BURNS McDONNELL

PORT PUTNAM

DEVELOPMENT PLAN

PORT PUTNAM DEVELOPMENT

PROJECT NO. 170838

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List of Abbreviations

Abbreviation	Term/Phrase/Name
CIP	Capital Improvement Plan
EDA	Economic Development Administration
FDEP	Florida Department of Environmental Protection
FDOT	Florida Department of Transportation
FEPA	Florida Environmental Policy Act
FPFC	Florida Ports Financing Commission
FRA	Federal Rail Administration
FSTED	Florida Seaport Transportation and Economic Development Council
MARAD	Maritime Administration
NEPA	National Environmental Policy Act
NOFO	Notice of Funding Opportunity
ROM	Rough Order of Magnitude
SIB	State Infrastructure Bank
SIS	Strategic Intermodal System
SPII	Strategic Port Investment Initiative
TEU	Twenty-foot Equivalent Unit
USACE	U.S. Army Corps of Engineers
USDOC	U.S. Department of Commerce
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency

Executive Summary

Putnam County seeks to revitalize Port Putnam (the Port) to support the economic development of Palatka, Florida, and the broader area. The Port currently consists of a 350-foot barge dock, two leased warehouses, and a small laydown area at the Port Terminal, as well as 16 acres of property along an existing CSX rail line with several leased structures known as the Port Annex. Putnam County was awarded a Fiscal Year 2022 Port Infrastructure Development Program grant to create this Port Development Plan.

A topographic survey and geotechnical engineering study (provided in Appendices D and E) were conducted at the Port Terminal to inform the next phases of engineering design. This plan includes the development of a preliminary engineering design for replacement of the Port Terminal bulkhead dock. Two options for the bulkhead dock wall are presented: an anchored sheet piling wall and a cantilever steel pipe wall (provided in Appendices A, B and C).

A modernized barge dock in a good state of repair is critical to facilitate cargo opportunities with nearby businesses such as Veritas Steel, Beck Auto, Georgia Pacific, and CertainTeed. The improved Port is intended to function as a multi-purpose, multi-cargo port accommodating various Central Florida businesses in shipping aggregates, containers, and project cargo. The known potential annual volume of these opportunities represents over one (1) million metric tons.

Initial improvement recommendations include:

- **Bulkhead and Dock Replacement at the Port Terminal**, to be fully funded with multiple state sources with approximately one (1) year of construction
- **Acquisition of a Mobile Harbor Crane for the Port Terminal**
- **Dock Expansion West of the Port Terminal** around the warehouse closest to the waterfront, known as Warehouse 2 (including demolition, utility undergrounding, and relocation of a drainage pond)
- **Preliminary Port Annex Sitework** (including demolition, earthwork, and utility relocation)
- **Rail Spur Extension into the Port Annex**

Future improvement recommendations as the Port develops and attracts new tenants and funding sources include:

- **Dock Expansion North of the Port Terminal** approximately 450 feet
- **Rail Spur Extension into the Port Terminal**

The Port plans to pursue diverse funding streams to prepare for and implement improvements. These funding streams include state sources, such as the Florida Ports and Florida Seaport Transportation and Economic Development (FSTED) Councils and long-standing U.S. DOT federal grant programs.

1.0 Introduction

1.1 Port Location and Regional Context

Port Putnam (the Port) is located in an unincorporated parcel in Putnam County, north of the City of Palatka. It houses a single 350-foot barge dock, two (2) cargo warehouses, 20,000 square feet (sf.) each, and a cargo laydown area. The barge dock was constructed 61 years ago by Putnam County to provide cargo barge services via a 5,000' access channel to the St. Johns River Federal Channel. Over the years of its operation, the functionality of the dock has diminished significantly due to its deteriorating condition. The barge dock is no longer considered to be safe or reliable for operations, although the Port remains a vital asset for the businesses and communities in Palatka.

In addition to the existing barge dock and warehouse space in the immediate vicinity of the Port, there are a number of properties near the Port that are available for expansion of port operations once the barge dock is reconstructed and the access channel is dredged and properly maintained.

The Port has good road access to Interstate I-75, I-10 and I-95, connecting to the major urban areas of Jacksonville and Orlando, as well as the ports in southern Florida. Additionally, with an existing CSX industrial rail spur, there is an opportunity to expand rail connections to larger regional markets.

Figure 1. Port Putnam Regional Location

Within a five (5) to ten (10) mile radius of the Port, there are various local, well-established industrial/manufacturing/agricultural businesses, including Veritas Steel, Georgia Pacific, Forest Groves and Clay Ranch. The Port has noted the following development and expansion projects implemented recently by some of the larger businesses in the region:

- **Comarco** Projects, Inc. – A long-standing leader in the food service industry relocated from New Jersey to Palatka with a $12 million capital investment in a new 52,000 sf. facility, completed in 2020, that created 120 jobs
- **Georgia-Pacific** – A $600 million expansion of the mill, the largest private employer in Putnam County, was completed in 2021*
- **FP&L** – Installed a new solar farm, a $360 million capital investment, in 2022
- **Seminole Electric** – Added a gas generation unit, a $800 million capital investment, which was completed in 2023
- **CertainTeed** – Announced an expansion of its gypsum manufacturing facility in Palatka in 2023, which is a $235 million capital investment anticipated to double production capacity and create over 100 new jobs*
- *Putnam County approved Recaptured Enhanced Value (REV) grant incentives for these projects

With this Port Development Plan, the Port will leverage its strategic location with intermodal access and proximity to existing businesses to make infrastructure improvements that establish the Port as a transportation hub within the region.

1.2 Port Goals and Project Objectives

1.2.1 Port Goals

- Support the needs of existing local businesses and their vision for future expansion and growth.
- Capitalize on the Port's proximity (60 miles upstream) to the urban growth area and JAXPORT – the largest maritime port in northern Florida – to provide access to global markets.
- Leverage local economic areas of excellence in the state for agribusiness, metal fabrication and machinery, auto businesses, and construction materials manufacturing and distribution.
- Take advantage of existing logistics and transportation infrastructure, including rail, air, maritime and highway access connecting the Port to various business and manufacturing operations. Many of these operations currently rely on road and rail for their transport needs due to the absence of an efficient maritime facility at Port Putnam.
- Create synergy with the state's First Coast Expressway project, a multi-county limited access toll road including the Shands Bridge, which is scheduled to be completed in 2030. This is an opportune time to reactivate the Port Putnam barge dock facility to provide Putnam County and the adjacent region with commercial maritime access to the St. Johns River.

1.2.2 Project Objectives

Port Putnam aims to develop a phased program of infrastructure improvements to enhance the Port's intermodal freight transportation system and attract target markets, providing economic benefits to the community and region. Improvements identified in this plan include initial projects that are intended to allow the Port to begin collecting revenue in the near-term as well as future improvements that are dependent on property acquisition and additional funding. Improvements include:

- Design for replacement of the Port's bulkhead and docking area in order to handle heavy cargo.
- Layout for the 16-acre Port Annex located near the Port across Comfort Rd.
- Rail improvements to both the Port Terminal and the Port Annex.

- Identification of equipment and warehousing needs, including recommendations for removal or refurbishment of existing equipment or warehouses.

Putnam County does not have design information, specifications, or as-built drawings for the existing barge berth that was constructed in 1961. Therefore, a comprehensive engineering evaluation to determine the condition and original design of the berth wall, the depth of embedment, the condition of the tie back system and load bearing capacity was necessary.

The barge berth design impacts the type and amount of cargo movement. The original design allows for the capacity to simultaneously accommodate the loading and unloading of two jumbo hopper barges (the jumbo hopper barge is the design vessel for both the berth structure specifications and the Jacksonville District's dredging project) carrying as much as 1,500 tons of a broad spectrum of cargoes. Improving the speed, reliability, and throughput volume of cargo at the Putnam County Barge Port, will benefit daily cargo operations and strengthen the Port's role within regional and national supply chains.

2.0 Initial Design

2.1 Site Planning

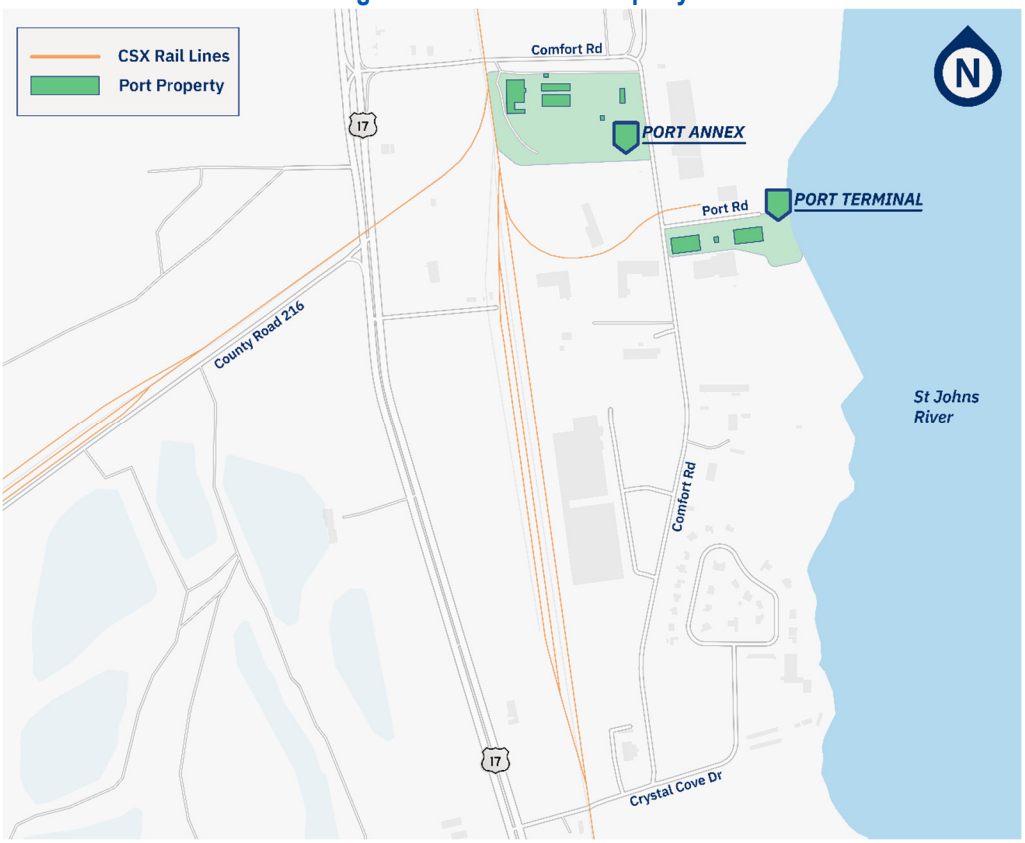
Port property owned by the Putnam County Port Authority consists of two parcels. The Port Terminal is currently located on parcel 37-09-26-0000-0012-0000, with an address of 110 Port Rd., Palatka, FL 32178. The Port Annex is currently located on parcel 37-09-26-0000-0011-0000, with an address of 234 Comfort Rd., Unit 1, Palatka, FL 32177. The two parcels are located diagonally from each other are and separated by Comfort Rd.

The zoning classification for both parcels is Industrial Heavy (IH). The zoning of the parcels around the port is a combination of agricultural, residential, and IH:

- About half a mile north, the zoning classification is IH
- About half a mile south, the zoning classification is residential
- About half a mile west, the zoning classification is a mixture of IH and agricultural

The Port Terminal and Port Annex, shown in Figure 2, are strategically positioned to provide a regional intermodal transportation hub. Located near a regional intermodal transportation system that serves the southwestern hinterland of Northeast Florida, the Port can facilitate domestic and possibly international commerce with other Florida and Southeastern U.S. markets. Port Putnam and the Florida Department of Transportation's (FDOT) District 2 are working together to facilitate freight interests in the region. Putnam County currently owns a spur off the main CSX line, which services Veritas Steel, the Port Terminal's direct neighbor to the north. A tangent spur once served the Port Terminal directly but has since been disabled. That spur can be restored connecting to the Port Terminal and/or new spurs can be constructed to the 16-acre Port Annex property in order to restore rail service at the Port.

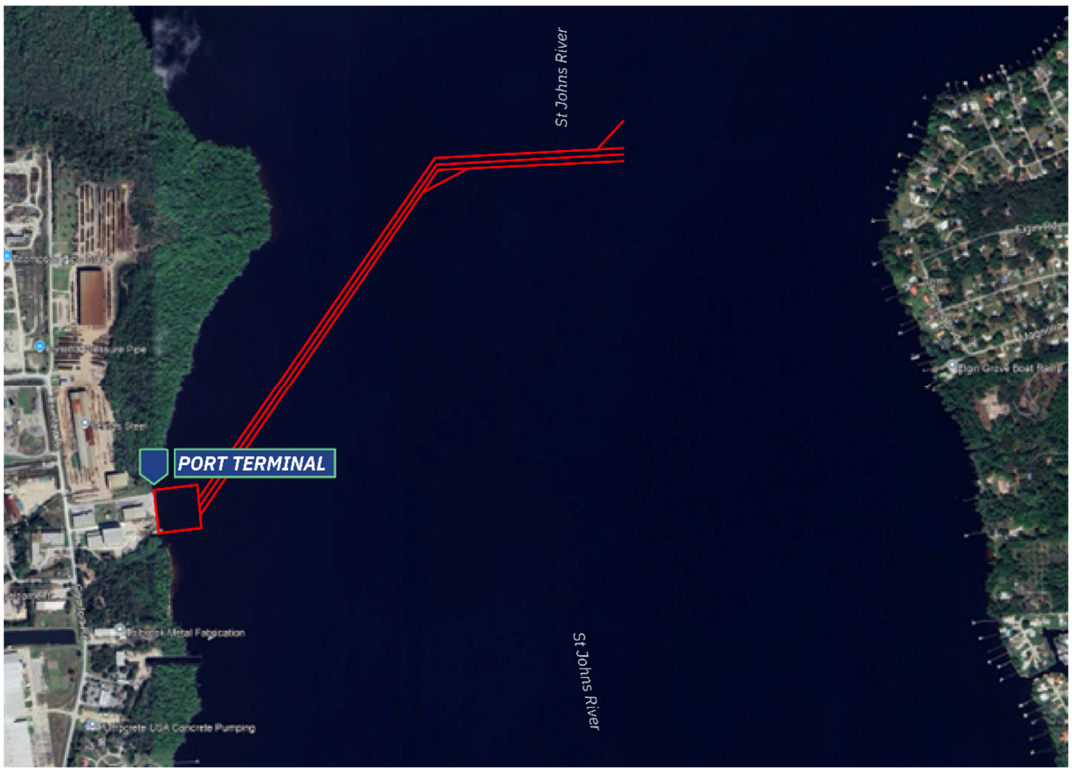
Figure 2. Port Putnam Property



Port Putnam is located 0.6 miles from U.S. Highway 17, a main thoroughfare connecting Jacksonville and Orlando regionally and many more markets nationally. The connection to U.S.17 is completed driving on Comfort Rd., a county-maintained road designated for industrial traffic. The Palatka Municipal Airport is under consideration for a $10 million FDOT runway extension project, which would allow larger aircraft, including full-sized cargo transports, to land. This facility is located 3.5 miles from Port Putnam enabling it to be a component in the regional intermodal transportation hub.

Current depths of the water near the Port are falling below 8 feet, which is an increasing risk to future operations. The U.S. Army Corps of Engineers (USACE) has been studying the possibility of dredging an access channel to Port Putnam for years, shown below in Figure 3, and is included in the 2024 WRDA bill. The proposed dredge depth of the channel is 15 feet. The Port intends to match this depth and dredge the barge dock to 15 feet as well.

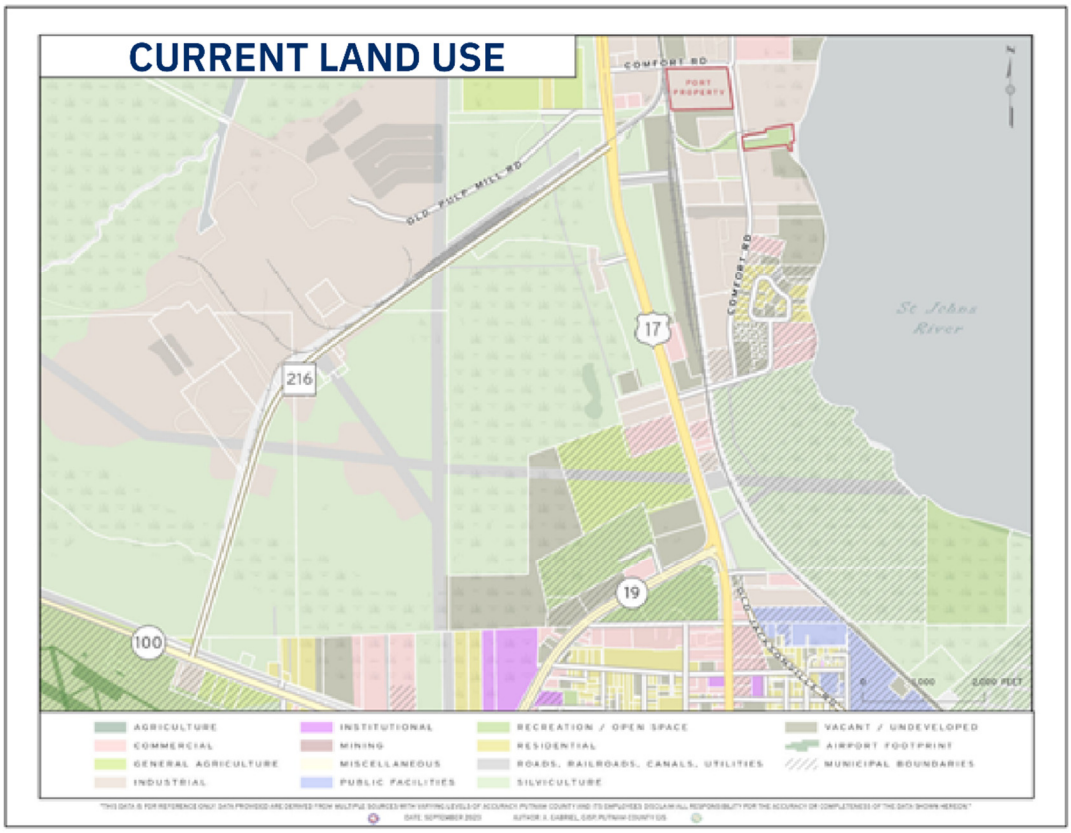
Figure 3. USACE Proposed Access Channel to Port Putnam

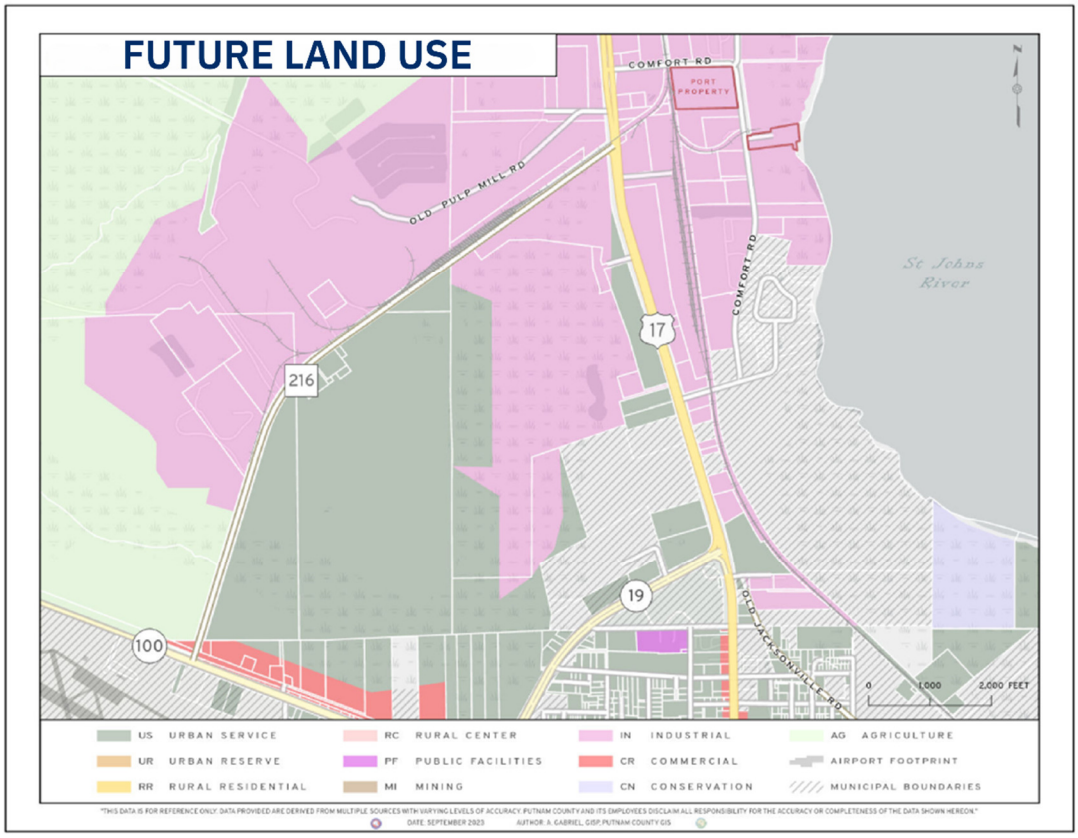


Development at the Port is subject to the Putnam County Code of Ordinances including as it relates to requirements for setback distance, lot size, impervious surface area, and building height. Specific to waterfront development, the Land Development Code requires a vegetated upland buffer of native plants to accommodate surface runoff. The current and future use plan for the Port Putnam area is shown in Figure 4 on the following page.

A topographic survey was conducted for the Port Terminal parcel, included as Appendix D, to identify the property boundaries and the location of underground utilities. A geotechnical engineering study was also completed and the report is included as Appendix E. As part of the geotechnical study, two borings were taken. The report presents the results of subsurface explorations and geotechnical parameters to be utilized in future engineering design.

Figure 4. Port Putnam Property and Adjacent Properties Current and Future Land Use





2.2 Preliminary Bulkhead Dock Design

Putnam County does not have design information, specifications, or as-built drawings for the existing barge berth that was constructed in 1961. Therefore, a comprehensive engineering evaluation to determine the condition and original design of the berth wall, the depth of embedment, the condition of the tie back system and load bearing capacity was necessary.

The barge berth design impacts the type and amount of cargo movement. The original design allows for the capacity to simultaneously accommodate the loading and unloading of two jumbo hopper barges (the jumbo hopper barge is the design vessel for both the berth structure specifications and the Jacksonville District's dredging project) carrying as much as 1,500 tons of a broad spectrum of cargoes.

Replacing the bulkhead and dock at the Port Terminal is a top priority for the Port to begin providing maritime services. Two design approaches were considered for the bulkhead wall to determine the appropriate design for future needs, as presented in Appendix A. The first approach is an anchored wall design using steel sheet piling. The second approach is a cantilevered or free-standing wall using steel pipes. The following assumptions informed both design approaches:

- A maximum wall design height of 20 feet, as measured from the bottom of the mudline to the top of existing soil
- A live load surcharge of 1,000 pounds per square foot (psf)
- The mobile crane outrigger should be located at least 10 feet away from the top of the wall
- Minimum grade 50 steel, grade 60 reinforcing steel, and 4,000 pounds per square inch (psi) concrete strength

A king-pile variation, also known as a combination wall because it uses both steel sheet piling and pipes, was explored for both design approaches. The steel pipes (which become the "king-piles") bear a greater structural load which reduces the depth steel sheet piles must be driven. All four design approaches are anticipated to provide similar structural capacity and design life. The advantages and disadvantages of each approach are presented in Table 1. Calculations for each design approach are presented in Appendices B and C.

2.2.1 Anchored Wall Design

The anchored wall design will first construct a cantilevered wall, then excavate and backfill an area to install a tie-back anchor system. While the structural design of the existing dock is not known, the location of the new anchor will be highly dependent on the location of any existing anchor.

2.2.1.1 Anchored Wall using Steel Sheet Piling

The first design approach uses traditional steel sheet piling as the primary wall component. Sheet piles with a profile of NZ19 or greater (NUCOR) must be embedded into soil at a minimum depth of 22 feet as measured from the mudline. Tie-back locations were assumed to be one foot below the top of the wall. A two-foot by two-foot (2 by 2) concrete coping would be applied to the wall.

2.2.1.2 Anchored King-Pile/Combination Wall

In a combination wall design, steel pipes two (2) feet in diameter with a minimum thickness of 0.75 inches would serve as the king piles, with two steel sheet piles (NUCOR profile of NZ14 or greater) between each pipe. King piles must be embedded a minimum of 22 feet and sheet piles a minimum of five (5) feet below the mudline. Tie-back anchorage must match the spacing of each king pile and a 2.5-foot by two (2)-foot concrete coping would be applied to the wall.

2.2.1.3 Tie-back Anchor System Approaches

There are also two possible approaches to develop the anchor, or tie-back, system itself: concrete or sheet piling. Both anchor systems should be developed at least 55 feet away from the bulkhead wall. The concrete tie-back system would install five-foot (5) by seven-foot (7) concrete deadman anchors with the top of each anchor at least two (2) feet below ground. Soil around the anchors will need to be replaced to improve soil properties. Deadman anchors should be spaced no more than nine (9) feet apart and will be connected to the wall using concrete tie-backs. Concrete tie-back systems are less susceptible to corrosion, assuming use of adequate concrete cover and material quality.

The sheet piling tie-back system requires a sheet pile profile of NZ14 or greater (NUCOR), minimum sheet pile length of 11 feet, and use of high-strength steel rods at least 1.5 inches in diameter (grade 150). As opposed to individual deadman anchors, this system uses steel tie rods and a horizontal wale to transfer the load to a steel sheet piling anchor wall. The wale is assumed to be composed of two C12x30 steel channels. Similar to the concrete tie-back system, the top of the anchor wall was assumed to be two (2) feet below ground.

2.2.2 Cantilevered Wall Design Option

Design calculations determined that a cantilevered, or freestanding, wall could not be supported with sheet pile alone. Therefore, design approaches using steel pipes were developed. Should steel pipes prove difficult or costly to procure, use of “I-beams” in place of the steel pipes could be considered in future design efforts.

2.2.2.1 Cantilevered Wall using Steel Pipe

In the cantilevered wall design approach, steel pipes four (4) feet in diameter with a minimum one (1) inch wall thickness would be driven along the existing bulkhead wall to a minimum soil embedment of 36 feet from the mudline. A wider concrete coping than the anchored designs, 4.5 feet by one (1) foot, would be applied to the wall.

2.2.2.2 King-Pile/Combination Wall

Similar to the anchored combination wall design, steel pipes would serve as the king piles, with two steel sheet piles (NUCOR profile of NZ14 or greater) between each pipe. However, without the support of an anchor, the pipes must be thicker and twice as long in diameter – one (1) inch thick and four (4) feet in diameter. The minimum sheet piling embedment depth is the same as the anchored combination wall, five (5) feet below the mudline, but the steel king piles must be driven to the same depth as the other cantilevered wall design, 36 feet below the mudline. The concrete coping applied would be the same across cantilevered designs.

2.2.3 Comparison of Design Approaches

As shown in Table 1, there are advantages and disadvantages to each approach. At this time, quantities and potential cost differences are not known. Anchored wall designs will require significant effort to site and install the anchor, but benefit from a reduced embedment depth, reduced deflection along the top of the wall, and more standard materials. Cantilevered wall designs offer a simpler approach to construction but rely on large, thick steel pipes which could be difficult or costly to procure in necessary quantities.

Table 1: Bulkhead Design Advantages and Disadvantages

Design Approach	Primary Structural Components	Advantages	Disadvantages
Anchored Wall	Steel Sheet Piles	• Reduced embedment depth • Reduced top of wall deflection • Lighter steel sheet piling profile than cantilevered combination wall • Sheet piles may be easier to procure than steel pipes with specifications needed	• Tie-back anchor system becomes a critical failure point • Requires excavation and backfill or wales, depending on anchor system • May conflict with existing wall structure or utilities
	Combination Wall	• Reduced embedment depth for sheet piling • Reduced top of wall deflection • Lighter/smaller steel sheet piling profile than cantilevered combination wall	• Tie-back anchor system becomes a critical failure point • Requires excavation and backfill or wales, depending on anchor system • May conflict with existing wall structure or utilities • Requires steel pipes not to standard dimensions
Cantilevered Wall	Steel Pipes	• No conflicts with existing structure or utilities • Simpler construction without a tie-back system	• Requires greatest embedment depth • Requires greatest quantity of steel pipes, which are not standard dimensions and may be more costly
	Combination Wall	• No conflicts with existing structure or utilities • Simpler construction without a tie-back system • Reduced embedment depth for sheet piling	• Increased embedment depth for steel pipes • Requires steel pipes not to standard dimensions

3.0 Market/Trade Lane Analysis

The Port's capacity to attract business will be limited to what the barge dock can accommodate. A new dock and modernization of the upland area, as well as landside access (road and rail), will position the Port to attract users.

The Market Analysis approach included the following:

1) **Data Gathering:** Desktop review of relevant and publicly available documents and reports. Independent interviews with the Port, local and regional agencies, and businesses and industries, including the Putnam County Chamber of Commerce.

2) **Data Analysis:** Synthesis of the information and findings to establish a baseline of the Port's existing business environment and future opportunities for continuing growth.

3) **Port Capacity Assessment:** Reasonable assumptions were made on potential users, the type of barges that would be deployed by users of the Port, their shipment schedules, the cargo handling equipment to be used, and operational productivity at the Port.

3.1 Market Opportunities

The target markets and cargo opportunities identified for Port Putnam were identified based on:

- The position of the Port to provide competitive, lower-cost transportation and logistics alternatives.
- The growing needs of existing local manufacturing companies and businesses to accommodate growth and/or reduce the carbon footprint of existing operations.
- The Port's effective operational capacity, considering completion of dock modernization.

The opportunities identified align with Elevate Putnam, the Putnam County Economic Development Council's five-year plan (2024-2028) for economic growth within the county.

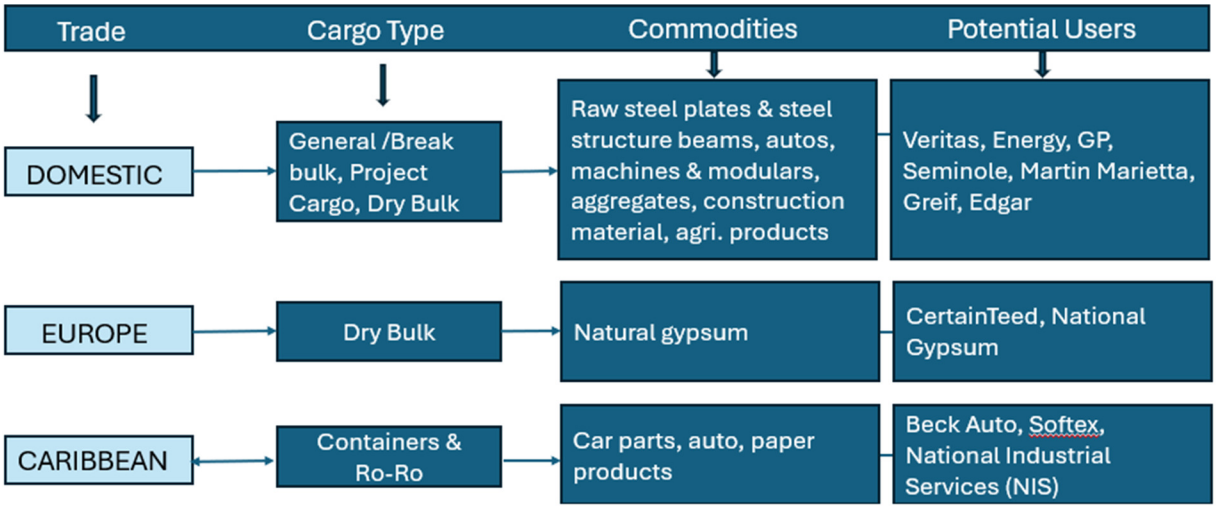
The current flow of cargo, relevant to Port Putnam opportunities, involves the movement of domestic cargo and overseas trade to and from European and Caribbean markets. Figure 5 presents an overview of the current business landscape and potential cargo and trade markets identified from the document review and interview efforts.

Domestic cargoes include breakbulk, project cargo, and dry bulk, notably steel materials and manufactured products as well as machinery and modular units that serve local manufacturing and businesses, such as Veritas Steel, Seminole Electric and Georgia Pacific (GP).

European trade includes mainly natural gypsum imported from Spain via JAXPORT with delivery to CertainTeed's Palatka plant near Port Putnam via truck and rail.

Cargo movement between the State of Florida and Caribbean destinations comprises a seven (7) percent share of total state international trade, with containerized and roll on/roll off (Ro/Ro) cargo moving project cargo/machinery; food and foodstuffs; vehicles; toy and sport equipment; and apparel. Containerized and Ro/Ro cargoes have been identified as potential opportunities for Port Putnam. For example, Beck Auto Group, a prominent car dealership in Florida that has four (4) major dealerships in Palatka, has expressed interest in utilizing the Port's new barge dock to handle their export of autos and car parts to Caribbean destinations.

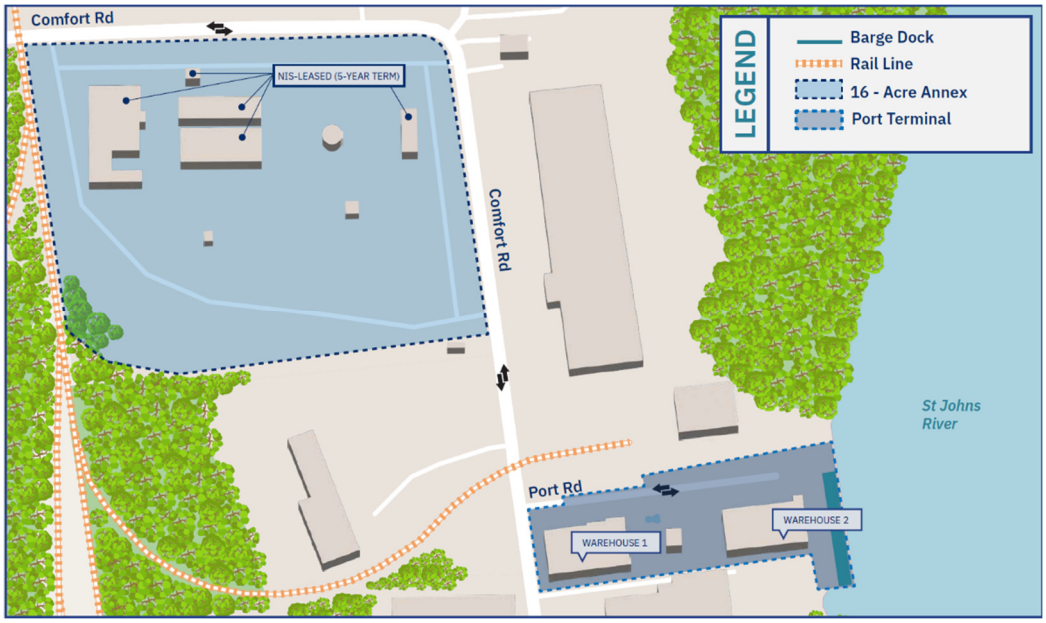
Figure 5. Putnam Cargo Flows and Market Landscape



3.1.1 Existing Users and Operations

The current tenants at the Port are Victoria Marine and National Industrial Services (NIS). Victoria Marine is a family-owned and operated boat builder. They have fully utilized both Port's existing 20,000 sf. warehouses (Warehouses 1 and 2 in Figure 6) at the Port Terminal for a long-term lease to store materials and manufacture custom boats for the State's tourist industry. Currently, Victoria Marine primarily uses trucks to deliver materials and final products by road. However, a functional port facility with barge operations at Port Putnam would allow them to bid on larger boat orders not limited to road transport. Victoria Marine has already identified potential customers that have a need for these larger custom boats. A stormwater management facility (retention pond) and storage shed are also located within the Port Terminal. Existing power lines along Port Rd. would limit the movement of a crane in the upland area. The future removal or relocation of the warehouse closest to the dock (Warehouse 2), pond, storage shed, and undergrounding power lines could be considered to optimize operations. NIS has recently taken over the lease with Port Putnam to utilize the existing facilities and warehouse at the Port Annex for their business, such as welding and steel work.

Figure 6. Current Port Property



Though the deteriorating condition of the existing barge dock has constrained its usefulness over the years, the Port has often been used during hurricane season to service barges transporting hurricane and storm debris for disposal due to its proximity to the designated landfill area north of Palatka. The planning of additional cargo storage will incorporate planning and structural elevation for potential sea level rise or storm surge, increased sustainability in major hurricanes, enhanced storm water control, increases in throughput capacities, resilience to continue the effective movement of goods that may not be able to move through their traditional ports of entry or exit after disasters, and the ability to handle surges of emergency recovery supplies and reconstruction materials. Barge service during and after natural and human-made disasters is critical to supply chain maintenance since the movement of many cargo types by barge is considerably more resilient than conventional deep draft vessels. The Port has already been used for emergency services and an improved barge dock will further increase its utility for these purposes.

3.1.2 Known Potential Users

The Port has many economic advantages making it an attractive option for local manufacturing businesses as potential users.

- The strategic location of the Port along the St. Johns River Federal Channel, the longest navigable inland waterway in Florida is foremost. The river's navigable depth from Jacksonville south past Palatka is 8 feet but will be 15 feet with anticipated USACE dredging – ideal for cargo-carrying barge traffic.
- The Port is efficiently linked by four-lane state roads to Interstates 95, 10 and 75 which surround the County, providing Interstate access to over 50 percent of the U.S. population within 24 hours.
- Most of what would eventually be developed as the Port is County property and properly zoned, with all adjoining properties currently zoned Industrial, Heavy. More distant properties, appropriate for eventual port expansion, are zoned Industrial, Commercial or Agricultural. There are other parcels near the Port reasonably available for future acquisition. Therefore, development and eventual expansion of the Port's footprint do not present a discernable limitation. The ability to develop without ownership and zoning challenges affords the Port considerable economic advantage as does its expansion potential.
- CSX operates in the area and has an industrial spur that ends at the Port. With the development of a near-dock intermodal freight facility, the Port would have excellent rail service for intermodal cargoes. Additional market analysis is recommended to determine potential cargo and users of rail service at the Port
- Putnam County and the region have a considerable skilled and semi-skilled, but underemployed, workforce which will find beneficial employment performing cargo operations for both shippers and carriers as well as with the Port.

An understanding of existing operations and planned expansion of known potential users of the Port represents the best opportunity for the Port's target markets. The completion of the new barge dock and revitalized upland area, together with landside access (road/rail) modernization, provides an option to realign supply chains and improve the efficiency of existing operations for companies identified as potential anchor tenants by reducing transportation costs and emissions impacts. Considering the near- and long-term growth plans for each of these companies, the Port can confidently plan and invest in the phased improvements recommended in this plan.

Veritas Steel

Veritas Steel currently provides over 60,000 tons of structural steel annually from their three (3) fabrication facilities; two (2) located in Wisconsin and one (1) adjacent to the Port. Veritas provides critical structural steel components for bridge construction and repair throughout the United States. These structural steel products are often 120 to 150 feet long and weigh 100+ tons. Both fabrication facilities in Wisconsin are landlocked, lacking maritime access and facilities. Veritas acknowledges the scale and range of products that they can produce and distribute to and from their facilities is limited so long as they must rely solely on rail and truck for their transportation and logistics needs.

Currently from Veritas Palatka, structural steel products are moved by truck to nearby marine ports in Florida where products can be loaded onto larger vessels and shipped to project locations. JAXPORT is currently receiving the majority of Veritas cargo, followed by the ports in southern Florida and Savannah, depending on product destinations and vessel connections. There are three (3) key markets that businesses in Palatka connect to for their inbound and outbound cargoes:

- Asian Market: via JAXPORT, Savannah and South Florida ports.
- Caribbean Market: via JAXPORT and South Florida ports.
- European Market: via Savannah and South Florida ports.

Veritas has expressed a preference in having the option to receive raw materials and deliver their products by barge, which would allow them to secure larger scale structural steel fabrication contracts nationwide. To facilitate this opportunity, Veritas needs a well-functioning barge dock and an approach channel with a deeper vessel draft (12 to 15 feet) than that currently available to the Port (8 feet).

CertainTeed, LLC

A subsidiary of Saint-Gobain, CertainTeed is a leading North American brand of building products, with a manufacturing facility for gypsum wallboard located just two (2) miles north of the Port in Palatka. Currently, 150,000 tons of natural gypsum is imported annually from Europe (Spain) via JAXPORT. The material is handled at Keystones Terminal and trucked approximately 60 miles to the Palatka production plant via U.S. 17.

In September 2021, CertainTeed announced that the company intends to establish a new gypsum logistics facility in Jacksonville along the St. Johns River that will integrate a terminal dock operation with environmental restoration of the riverside, at a cost of $70 million. Construction began in 2022 and is scheduled for completion before 2025. Once operational, the dock will be equipped with a bulkhead, conveyor, unloading ramp, truck staging areas and a small office. The new dock will support CertainTeed's wallboard plant in Palatka and strengthen the company's supply chain throughout the southeastern United States.

In 2023, CertainTeed announced a plan to invest an additional $235 million to expand its gypsum manufacturing facility in Palatka. The investment will double the production capacity of the Palatka facility over the next two years. CertainTeed also indicated that, with various development projects currently underway by the company, the Palatka facility will need about 700,000 tons of natural gypsum imported from Spain over the next five (5) years. Assuming CertainTeed will continue to handle most of this raw gypsum volume by truck from Jacksonville, there is an opportunity for Port Putnam to capture a majority of this volume annually via barge transport from JAXPORT with the barge dock improvements.

Beck Automobile Group

Beck Automobile Group supplies new and used vehicles and auto parts, serving customers throughout six (6) states and the Caribbean. Most of their current domestic shipments are handled by specialty trucks and shipments to the Caribbean market have been handled through other Florida ports for decades.

The Caribbean is a strong market for used vehicles imported from the United States. Supply of automotive parts for maintenance and repair needs is considered a strong opportunity for Beck Auto. With four (4) dealerships located in Palatka, Port Putnam represents an opportunity to connect Beck Auto with the Caribbean market.

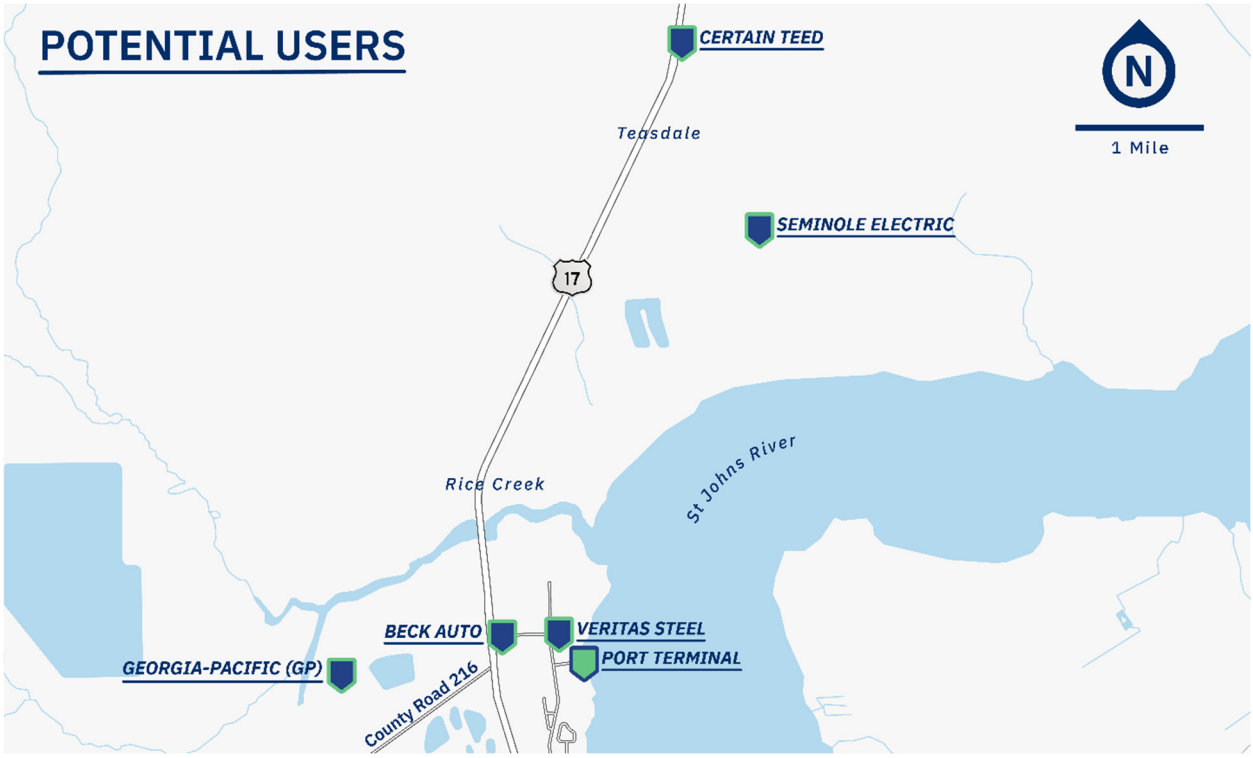
Beck Auto envisions their business could utilize the Port's functional barge dock to export to the Caribbean market on a weekly basis via Ro/Ro containerized service. This will create additional opportunities for Port Putnam via backhaul shipments for import cargoes from the Caribbean, such as those currently occurring at various other ports in Florida. An example of these backhaul opportunities is paper products produced in the Caribbean by Softex.

Geogia Pacific (GP) and Seminole Electric

Geogia Pacific, a paper mill, and Seminole Electric Cooperative, Inc. are two major businesses with production facilities located just a few miles from the Port (see Figure 7). Both companies have recently made significant investments in expanding their facilities and modernizing their operations.

Currently, these companies are receiving materials and shipping their products through other Florida deep seaports and using truck and rail for last mile delivery to their respective facilities. Occasionally, these businesses have shipments of oversize cargo weighing over 100 tons and are often limited by roadway weight restrictions. Having a deep draft port able to accommodate the size of barge required for the supply of these oversized components is an important consideration for the continued operations and growth potential of these businesses.

Figure 7. Port Putnam & Key Local Business Locations



3.1.3 Other Potential Users and Cargo Opportunities

The phased improvements included in this plan are expected to attract additional users and tenants for the Port. Overall, market and cargo opportunities for Port Putnam are likely to be dry bulk, general and project cargo, Ro/Ro and containerized cargo serving domestic demand as well as shipments to markets overseas. With this understanding, additional users and business opportunities that currently deal with similar commodities or compatible cargoes, as well as other businesses that could take advantage of the Port location to ship to various markets, have been identified. These companies, located in Central Florida, currently transport cargo via truck to JAXPORT and other Florida ports. Port Putnam would be an attractive transit point to and from their other Florida operations, connecting directly with the Caribbean market or JAXPORT via barge shipments instead.

Martin Marietta Materials

Martin Marietta Materials is a leading supplier of construction aggregates and heavy building materials in the U.S., including aggregates, cement, and ready-mixed concrete and asphalt, as well as high-purity magnesia and dolomitic lime products used worldwide in environmental, industrial, agricultural and specialty applications.

With over 500 locations spanning 28 states, Canada and the Bahamas, Martin Marietta currently provides services throughout the state of Florida, including maritime facilities at JAXPORT and Port Canaveral as well as a railyard approximately 70 miles south in DeBary and a quarry to the west in Perry.

With an operation handling Bahamas Rock, the company also imports a variety of aggregates from the Caribbean via JAXPORT. Without rail access at this location, the company currently trucks about 250,000 tons of imported aggregates to their three (3) plants in Green Cove Springs, about 23 miles north of the Port. The relatively higher cost of transporting aggregates via truck makes this option less than cost effective. Having a barge transportation option to lower per unit transportation costs for aggregates is desirable for Martin Marietta.

Transporting 250,000 tons of imported aggregate requires 10,000 truckloads annually, or 192 truckloads per week, with approximately 38 to 39 per day. Alternatively, Articulated Tug Barges (ATB) – which are commonly used in the Caribbean – would provide a lower cost solution for transporting aggregates.

Edgar Minerals

Located in Putnam County, Edgar Minerals produces premium specialty materials, such as kaolin clay, aggregate, and sand and lime rock for industrial and construction applications, supplying both domestic and global markets. The company exports customer-blended sand products to India, Japan and Puerto Rico via JAXPORT and ports in Savannah, trucking containers to JAXPORT from their Silver Springs and Hawthorne facilities, which are within a five (5) mile radius of Port Putnam.

Forest Grove Ferneries, Inc.

Located in the heart of central Florida, about 26 miles south of the Port on Old Highway Road, Forest Grove produces and delivers cut greens to floral wholesalers across the U.S. and overseas using containers via various Florida ports to the Caribbean.

Greif Palatka

Greif is a leading industrial packing and manufacturing company, with a materials recycling and packaging production plant located less than a mile north of the Port on Comfort Rd. Grief produces a broad range of specialty packing, tubes and cores, and storage container products serving industrial and commercial needs across the nation and overseas. Currently, Grief uses containers to truck their products to ports in southern Florida for export to the Caribbean and Mexico.

Sunbelt Forest Products Corporation

A leading manufacturer of high-quality pressure-treated lumber that specializes in providing wood products suitable for the harsh tropical climates of the southeastern U.S. and the Caribbean, Sunbelt's products and building materials have been exported throughout the eastern Caribbean via other Florida ports, including JAXPORT. Sunbelt has a facility in southern Georgia, north of JAXPORT, and two (2) facilities south of Orlando.

National Industrial Services, Inc (NIS)

NIS is a full-service construction company with locations in U.S. Virgin Islands, Louisiana and Palatka, Florida. NIS operations and services range from mechanical and metal fabrication to installation, construction and maintenance work for heavy industrial plants and infrastructure, including maritime, oil, gas, chemical and offshore industries. NIS recently signed a term contract with Port Putnam to use the Port's Annex facility to support their operations out of Palatka, Florida.

Table 2. Summary of Cargo Opportunities

Business(es)	Cargo	Total Potential Annual Volume (mt.), if Known
Victoria Marine	Custom Boats and Materials	Not identified
CertainTeed, LLC	Natural Gypsum	700,000
Veritas Steel	Steel Structures	60,000
Martin Marietta Materials, Edgar Minerals	Aggregates	250,000+
Beck Automobile, Forest Grove Ferneries, Inc., Greif Palatka, Other	Containers/RoRo	Not identified
Georgia Pacific, Seminole Electric, Sunbelt Forest Products Corporation, National Industrial Services, Inc.	Project Cargo/Building Materials	Not identified

3.2 Cargo Capacity and Potential Port Operations

Once the new barge dock and upland facilities are constructed and modernized, the Port's cargo capacity will ultimately depend on the type of barge and vessel size that can access the Port along the navigation system of the St. Johns River, and on the service schedule that the Port can accommodate weekly and monthly.

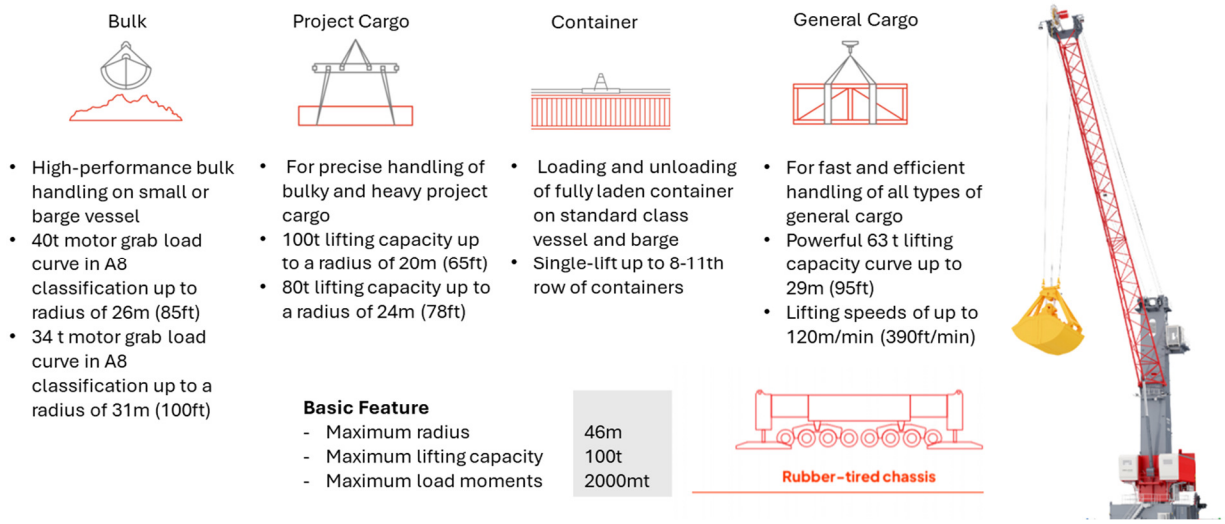
3.2.1 Barge Specifications & Cargo Handling Equipment

Based on the type of cargo anticipated to take advantage of the Port's new barge dock and revitalized upland area and infrastructure identified in the previous Target Markets section (including dry bulk, heavy and oversized cargo, and containerized and Ro/Ro cargoes), jumbo hopper barges and flat deck barges are recommended. It is anticipated the new barge dock of 350 feet will accommodate two fully ladened barges operating at the same time with tie-in dolphin(s) at either or both ends of the dock.

The Port will function best as a multi-purpose, multi-cargo port accommodating the needs of the various known cargo types. A mobile harbor crane (MHC) capable of handling multiple cargo types with suitable

handling gears, such as the Konecranes MHC shown in Figure 8, is recommended. Given the limited space along the barge dock and upland apron area, a single MHC was used for the purpose of assessing potential cargo handling productivity and barge service times at the Port in the subsequent sections.

Figure 8. Example Mobile Harbor Crane (MHC) Specifications for Reference Only



3.2.2 Cargo Handling Productivity and Barge Service Schedule

An industrial survey of the loading and unloading productivity rates associated with the cargo types identified as Target Markets at regional and river ports similar to Port Putnam was conducted. Using an MHC, the service times for handling different types of cargo were estimated. Table 3 summarizes these industrial benchmarks. The service time estimates include barge access and preparation times before and after cargo services are completed.

Table 3: Estimated Cargo Handling Productivity and Barge Service Times

Cargo Type	Unload Time	Load Time	Total Service Time
Steel Coils	12 hours	16 hours	**28 hours**
Flat Steel Material	10 hours	14 hours	**24 hours**
Gypsum	8 hours	12 hours	**20 hours**
Containerized Cargo	8 hours	6 hours	**14 hours**

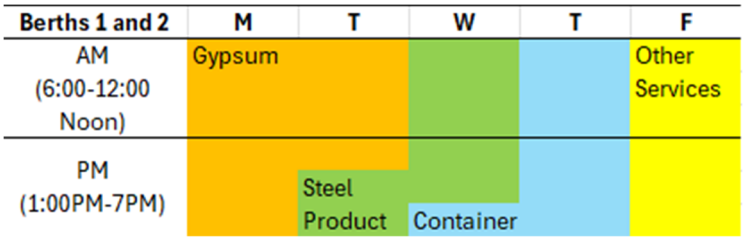
The Port's operational hours and schedule are assumed to be as follows:

- Monday through Friday – 5 days a week
- Administration Hours: 8am-5pm
- Operation Hours: 6am through 7pm, with 1 hour lunch break – 12 hours per weekday
- Typical National Holidays: 13 holidays a year
- Total Workdays per Year: 248 days
- Total Effective Work Hours per Year: 2976 hours

The operating hours and shift schedule can be adjusted to justify additional business opportunities and operating costs incurred by the Port and users of the port.

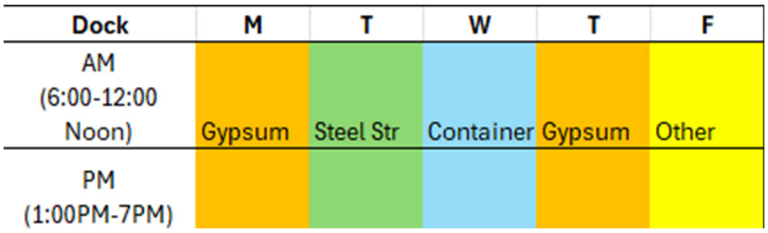
With these assumptions, potential service schedules at the Port are demonstrated in Figure 9 below.

Figure 9. Potential Barge and Vessel Service Schedule



It is likely that CertainTeed would opt to transport the imported gypsum from Keystone Terminal in Jacksonville via barge to Port Putnam and return empty. Similarly, Veritas may bring in empty deck barges for loading steel structure products. In this scenario, the following service schedule could accommodate weekly services: two (2) for Gypsum, one (1) for steel structures, one (1) for container and Ro/Ro and one (1) available for other cargo as additional opportunities arise.

Figure 10. Potential Barge and Vessel Service Schedule with Empty Barges



Based on these anticipated operations and barge schedules, the Port has capacity to receive daily service related to dry-bulk, steel manufactured products, containers-on-barge and Ro/Ro cargo.

3.2.3 Potential Port Operations

The depth of the channel connecting with the St. Johns River represents a major constraint to attracting additional maritime services and growth opportunities. In the near-term, Port operations would be constrained by the current channel depth of less than 8', handling "island type shallow draft vessels" but still able to support domestic and international cargo opportunities such as gypsum, assorted aggregates, forest products (lumber/logs), agricultural products, Ro/Ro and container businesses to and from the Caribbean. Even with this constraint, the Port should be able to secure business with Veritas Steel, CertainTeed and Beck Auto as new anchor tenants, considering the location of their facilities and current logistics/supply chains of materials and finished products.

With the goal to attract enough business to fully utilize the capacity of the new barge dock, the Port's estimated cargo throughput capacity was based on assumptions of the potential vessel type and capacity, as well as the potential services schedule at the Port as discussed previously.

The volume capacity of the Port is estimated to be as shown in Table 4 below in short tons (ST).

Table 4: Weekly and Monthly Cargo Volume Capacity Estimates

Cargo Type	Vessel/Barge Size	Vessel/Barge Capacity (max. ST)	Weekly Call (ST)	Monthly Call (ST)
Gypsum (Hopper)	200’ x 35’ x 12’	2,100	4,200	16,800
Steel Structure (Deck)	200’ x 48’ x 12	2,835	2,835	11,340
Aggregates/Agri. (Hopper)	200’ x 35’ x 12’	2,100	2,100	8,400
Containers/RoRo (Deck)	200’ x 48’ x 12’	2,835	2,835	11,340
TOTAL	-	-	11,970+	47,880+

**Other cargo opportunities could be accommodated as the barge dock schedule allows including project/oversized cargo and hurricane season debris barge services needed to support local projects and businesses, such as GP and Seminole.*

Assuming containerized and Ro/Ro cargo for Caribbean trade uses ocean-going deck barges of 2,572 metric tons capacity (using 0.907 conversion rate to metric ton (mt)) and 45-foot containers each accommodating 29 mt of cargo, these barges could carry about 97 fully-loaded containers at 100% barge capacity utilization.

With the proposed users and vessel service schedules as shown in Table 4, the Port’s overall annual cargo throughput capacity was estimated at 521,126 metric tons for all cargo types.

3.3 Port Use Revenues

The Port’s annual revenue comes from different port charges and leases from both short-term and long-term tenants and is therefore determined by specific lease agreement terms and conditions with each tenant. The Port can charge a dockage fee based on vessel/barge size, often measured by $/per linear foot of vessel length (length overall, or LOA) per day or $/per day for a vessel of any size berthing at the barge dock. Short-term or “flex-term” leases often pay a premium rate (higher value per area, measured in $/sf. or $/acre), while long-term leases will be charged a flat fixed fee ($/year) conditioned on a minimum cargo volume or minimum/assigned dock usage per year.

As tenant operations are established, the associated port use revenues will put the Port in a position to further develop and expand, attracting additional businesses and services compatible with these three anchor tenants. A cluster of businesses can enjoy the benefits of economies of scale and barge access, especially once the St. Johns River and the Port’s access approach are dredged to a 15-foot draft.

The Port has adopted rates for use of port facilities that are updated annually. Annual updates allow flexibility for the Port to provide rates that reflect the Port’s real business and cargo volume year over year. It is recommended the Port keeps the rates competitive to both retain existing businesses and attract new customers in the near-term as operations begin.

Table 5 shows the recommended dockage and storage rates, determined by conducting an analysis of current rates in comparison to posted fees at other ports of similar size and function within the region, as well as potential revenue forecasts. All cargo was assumed to use the Port Terminal storage yard for one

day to coordinate the loading or off-loading of cargo. The barge dock can accommodate two barges per day, providing active services to one barge at a time. These estimates assumed maximum utilization of the Port's barge dock and annual potential cargo throughput.

Table 5. Recommended Dockage and Storage Charge Rates

Infrastructure Element	Unit	Rate ($)	Improved Port Assets	Potential Revenue ($/Annual)
Dockage	Linear Foot / Day (LFD)	$3.40	350 ft.	$295,120
Storage Yard*	Metric Ton (mt) / Day	$9.00	521,126 mt	$4,690,134
Warehouse	$ / Year	Confidential	20,000 sf.	Per specific agreements
Crane	Lift	$10	1 MHC	

**Note: The average material storage fee of $9 per metric ton per day was estimated based on the median rate of $2 per cubic foot of storage per day for various storage materials currently used by the surveyed ports, as identified in the Market Analysis, and using a conversion rate of one (1) cubic foot equivalent to 0.222 tons of steel material.*

4.0 Freight Rail Facilities

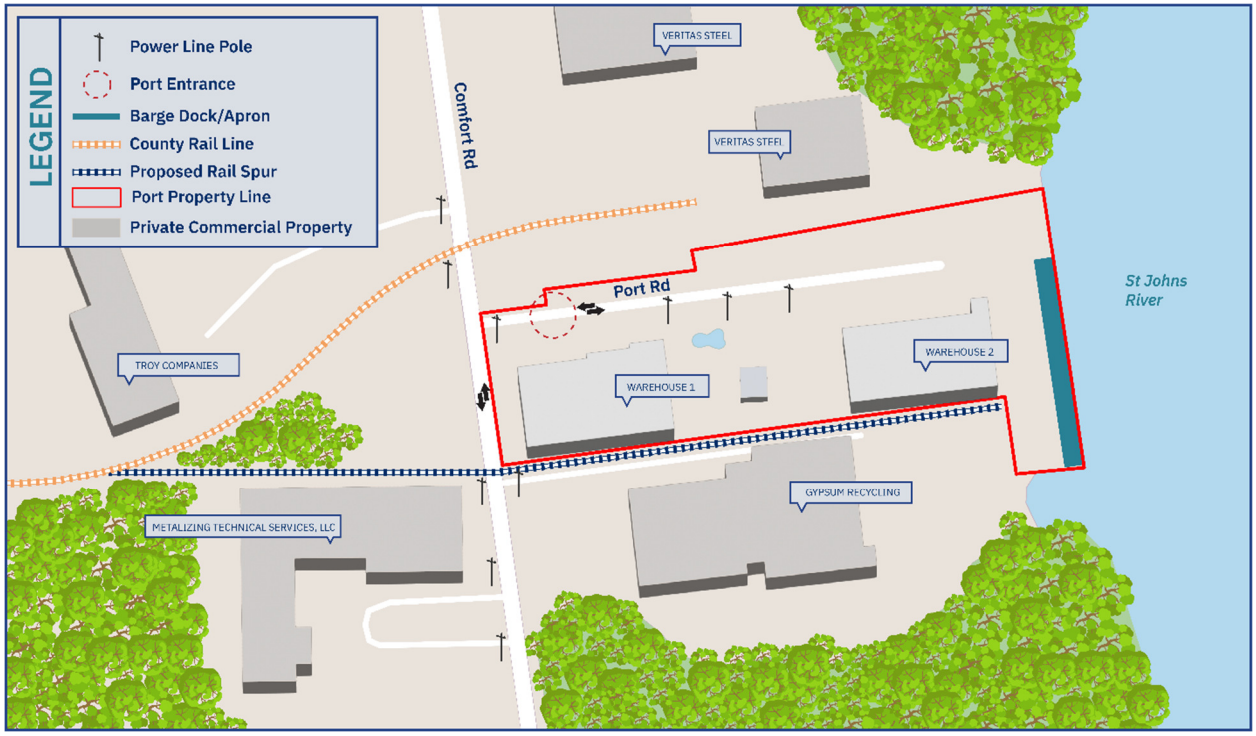
A freight rail facility for the intermodal transfer of waterborne cargoes to and from railcars will allow the Port to maximize movement efficiency and reduce truck trips and emissions. By improving the speed, safety, reliability and throughput volume of cargo at the Port, freight rail facilities will benefit daily cargo operations and strengthen the Port's role within regional and national supply chains.

The existing track that serves Port Putnam, owned by CSX, is a main with freight and passenger traffic connecting Jacksonville to Orlando. Crossing inventory data from the Federal Rail Administration (FRA) indicates a maximum timetable speed of 75 miles per hour (mph). The turnout placed in the CSX main is a size No. 10 left-hand turnout placed 200 feet from the Comfort Rd. at-grade crossing.

4.1 Port Terminal

Putnam County owns an existing rail track which extends to the Veritas parcel north of the Port Terminal. Extending a rail track spur off the turnout point east of Comfort Rd. is recommended to allow rail freight to reach the dock of the Port Terminal area. The rail spur that once serviced Port Putnam is currently abandoned and needs to be rebuilt and extended to the Port Terminal dock. Figure 11 shows the existing rail track servicing Veritas and the proposed rail track extension.

Figure 11. Proposed Rail Extension to Port Terminal Barge Dock



4.2 Port Annex

In order for the Port Annex to be ready to serve future tenants, a rail track extension on the parcel would be necessary. An existing CSX rail track currently runs along the Port Annex property limits. In reviewing the CSX industrial track standards, a new CSX main turnout to access the Port Annex will be required to be reinstalled at approximately its historical location to maintain 200 feet from the near edge of the Comfort Rd. at-grade crossing. The parcel limits and placement of the main turnout do not permit a looped track layout that can connect back into the main while meeting CSX standards or American Railway Engineering and Maintenance-of-Way Association (AREMA) recommendations due to horizontal curvature required. However, as shown in green in Figure 12, multiple stub-ended tracks could be developed along the historical rail alignment to extend rail into the Annex.

The geometry shown in red linework in Figure 12 would allow rail traffic to circulate through the site. It depicts a No. 10 left-hand turnout off the main track with a 100-foot 12° curve five feet past the last long tie, placed with 50 feet of tangent ahead of the point of the switch. The 12° curves are placed 5 feet past the last long tie of the turnout on both the straight and diverging side of the turnout. Unfortunately, this alignment would be too tight and, therefore, is not feasible.

The green linework shown in Figure 12 is the recommended alignment. It depicts a No. 10 left-hand turnout off the main track and a No. 8 left-hand turnout placed five feet past the No. 10 last long ties. The 12° curves are placed 5 feet past the last long tie of the turnout on both the straight and diverging side of the turnout. centers. This alignment allows for loading, unloading, and transloading operations.

Figure 12. Geometric Analysis for Proposed Rail Extension to Port Annex

5.0 Traffic Analysis

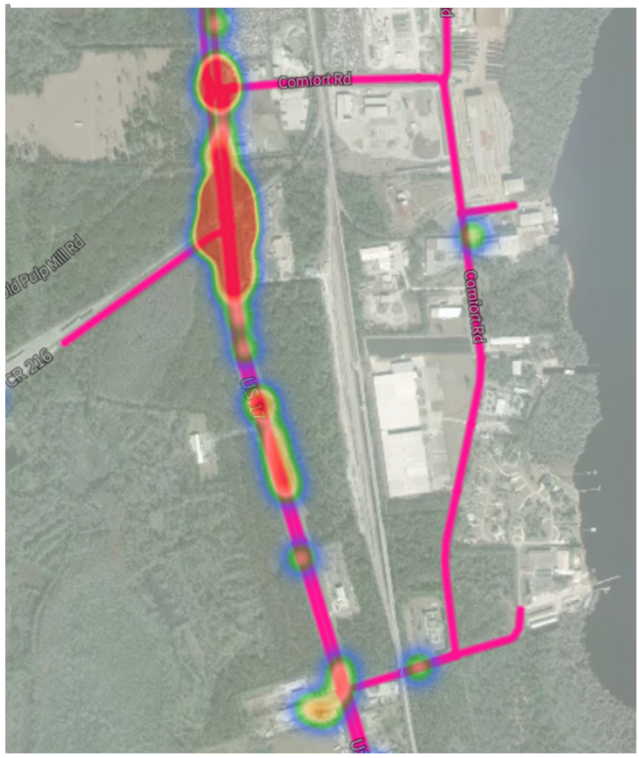
5.1 Roadway Infrastructure

A traffic analysis and roadway assessment was performed to assess current conditions to inform future Port improvements, which are summarized in Section 9. The analysis included the intersection of Port Rd. and Comfort Rd. as well as U.S. 17 between both the south and north Comfort Rd. connections.

5.1.1 Flow Analysis

The traffic analysis and roadway assessment focused on evaluating the anticipated impact within the immediate vicinity of Port Putnam, particularly along Comfort Rd. and its connections to U.S. 17. The study aimed to understand how projected increases in cargo and traffic volumes would affect the existing infrastructure.

Figure 13. Five-year Historical Crash Heat Map



Historical crash data from the past five years was reviewed, revealing a total of 74 crashes within the corridor. As shown in Figure 13, a significant concentration of these incidents occurred at the intersection of CR 216 and U.S. 17, highlighting a potential area for safety improvements. The overall assessment indicated that the existing roadway infrastructure is generally adequate to support the proposed port enhancements and associated volume of commercial vehicles.

The intersection radii at both Comfort Rd. connections to U.S. 17 may accommodate semi-trailer access to the Port without major upgrades. The analysis identified geometric elements to enhance safety; however, the Port's operations can expand without necessitating significant roadway modifications.

5.1.2 Plan

The roadway analysis identified opportunities to realign internal roadways to enhance safety and promote efficiency by optimizing the traffic pattern. Modification of the Port's access drive and parking would facilitate freight access and transport and improve the speed, safety, reliability and throughput volume of cargo at the Port.

These identified improvements may streamline operations and reduce congestion, contributing to more efficient cargo handling and transportation. By addressing these opportunities, the Port can accommodate the anticipated growth as well as improve overall safety and expand in a manner that is sustainable and beneficial for the surrounding community.

6.0 Environmental Considerations

Port development may have impacts on the environment, including air quality, water quality, natural resources, and cultural resources, located in the Port area and on adjacent County and non-County properties. This section provides an overview of the anticipated environmental permitting needs and processes, including those conducted under the National Environmental Policy Act (NEPA) and Section 106 of the National Historic Preservation Act (NHPA Section 106); baseline environmental conditions based on preliminary Port design; and environmental risks and potential mitigation strategies.

6.1 Environmental and Construction Permitting

The development of the Port will require compliance with a range of federal, state, and local environmental regulations to ensure that potential impacts are thoroughly evaluated and mitigated. This includes obtaining necessary permits, authorizations, and completing required consultations to address concerns related to air and water quality, wetlands, endangered species, cultural resources, and other environmental considerations. These requirements are essential to maintaining compliance with applicable laws and ensuring the project's long-term sustainability.

To facilitate this process, a preliminary list of required environmental and construction permits, authorizations, and consultations has been prepared (**Error! Reference source not found.**). The list outlines anticipated regulatory requirements, responsible agencies, and key permits and consultations that will likely be required for the Port's construction and operation based on its scope, location, and potential impacts. This list serves as a foundational planning tool to aid Putnam County in its coordination with regulatory agencies and incorporate environmental considerations early in the development process. As the port planning and design process progresses, additional requirements may be identified.

Table 6. Preliminary List of Required Environmental and Construction Permits, Authorizations, and Consultations

Regulatory Level	Agency or Regulatory Authority	Regulatory Driver	Requirement	Description
Category: Planning				
Federal	U.S. Army Corps of Engineers (USACE) or other federal agency depending on funding source(s) or other required federal permits or authorizations[1]	National Environmental Policy Act (NEPA)	Environmental Review	NEPA requires federal agencies to evaluate potential environmental impacts of their actions or decisions when there is a federal nexus, such as funding, permitting, or land use. NEPA compliance involves a structured review process to assess the environmental, social, and economic impacts of a proposed project. Depending on the scope of work and potential impacts to sensitive resources or populations, the review may involve the preparation of a Categorical Exclusion (CATEX), Environmental Assessment (EA), or Environmental Impact Statement (EIS). For the Port, NEPA compliance is likely required due to federal funding or permitting involvement, and the level of effort for this evaluation will depend on the scope of the proposed activities and proximity to protected resources, including wetlands, endangered species, and cultural sites. The process will also include public and stakeholder engagement to ensure transparency and accountability.
Federal	U.S. Federal Aviation Administration (FAA)	14 CFR Part 77 – Safe, Efficient Use, and Preservation of the Navigable Airspace	Notice of Proposed Construction or Alteration	Structures exceeding 200 feet above ground level or located near airports must be reviewed for potential impacts to air navigation under 14 CFR Part 77. Applicants are required to file a Notice of Proposed Construction or Alteration (Form 7460-1) with the FAA. The FAA evaluates the structure's height, location, and potential obstruction to navigable airspace. For the Port, cranes or other tall structures, whether temporary or permanent, exceeding this threshold would likely require FAA review and a determination of no hazard to air navigation before construction or operation can proceed.

[1] Lead federal agency may be one or more of the federal agencies that could provide funding, permits, or authorizations for port development. Refer to Section 0 for information on potential federal funding.

Regulatory Level	Agency or Regulatory Authority	Regulatory Driver	Requirement	Description
State	Florida Department of Environmental Protection (FDEP)	Florida Environmental Policy Act (FEPA)	Environmental Review	FEPA requires environmental impact assessments to ensure that potentially significant environmental impacts are carefully considered in the decision-making process for projects within the state. For the Port, the FDEP will likely play a key role in overseeing state-level environmental reviews and ensuring alignment with Florida's environmental policies. Additionally, coordination with the Florida Seaport Transportation and Economic Development (FSTED) Council may occur, particularly where federal NEPA processes overlap with state permitting and environmental review requirements. However, should FDEP or another state agency reviewing permit applications (e.g., CGP, ERP) determine that Port development would not result in significant environmental impacts, then FEPA may not be triggered or required. Whether FEPA would be required would be confirmed through consultations with state agencies from which the Port is soliciting permits and/or authorizations.
Local	Putnam County Building Department	Floodplain Management Ordinance of Putnam County, Florida	Floodplain Development Permit	This ordinance, in conjunction with the flood load and flood-resistant construction standards of the Florida Building Code, establishes minimum requirements to safeguard public health, safety, and welfare and aims to reduce public and private losses due to flooding by regulating development within designated flood hazard areas. For the Port, a Floodplain Development Permit will likely be required to ensure that construction activities comply with these standards and mitigate flood risks. The permit process includes a review of proposed activities to confirm that flood-resistant designs and practices are incorporated, minimizing impacts to the surrounding community and infrastructure.

Regulatory Level	Agency or Regulatory Authority	Regulatory Driver	Requirement	Description
Local	Putnam County Building Department	Florida Statutes 713.135	Building Permit	Constructing, adding, altering, repairing, relocating, moving or demolishing a structure, building or building systems. Permits and inspections are required for, but not limited to, the following: • New Construction, Additions, Remodeling, Change of Use • Tenant Build-outs • Accessory Buildings and Structures • Grading, Fill Work, Dredging • Accessible Routes or Parking (ADA Compliance) • Commercial Docks & Boat Houses • Bulkheads or Retaining Wall • Replacement/Addition of Windows or Doors • Electrical Systems, Wiring or Equipment • HVAC / Mechanical Systems • Plumbing Systems / Equipment / Piping • Gas Appliances or Piping • Tents 120 sq. ft. or Greater These permits ensure compliance with safety standards and building codes, safeguarding public health and welfare.
Local	City of Palatka	Palatka, FL Code of Ordinances, Chapter 18 Article XI	Building Permit	The City of Palatka Planning Department collaborates with the Putnam County Planning & Zoning Department to process building permits. Applicants are required to first file all necessary applications with Putnam County. Once the county-level applications are submitted and approved, the City of Palatka applications can then be filed. Because the Port is in an unincorporated area of Palatka, Putnam County may determine this City-level building permit would not be necessary for Port development.
Local	City of Palatka	Municipal Code § 54-111 - 160.11	Impact and Connection Fee	Impact and Connection Fees are assessed for all new building projects within the City of Palatka. These fees cover the costs of connecting new developments to municipal infrastructure, such as water and sewer systems, and help offset the impacts of growth on public services.

Regulatory Level	Agency or Regulatory Authority	Regulatory Driver	Requirement	Description
				For the Port, these fees will need to be calculated and paid before obtaining a Certificate of Occupancy (CO) for any new construction.
Category: Air Quality				
Federal	U.S. Environmental Protection Agency (USEPA) Region 4	Clean Air Act (CAA)	PSD Permit	A Prevention of Serious Degradation (PSD) review is required under the CAA for projects that have the potential to significantly increase air emissions. This applies to facilities with the potential to emit 100 tons per year (tpy) or more of any criteria air pollutant (for specific source categories) or 250 tpy for other sources. For the Port, a PSD permit would only be required if the project's emissions exceed these thresholds. If required, the review would include an analysis of best available control technologies (BACT) and potential impacts on air quality, particularly in areas near sensitive receptors. Coordination with USEPA Region 4 and state air quality authorities will be critical if a PSD permit is triggered.
State	Florida Department of Environmental Protection (FDEP), Division of Air Resource Management	Clean Air Act (CAA)	Title V Permit	Title V operating permits consolidate applicable air pollution control requirements into a single, comprehensive permit. These permits are designed to ensure that a source's year-to-year air pollution activities comply with federal and state air quality standards and include robust monitoring, record-keeping, and reporting obligations to maintain regulatory oversight. Title V applies to any major source with actual or potential emissions exceeding thresholds for criteria pollutants (100 tpy) or hazardous air pollutants (10 tpy for a single HAP, or 25 tpy for any combination of HAPs). For the Port, a Title V permit may be required if operational emissions from port facilities, such as fuel storage or heavy equipment, meet or exceed these thresholds. Early coordination with FDEP is essential to determine applicability and ensure compliance with all air quality requirements.

Regulatory Level	Agency or Regulatory Authority	Regulatory Driver	Requirement	Description
State	Florida Department of Environmental Protection (FDEP), Division of Air Resource Management	Clean Air Act (CAA)	Air Construction Permit	An Air Construction Permit is required for new or modified operations that emit regulated air pollutants in sufficient quantities to warrant control. This permit ensures that facilities comply with state and federal air quality standards during construction and operation. It applies to activities such as fuel combustion, material handling, or industrial processes that may contribute to air emissions. For the Port, an Air Construction Permit may be necessary if construction activities or operations include equipment or processes that generate significant air emissions. This permit involves an assessment of air pollution control measures and compliance with emission limits to minimize environmental impacts. Coordination with FDEP is crucial to determine permit applicability and to complete the review process efficiently.
Category: Water Quality				
Federal	U.S. Army Corps of Engineers (USACE)	Clean Water Act (CWA)	Section 401 Water Quality Certification	Section 401 of the CWA requires that any applicant for a federal permit or license for activities that may result in a discharge to navigable waters must obtain a Water Quality Certification from the state. This certification ensures that the proposed activity complies with the state's water quality standards, including requirements related to pollutants, sedimentation, and impacts to aquatic ecosystems. For the Port, Section 401 certification will likely be required for activities such as dredging, dock construction, or other operations involving potential discharges to the St. Johns River or adjacent wetlands. Coordination with the FDEP, which oversees water quality certification in the state, will be critical to secure the necessary approvals and demonstrate compliance with state water quality standards.
Federal	U.S. Army Corps of Engineers (USACE)	Clean Water Act (CWA)	Section 404 Permit Program	Section 404 of the CWA regulates the discharge of dredged or fill material into waters of the United States, including wetlands. The permit program ensures that such activities are conducted in a manner that avoids or minimizes impacts to aquatic resources. If impacts cannot be avoided, appropriate mitigation measures must be implemented.

Regulatory Level	Agency or Regulatory Authority	Regulatory Driver	Requirement	Description
				For the Port, a Section 404 Dredge and Fill Permit may be required for activities such as dock reconstruction, dredging of access channels, or fill placement in jurisdictional wetlands or waterways. The type of permit needed depends on the scale and nature of the impacts and could range from a Nationwide Permit for minimal impacts to an Individual Permit for more extensive activities. Early coordination with the USACE and the state regulatory agencies will help determine the appropriate permitting pathway and ensure compliance with applicable regulations.
Federal	U.S. Army Corps of Engineers (USACE)	Rivers and Harbors Act	Section 10 Permit	Section 10 of the Rivers and Harbors Act regulates activities that may obstruct or alter navigable waters of the United States. By regulation, all tidal waterbodies, including the St. Johns River, are considered navigable. A Section 10 Permit is required for activities such as the placement or removal of structures, dredging, disposal of dredged material, filling, excavation, or any other disturbance or modification of soils and sediments within navigable waters. For the Port, this permit will likely be required for activities involving dock reconstruction, dredging access channels, or modifications to the waterfront. Coordination with the USACE will be essential to secure the necessary authorization for project activities within the navigable portions of the St. Johns River.
Federal	U.S. National Oceanic and Atmospheric Administration (NOAA)	Coastal Zone Management Act (CZMA)	Federal Consistency Review	The CZMA requires that federal agency activities, including federally funded projects and federal permit approvals, with foreseeable effects on coastal uses or resources be consistent with the enforceable policies of the state's Coastal Management Program (CMP). This process, known as Federal Consistency Review, ensures that federal actions align with state-level coastal resource management priorities and policies. For the Port, activities such as dredging, dock reconstruction, or other actions affecting the St. Johns River and adjacent coastal areas will require a Federal Consistency Review to confirm alignment with Florida's Coastal Management Program, as administered by the FDEP. This review is a critical step in obtaining federal permits and ensuring compliance with state coastal resource management

Regulatory Level	Agency or Regulatory Authority	Regulatory Driver	Requirement	Description
				standards. Coordination with FDEP will be necessary to complete this review effectively.
State	Florida Department of Environmental Protection (FDEP), Office of Resilience and Coastal Protection	Florida Coastal Management Program (FCMP)	Review	The FCMP is a network-based program that integrates 24 state statutes to protect and enhance Florida's natural, cultural, and economic coastal resources and ensures that local, state, and federal agency activities are coordinated to sustainably manage Florida's coastal resources. For the Port, activities affecting coastal zones, such as dredging or waterfront construction, will require review under the FCMP. This process ensures compliance with applicable state laws and alignment with the program's goal of preserving coastal value for future generations. The FCMP review process supports sustainable development while protecting sensitive coastal ecosystems and cultural resources. Coordination with the FDEP's Office of Resilience and Coastal Protection is key to navigating this review efficiently.
State	Florida Department of Environmental Protection (FDEP), Division of Water Resource Management	National Pollution Discharge Elimination System (NPDES)	Florida Construction Generic Permit (CGP)	The Florida CGP is required under the NPDES for construction activities that disturb one acre or more of land or discharge stormwater to surface waters of the state. The CGP ensures that construction projects implement measures to prevent sedimentation, erosion, and pollutants from affecting water quality. To obtain this permit, applicants must submit a Notice of Intent (NOI) and prepare a Storm Water Pollution Prevention Plan (SWPPP) detailing erosion control measures, sediment containment strategies, and other stormwater management practices. For the Port, this permit will be critical to managing stormwater impacts during construction and maintaining compliance with Florida's water quality standards. Coordination with FDEP and adherence to SWPPP requirements will help minimize environmental impacts and streamline project implementation.

Regulatory Level	Agency or Regulatory Authority	Regulatory Driver	Requirement	Description
State	Florida Department of Environmental Protection (FDEP), Division of Water Resource Management	Environmental Resources Coordination Program	Environmental Resource Permit (ERP)	The ERP Program regulates activities that alter surface water flows, including stormwater runoff from upland construction and dredging or filling in wetlands and other surface waters and ensures that development projects comply with state water quality standards and minimize adverse impacts to wetlands, surface waters, and aquatic ecosystems. For the Port, an ERP will likely be required for activities such as dredging, dock reconstruction, or construction on upland areas generating significant stormwater runoff. This permit addresses both water quality and quantity, ensuring that project activities do not degrade surrounding water resources. Early coordination with FDEP is essential to identify specific requirements and streamline the permitting process.
Category: Natural Resources				
Federal	U.S. Fish and Wildlife Service (USFWS)	Endangered Species Act (ESA)	Section 7 Consultation	Section 7 of the ESA requires federal agencies to consult with USFWS whenever an action the agency carries out, funds, or authorizes may affect a species listed as threatened or endangered, or its designated critical habitat. The consultation process ensures that federal activities do not jeopardize the continued existence of protected species or adversely modify critical habitats. For the Port, Section 7 Consultation may be required if activities such as dredging, construction, or habitat modification have the potential to impact federally listed species or their habitats. This process involves evaluating potential effects, avoiding or mitigating harm, and developing conservation measures where necessary. Early engagement with the USFWS will help facilitate compliance and minimize project delays.

Regulatory Level	Agency or Regulatory Authority	Regulatory Driver	Requirement	Description
Federal	U.S. Fish and Wildlife Service (USFWS)	Migratory Bird Treaty Act (MBTA) and Bald and Gold Eagle protection Act (BGEPA)	Permit for incidental take	Permits under the MBTA and the BGEPA may be required for activities that could impact migratory birds, their nests, or eagles. These laws prohibit the incidental take (harm, harassment, or disturbance) of protected birds, including the destruction of nests, eggs, or habitat, without proper authorization. For the Port, construction activities near eagle nests or during nesting seasons may require an eagle nest survey and coordination with USFWS. If active nests are identified, the project may need a permit and implement measures to avoid or minimize impacts. Early coordination with the USFWS ensures compliance and reduces the risk of delays due to nesting protections.
Federal	U.S. National Marine Fisheries Service (NMFS)	Endangered Species Act (ESA) or the Magnuson-Stevens Fishery Conservation and Management Act	Section 7 Consultation	Section 7 of the ESA and the Magnuson-Stevens Fishery Conservation and Management Act require federal agencies to consult with NMFS when a project may affect marine species listed as threatened or endangered, their designated critical habitats, or essential fish habitats (EFH). This consultation ensures that federal actions do not jeopardize the survival of protected marine species or degrade their habitats. For the Port, activities such as dredging, dock construction, or in-water work may require Section 7 Consultation with NMFS to evaluate and mitigate potential impacts on marine species like sea turtles, manatees, or certain fish species, as well as EFH. Early coordination with NMFS will help ensure compliance and avoid disruptions to project timelines.
Federal	U.S. National Oceanic and Atmospheric Administration (NOAA)	Marine Mammal Protection Act (MMPA)	Permit for incidental take	The MMPA protects all marine mammal species and prohibits their "take," which includes harassing, hunting, capturing, collecting, trapping, killing, or otherwise disturbing these animals in U.S. waters or by U.S. citizens. Incidental take permits may be required for activities that could unintentionally impact marine mammals, even if the impact is unintentional. For the Port, activities such as dredging, pile driving, or vessel operations may require an incidental take permit if there is potential to impact marine mammals, such as manatees, dolphins, or whales. Coordination with NOAA Fisheries ensures that appropriate mitigation

Regulatory Level	Agency or Regulatory Authority	Regulatory Driver	Requirement	Description
				measures, such as seasonal restrictions or noise reduction strategies, are implemented to protect these species and comply with the MMPA.
State	Florida Fish and Wildlife Conservation Commission (FWC)	Florida Statutes, Chapter 379; Florida Administrative Code, Chapter 68	Consultation	The Florida FWC consultation is required to protect state-listed species and their habitats. This process ensures that development projects align with state conservation goals and comply with legal requirements. The consultation identifies potential impacts on wildlife and habitats and provides recommendations for avoidance, minimization, or mitigation. For the Port, activities such as dredging, construction, or land clearing may affect state-listed species or critical habitats. Engaging in the FWC consultation process early ensures compliance, supports wildlife conservation efforts, and helps prevent project delays due to unforeseen impacts on Florida's diverse and protected species.
Category: Cultural Resources				
Federal	U.S. Army Corps of Engineers (USACE) or other federal agency depending on funding source[2]	National Historic Preservation Act (NHPA) Section 106	Consultation	Section 106 of the NHPA requires federal agencies to consider the effects of their undertakings on historic properties. This consultation process involves identifying archaeological and historic aboveground resources that may be affected by the project. The lead federal agency must coordinate with the SHPO, THPOs, and other consulting parties to evaluate potential impacts and determine appropriate mitigation measures if adverse effects are identified. For the Port, a federal nexus such as funding or permitting would trigger Section 106 compliance. This process requires archaeological surveys and evaluations of historic aboveground resources within the Area of Potential Effects (APE), with all information collected in accordance with the lead federal agency and SHPO guidelines. Early coordination will help integrate cultural resource considerations into project planning and prevent delays.

[2] Lead federal agency may be one or more of the federal agencies that could provide funding for port development. Refer to Section 0 for information on potential federal funding.

Regulatory Level	Agency or Regulatory Authority	Regulatory Driver	Requirement	Description
Federal	Federally Recognized Native American Tribes	National Historic Preservation Act (NHPA) Section 106	Consultation	Consultation with federally recognized Native American Tribes under NHPA Section 106 is required when a federal undertaking may affect historic properties of religious or cultural significance to the Tribes. The lead federal agency is responsible for initiating and conducting these consultations as part of the Section 106 process. If there is no federal undertaking, consultation is not required but may be conducted voluntarily as a due diligence measure or at the request of the SHPO. For the Port, should NHPA Section 106 be triggered, pre-survey coordination with potentially affected Tribes is recommended to identify areas of concern early and address tribal input in the planning process. This proactive approach facilitates compliance, builds trust, and helps prevent delays associated with unanticipated cultural resource discoveries.
Federal	Federally Recognized Native American Tribes	Native American Graves and Repatriation Act (NAGPRA)	Consultation	NAGPRA applies to the intentional excavation or inadvertent discovery of Native American human remains, funerary objects, sacred objects, or objects of cultural patrimony on federal or tribal lands. If such items are encountered during a project, NAGPRA mandates immediate consultation with the appropriate federally recognized Tribes to determine the proper treatment and repatriation of these items. For the Port, while NAGPRA requirements are independent of NHPA Section 106 compliance, discovery of culturally significant items during construction would trigger NAGPRA protocols. This includes ceasing work in the affected area, notifying the lead federal agency, and coordinating with Tribes to ensure respectful and lawful handling of such remains or objects. Proactive planning, including pre-construction surveys and consultation, can help identify and mitigate potential NAGPRA concerns.
State	Florida Department of State, Division of Historical Resources (DHR)	National Historic Preservation Act (NHPA) Section 106	Consultation	Section 106 of the NHPA requires federal agencies to consider the effects of their undertakings on historic properties. This consultation process involves identifying archaeological and historic aboveground resources that may be affected by the project. The lead federal agency must coordinate with the SHPO, THPOs, and other consulting parties to evaluate potential impacts and determine appropriate mitigation measures if adverse effects are identified.

Regulatory Level	Agency or Regulatory Authority	Regulatory Driver	Requirement	Description
				For the Port, a federal nexus such as funding or permitting would trigger Section 106 compliance. This process requires archaeological surveys and evaluations of historic aboveground resources within the Area of Potential Effects (APE), with all information collected in accordance with the lead federal agency's and SHPO's guidelines. Early coordination will help integrate cultural resource considerations into project planning and prevent delays.
State	Florida Department of State, Division of Historical Resources (DHR)	Florida Statutes, Florida Historical Resources Act (FHRA; § 267.011 of the Florida Statutes)	Consultation	Under the FHRA, local governments like Putnam County are required to fulfill activities and consultations aimed at protecting the state's historical and archaeological resources. The FHRA provides the framework for identifying, evaluating, and managing these resources to ensure they are not adversely affected by development or other activities. For the Port, consultation with Florida DHR is advisable early in the planning process, particularly before completing field investigations. This proactive approach helps ensure compliance with FHRA requirements, streamlines project review, and prevents potential delays due to unforeseen impacts on cultural resources
Category: Hazardous Materials				
Federal	U.S. Environmental Protection Agency (USEPA)	Spill Prevention, Control, and Countermeasure (SPCC) Plan	Plan Certification	The SPCC rule requires facilities that store oil in quantities of 1,320 gallons or more in aboveground containers or 42,000 gallons or more in underground containers to prepare and implement an SPCC Plan. This plan is mandatory if there is a reasonable expectation of oil discharge into navigable waters of the U.S. or adjoining shorelines. The SPCC Plan outlines measures to prevent oil spills, including secondary containment, spill response strategies, and training requirements. For the Port, if oil storage facilities meet the threshold, an SPCC Plan must be developed, certified by a Professional Engineer, and implemented as part of operations to ensure compliance and minimize the risk of environmental harm. Early assessment of oil storage capacities and potential spill risks is crucial for determining SPCC applicability.

Regulatory Level	Agency or Regulatory Authority	Regulatory Driver	Requirement	Description
State	Florida Department of Environmental Protection (FDEP), Division of Waste Management	Storage Tank Registration	Storage Tank / Facility Registration	The FDEP requires the registration of underground storage tanks (USTs) and aboveground storage tanks (ASTs) as part of its Storage Tank Compliance Program to ensure safe management of storage tank systems, prevent leaks, and protect groundwater resources. For the Port, any facility with regulated storage tanks must register those tanks with FDEP, ensuring compliance with state requirements for construction, operation, monitoring, and spill prevention. Early registration and adherence to permitting and compliance guidelines are essential for avoiding operational disruptions and maintaining environmental safeguards.

6.1.1 National Environmental Policy Act

The National Environmental Policy Act (NEPA), signed into law in 1970, requires federal agencies to assess the environmental effects of proposed major federal actions significantly affecting the quality of the human environment. The goal of NEPA is to ensure that environmental factors are considered in decision-making processes and that the public is informed about potential environmental impacts of federal projects.

Major federal actions that trigger NEPA are those that involve or require federal funding, permits, licenses, or approvals or are on federal land and includes any activity that may have a significant impact on the environment, regardless of the activity's physical size. These actions are subject to environmental review to assess their impacts.

The Port development is likely to be considered a major federal action subject to NEPA as the development may receive funds from one or more federal funding programs (refer to Section 7.1.3.3 for details on potential federal funding opportunities for the Port development) and/or require one or more permits from federal agencies (refer to **Error! Reference source not found.**, *Preliminary List of Required Environmental and Construction Permits, Authorizations, and Consultations*, for details).

The lead federal agency is the agency with the primary responsibility for overseeing the NEPA process and is typically the agency providing the majority of funding, permits, or oversight. Determination of the lead federal agency would be contingent on which federal agencies are involved and the level of their involvement. It is ultimately up to the involved federal agencies to decide which will serve as lead agency; the others may serve as Cooperating Agencies in the NEPA review. For the Port, with its potential use of federal funding and need for federal permits, it is anticipated that the lead federal agency for implementing the NEPA process may be:

- U.S. DOT (currently identified as a potential funding source),
- U.S. DOT, MARAD (currently identified as a potential funding source),
- U.S. DOT, FRA (currently identified as a potential funding source),
- U.S. DOC, Economic Development Administration (EDA) (currently identified as a potential funding source),
- U.S. Army Corps of Engineers (USACE) (currently identified as an agency issuing one or more likely required permits), and/or
- Another federal agency that would provide funding, permits, licenses, or approvals.

Federal agencies have their own standards and regulations for implementing NEPA, supplementing the general requirements established by the Council on Environmental Quality (CEQ). These regulations help guide the preparation and evaluation of environmental documents and ensure compliance with NEPA's overarching goals.

NEPA mandates that federal agencies prepare an environmental document before taking any major federal actions, such as granting funding or providing a permit. The environmental document evaluates the potential environmental consequences of the proposed project (federal action) and ensures that alternatives, environmental impacts, and mitigation strategies are considered. Importantly, the environmental document provides opportunities for public involvement as an integral part of the review process.

Given the scale of the Port development and its potential to have some environmental impacts, it is likely that an Environmental Assessment (EA) will be required for the NEPA review. This document will evaluate the potential environmental impacts and determine whether the project's effects are significant. If

the EA finds that the impacts are significant, the lead federal agency may then require an Environmental Impact Statement (EIS). Ultimately, the determination of the most appropriate NEPA document and process will be made by the lead federal agency.

6.1.2 Section 106 of the National Historic Preservation Act

The National Historic Preservation Act (NHPA), signed into law in 1966, requires federal agencies to take into account the effects of their undertakings on historic properties listed or eligible for listing in the National Register of Historic Places (NRHP). Section 106 of NHPA establishes the process by which federal agencies identify and evaluate historic properties, assess potential effects on them, and seek to avoid, minimize, or mitigate adverse effects.

Similar to NEPA, federal undertakings that trigger Section 106 compliance include projects that involve federal funding, permits, licenses, or approvals or that occur on federal lands. It is important to note that Section 106 is a separate legal requirement from NEPA, though the corresponding processes are complementary and can be integrated to streamline review and ensure efficiency. The goal of Section 106 is to ensure that the potential effects on historic properties are considered in federal decision-making processes, with input from consulting parties and the public.

As is the case for NEPA, the Port is likely to be considered a federal undertaking subject to Section 106 because it may involve federal funding or require permits from federal agencies. The lead federal agency for NEPA will typically also serve as lead federal agency for Section 106. It is the obligation of the lead federal agency with jurisdiction over the undertaking to fulfill the necessary Section 106 review requirements, including consultations with other federal agencies, State Historic Preservation Officers (SHPOs), and federally recognized Tribes, including Tribal Historic Preservation Officers (THPOs), that may attach religious or cultural significance to an undertaking's area of potential effects (APE). However, non-federal project applicants are generally required by the lead federal agency to supply necessary information about the project and its potential to affect historic properties to assist in the Section 106 process.

An applicant whose proposed project is subject to Section 106 may be asked to provide the lead federal agency with the following:

- **Project Details**: A description of the undertaking, including its purpose, scope, and location, along with maps or plans showing the APE.
- **Existing Conditions**: Information on current land use, prior disturbances, and any previously conducted cultural resource surveys or studies.
- **Historic Property Identification**: A list of historic properties—including any prehistoric or historic district, site, building, structure, or object—within the APE that are listed or eligible for the NRHP and documentation of efforts to identify historic properties.
- **Effects Assessment**: An evaluation of how the project may affect historic properties, including direct, indirect, and cumulative effects.
- **Mitigation Proposals**: Suggested measures to avoid, minimize, or mitigate adverse effects on historic properties.
- **Public and Stakeholder Input**: Records of engagement with stakeholders, including SHPO, Tribes/THPOs, and other potentially interested parties.

It is anticipated that regardless of which federal agency leads the Section 106 process, the aforementioned information must be compiled and supplied to the agency to facilitate this process.

7.0 Capital Improvement Plan

7.1 Improvement Recommendations

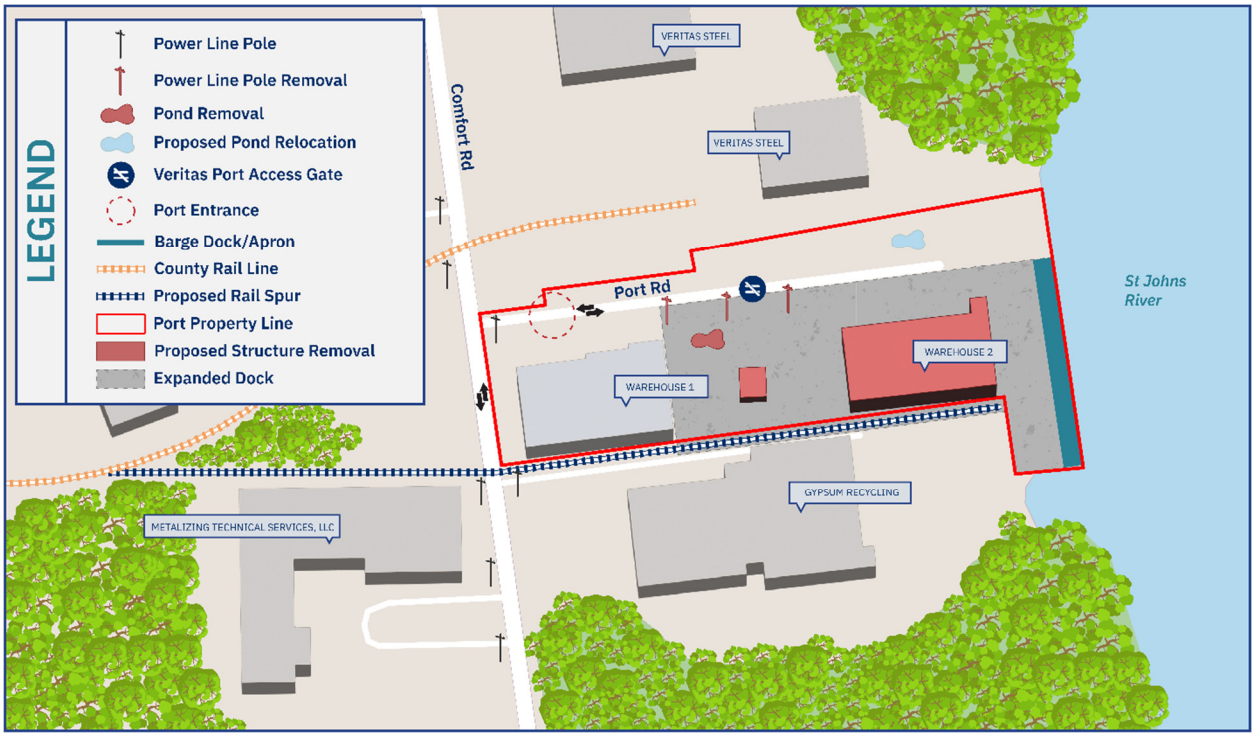
The improvement recommendations are divided into two sections: the Port Terminal and the Port Annex. Initial recommendations at each location can be implemented concurrently, as funding is available. This section also includes a summary of the improvement recommendations in Table 7, as well as anticipated timing and Rough Order of Magnitude (ROM) cost.

7.1.1 Port Terminal Improvements

Initial Recommendations to enhance waterfront capabilities and generate revenue to fund future phases of improvement recommendations include:

- **Bulkhead and dock replacement** will enable the port to start shallow draft services, described in the Market Analysis section, which will generate port revenue. This initial improvement will include dock replacement at least 10-15ft behind the bulkhead.
- **Dock expansion** to the west would allow space for stockpiling. Removing or relocating the existing warehouse, as well as the existing stormwater management facility (pond) and storage shed, will allow for additional flexible storage and better maneuverability of the mobile harbor crane. While Warehouse 2 currently limits available dock space, in turn, limiting the space for cargo handling equipment to operate and for cargo storage, it is currently under lease. It is recommended the dock expansion proceed around Warehouse 2 in the near-term and its removal or relocation be considered in the future, after the lease agreement.

Figure 14. Proposed Port Terminal Improvements

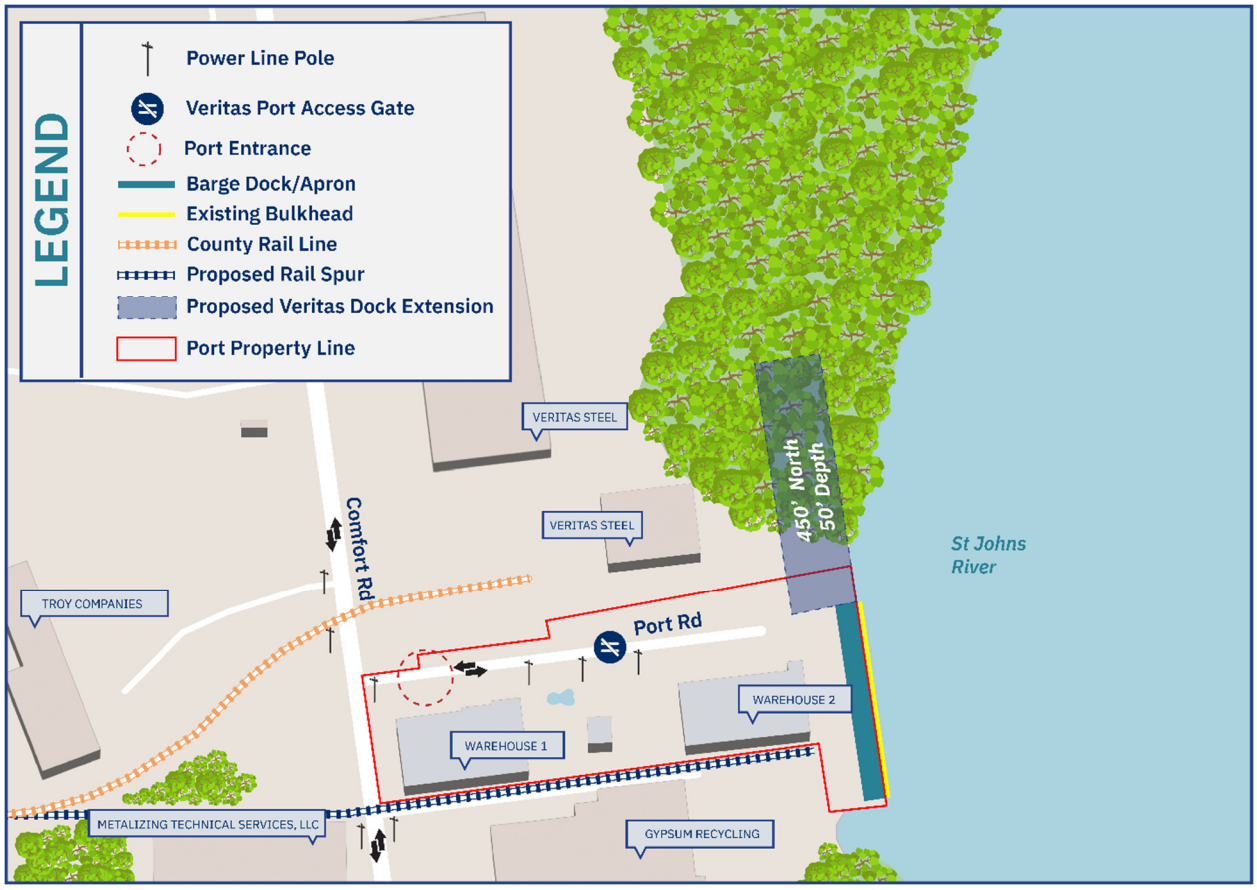


- **Acquisition of a mobile harbor crane** is recommended to provide operational flexibility, efficient loading and unloading of the cargo identified in the Market Analysis, as well as support future on-dock rail operations. Though the space will be limited, the crane can be used once the bulkhead and dock replacement is complete. Future phases may include removal of Warehouse 2 to allow for additional space for the crane to maneuver.

Future Improvement Recommendations include:

- **Additional dock expansion to the north,** as shown in Figure 15, would provide additional capacity and flexibility of operations. This would also enable Veritas Steel to transfer goods directly from their property to the port without having to travel on Comfort Road or Port Road. This potential expansion is contingent upon Veritas agreeing to a land swap, as they own the parcel immediately north of the Port.

Figure 15. Potential Dock Expansion North into Current Veritas Parcel



- **Transition power lines from above-grade to underground** within the expanded dock as the existing overhead lines and poles inhibit the movement of cargo handling equipment, truck traffic, and available space for rail expansion. Undergrounding will also enhance resiliency against storm events, including high winds and flooding.
- **Rail spur extension** into the dock would enable the Port Terminal to leverage intermodal transportation as the dock is expanded. As mentioned in Section 5.1, this improvement would extend rail from the existing CSX line eastward to the Port Terminal, crossing Comfort Road just south of Port Road. Rail capabilities would allow the Port and its tenants to benefit from increased

resiliency through access to multiple modes as well as a more efficient shipping mode. Increased utilization of rail would also reduce truck traffic on local networks, reducing emissions and improving local quality of life. Coordination with CSX is needed to assess the feasibility of improvement options.

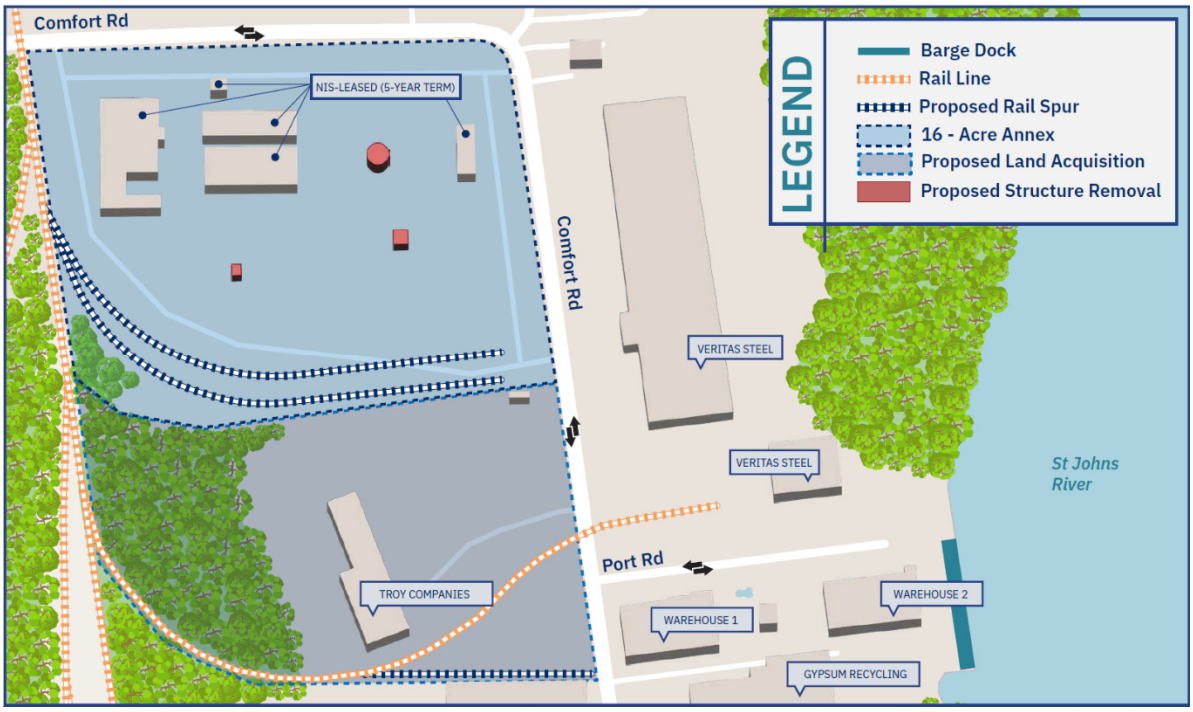
7.1.2 Port Annex Improvements

Demolition of outdated infrastructure and sitework such as earthwork and drainage improvements are needed to prepare the site for future development. Initial recommendations for the Port Annex are shown in Figure 16. The scope and timing of additional improvements will be dependent upon the real needs of future tenants.

Initial Recommendations include:

- **Demolition** and removal of unused structures, old rail spur, and existing pavement. The grain silo, two storage sheds, and old rail spur are in poor condition and unable to be used or upgraded for use. Additionally, cracked and damaged paved areas and blocks of concrete currently on site need to be removed for the space to be improved for use.
- **Regrading and recompacting** the existing on-site material and regrading drainage channels would prepare the site for future development and new tenants.
- **Rail spur extension** from the existing CSX line to the Port Annex to create capacity for future on-site business opportunities as described in Section 5.2. Two rail spurs will allow for transloading operations on the Annex site.
- **Water and sewer modifications** to remove existing fire hydrants and old infrastructure and cap off water lines to make ready for new tenants. Future infrastructure will be added to accommodate the needs of new tenant(s) as they establish facilities at the Port.

Figure 16. Initial Port Annex Improvement Recommendations



As a future improvement opportunity, Port Putnam may consider the potential acquisition of the parcel south of the annex. This parcel is along the existing CSX rail line and would provide continuity between the Port Terminal and Port Annex, improving the efficiency of goods movement between these two areas. At the time of this plan, the parcel owners appear open to negotiations. Additionally, the Port could consider transitioning the Port Annex power lines underground where feasible to realize safety, efficiency, and resiliency benefits as described above for the Port Terminal.

Table 7. Summary of Improvement Recommendations

Improvement	Time Needed (Months)
INITIAL IMPROVEMENT RECOMMENDATIONS	
Bulkhead and Dock Replacement – Port Terminal	12
Dock Expansion to the West – Port Terminal	18
Mobile Crane – Port Terminal	3
Demolition of Existing Structures – Port Annex	3
Re-Grading and Re-Compacting – Port Annex	3
Rail Spur Extension – Port Annex	9
Water and Sewer Modification – Port Annex	3
FUTURE IMPROVEMENT RECOMMENDATIONS	
Dock Expansion to the North – Port Terminal	24
Rail Spur Extension – Port Terminal	9
Underground Power Lines – Port Terminal	3
Underground Power Lines – Port Annex	4

7.1.3 Funding

Putnam County has a proven record of identifying funding sources from local, state and federal sources, particularly for the Port. Notably, a bill passed during the 2022 state Legislative Session (SB 1038) authorizing Putnam County to request funding from the Florida Seaport Transportation and Economic Development Council (FSTED) to conduct a port feasibility study. The results of this study affirmed the port's feasibility and granted Putnam County continuing membership on the FSTED Council.

Putnam County was awarded a Port Infrastructure Development Program grant from the U.S. DOT Maritime Administration (MARAD) of $353,500 in late 2023 to develop this Port Development Plan. In the 2024 Legislative Session, the County was allocated $1.2 million to rehabilitate berthing and docking infrastructure at the Port, with $600,000 each coming from non-recurring General Revenue and State Transportation Trust Funds. This funding will cover most of the cost of the Initial Improvement Recommendation to replace the bulkhead and dock at the Port Terminal. Putnam County reserve funding will be contributed as a local match as well as to cover any additional cost of the improvement.

7.1.3.1 Local

Chapter 2, Article III Division 3 of the Putnam County Code of Ordinances outlines the powers of the Putnam County Port Authority, including authorization to levy and collect taxes on all property within the port district and issue bonds to pay the cost of any project or improvement of the district, including

revenue bonds payable from the revenues derived from the operation of any facility of the district. Ad valorem bonds are limited to $750,000.

The County Commissioners created an Economic Development Fund in 1996 to provide incentives to existing industries and businesses to expand and create new quality jobs through appropriations from the General Revenue Fund. Businesses relocating to or expanding within Putnam County may apply for funds with the Putnam County Chamber of Commerce, designated as the County's economic development representative.

The Chamber recently released Elevate Putnam County, a five-year plan focused on economic growth that includes three strategies and associated investments. Strategy I Targeted Economic Growth seeks to retain existing businesses and expand industry growth by attracting "new employers in industries where Putnam County has a demonstrated emerging competitive advantage, including targeted companies in advanced manufacturing, logistics and distribution, technology, and aerospace/MRO (Maintenance, Repair & Operations)" through a focus on infrastructure improvements. With $800,000 currently identified for this five-year strategic investment, it could be a potential funding source for minor improvements at the Port that will address this Strategy.

7.1.3.2 State

As a member of the Florida Ports Council and FSTED Council, the Port will be eligible for state grant funds for capital projects and purchases. A minimum of $25 million in funding to FSTED for distribution to member ports is allocated by the State Legislature in the annual state transportation budget. Applications to fund infrastructure projects open annually through an online portal with advance notice provided to all member ports; in 2024, applications opened on May 1 and closed on June 17. Funding for new construction requires a 50 percent cost share, and rehabilitation/replacement and dredging work require a 25 percent local match. Applicants must demonstrate consistency with an approved port master plan, local government comprehensive plan, Florida Seaport Mission Plan (which FSTED develops), Florida Transportation Plan, and the Statewide Seaport and Waterways System Plan.

Project allocations are determined by vote of the FTSED Council, which is comprised of 16 port directors of member seaports (including Putnam County) as well as one representative each from FDOT and the Florida Department of Economic Opportunity (FloridaCommerce). The Council's selection is based on several factors, including FDOT and FloridaCommerce's approval of each project based on anticipated benefits and consistency with state, regional, and local plans and policies.

Additional funding programs connected to FSTED include:

- The **Seaport Security Grant Program**, which is funded by legislative allocation and requires a minimum 25 percent local match. Funds may be used for the purchase of equipment, infrastructure needs, cybersecurity programs, and other security measures identified in a seaport's approved federal security plan. The FSTED Security Committee makes an annual call for project applications and is responsible for project selection.
- The **Small County Dredging Grant Program**, which funds approved projects for the dredging or deepening of channels, turning basins, or harbors in counties with a population of less than 300,000 according to the most recent census data. Similar to infrastructure funding, project selection is subject to approval by the FSTED Council, including FDOT and FloridaCommerce.
- The **Florida Ports Financing Commission** (FPFC) implements a bond funding program based on a list of projects approved by FSTED. Ports enter into individual loan agreements with the FPFC to be repaid solely from funding received from the State Transportation Trust Fund, which includes revenues generated by state motor vehicle registration fees.

The **Strategic Intermodal System (SIS) Program** is a funding pool focused on the state's highest-priority transportation improvements, serving as a guide for implementing the Florida Transportation Plan and other capital planning efforts. The SIS funding strategy, updated annually, includes a First Five Year Plan (with the Work Program for year 1 legislatively adopted each year), Second Five Year Plan, and Cost Feasible Plan for years 11-25. FDOT Districts and the Modal Development Office submit selected projects to the Systems Implementation Office annually. Public seaports must meet one or more of the following criteria to receive SIS designation: at least 1 percent of the state's annual freight volume measured in tons, 1 percent of the state's annual container volume measured in twenty-foot equivalent units (TEUs), or 250,000 annual home-port cruise ship passengers. The Port should coordinate with FDOT as it develops and approaches these criteria thresholds.

Minimum annual funding to be allocated to the **Strategic Port Investment Initiative** (SPII) from the State Legislature is $35 million. Funds will be allocated to projects on FDOT's priority list of strategic investment projects, including SIS, and selected based on the impact of the improvement to the port, economic opportunities, alignment with state goals, and matching funds available. A minimum 25 percent local match is required.

FDOT's **State Infrastructure Bank (SIB)** provides loans and credit enhancements has two accounts, each requiring a minimum 25 percent funding from another source:

- Federally funded account, which is capitalized by federal money matched with state money – eligible capital projects as defined in titles 23 and 49 of the U.S. Code (USC) which have been adopted in the comprehensive plans of the applicable Metropolitan Planning Organization (MPO) and conform to all federal and state laws, rules and standards.
- State funded account, which is capitalized by state money and bond proceeds – eligible projects provide intermodal connectivity with seaports and are consistent with MPO and local government plans to the maximum extent feasible.

Applications are requested annually with awarded funds available in the following state fiscal year.

7.1.3.3 Federal

The Infrastructure Investment and Jobs Act (IIJA) and Inflation Reduction Act (IRA) provide historic funding to enhance U.S. infrastructure. The $1.2 trillion IIJA provides funding for the nation's core infrastructure, including roads, bridges, rail, transit, seaports, airports, electric grid, water systems, broadband, and zero-emission (ZE) charging and fueling infrastructure, among other items. Port authorities are eligible to pursue over $30 billion in funding to improve infrastructure.

Various funding programs were analyzed for eligibility of both the Port Authority as an applicant and the recommended improvement as a project. Only federal programs that have been authorized for funding in future fiscal years yet to be awarded were considered. While the Multimodal Discretionary Grant Program (MDGP) has three programs that port infrastructure projects are eligible for, U.S. DOT included fiscal years 2025 and 2026 in the latest Notice of Funding Opportunity (NOFO) in spring 2024 leaving no future authorized fiscal years. Similarly, the EPA's Clean Ports Program represented an opportunity to fund ZE equipment for ports, but all authorized funding was included in the spring 2024 NOFO. These programs were not included in the analysis.

While various federal programs include unique grant requirements, an application can be repurposed for the same project requiring a lower level of effort to develop the second application. For that reason, it is recommended that the Port pursue grant funding even if it may not be the most competitively positioned.

Additional planning efforts to further develop identified improvements and additional opportunities are recommended. Many federal funding programs include eligibility and even funding set-asides specifically

for planning efforts. Though these opportunities are not included in the table below, it is recommended the Port seek federal funds to continue planning as the Port develops and expands.

Error! Reference source not found.8 summarizes an initial assessment of the eligibility of recommended improvements for the following federal funding programs:

- U.S. DOT: Rebuilding American Infrastructure with Sustainability and Equity (RAISE)
- U.S. DOT, MARAD: Port Infrastructure Development Program (PIDP)
- U.S. DOT, FRA: Consolidated Rail Infrastructure and Safety Improvements (CRISI)
- U.S. DOT: Railroad Rehabilitation Improvement Finance (RRIF) Loan
- U.S. DOC, Economic Development Administration (EDA): Public Works Program

Additional programs were considered, but not identified as a good match at the time of this plan: U.S. DOT Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation Program (PROTECT), Reduction of Truck Emissions at Port Facilities (RTEPF), and Strengthening Mobility and Revolutionizing Transportation (SMART), as well as the U.S. Department of Homeland Security Port Security Grant Program (PSGP). Further analysis to match project elements to additional funding programs and assess application competitiveness and readiness is recommended.

Initial improvement recommendations for the Port Terminal are eligible for RAISE and PIDP grant programs, which are both annual programs generally available in winter and early spring. The improvements are also eligible for the EDA Public Works Program which accepts applications on a rolling basis and provides greater flexibility but requires a much larger local match (50%). Projects including public works improvements to attract new tenants at the Port Annex may score especially well under EDA programs. While rail improvements are eligible under RAISE and PIDP, it is recommended to pursue funding through rail-specific programs such as CRISI to maximize funding opportunities.

Table 8. Assessment of Federal Funding Opportunities for Capital Improvement Plan Recommendations

	RAISE	PIDP	CRISI	RRIF	EDA PW
Required Match	*None*	*None, but match is part of evaluation*	*20%*	*None (Loan)*	*50%*
Timing	*Annual, winter*	*Annual, winter/spring*	*Annual, winter*	*Rolling*	*Rolling*
Bulkhead/Dock Replacement & Expansion	X	X			X
Property Acquisition					X
Power Line Undergrounding		X			X
Crane Acquisition	X	X			
Rail Expansion	X	X	X	X	
Port Annex Sitework	X	X			X

8.0 Next Steps

At the time of this plan, design of the dock replacement is underway and its construction will remain a top priority to begin generating revenue. Next steps for the Port include identifying and applying for funding opportunities to pursue the recommendations identified in the Capital Improvement Plan (Section 7) as well as planning for additional projects and needs. The Port should also continue conversations with interested property owners to facilitate future expansion.

The improvements and opportunities identified within this plan are only the start of realizing a new future for Port Putnam. This Port Development Plan should be updated as new opportunities for the Port arise and market conditions change.

APPENDIX A – BULKHEAD DOCK PRELIMINARY DESIGN

APPENDIX B – BULKHEAD DOCK WALL CALCULATIONS
ANCHORED SHEET PILING DESIGN

APPENDIX C – BULKHEAD DOCK WALL CALCULATIONS
CANTILEVERED STEEL PIPE DESIGN

APPENDIX D – SITE TOPOGRAPHIC SURVEY

APPENDIX E – GEOTECHNICHAL ENGINEERING REPORT


BURNS McDONNELL