



Port Everglades, Fort Lauderdale, FL

Port Everglades

Scope of Services:

- Assessment
- Remediation
- Free Product Recovery
- AST Compliance
- Regulatory Compliance
- Compliance Reporting
- Permitting
- Best Management Practices (BMPs)
- Geographic Information Systems (GIS)

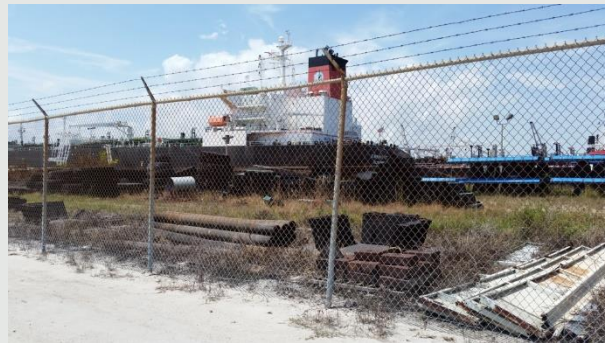
Client & Regulatory Contacts:

- Jorge Caspary, Former Director of the Division of Waste Management of FDEP
- Matthew McCoy, Site Manager, FDEP
- Neil Kutchera, Assistant to the Port Director, Broward County Port Everglades Department

Contract Value: >\$980,000

Overview

Ms. Grudin was the Project Manager and Engineer of Record for environmental petroleum cleanup activities for the Port Everglades Environmental Corporation (PEECO) from May 2011 through December 2014. Environmental issues associated with the common area are coordinated by PEECO. PEECO is a non-profit organization, comprised of the terminal property owners at the Port (e.g., Chevron, Motiva, TransMontaigne, etc.), acting as the primary contact for historical petroleum releases at the common areas of Port Everglades. The secured common area is described as Berths 1 through 27 and the pipeline rights-of-way from the common berths to individual company property lines. PEECO consulting work requires close interaction with the property owner's representatives, the Broward County Port Everglades Department, the regulatory lead, FDEP, and the Broward County Environmental Protection and Growth Management Department.



Assessment and Remediation

Port Everglades, Pier 1, Berths 12 and 13, Hollywood, FL

Two free product recovery systems were installed and began operation in 2008. Product recovery at Berth 12 and 13 was ongoing with a total of thirty-six recovery wells equipped with QED Passive Skimmers. The Selective Oil Skimmers (SOS) recovery product utilizing two Ingersoll Rand air compressors and seven QED programmable air controllers housed in two equipment buildings rated for Class 1, Division II conditions. Ms. Grudin was instrumental in equipment modifications to the systems increasing free product recovery and decreasing water intake. Aging Passive Skimmers (SPG) were identified as a source of water and replaced with onsite SOS skimmers in key wells to increase free product capture. Ms. Grudin obtained funding from FDEP to double the frequency of maintenance visits in order to protect the inland waterways.



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Port Everglades, Pier 1, Berths 9 and 10, Hollywood, Broward County

Ms. Grudin designed a recovery system with underground free product recovery trenches utilizing Large Diameter Filter Scavengers for free product recovery at Pier 1, Berths 9 and 10. Free product recovery was implemented in anticipation of the slip-widening and sea wall construction activities proposed under Broward County's Port Everglades Master/Vision Plan with funding provided by the FDEP Free Product Recovery Initiative (FPRI). Ms. Grudin worked closely with the Licensed General Contractor to develop the scope of work and methodology for free product recovery, which is currently ongoing prior to projected Port Everglades expansion activities. Reducing the contaminant mass will assist in maintaining the Broward County's project schedules, and reduce worker health and safety exposure issues during construction activities. With the limited timeframe available for free product removal and high priority for Port expansion projects, fast-tracking conception and implementation was of great importance. Ms. Grudin worked closely with the site owner's representative, the Assistant to the Port Director, responsible parties, client and funding agency to meet their distinct and individual cleanup and construction requirements. Due to the high profile of this facility, the Director of the Division of Waste Management of FDEP, Jorge Caspary, took the lead in initial planning, strategizing and approval of funding for this project. Various options, including open and closed trenches utilizing Large Diameter Filter Scavengers with conventional electric or solar options were considered and negotiated between Broward County Port personnel, PEECO, and the FDEP. Solar options were ultimately ruled out due to the high cost of retrofitting the panel's inverter to accommodate the Class 1, Division 2 requirements on the Pier for explosion-proof (XP) rated components.

Due to the aforementioned constraints and limited regulatory timeframe, Ms. Grudin worked closely with the licensed General Contractor and the FDEP site manager, Mr. Matt McCoy, to effectively negotiate approximately \$680,000 in contracts in a few weeks timeframe. Ms. Grudin worked with Port personnel and the licensed General Contractor to obtain permits from the City of Hollywood in an expedited manner. Prior to construction, her team met with each of the major oil companies with pipelines in the area of construction to review the Ground Penetrating Radar (GPR) markings and update maps with current and strategic pipeline data. During construction activities, Ms. Grudin worked with the Construction Manager, Project Foreman, and Assistant to the Port Director to maintain the project schedule under unique site conditions. Construction activities took place in a secure area of the Pier where bulk fuel is offloaded. As ships enter Port waters and take berth, site activities were limited and dependent upon the owner of the vessel in Port. Since ship schedules changed hourly, a dynamic scope of work was required wherein the crew maintained flexibility and handled changes in a professional and innovative manner. The work was completed ahead of schedule and below the anticipated budget.

As a further complication to the project scope, fuel distribution lines from six major oil companies at Pier 1 run underground to each of the individual terminal property boundaries. During excavation of the free product recovery trenches, soil was removed in one-foot lifts and utility locating equipment was utilized between lifts to screen the trench limits. Fuel pipelines were safely exposed as necessary to maintain safe working conditions for construction and Port personnel and to protect the environment from petroleum releases. Since free product often uses these utility corridors as preferential pathways, it was important to keep the recovery trenches in close proximity to the underground lines and easements, while maintaining strict health and safety regulations. Based upon the success of the design, FDEP expanded the system and is utilizing Ms. Grudin's design on other sites within the Port.



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Port Everglades, Slip 2 Assessment, Fort Lauderdale

Ms. Grudin conducted a preliminary investigation of the proposed excavation area at Slip 2 for the presence of petroleum-impacted soils. The initial Slip 2 Lengthening, proposed under the Port Everglades Master/Vision Plan, included lengthening approximately one-half of the slip width by 250 feet. Working with the Port Everglades Department of Broward County and her client, PEECO, a larger area was evaluated for environmental impacts and the anticipated lengthening was widened to include the entire slip width allowing for the berthing of more vessels and increased revenues by Broward County. Ms. Grudin worked closely with the Assistant to the Port Director, Port staff, and ongoing concurrent operations at Slip 2 to minimize impacts to ongoing Port operations and keep a tight project schedule.

Pier 1, Pier 2, Slip 1, Fort Lauderdale and Hollywood

At the request of the Port Everglades Department of Broward County, remediation systems formerly utilized to collect free product on Piers 1 and 2 and Slip 1 were abandoned utilizing funding provided by FDEP and PEECO in a cost share agreement under the Preapproved Advanced Cleanup Program (PAC). Thirty-five remediation wells were abandoned pursuant to SFWMD guidelines, removed entirely, and then backfilled to Port Engineering requirements with pumpable, excavatable, flowable fill. Existing, non-operable lines for the former remediation systems were vacuum extracted to remove product and capped in place. Ms. Grudin coordinated with Port personnel and each individual stakeholder representing the major oil companies that work at the Port to determine the scope of work. The scope of work was modified on an ongoing basis to meet the needs and requirements of each stakeholder. Decommissioning activities also included the removal of system equipment, compound fencing, traffic bollards and concrete pads as indicated and approved by Port personnel.

In preparation for future free product recovery efforts in advance of the sea wall construction activities, five remediation well locations were excavated to the water table and left open for a minimum of 48 hours. Maintenance-of-Traffic (MOT) requirements were discussed and arranged in advance for these locations. Locations were selected to minimize impacts to concurrent operations at the Port; however, due to 24-7-365 work activities on the Port extreme care was taken to protect staff from the open excavations. Data collected from these locations was utilized to determine future locations for recovery at Berths 9 and 10.

Berths 16 through 18, Hollywood

The last full assessment of the Port Everglades Common Areas occurred in the mid-1990's. During discussions regarding the Pier 1 Port expansion activities, the Director of the Division of Waste Management expressed concern over the lack of recent data. Ms. Grudin provided a list of potential areas for current assessment to PEECO and the Assistant to the Port Director. At the latter's request, investigations were initiated along the pier of Berths 16 through 18. Existing monitor wells installed in the initial assessment were located and free product measurements were collected. Due to several layers of paving activities, five wells were located at an approximate depth of 5 inches below grade. These damaged monitor wells were repaired as needed. Soil boring locations were evaluated based on historical maps from the original Contamination Assessment Report, using Google Maps and current Port maps to determine matching areas of former free product. These maps were then compared to current pipeline drawings to evaluate safe areas for the installations. Approximately twenty soil borings were installed to evaluate the extent of current free product in this area of the Port. Access to this secure area was obtained and arranged around cruise terminal entry, loading and departure.



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Geographic Information Systems (GIS)

Port Everglades, Fort Lauderdale and Hollywood, Broward County

Project manager providing for a detailed scope of services on the Geographic Information System (GIS) mapping project for Port Everglades. Ms. Grudin worked with the multiple entities representing PEECO and Port Everglades Department of Broward County personnel to create a one-of-a-kind interactive map. Utilizing ArcMap 10.0 in conjunction with Adobe Illustrator, an interactive map of the Port Everglades Common Areas was prepared. The map allows for a user-friendly format capable of display of its layers in any combination, all together, and in any order. The layers represented include historical petroleum impacts including free product, contaminated soils and dissolved phase constituents, current free product plumes, and footprints of Port development projects. Port Everglades Department of Broward County, PEECO and FDEP will utilize the GIS map to plan remediation efforts in advance of Port expansion under the Port Everglades Master / Vision Plan and provide information to Contractors with proposed construction activities at the Port.

Related & Continuing Services

Ms. Grudin was recommended to an international engineering firm based on her collaborative management and engineering expertise on the Port Everglades free product recovery project on Pier 1. An exclusive teaming agreement was signed on September 12, 2013 between her former company and the international engineering design/build firm to provide engineering design services for work at Port Everglades. Ms. Grudin was the team lead for the technical submittal required under Broward County's Request for Information / Request for Proposal (RFI/RFP) process. Acting in this current role, she provided the organizational structure, timeline, and strategy goals for a team of seven executive level members working on the submittal for a \$52 million project with a \$34 million environmental component.

Ms. Grudin is the founder and President of NovelEolutions, Inc. (NovelE). Since starting NovelE, Ms. Grudin has teamed with several consultants working on the environmental consulting and the construction activities to expand operations at Pier 1. Ms. Grudin provided key consulting services under retainer to a large consulting firm looking to expand their operations into Port Everglades. She provided intimate knowledge of the facility operations, pending construction timelines, and potential issues associated with the concurrent operations and many terminal facility operators working on the Pier. She prepared a presentation of key topics and directed a meeting with PEECO for this confidential project related to the slip-widening and sea wall construction activities proposed under Broward County's Port Everglades Master/Vision Plan. Additionally, Liza Grudin, PE teamed with the construction company awarded the contract for the slip-widening and sea wall construction activities proposed under Broward County's Port Everglades Master/Vision Plan. In this role, she was brought in as a Subject Matter Expert for her knowledge of the site historical discharges and related environmental issues with construction in an area contaminated with several feet of free product.

