



# Days Inn, Altamonte Springs, FL

## FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Relevant Services:

- Planning, Permitting and Compliance
- Contamination Assessment and Remediation
- Air Sampling
- Risk Management
- Operation & Maintenance and Monitoring
- Risk Management

Prime Contractor:

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### OVERVIEW

NovelEolutions, Inc. (NovelE) is a sub-consultant on this Petroleum Restoration Program (PRP) contract with the Florida Department of Environmental Protection (FDEP). Liza Grudin, PE serves as the Engineer-of-Record providing comprehensive environmental consulting activities for the site with the assistance of project geologist, Gregory Aumann. Stephen Pitts, Senior Field Technician, provides the primary field oversight for remediation activities.

Petroleum impacts at the site have migrated through the adjacent roadway and onto a neighboring commercial parcel currently operating as a hotel. Constituents of concern which exceed the State of Florida Groundwater Cleanup Target Levels (GCTLs) and/or Natural Attenuation Default Source Concentrations (NADCs) include toluene, ethylbenzene, total xylenes, naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene. Historically, benzene, MTBE, benzo(b)fluoranthene, indeno(1,2,3-c,d)pyrene, and dibenzo(a,h)anthracene have also been detected above their respective GCTLs.

### PLANNING, PERMITTING, COMPLIANCE AND CONTAMINATION ASSESSMENT

Our team was provided with the 90% FDOT submittal for the Roadway Plans for Financial Project ID 432193-1-52-01, which includes modifying the curb cuts and orientation, road width, and storm structures on Wymore Road. Contamination from the Days Inn site has migrated onto this roadway slated for construction and upgrades as part of the I-4 Ultimate Project.

Based on an engineering review of the plans, the following was determined:

- o With the number of utilities in the ROW of Wymore, there are concerns about the installation of the AS wells proposed in the original layout included as part of the Site Summary Package submittal.
- o The DOT work does not appear to extend to the main trenchline running north through the property, but there is a chance of damage occurring due to the proximity of construction activities.



## Days Inn, Altamonte Springs, FL

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- The regrading of Wymore Road has the potential to destroy the remediation lines leading from the onsite to the offsite property. Based on the RA Startup Report dated July 9, 2009, it looks like there are four 4-inch diameter PVC lines and four 2-inch diameter PVC lines running across Wymore.
- The regrading of Wymore provides the opportunity to install a larger number of remediation lines in the roadway or utilize existing an existing or multiple chase pipes. This activity could potentially be coordinated with DOT. This would provide an option of having a dedicated line for each AS and SVE well, which is optimal.
- Putting in a full system on both sides of the street with the potential for damage during construction is not going to be a cost-effective use of PRP funds. The best option is to design a small system in the source area onsite, while building in a design for the offsite system in conjunction with the DOT road widening efforts.

As noted above, two chase pipes with eight (8) remediation lines currently cross Wymore Road from a previous remediation system. The engineer-of-record for this project contacted FDOT to determine the schedule for roadwork and let all involved parties including FDOT, Seminole County, and the contractors, SGL and RS&H, Inc., know that two chase pipes currently cross Wymore Road and contain remediation piping. Updated CAD files were requested, and assessment activities were also coordinated with the road closure.

The site plan was interpreted with the FDOT CAD files to identify, evaluate and ensure protection of the remediation piping under Wymore Road. Additional chase pipes were identified and requested to remain onsite for future use in an offsite remediation system. EAC requested the use of either a) the 29' of 14" x 23" pipe, approximately STA 90+30.00 (Sheet 12) or the b) the pipe running diagonal, approximately STA 94+80.00 (Sheet 13). Based upon correspondence with all parties, it was determined that the best means of protection would include the removal of all surface structures, and then the pipes blanked off for future access during remedial action construction activities. Based on the concentrations detected in offsite monitoring wells MW-20, MW-24, and MW-34 sampled on August 23, 2017 and in groundwater samples collected from soil borings SB-1, SB-2, and SB-3 on October 9, 2017, remediation of the property on the west side of Wymore Road will be recommended upon completion of the Wymore Road construction activities.

Subsequent reviews by the engineer-of-record included the final FDOT submittal for the Roadway Plans for Financial Project ID 432193-1-52-01.

Correspondence is ongoing with SGL as they prepare notated and revised FDOT plans identifying and protecting the requested chase pipes. Correspondence to date and plans are provided within the enclosed appendices as backup to this summary.

Key contacts in this process included Seminole County, the COS Roadway Compliance Engineer for the I-4 Ultimate Project, the I-4 Ultimate Construction Program Manager for FDOT, SGL Constructors Area 4 Project Manager, Project Utilities Coordinator, and Utility Relocation Manager, the Transportation Engineer for RS&H, Inc.



# Days Inn, Altamonte Springs, FL

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## *CONTAMINATION REMEDIATION AND RISK MANAGEMENT*

Historically, a remediation system utilizing air sparging combined with soil vapor extraction (AS/SVE) and groundwater recovery was operated onsite from May 2009 to July 2013. Due to several factors including a high design AS flow rate, improper sizing of the SVE system, and inadequate spacing of the remediation wells, the remediation system was ineffective in remediating the site. A modification to the remedial design was requested by NovelE to address the petroleum-impacted soil and groundwater remaining at the site. Based on assessment activities conducted to date and the large design ROI from the original RAP and RAPM documents, pockets of petroleum impacts may remain not illustrated fully by the monitoring well layout, spacing and well locations. A Level 2 Remedial Action Plan Modification (RAPM) was submitted to the local program, Orange County Environmental Protection Division, and approved with no comments. The Level 2 RAPM recommended limited remediation in the source area while roadway activities were ongoing.

The episodic events are used to evaluate the feasibility and effectiveness of AS/SVE technology at the site. Based upon initial screening of site conditions, AS/SVE was determined to be an effective remediation method for contaminated groundwater due to the lack of free product, unconfined aquifer, anticipated soil permeability, and biodegradability of the petroleum constituents. The episodic events provide data for the design of the site-specific, full-scale remediation system. The objective is to evaluate the proper installation depth of future air sparging wells, minimum radial influence of each AS and SVE remediation well, and design air flow rate and pressure for each technology. The episodic data will be utilized to optimize the efficiency of future system operation and design.

## *OPERATION AND MAINTENANCE, MONITORING, AND AIR SAMPLING*

The remedial action includes episodic remediation at a frequency of one week, or 40 hours, per month using:

- 1) In-situ AS of the hydrocarbon-impacted groundwater via four (4) air injection points (AS-8 through AS-11);
- 2) Extraction of vapors in the vadose zone from four (4) soil vapor extraction wells (VE-2, VE-6, VE-7 and VE-8); and
- 3) Treatment of the extracted soil vapor stream with vapor phase granular activated carbon (GAC).

Stephen Pitts provides oversight for monthly episodic remediation services targeting onsite petroleum impacts while road activities are ongoing on the adjacent roadway. Air samples are collected monthly for evaluation of the system effectiveness and vapor mitigation. Mr. Pitts leads the episodic AS/SVE activities providing recommendations for design vacuums and flow rates. Due to site security issues, active coordination for access and Maintenance of Traffic (MOT) is required. Mr. Pitts meets routinely with the Orange County Environmental Protection Department Engineer to discuss ongoing operations, illustrate equipment operation and collection of observation well data, and adjusts the system accordingly after input from Liza Grudin, PE, the Engineer-of-Record for NovelE.