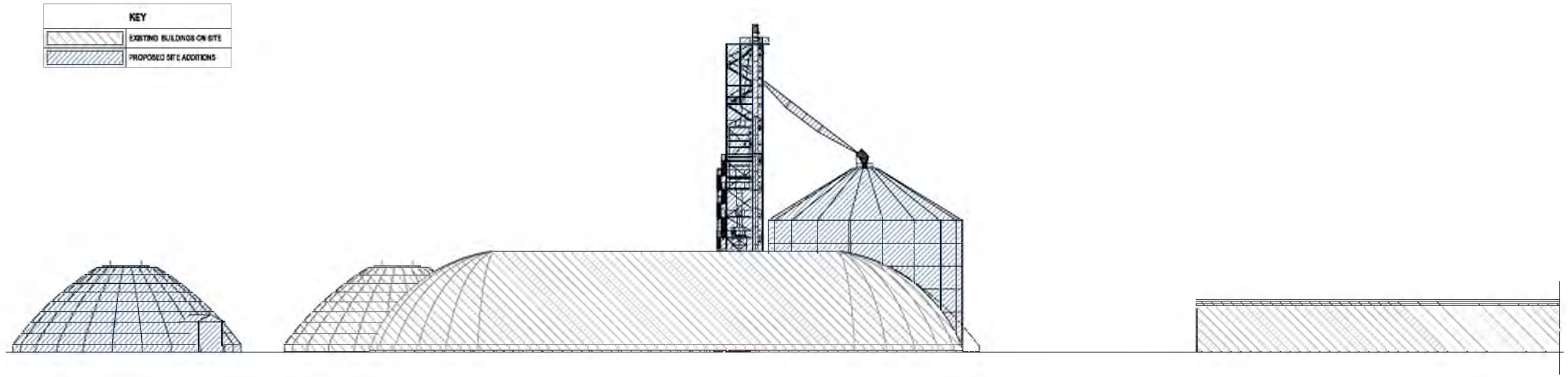


OPTION 1 – 105'ø WITH FILL SPOUT

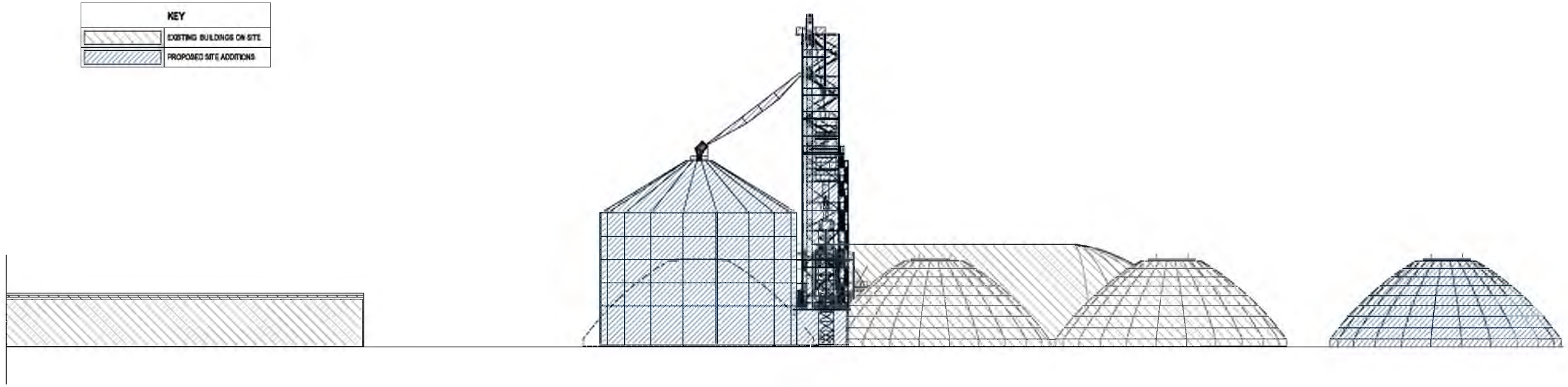
OPTION 2 – 105'ø WITH FILL CONVEYOR

OPTION 3 – 90'ø WITH FILL SPOUT

OPTION 4 – 90'ø WITH FILL CONVEYOR



B1 **WESTERN EXISTING AND PROPOSED SITE ELEVATION**
SCALE: 1/32" = 1'-0"



A1 **EASTERN EXISTING AND PROPOSED SITE ELEVATION**
SCALE: 1/32" = 1'-0"

C&S COMPANIES
C&S Architects, Engineers & Landscape Architect, PLLC
499 Col. Eileen Collins Blvd.
Syracuse, New York 13212
Phone: 315-455-2000
Fax: 315-455-9667
www.cscos.com

PRELIMINARY
NOT FOR CONSTRUCTION

PORT OF OSWEGO
OSWEGO, NY
GRAIN HANDLING SYSTEMS
IMPROVEMENT PROJECT

MARK	DATE	DESCRIPTION

REVISIONS

PROJECT NO:	301.031.001
DATE:	JULY 2, 2020
DRAWN BY:	J.E.PHILLIPS, ASSOC.AIA
DESIGNED BY:	J. D. NADZAN, P.E.
CHECKED BY:	-

EAST AND WEST SITE ELEVATIONS

A-201