Great Lakes
St. Lawrence Seaway
Development Corporation

Seaway Infrastructure Program (SIP)
Annual Report to Congress

Fiscal Year 2021

TABLE OF CONTENTS

Background and Summary

As requested in the Consolidated Appropriations Act, 2022 (Pub. L. No. 117-103), Joint Explanatory Statement (Division L), the Great Lakes St. Lawrence Seaway Development Corporation (GLS or Corporation) is providing this annual report to the House and Senate Committees on Appropriations on the status of its infrastructure Seaway Infrastructure Program (SIP).

The Seaway comprises perpetual assets (locks, channels, an international bridge, highway tunnel, and accompanying facilities and equipment), which require capital reinvestment to continue to operate safely, reliably, and efficiently. Without sufficient investment in GLS's perpetual assets, the future availability and reliability of the U.S. section of the St. Lawrence Seaway would be at risk. Although the GLS has maintained a 99 percent reliability rate over its history, the SIP is currently necessary to continue accomplishing this level in the future.

The start of the GLS's infrastructure program in 2009 represented the first time in the GLS's 50-year history that a comprehensive effort had been undertaken to modernize the Seaway infrastructure, including rehabilitation of and improvements to the U.S.-operated locks, the navigation channels, and other Corporation-owned facilities and assets located in Upstate New York. None of the infrastructure projects increases the authorized depth or width of the navigation channel or the size of the lock facilities.

From 2009-2020, the GLS's initial infrastructure program (Asset Renewal Program or ARP) was developed as a multi-year, 50+ project program to address the rehabilitation and replacement needs of its significant and important asset inventory. With the completion of most ARP projects in FY 2020, the GLS renamed the program in FY 2021 as the SIP and began utilizing recurring five-year capital plans developed by Corporation engineering, maintenance, and lock operations teams following annual winter preventative maintenance work and inspections. The SIP five-year capital planning process ensures that aging machinery, equipment, and parts are rehabilitated/replaced; that buildings, grounds, and utilities are sufficiently maintained/ refurbished; and that commercial trade continues to move on the Seaway safely and without interruption or delays. The GLS SIP is consistent with existing Office of Management and Budget (OMB) guidance and requirements regarding useful segments of a capital project and is subject to annual appropriations.

Over its 60-year history, 3 billion metric tons of cargo valued at more than $450 billion have moved through the St. Lawrence Seaway. This binational commercial transportation route impacts 237,000 U.S. and Canadian jobs and generates annual binational economic benefits of $35 billion in economic activity, $14.2 billion in personal income and local consumption expenditures, and $6.6 billion in Federal, state/provincial, and local tax revenue.[1]

In Fiscal Year (FY) 2021, the GLS obligated $10.9 million on 29 SIP projects, including $6.3 million on the replacement of diffuser structures at Eisenhower Lock, $947,000 on concrete replacement at Eisenhower Lock, and $605,000 on concrete replacement at Snell Lock. Additionally, the GLS obligated and expended $586,000 in personnel compensation and benefits

[1] *Economic Impacts of Maritime Shipping in the Great Lakes-St. Lawrence Region*, Martin Associates, July 2018.

(PC&B) in FY 2021 for ARP-related staff time. As of September 30, 2021, the GLS's unobligated balance for SIP projects was $20.0 million.

Each year following enactment of the GLS's appropriation, Corporation engineering, maintenance, and program officials finalize the internal SIP spending plan to re-allocate funding, deferring and accelerating projects as needed. In addition, GLS officials make ongoing internal budget adjustments throughout each fiscal year to ensure that current priority projects are funded. The flexibility to make the appropriate project and/or funding adjustments has been a major factor in the GLS's success in managing and implementing the program.

Through the first 13 years of dedicated Seaway infrastructure funding (FYs 2009-2021), the GLS has obligated $190 million on 62 separate projects *(see pages 16-17)*. These projects included maintenance dredging in the U.S. portion of the Seaway navigation channel, lock miter gate and culvert valve machinery upgrades, culvert valve replacements, hands-free mooring installation at the locks, gatelifter upgrades, miter gate rehabilitation, and tugboat replacements, as well as various other structural and equipment repairs and/or replacement.

These significant investments clearly demonstrate the commitment of the United States and Canada to the long-term health and vitality of the binational waterway, complementing similar investments being made by many other Great Lakes Seaway System stakeholders, including ports, terminals, and carriers.

SIP projects and estimates focus on eight infrastructure categories:

- Locks and Associated Structures – Includes the structures at Eisenhower and Snell Locks and those structures that are required for the operation and/or maintenance of the locks.
- Lock Equipment – Includes the equipment at Eisenhower and Snell Locks that is used to transit vessels through the locks and the controls for that equipment.
- Utilities – Includes utilities infrastructure for electricity, fuel, potable water, raw water, and compressed air.
- O&M Equipment and Work Vehicles – Includes mobile heavy and light equipment, shop equipment, and Massena-based work vehicles.
- Buildings and Grounds – Includes construction of and improvements to GLS-owned buildings, roadways, work areas, parking areas, and grounds.
- Dredging, Navigation Aids, and Floating Plant – Includes projects that improve the safety and efficiency of navigation, as well as improvements to and replacement of the GLS's floating plant.
- Seaway International Bridge – Includes capital improvements to the South Channel Span of the Seaway International Bridge. (GLS owns 68 percent of the South Channel Span.)
- IT and Communications – Includes improvements to the GLS's non-Common Operating Environment (COE) IT network and systems as well as CCTV, cameras, and communication improvements.

For the FY 2023-2027 timeframe, the five-year estimates are included in this report on pages 18-19. Dollar amounts for SIP projects are "project feasibility" estimates that can vary by an industry-recognized 20-30 percent. While many Seaway infrastructure projects have received funding over several years, the GLS uses a multi-phased approach to developing each project to ensure annual funding produces distinct and useful segments and avoids incremental funding, in accordance with OMB Circular A-11.

FY 2021 Seaway Infrastructure Program (SIP) Project Updates

The following information provides an update on the 18 SIP projects with obligations totaling more than $25,000 in FY 2021.[2] The GLS continues to use contracts that promote small and disadvantaged businesses, as well as Federal contract programs offered by the General Services Administration (GSA), including e-Buy, AutoChoice, and the Federal Supply Schedule, whenever possible.

1) LOCK AND ASSOCIATED STRUCTURES – REPLACEMENT OF CULVERT VALVES WITH SINGLE SKIN VALVES AT BOTH LOCKS

GLS's new single-skin valves are critical to the operation of each lock.

General Description: This project is for replacing the double skin culvert valves with single skin valves. Culvert valves are an integral component to a lock's filling and emptying system that control the flow of water through the navigation locks. Cracking of major structural members has occurred and the structural members are not accessible for inspection, blast cleaning, and painting given the double-skin construction. The culvert valves are more than 50 years old and are corroding from the inside. The new single skin valves will provide access to the structural members for inspection and maintenance. The failure of a culvert valve would cause a delay to shipping while the damaged valve was removed and replaced.

FY 2021 Obligations[3]: $59,348

Total Obligations *(FYs 2009-2021)*: $2,706,268

Project Update *(as of September 30, 2021)*: Since the start of the GLS's infrastructure renewal program in FY 2009, the GLS has made significant investments in the culvert valves used for filling and emptying the locks during each transit. The double skin culvert valves were redesigned in FY 2014 as single-skin valves. In prior years, the GLS purchased eight of these improved valves (four in each lock). In FY 2021, the GLS workforce completed the installation of the new hydraulic control valves for all eight single-skin valves to reduce vibrations during

[2] There were 11 SIP projects with FY 2021 obligations below $25,000 that are not reported in the project update section: (1) Lock Equipment – Upgrade of Dewatering Pumps at Both Locks ($21,299); (2) Lock Equipment – Rehabilitation of Stiffleg Derricks at Both Locks ($17,381); (3) IT and Communications – Upgrade of Massena-Based Telephone System ($16,943); (4) IT and Communications – Upgrade/Replacement of CCTVs ($14,516); (5) Locks and Associated Structures – Upgrade of Fendering on Approach Walls at Both Locks ($9,865); (6) O&M Equipment and Work Vehicles – Replace Heavy and Light Equipment and Vehicles ($8,409); (7) Lock Equipment – Upgrade of Ship Arrestor Machinery at Both Locks ($2,987); (8) Lock Equipment – Upgrade of Ice Flushing System at Eisenhower Lock ($1,600); (9) Locks and Associated Structures – Structural Repair of Grout Leaks in Galleries and Recesses at Both Locks ($512); (10) Buildings and Grounds – Upgrade of Lock Structures Maintenance Building ($297); and (11) Dredging, Navigation Aids, and Floating Plant – Rehabilitation of Fixed Navigation Aids ($2).

[3] The "FY 2021 Obligations" amount includes all GLS obligations incurred related to the project during FY 2021, including contracts, labor hours, and warehouse inventory drawdowns, and which may not be included in the "Project Update" section for each project.

turbulent flows. To complete this installation, the GLS awarded a contract to Fastenal Company, Winona, Minn., in FY 2021 for $4,819 for additional hardware. Additionally, there were supplies and materials associated with this installation totaling $931.

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2) LOCKS AND ASSOCIATED STRUCTURES – REHABILITATION OF CONCRETE AT SNELL LOCK

General Description: This project is to replace deteriorated/damaged concrete at Snell Lock in all areas except the diffusers. This includes concrete that has been damaged by freeze-thaw cycles and by vessel impacts. This deteriorated/damaged concrete includes the mass concrete that forms the walls inside the lock chambers, the walls, floors and ceilings of the filling and emptying culverts, and the gate sills.

FY 2021 Obligations: $605,245

Total Obligations *(FYs 2009-2021)*: $1,686,965

Project Update *(as of September 30, 2021)*: In FY 2021, the GLS awarded modifications to a prior year contract with Patterson-Stevens, Inc., Tonawanda, N.Y., for $595,900 for demolition and replacement of an additional 13 cubic yards of deteriorated concrete in the culvert recess areas at Snell Lock. The total amount of deteriorated concrete replaced in FY 2021 was 30 cubic yards. This work was completed in the winter of FY 2021.

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3) LOCKS AND ASSOCIATED STRUCTURES – REHABILITATION OF CONCRETE AT EISENHOWER LOCK

General Description: This project is to replace deteriorated/damaged concrete at Eisenhower Lock in all areas except the diffusers. This includes concrete that was of poor quality when placed during original construction and concrete that has been damaged by freeze-thaw cycles and by vessel impacts. This deteriorated/damaged concrete includes the mass concrete that forms the walls inside the lock chambers, the walls, floors, and ceilings of the filling and emptying culverts, and the gate sills.

FY 2021 Obligations: $947,360

Total Obligations *(FYs 2009-2021)*: $3,758,544

Project Update *(as of September 30, 2021)*: In FY 2021, the GLS awarded a contract to Patterson-Stevens Inc., Tonawanda, N.Y., related to concrete restoration work in the culvert valve recesses at Eisenhower Lock for $915,000. The work was completed in FY 2022 following the completion of the 2021 navigation season and included the demolition and restoration of 16 cubic yards of concrete at Eisenhower Lock.

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4) LOCKS AND ASSOCIATED STRUCTURES – REHABILITATION OF DIFFUSERS AT EISENHOWER LOCK

General Description: This project is to replace deteriorated/damaged concrete in the diffusers at Eisenhower Lock. This includes poor-quality concrete used during original construction of the locks as well as concrete that was damaged by freeze-thaw cycles. The diffusers are the outlet structures used to dampen the flow of water when the lock is emptied.

Work crews performing the rehabilitation of the diffusers at Eisenhower Lock.

FY 2021 Obligations: $6,279,687

Total Obligations *(FYs 2009-2021)*: $6,351,352

Project Update *(as of September 30, 2021)*: In FY 2021, the GLS awarded a contract for $6.2 million to Kubricky Construction Corporation, Gansevoort, N.Y., to replace the concrete diffusers at Eisenhower Lock. This work began in FY 2021 following the completion of the 2020 navigation season and was completed in the winter of FY 2022. Additionally, the GLS awarded a contract for $40,250 to WSP USA, Inc., Buffalo, N.Y., for technical oversight and inspection of the Eisenhower Lock diffusers replacement project.

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5) LOCKS AND ASSOCIATED STRUCTURES – REHABILITATION OF STOP LOGS AT BOTH LOCKS

General Description: This multi-year project is for rehabilitating the GLS's 34 stoplogs, which are truss-framed steel structures that span the 80-foot wide locks and have steel plates installed on one vertical side. The stoplogs are stacked at each end of both locks to create temporary dams allowing the locks to be dewatered for inspection and/or repair of the underwater surfaces and components during the winter maintenance season. These structures are more than 60 years old and need to be rehabilitated on a regular basis to ensure continued reliability.

FY 2021 Obligations: $83,524

Total Obligations *(FYs 2009-2021)*: $83,524

Project Update *(as of September 30, 2021)*: The GLS awarded nine contracts for supplies related to the rehabilitation of the stop logs at the two locks. GLS crews completed the work that including blasting and painting of the stoplogs, replacement of seals and hardware, and structural repairs.

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6) LOCKS AND ASSOCIATED STRUCTURES – REPLACEMENT OF RECESS COVERS AT BOTH LOCKS

General Description: This is a multi-year project to replace steel and steel/concrete composite covers that are used to access the lock operating machinery located in the galleries and recesses at both locks. Many of these recess covers are original and will be over 60 years old when replaced. They have deteriorated due to the use of salt to keep the areas where these covers are located clear of ice, and they have been damaged by trucks and heavy equipment driving over them. The GLS will replace them with more durable/maintainable materials designed for greater loads.

FY 2021 Obligations: $83,757

Total Obligations *(FYs 2009-2021)*: $824,682

Project Update *(as of September 30, 2021)*: The GLS awarded several contracts in FY 2021 to procure supplies and materials to fabricate recess covers for installation on the lock walls to restore and/or improve the load-carrying capacity of those covers and to keep water from damaging the lock operating equipment below. GLS crews fabricated and installed the covers.

In FY 2021, the GLS continued the work that began in FY 2019 to address the replacement of the culvert valve bulkhead slot gratings located at both U.S. locks. Each lock has eight of these culvert valve bulkhead slots and the grating dates back several decades. The GLS identified a safety need to upgrade the bulkhead slot grating from standard grating to traffic-rated grating.

To complete this safety-related work, the GLS awarded a contract to Continental Construction, LLC, Gouverneur, N.Y., for $134,599 to replace the eight gratings on the south side of both locks with traffic-rated grating. The work was completed in early FY 2021. Similar work was completed on the north side in early FY 2020 based on a contract awarded in FY 2019.

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7) LOCK EQUIPMENT – INSTALLATION OF ICE FLUSHING SYSTEM AT SNELL LOCK

General Description: This project is for completing the installation of an ice flushing system at Snell Lock, similar to the one at Eisenhower Lock. The system will remove floating ice from the lock chamber to make room for transiting vessels and to prevent/minimize damage to the vessels and/or lock structures. Without this system, it is necessary to flush ice utilizing the filling valves, which is less efficient and effective, significantly increases the stresses on these valves, and damages them.

FY 2021 Obligations: $94,123

Total Obligations *(FYs 2009-2021)*: $16,848,749

Project Update *(as of September 30, 2021)*: The GLS awarded a contract in early FY 2021 for $25,880 to Optimation Technology, Inc., Rush, N.Y., for onsite testing and support for the system and the development of additional features to the control system. The system became operational at the end of the 2020 navigation season.

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8) UTILITIES – UPGRADE OF POWER SUPPLY INFRASTRUCTURE FROM MOSES-SAUNDERS DAM TO BOTH LOCKS AND ADJACENT FACILITIES

General Description: This project is for upgrading the infrastructure that supplies power to Eisenhower and Snell Locks and to the Corporation's Maintenance Facility. The power is furnished directly from the Moses-Saunders Power Dam over infrastructure that is 60 years old. The loss of power from the Moses-Saunders Power Dam would make it necessary to use diesel generators, which are expensive to operate, to continue operation of Eisenhower and Snell Locks and the Maintenance Facility. Additionally, the diesel generators will not provide enough power to support all lock and maintenance operations.

FY 2021 Obligations: $33,007

Total Obligations *(FYs 2009-2021)*: $666,215

Project Update *(as of September 30, 2021)*: In FY 2021, the New York Power Authority (NYPA) continued its ongoing rehabilitation of the infrastructure that supplies power to the GLS for operations and maintenance activities. This is a recurring annual SIP project with expenditures dependent on NYPA plans. In FY 2021, the GLS paid $32,377 to NYPA, White Plains, N.Y., for its work on GLS power-related infrastructure rehabilitation, which included upgrade work on the main transmission lines coming to the GLS facilities, including new pole structures.

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9) UTILITIES – UPGRADE OF ELECTRICAL DISTRIBUTION EQUIPMENT

General Description: This project is for upgrading electrical distribution equipment at both Eisenhower and Snell Locks and at the Maintenance Facility to ensure continued reliability. Much of this equipment is 60 years old.

FY 2021 Obligations: $314,604

Total Obligations *(FYs 2009-2021)*: $2,980,511

Project Update *(as of September 30, 2021)*: In FY 2021, the GLS modified one contract and awarded a second contract to Collins Hammond Electrical Contractors, Inc., Ogdensburg, N.Y., totaling $232,625 for shore power upgrades and Snug Harbor electrical upgrades.

The contract modification for $58,395 was to complete power distribution upgrade work at GLS's Snug Harbor where the GLS's new tugboats will be stored requiring additional power. A new contract was also awarded to Collins Hammond Electrical Contractors for $174,230 for shore power upgrades at the GLS's Marine Base.

Finally, the GLS awarded a contract for Graybar Electric Company, Inc., Syracuse, N.Y., for $7,820 for upgrades to the Corporation's electrical distribution equipment.

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10) BUILDINGS AND GROUNDS – REPLACE OF PAVING AND DRAINAGE INFRASTRUCTURE

General Description: This project is for improving the pavement and drainage along lock approach walls as well as the roadways, public parking, and work areas at all Corporation facilities. In Upstate New York, the damage to pavements caused by winter conditions is significant.

FY 2021 Obligations: $89,419

Total Obligations *(FYs 2009-2021)*: $3,860,989

Project Update *(as of September 30, 2021)*: In FY 2021, the GLS awarded a contract to J.E. Sheehan Contracting Corp., Potsdam, N.Y., for $81,690 to complete subgrade and drainage improvements on GLS roadways, including the boat launch area, catch basin area, north overlook parking, and parking area expansion at the GLS Marine Base. This work was completed in early FY 2022.

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11) BUILDINGS AND GROUNDS – REHABILITATION OF EISENHOWER LOCK HIGHWAY TUNNEL

General Description: This is an ongoing project to maintain and upgrade the highway tunnel which goes through the upper sill area of Eisenhower Lock, providing the only access to the north sides of both Eisenhower and Snell Locks, to the New York Power Authority's Robert Moses Power Project, and to the New York State Park on Barnhart Island.

This project includes grouting to limit the water leaking into the tunnel, improving the drainage and replacing the roadway surface, upgrading the tunnel lighting, replacing damaged/missing tiles from the walls and ceiling, replacing deteriorated/damaged gratings and railings, stabilizing/repairing wing walls at the tunnel approaches, and clearing tunnel drains which are becoming plugged with concrete leachate products. Since this tunnel is the only means of access to the facilities noted above, any problems that would make it necessary to close the tunnel for repair would have very significant impacts.

FY 2021 Obligations: $53,180

Total Obligations *(FYs 2009-2021)*: $1,773,176

Project Update *(as of September 30, 2021)*: GLS crews performed rehabilitative maintenance on the Eisenhower Lock highway tunnel in FY 2021 with supplies and materials purchased under this project. Work performed included tile block maintenance, road grading improvements, concrete repair, wall block repairs, and stormwater drainage cleaning.

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12) BUILDINGS AND GROUNDS – REPLACEMENT OF EISENHOWER LOCK VISITORS' CENTER

General Description: Each year, the 50-year-old Dwight D. Eisenhower Lock Visitors' Center is visited by more than 50,000 people and is an important attraction for Upstate New York tourism. The Center provides historical displays on the St. Lawrence Seaway and U.S. President Eisenhower and also includes observation decks for tourists to watch vessels transiting the lock. A new facility will address many of the shortcomings of the current one, including security, operational safety (current center location limits crane accessibility on the south side of the lock), and accessibility to the disabled.

FY 2021 Obligations: $362,969

Total Obligations *(FYs 2009-2021)*: $1,513,136

Project Update *(as of September 30, 2021)*: In FY 2021, the GLS awarded a contract for $362,626 to Aubertine and Currier Architects, Engineers and Land Surveyors, PLLC, Watertown, N.Y., for the final design and construction procurement and administration support of the GLS's new Visitors' Center at Eisenhower Lock. The design work was completed in FY 2022. A construction contract is expected to be awarded in FY 2022.

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13) BUILDINGS AND GROUNDS – REHABILITATION/REPLACEMENT OF MASSENA, N.Y. FACILITIES

General Description: This is a multi-year project to replace or rehabilitate GLS buildings and structures in Massena, N.Y., that need modernization. As a Federal Government Corporation, the GLS owns and is responsible for 34 operational, administrative, maintenance, and storage buildings. Many of these buildings include workspace for GLS employees. Nearly every GLS building in Massena was built during the Seaway's construction in the 1950s and needs some modernization.

FY 2021 Obligations: $336,520

Total Obligations *(FYs 2009-2021)*: $413,663

Project Update *(as of September 30, 2021)*: The GLS awarded a contract for $150,139 in FY 2021 to Whitton Construction, LLC, Gouverneur, N.Y., to install touchless fixtures to Corporation facilities. Additionally, the GLS awarded a contract for $15,400 to Goodrich Refrigeration, Inc., North Lawrence, N.Y., for the replacement and installation of a new heating and cooling unit at Eisenhower Lock's center building. Finally, the GLS awarded a contract to Bergmann Associates, Rochester, N.Y., for $163,175 to complete a facilities master plan for all GLS facilities in Massena, N.Y. The master plan is expected to be presented to GLS officials in FY 2022.

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14) DREDGING, NAVIGATION AIDS, AND FLOATING PLANT – REPLACEMENT OF FLOATING NAVIGATION AIDS / UPGRADE TO ALL-SEASON BUOYS

General Description: This is an ongoing program to replace floating navigational aids/buoys and winter markers that have been damaged over the years and to upgrade the lights on the buoys. This project also includes testing all-season buoys to determine if they will be effective for use in the Seaway. The GLS is responsible for 101 buoys (with one light per unit) and 59 winter markers along a 120-mile portion of the Seaway.

GLS Marine Services crew prepares to deploy a new all-season buoy on the St. Lawrence River.

FY 2021 Obligations: $37,090

Total Obligations *(FYs 2009-2021)*: $621,579

Project Update *(as of September 30, 2021)*: In FY 2021, the GLS awarded a contract to Flash Technology, LLC, Franklin, Tenn., for $32,363 for lanterns to be used on the GLS's all-season buoys. The GLS migration to all-season buoys allows its marine crew to use a small workboat to remove the self-contained light used throughout the normal navigation season in the fall and replace it with an ice lantern, and then re-install the self-contained light in the spring without having to completely remove the buoy from the water. Each all-season buoy would not have to be lifted out of the water except when it is found off-station or for a mooring inspection. This reduces the number of conventional buoys to be commissioned and decommissioned, thus saving the GLS time and money.

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15) DREDGING, NAVIGATION AIDS, AND FLOATING PLANT – UPGRADE/ REPLACEMENT OF FLOATING PLANT/TUGS

General Description: This project is for rehabilitating and/or replacing the Corporation's floating plant that is used for maintaining the locks and navigation channels. This multi-year project includes: replacing the GLS's tugboats *Robinson Bay* and *Performance*; upgrading the buoy tender barge; purchasing a boat to be used for hydrographic surveying with upgraded surveying equipment; purchasing a small boat for emergency response; purchasing small boats for navigation aid maintenance; purchasing a spud barge/scow for work on navigational aids and for emergency/spot dredging; and rehabilitating the GLS's crane barge/gatelifter *Grasse River*, which would have to be utilized if a miter gate were damaged and had to be replaced.

FY 2021 Obligations: $444,870

Total Obligations *(FYs 2009-2021)*: $39,077,107

The GLS's new 60-foot tugboat, Seaway Guardian, under construction at the Washburn & Doughty Associates shipyard in East Boothbay, Maine.

Project Update *(as of September 30, 2021)*: In FY 2021, the GLS continued to manage the construction of the GLS's second tugboat to replace its existing *Performance* tug. As reported in last year's report, the GLS awarded a contract in FY 2020 to Washburn & Doughty Associates, Inc., East Boothbay, Maine, for $5.5 million to perform the detail design and construction of the ice-class, 60-foot tugboat. The tugboat will carry out a variety of construction and maintenance duties for the U.S. portion of the St. Lawrence Seaway, including routine maintenance of lock gates, maintenance and positioning of aids to navigation, ice management, and removal of accumulated ice from lock walls. Based on GLS employee input, the new tug was named *Seaway Trident* in FY 2021, reflective of the trident in the GLS's corporate seal. The new tug is scheduled to be delivered to the GLS in late 2022.

The GLS awarded several contracts in FY 2021 related to its floating plant and tugboats. Contract modifications totaling $160,834 were made to Washburn & Doughty Associates, Inc., for construction change orders for the new GLS tugboat. Additionally, the GLS awarded a contract to Glosten, Inc., Seattle, Wash., for $74,382 for inspection and oversight services of the Seaway Trident construction. Finally, the GLS awarded a contract to Robert Allan Ltd., Vancouver, British Columbia, for design work associated with the buoy barge refit for its safe operation with the *Seaway Guardian* tugboat.

16) DREDGING, NAVIGATION AIDS, AND FLOATING PLANT – DREDGING OF U.S. SECTORS TO MAINTAIN DESIGN GRADE AND DISPOSE OF SEDIMENTS

General Description: This project is for dredging the U.S. Seaway navigation channel to remove sediment and to maintain the design grade for the channel bottom. Maintenance dredging areas include the intermediate pool (between Eisenhower and Snell Locks), the international tangent section to the east of Snell Lock, and several other sections of U.S. waters west of Eisenhower Lock.

FY 2021 Obligations: $566,472

Total Obligations *(FYs 2009-2021)*: $11,165,878

Project Update *(as of September 30, 2021)*: The GLS awarded a contract in FY 2021 to Arconic Corporation, Pittsburgh, Pa., for $350,000 to complete dredging in and around Snug Harbor on the Grasse River where the GLS stores its tugboats and gatelifter vessel. This dredging work was completed in FY 2021. Additionally, the GLS awarded a contract to WSP USA, Inc., Buffalo, N.Y., for $125,355 to perform inspection and testing services of the intermediate pool maintenance dredging completed in FY 2021.

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17) IT AND COMMUNICATIONS – UPGRADE OF NETWORKS AND IT SECURITY

General Description: This project enhances and improves the GLS's IT network infrastructure and security in Massena, N.Y. The growth of more technology-based improvements is resulting in an increased need to expand and refine the GLS's network environment. The GLS is working closely with DOT's Office of the Chief Information Officer (OCIO) to coordinate and make these improvements.

FY 2021 Obligations: $217,042

Total Obligations *(FYs 2009-2021)*: $827,119

Project Update *(as of September 30, 2021)*: The GLS continues to make systematic improvements to its IT network environment in Massena, N.Y. In FY 2021, the GLS awarded two contracts related to network upgrades for its Massena-based systems. The first contract was awarded to Advanced Computer Concepts, Inc., McLean, Va., for $39,114 while a second contract was awarded to Meridian IT, Inc., Deerfield, Ill., for $31,604. The network upgrades were coordinated with U.S. Department of Transportation OCIO officials to ensure conformity with Federal and Departmental IT security and networking configurations.

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18) IT AND COMMUNICATIONS – UPGRADE OF COMMUNICATIONS SYSTEMS

General Description: This is a multi-year project to upgrade the communication equipment/systems utilized by the GLS's Operations and Maintenance personnel and by Vessel Traffic Controllers to communicate with commercial vessels. Upgrading this equipment is intended to improve the quality and reliability of these communications, which are critical to safe and efficient navigation in the Seaway. Installing new equipment to provide this service will increase the safety for personnel working in these areas and improve their ability to troubleshoot and resolve machinery problems at these locations.

FY 2021 Obligations: $248,709

Total Obligations *(FYs 2009-2021)*: $827,119

Project Update *(as of September 30, 2021)*: In FY 2021, the GLS awarded a contract for $237,406 to WSP USA, Inc., Buffalo, N.Y., for a study of existing GLS radio communications systems. The study will be presented to the GLS in FY 2022 for possible future communications upgrades and planning.

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GLS Seaway Infrastructure Program (SIP) Obligations (FYs 2009-2021)

Infrastructure Category	SIP Project Description	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Locks and Associated Structures	Upgrade of Fendering on Approach Walls at Both Locks	$245,494	$34,930	$0	$0	$0	$188,725	$140
Locks and Associated Structures	Rehabilitatiion of Downstream Miter Gates at Both Locks	$0	$0	$3,548,985	$17,543	$3,033,060	$223,730	$0
Locks and Associated Structures	Rehabilitation of Mooring Buttons, Pins, and Concrete Along Guidewalls and Guardwalls at Both Locks	$952,015	$51,501	$0	$395	$0	$0	$0
Locks and Associated Structures	Rehabilitation of Culvert Valve Machinery Hydraulics at Both Locks	$4,135,197	$441,150	$4,010,108	$609,971	$262,687	$4,602	$0
Locks and Associated Structures	Rehabilitation of Winter Maintenance Lock Covers at Both Locks	$66,362	$19,470	$77,446	$69,380	$68,470	$88,636	$12,127
Locks and Associated Structures	Replacement of Culvert Valves with Single Skin Valves at Both Locks	$2,155	$331,356	$111,059	$306,898	$8,745	$1,385,149	$177,157
Locks and Associated Structures	Structural Repairs to Grout Leaks in Galleries and Recesses at Both Locks	$38,799	$0	$0	$2,812	$0	$0	$0
Locks and Associated Structures	Rehabilitation of Concrete at Snell Lock	$0	$0	$0	$0	$0	$0	$0
Locks and Associated Structures	Rehabilitation of Concrete at Eisenhower Lock	$0	$214,227	$0	$0	$452	$0	$0
Locks and Associated Structures	Rehabilitation of Upstream Miter Gates at Both Locks	$2,207,523	$2,497,234	$391,013	$47,113	$521	$0	$0
Locks and Associated Structures	Rehabilitation of Diffusers at Eisenhower Lock	$0	$0	$0	$0	$0	$0	$0
Locks and Associated Structures	Structural Rehabilitation of Miter Gates at Both Locks	$0	$0	$0	$9,940	$2,906,116	$3,758,337	$8,372
Locks and Associated Structures	Rehabilitation of Diffusers at Snell Lock	$0	$0	$0	$0	$0	$0	$0
Locks and Associated Structures	Installation of Lock Wall Guardrails at Both Locks	$0	$0	$0	$0	$0	$0	$593,802
Locks and Associated Structures	Rehabilitation of Stop Logs at Both Locks	$0	$0	$0	$0	$0	$0	$0
Locks and Associated Structures	Replacement of Recess Covers at Both Locks	$0	$0	$0	$0	$0	$0	$23,805
Lock Equipment	Upgrade/Replacement of Compressed Air Systems at Both Locks	$22,123	$828,924	$23,393	$2,792	$33	$0	$4,381
Lock Equipment	Installation of Vessel Self Spotting Equipment at Both Locks	$0	$483	$0	$563	$3,975	$503,659	$8,834
Lock Equipment	Installation of Hands-Free Mooring System at Both Locks	$0	$0	$0	$0	$0	$705,140	$10,795,599
Lock Equipment	Replacement of Vertical Lift Gate Wire Ropes at Eisenhower Lock	$1,458	$496,528	$134,194	$311,286	$0	$0	$0
Lock Equipment	Upgrade of Ice Flushing System at Eisenhower Lock	$0	$0	$0	$0	$0	$0	$0
Lock Equipment	Upgrade of Drainage Infrastructure in Galleries and Recesses at Both Locks	$0	$0	$0	$542	$15,351	$314,642	$743
Lock Equipment	Improvements to Ice Control at Both Locks	$0	$13,518	$0	$0	$0	$0	$28
Lock Equipment	Upgrade of Dewatering Pumps at Both Locks	$0	$0	$0	$196,196	$46,840	$33,905	$21,759
Lock Equipment	Installation of Ice Flushing System at Snell Lock	$0	$1,453	$282,027	$11,548,762	$1,660,795	$139,238	$162,233
Lock Equipment	Upgrade of Miter Gate Machinery at Both Locks	$0	$0	$133,901	$7,754	$3,256	$3,785,656	$1,644,855
Lock Equipment	Upgrade of Ship Arrestor Machinery at Both Locks	$0	$0	$0	$0	$0	$0	$0
Lock Equipment	Rehabilitation of Stiffleg Derricks at Both Locks	$0	$0	$0	$0	$0	$0	$0
Lock Equipment	Rehabilitation of Access to and Machinery in Crossovers and Recesses at Both Locks	$0	$0	$0	$0	$0	$0	$724,686
Lock Equipment	Repair/Replacement of Piping and Valves at Both Locks	$0	$0	$0	$0	$0	$0	$0
Utilities	Upgrade of Power Supply Infrastructure from Moses-Saunders Dam to Both Locks and Adjacent Facilities	$19,594	$232,079	$97,979	$28,003	$17,099	$38,320	$0
Utilities	Upgrade of Electrical Distribution Equipment	$0	$782,793	$379,980	$55,253	$2,687	$720	$7,384
Utilities	Upgrade/Replacement of Emergency Generators	$0	$0	$0	$0	$1,784,280	$380,327	$63,406
Utilities	Improvements to Facility and Underground Utilities	$0	$0	$0	$0	$0	$0	$0
O&M Equipment and Work Vehicles	Replacement of Heavy and Light Equipment and Vehicles	$1,577,143	$488,592	$122,469	$81,623	$137,393	$227,151	$141,124
Buildings and Grounds	Replacement of Roofs at Facilities	$146,481	$494	$9,740	$96,894	$45,240	$0	$285,581
Buildings and Grounds	Replacement of Paving and Drainage Infrastructure	$0	$1,839,051	$115,588	$0	$3,622	$0	$0
Buildings and Grounds	Rehabilitation of Eisenhower Lock Highway Tunnel	$32,184	$284,465	$102,394	$9,020	$953	$1,164,656	$61,275
Buildings and Grounds	Upgrade/Replacement of Fire Alarm/Protection Systems	$25,409	$624	$31,298	$0	$0	$0	$0
Buildings and Grounds	Upgrade of Storage for Lock Spare Parts and Equipment	$0	$421,778	$29,188	$143	$1,124,640	$32,475	$2,751
Buildings and Grounds	Replace of Windows and Doors and Repair Building Facades	$0	$35,635	$8,725	$13,422	$4,715	$0	$2,655
Buildings and Grounds	Rehabilitation of Spare Gate Storage and Assembly Area at Snug Harbor	$0	$13,661	$351,644	$16,692	$2,115,326	$94,340	$4,295
Buildings and Grounds	Upgrade of Physical Security to Meet HSPD-12 Requirements	$0	$26,656	$22,775	$365,896	$41,979	$24,852	$4,065
Buildings and Grounds	Replacement of Eisenhower Lock Visitors' Center	$0	$0	$14,318	$0	$309,098	$815,730	$9,479
Buildings and Grounds	Replacement of Elevator at Administration Building	$0	$0	$145,381	$0	$0	$0	$0
Buildings and Grounds	Replacement of Fuel Tanks at Maintenance Facility	$0	$0	$192,277	$13,655	$0	$0	$0
Buildings and Grounds	Upgrade of Security Fencing	$0	$0	$18,489	$0	$0	$0	$0
Buildings and Grounds	Upgrades to Facilities to Meet Sustainability and Energy Goals	$0	$0	$72,311	$82,641	$39,976	$28,678	$37,414
Buildings and Grounds	Upgrade of Lock Structures Maintenance Building	$0	$0	$0	$0	$0	$0	$0
Buildings and Grounds	Rehabilitation/Replacement of Massena, N.Y. Facilities	$0	$0	$0	$0	$0	$0	$0
Dredging, Navigation Aids, and Floating Plant	Replacement of Floating Navigational Aids / Upgrade to All-Season Buoys	$61,254	$54,576	$0	$0	$32,273	$68,149	$126,064
Dredging, Navigation Aids, and Floating Plant	Rehabilitation of Fixed Navigational Aids	$66	$29,173	$18,454	$23,311	$33,397	$14,199	$26,638
Dredging, Navigation Aids, and Floating Plant	Upgrade/Replacement of Floating Plant/Tugs	$763,960	$1,638,737	$1,997,992	$2,189,954	$893,713	$609,459	$318,600
Dredging, Navigation Aids, and Floating Plant	Maintenance Dredging of U.S. Sectors to Maintain Design Grade and Dispose of Sediments	$4,298,696	$13,359	$3,675,679	$118,885	$4,936	$465	$21,771
Seaway International Bridge	Rehabilitation of South Channel Span Structure and Corrosion Prevention	$3,104,251	$5,680,775	$0	$0	$0	$0	$0
IT and Communications	Upgrade of Seaway Vessel Traffic Management System	$106,167	$83,232	($1,730)	$10,000	$6,350	$0	$0
IT and Communications	Upgrade of Lock Controls	$31,207	$162,661	$114,248	$134,044	$202,941	$157,659	$173,819
IT and Communications	Upgrade of Financial Management System	$0	$2,251	$3,576	$0	$0	$0	$0
IT and Communications	Upgrade of Networks and IT Security	$0	$0	$170,633	$19,478	$8,687	$0	$0
IT and Communications	Upgrade of Communications Systems	$0	$0	$0	$0	$0	$163	$35,847
IT and Communications	Upgrade/Replacement of Operational CCTVs	$0	$0	$0	$0	$0	$0	$0
IT and Communications	Upgrade of Massena-Based Telephone System	$0	$0	$0	$0	$0	$0	$0
	Miscellaneous Expenses (non project-specific expenses and administrative PC&B costs)	$113,774	$153,370	$160,384	$119,656	$97,762	$119,458	$70,158
	ARP – TOTAL OBLIGATIONS	**$17,951,311**	**$16,874,735**	**$16,565,915**	**$16,510,519**	**$14,917,365**	**$14,908,222**	**$15,570,849**
	Other Than Personnel ARP Costs (contracts, inventory, equipment, supplies)	$17,587,027	$16,339,760	$15,783,117	$15,838,805	$14,242,887	$14,189,526	$14,912,827
	SLSDC ARP Project-Specific Personnel Compensation and Benefits (PC&B)	$364,284	$534,975	$782,798	$671,714	$674,478	$718,696	$658,022
	Miscellaneous ARP Costs (non project-specific expenses and administrative PC&B costs)	$113,774	$153,370	$160,384	$119,656	$97,762	$119,458	$70,158

Continued on Page 17

GLS Seaway Infrastructure Program (SIP) Obligations (FYs 2009-2021)

Infrastructure Category	SIP Project Description	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	TOTAL
Locks and Associated Structures	Upgrade of Fendering on Approach Walls at Both Locks	$0	$0	$0	$190,258	$162,246	$9,865	$831,658
Locks and Associated Structures	Rehabilitatiion of Downstream Miter Gates at Both Locks	$0	$0	$0	$0	$0	$0	$6,823,318
Locks and Associated Structures	Rehabilitation of Mooring Buttons, Pins, and Concrete Along Guidewalls and Guardwalls at Both Locks	$0	$0	$0	$0	$0	$0	$1,003,911
Locks and Associated Structures	Rehabilitation of Culvert Valve Machinery Hydraulics at Both Locks	$0	$0	$0	$0	$0	$0	$9,463,715
Locks and Associated Structures	Rehabilitation of Winter Maintenance Lock Covers at Both Locks	$0	$0	$0	$0	$0	$0	$401,891
Locks and Associated Structures	Replacement of Culvert Valves with Single Skin Valves at Both Locks	$44,634	$2,382	$0	$226,746	$50,639	$59,348	$2,706,268
Locks and Associated Structures	Structural Repairs to Grout Leaks in Galleries and Recesses at Both Locks	$0	$0	$0	$169,116	$244,795	$512	$456,034
Locks and Associated Structures	Rehabilitation of Concrete at Snell Lock	$0	$0	$0	$357,500	$724,220	$605,245	$1,686,965
Locks and Associated Structures	Rehabilitation of Concrete at Eisenhower Lock	$0	$817,884	$604,926	$309,217	$864,478	$947,360	$3,758,544
Locks and Associated Structures	Rehabilitation of Upstream Miter Gates at Both Locks	$0	$0	$0	$0	$0	$0	$5,143,404
Locks and Associated Structures	Rehabilitation of Diffusers at Eisenhower Lock	$0	$0	$0	$0	$71,665	$6,279,687	$6,351,352
Locks and Associated Structures	Structural Rehabilitation of Miter Gates at Both Locks	$0	$0	$0	$0	$0	$0	$6,682,765
Locks and Associated Structures	Rehabilitation of Diffusers at Snell Lock	$0	$0	$0	$0	$56,111	$0	$56,111
Locks and Associated Structures	Installation of Lock Wall Guardrails at Both Locks	$19,680	$0	$0	$192,617	$12,542	$0	$818,640
Locks and Associated Structures	Rehabilitation of Stop Logs at Both Locks	$0	$0	$0	$0	$0	$83,524	$83,524
Locks and Associated Structures	Replacement of Recess Covers at Both Locks	$38,375	$35,489	$70,323	$255,252	$317,682	$83,757	$824,682
Lock Equipment	Upgrade/Replacement of Compressed Air Systems at Both Locks	$0	$0	$0	$0	$0	$0	$881,646
Lock Equipment	Installation of Vessel Self Spotting Equipment at Both Locks	($63,174)	$6,839	$4,501	$0	$0	$0	$465,681
Lock Equipment	Installation of Hands-Free Mooring System at Both Locks	$1,703,212	$8,205,661	$2,069,631	$1,142,835	$650,911	($4,949)	$25,268,041
Lock Equipment	Replacement of Vertical Lift Gate Wire Ropes at Eisenhower Lock	$0	$0	$0	$0	$0	$0	$943,466
Lock Equipment	Upgrade of Ice Flushing System at Eisenhower Lock	$0	$0	$0	$7,082	$14,448	$1,600	$23,130
Lock Equipment	Upgrade of Drainage Infrastructure in Galleries and Recesses at Both Locks	$0	$0	$0	$0	$90,381	$0	$421,659
Lock Equipment	Improvements to Ice Control at Both Locks	$0	$0	$0	$0	$0	$0	$13,545
Lock Equipment	Upgrade of Dewatering Pumps at Both Locks	$0	$0	$0	$153,295	$53,186	$21,299	$526,481
Lock Equipment	Installation of Ice Flushing System at Snell Lock	$11,096	$3,173	$1,320	$661,764	$2,282,764	$94,123	$16,848,749
Lock Equipment	Upgrade of Miter Gate Machinery at Both Locks	$76,166	($270)	$0	$0	$0	$0	$5,651,318
Lock Equipment	Upgrade of Ship Arrestor Machinery at Both Locks	$0	$0	$0	$714,604	$713,776	$2,987	$1,431,367
Lock Equipment	Rehabilitation of Stiffleg Derricks at Both Locks	$0	$0	$0	$121,786	$899,596	$17,381	$1,038,763
Lock Equipment	Rehabilitation of Access to and Machinery in Crossovers and Recesses at Both Locks	$15,360	$0	$0	$0	$0	$0	$740,045
Lock Equipment	Repair/Replacement of Piping and Valves at Both Locks	$0	$0	$0	$154,240	$125	$0	$154,365
Utilities	Upgrade of Power Supply Infrastructure from Moses-Saunders Dam to Both Locks and Adjacent Facilities	$1,442	$7,572	$23,200	$147,920	$20,000	$33,007	$666,215
Utilities	Upgrade of Electrical Distribution Equipment	$0	$0	$75,000	$163,297	$1,198,793	$314,604	$2,980,511
Utilities	Upgrade/Replacement of Emergency Generators	$1,334	$0	$0	$0	$0	$0	$2,229,347
Utilities	Improvements to Facility and Underground Utilities	$0	$0	$51,076	$0	$4,585	$0	$55,661
O&M Equipment and Work Vehicles	Replacement of Heavy and Light Equipment and Vehicles	$18,486	$117,162	$156,648	$1,011,310	$1,040,321	$8,409	$5,127,831
Buildings and Grounds	Replacement of Roofs at Facilities	$34,852	($142)	$0	$0	$0	$0	$619,140
Buildings and Grounds	Replacement of Paving and Drainage Infrastructure	$0	$0	$250,000	$1,487,603	$75,706	$89,419	$3,860,989
Buildings and Grounds	Rehabilitation of Eisenhower Lock Highway Tunnel	$30,955	$0	$0	$34,013	$82	$53,180	$1,773,176
Buildings and Grounds	Upgrade/Replacement of Fire Alarm/Protection Systems	$0	$0	$0	$0	$0	$0	$57,332
Buildings and Grounds	Upgrade of Storage for Lock Spare Parts and Equipment	$0	$0	$0	$0	$0	$0	$1,610,975
Buildings and Grounds	Replace of Windows and Doors and Repair Building Facades	$0	$0	$0	$4,176	$17,324	$0	$86,651
Buildings and Grounds	Rehabilitation of Spare Gate Storage and Assembly Area at Snug Harbor	$0	$0	$0	$0	$0	$0	$2,595,958
Buildings and Grounds	Upgrade of Physical Security to Meet HSPD-12 Requirements	$0	$0	$0	$0	$0	$0	$486,225
Buildings and Grounds	Replacement of Eisenhower Lock Visitors' Center	$2,183	($768)	$0	$129	$0	$362,969	$1,513,136
Buildings and Grounds	Replacement of Elevator at Administration Building	$0	$0	$0	$0	$0	$0	$145,381
Buildings and Grounds	Replacement of Fuel Tanks at Maintenance Facility	$0	$0	$0	$0	$0	$0	$205,932
Buildings and Grounds	Upgrade of Security Fencing	$0	$0	$0	$0	$0	$0	$18,489
Buildings and Grounds	Upgrades to Facilities to Meet Sustainability and Energy Goals	$12,348	($271)	$0	$0	$1,416	$0	$274,513
Buildings and Grounds	Upgrade of Lock Structures Maintenance Building	$0	$0	$0	$0	$14,915	$297	$15,212
Buildings and Grounds	Rehabilitation/Replacement of Massena, N.Y. Facilities	$0	$0	$0	$0	$77,143	$336,520	$413,663
Dredging, Navigation Aids, and Floating Plant	Replacement of Floating Navigational Aids / Upgrade to All-Season Buoys	$1,969	$2,198	$190,544	$20,996	$26,466	$37,090	$621,579
Dredging, Navigation Aids, and Floating Plant	Rehabilitation of Fixed Navigational Aids	$8,323	($43)	$4,198	$157,760	$528	$2	$316,006
Dredging, Navigation Aids, and Floating Plant	Upgrade/Replacement of Floating Plant/Tugs	$9,228,567	$9,826,516	$4,600,729	$431,719	$6,132,291	$444,870	$39,077,107
Dredging, Navigation Aids, and Floating Plant	Maintenance Dredging of U.S. Sectors to Maintain Design Grade and Dispose of Sediments	$695	$0	$6,566	$92,337	$2,366,016	$566,472	$11,165,878
Seaway International Bridge	Rehabilitation of South Channel Span Structure and Corrosion Prevention	$0	$0	$0	$0	$0	$0	$8,785,026
IT and Communications	Upgrade of Seaway Vessel Traffic Management System	$0	$0	$0	$420,275	$4,399	$0	$628,693
IT and Communications	Upgrade of Lock Controls	$143,268	$68,326	$0	$11,242	$38,142	$0	$1,237,555
IT and Communications	Upgrade of Financial Management System	$0	$0	$0	$0	$0	$0	$5,827
IT and Communications	Upgrade of Networks and IT Security	$0	$0	$0	$0	$411,279	$217,042	$827,119
IT and Communications	Upgrade of Communications Systems	$40,561	$36,453	$0	$5,394	$30,567	$248,709	$397,694
IT and Communications	Upgrade/Replacement of Operational CCTVs	$0	$0	$0	$0	$0	$14,516	$14,516
IT and Communications	Upgrade of Massena-Based Telephone System	$0	$0	$0	$0	$0	$16,943	$16,943
	Miscellaneous Expenses (non project-specific expenses and administrative PC&B costs)	$28,908	$855	$0	$3,833	$0	$0	$868,158
	ARP -- TOTAL OBLIGATIONS	**$11,399,239**	**$19,129,017**	**$8,108,662**	**$8,648,316**	**$18,669,538**	**$10,945,788**	**$190,199,474**
	Other Than Personnel ARP Costs (contracts, inventory, equipment, supplies)	$10,921,469	$18,706,379	$7,848,121	$7,616,990	$17,656,877	$10,360,204	$182,003,987
	SLSDC ARP Project-Specific Personnel Compensation and Benefits (PC&B)	$477,770	$422,638	$260,541	$1,031,326	$1,012,661	$585,584	$8,195,487
	Miscellaneous ARP Costs (non project-specific expenses and administrative PC&B costs)	$28,908	$855	$0	$3,833	$0	$0	$868,158

GLS Seaway Infrastructure Program (SIP)
FY 2023 Request and FY 2024-2027 Estimates

INFRASTRUCTURE CATEGORY	PROJECT TITLE	FY 2023 REQUEST	FY 2024 ESTIMATE	FY 2025 ESTIMATE	FY 2026 ESTIMATE	FY 2027 ESTIMATE	FIVE-YEAR ESTIMATES
Locks and Associated Structures	Rehabilitation of Concrete at Eisenhower Lock	$2,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	**$6,000,000**
Locks and Associated Structures	Rehabilitation of Concrete at Snell Lock	$1,000,000	$1,000,000	$1,000,000	$1,000,000	$1,000,000	**$5,000,000**
Locks and Associated Structures	Rehabilitation of Diffusers at Snell Lock	$1,000,000	---	---	---	---	**$1,000,000**
Locks and Associated Structures	Rehabilitation of Mooring Buttons, Pins, and Concrete Along Guidewalls and Guardwalls at Both Locks	$500,000	$500,000	$250,000	$250,000	$250,000	**$1,750,000**
Locks and Associated Structures	Rehabilitation of Flow Control Dikes at Both Locks	---	$250,000	$250,000	---	---	**$500,000**
Locks and Associated Structures	Replacement of Recess Covers at Both Locks	---	$50,000	$50,000	$50,000	$50,000	**$200,000**
Locks and Associated Structures	Rehabilitation of Stop Logs at Both Locks	---	---	$1,000,000	$1,000,000	---	**$2,000,000**
Locks and Associated Structures	Upgrade of Fendering on Approach Walls and Miter Gates at Both Locks	$300,000	$200,000	$200,000	$200,000	$200,000	**$1,100,000**
Lock Equipment	Upgrade to Ship Arrestor Machinery at Both Locks	---	---	$2,000,000	---	---	**$2,000,000**
Lock Equipment	Upgrade of Miter Gate Machinery at Both Locks	$1,500,000	---	---	---	---	**$1,500,000**
Lock Equipment	Upgrade of Ice Flushing System at Eisenhower Lock	$2,000,000	---	---	---	---	**$2,000,000**
Lock Equipment	Rehabilitation of Culvert Valve Machinery Hydraulics at Both Locks	$1,000,000	$500,000	---	---	---	**$1,500,000**
Lock Equipment	Upgrade/Replacement of Compressed Air Systems at Both Locks	---	$500,000	---	$500,000	---	**$1,000,000**
Lock Equipment	Repair/Replacement of Piping and Valves at Both Locks	---	$50,000	$50,000	$50,000	$50,000	**$200,000**
Lock Equipment	Rehabilitation of Access to and Machinery in Crossovers and Recesses at Both Locks	$250,000	$100,000	$100,000	$100,000	$100,000	**$650,000**
Lock Equipment	Rehabilitation of Hands-Free Mooring Equipment at Both Locks		$150,000	$150,000	$150,000	$150,000	**$600,000**
Utilities	Upgrade of Electrical Distribution Equipment	$750,000	$1,000,000	$250,000	$250,000	$250,000	**$2,500,000**
Utilities	Upgrade/Replacement of Emergency Generators	---	---	---	$1,000,000	$500,000	**$1,500,000**
Utilities	Upgrade of Power Supply Infrastructure from Moses-Saunders Dam to Both Locks and Adjacent Facilities	---	$150,000	$150,000	$150,000	$150,000	**$600,000**
Operation and Maintenance (O&M) Equipment and Work Vehicles	Replacement of Heavy and Light Equipment and Vehicles	$600,000	$1,000,000	$750,000	$2,000,000	$600,000	**$4,950,000**
Buildings and Grounds	Replacement of Paving and Drainage Infrastructure	$1,000,000	$1,500,000	$1,500,000	$1,500,000	$1,000,000	**$6,500,000**
Buildings and Grounds	Upgrade of Lock Structures Maintenance Building	$500,000	---	---	$500,000	---	**$1,000,000**
Buildings and Grounds	Upgrade of Eisenhower Lock Operations Center	---	$1,000,000	---	---	---	**$1,000,000**
Buildings and Grounds	Rehabilitation/Replacement of Massena, N.Y. Facilities	---	$5,000,000	$5,000,000	$5,000,000	$10,000,000	**$25,000,000**

Continued on Page 19

GLS Seaway Infrastructure Program (SIP)
FY 2023 Request and FY 2024-2027 Estimates

INFRASTRUCTURE CATEGORY	PROJECT TITLE	FY 2023 REQUEST	FY 2024 ESTIMATE	FY 2025 ESTIMATE	FY 2026 ESTIMATE	FY 2027 ESTIMATE	FIVE-YEAR ESTIMATES
Buildings and Grounds	Rehabilitation of Eisenhower Lock Highway Tunnel	$600,000	$500,000	$500,000	$500,000	$250,000	**$2,350,000**
Buildings and Grounds	Upgrade/Replacement of Fire Alarm/Protection Systems	---	$100,000	$100,000	$100,000	---	**$300,000**
Buildings and Grounds	Upgrade of Storage for Lock Spare Parts and Equipment	---	---	$750,000	---	---	**$750,000**
Buildings and Grounds	Repair/Replacement of Security Fencing	$300,000	$200,000	$200,000	$200,000	---	**$900,000**
Dredging, Navigation Aids, and Floating Plant	Upgrade of Floating Navigational Aids to All-Season Buoys	$600,000	$200,000	$200,000	$200,000	$200,000	**$1,400,000**
Seaway International Bridge	Rehabilitation of South Channel Span South Approach Paving and Drainage	$400,000	---	---	---	---	**$400,000**
Seaway International Bridge	Replacement of Bridge Suspenders and Upgrade to Electrical System	---	$250,000	---	---	---	**$250,000**
IT and Communications	Upgrade of Seaway Vessel Traffic Control System	---	$200,000	$200,000	$200,000	$100,000	**$700,000**
IT and Communications	Upgrade of Lock Controls	---	$100,000	$100,000	$100,000	$50,000	**$350,000**
IT and Communications	Upgrade of Networks and IT Security	---	$50,000	$50,000	$50,000	$50,000	**$200,000**
IT and Communications	Upgrade of Communications Systems	$500,000	---	---	---	---	**$500,000**
	TOTAL	**$14,800,000**	**$15,550,000**	**$15,800,000**	**$16,050,000**	**$15,950,000**	**$78,150,000**

Note : Dollar amounts for SIP projects are, in most cases, "project feasibility" estimates that can vary by an industry-recognized 20-30 percent. Funding for each year of the SIP is constrained to annual funding targets as approved by the Secretary and OMB and subject to annual appropriations.